Record of Decision
Attachment C

FEIS Comments and Responses

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I Introduction

This document compiles responses from Federal Transit Administration (FTA) and Maryland Transit Administration (MTA) to the comments received during the Final Environmental Impact Statement (FEIS) public comment period from September 6 to October 21, 2013. FTA received 968 comments via the project website, hard copy, or email during the 45-day public comment period. Comments came from elected officials, community organizations, government and regulatory agencies, residents, businesses, stakeholder groups, and non-profit organizations.

FTA and MTA have carefully reviewed and considered all comments received during the FEIS comment period. The issues raised in the comments varied, and they include support or opposition for all or parts of the Purple Line, support for alternative types (modes) of transit and alignments, and potential natural and human environment effects of the Purple Line alternatives.

This document is organized as follows:

- Section II includes summaries of the comments received from federal, state and county agencies.
- Section III includes the agencies' comment letters, together with FTA and MTA's responses in a side-by-side format.
- Section IV includes summaries of comments received from local governments, organizations, and individuals (that is, all comments that were not addressed in Section III, as well as responses to those comments. The comments and responses in this section are presented in basically the same order as the issues were presented in the chapters of the FEIS.
- Section VI of this document is a matrix of the commenters and where their comments are addressed. Full copies of all the comments received on the FEIS are available on the Purple Line website (www.purplelinemd.com).
- Appendix contains a brief memo, Clarification of the Results of the Purple Line Noise Analysis, clarifying the noise analysis conducted for the FEIS and documented in the FEIS Noise Technical Report (2013). In this memo total noise levels have been calculated (ambient noise combined with the projected noise levels of the Purple Line). Other information is included in the memo to show the typical community responses of increases in noise. The increase at each analyzed site is compared to the typical community responses to help the public understand how they may perceive or be affected by the predicted increase. This report further explains the human perception of noise increases.

II Summary of Comments Received from Federal, State, Local, and County Agencies

The Environmental Protection Agency (EPA), the National Capital Planning Commission, and U.S. Army Garrison Fort Detrick were the four federal agencies who provided comments. State and regional agencies that provided comments are the Maryland Department of the Environment, Maryland Historical Trust, Maryland Department of Natural Resources, Maryland Department of Planning, and the Washington Metropolitan Area Transit Authority. The following local agencies provided comments: Prince George's County Department of Public Works and Transportation, Prince George's County Planning Department of M-NCPPC, and the Montgomery County Planning Board. The following is a summary of the comments that each agency provided. Section III of this document includes the full agency letters and the FTA and MTA responses in a side-by-side format. Where changes have been made to the FEIS in response to agency comments, those changes are described in ROD Attachment G, FEIS Errata Sheet.

A Federal Agency Comments

A.1 Environmental Protection Agency

EPA offered the following comments:

- Adverse environmental impacts to ecological resources resulting from the preferred alternative are relatively low.
- Updated and detailed analysis for many resources has been completed since the DEIS and that while several resource impacts have been decreased, some, including parks, have increased.
- Additional avoidance and minimization techniques should be incorporated where practicable, and appropriate mitigation developed, as the project moves forward.
- Efforts have been made to evaluate and address community concerns and impacts, to coordinate this project with the community and resource agencies, and detail avoidance and minimization efforts as well as mitigation.
- Updated project information and developments have been presented at Interagency Review Meetings.
- EPA would be pleased to continue to be involved in the project as well as participate in more detailed development of wetland and stream compensatory mitigation.
- Efforts have been taken to improve and update the environmental justice analysis and the cumulative effects analysis for the FEIS using the most recently available data.
- The FEIS includes mitigation for long-term operational impacts as well as construction effects; however, there still remains a great deal of information that should be or is planned to be shared with the public, including information regarding noise, vibration, utility disruptions, and traffic and pedestrian movements.
- FTA and MTA should consider the best ways to share and communicate relevant information, which may not yet be available, with the public and local stakeholders after the Record of Decision (ROD) and during construction.
- Environmental and community commitments should be memorialized in order to ensure that the efforts and mitigation identified in the FEIS are carried forward during future phases.
- The Environmental Compliance Plan or Transportation Management Plan should describe future communication with the public and environmental commitments.

A.2 National Capital Planning Commission

The National Capital Planning Commission (NCPC) suggested clarification that its role under the Capper-Cramton Act includes review and approval (not just review) for actions affecting properties in the Purple Line that were acquired with Capper-Cramton funds. NCPC also recommended other clarifications or corrections to statements in the FEIS, requested greater specificity in some mitigation commitments, and requested additional information related to several areas, including:

- Photo simulations of several areas of the project to illustrate future visual conditions
- Tree removal estimates
- Stormwater management measures

A.3 U.S. Army Garrison Fort Detrick

U.S. Army Garrison Fort Detrick supports the improvement of public transportation access and offered the following comments regarding construction impacts to its Forest Glen facility on Brookville Road, including

- Vibration and blasting
- Air quality and dust
- Noise
- Electromagnetic interference
- Traffic
- Utility disruptions

B State Agency Comments

B.1 Maryland Department of the Environment

The Maryland Department of the Environment offered comments regarding above and underground storage tanks and disposal of solid waste associated with construction of the project. The agency noted that a (MDE) commented that:

- Any above ground or underground petroleum storage tanks, which may be utilized, must be installed and maintained in accordance with applicable State and federal laws and regulations.
- Underground storage tanks must be registered and the installation must be conducted and performed by a contractor certified to install underground storage tanks by the Land Management Administration in accordance with COMAR 26.10.
  Any solid waste including construction, demolition, and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible.

A second letter from MDE noted that additional wetland/waterways identified at the time of the Supplemental Jurisdictional Determination were not shown on the mapping in the FEIS and noted that these resources should be included in the FEIS.

B.2 Maryland Department of Natural Resources

The Maryland Department of Natural Resources (DNR) commented that DNR has participated through its Integrated Policy and Review Unit, Project Review Division (formerly the Environmental Review Unit), in the Maryland Streamlined Process for Transportation Review for the Purple Line project. DNR noted that its Project Review Division provided comments and review notes at appropriate stages of the process, and the Division will continue its review efforts as project planning continues. DNR stated that the project in its planning stages is generally consistent with the programs of the department.

B.3 Maryland Department of Planning

The Maryland Department of Planning (MDP) stated that it strongly supports the Purple Line project because the project will:

- Reduce single-occupancy vehicular trips and associated reductions of traffic congestion and greenhouse gas emissions in the Baltimore and Washington region.
- Stimulate concentrated mixed-use development along the alignment through Transit-Oriented Development (TOD), which will encourage citizens to live, work, shop and play in or near transit-accessible communities.
- Help to reduce commuter congestion and reduce the wear and tear on the region's roadways by providing a sustainable, alternative transportation option.

MDP also stated that they have been actively involved in the Purple Line's planning process since project inception and looks forward to working with MDOT and local jurisdictions to support TOD along the transit line.

B.4 Maryland Historical Trust

The Maryland Historical Trust (MHT) stated that it has been working with FTA and MTA to complete the Section 106 review process for this undertaking. It noted that the project will adversely affect three historic properties, the Falkands Apartments, the Talbot Avenue bridge, and the Metropolitan Branch. On November 6, 2013, MHT submitted a letter as part of the Section 106 consultation process confirming that the project would have an adverse effect on the three aforementioned resources. Further, MHT stated that they have no objection to the MTA's effect determinations for the remaining historic properties within the project's Area of Potential Effect (APE). MHT also noted that MTA, MHT, and the Consulting Parties are preparing a Programmatic Agreement that outlines commitments and mitigation measures concerning historic and archeological resources under Section 106. The Programmatic Agreement is attached to this ROD in Attachment B.

C Local and County Agency Comments

C.1 Montgomery County Planning Board

The Montgomery County Planning Board requested that additional minimization and mitigation measures be developed in collaboration with Parks and Planning as design progresses, specifically addressing the following:

- Specific impacts to and mitigation for parkland
- Details for stormwater management facilities
- Habitat mitigation compensation
- Details on culverts and bridge design
- Compliance with Section 106—inadvertent discovery of archaeological sites
- Impacts to the neighborhood centers

Following are several topics on which the Planning board had specific comments:

- Bridges over Connecticut Avenue
- Community Facility and Business Access Challenges
- Location and Compatibility of Traction Power Substations
- County-Designated Historic Resources
- Noise
- Green Tracks
- Heron rookery at Coquelin Run
- Elm Street Urban Park
- Long Branch Local Park & Long Branch Stream Valley Park
- New Hampshire Estates Neighborhood Park

- The Parks Department requested that MTA commit to design refinements to minimize impacts

C.2 Prince George's County Department of Public Works and Transportation

The Prince George's County Department of Public Works and Transportation (DPW&T) offered several design refinements and cited several County permits, ordinances, and standards that must be followed. The DPW&T also noted the following issues:

- Drop off areas near proposed stations/platforms
- Investigate the use of permeable pavement for the construction of trails
- Impacts on motor vehicle traffic

C.3 Prince George's County Planning Department of M-NCPPC

The Prince George's County Planning Department of M-NCPPC stated that it strongly supported the Preferred Alternative for the proposed Purple Line, because the Preferred Alternative is a responsive and thoughtful transit alternative to the pressures of continued growth in the Washington Metropolitan Region and offers a remedy to the current lack of east-west connectivity between Prince George's and Montgomery Counties. The Planning Department stated that it looks forward to continued coordination with MTA during the final engineering design and construction of the Purple Line.

The Prince George's Planning Department addressed the following topics in the letter:

- Green Track
- Traction power substations
- Glenridge Maintenance Facility Stormwater design
- Drop off locations near stations

The Planning Department also offered several minor changes in the wording of statements made in the FEIS and suggestions for design refinements.

C.4 Washington Metropolitan Area Transit Authority

Washington Metropolitan Area Transit Authority (WMATA) stated that

- WMATA will continue its capacity analysis of its Metrorail Silver Spring Station, in which the transfers between the MTA Purple Line and the WMATA Metrorail Line are being evaluated.
- The Silver Spring Station of the Purple Line should accommodate any future aerial connection to the WMATA Metrorail Station in both design and construction of structure and utilities. While still in draft, the WMATA capacity analysis found that without a future aerial connection between the two Silver Spring Stations, both the Purple Line and Metrorail Station would experience increased congestion in the peak hour by 2020. The analysis also found the Silver Spring Station of the Purple Line should accommodate any future aerial connection to the WMATA Metrorail Station in both design and construction of structure and utilities. MTA should use WMATA's recent report "Operations Plan for Metrobus in Bus Rapid Transit/Light Rail Transit/Streetcar Corridors" as guidance for the Purple Line's relationship to bus services in the corridor.
- WMATA did not agree with the statement "Within the cumulative impact study area, the only wetland know 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". Wetlands at the station will be protected, and not impacted by future transit-oriented development. WMATA requested that the statement be revised accordingly.

III Agency Correspondence and Responses

Comments	Responses
Environmental Protection Agency UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION III 1650 Arch Street Philadelphia, Pennsylvania 19103-2029 OCT 29 2013 Daniel Koenig Federal Transit Administration 1990 K Street, NW, Suite 510 Washington, DC 20006-1178 Henry Kay Maryland Transit Administration 100 South Charles Street Tower 2, Suite 700 Baltimore, Maryland 21201 RE: Purple Line Final Environmental Impact Statement and Draft Section 4(f) Evaluation, Montgomery and Prince George's Counties, Maryland, August 2013, CEQ # 20130259 Dear Misers Koenig and Kay: In accordance with Section 102(2) (C) of the National Environmental Policy Act (NEPA), 42 U.S.C. § 4332(2) (C), Section 309 of the Clean Air Act, 42 U.S.C. § 7609, and the Council on Environmental Quality (CEQ) regulations, 40 CFR Parts 1500-1508, the United States Environmental Protection Agency (EPA), has reviewed the Final Environmental Impact Statement (FEIS) for the above referenced project. The FEIS was prepared by Federal Transit Administration (FTA) and is dated December 2012. EPA reviewed the September 2008 Alternatives Analysis/ Draft EIS, and submitted a comment letter dated January 14, 2009. In this letter EPA rated the DEIS as "LO-1" (Lack of Objections-Adequate), according to the EPA rating system described on the website www.epa.gov/compliance/nepa/comments/ratings.html. The FEIS analyzes two alternatives, including the no build alternative and the preferred alternative. The preferred alternative involves the construction and operation of a new light rail transit corridor over 16.2 miles from the Bethesda Metrorail station in Montgomery County to the New Carrollton Metrorail/MARC/Amtrak station in Prince George's County. Adverse environmental impacts to ecological resources resulting from the preferred alternative are relatively low. Stream impacts are approximately 5,507 linear feet, wetland impacts of 0.88 acres, forest impacts of approximately 48 acres, and 8.63 acres of park acquisition. EPA recognizes that updated and detailed analysis for many resources has been completed since the DEIS and that while several resource impacts have been decreased, some, including parks, have increased. Additional avoidance and minimization techniques should be incorporated where practicable, and appropriate mitigation developed, as the project moves forward. **Environmental Protection Angency, cont'd.**	MTA will consider all of EPA's recommendations and will continue to coordinate with EPA during the development of the Environmental Compliance Plan. MTA will continue to look for opportunities to further avoid or minimize impacts and develop appropriate mitigation measures as the project moves forward. MTA looks forward to future coordination with EPA.

Comments	Responses
EPA recognizes efforts made to evaluate and address community concerns and impacts, to coordinate this project with the community and resource agencies, and detail avoidance and minimization efforts as well as mitigation. EPA has appreciated efforts to present updated project information and developments at Interagency Review Meeting. EPA would be pleased to continue to be involved in the project as well as participate in more detailed development of wetland and stream compensatory mitigation. We appreciate efforts taken to improve and update the environmental justice analysis and the cumulative effects analysis for the FEIS using most recently available data. The FEIS includes mitigation for long-term operational impacts as well as construction effects; however, there still remains a great deal of information that should be or is planned to be shared with the public, including information regarding noise, vibration, utility disruptions, and traffic and pedestrian movements. EPA suggests that FTA and Maryland Transit Administration (MTA) consider the best ways to share and communicate relevant information, which may not yet be available, with the public and local stakeholders after the Record of Decision (ROD) and during construction. EPA supports memorializing environmental and community commitments in order to ensure that the efforts and mitigation identified in the FEIS are carried forward during future phases. We understand that a Transportation Management Plan (TMP) and Environmental Compliance Plan (ECP) will be developed after the ROD and prior to the initiation of construction. Please find additional suggestions for your consideration regarding future communication and environmental commitments that may be included in the ECP or TMP. Thank you for providing EPA the opportunity to review the Purple Line Project FEIS. EPA looks forward to working with FTA and MTA as the project moves forward. If you have any questions regarding these comments, the staff contact for this project is Ms. Alaina McCurdy; she can be reached at 215-814-2741. Sincerely, Barbara Rudnick NEPA Team Leader Office of Environmental Programs Enclosure	The Purple Line project will continue its extensive public outreach plan after the ROD is signed and during construction. The program will include design and construction phase outreach as well as expanded business outreach. FTA and MTA have considered all of EPA's suggestions (as listed in the Enclosure to EPA's comment letter) and will continue to coordinate with EPA in the development of the Environmental Compliance Plan and Transportation Management Plan. Many of the additional environmental mitigation measures offered for consideration have been incorporated into the project contract documents. These are outlined on the following pages showing the Enclosure to the EPA letter.

Comments	Responses
Environmental Protection Agency, cont'd. **Purple Line FEIS** **Enclosure- Additional Environmental Commitments for Consideration** *Air* • Consider whether an air quality and dust control specification could be put in place, which would outline necessary measures and requirements for contractors to follow in order to control on- and off-site nuisance dust. Consider implementing a dust control program. • Consider whether a PM-10 or PM-2.5 monitoring program should be utilized. • Use ultra-low sulfur diesel (ULSD) fuel in off-road construction equipment with an engine horsepower (HP) rating of 50 HP or above. • Use diesel engine retrofit technology in off-road equipment to further reduce emissions. Such technology may include diesel oxidation catalyst/ diesel particulate filter (DOC/DPF), engine upgrades, engine replacements, or combinations of these strategies; • Limit unnecessary idling times on diesel-powered engines to three minutes; • Locate diesel-powered exhausts away from fresh air intakes • Control dust related to the construction site through a Construction Environmental Protection Program (CEPP), including a Soil Erosion and Sediment Control Plan that includes, among other things, spraying of a suppressing agent (nonhazardous, biodegradable) on dust piles, containing fugitive dust, and adjusting construction activities to respond to meteorological conditions, as appropriate. *Noise and Vibration* • Where practicable, schedule individual project construction activities to avoid or minimize adverse impacts. Consider using noise barriers, including temporary barriers, semi-permanent barriers, noise curtains, and/or noise tents. Consider using vibration reducing techniques or mitigation measures. Consider how best to communicate the use of these techniques to the public. • Coordinate construction activities with projects under construction in adjacent and nearby locations to avoid or minimize impacts. • Consider condition of surrounding buildings, structures, infrastructure, and utilities, where appropriate. Consider whether pre-construction building inspections are warranted. Consider whether any special protection is needed for historic properties. • Prepare contingency measures in the event established limits are exceeded. Consider steps to avoid generating noise/vibration from cumulative operations that may exceed noise limits. • Consider establishing a public communication plan in order to keep the public informed and attempt to reduce public frustration. This plan could include regular public meetings, emails, a hotline, and other notices. The plan could also include expanded and clarified information on the construction impacts, operations and schedule. • Consider whether a noise technician/acoustical engineer is needed during peak construction phases. • Suggest restricting the use of certain types of equipment during noise/vibration-sensitive hours. Consider restricting night work all together. Consider sharing information specific to pile-driving and blasting operations and whether special notification procedures may be necessary.	Mitigation for dust and emission control is a commitment made in the FEIS and discussed in Attachment A of the ROD. FTA and MTA considered the mitigation measures offered by EPA. Most of these have been incorporated into the contract documents being prepared for the private Concessionaire who will be performing the construction activities. Specifically: • The Concessionaire is required to have a Construction Environmental Protection Program (CEPP) and Dust Control Plan. • The Concessionaire is required to have an off Road Diesel Emission Plan meeting the EPA Tiered percent usage requirements. Potential methods for achieving this requirement include use of clean fuels as well as diesel engine retrofit technology in off-road equipment. • Contract documents have been updated to include the 3-minute idling times for diesel-powered engines and the requirement to located diesel-powered exhausts away from fresh air intakes. Mitigation and minimization measures for noise and vibration control are commitments made in the FEIS and discussed in Attachment A of the ROD. FTA and MTA considered the mitigation measures offered by EPA. Most of these have been incorporated into the contract documents being prepared for the private Concessionaire who will be performing the construction activities. Specifically: • There will be a Noise Control, Monitoring and Mitigation plan. The plan establishes performance requirements; however suggestions provided to avoid or minimize noise effects are noted as potential methods of achieving the required noise control. The plan requires the Concessionaire to maintain calibrated noise measurement devices and take noise readings during construction. The MTA will also have available experienced noise technicians/acoustical engineers to ensure compliance. Finally, the necessity for temporary relocations will be developed by the Concessionaire as part of this plan. • The Concessionaire is required to identify and implement measures to minimize vibration and the contract documents include additional vibration and monitoring requirements related to pile driving, blasting, and tunneling. • The Transportation Management Plan (TMP) is required to identify and coordinate with adjacent projects. • The Concessionaire is required to have a Protection of Existing Structures Plan. This plan will outline requirements including pre-construction condition assessments, where appropriate. • The Noise Control, Monitoring and Mitigation Plan, Vibration monitoring and mitigation, and Protection of Existing Structures Plan all require action and mitigation should allowable limits be exceeded. • The MTA will lead the public outreach efforts and will prepare a public outreach plan for the construction phase of the project, with support from the Concessionaire. The items suggested are anticipated to be included in MTA's public outreach plan. • Times of work and/or noise restrictions are being developed as part of the agreements with local governments and agencies. Public notification of noise intensive activities will be part of MTA's public outreach effort supported by the Concessionaire.

Comments	Responses
Environmental Protection Agency, cont'd. • Consider whether temporary relocations of noise/vibration-sensitive receptors are an option or whether relocations are necessary. *Other* • We encourage that each of the commitments outlined in Section 4.20 be included in the ROD. • Consider how to communicate final forest planting mitigation plans that will be coordinated with the Department of Natural Resources to the public. • Be sure to communicate construction related and/or permanent park access and other property access changes with the public as more information becomes available closer to construction. • Suggest providing additional, more detailed information to the public during construction regarding construction generated dust and congestion and associated effects on community resources, as limited information was available at the time of the FEIS. • As more information becomes available through coordination with utility service providers, please consider the best way to share this information with the public who may be impacted by service disruptions. Suggest memorializing how residents will be notified of disruptions, and when notifications will be given. Consider what steps/actions may need to be taken in the event of an unexpected service outage.	Attachment A to the ROD includes project commitments. The MTA will lead the public outreach efforts and will prepare a public outreach plan for the construction phase of the project, with support from the Concessionaire. The plan will include methods to communicate project information to the public including the items offered for consideration. There are also specific requirements for required notifications, including impacts to residential and business utility service.

Comments	Responses
National Capital Planning Commission	

NCPC STAFF COMMENTS

PROJECT: MTA/FTA Purple Line FEIS (NCPC File No. 6884)

NCPC POINT OF CONTACT: Michael Weil (email: michael.weil@ncpc.gov, phone: 202.482.7253)

DATE: Oct. 30, 2013

Section	Page	Comment	Responses
4.6.1 Regulatory Context and Methodology - "U.S. Capper-Cramton Act of 1930"	4-49	In reference to "*NCPC has interpreted this Act to mean that any proposed development within the 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.*" Suggested Revision: NCPC has interpreted this Act to mean that any proposed development within the lands acquired with funding under the Capper-Cramton Act must be submitted to NCPC for review **and approval, in addition** to the M-NCPPC **review process**.	Comment noted. While FEIS Chapter 4 does not mention NCPC's approval authority, Chapter 6 of the FEIS does describe NCPC's approval authority. ROD Attachment D: Final Section 4(f) Evaluation (Section 1.2.1.2) clarifies the roles and responsibilities of NCPC as they relate to construction within parks that were purchased using Capper-Cramton Act funding. FTA and MTA acknowledge that NCPC interprets the Capper-Cramton Act to require NCPC's approval for proposed development on lands acquired with funding under the Capper-Cramton Act.
	4-49	In reference to "*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 comments received from the NCPC.*" Suggested Revision: In compliance with the Capper-Cramton Act, the NCPC would **fully analyze and approve all proposed project-related changes to the stream valley parks with guidance from federal, State, and M-NCPPC planning policies, and public comments acquired through the NEPA process.**	Comment noted. While FEIS Chapter 4 does not mention NCPC's approval authority, Chapter 6 of the FEIS does describe NCPC's approval authority. FTA and MTA acknowledge that NCPC interprets the Capper-Cramton Act to require NCPC's approval for proposed development on lands acquired with funding under the Capper-Cramton Act. This has been addressed in ROD Attachment G: FEIS Errata Sheet.
	4-49	In reference to "*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…*" Suggested Removal: **"Approval of the alignment of the future extension of the Capital Crescent Trail."** NCPC would not have approval authority over any future Capital Crescent Trail improvements unless they require physical disturbance of Capper-Cramton acquired property. It appears from the preliminary construction plans (August, 2013) that this will not be the case.	Comment noted. The future extension of the Capital Crescent Trail component of the Purple Line project (from Bethesda to Silver Spring) does not require the physical disturbance of Capper-Cramton property. No further extension of the trail is proposed as part of this project.
4.6.2 Affected Environment	4-50	In reference to "*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.*" Suggested Revision: The five stream valley parks (Rock Creek, Sligo Creek, Northwest Branch, Paint Branch, and Anacostia River) are subject to **review and approval by both NCPC and M-NCPPC** under the Capper-Cramton Act.	While Chapter 4 of the FEIS does not mention NCPC's approval authority, Chapter 6 of the FEIS does describe NCPC's approval authority. This has been addressed in ROD Attachment G: FEIS Errata Sheet. FTA and MTA acknowledge that NCPC interprets the Capper-Cramton Act to require NCPC's approval for proposed development on lands acquired with funding under the Capper-Cramton Act.
	4-50	In reference to "*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*	

Comments			Responses
National Capital Planning Commission, cont'd.			
		the Capper-Cramton Act." Suggested Additional Text: **However, based on the preliminary engineering plans (August, 2013) analyzed by the FEIS, the project's "limit of disturbance" will only impact Capper-Cramton acquired property within the Sligo Creek, Northwest Branch, and Anacostia River Stream Valley Parks. Physical improvements within Rock Creek Park are fully contained within county-owned right-of-way, and proposed improvements near Paint Branch Stream Valley Park are fully contained within the Paint Branch Parkway right-of-way.**	Comment noted. NCPC comment is correct that the Purple Line will impact Capper-Cramton acquired property within Sligo Creek, Northwest Branch, and Anacostia River Stream Valley Parks.
4.6.3 Preferred Alternative – *Long-Term Operational Effects*	4-51	In reference to "*Approval of the alignment of the future extension of the Capital Crescent Trail…*" Suggested Removal (listed item). While NCPC is always supportive of local/regional trail construction; promoting walking, recreation, and bicycling; and interested in the visual impacts of the proposed new bridges on Rock Creek Park as well as connecting the Rock Creek and Capital Crescent Trails, NCPC would not have approval authority over any future Capital Crescent Trail improvements unless they require physical disturbance of Capper-Cramton acquired property. It appears from the preliminary construction plans (August, 2013) that this will not be the case.	Comment noted. The future extension of the Capital Crescent Trail does not require the physical disturbance of Capper-Cramton property.
Table 4-18	4-57	In reference to "Rock Creek Stream Valley Park" item (row # 6). Suggested Revision: The park and trail were purchased and developed **using Capper-Cramton Act and** POS fund**ing**.	Comment noted. Text has been revised in the Final Section 4(f) Evaluation in response to comment.
	4-57	In reference to "Sligo Creek Stream Valley Park" item (row # 10). Suggested Addition: **The park was purchased and developed using Capper-Cramton funding.**	Comment noted. Capper-Cramton funding was referenced in Chapter 6 of the FEIS.
	4-57	In reference to "Paint Branch Stream Valley Park" item (row # 17). Suggested Revision: The park was purchased **using Capper-Cramton Act and** POS Funds.	Comment noted. The current design has no impacts to Paint Branch Stream Valley Park.
4.9.3 Long-Term Operational Effects – VAU 1	4-85	In reference to "*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 designated to minimize tree removal, it would nonetheless result in visual changes due to tree removal*". Additional Information Requested: Provide 1 or 2 photo simulations that show the area where the new switchback trail will be located (after construction) to show future visual conditions.	Various sketches and renderings were prepared in the assessment of the Rock Creek crossing and bridge design. The image included in Chapter 4 of the FEIS was a view from the south along the Rock Creek Trail. As the design progresses, and in support of further coordination with M-NCPPC and NCPC, MTA will provide additional documentation (including renderings or other visual aids, if appropriate) as needed to support NCPC's and M-NCPPC's decision-making process under the Capper-Cramton Act.
4.9.3 Long-Term Operational Effects – VAU 4	4-87	In reference to "*In this residential area of high sensitivity the Preferred Alternative would have a high visual impact particularly to residents*". Additional Information Requested: Provide 1 or 2 photo simulations of the facility through Sligo Creek Park to illustrate its "high visual impact" to the area. One photo-simulation could show a view along Wayne Avenue (after construction), through the parkland, and the other could show the facility crossing through the park at a view perpendicular to the Sligo Creek Parkway.	A work group will be formed between M-NCPPC and MTA to further study and recommend appropriate design and mitigation for the stream realignment at Sligo Creek. They will also consider the effects of widening the bridge to accommodate a wider Green Trail. Any new structures will match existing elements throughout the park, including aesthetics on the parapets and three strand open rail. Renderings could be prepared following the recommendations of the work group. MTA will provide additional documentation as needed to support NCPC's and M-NCPPC's decision-making process under the Capper-Cramton Act.
4.13.3 Preferred Alternative - Mitigation	4-119	In reference to "*Where forest impacts occur, MTA will comply with MDNR requirements for the final forest planting obligation.*" Additional Information Requested: Please provide a little more	Selective tree clearing will occur and retaining walls will be designed and constructed, where feasible, in an effort to minimize tree loss. MTA is working closely with the

Comments			Responses
National Capital Planning Commission, cont'd.			
		information that summarizes the MDNR requirements in this section – including the tree replacement ratio/formula.	Maryland Department of Natural Resources (MDNR) to ensure that all tree and forest loss due to the project are mitigated in accordance with the Maryland Forest Conservation Act. MTA will develop landscaping plans through each park in consultation with the agency with jurisdiction. MTA and Montgomery County are currently identifying sites for reforestation (replanting trees) or afforestation (planting trees where there were none before) with a goal to protect or create habitat where appropriate. Priority areas for reforestation and afforestation include open areas within stream and forested corridors. The tree removal and re-planting estimates will be identified in the Forest Conservation Plan that is currently being prepared.
4.13.3 Preferred Alternative – Avoidance and Minimization	4-119	In reference to "*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.*" Additional Information Requested: What are the current tree removal estimates for each park crossing (Rock Creek Park, Sligo Creek, NW Branch, Anacostia, B-W Parkway)? Using current preliminary plans, how many trees will need to be re-planted based on MDNR requirements (for each park crossing)?	
4.14.1 Regulatory Context and Methodology	4-120, 121	Energy Independence and Security Act (EISA), Section 438. EISA, Section 438 contains federal stormwater runoff requirements for projects on federal property (B-W Parkway) with a footprint that exceeds 5,000 square feet. If applicable, please add this to the list of requirements and provide supporting information about project compliance where appropriate. For more information, please access the EPA's technical memorandum on Section 438 at the following web address - http://water.epa.gov/polwaste/nps/upload/eisa-438.pdf	The Purple Line will meet the requirements of Section 438 of the EISA. MTA is incorporating stormwater management requirements through the use of Environmental Site Design (ESD), implemented to the maximum extent practicable which would meet both federal and state provisions. As described in the Water Resources Technical Report, 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. Additional TMDL information has been added to ROD Attachment G: FEIS Errata Sheet.
4.14.2 Affected Environment	4-122	In reference to "*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: Sligo Creek, Northwest Branch … - TMDLs approved for bacteria, sediment impairments, nutrients, trash, and polychlorinated biphenyls (PCBs).*" Additional Information Requested: Please provide specific TMDL information (numeric and pollutant type) under existing conditions in a summary table for each of these streams from the Purple Line Water Resources Technical Report (2013).	See above.
4.14.3 Preferred Alternative	4-127	In reference to "*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.*" Additional Information Requested: Please provide specific information (numeric) related to the potential contaminant increases for each of the stream crossings, within the LOD, from the Purple Line Water Resources Technical Report (2013).	See above.
	4-128	In reference to "*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 impacts.*" Additional Information Requested: Please describe the specific thresholds and contaminants that apply to each of the parkland crossings (in particular, Sligo Creek, NW Branch, Anacostia, Rock Creek Park), and provide examples of BMPs that could be used to minimize future potential adverse impacts. Also, please describe what is allowable by MDE standards related to future impacts from contaminant increases?	See above.

Comments			Responses
National Capital Planning Commission, cont'd.			
		Do all resulting increases have to be entirely mitigated or are there "acceptable" increase levels for each type of contaminant? Provide relevant information from the Purple Line Water Resources Technical Report (2013).	
	4-128	In reference to "*The relocation of a section of Sligo Creek north of Wayne Avenue would result in the greatest impact*." Additional Information Requested: Please describe the impact in more detail, reinforced by data from the Purple Line Water Resources Technical Report (2013).	A work group will be formed between M-NCPPC and MTA to further study and recommend appropriate design and mitigation for the stream realignment at Sligo Creek. NCPC will be invited to participate with the work group and more detailed information will be shared when developed.
Short-Term Construction Effects – Waters of the U.S. and Wetlands	4-129	Sligo Creek and Northeast Branch. Should these two streams be included in the Short-Term Construction Effects list? If so, please describe the project's construction impacts to these streams, reinforced by data from the Purple Line Water Resources Technical Report (2013).	Northeast Branch is included in the short-term construction effects discussing stream diversion (FEIS p. 4-129) and Sligo Creek is included in the discussion of mitigation (FEIS p. 4-130).
	4-130	In reference to "*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.*" Additional Information Requested: Insert a photo simulation to illustrate the future condition of the stream once constriction is complete.	See previous comment and response on this issue.
4.19.5 Preferred Alternative	4-156	In reference to "*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.*" Comment: Please continue to involve the Army (Forest Glen Annex) in planning for the Purple Line/Lyttonsville Maintenance Facility as those plans are further refined.	MTA will continue to coordinate with the Army (Forest Glen Annex) as the design progresses and throughout construction of the project.
4.20 Commitments - *Parks, Recreational Facilities, and Open Space (Section 4.6)*	4-170	In reference to "*Coordinate selective tree clearing and identification of significant or champion trees with agencies having jurisdiction*". Suggested Revision: Coordinate selective tree clearing**, identification of significant or champion trees, and plan refinement with agencies having jurisdiction to minimize the project's impact to visual and park resources, stormwater management, and water quality.**	As design progresses, MTA will look for opportunities to further minimize impacts and will coordinate the design as well as any changes with the agency with jurisdiction. MTA and the FTA will continue to coordinate with each agency to minimize impacts to each respective park and develop mitigation in more detail throughout the design and construction phases of the project.
Visual Resources (Section 4.9)	4-171	Suggested Additional Bullet: **MTA will continue to coordinate with M-NCPPC and NCPC in the stream valley parks that were funded through the Capper-Cramton Act as project plans are further refined.**	As requested, MTA will continue to coordinate with the M-NCPPC and NCPC in the stream valley parks that were funded through the Capper-Cramton Act as project plans are further refined
Habitat and Wildlife Section (Section 4.13)	4-172, 173	Suggested Additional Bullet: **MTA will continue to coordinate with M-NCPPC and NCPC in the stream valley parks that were funded through the Capper-Cramton Act as project plans are further refined.**	
Water Resources (Section 4.14)	4-173	Suggested Additional Bullet: **MTA will continue to coordinate with M-NCPPC and NCPC in the stream valley parks that were funded through the Capper-Cramton Act as project plans are further refined.**	

Comments	Responses
National Capital Planning Commission, cont'd.	
4.22 Anticipated Permits and Approvals; 4-176; In reference to Table 4-54. Additional Row Required: **NCPC: Final approval of construction (minimum of 60-70% complete) and Environmental Compliance Plans for each of the affected "Capper-Cramton" stream valley parks. NCPC will be included in the coordination/review process for the Environmental Compliance Plans as they are developed to ensure project consistency with federal regional planning policies. Additionally, project plans for the alignment's crossing under the Baltimore-Washington Parkway will be coordinated with NPS and NCPC as they are refined, and submitted for Commission action at a final (60-70%) level of detail.**	As requested in this comment, MTA will provide construction plans (at the 6070% level) and Environmental Compliance Plans (ECPs) for the affected Capper-Cramton Parks to NCPC for approval; MTA will include NCPC in the coordination/review process for the ECPs; and MTA will provide project plans for the crossing of the Baltimore-Washington Parkway to NPS and NCPC and will submit plans for NCPC action at the 60-70% level.
6.4.1 Publicly Owned Parks and Recreational Areas – *Rock Creek Stream Valley Park*; 6-30; In reference to "*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 Trial.*" Additional Information Requested: Provide 1 or 2 photo simulations (either in this section or Section 4.0) to show the switchback trail area (after construction) to help illustrate future visual conditions, since this area will likely experience the greatest tree removal. In addition, provide estimates for the proposed tree removal and new tree plantings (to mitigate the removal) in the park, as well as a comparison of specific stormwater management and water quality-related measures between pre-project and post-project conditions from the Purple Line Water Resources Technical Report (2013).	See previous comment / response regarding photo simulation. 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.
Sligo Creek Stream Valley Park; 6-34; In reference to "*While MTA intends to minimize tree removal during construction and implement selective clearing techniques, trees within the proposed work area would be impacted.*" NCPC staff comment/ recommendation: The meeting notes with M-NCPPC (in Appendix I) indicate that approximately 29 trees will be removed. Include this information within the text for easier reference.	This information has been included in ROD Attachment D: Final Section 4(f) Evaluation.
6-34; In reference to "*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.*" Additional Information Requested / NCPC staff comment: Provide an estimate for how many trees will be planted to mitigate the tree removal, pursuant to applicable (State or County) requirements. The NCPC Comprehensive Plan includes a no net tree loss policy for projects within the National Capital Region. A photo simulation of the project area (looking towards the Wayne Avenue / Sligo Creek Parkway) once complete would help illustrate visual impacts. Lastly, provide a comparison of specific stormwater management and water quality-related measures between pre-project and post-project conditions from the Purple Line Water Resources Technical Report (2013).	See previous comment / response regarding photo simulation.
Northwest Branch Stream Valley Park; 6-48; In reference to "*FTA is proposing a de minimis use determination for the Preferred Alternative at Northwest Branch Stream Valley Park.*" Additional Information Requested / NCPC staff comment: Provide	

Comments			Responses
National Capital Planning Commission, cont'd.			
		estimates for number of trees to be removed and new trees planted as mitigation. The NCPC Comprehensive Plan includes a no net tree loss policy for projects within the National Capital Region. Lastly, provide a comparison of specific stormwater management and water quality-related measures between pre-project and post-project conditions from the Purple Line Water Resources Technical Report (2013).	The tree removal and re-planting estimates will be identified in the Forest Conservation Plan that is currently being prepared. 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.
Anacostia River Stream Valley Park	6-51	In reference to "*FTA is proposing a de minimis use determination for the Preferred Alternative at Anacostia River Stream Valley Park.*" Additional Information Requested: Provide estimates for number of trees to be removed and new trees planted as mitigation, as well as a comparison of specific stormwater management and water quality-related measures between pre-project and post-project conditions from the Purple Line Water Resources Technical Report (2013).	The tree removal and re-planting estimates will be identified in the Forest Conservation Plan that is currently being prepared. 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.
Baltimore-Washington Parkway	6-54	In reference to "*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*" Additional Information Requested: Provide estimates for number of trees to be removed, new trees planted as mitigation, and a comparison of specific stormwater management and water quality-related measures between pre-project and post-project conditions from the Purple Line Water Resources Technical Report (2013). Also, provide one post-project photo simulation from a driver's perspective along the B-W Parkway, approaching the re-constructed bridge over Riverdale Road.	Renderings from the driver's perspective were developed as part of the coordination of design with the National Park Service, including the driver's view during construction. These images will be shared with NCPC. The tree removal and re-planting estimates will be identified in the Forest Conservation Plan that is currently being prepared. 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. MTA will provide additional documentation as needed to support NCPC's and M-NCPPC's decision-making process under the Capper-Cramton Act.
Rock Creek Park Montgomery County Survey Area	6-65	In reference to "*Tree removal would be required within the Montgomery County right-of-way for the construction of the proposed transitway and trail structures.*" Suggestion: Reference earlier FEIS sections where more detailed estimates and photo simulations will be provided.	Comment noted. See previous response regarding photo simulation.
Baltimore-Washington Parkway	6-68	In reference to "*By refining the transitway alignment along the south side of Riverdale Road, MTA would permanently use approximately 0.54 acres of land from the Baltimore-Washignton Parkway.*" Suggested Revision: Change "0.54" to "0.61" for consistency with information provided in the rest of the document.	In the project area, the Baltimore-Washington Parkway has different historic and park boundaries. This results in the impacts to the park being slightly higher than the impacts to the historic resource. The figures have been confirmed and the acreages presented in the FEIS are correct.
	6-68, 69	Suggested Revisions: Change "6.61" to "6.72" (temporary occupancy area) and "0.54" to "0.61" (permanent use) throughout the remainder of the section (including Figure 6-42) for consistency.	In the project area, the Baltimore-Washington Parkway has different historic and park boundaries. This results in the impacts to the park being slightly higher than the impacts to the historic resource. The figures have been confirmed and the acreages presented in the FEIS are correct.
Sligo Creek Parkway	6-70, 71	Suggested Revisions: Update *Temporary Occupancy* and *Permanent Park Use* figures on page 6-70 and in Figure 6-44 to make consistent with information provided earlier in the FEIS.	In the project area, the Baltimore-Washington Parkway has different historic and park boundaries. This results in the impacts to the park being slightly higher than the impacts to the historic resource. The figures have been confirmed and the acreages presented in the FEIS are correct.
	6-70	In reference to "*In addition, FTA, MTA, and the MHT are preparing a Section 106 Programmatic Agreement that outlines commitments and mitigation concerning the Sligo Creek Parkway.*" Suggested Revision / NCPC staff comment: Please add "NCPC" to this sentence and contact us regarding this PA. To date, NCPC has not been involved with the Sligo Creek Parkway PA and with NCPC's approval	NCPC has participated in the Section 106 process as a consulting party. NCPC has elected not to be a signatory to the Programmatic Agreement (PA) has been included in Attachment B. As stated in the PA, the NCPC has designated FTA as the lead agency pursuant to 36 CFR 800.2(a)(2) and elected not to become a signatory on this agreement.

Comments			Responses
National Capital Planning Commission, cont'd.			
		authority (with Section 106 responsibility) over any physical modifications to the park pursuant to the Capper-Cramton Act; staff should be included in the process as soon as possible.	
	6-70	In reference to "*FTA is proposing a no adverse effect determination regarding the Sligo Creek Parkway.*" and "*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.*" Additional Information Requested: As previously suggested, provide 1 or 2 photo simulations of the Wayne Avenue / Sligo Creek Parkway here to show the project after completion.	See previous comment / response regarding photo simulation.
6.5.1 Park Agency Coordination	6-96	In reference to "*The Baltimore-Washington Parkway is owned by the NPS, and as such, the NCPC has approval authority over this property as well.*" Suggested Revision: The Baltimore-Washington Parkway is owned by the **federal government, under the jurisdiction of the National Park Service. As federal property located within the National Capital Region, outside of the District of Columbia, the NCPC has advisory review authority over projects within the park.**	The suggested text revision has been incorporated into Attachment D: Final Section 4(f) Evaluation. MTA will provide additional documentation as needed to support NCPC's and M-NCPPC's decision-making process under the Capper-Cramton Act.
	6-96	In reference to "*NCPC's formal review process consists of three steps: ....*" Suggested Revision: **NCPC's formal process can consist of one, two, or three stages of Commission review, depending on the location and complexity of a project. Regarding the Purple Line, the Commission will likely review the project either as a two-stage (separate Preliminary and Final actions) or one-stage (combined Preliminary/Final action) review. NCPC's future review timetable will depend on when detailed plans are available that adequately describe the project's impacts/mitigation related to visual resources, water quality, stormwater management, and other environmental factors within the B-W Parkway and parklands acquired through Capper-Cramton funding.**	The suggested text revision has been incorporated into Attachment D: Final Section 4(f) Evaluation.

Comments	Responses
U.S. Army Garrison Fort Detrick DEPARTMENT OF THE ARMY US ARMY GARRISON FORT DETRICK 810 SCHREIDER STREET FORT DETRICK, MD 21702-5000 REPLY TO ATTENTION OF: October 21, 2013 SUBJECT: USAG comments to Purple Line Final Environmental Impact Statement Mr. Henry Kay Motor Transit Administration 1000 South Charles Street Tower 2, Suite 700 Baltimore, MD 21201 Dear Mr. Henry Kay: The US Army Garrison Forest Glen is located at 9000 Brookville Road in Silver Spring, MD with satellite facilities in the Bethesda area. The installation is within 50 feet of the proposed Purple Line corridor and within 1/2 mile of the proposed Lyttonsville Station. We look forward to partnering with local, state, and federal organizations, and synchronizing long term master plans. Please accept the following comments to the Final Environmental Impact Statement. We would like you to consider mitigating the following during construction: vibration and blasting that could affect medical instrumentation (for example, electron microscopes and other sensitive equipment); air quality, noise and dust particles that could cause employee respiratory concerns; electrical disruption due to possible intermittent service; radio waves with the potential to interfere with sensitive equipment; traffic congestion from construction vehicles and detours interfering with installation access; and water and sewer utility disruptions. These comments address our concerns with crosswalks, traffic lights, sidewalks, ADA compliance, and safety. This will allow increased employee participation in public transportation and improved pedestrian access to the Purple Line stop across from the installation. I'd like to reiterate that improving public transportaiton access is important to the 2,000+ servicemembers and civilians who will work on Forest Glen in the year 2020 and beyond. Thank you for your consideration of these impacts to the Forest Glen Installation. I look forward to working with you. Sincerely, William J. Crane Garrison Manager, U.S. Army Garrison Forest Glen	MTA will work US Army Garrison Forest Glen during the construction phase of the project. MTA will require that the contractor minimize noise, dust, and vibration and that all applicable ordinances and requirements be met. As the design progresses details of construction will be shared with local stakeholders including the schedule, utility impacts, planned haulage routes, and hours of construction. The project's Environmental Compliance Plan, which will be developed after the ROD and prior to the initiation of construction, will ensure that contractors employ means and methods to avoid or minimize impact to the environment in compliance with construction contract documents (FEIS Chapter 5.4) MTA is developing a Transportation Management Plan to minimize impacts to traffic during construction. The plan, being developed collaboratively with MD State Highway Administration, and Montgomery County, will include traffic plans for transit, roadways, pedestrian and bicycle traffic. MTA expects relatively small areas of the proposed project corridor to potentially experience vibration effects from construction activities at any given time. These areas section along the transitway where extensive bridge and retaining wall work would occur. MTA will perform site specific assessment of the need for vibration mitigation as design progress, and use appropriate materials or methods where necessary. These options will be evaluated by MTA with regard to both reasonableness and feasibility. 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 and ROD Attachment A: Commitments and Mitigation Measures for mitigation commitments.

Comments	Responses
Maryland Department of the Environment Hello Henry: Here are the Purple Line comments that the Clearinghouse has received to date. From MDE: 1. Any above ground or underground petroleum storage tanks, which may be utilized, must be installed and maintained in accordance with applicable State and federal laws and regulations. Underground storage tanks must be registered and the installation must be conducted and performed by a contractor certified to install underground storage tanks by the Land Management Administration in accordance with COMAR 26.10. Contact the Oil Control Program at (410) 537-3442 for additional information. 2. Any solid waste including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible. Contact the Solid Waste Program at (410) 537-3315 for additional information regarding solid waste activities and contact the Waste Diversion and Utilization Program at (410) 537-3314 for additional information regarding recycling activities.	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.

Comments	Responses
Maryland Department of the Environment (2nd Letter)	

MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101

Martin O' Malley
Governor

Robert M. Summers, Ph.D.
Secretary

Anthony G. Brown
Lt. Governor

October 15, 2013

Mr. John Newton
Maryland Transit Administration
6 Saint Paul Street, Room 923
Baltimore, MD 21202

RE: Purple Line - Final Environmental Impact Statement & Draft Section 4(f) Evaluation

Dear Mr. Newton:

The Maryland Department of the Environment (MDE) has reviewed the Final Environmental Impact Statement (FEIS) & Draft Section 4(f) Evaluation. MDE notes that the additional jurisdictional resources verified by the U.S. Army Corps of Engineers and MDE during the July 30, 2013 Supplemental Jurisdictional Determination Field Review are not included in the August, 2013 FEIS. The additional jurisdictional resources should be included in the FEIS document. Regardless, please note that the supplemental resources must be included in the forthcoming Joint Permit Application submittal.

If you have any questions, please contact Ms. Emily Dolbin at (410) 662-7400 or by email at Emily.Dolbin@maryland.gov.

Sincerely,

Elder Ghigiarelli Jr.
Deputy Program Administrator
Wetlands and Waterways Program

cc: Maria Teresi, Corps of Engineers
Amanda Sigillito, Chief, Nontidal Wetlands Division
William Seiger, Chief, Waterway Construction Division
Emily Dolbin, MDE Consultant Reviewer

The map in the FEIS does not show the additional wetlands/waterways that were identified at a later date due to design changes. However, the impacts to wetlands/waterways are reflected correctly in the FEIS and account for impacts to those additional wetlands/waterways that were identified at a later date. The mapping in the Water Resources Technical Report does include the additional wetlands and waterways and the impacts to these areas are accounted for in the report. Both the original and revised wetland delineation mapping is included in Appendix E of the Water Resources Technical Report.

Comments	Responses
Maryland Department of Natural Resources Hello Henry: Here are the Purple Line comments that the Clearinghouse has received to date. From DNR: MD DNR, through our Integrated Policy and Review Unit, Project Review Division (formerly the Environmental Review Unit), has been participating in the MD Streamlined Process for Transportation Review for the Purple Line project. Comments and review notes have been provided in the past at appropriate stages, and the Division will continue its review efforts as project planning continues. The project in its planning stages has generally remained consistent with the programs of the Department	Comment noted.

Comments	Responses
Maryland Department of Planning Hello Henry: Here are the Purple Line comments that the Clearinghouse has received to date. . From MDP: MDP strongly supports the Purple Line project as it will reduce single-occupancy vehicular trips and associated reductions of traffic congestion and greenhouse gas emissions in the Baltimore and Washington region. The Purple Line will stimulate concentrated mixed-use development along the alignment through Transit-Oriented Development (TOD), which will encourage citizens to live, work, shop and play in or near transit-accessible communities. The purple line will help to reduce commuter congestion and reduce the wear and tear on the region's roadways by providing an sustainable, alternative transportation option. MDP has been actively involved in the Purple Line's planning process since project inception and looks forward to working with MDOT and local jurisdictions to support TOD along the transit line.	Comment noted.

Comments	Responses
Maryland Historical Trust Hello Henry: Here are the Purple Line comments that the Clearinghouse has received to date. From the Maryland Historical Trust (MHT): MHT is working with MTA to complete the Section 106 review process for this undertaking. The project will adversely affect historic properties. MTA, MHT, and the Consulting Parties are preparing a Programmatic Agreement that outlines commitments and mitigation measures concerning historic and archeological resources under Section 106.	Subsequent to this original correspondence, on November 6, 2013, MHT confirmed MTA's findings of adverse effect on three historic properties. Further, MHT stated that they have no objection to the MTA's effect determinations for the remaining historic properties within the project's Area of Potential Effect (APE). MHT also noted that MTA, MHT, and the Consulting Parties are preparing a Programmatic Agreement that outlines commitments and mitigation measures concerning historic and archeological resources under Section 106. The November 6th letter was not a comment on the FEIS, but rather was submitted by MHT as part of the Section 106 consultation process and is included in ROD Attachment E: Agency Correspondence and the Attachment B: Programmatic Agreement .

Comments	Responses
Montgomery County Planning Board MONTGOMERY COUNTY PLANNING BOARD THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION OFFICE OF THE CHAIR October 21, 2013 Mr. Henry Kay Maryland Transit Administration 100 South Charles Street Tower 2, Suite 700 Baltimore, Maryland 21201 Subject: Purple Line Final Environmental Impact Statement (FEIS) & Draft Section 4(f) Evaluation Dear Mr. Kay: The Montgomery County Planning Board/Park Commission (hereby referred to as simply the "Planning Board") is pleased to submit the following comments in response to the Purple Line FEIS and Draft Section 4(f) evaluation. On behalf of the Board, I want to once again express our appreciation for the work of your staff led by Project Manager Mike Madden for their responsiveness, expertise, and overall commitment to this critical and complex project. The Purple Line is central to the County's future if it is to grow smart and in a sustainable manner. It is for that reason – as noted in the FEIS - that the Purple Line has enjoyed long standing support in the form of numerous approved and adopted master and functional plans as well as in our on-going work programs like the anticipated resumption of the Greater Lyttonsville Sector Plan. The Planning Board comments are in part a response to a detailed staff analysis that was presented and discussed by the Planning Board on October 17, 2013. That analysis, in the form of a staff memo, is available on our web site at montgomeryplanningboard.org. While the FEIS demonstrates that the MTA has made significant effort to avoid or minimize adverse impacts along the right-of-way, additional minimization and mitigation measures must be developed in collaboration with Parks and Planning as design progresses. We expect that MTA will continue to work with both Parks and Planning staff to address these matters during final design, as well as in the Memorandum of Agreement (MOA) to be developed between our agencies. Specifically, we expect MTA to further develop and refine: 1) specific impacts to and mitigation for parkland; 2) details for stormwater management facilities; 3) habitat mitigation compensation; 4) details on culverts and bridge design; 5) compliance with Section 106 in the case of inadvertent discovery of archaeological sites in the project area; and, 6) impacts to the neighborhood centers.	Subsequent to receiving this letter, MTA met with the Maryland-National Capital Park and Planning Commission (M-NCPPC) Montgomery County Department of Parks on November 13, 2013 with additional follow-up communications. The meeting focused on the items outlined in the letter and many have been refined and addressed in the Final Section 4(f) Evaluation and supporting *de minimis* and temporary occupancy letters which are included as ROD Attachment F: Design Refinements Since the August 2013 FEIS. MTA will continue to work with Parks and Planning staff as the design progresses including the six areas noted in this comment.

Comments	Responses
Montgomery County Planning Board, cont'd. These details are important to ensure that the Purple Line continues to conform with County land use plans and includes appropriate mitigation. Our specific comments are organized below in a manner that reflects the on-going nature of the project development. Our focus at this point is on the comments directly related to the FEIS and Draft 4(f) Evaluation, while at the same time recognizing that the development of agency-specific MOA's and the Mandatory Referral will be upon us in short order. **Planning Department Comments** **Comment 1 – Chevy Chase Lake and Takoma Langley Crossroads Sector Plan Status** The FEIS (page 4-21) lists the Chevy Chase Lake and Takoma Langley Crossroads Sector Plans as "pending approval." These plans were approved and adopted in July 2013 and June 2012, respectively.	Comment noted. FTA and MTA acknowledge that these plans were approved and adopted in July 2013 and June 2012, respectively. This correction has been made; refer to ROD Attachment G: FEIS Errata Sheet.
Comment 2 – Bethesda Station The FEIS Preferred Alternative reflects a Bethesda Station area plan that no longer includes the Capital Crescent Trail above the Light Rail Train in the tunnel under Wisconsin Avenue. The trail instead would cross Wisconsin Avenue at grade – a feature also included in prior adopted master plans. The Planning Department is currently considering another design concept for the station as part of the Bethesda Purple Line Station Minor Master Plan Amendment process. Both designs would represent a change to the Purple Line Functional Master Plan and consideration of both plans as an eventual (if not preferred) outcome is consistent with current policy direction from the Planning Board and County Council.	MTA will continue coordination with M-NCPPC throughout the minor master plan amendment process and will update plans, as appropriate, if the redevelopment of this area is approved and moves forward.
Comment 3 – Lynn Drive Crossing in Chevy Chase The master plan recommendation for the at-grade pedestrian crossing of the Purple Line right of way near Lynn Drive was dependent on further analysis of overall feasibility – especially the ability to provide a safe crossing. MTA analysis has indicated the at-grade crossing cannot be provided at the current design speed and the Planning Board concurs that reducing the speed in this section is undesirable.	An at-grade crossing will not be provided at this location. MTA presented options for a grade-separated crossing below the transitway but these options are not being carried forward based on comments from the Town of Chevy Chase.
Comment 4 – Bridges over Connecticut Avenue The design calling for the bridges over Connecticut Avenue to be placed on fill or box structures is not consistent with prior policy guidance and previous representations and is therefore highly undesirable. The design for this gateway location should be refined to better respond to adopted design guidance in local master plans and prior MDOT supporting technical advice for TOD along this specific segment.	MTA will continue to coordinate with Montgomery County and M-NCPPC on the design of the structures over Connecticut Avenue. The structures have been modified to accommodate the master planned street B-1.
Comment 5 – Master Plan Street B-1 in Chevy Chase Lake The design for the bridges that carry the Purple Line and Capital Crescent Trail over Connecticut Avenue should accommodate the master planned street B-1 that is proposed to connect Manor Road and Chevy Chase Lake Drive.	The structures have been modified to accommodate the master planned street B-1.

Comments	Responses
Montgomery County Planning Board, cont'd. **Comment 6 – Lyttonsville Maintenance and Storage Facility** The revised concept plan for the Lyttonsville Maintenance and Storage Facility is generally consistent with the latest vision for the area and will be one of the underlying assumptions when work on the Greater Lyttonsville Sector Plan resumes.	MTA worked hard to minimize impacts to the Lyttonsville community and looks forward to coordinating with M-NCPPC as the sector plan process resumes.
Comment 7 – Capital Crescent Trail between Lyttonsville Road and 16th Street Recently, MTA received communication from CSX that clarifies their position. CSX's new policy permits them to sell land for a trail as long as it is at least 50 feet from the centerline of their tracks. Based on the new CSX policy, MTA will be able to construct the Capital Crescent Trail between Lyttonsville Road and 16th Street consistent with the Purple Line Functional Plan. This is a very positive outcome.	The use or purchase of CSX property is under negotiation with CSX.
Comment 8 – Arliss Street The FEIS is consistent with the current vision for the Purple Line side running alignment on Arliss Street, as recommended in the Long Branch Sector Plan. The Long Branch Sector Plan also includes an acknowledgment that the intersection at the north end of the station platform on Arliss Street is intended to provide both right and left turns into and out of the immediately adjacent parcels and their internal street network.	The FEIS includes the shift of the alignment to the side of Arliss Street. MTA will continue to work with Montgomery County and the local developer on the justification and additional right-of-way required for the addition of a northbound left-turn at this location. If the left turn is added no additional environmental impacts are anticipated as it is in a developed area consisting of parking lots.
Comment 9 – Bike Lanes on Piney Branch Road and University Boulevard We understand that MTA intends to revise its concept plans for a four-lane University Boulevard to include bike lanes on Piney Branch Road and University Blvd, consistent with the Long Branch Sector Plan, and we support this change.	The Preferred Alternative presented in the FEIS includes bike lanes on Piney Branch Road and University Boulevard.
Comment 10 – Access to Long Branch Local Park and Community Center The Long Branch Sector Plan also recommends that MTA "resolve vehicular access issues to the Long Branch Pool and Recreation Center in light of proposed traffic restrictions along Piney Branch Road associated with the Purple Line". This issue is addressed further in Comment 12 below and in comments from the Department of Parks.	MTA will design and construct a new access to Long Branch Community Center. The new access road and parallel trail will be located directly across from Barron Street, through the existing site of the Miles Glass Company building, which was recently purchased by M-NCPPC, at a signalized intersection.
Comment 11 – University Boulevard Cross Section The Purple Line FEIS is consistent with the current vision for University Blvd because it is able to accommodate traffic forecasts with improvements to the roadway network. Furthermore, reducing University Blvd from six lanes to four lanes may help implement other aspects of the Long Branch Sector Plan outside of the traffic lanes, including the bike lanes, landscaped panel, sidewalks, and cycle tracks.	Comment noted.

Comments	Responses
Montgomery County Planning Board, cont'd. **Comment 12 - Community Facility and Business Access Challenges** The Department of Parks has recently acquired the property on Piney Branch Road where the Miles Glass Company was previously located in order to partially mitigate the impact on access to the Long Branch Local Park and Community Center. Consideration should be given to highlighting in the P3 solicitation process those locations along the alignment where alternative design or access concepts would be considered – given the unique challenges associated with those sites. These include the property owners along Arliss Street, the Long Branch Local Park and Community Center on Piney Branch Road, businesses along Bonifant Street with on-street parking, Silver Spring International Middle School on Wayne Avenue, and Rosemary Hills Elementary School on Porter Road and near Talbot Avenue, the Capital Crescent Trail, and the CSX right of way. In general, the Planning Board supports every effort to mitigate access and other impacts to existing community facilities and businesses.	MTA will continue to work to minimize impacts to community facilities and businesses along the corridor. Ongoing coordination continues and the P3 process will be informed of locations where specific access has been determined such as Long Branch Local Park or needs to be addressed. In addition, design refinements have been made to facilitate truck deliveries to local businesses on Bonifant Street.
Comment 13 – Noise and Vibration Mitigation The FEIS identifies potential noise and vibration impacts and includes a commitment to develop appropriate mitigation measures. Technology related to noise and vibration suppression is evolving and efforts should therefore be made in the P3 solicitation to place a premium on responses and unique approaches that advance mitigation measures where feasible. The effort going forward should reflect the fact that this light rail alignment is adjacent to a number of sensitive sites in an evolving inner suburban setting.	The ROD contains commitments relating to noise and vibration that include specific mitigation measures, additional site-specific assessments of those areas identified in the FEIS as having potential vibration impacts, and control measures to be implemented by the contractor during construction activities.
Comment 14 – Location and Compatibility of Traction Power Substations We expect that MTA will continue to work with community stakeholders to identify specific approaches for addressing traction power substation compatibility with the surrounding setting. The following proposed locations (as shown in Table 4-4 of the FEIS) for these stations are in residential settings and are of particular interest: • Montgomery Avenue – approximately 1,600 feet beyond (east of) Wisconsin Avenue • Georgetown Branch right of way – approximately 300 feet prior to (west of) Connecticut Avenue • Approaching CSX tracks (from west) near Kansas Avenue • Wayne Avenue just past (east of) Cloverfield Road • Arliss Street just past (east of) Flower Avenue • University Boulevard just past (south of) Seek Lane	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.
Comment 15 – Public Private Partnership (P3) Procurement The P3 procurement process should provide a mechanism for consideration of design refinements after the completion of the NEPA process for both the Purple Line and the CCT as noted in the FEIS. In addition and more specifically, the MTA should issue written guidance within the next 30 days on how on-going design refinements will be considered and included (where there is concurrence) during the P3 procurement process.	The P3 procurement process includes a mechanism for the consideration of design refinements. This process will allow for County and M-NCPPC involvement in the review of proposals, as appropriate.
Comment 16 – Three Affected National Register-Eligible Properties Staff recommends continued consultation to identify appropriate mitigation measures for the three affected National Register-eligible properties.	MTA will implement the project in accordance with the Section 106 Programmatic Agreement which includes ongoing consultation.

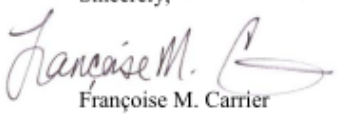
Comments	Responses
Montgomery County Planning Board, cont'd. **Comment 17 – Eight County-Designated Resources** Although not a requirement under Section 106, staff recommends that MTA work with Planning staff to study eight County-designated historic resources to determine whether the project will have an effect on them, and if so, to identify appropriate mitigation measures. This list includes eight resources that are designated in the Master Plan for Historic Preservation: Chevy Chase Lake Trolley Station, #35/11 Madonna of the Trails statue, #35-14-2 Bethesda Post Office, #35/14-5 Brooks Photographers, #35/14-6 Community Paint and Hardware, #35/14-7 Tastee Diner, #36/13 Armory Place, #36/14 Little Tavern, #36/16	As part of the Section 106 process, MTA has coordinated with the Maryland Historical Trust to identify historic properties, i.e., those that are eligible for or listed in the National Register of Historic Places, within the project's Area of Potential Effects. The properties on this list have been reviewed and appear to be no longer extant; outside of the project's Area of Potential Effects; and/or not eligible for listing in the National Register of Historic Places. Therefore, they would not be part of the Section 106 process according to the guidelines set forth in 36 CFR 800 and Section 106 of the National Historic Preservation Act and not subject to mitigation. Regardless of National Register status, the extant properties would not be impacted by the project due to their distances from the Preferred Alternative.

Comments	Responses
Montgomery County Planning Board, cont'd. **Comment 18 – Natural Resources** Planning staff has reviewed the sections of the FEIS regarding the natural environment. While we find that MTA has made significant effort to avoid and minimize adverse impacts along the ROW, additional minimization and mitigation details must be developed in collaboration with MNCPPC Parks and Planning for further refinement. We expect that MTA will continue to work with Parks and Planning staff to address these matters during final design, as well as in the Memorandum of Agreement to be developed between our agencies. The specific design details to be worked through and concurred upon for areas outside of parkland, within the ROW and its perimeter, include: • details and types of stormwater management facilities; • additional habitat impact reduction; • suitable habitat (tree) mitigation compensation; • details on culverts with springs, seeps and/or perennial streams; • neighborhood impacts mitigation; • additional analysis and mitigation measures for secondary or minor activity areas such as the Chevy Chase Lake and Lyttonsville neighborhoods. Planning staff would also like to see MTA go beyond regulatory minimums regarding but limited to the following areas: • Noise mitigation measures for residents affected by "Moderate Impacts" (M-23, M-26, M-27A & M-28); • Mitigation for specimen tree lost throughout the ROW; • Additional use of "green tracks" beyond the Georgetown Branch where feasible, with preference for use in sensitive areas such as Rock Creek, Sligo Creek, Long Branch, and Northwest Branch to reduce heavy metals, salt, organic molecules, and nutrients entering the receiving waterways; • Protection of the colony of herons within the forested floodplain of Coquelin Run in close proximity to the ROW. Implement protection measures to ensure roosting grounds during brooding are undisturbed during the months of May through mid-June.	MTA looks forward to continuing coordination with M-NCPPC Parks and Planning staff as the design of the project progresses and additional minimization and mitigation measures are defined. • Specific minimization and mitigation is outlined in the Section 4(f) Evaluation. In addition, a Memorandum of Agreement (MOA) between MTA and M-NCPPC will be executed that outlines coordination with MTA including design reviews. • M-NCPPC will be provided an opportunity to review stormwater management (SWM) reports and plans. • MTA will continue to consider measures to reduce habitat impacts during Final Design. MTA will prepare a Forest Conservation Plan which will detail additional impact avoidance and minimization techniques to be applied during construction. • MTA is working closely with the Maryland Department of Natural 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 and Montgomery and Prince George's Counties are currently identifying sites for reforestation (replanting trees) or afforestation (planting trees where there were none before) with a goal to protect or create habitat where it is needed. • MTA will design culverts and bridges to MDE standards. Any watershed impacts associated with the Purple Line project will be mitigated for through wetland and stream mitigation in project area watersheds. A detailed discussion of proposed wetland and stream mitigation starts on Page 49 in the *FEIS Water Resources Technical Report.* • As discussed *FEIS Chapter 4.3*, the preferred alternative will not result in a major change in community cohesion or neighborhood quality as it will operate in or adjacent to existing roadways along most of its alignment. The MTA has made continual efforts to respect the integrity of the neighborhoods in which the project will be built, using context sensitive design techniques. MTA will continue to meet with county planning departments, developers, and surrounding communities to avoid or minimize negative land use effects. • The FEIS analyzed and assessed the impacts to major, as well as secondary or minor activity areas in the vicinity of the alignment. The study area for the analysis of neighborhood impact was defined in *FEIS Chapter 4.3* as 500 feet to each side of the Preferred Alternative alignment. As noted above, MTA will continue to meet with county planning departments and local communities to avoid or minimize negative land use effects. Regarding the Lyttonsville community, MTA worked hard to minimize impacts and looks forward to coordinating with M-NCPPC as the sector plan process resumes. • The noise impact at these locations is derived from use of transit warning horns at stations and crossings. Entirely eliminating the transit horn is not possible due to safety concerns. However, MTA is developing a bell and horn policy which will address noise sensitive areas and may further mitigate projected noise levels. • MTA will comply with Maryland Department of Natural Resources (MDNR) requirements for reforestation. As noted above, the MTA and Montgomery and Prince George's Counties are currently identifying sites for reforestation or afforestation. • MTA is investigating additional opportunities for the use of Green Track and will share recommendations with M-NCPPC. The applicability is based on a number of factors including stormwater management, physical location, and the level and/or presence of pedestrian or auto traffic; all of which affect the viability of the plant matter.

Comments	Responses
Montgomery County Planning Board, cont'd. and Northwest Branch to reduce heavy metals, salt, organic molecules, and nutrients entering the receiving waterways; • Protection of the colony of herons within the forested floodplain of Coquelin Run in close proximity to the ROW. Implement protection measures to ensure roosting grounds during brooding are undisturbed during the months of May through mid-June. **Comment 19 – Sligo Creek Trail** The Department of Parks and the Planning Department support widening the shared use path on the Wayne Avenue bridge to 14 feet wide, as well as enlarging the receiving area for the trail on the southwest side of the intersection. **Department of Parks Comments** Parks staff appreciates MTA's coordination on park impacts thus far and looks forward to working with MTA throughout the detailed design and construction phases of this project to address park impacts and associated mitigation and minimization measures. Below are the Department's general commitments/conditions, followed by specific impacts expected at each park affected by Section 4(f), and then proposed mitigation for parkland impacts. The Planning Board supports de-minimus findings (with mitigation) for all parks affected by Section 4(f), on the condition that MTA provides adequate mitigation and minimization measures for the project. The Planning Board expects the commitments and mitigation package to be incorporated into the Record of Decision (ROD) and into the MOA. **General Commitments/Conditions** **Comment 20 – Stormwater Management/Erosion Control and Sediment Control** M-NCPPC's National Pollution Discharge and Elimination System (NPDES) MS4 permit compels us to incorporate stormwater retrofits for untreated impervious areas into infrastructure improvement projects. MTA should commit to retrofit outfalls onto parkland to treat previously untreated areas of roads, parking lots, etc. prior to discharge onto parkland. **Comment 21 – Forest Fragmentation and Stream Valley Buffer Impacts** MTA should commit to minimize tree loss and limit impacts to natural resources, particularly where the Purple Line project crosses stream valleys. This effort would include providing appropriate tree preservation measures and additional plantings to offset vegetative impacts. **Comment 22 – Stream Crossings** MTA should commit to utilizing environmentally sensitive designs at all stream crossings and improving existing riparian conditions.	As stated in Chapter 4.13.3 of the FEIS, MTA will continue to coordinate with M-NCPPC and MDNR regarding the heron colony located within Coquelin Run to ensure that any concerns are addressed. A work group will be formed between M-NCPPC and MTA to further study and recommend appropriate design and mitigation for the stream realignment at Sligo Creek. Effects of widening the bridge to accommodate a wider Green Trail will be considered. The construction of the Purple Line is a MD State project and SWM approvals, including water quality SWM requirements, are under the jurisdiction of MDE. The Purple Line intends to address MDE's water quality SWM requirements through on-site and potentially off-site SWM measures. MTA will prepare a Forest Conservation Plan which will detail additional impact avoidance and minimization techniques to be applied during construction. MTA will comply with Maryland Department of Natural Resources (MDNR) requirements for reforestation. MTA will continue to coordinate with the National Marine Fisheries Service (NMFS) and other regulatory agencies to identify measures to avoid or minimize stream impacts. MTA has committed to environmentally sensitive stream crossings at Sligo Creek, Long Branch, and Rock Creek, and to work with Parks staff to develop mitigation plans at those streams.

Comments	Responses
Montgomery County Planning Board, cont'd.	
Comment 23 – Interim Conditions/Park Modifications MTA should commit to providing appropriate improvements to existing park facilities to accommodate the Purple Line and restore full functional usage of each park.	MTA will ensure functional interim conditions for parks, access, and parking during construction, and continuation of park usage.
Comment 24 – Minimize Disruptions to Park Users MTA should ensure that park facilities remain open during the construction of the Purple Line project, unless otherwise approved by the Department of Parks. This will involve providing temporary facilities and transitions, detours, public notifications, etc. as needed.	Parks will remain open during construction unless approved. MTA will work with Parks staff to coordinate and advertise any changes in access or parking.
Comment 25 – Technical Review and Park Permits All construction on parkland will require Parks' technical review and approval of the proposed designs and issuance of Park Construction Permits. MTA should commit to developing a coordination and review protocol that allows sufficient input throughout the design process in a timely manner with respect to staff workloads. Please note that should MTA desire a "fast-track" review process, they will likely need to provide additional resources to Parks staff, as other public agencies managing large scale projects with parkland impacts have done.	MTA is working with M-NCPPC to develop a review process for coordination during design and construction. This will be outlined in the MOA to be developed between the agencies. If MTA would select a fast track review process, they would work with Montgomery County to determine what additional resources, if any, would be required to assist M-NCPPC staff with their review.
Specific Impacts Expected At Each Park **Comment 26 – Elm Street Urban Park** In addition to the Purple Line, numerous future and proposed projects will be impacting (or may impact) this park. These include developer-funded improvements to the playground, Montgomery County Department of Transportation's Capital Crescent Surface Trail, a proposed bike share station and possibly a new tunnel route for the mainline Capital Crescent Trail. The sequencing of these improvements is unknown. Therefore, MTA will need to provide an interim condition for the park that adequately provides for safely redirecting the Capital Crescent Trail through the park to 47th Street, while maintaining functional use of the rest of the park. This work shall be completed prior to closing the tunnel under Wisconsin Avenue, to accommodate diverted trail traffic passing through the park.	MTA will provide a functional interim condition for the park, reviewed and approved by M-NCPPC, prior to its planned redevelopment.
Comment 27 – Rock Creek Stream Valley Park Although the Purple Line project will be primarily constructed within the Georgetown Branch right-of-way, it will still have impacts to park resources. MTA's design should improve stream valley conditions, including removal of the existing trestle bridge abutments in and adjacent to the stream channel to at least 18" below finished grade and appropriate channel stabilization. MTA must also connect the CCT to the Rock Creek Trail and should improve the trail where it passes under the new bridges to reduce sedimentation problems and incorporate sustainable trail design elements. Finally, consistent with Planning Department recommendations, MTA should design the new transit line bridge and Capital Crescent Trail bridge as signature facilities with aesthetic considerations for park users. Likewise, MTA should also design all associated retaining walls in the stream valley with aesthetic consideration for park users.	Contingent upon approval by regulatory permitting agencies, as part of the removal of the existing bridge over Rock Creek, the pier foundation within the existing stream channel will be removed 12-18 inches below existing grade. The stream will be stabilized with appropriate stream design methods that factor hydrology, hydraulics, and existing conditions both upstream and downstream of the pier and aquatic passage. The design includes a connection between the Capital Crescent Trail and the Rock Creek Trail and the Rock Creek Trail will be raised out of the one-year floodplain on an elevated wooden boardwalk to reduce existing flooding and siltation issues. The bridges will be designed as signature facilities with aesthetic considerations for park users (including the treatment of retaining walls).

Comments	Responses
Montgomery County Planning Board, cont'd. **Comment 28 – Sligo Creek Stream Valley Park** When MTA reconstructs the Wayne Avenue bridge over Sligo Creek to accommodate the Purple Line project, MTA should design the bridge as an environmentally sensitive crossing, realigning the stream in a stable plan form to pass under the new bridge, extend the upstream and downstream limits of stream restoration in consultation with Parks, and provide appropriate grade control, aquatic habitat, and stabilization of the new channel. MTA will need to provide interim conditions to maintain access to the playground, parking lot, and trail during construction. The finished design should provide functional use, stormwater management retrofits for existing untreated impervious areas, and ADA access for the playground, trail, and parking lot areas. Parks staff notes that the Wayne Avenue bridge is entirely on parkland; it is not along a dedicated right-of-way or on an easement.	MTA is committed to designing an environmentally sensitive stream crossing when designing the Wayne Avenue bridge. A work group will be formed between M-NCPPC and MTA to further study and recommend appropriate design and mitigation for the stream realignment at Sligo Creek with the goal of ensuring long-term stability and reducing stress on the stream. More information on this work group can be found in ROD Attachment D: Final Section 4(f) Evaluation. In addition, recreational facilities, including the existing playground within Sligo Creek Stream Valley Park and Sligo Creek National Recreational Trail will be accessible during construction. Finally, as part of the ongoing refinement of the Green Trail design MTA will assess the feasibility of providing ADA compliant access from the existing parking lot west of the stream to the playground area.
Comment 29 – Long Branch Local Park & Long Branch Stream Valley Park The Department of Parks considers the access restrictions to the pool and recreation center to substantially impair the park's operation and substantially diminish the use by park patrons. To provide functional use of the existing park, MTA should reimburse M-NCPPC for the purchase price of the Miles Glass Company property (bought to maintain adequate access). MTA will need to construct a new driveway entrance off Piney Branch Road to align with Barron Street and redesign the existing parking lot to accommodate the widening of Piney Branch Road and the new park entrance. Additionally, MTA should take responsibility for realigning the Long Branch Trail to cross Piney Branch Road at Barron Street and parallel the new driveway as it enters the park. This reconfiguration will also require stormwater retrofits and ADA access for the new park entrance/driveway and the new segment of park trail. The existing box culvert that carries Long Branch stream under Piney Branch Road is inadequate for the drainage it currently conveys, and extending the existing culvert to accommodate the new road/train cross section will further impair the stream system. MTA will need to replace and/or augment the existing box culvert under Piney Branch Road to create an environmentally sensitive crossing and provide stream improvements both upstream and downstream of the road crossing for long term stream stability and fish passage.	MTA will design and construct a new access to Long Branch Community Center. The new access road and parallel trail will be located directly across from Barron Street, through the existing site of the Miles Glass Company building, which was recently purchased by M-NCPPC, at a signalized intersection. As discussed in ongoing coordination meetings, MTA will not reimburse M-NCPPC for the purchase price of the property. The current design does not require the redesign of the parking lot, except where the new entrance road will tie-in. MTA is committed to designing an environmentally sensitive stream crossing with the goal of maximizing capacity and reducing stream velocity. A work group will be formed between M-NCPPC and MTA to further study and recommend appropriate design and mitigation at Long Branch. Additional information on park mitigation and ongoing coordination can be found in Attachment D: Final Section 4(f) Evaluation.
Comment 30 – New Hampshire Estates Neighborhood Park Construction of the Purple Line along University Boulevard will require significant parkland impacts to widen the road's right-of-way. The project also will reconstruct the portion of University Boulevard across the park's frontage. This will restrict pedestrian access and eliminate vehicular access to the parking lot during construction. To provide an interim condition for the park, MTA must provide alternative access to the park's facilities during construction, as well a temporary replacement parking area dedicated to park users. MTA also must provide for functional use of the park following the Purple Line (but preceding the construction of Gilbert Street extended, recommended in the Long Branch Sector Plan). The design must provide full restoration of all amenities directly and indirectly impacted by the Purple Line to create a park user experience equal to or better than the current conditions. MTA also must replace all parkland lost throughout the corridor in the Long Branch community, ideally adjacent to this park.	Alternative access to the park and temporary parking will be identified during construction, as appropriate. MTA will also provide a functional interim condition, for review and approval of M-NCPPC Montgomery County Department of Parks, for the park prior to its planned redevelopment. Finally, MTA will consolidate its mitigation for permanent use of parkland in Montgomery County at a single site adjacent to the New Hampshire Estates Neighborhood Park.

Comments	Responses
Montgomery County Planning Board, cont'd. **Proposed Mitigation for Parkland Impacts:** • Reimbursement for the purchase of the Miles Glass Company property • SWM retrofit of the entire Long Branch Local Park • SWM retrofit for the Long Branch Library site • SWM retrofit for the untreated impervious areas draining to the existing ditch on the eastern boundary of New Hampshire Estates Neighborhood Park • Sligo Creek stream restoration between Schuyler Road and Bradford Road Finally, our staff memo for the Purple Line agenda item on October 17, 2013 includes additional detail on issues more closely related to any Memorandum of Agreement with this or other agencies, and other issues (largely related to the Capital Crescent Trail) in which the Planning Board role is generally advisory in nature. We encourage MTA to review the entire staff memo as it outlines many issues to be addressed in the development of the upcoming MOA's and the Mandatory Referral. Thank you again for the opportunity to comment on the Purple Line Final Environmental Impact Statement and Draft 4(f) Evaluation. Sincerely,  Françoise M. Carrier Chair cc: Nancy Navarro, President, Montgomery County Council Art Holmes, Director, Montgomery County Department of Transportation Elizabeth M. Hewlett, Chair, Prince George's County Planning Board	Subsequent to the issuance of this letter, MTA met with park staff to discuss these measures. • MTA will not be reimbursing M-NCPPC for the purchase of Miles Glass. • SWM retrofits will be discussed in ongoing coordination as part of the overall SWM plan for the project. • A work group is being formed to study and recommend specific mitigation and design issues at Sligo Creek. This is outlined in ROD Attachment D: Final Section 4(f) Evaluation. Staff comments are noted. Some have been addressed in the response to the comments outlined above. Others will be discussed as part of the ongoing coordination.

Comments	Responses
Prince George's County Department of Public Works and Transportation	

PRINCE GEORGE'S COUNTY GOVERNMENT

DPW&T

Department of Public Works and Transportation
Office of the Director

Rushern L. Baker, III
County Executive

October 21, 2013

Purple Line
Maryland Transit Administration
Transit Development & Delivery
100 S. Charles Street, Tower Two, Suite 700
Baltimore, MD 21201

RE: FEIS Comments

The Prince George's County Department of Public Works & Transportation (DPW&T) appreciates the opportunity to review and provide comments on Volumes I and II of the August 2013 *Final Environmental Impact Statement & Draft Section 4(F) Evaluation* (FEIS). The proposed Purple Line is a 16-mile transit line extending from New Carrollton in Prince George's County to Bethesda in Montgomery County and is essential for economic development and congestion reduction within the region. The FEIS document represents the culmination of more than two decades of work by the Maryland Department of Transportation (MDOT), the Maryland Transit Administration (MTA) Division of MDOT, Prince George's and Montgomery Counties, the Maryland-National Capital Park and Planning Commission, and numerous other agencies and stakeholders.

DPW&T looks forward to continued coordination with MTA during the preliminary engineering phase, the execution of the Memorandum of Understanding, construction and implementation of the Purple Line. Comments within are a collaborative effort between many offices here at DPW&T, including the Office of Engineering and Program Management, Department of Environmental Resources, Department of Permits, Inspection and Enforcement and the Office of Transportation. In this light, DWP&T offers the following comments and observations on the FEIS.

Sincerely,

Darrell B. Mobley
Acting Director

Attachment

cc: Ms. Carla Reid, Deputy Chief Administrative Officer
Mr. Aubrey Thagard, Assistant Deputy Chief Administrative Officer
Dr. Haitham Hijazi, Director, DPIE

Comments	Responses
Prince George's County Department of Public Works and Transportation	
1. There appear to be few opportunities for convenient vehicle access near proposed stations/boarding platforms in order to maximize increased ridership. The FEIS states that "Passengers boarding the Purple Line would either walk, ride a bike, transfer from bus, or transfer from other rail lines." Prince George's County still requests that the MTA consider opportunities for vehicular drop off areas near proposed stations/platforms.	MTA will continue to work with Prince George's County Department of Public Works and Transportation (DPWT) to identify future opportunities for vehicular drop off.
2. The Capital Crescent Trail through Columbia CC is proposing a permeable pavement. Is there any reason the other trail systems cannot be permeable pavement in lieu of hot mix asphalt (HMA)? Prince George's County requests that the maintenance of side paths and trails should be the responsibility of others. Additionally, the incorporation of Green Track, as previously recommended, is one way to help mitigate impacts. Taking a look as to where this treatment can be implemented along the Purple Line in Prince George's County should be investigated.	MTA supports the use of permeable pavement, where applicable, and have shared this idea with Montgomery County and the University of Maryland for consideration on the Capital Crescent Trail and bike path through campus. Ultimately, the selected materials will be up to those agencies as they are funding, will own, and maintain the trails. This would be similar for trails that may be constructed in Prince George's County. The Maryland Department of Transportation supports walking and cycling as important modes of transportation and participates in the construction of bicycle and pedestrian facilities. However future maintenance of sidewalks, paths and trails is the responsibility of the local jurisdiction and depending on jurisdiction is sometimes transferred to adjacent property owners.
3. When an existing roadway intersection requires partial improvements due to the LRT, the entire intersection needs to be evaluated for ADA compliance.	Comment noted. When modifications are being made, the entire intersection has been assessed for ADA compliance.
4. Where the LRT passes under the CSXT/Metrorail along Paint Branch Parkway, it appears Paint Branch Parkway needs to be lowered to provide sufficient vertical clearance. The typical section indicates the existing retaining walls will remain. Please provide more detail as to how the project will achieve this vertical adjustment (lowering) of the existing wall. The minimum AASHTO and SHA standard for an arterial roadway which is 14 feet and 14.5 feet respectively. Prince George's County insists that the minimum standard for vertical clearance be adhered to. If there is an extenuating circumstance as to why it cannot be met, please explain.	Minimum vertical clearances are being met, the details of which were presented to Prince George's County on September 23, 2013.
5. Sheet 139; both proposed crosswalks at MD 193 and Campus Drive should align perpendicular to MD 193. Consider south to north pedestrian crossing at MD 193 and Campus Drive. Due to the proposed F-Shaped barrier, pedestrians might be tempted to cross where the barrier ends in lieu of crossing Adelphi Road, then Campus Drive. Also, an east west crosswalk appears to be missing at the north side of Campus Drive and Adelphi Road.	The alignment of all crosswalks will be coordinated with both SHA and Prince George's County in Final Design. The east-west crosswalk across the north leg of Adelphi Road and Campus Drive has been added to the current plans.
6. Sheet 155; How will MTA make the connection from River Road to the NE Branch Trail located along the west side of the branch?	The existing trail connection will remain.
7. Sheet 159; proposed retaining wall (Sta. 1088 + to 1089+ Rt.) appears to impact building (St. Bernard's Church?), What is the mitigation plan if there is an impact? ?	The retaining wall does not impact the building.
8. The Traffic Analysis Technical Report did not fully reveal the Purple Line impact on motor vehicle traffic. The only MOE evaluated and compared was to LOS. Other critical MOEs, especially queue length should be evaluated. In locations where Purple Line is expected to have significant impact and cause traffic operation degradation, extra improvements need to be provided by the MTA project team and continue to explore the issues and their solutions.	The MTA team prepared the following detailed traffic studies, each of which was submitted to Prince George's County for review and comment; MD 193 Corridor Study; MD 193 at Adelphi Road At-Grade Study; Rossborough Lane at Paint Branch Parkway Intersection Study; MD 201 Lane Reduction Study; MD 410/Beacon Heights Corridor Study; MD 410 at MD 450 At-Grade Study; Ellin Road Traffic Study. In addition, the MTA prepared several traffic studies for the University of Maryland to consider various alternatives for Campus Drive.

Comments	Responses
Prince George's County Department of Public Works and Transportation	
9. The Eastpine Drive re-alignment illustrated in the engineering concept plans (sheet 162 in Volume II) is not acceptable. The sharp horizontal roadway curvature produces a horizontal sight distance problem among other safety issues. The newly constructed approach opposing to 64th Avenue should go straight south to connect with Patterson Street.	After the publication of the FEIS, the design of this connection was refined to address design concerns. MTA continues to work with DPWT on the design of this connection. A connection going straight to the south would require the acquisition of two additional homes and put through traffic on different neighborhood streets. Therefore, MTA is not adding this connection. The design of the project does not preclude Prince George's County from planning for or adding this connection in the future.
10. The concept plan shows that a travel lane on Paint Branch Parkway has a width of 10.5 feet (Sheet 148 & 149), which is not acceptable. Based on the minimum County standard, a travel lane and a transit lane should be not less than 11 feet wide.	The lanes have been widened to a minimum of 11 feet.
11. The concept engineering plans show 4-foot wide bicycle lanes on sections of University Boulevard between STA 491+00 and 500+00 (Sheet 130 and 131), between STA 527+00 and 529+00 (Sheet 133 and 134) and Campus Drive between STA 6908+00 and 6915+00 (Sheet 139 & 140). A 5-foot wide bicycle lane is required per minimum standard.	The bike lane width met the SHA's 2012 guidelines, but do not meet their 2013 guidelines. The MTA is requesting a bike waiver from the SHA in order to minimize impacts to several Section 4(f) resources.
12. The Typical Section on Sheet 449 of 497 show varying Thru travel lanes (11'-0" - 9'-7") on Campus Drive. A 9'-7" Thru travel lane is not acceptable on Campus Drive between STA 6114+50 to 6120+04. Per Prince George's County minimum standard, please provide 11 feet of thru travel lanes for this section of roadway on Campus Drive. Secondly, there was no Horizontal Alignment Plan sheet for this section on Campus Drive within the set of plans. Please provide plan sheet/sheets for this section of roadway on Campus Drive.	The 9'-7" lane width is where the reconstructed Campus Drives ties back to existing. The plan sheets will be provided to Prince George's County DPWT.
13. Bike pathway connections should be made throughout and along the entire Purple line in Prince George's County, inclusive of locking bike racks and potential protection from elements at Stations. There is a need to connect all potential trails, paths, sidepaths, lanes, etc. to allow a continuous ribbon of access along the entire length of the Line, determining a minimum width (possibly less than standard where necessary) to ensure full connectivity.	Bike lanes/paths are being added along University Boulevard, through the University of Maryland, along Kenilworth Avenue, and along southbound Veterans Parkway. MTA will continue to work with Prince George's County to determine where adequate space can be provided to accommodate the addition of a shared use path along the transitway in by others in the future.
14. Consider including a median treatment to prevent mid-block crossing along River Road at the western end of the proposed M-Square Station (drawing CV-61, page 154)	The current design does not include fencing in the median. If it is determined that it is needed in the future, there is a concrete median in this area that could accommodate a fence.
15. Utilize decorative architectural retaining walls where opportunities exist along Kenilworth Avenue/MD 201 and MD 410 (drawings CV-63 thru CV-68, pages 156-161), possibly with themes from the Anacostia Trails Heritage Area (see Approved Anacostia Trails Heritage Area [ATHA] Management Plan). Public artwork along Kenilworth Avenue and MD 410 can support the implementation strategies contained in the approved ATHA Management Plan. Consider the use of decorative panels on both sides of the raised approaches to the East-West Highway/MD 410 overpass bridge (drawing CV-65, page 158)	These walls have been identified as opportunity for special treatment and the ideas shared for the treatment of the walls in this area have been shared for consideration as part of the Art in Transit program.
16. Drawing CV-67 (page 160) suggests that no pedestrian improvements are planned on this segment of Riverdale Road/MD 410. Continuous pedestrian and bicycle facilities should be provided as part of the project along the entirety of Riverdale Road from MD 201 to Veterans Parkway.	The MTA will reconstruct the existing sidewalk from 61st Place to Veterans Parkway. The SHA has a capital project to provide new sidewalk from 58th Avenue to 61st Place. Only a small portion of Riverdale Road will be affected by the Purple Line because the transitway is south of the roadway. Due to the small area of roadway reconstruction MTA continues to discuss bike lane requirements with the SHA.

Comments	Responses
Prince George's County Department of Public Works and Transportation 17. Consideration should be given to providing a landscape buffer along the north side of Riverdale Road (MD 410 along and west of the intersection with Veterans Parkway/MD 410 drawing CV-71, page 164).	The sidewalk is shown adjacent to the curb in this area to minimize impacts to adjacent properties. If future plans call for a landscape buffer, it may be able to be achieved by others through a Sector Plan process as redevelopment occurs.
The following comments are presented to bring emphasis to the importance of storm water controls in the Anacostia watershed where the majority of the project will have the greatest impact. Special attention will need to be placed in controlling impervious surfaces, stream crossings, wetland impacts, and drainage systems that may need to be upgraded to support the new purple line infrastructure. The County prefers that all new SWM controls be designed following low impact strategies for treating runoff to the MEP, and blend these new features with the aesthetic nature of the landscape. The Anacostia River watershed has TMDLs for nutrients, biological oxygen demand, fecal coliform, trash and sediments. In addition, a Chesapeake Bay TMDL is being established that will require nutrient reductions across the Bay region. In order to meet the Anacostia and Chesapeake Bay TMDLs it will be necessary to decrease the current pollutant loadings. The Northwest Branch, a tributary of the Anacostia is already classified by the State of Maryland's Department of Natural Resources as a "stream in poor condition". Consideration should be given to reduce loads for Total Nitrogen, Total Phosphorus, Sediments, and trash from proposed impacted areas. We recognize at this juncture, that this Final Environmental Impact Statement is a comprehensive overview of the projected impact, and does not contain specific strategies for mitigation.	Prince George's County's TMDL related water quality requirements are EPA requirements with the noted intent to reduce nitrogen and phosphorous pollutant loading within the Chesapeake Bay watershed. These requirements are separate from and in addition to the regulatory SWM requirements for the Purple Line. As required by MDE SWM regulations, Environmental Site Design or low impact SWM facilities have incorporated into the project's design of on-site SWM measures to the maximum extent practicable. These on-site measures partially address the project's water quality SWM requirements, with the remaining water quality requirements being provided offsite. Regarding off-site water quality SWM compensation for the PL, specific locations and the type of facilities are under development, with the most viable types of SWM measures being retrofitting existing SWM pond and stream restoration. Both of these types of measures will provide some level of nitrogen and phosphorous load reductions. Additional reference to TMDL information has been added to Attachment G: FEIS Errata Sheet.
18. Better renderings of proposed stations for Prince George's County. These renderings should reflect actual blending with the community and the environmental swm controls, similar to the Capital Crescent Trail, Lyttonsville Station, Silver Spring Transit Station are requested. (see pages 4-85 through 4-87).	More detailed renderings were prepared for the Open Houses held in May 2013 and are available on the project website. These include the Takoma/Langley Transit Center, Riggs Road, University of Maryland, Riverdale Park, and Beacon Heights in Prince George's County.
19. All proposed rail line maintenance support facilities must operate with a current Storm Water Pollution Prevention Plan (SWPPP), in accordance with the NPDES permit.	Where applicable, SWPPP's will be developed for the yards and shop as part of, or following final design of the project.
20. Proposed SWM ponds at the proximity of the College Park Airport may face regulatory restriction from FAA due to geese flocks, alternatives should be provided;	The FAA has established an 8 km (5 mi.) radius around the airport as the major area of concern for wildlife hazards. Currently there are at least five existing wet ponds located within a 5 mile radius of the College Park Airport (AC 150/5200-33B (8/28/2007) Hazardous Wildlife Attractants on or Near Airports). While the proposed SWM pond located at River Road and Rivertech Court is within the 5-mile radius, it will be a dry pond with no permanent pool of water and is therefore not subject to the FAA restrictions.
21. The FEIS addresses federal and state laws and standards but does not address Prince George's County ordinances and standards. Ordinances regarding road construction (road code), stormwater management, and zoning as well as other ordinances will likely have an impact on the project. For example the Purple Line Design Team has been meeting periodically with County staff to evaluate County stormwater management design criteria that are enabled by the County stormwater management ordinance. These issues should be addressed. If the project will not be complying with local ordinances and standards this also should be covered in the FEIS.	The construction of the Purple Line is a MD State project and SWM/ESC approvals are under the jurisdiction of the Maryland Department of the Environment (MDE). MDE's review and approval process allows for local agencies to review SWM reports/plans etc. This opportunity will be available upon the MDE receiving a Concept Report submittal.

Comments	Responses
Prince George's County Department of Public Works and Transportation 22. County permits are required for any work within the county right of ways and for any grading work on properties not owned by MTA/State/Federal. On several occasions, DPIE staff met with the Purple Line Design Team to discuss the scope of the county's storm water management requirements. To date, DPIE has not seen any storm water management plans that will address the water quality treatment of disturb areas and new impervious areas that will be proposed. Proper identification of point of study to address the quantity control and adequacy analysis of receiving storm drain systems and stream channels will be required. There are sections of the Purple Line that fall within the drainage area where the mandatory 100 year storm flood control is necessary. There is mention of grading to be undertaken within the county's 100 year floodplain, therefore, floodplain delineation approval is required for the existing and proposed conditions.	As noted above, the construction of the Purple Line is a MD State project, and SWM/ESC approvals are under the jurisdiction of MDE. MDE's review and approval process allows for local agencies to review SWM reports/plans etc. This opportunity will be available upon the MDE receiving a Concept Report submittal.

Comments	Responses
Prince George's County Planning Department of M-NCPPC	

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

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October 18, 2013

Mr. Robert L. Smith, Administrator
Maryland Transit Administration
Maryland Department of Transportation
6 St. Paul Street
Baltimore, Maryland 21202-1613

RE: Purple Line Final Environmental Impact Statement

Dear Mr. Smith:

The Prince George's County Planning Department appreciates the opportunity to review and provide comments on Volumes I and II of the August 2013 *Final Environmental Impact Statement & Draft Section 4(F) Evaluation* (hereinafter FEIS) for the proposed Purple Line. This document represents the culmination of more than two decades of work by the Maryland Department of Transportation (MDOT), the Maryland Transit Administration (MTA), Prince George's and Montgomery Counties, The Maryland-National Capital Park and Planning Commission (M-NCPPC), and numerous other agencies and stakeholders.

The Prince George's County Planning Department of M-NCPPC strongly supports the Preferred Alternative for the proposed Purple Line light rail transitway. The Preferred Alternative is a responsive and thoughtful transit alternative to the pressures of continued growth in the Washington Metropolitan Region and offers a remedy to the current lack of east-west connectivity between Prince George's and Montgomery Counties. The No-Build Alternative would result in a significant increase in automobile traffic and commuting travel times, and diminished economic opportunities compared to the Preferred Alternative. The Preferred Alternative would become a vital regional transportation linkage that maximizes the potential for mixed-use, transit-oriented development (TOD) at the 21 proposed stations, 11 of which are located within Prince George's County. As noted in the FEIS, Prince George's County continues to proactively plan for the future of numerous proposed Purple Line station areas in anticipation of new TOD and economic development opportunities.

The Planning Department looks forward to continued coordination with MTA during the final engineering design and construction of the Purple Line. At this time, the Planning Department offers the following comments and observations on the FEIS.

Comments	Responses
Prince George's County Planning Department of M-NCPPC, cont'd. **Volume I** **Executive Summary** 1. Page ES-4 of the FEIS notes that the Purple Line "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." Prince George's County and the Planning Department have collaborated with the MTA in the development of recent sector plans for Takoma/Langley Park, the Central US 1 Corridor, Central Annapolis Road, and the New Carrollton Metro Station area. Additionally, MTA was a major partner in the development of the 2013 *Purple Line TOD Study*. These plans and studies advocate multimodal connectivity as essential to the successful implementation of TOD. The Planning Department looks forward to the continued coordination with MTA as the Department develops the staff draft of the update to the 1997 *College Park-Riverdale Park Transit District Development Plan*, where two of the Purple Line stations are proposed to be located. It is essential that we continue to work closely to ensure convenient, safe, and multimodal access to and from Purple Line stations and adjoining offices, activity centers, and neighborhoods. 2. With regard to subsection ES 4.3, Pedestrian and Bicycle Facilities (pages ES-5 and ES-6), collaboration should continue in order to identify locations where additional sidewalks, bicycle racks, and storage facilities are most appropriate and feasible. Review of the FEIS suggests that some stations located in Prince George's County are not as well served by these station access elements: • River Road - bicycle and pedestrian facilities/connectivity • Beacon Heights – additional bicycle consideration • Riggs Road, West Campus/Adelphi, East Campus and Annapolis Road – bicycle racks We look forward to coordinating with MTA regarding the needed station access facilities as may be appropriate and desired given the intended character of development and anticipated future usage. 3. The funding mechanisms to construct these facilities are as important as the locations of these multimodal transportation facilities. The opportunity exists following the Record of Decision to pursue additional partnerships and funding sources that may provide the ability to improve overall connectivity near Purple Line stations. MTA touches on this need under section ES.7, Next Steps (page ES-9), and the Planning Department is eager to continue working with MTA on project planning and implementation with multimodal connectivity as a major point of emphasis. **1.0 Purpose and Need for the Proposed Action** 1. Section 1.3.3 Existing Transit Service (page 1-9) should note that WMATA provides rush hour "Rush Plus" Yellow Line Metrorail service to supplement the Green Line service at the West Hyattsville, Prince George's Plaza, College Park-U of MD, and Greenbelt stations.	MTA will continue to coordinate with M-NCPPC as design progresses and agree that this coordination will be ongoing. MTA will also continue to coordinate on local development plans and assist in identifying alternative funding sources available to fund additional multi-modal connectivity in the corridor. In addition, a Memorandum of Agreement (MOA) between MTA and M-NCPPC will be executed that outlines coordination with MTA including design reviews. Comment noted. This information is included in ROD Attachment G: FEIS Errata Sheet.

Comments	Responses
Prince George's County Planning Department of M-NCPPC, cont'd. 2. Figure 1-4, Existing East-West Bus Service (page 1-12) does not show Metrobus Route F4, although paragraph 1 in the left-hand column on page 1-13 mentions the F4 Route as one of two Metrobus routes serving the area between Silver Spring and New Carrollton.	Comment noted. MTA did include F4 service in the text and analysis but it was inadvertently omitted from the graphic.
2.0 Alternatives Considered 1. The FEIS identifies "Green Track" as one of the four track types being considered for the Purple Line transitway on page 2-29. We strongly endorse the use of "Green Track" in areas where high-intensity TOD is envisioned and where stormwater management synergies can best be leveraged. Appropriate locations for MTA to consider "Green Track" include areas south of the College Park Metro station along River Road to Kenilworth Avenue/MD 201, east of the Riggs Road station to the Adelphi Road/West Campus station along University Boulevard/MD 193, and along Veterans Parkway/MD 410 between the Beacon Heights and Annapolis Road/Glenridge stations.	MTA is investigating opportunities for the use of Green Track in Prince George's County and will share recommendations with M-NCPPC and Prince George's County. The applicability is based on a number of factors including stormwater management, physical location, and the level and/or presence of pedestrian or auto traffic; all of which affect the viability of the plant matter.
2. Pages 2-32 and 4-170 discuss traction power substations, which MTA commits to build "with landscaping or appropriate architectural treatments to be compatible with adjacent land uses in areas of moderate or high visual sensitivity." We note that the concept of visual sensitivity (as used in the FEIS) is associated with environmental visual impacts, and asserts that the overall character and quality of the built environment and the visual sensitivity of environmentally sensitive locations are equally important. We encourage MTA to approach the construction of every traction power substation—and every signal bungalow—in Prince George's County as if they were in areas of high visual sensitivity. Unique and interesting architectural treatment; durable, attractive materials; appropriate landscaping and screening; and architectural compatibility should be incorporated in every one of these structures within the county in order to ensure the highest quality of urban design and to mitigate potential negative visual impact, especially as these areas develop or redevelop.	MTA has been mindful of the need to consider carefully the location of traction power substations and other project elements, and where appropriate provide landscaping or other screening to address the visual impacts of these structures.
3. Figure 2-17 on page 2-33 shows the proposed configuration of the Glenridge Maintenance Facility. We suggest that MTA provide appropriate landscaping and screening of the proposed facility and associated parking areas given their high visibility from Veterans Parkway/MD 410, and recommend landscaping treatments in excess of the minimum requirements of the *Prince George's County Landscape Manual* for this location.	The plans for the Glenridge Maintenance Facility include landscaping along Veterans Parkway and screening from the neighborhood, park, and school that surround the facility. The design will comply with the Prince George's County Landscape Manual.
3.0 Transportation Effects 1. Pedestrian safety has been a long-standing concern along the International Corridor (University Boulevard/MD 193) in northwestern Prince George's County. Pedestrian connections along and across University Boulevard/MD 193 near and between the proposed Takoma/Langley and Riggs Road stations are needed in order to facilitate convenient and safe pedestrian crossings and linkages.	Signalized pedestrian crossings are provided at both ends of the station platform. Further, sidewalks and pedestrian refuge areas have been widened to accommodate increased pedestrian movements.
2. Bicycling should be recognized on page 3-7 as a major Station Mode of Access. Bicycle accessibility to proposed Purple Line stations—especially those co-located at Metro stations—is an emphasis of Prince George's County's transportation policies and is particularly important for the University of Maryland, College Park campus stations and the College Park Metro and River Road stations given the proximity of more than 37,000 college students.	Approximately 16.5 miles of reconstructed or new bicycle facilities are being provided, including a new shared use path across the University of Maryland campus. This has been addressed in ROD Attachment G: FEIS Errata Sheet.

Comments	Responses
Prince George's County Planning Department of M-NCPPC, cont'd. 3. The Preferred Alternative results in a forecast decrease of 12,243 daily vehicle trips in 2040 in the four areas located in Prince George's County, as compared to the No-Build Alternative. This represents a significant decrease in the projected vehicle trips and, when combined with the 45 minute time savings that may be realized between New Carrollton and Bethesda by 2040, it clearly demonstrates the positive potential transportation benefits of the Purple Line Preferred Alternative.	Comment noted.
4. Table 3-6 on page 3.9 suggests that 15 intersections along the Purple Line transitway will fail (Level of Service F) under the No-Build Alternative by the year 2040—11 in Prince George's County. The Preferred Alternative results in 9 failing intersections with only 5 in Prince George's County; it is noted that 5 intersections are currently failing in the county. This analysis suggests that the Preferred Alternative, when built, will contribute to significantly improved intersection conditions in northwestern Prince George's County along the transitway route.	Comment noted.
4.0 Environmental Resources, Impacts and Mitigation 1. Section 4.2.1, Regulatory Context and Methodology (page 4-5) contains outdated regulatory guidance references. In 2012, the Maryland General Assembly repealed Articles 66B and 28 and replaced them with a consolidated Land Use Article. This Land Use Article now provides state-level regulation and guidance applicable to land use within Prince George's and Montgomery Counties.	Comment noted. This has been addressed in ROD Attachment G: FEIS Errata Sheet.
2. In the first paragraph of the Zoning subsection of 4.2.2, Affected Environment (page 4-14), there is a reference to the 2007 Edition of the County Code of Prince George's County, Subtitle 27. On May 7, 2013 the County Council, sitting as the District Council, enacted CB-9-2013 which officially codified the 2011 Edition of the Zoning Ordinance of Prince George's County, being also Subtitle 27 of the Prince George's County Code.	Comment noted. This has been addressed in ROD Attachment G: FEIS Errata Sheet.
3. Figure 4-1 on page 4-17 does not accurately reflect the extent of the M Square research and office park north of the M Square Station on the existing land use and planned development map. Properties in this area shown as "commercial" are undeveloped today, whereas some properties classified as "other" are developed with office uses. In general terms, the rest of the major existing land uses depicted for the Prince George's County segment of the Purple Line Preferred Alternative are accurately reflected.	Comment noted. MTA is aware of the current and evolving uses of properties within the corridor. The mapping in the FEIS represents both existing and planned development which blends land use and zoning. The "other" category includes MXT, or mixed use zoning which includes office uses.
4. Table 4-2, Planned Developments (page 4-19) incorrectly identifies the existing land use for the Cafritz Property Development as "forested area and single-family residential." No single-family residences currently exist on this property. Additionally, the M Square Research Park is not "undeveloped land;" rather, the research park is partially undeveloped and partially developed with more than 500,000 square feet of commercial office space.	Comment noted. The current state of these areas and proposed development were considered in the development of alternatives and decisions on station location, access, and road improvements. This has been addressed in ROD Attachment G: FEIS Errata Sheet.
5. The proper name of the current sector plan for the US 1 corridor (see pages 4-20 and 4-21) is the 2010 *Approved Central US 1 Corridor Sector Plan and Sectional Map Amendment.* The pertinent planning document for the Purple Line Corridor as reflected on Table 4-3 on page 4-21 should read "*Purple Line Transit Oriented Development Study (May 2013)*".	Comment noted. This has been addressed in ROD Attachment G: FEIS Errata Sheet.

Comments	Responses
Prince George's County Planning Department of M-NCPPC, cont'd. 6. The discussion on pages 4-14 and 4-22 suggests that Prince George's County continues to follow the policy guidance of the 1964 *On Wedges and Corridors, a General Plan for the Maryland-Washington Regional District in Montgomery and Prince George's Counties.* Although some of this policy guidance has been implemented since 1964, and some of the 1964 guidance remained (or remains) in current policy documents, it should be noted that Prince George's County officially established a new general plan for growth and development in 1982. The county's current general plan is the 2002 *Prince George's County Approved General Plan,* and this is the document that provides countywide policy, land use, and development guidance for Prince George's County.	Comment noted. The current general plan is referenced in Table 4-3 of the FEIS and was considered and referenced in the New Starts land use documentation used for the project.
7. With regard to the earlier comment on traction power substation design and Table 4-4, Proposed Traction Power Substation Locations and Existing Land Use, planning staff are particularly concerned with stations Q12, Q13, Q14, Q17, and Q18 given their proximity to the Central US 1 Corridor, College Park-U of MD Metro station, Central Annapolis Road Corridor, and New Carrollton Metro station. All of these locations are subject to recent or ongoing master planning efforts that establish development standards to ensure high-quality development.	Comment noted. MTA has strived to locate proposed Traction Power Substation (TPSS) in locations of compatible land use and to provide screening and landscaping as a buffer to adjacent development. This includes extensive coordination with UMD, Prince George's County, and WMATA.
8. The description of the Preferred Alternative alignment through the University of Maryland, College Park campus on page 4-73 contains an erroneous reference to the Eppley Recreation Center. This facility is located approximately ½ mile to the northwest of the location referenced in the second paragraph of the "Transitway Within the District" subheading on this page.	Comment noted. Reference was in error and has been corrected in Attachment D: Final Section 4(f) Evaluation.
9. Table 4-49, Ridership Projections (page 4-156), reflects a 48 percent to 93 percent increase in Preferred Alternative transit trips compared to the No-Build Alternative in the four areas located in Prince George's County. These forecast changes are significant and again point to the importance of the Preferred Alternative to the future of Prince George's County.	Comment noted.
Volume II Planning Department staff reviewed the technical documentation and preliminary engineering drawings contained in Volume II of the FEIS to identify potential issues that merit additional discussion and coordination following the Record of Decision.	
1. Generally speaking, the engineering plan drawings indicate pavement removal areas along the flanks of the proposed transitway through Prince George's County, but do not indicate what type of surface or vegetation is anticipated to replace the removed pavement. Select illustrative section drawings suggest planted areas but additional discussion is warranted to ensure that potential impacts are minimized and that appropriate replacements to existing paved areas are identified and implemented.	Construction documents will specify the treatment of areas where pavement will be removed. If not part of the landscape plan, these areas are typically treated with turfgrass or turfgrass sod.
2. The existing pedestrian/ bike activated signal along Paint Branch Parkway at the Rhode Island (Trolley) Trail crossing should be identified (drawing CV-54, page 147).	The existing signal is identified on the December 2013 Preliminary Engineering Plans.
3. The engineering plans for the College Park Metro station (see sheet 150, drawing CV-57) do not show the relocated and reconfigured bus loop that has been the subject of much coordination between MTA, WMATA, and Prince George's County. Additional clarity as to the configuration and location of this bus facility is important since the Planning Department is currently working on	At the time of the FEIS it was thought that the development on the WMATA site would precede the construction of the Purple Line and that the WMATA developer(s) would reconstruct the bus loop. Since that time it has become apparent that the Purple Line will precede the development. Therefore, the Purple Line will reconstruct the bus loop in consultation with WMATA. Working with WMATA, a design has been developed to replace and expand the bus loop while avoiding impacts to a stream located on the site. Plans will be shared with M-NCPPC as soon as they are developed in more detail.

Comments	Responses
Prince George's County Planning Department of M-NCPPC, cont'd.	
4. Consider including a median treatment to prevent mid-block pedestrian crossings along River Road at the western end of the proposed M Square Station (drawing CV-61, page 154).	The current design does not include fencing in the median. If it is determined that it is needed in the future, there is a concrete median in this area that could accommodate a fence.
5. The importance of the segment of the Preferred Alternative between US 1 and Kenilworth Avenue/MD 201 is reinforced by the Planning Department's ongoing work to update the TDDP for the College Park-Riverdale Park transit district. This location is also identified in the 2013 *Preliminary Prince George's County Plan 2035* (General Plan update) as part of the county's primary employment area. Properties to be served by the Purple Line along Paint Branch Parkway and River Road are of utmost importance to the economic and TOD future of Prince George's County.	Comment noted.
A major concern in this area is the open drainage typical section for the Purple Line along River Road (see drawings CV-59 through CV-62, pages 152 through 155) in the vicinity of the proposed M Square Station platform, because the abutting land is planned to be developed with frontage on River Road. **A drainage ditch and cut slope is proposed that, at most locations along River Road, is contrary to best practices for TOD design and site preparation. This design would detract from development of these properties with a high-intensity mix of uses and sever new development from direct access to sidewalks, bike lanes, and the M Square Station. The open drainage typical section design would be an element that runs counter to the feedback and input that the TDDP update team is hearing from residents, property owners, elected officials, and other stakeholders.**	The refinement shifts the alignment slightly south to avoid a climate controlled Verizon vault east of Haig Drive. While making this refinement, The submerged gravel wetland was redesigned to be more linear in shape to reduce impacts to the development site adjacent to the station in M Square. The refinement is discussed in the FEIS and under design refinements in ROD Attachment F: Design Refinements Since the August 2013 FEIS.
MTA is encouraged to reconsider the design of this entire segment of the Preferred Alternative to provide for a more urban solution to any stormwater management issues that may have led to the proposed open drainage typical sections. The incorporation of "Green Track", as previously recommended, is one way to help mitigate any impacts, and planning staff is eager to work with MTA to identify additional positive solutions.	
6. Utilize decorative architectural retaining walls where opportunities exist along Kenilworth Avenue/MD 201 and MD 410 (drawings CV-63 thru CV-68, pages 156-161), possibly with themes from the approved *Anacostia Trails Heritage Area* (ATHA) *Management Plan*. Public artwork along Kenilworth Avenue and MD 410 can support the implementation strategies contained in the approved ATHA Management Plan. Such strategies could include the creation of interpretive trails systems and a transit rider's guide to ATHA (see page 16 of the ATHA Plan). Consider the use of decorative panels on both sides of the raised approaches to the East-West Highway/MD 410 overpass bridge (drawing CV-65, page 158).	These walls have been identified as opportunity for special treatment and the ideas shared for the treatment of the walls in this area have been shared for consideration as part of the Art in Transit program.
7. Consider installation of a pedestrian-activated traffic signal and crosswalks on all approaches along East-West Highway/MD 410 at Riverdale Road (drawing CV-66, page 159).	Comment noted. Will be considered in consultation with SHA during final design.
8. Drawing CV-67 (page 160) suggests that no pedestrian improvements are planned on this segment of Riverdale Road/MD 410. However, there is an existing dirt pathway on the south side of the roadway, and consideration should be given to providing a paved sidewalk to formalize this passage and ensure safer pedestrian connectivity. It is our understanding that SHA desires to have both on-road bike lanes and a sidepath along MD 410 in some situations. In the event that such a 'dual-route facility' cannot be accommodated, we are recommending the provision of a 10-foot wide multi-use pathway (sidepath) between the Riverdale Park Station and the Annapolis Road Station. However, if some sections of this pathway are required to be narrower than 10 feet, then they should be signed accordingly for safety. This pathway should be illuminated along its entire length.	The MTA will reconstruct the existing sidewalk from 61st Place to Veterans Parkway. The SHA has a capital project to provide new sidewalk from 58th Avenue to 61st Place.

Comments	Responses
Prince George's County Planning Department of M-NCPPC, cont'd. 9. Consider using the shoulder to be provided along Riverdale Road/MD 410 (drawing CV-68, page 161) as a marked bicycle lane. 10. Consider direct alignment for extension of 64th Avenue to Patterson Street in lieu of the proposed s-curve alignment (drawing CV-69, page 162). 11. A shared use path should be considered along Riverdale Road/MD 410 between (at minimum) Veterans Parkway/MD 410 and the Baltimore-Washington Parkway (drawings CV-70 and 71, pages 163 and 164) because the right-of-way in this location is too narrow to accommodate on-street bicycle lanes and the traffic conditions likely preclude shared roadway usage. 12. Consideration should be given to providing a landscape buffer along the north side of Riverdale Road/MD 410 along and west of the intersection with Veterans Parkway/MD 410 drawing CV-71, page 164). 13. Consider installation of a traffic signal along Riverdale Road/MD 410 at General Access Road (drawing CV-75, page 168). **General Comments/Considerations** 1. The inclusion of bicycle parking facilities along the rights-of-way of state and county roads should be pursued where needed and feasible. MTA has done an excellent job of providing the conceptual improvements to the rights-of-way, including bicycle parking along MD 193 that will make the areas near the proposed stations more accessible and usable for modes of transportation other than the automobile. 2. Consider utilizing LED or other high visibility safety signage to warn pedestrians and bicyclists of oncoming trains and to control busy track crossings. 3. Consider utilizing channeling devices to help encourage desired safe behavior in pedestrians when they attempt to cross rail tracks. One example is the use of horizontal swing gates with high visibility markings to indicate the direction from which the train would be entering the stations. This can reduce incidents related to inattention at locations that pedestrians have been routed to by the station design and wayfinding. These swing gates are operated by the pedestrian and can reduce the number of "dart outs" into the path of an oncoming train. 4. Continue to work with the county to identify appropriate drop off locations near some stations where feasible.	Only a small portion of Riverdale Road will be affected by the Purple Line because the transitway is south of the roadway. Due to the small area of roadway reconstruction on Riverdale Road, MTA continues to discuss bike lane requirements and the use of shoulders as a bike lane with the SHA. A direct extension of 64th Avenue going straight to the south would require the acquisition of two additional homes and put traffic on different neighborhood streets. Therefore, MTA is not adding this connection. The design of the project does not preclude Prince George's County from planning for or adding this connection in the future. The MTA will reconstruct the existing sidewalk from 61st Place to Veterans Parkway. The MTA continues to discuss bike lane requirements with the SHA. The sidewalk is shown adjacent to the curb in this area to minimize impacts to adjacent properties. If future plans call for a landscape buffer, it may be able to be achieved by others as redevelopment occurs. Although not shown on the noted plan sheet, a traffic signal is proposed at this location. Bicycle parking facilities are being provided adjacent to station areas based on projected ridership and as space allows. Comment has been noted. The final design of track crossings will include a variety of different signing/signal measures. Comment has been noted. The final design of track crossings will include a variety of different signing/signal measures. MTA will continue to work with Prince George's County to identify future opportunities for vehicular drop off.

Comments	Responses
Prince George's County Planning Department of M-NCPPC, cont'd. 5. Finally, the most important quality of service factors for passengers as they relate to the design of the project should be identified. There are many of these factors to be considered, such as safety from crime at stations and platforms, signs and information, and transfer issues. See *TCRP Report 47 - Chapter 2 - Quality of Service Factors.* The Prince George's County Planning Department of the M-NCPPC appreciates the opportunity to comment on the FEIS and our staff looks forward to future coordination with MTA on station area development and access planning during the review of the engineering plans for the Purple Line. If there are any questions, please contact Mr. Eric Foster of the Transportation Planning Section at 301-952-3117 or eric.foster@ppd.mncppc.org, or Mr. Derick Berlage, Chief of the Countywide Planning Division at 301-952-4711 or derick.berlage@ppd.mncppc.org. Sincerely, Fern Piret Planning Director c: Elizabeth M. Hewlett, Chairman, Prince George's County Planning Board Ronnie Gathers, Director, Department of Parks and Recreation Vanessa Akins-Moseley, Special Program Coordinator, Strategy and Implementation Derick Berlage, Chief, Countywide Planning Division Ivy Lewis, Chief, Community Planning Division Eric Foster, Supervisor, Transportation Planning Section John Kaii-Ziegler, Supervisor, South Section, Community Planning Division Faramarz Mokhtari, Planner Coordinator, Transportation Planning Section William Washburn, Planner Coordinator, Central Section, Community Planning Division Chad Williams, Planner Coordinator, North Section, Community Planning Division Hyojung Garland, Senior Planner, North Section, Community Planning Division Dan Janousek, Senior Planner, Transportation Planning Section Victor Weissberg, Special Assistant to the Director, DPW&T	MTA understands the importance of not only providing quality of service for passengers but the importance of how passengers perceive the quality of the system. MTA is developing plans and performance measures to address these issues including outreach and communication, safety, reliability, travel times.

Comments	Responses
Washington Metropolitan Area Transit Authority (WMATA) **Purple Line FEIS - RECORD #781 DETAIL** **First Name :** John A. **Last Name :** Magarelli **Business/Agency/Association Name :** WMATA **Email Address :** JMagarelli@wmata.com **Submission Content/Notes :** The Washington Metropolitan Area Transit Authority (WMATA) appreciates the opportunity to provide comments on the Purple Line FEIS. As the regional transit operator in the Washington metropolitan area, WMATA supports the efforts of the Maryland Transit Administration (MTA) to expand transit service in the Purple Line corridor and improve the quality of life for metropolitan area residents and visitors. Please note the following comments: 1. Chapter 3- General: WMATA continues its capacity analysis of its Metrorail Silver Spring Station, in which the transfers between the MTA Purple Line and the WMATA Metrorail Line are being evaluated. 2. Chapter 4- General: The Silver Spring Station of the Purple Line should accommodate any future aerial connection to the WMATA's Metrorail Station in both design and construction of structure and utilities. 3. Chapter 5- General: While still in draft, the WMATA capacity analysis found that without a future aerial connection between the two Silver Spring Stations, both the Purple Line and Metrorail Station would experience increased congestion in the peak hour by 2020. 4. Chapter 3- General: MTA should use WMATA's recent report "Operations Plan for Metrobus in Bus Rapid Transit/Light Rail Transit/Streetcar Corridors" as guidance for the Purple Line's relationship to bus services in the corridor. 5. Chapter 4: WMATA does not agree with the statement "Within the cumulative impact study area, the only wetland know to be susceptible to forseeable 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". Wetlands at the station will be protected, and not impacted by future transit-oriented development. Please revise noted statement accordingly. We look forward to continued coordination with MTA on the next phases of this project. Sincerely, John A. Magarelli, P.E. Senior Civil/Transit Engineer Office of Real Estate & Station Planning Washington Metropolitan Area Transit Authority 600 5th Street, N.W. Washington, D.C. 20001 (202)962-1357 [cid:image003.png@01CA9903.12B47B50]	MTA continues to coordinate with WMATA on its analysis and future plans at Silver Spring. The Purple Line design is compatible with a future mezzanine under consideration by WMATA at Silver Spring Station. MTA will continue to coordinate with WMATA on the study findings and a potential future mezzanine level that would connect the two systems. MTA will share this document with local bus transit providers. MTA did not intend to suggest that proposed development at the Greenbelt Metrorail Station would result in wetland impacts. The intent of the text was to acknowledge that there is a wetland system within the general development area, unlike many of the other wetland systems in the study area that are located in stream valley parks and other public lands not subject to future development. MTA understands that the wetlands at the site will be protected as part of any future transit-oriented development. This has been addressed in ROD Attachment G: FEIS Errata Sheet.

IV Comment Summaries and Responses

Section IV includes summaries of comment topics received from local governments, organizations, businesses, and individuals and responses from MTA and FTA on the Final Environmental Impact Statement (FEIS). The comments were summarized and grouped into categories because of the large number of comments received and because many comments addressed similar issues. The comment summaries and responses are organized in the order listed below, which generally follows the order that issues were discussed in the FEIS.

A—General Support for or Opposition to the Purple Line

B—Purpose and Need for the Project

C—Alternatives Considered

D—Transportation Effects

E—Environmental Resources

F—Locations of Interest

G—Construction Impacts

H—Section 4(f) Resources

I—Indirect and Cumulative Effects

J—Public Involvement

K—Evaluation of Alternatives

Comments regarding specific locations have been grouped together and are listed in *Section F—Locations of Interest*. The Capital Crescent Trail is discussed in *Section C*.

In many cases where topics could be assigned to more than one place in the document, a cross reference has been provided. For instance, construction vibration on Bonifant Street is discussed in the *Section F* under "Bonifant Street" and *Section G* under "Construction."

These comment summaries and responses include all the comments received on the FEIS except for those submitted by agencies which are addressed in Section III of this document.

Following the responses is a matrix of commenter names which indicates which responses have been provided for each commenter. The full texts of the comments are available on the project website, www.purplelinemd.com.

The following sections provide a summary of the comments and the responses to comments, by issue.

A General Support for or Opposition to the Purple Line

A.1 Support for the Project

Many commenters stated support for the Purple Line. Many commenters supported the Purple Line because its construction includes the completion of the Capital Crescent Trail. Beyond broad and general support for the project, commenters stated the following benefits that they believed the project will provide.

- The Purple Line provides a much needed transportation alternative.
- The Purple Line project includes the completion of the Capital Crescent Trail
- The Purple Line will support revitalization of communities within the corridor.

- The Purple Line will support smart growth principles, reducing sprawl and encouraging infill development.
- The Purple Line will provide long term environmental benefits, particularly improved air quality.
- MTA has been responsive to community concerns and worked to minimize impacts.
- MTA has done a good job integrating transit and bike trails.
- The benefits of the project outweigh the minimal impacts.
- The Purple Line will reduce congestion.

Commenters also stated that the Purple Line is long overdue and expressed the need to move the project forward in a timely manner and secure funding for its implementation.

A.2 Opposition to the Project

Many commenters expressed overall opposition to the Purple Line. Many comments were received opposing the project because the project will result in changes to the Georgetown Branch Interim Trail, including loss of trees, increased noise, and other changes resulting from construction of the transitway and construction of a permanent trail in place of the existing interim trail within the Georgetown Branch right-of-way. Other reasons for opposition to the project included the following:

- The project is not needed or justified.
- The cost of the project is too high and/or sufficient funding is not available.
- The Purple Line will bring unwanted development to the area.
- The Purple Line will further the gentrification of some neighborhoods and force the displacement of low-income households.
- The Purple Line will have negative impacts on neighborhoods and communities.
- The primary beneficiaries of the project will be developers.
- The Purple Line will not alleviate traffic congestion or lower travel times significantly.
- The Purple Line will damage the natural environment, including trees.
- The Purple Line will have noise impacts.
- The Purple Line will have vibration impacts.
- The Purple Line will be unsafe.
- The Purple Line will bring crime.
- The project will not make money, or the fare will not cover the cost of operations.

Response: FTA and MTA have considered the public and agency comments on the Purple Line. After evaluating the impacts, costs, and benefits of the Purple Line, FTA and MTA have determined that the benefits of the project outweigh the impacts and costs (see *FEIS Chapter 9—Comparative Evaluation of Alternatives*). The following sections provide a summary of responses to comments by issue. The Georgetown Branch Interim Trail is discussed in Section C.3 of this document.

B Purpose and Need for the Project

B.1 Project Need and Justification

Summary of Comments: Commenters expressed disagreement that there is a need for the project. Commenters stated that the project is not needed because the transit needs can be satisfied by existing or improved bus service. Another commenter stated that the need was for north-south transit service.

Response: FTA has considered objections to the need for the project but finds that the purpose and need as expressed in *FEIS Chapter 1-Purpose and Need* are appropriate.

The purpose of the Purple Line is to provide faster, more direct and more reliable east-west transit service connecting the five major activities centers, in the corridor, Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton (FEIS, p. 1-1).

The number of people and jobs in the study 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. As stated in the FEIS:

The impacts of these traffic conditions on bus service are already substantial 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 (*FEIS, Chapter 1.3.2,* p. 1-8).

The FEIS also specifically addresses the need for improvement in east-west transit service. It explains that "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" and "Existing public bus service operating east-west in the corridor consists of several overlapping or interconnecting routes." *FEIS, Chapter 1.3.3*, p. 1-11; see Figure 1-4, Existing East-West Bus Service). This information, as well as other data included in Chapter 1 of the FEIS, provides strong support for the FEIS's finding that "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." *FEIS, Chapter 1.4*, p. 1-16, see *FEIS Chapter 1-Purpose and Need*, for further discussion.

B.2 Other Projects

Summary of Comments: Commenters stated support for other projects, often stating that funds should be used for those projects rather than the Purple Line. The suggested projects include:

- WMATA Red Line
- WMATA Silver Line
- General WMATA improvements
- Silver Line
- North-south transportation solutions
- Repair of roadway bridges
- MARC

Response: These comments raise the issue of whether to fund other projects instead of the Purple Line. Under federal law, states and metropolitan areas are required to conduct a comprehensive, multimodal transportation planning process. This process must comply with federal regulations (23 CFR. Part 450) and is subject to oversight by the Federal Highway Administration and FTA. The transportation planning process serves as the vehicle through which State and local decision-makers set priorities for the use of transportation funds. As described below, the Purple Line has been appropriately identified as a transportation funding priority through the statewide and metropolitan transportation planning processes, in accordance with federal law.

At the statewide level, transportation projects in Maryland are identified and funded through the State's Consolidated Transportation Program (CTP). The CTP is Maryland's six-year capital budget for transportation projects. The CTP includes major and minor projects for the Maryland Department of Transportation (MDOT) and the modal agencies and related authorities within the Department, including the Maryland Aviation Administration, the Motor Vehicle Administration, MTA, the Maryland State Highway Administration, the Maryland Port Administration, and the Maryland Transportation Authority. The CTP also includes Maryland's contribution to WMATA, a regional body that operates a transit system serving the Washington, D.C. metropolitan area. These agencies and authorities determined which projects will be advanced forward through

the CTP. 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.

At the Washington DC metropolitan level, the agency responsible for transportation planning is the National Capital Region Transportation Planning Board (TPB), which is part of the Metropolitan Washington Council of Governments (MWCOG). The TPB's planning area covers the District of Columbia and surrounding jurisdictions including Montgomery and Prince George's Counties. The TPB prepares the Constrained Long Range Plan (CLRP) and Transportation Improvement Program (TIP). The CLRP and TIP include a prioritized list of transportation projects that have been identified for funding by the TPB in the Washington, DC, metropolitan area.

At the state level, the Purple Line is included in Maryland's CTP, and at the metropolitan level in the National Capital Region's CLRP and TIP. These transportation plans and programs also include funding for many other improvements to the State and regional transportation systems, including completion of the Silver Line (a new WMATA Metrorail line in Virginia, connecting the system to Dulles Airport), operation and maintenance of the existing Metrorail system, including the Red Line, improvements to local streets and major roadways, and funding for the MARC commuter rail system in Maryland. By including it in these plans, State and local officials have appropriately identified this project as a priority for funding in accordance with the planning process required by federal law.

C Alternatives Considered

C.1 Mode of Transportation or Alternative Technologies

Summary of Comments: Commenters provided suggestions to consider other modes or technologies including bus rapid transit, heavy rail, tram/streetcar, and wire-free transit technologies. Many of the people supporting heavy rail expressed their desire that the Purple Line be fully integrated with the WMATA Metrorail system.

Response: The Purple Line planning was initiated in 2003 with the NEPA scoping process following FTA's issuance of a Notice of Intent (NOI) to prepare an environmental impact statement (EIS). The NOI announced that a transitway was proposed between Bethesda and New Carrollton and invited interested individuals, organizations, and agencies to provide their ideas, comments, and concerns about proposed alignments, modes, and station locations. Beginning in scoping and continuing to this day, MTA has conducted an extensive outreach program which has informed the development and refinement of the alternatives. These alignment options were considered and are documented in the September 2008 Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS) as part of early planning for the project. The extensive alternatives development and evaluation process conducted for the Purple Line is summarized in *FEIS Chapter 2- Alternatives Considered*, and is based on analyses documented in the FEIS Technical Report, *Supporting Documentation for Alternatives Development,* and the *Definition of Alternatives Report* (2008). The AA/DEIS included a detailed analysis of several modal alternatives, including three bus rapid transit (BRT) alternatives, three light rail alternatives, and a Transportation System Management (TSM) Alternative. *AA/DEIS Chapter 2-Alternatives Considered* and *FEIS Chapter 2-Alternatives Considered* discusses the modes that were evaluated. In addition, other modes, such as heavy rail, were considered in the alternatives development and screening process that occurred prior to the 2008 AA/DEIS, and were eliminated because they were found not to be reasonable alternatives.

The evaluation factors in the AA/DEIS included impacts to the natural and built environment, engineering feasibility, public input, benefits, level of success in meeting the purpose and need, and cost.

After the completion of the AA/DEIS the Governor of Maryland identified a Locally Preferred Alternative (LPA) in August 2009. The LPA identified a mode (light rail) and an alignment. Conceptual engineering continued and this alternative was further developed and refined based on public and stakeholder input. This refined alternative became the Preferred Alternative evaluated in the FEIS (see *FEIS Chapter 2.2-The Locally Preferred Alternative*)

The remainder of this response addresses more specifically the comments regarding consideration of (1) the No Build alternative; (2) Bus Rapid Transit (BRT) alternatives; and (3) Transportation System Management (TSM) alternatives, or expanded bus service; (4) Metrorail alternatives—that is, heavy rail; and (4) alternatives that combine two modes, specifically heavy rail and light rail; (5) streetcars; and (6) wire-free transit technologies.

No Build Alternative

Summary of Comments: Commenters stated that the No Build Alternative was not adequately analyzed in the FEIS. Commenters stated that there was insufficient detail in the description of this alternative and that the alternative was based on flawed assumptions because it did not include the Montgomery County BRT Network (an "illustrative" project in the CLRP) from the region's constrained long-range plan (CLRP).

Response: The No Build Alternative was evaluated in the alternatives development and screening process during the AA/DEIS phase of the project and again in the FEIS. It was ultimately not selected because it did not meet the purpose and need of the project.

An "illustrative" project is an unfunded study in the CLRP. Unfunded studies are not included in the assumptions for the No Build Alternative.

Bus Rapid Transit

Summary of Comments: Commenters questioned whether the study process has adequately considered bus rapid transit (BRT) alternatives. Commenters specifically stated a preference for BRT, with some 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.

Commenters stated that:

- BRT was not studied adequately. A commenter stated that the AA/DEIS failed to accomplish evaluation of the Low Investment BRT alternative, including the environmental impacts of each alternative, the cost and benefits of the light rail alternatives, and the socio-economic aspects of potential growth.
- BRT is less expensive than light rail.
- BRT would have less environmental impacts.
  - BRT would be more environmentally friendly or energy efficient than light rail because hybrid or electric buses could be used.
  - BRT would have lower noise and vibration levels and would have less negative effects to communities and neighborhoods
  - Bus service would be less disruptive to communities and neighborhoods than light rail.
- BRT would have less visual impacts because it would not have traction power substations or an overhead wire system.
- Buses are more flexible in traffic and can have flexible routes.
- Bus lanes need less maintenance than rail lanes, so fares could be kept lower.

Response: BRT has some benefits, including the fact that BRT is less expensive, BRT would not have the visual impacts associated with traction power substations and overhead wire systems, and BRT is more flexible in traffic and can have flexible routes, if desired. However, despite these benefits of BRT, light rail was selected as the transit mode for the Purple Line for several reasons, including the following:

- Light rail is faster than BRT by 9 to 14 minutes for an end-to-end trip. The light rail thus provides 20 to 27% more ridership travel time savings.
- Light rail ridership projections are 15 to 20% higher than BRT projections.
- BRT has capacity constraints for long-term growth, but light rail meets long-term capacity needs because of its ability to accommodate future ridership growth beyond what is projected for 2040. The light rail alternatives provide greater capacity, and this capacity can be expanded without jeopardizing operational efficiency and reliability.
- Light rail is strongly preferred by the local jurisdictions and members of the public. There was strong support for light rail stated during the AA/DEIS, particularly for the Medium Light Rail Alternative from the public, both counties, and most of the local jurisdictions in the Purple Line corridor.

The following responses address specific concerns raised by commenters regarding consideration of BRT alternatives, including (1) definition of the BRT alternatives; (2) cost of BRT alternatives; (3) impacts of BRT alternatives. Some 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; commenters who favored a Jones Bridge Road alignment tended to favor BRT because BRT was identified as the only viable transit technology for that alignment. These comments are addressed in *Section C.2—Jones Bridge Road Alignment* of this document.

Definition of BRT Alternatives: The AA/DEIS included a detailed analysis of three BRT alternatives, three light rail alternatives, a Transportation System Management (TSM) Alternative, and a No Build Alternative. Two BRT alternatives (high and medium investment) used the Georgetown Branch right-of-way, while one BRT alternative (low investment) followed Woodmont Avenue and Jones Bridge Road and served Walter Reed National Military Medical Center (WRNMMC) directly. The analysis conducted during the alternatives analysis and presented in the AA/DEIS showed relatively high travel times and low ridership for the Low Investment BRT Alternative. Based upon stakeholder input on this finding, including from the Town of Chevy Chase, MTA agreed to conduct additional analysis prior to the publication of the AA/DEIS, of two other BRT alternative options that would serve WRNMMC directly and would be medium investment alternatives (including one medium investment BRT alternative that used Jones Bridge Road rather than the Georgetown Branch right-of-way). The *FEIS Technical Report Supporting Documentation on Alternatives Development* contains a fuller discussion of this analysis. MTA and FTA have continued to evaluate input from the public, but the reasoning supporting the original decisions remains valid.

Lower cost of BRT: 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 better cost-effectiveness ratings than the light rail alternatives. However, the BRT alternatives provided lower user benefits than the light rail 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 (see *FEIS Chapter 2.1*).

Lower impacts of BRT: The AA/DEIS included a comparative analysis of the six alternatives to identify significant differences among them, including air quality, noise, vibration, and energy consumption. The AA/DEIS acknowledged that the BRT alternative would have lower impacts on some environmental resources, but concluded that "All alternatives have very similar alignments and station locations, and as a result, the natural environment impacts are not appreciably different between alternatives"(emphasis added) (AA/DEIS, p. 6-4). As shown in *AA/DEIS Chapters 4.7, 4.8*, and *4.15*, the impacts associated with air quality, noise, vibration, and energy consumption are minimal to none for all of the Build Alternatives. The greatest visual impacts were associated with the use of the Georgetown Branch right-of-way and would be the result of the tree removal. This would apply to all light rail alternatives, and any BRT alternative that used the right-of-way.

For a full description of the analyses of the BRT and light rail alternatives, see the *AA/DEIS Air Quality Technical Report*, and the A*A/DEIS Noise and Vibration Technical Report* available on the Purple Line website. The

environmental analyses for light rail were updated for the FEIS and are described in detail in *FEIS Chapters 4.10, 4.11, 4.12*, and *4.19*.

Fewer visual impacts of BRT: While light rail would have visual elements not included with BRT, the Purple Line is being designed to be visually compatible with the community to the extent reasonably feasible. Additionally, the Art-in-Transit program will be used to enhance the aesthetics of the structural elements (see *FEIS Chapter 4.9-Visual Resources*). The Purple Line 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 *FEIS Chapter 4.3-Neighborhoods and Community Facilities*).

TSM Alternative or Expanded Bus Service

Summary of Comments: Commenters stated support for improvements to the existing bus services (additional buses or enhanced services). This was proposed as a less expensive and lower-impact alternative than light rail or BRT because a separate transitway would not be built. A commenter stated that the state of Maryland and the county have failed to implement the improvements to the WMATA Metrobus J1, J2, J3 and J4 routes identified in the WMATA Priority Corridor Network Report and that these improvements could have addressed the congestion on local roadways and unreliability of bus service.

Response: The Transportation System Management (TSM) Alternative has been included in the study since its initiation in 2003 as a low cost improvement to the existing bus transit system previously required for the FTA Alternatives Analysis process. As described in *AA/DEIS Chapter 2-Alternatives Considered*, 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.

The TSM Alternative does not meet the purpose and need of the project and was therefore not carried forward for detailed study in the FEIS. Buses would still be subject to traffic delays and would not provide high level, reliable transit service throughout the corridor. Without dedicated bus lanes (which would be part of a BRT alternative, not the TSM alternative) the service could not be substantially improved over the existing bus services. Further suggestions for additional bus routes, service, reduced fares, or amenities such as benches should be addressed to the local and regional transit providers.

The service improvements for the J1, J2, J3, and J4 routes recommended in the WMATA Priority Corridor Network have been implemented.

Metrorail

Summary of Comments: Commenters supported the use of heavy rail like the WMATA Metrorail system. Commenters stated that the Purple Line could not be well integrated with the Metrorail system unless it was the same technology.

Response: WMATA's Metrorail system is a heavy rail system. It is powered by a high voltage "third rail" on the ground parallel to the tracks. 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. Metrorail tracks are generally elevated or located in tunnels.

Heavy rail transit options were examined as an option for this corridor several times within the project's history. The following studies looked at heavy rail: *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.

During the initial project development and scoping phase of the Purple Line heavy rail was studied and eliminated from consideration. The analysis of this alternative found that it would not optimize public investment, as costs would far exceed those of light rail or BRT, while very few additional benefits would be offered. It would also have high levels of physical community impact and property acquisition 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. See FEIS, p. 2-4.

While it was determined that the Purple Line would be a light rail system, the connections to Metrorail remain a critical and integral element of the project. MTA has located the Purple Line stations close to the Metrorail stations to make transfers quick and convenient. For more information on integration of the Purple Line with Metrorail see *Section D.1-Public Transportation* of this document.

Use of Two Modes (Metrorail and light rail)

Summary of comments: A commenter suggested that the Purple Line be built using two different modes; the Bethesda to Silver Spring segment should be built as WMATA Metrorail now, and the rest (Silver Spring to New Carrollton) would be built as light rail.

Response: The hybrid alternative proposed by this commenter would involve construction of heavy rail from Bethesda to Silver Spring, combined with a light rail line from Silver Spring to New Carrollton. This hybrid alternative is not a reasonable alternative because it has many of the same drawbacks as a pure heavy rail alternative, and has additional drawbacks associated with combining heavy rail and line rail in the same corridor.

First, the concept of a heavy rail connection from Bethesda to Silver Spring was analyzed prior to publication of the AA/DEIS; the concept was called the Metrorail Loop. See FEIS, p. 2-4. The results of that analysis are documented in Section 1.5.1 of the *Definition of Alternatives Report* (Sept. 2008), which was issued in conjunction with the AA/DEIS. As documented in that report, the concept of a heavy rail line from Bethesda to Silver Spring was rejected for several reasons, including: “the high cost of the project (estimated at twice that of the Purple Line), lower cost-effectiveness, greater impacts to the natural environment, the inability to serve communities between Bethesda and Silver Spring, and impact to the outer Red Line stations (stations north of Medical Center and Silver Spring).” *Definition of Alternatives Report*, p. 1-12. A hybrid alternative that included heavy rail from Bethesda to Silver Spring (as part of a longer project) would have all of these disadvantages, so the same reasons support elimination of such a hybrid alternative.

In addition, a hybrid alternative would require many users of the Purple Line to make an additional transfer in Silver Spring from the heavy rail to light rail or vice-versa. While some transfers are necessary in any transit system, it is preferable to minimize unnecessary transfers, because each transfer increases trip times and discourages ridership. The combination of heavy rail and light rail within the Purple Line corridor would introduce an unnecessary transfer, which would be avoided by a light rail line extending the length of the corridor.

Finally, WMATA is not a sponsor for the project, and it would need to be a sponsor if an extension of its service were planned.

Streetcars

Summary of Comments: Commenters proposed the use of a streetcar (tram or trolley) system on existing roadways.

Streetcars: Streetcars are typically single car trains that are smaller and carry fewer passengers than typical light rail vehicles. Streetcar systems generally run entirely in mixed-traffic lanes, making it difficult to provide service that is faster or more reliable than bus service. The Purple Line includes two-car trains, each car being larger than the typical tram or trolley car. A streetcar system would not have sufficient passenger capacity and would not be able to provide comparable travel times. This type of service would not meet the purpose and need of the

project because it would not provide service that was measurably faster or more reliable than the existing bus service.

Wire-Free Light Rail

Summary of Comments: A commenter asked MTA to use a wire-free light rail technology for the portion of the alignment along the trail in the Georgetown Branch right-of-way.

Response: For purposes of the environmental impact analysis in the AA/DEIS and FEIS, the FTA and MTA have assumed that the light-rail alternatives would involve overhead catenary systems—that is, poles and wires—to provide the electricity that powers the transit vehicles. This assumption was made because virtually all light-rail systems on operation have overhead catenary systems. This assumption in the NEPA analysis does not preclude selection of a wire-free technology in the procurement process as a means of reducing the project's visual impacts.

Wire-free technologies would eliminate the need for poles and wires, and therefore would reduce the project's visual effects and avoid concerns about tree branches overhanging the transitway in areas such as the Georgetown Branch right-of-way. These systems would eliminate the need for some poles and wires. 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 to prove their operations or reliability.

There are two basic types of wire-free systems. One uses an on-board power source (batteries or super-capacitors) for wire-free operation over short distances, following which the trains must return to a wired power system to recharge the on-board batteries or super-capacitors. In addition, this technology can have other operating limitations including running speeds and grades. The second system uses an embedded third rail located between the running rails at the same level as the rest of the street. The power supply can be by either contact or induction. To protect people and other vehicles, only the areas of the third rail that are under the train vehicles are energized. This technology does not have a proven track record in climates with snow and ice.[1]

Most of the existing wire-free light rail lines rely on overhead wires for the majority of the transit line, but operate wire-free only in areas such as historic districts or visually sensitive areas.

There are a significant number of operational concerns, including use of a third rail power source, recharging of on board batteries and maintenance in the Maryland winter climate with wire-free technologies. Another consideration is that the wire-free systems currently in use are all proprietary systems. This means that the pricing is not competitive, and MTA would be locked into using the selected system. Therefore, the FEIS evaluated the Purple Line with the assumption of the environmental impacts associated with the overhead catenary.

MTA is open to hybrid technologies and will encourage fuel efficient vehicles. The final vehicle will not be chosen until the final design phase of the project.

C.2 Alternative Alignments

Summary of Comments: Commenters expressed support for alignment options that were considered in the AA/DEIS but are no longer under consideration in the FEIS, or suggested alternative alignments or transitway configurations. These options included:

- Jones Bridge Road
- Tunnel options
- Paralleling the Capital Beltway
- East West Highway

[1] Novales, M. Light Rail Systems Free of Overhead Wires, In *Transportation Research Record*: *Journal of the Transportation Research Board, No. 2219*, Transportation Research Board of the National Academies, Washington, DC, 2011, pp.30-37,

- Single Track
- Different Termini
- River Road

Alternatives related to specific locations are discussed in separate responses in Section F of this document.

Response in General: The Purple Line Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS) was initiated in 2003 with the NEPA scoping process following FTA's issuance of a Notice of Intent (NOI) to prepare an environmental impact statement. The NOI announced that a transitway was proposed between Bethesda and New Carrollton and invited interested individuals, organizations, and agencies to provide their ideas, comments, and concerns about proposed alignments, modes, and station locations. Beginning in scoping and continuing to this day, MTA has conducted an extensive outreach program which has informed the development and refinement of the alternatives. These alignment options were considered and are documented in the AA/DEIS as part of early planning for the project. The extensive alternatives development and evaluation process conducted for the Purple Line is summarized in *FEIS Chapter 2- Alternatives Considered*, and is based on analyses documented in the FEIS Technical Report, *Supporting Documentation for Alternatives Development,* and the *Definition of Alternatives Report* (2008). All the alignments listed below, other than a transit line with a terminus in Gaithersburg, were considered during the planning process. See below for specific discussion of the suggested alignments.

Jones Bridge Road Alignment

Summary of Comments: Commenters stated support for the Jones Bridge Road alignment as opposed to the Georgetown Branch right-of-way. Comments relating to the Jones Bridge Road alignment for the BRT alternative are addressed in *Section C.1-Bus Rapid Transit* of this document.

Commenters focused specifically on the potential for the Jones Bridge Road alignment to better serve the Walter Reed National Military Medical Center (WRNMMC). WRNMMC was substantially expanded under the Base Realignment and Closure Act of 2008 (BRAC). Commenters stated that the Purple Line could serve the additional traffic resulting from this expansion. Commenters questioned whether the Purple Line ridership models included the additional employment and activity at WRNMMC resulting from the changes made under BRAC.

Response: An alignment along Jones Bridge Road was evaluated in the AA/DEIS, Chapter 2-Alternatives Considered and the FEIS, Chapter 2-Alternatives Considered and Appendix A, and in the FEIS Technical Report, Supporting Documentation for Alternatives Development, specifically the following memos: #5—Medium Investment BRT Variations to the Medical Center; #6—Review of Proposed SHA BRAC-related Intersection Improvements along Jones Bridge Road and their Effect on the Purple Line Plans; #10—Implications of the Defense Base Realignment and Closure Process; and #11- Visitor Trips to the Walter Reed National Military Medical Center. These documents provide further detail on the responses provided below.

- The congested traffic conditions along Jones Bridge Road contribute travel delay to trips arriving from the east. An alignment using Jones Bridge Road would provide less direct service to downtown Bethesda and would add approximately 11 minutes to the travel time for the majority of passengers, whose destination is downtown Bethesda.
- The Bethesda Station has one of the highest projected ridership levels on the Purple Line, second only to the Silver Spring Transit Center, and the Georgetown Branch right-of-way alignment provides higher speeds, reduced travel times, and reliable service that provide benefits throughout the 16-mile system.
- The downtown Bethesda area is substantially larger than the Medical Center area in terms of population, employment, and travel demand, even when the BRAC changes are taken into account. The 2008 analysis showed that combined employment around the Medical Center Metrorail Station was expected to grow by over 6,000 jobs to 2030. Downtown Bethesda was expected to grow by 5,000 jobs in that same period. The 6,000 additional jobs expected in the Medical Center area are a relatively small percentage of the expected

72,000 jobs in the entire Bethesda / Medical Center area in 2030. As stated in the FEIS, "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 [Medical Center] travel market." (FEIS p. 2-8.) Therefore, even with the BRAC changes at WRNMMC, downtown Bethesda remains a far greater travel market.

- If the Purple Line followed Jones Bridge Road, the attractiveness of travel to and from downtown Bethesda from the east would be degraded with the significant travel delay associated with travel along Jones Bridge Road, resulting in an overall reduction in ridership.

Commenters stated that additional roadway improvements are needed to address congestion. Since the publication of the WRNMMC FEIS in 2008, most of the intersection and transit access improvements recommended in that document have been implemented. Construction of a pedestrian underpass of Rockville Pike from the National Institutes of Health to WRNMMC is slated to begin in late 2014. These projects will facilitate greater, more efficient access to the Medical Center Metrorail Station (located at the National Institutes of Health), making transfers to and from Bethesda, and ultimately the Purple Line, more convenient.

The transportation and ridership models used in support of this FEIS have been updated to year 2040. These models include 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 updated analysis and projections validate the findings of the previous analysis. See *FEIS Travel Forecasts Results Technical Report*.

Tunnel Alignments

Commenters suggested tunnels as a mean of avoiding impacts to the Georgetown Branch Interim Trail and local communities, and as a way to eliminate the need to cross major roads. 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.

Response: Tunneling to avoid impacts was considered, but even with modern tunneling methods, tunnels are very expensive compared to an at-grade system. Tunnel alternatives would result in very substantial and costly below-grade stations (because of requirements for fire and safety measures), 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 (see *FEIS Chapter 2.1.2*). As noted in the FEIS, the Preferred Alternative would include only one short tunnel section, a 0.3-mile tunnel between Wayne Avenue and Arliss Street, referred to as the Plymouth Avenue tunnel. See FEIS, pp. ES-4, 2-23.

Paralleling the Capital Beltway

Commenters suggested alignments that followed the Capital Beltway for all or a portion of the route between Bethesda and Silver Spring.

Response: The Purple Line corridor inside the Capital Beltway was identified early in the planning process (see *FEIS Chapter 1.2* for the project history). The Purple Line is intended to serve five major activities centers, which are identified in the purpose and need statement for the project—namely, Bethesda, Silver Spring, Takoma/Langley Park, College Park, and New Carrollton. (FEIS, p. 1-1.) An alignment along the Capital Beltway would not be easily accessible to passengers without parking facilities and would not serve the activity centers identified in the purpose and need statement for this project. See the FEIS Technical Report, *Supporting Documentation for Alternatives Development*, specifically memos *#1, Review of Proposals by County Executive for Metrorail Purple Line Loop,* and *#9, Metrorail Loop Proposal Alignment Evaluation.*

East West Highway

Commenters suggested the use of East West Highway instead of the Georgetown Branch right-of-way between Bethesda and Silver Spring.

Response: An alignment along East West Highway was considered in the scoping phase of the project; the reasons for not carrying it forward for more detailed analysis are detailed in *AA/DEIS Chapter 2-Alternatives Considered*. To summarize, this segment of East West Highway was not carried forward in the FEIS due to a very narrow right-of-way that would have extensive property impacts, steep grades making light rail difficult, opposition from elected officials, and consideration of which areas would or would not be served.

Single Track

Commenters recommended that segments of the Purple Line be single-tracked to minimize the foot print of the transitway (and thus minimize tree loss), and reduce the cost of the project.

Response: As was noted by several commenters, the Purple Line was initially proposed as a single-track line between Bethesda and Silver Spring. As the Purple Line evolved from a 4.4-mile project to a 16-mile line with much more frequent service, the challenge of operating with segments of single-track became too great. MTA studied single-tracking sections of the line at the request of Montgomery County and the Bethesda/Chevy Chase community. The analysis and findings were documented in the report *Opportunity for the Use of a Single Track along the Georgetown Branch Right-of-Way*, memo #21 in FEIS Technical Report *Supporting Documentation for Alternatives Development.* 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, the return on the investment, and many of the mobility benefits of the project. Furthermore, because of the tightly constrained width of much of the Georgetown Branch right-of-way, the amount of tree clearing would not be significantly different for a single-track or double-track alignment. A single-track segment between Bethesda and Connecticut Avenue would have adverse operational 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 would make 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 single-track would present substantial capacity constraints in the face of increased ridership.

Different Termini

A commenter suggested that the project extend only from Silver Spring to New Carrollton. Reasons suggested included the preservation of the trail, reduced project costs, and avoiding conflicts with people in Chevy Chase. Another commenter suggested that the Purple Line have a terminus at Gaithersburg.

Response: The Purple Line project scope was based on an identified need for a transportation alternative in the corridor between Bethesda and New Carrollton (see *FEIS Chapter 1—Purpose and Need*). The portion between Bethesda and Silver Spring is projected to be the busiest segment of the entire line and was identified as a potential transportation corridor in the Montgomery County's *East-West Transit Feasibility Study* in 1986. The Montgomery County decision to purchase the Georgetown Branch right-of-way for a transitway was in response to the results of this study.

A transit option to Gaithersburg could be a viable project, but it would be a different project than the Purple Line and would not serve the purpose for which the Purple Line is intended.

River Road

Commenters stated that the impacts to the properties along River Road were too great and consideration should be given to relocating the Purple Line from adjacent to River Road, to in River Road where it would operate in shared-use lanes with general traffic. Also included with this suggested alignment change was the use of a center platform for the M Square Station to reduce right-of-way needs, and alternate stormwater treatments.

Response: MTA has been coordinating with Prince George's County and the M-NCPPC extensively throughout the alternatives development process and both agencies support the alignment on the side of River Road through this area and they see it as compatible with future plans for transit-oriented development. Even if a shared-use configuration were considered, it would still result in property impacts to adjacent properties as the alignment would still have to pass through the property to return to River Road from the College Park Metrorail station. In this particular location, shared use in the street would also require a new signal (not at a local roadway) to allow the transitway to enter/exit the roadway, it would require the reconstruction of the River Road bridge over the Northeast Branch of the Anacostia River, and it would eliminate the ability to provide on-street parking along River Road.

MTA looks forward to the stations serving existing and future development in this area and will continue to look for opportunities to enhance pedestrian access and reduce the right-of-way needed for the project. This includes alternative solutions for stormwater management to reduce the impacts on adjacent properties.

C.3 Georgetown Branch Right-of-Way and Capital Crescent Trail

Summary of Comments: Many comments and one petition regarding the Capital Crescent Trail were received opposing the project. Many other commenters stated support for the Purple Line because it would result in the completion of the Capital Crescent Trail into Silver Spring.

Many commenters stated they did not want the Purple Line to be constructed in the Georgetown Branch right-of-way, which is the location of the existing Georgetown Branch Interim Trail. Commenters raised the following issues:

- Loss of the Existing Trail within the Georgetown Branch right-of-way
- Original Intent of Georgetown Branch right-of-way purchase and whether the Trail is a Park
- Removal of Trees and Vegetation
- Popularity of Trail
- Noise and vibration
- Safety
- Public health
- Bethesda Tunnel
- Trail Access
- Trail Design and Amenities
- Visual/Aesthetics
- Speed of trains

- Bethesda Tail Track
- Property Acquisition along the Georgetown Branch Right-of-Way
- Capital Crescent Trail should be a National Park
- Trail Construction

Completion of the Trail into Silver Spring

Many commenters stated support for the completion of a safe trail connection between Bethesda and Silver Spring. Almost all of these commenters stated concern that an off-road trail might not be built parallel to the CSX Metropolitan Branch right-of-way between Lyttonsville and downtown Silver Spring.

Response: At the time the FEIS was published, it was uncertain whether CSX would allow a portion of its railroad right-of-way (the Metropolitan Branch) to be used for construction of the Capital Crescent Trail. Therefore, the FEIS stated that "The completion of the trail along the CSX corridor is contingent on agreement with CSX on the use of their property on the north side of the CSX 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" (FEIS, p. 6-10).

The use or purchase of CSX property is under negotiation with CSX. Use of CSX property for the trail is only needed between the Talbot Avenue Bridge and 16th Street.

Loss of the Trail

Many commenters stated opposition to the use of the Georgetown Branch right-of-way for the Purple Line. They stated that the existing interim trail will be destroyed or lost by the project.

Response: The project will not result in the permanent loss of the trail in the Georgetown Branch right-of-way, but the trail would be temporarily impacted and closed during certain periods of construction, and the existing unpaved interim trail will be converted to a permanent paved trail. Please see *Trail Construction,* below*,* for a discussion of the temporary effects on the trail during construction. Once construction is complete, the new permanent trail within the Georgetown Branch will be incorporated into the larger Capital Crescent Trail network, extending from Georgetown in the District of Columbia, and creating a direct connection from Bethesda to the Metropolitan Branch Trail and Silver Spring Transit Center in downtown Silver Spring.

The permanent trail will be paved, and will be located adjacent to the Purple Line transitway in the Georgetown Branch right-of-way. The permanent trail will replace the existing interim trail (referred to in the FEIS as the Georgetown Branch Interim Trail).

As documented in the Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS) and FEIS, FTA and MTA have consistently acknowledged that the permanent Capital Crescent Trail will be different from the Georgetown Branch Interim Trail that exists today. The existing trees and vegetation in the right-of-way will need to be removed. New landscaping with native species will be planted, but it will not be similar in appearance to what exists today. The impacts to the existing interim trail are described in *FEIS Chapter 4.9.3*.

The consideration of the Georgetown Branch right-of-way for use as a transitway and trail is the result of more than two decades of planning by Montgomery 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 transportation facility, for a transitway and trail. In January 1990, the Montgomery County Council designated the right-of-way for a combined transitway and trail in its approved *Georgetown Branch Master Plan Amendment*.

MTA, in coordination with the FTA, selected an alignment along the Georgetown Branch right-of-way only after evaluating a variety of alignments for a transitway connecting Bethesda to Silver Spring. For the reasons documented in *FEIS Chapter 2*, 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 permanent Capital Crescent Trail adjacent to the Purple Line can be a safe and attractive trail. 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 CSX Metropolitan Branch. It would then continue beyond the Georgetown Branch right-of-way to Silver Spring where it would connect to the Metropolitan Branch Trail.

MTA considers completion of the Capital Crescent Trail between Bethesda and Silver Spring to be an integral part of the Purple Line project. In developing the design for the trail, MTA has worked closely with trail designers, adjacent communities, Maryland-National Capital Park and Planning Commission (M-NCPPC), and the Montgomery County government (which will own and maintain the trail). Landscaping, the trail width and surface type, the design and location of the trail access points, and the connection to Rock Creek Trail have all been the result of coordination with these other agencies.

Original Intent of Georgetown Branch Right-of-way Purchase and whether the Trail is a Park

A commenter stated that the Georgetown Branch right-of-way was purchased for a rails-to-trails project and that putting the Purple Line in the right-of-way would violate the original intent of the purchase. Commenters stated that the trail is a public park and should be afforded the legal protections that parks receive under Section 4(f) of the U.S. Department of Transportation Act of 1966.

Response: The Georgetown Branch right-of of way was purchased by Montgomery County for use as a transitway and trail (see *FEIS Chapter 1.2-Project History*). The *Georgetown Branch Master Plan Amendment* (1990) stated this purpose. The current trail was constructed in 1996 as an interim facility pending a decision on the transitway.

In 1988 Montgomery County purchased the Georgetown Branch railroad right-of-way between the CSX Metropolitan Branch (the CSX mainline) and the Washington DC line under section 8(d) of the National Trails Systems Act[2]. This act, passed in 1983, encourages the establishment of trails to preserve established railroad rights-of-way for potential future reactivation of rail service. The Montgomery County Parks Department was given jurisdiction from the Washington DC border to Bethesda for the construction of a multi-use trail. The portion from Bethesda to Silver Spring was given to the Montgomery County Department of Transportation for the purpose of building both a transitway and multi-use trail. These dual transportation uses of the right-of-way between Bethesda and Silver Spring have been a part of the County Master Plan since 1990[3].

Neither the Montgomery County acquisition appropriation, nor the deed whereby the County acquired the property, contains any restriction that land must be used for a trail. The acquisition appropriation and a number of additional appropriations for the interim trail improvements mention preservation of the right-of-way for a light rail. The Rails-to-Trails Act specifically provides for trail use as an interim facility, with the long term intention to preserve right-of-way for future rail transportation.

The 1988 county appropriation stated that a decision on the future use of the right-of-way had not been finalized, but that proposals included a transitway/trail combination. A combined multi-use trail and light rail facility was approved by the County Council in the *Georgetown Branch Master Plan Amendmen*t, approved and adopted January 1990.[4]

The 1990 Master Plan amendment recommended that the trail and transitway be built at the same time to reduce community impacts.

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[2] 16 USC § 1247 (d)

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

[4] The Preferred Alternative includes construction of a transitway and a permanent paved trail within the Georgetown Branch right-of-way in accordance with the 19990 Master Plan amendment.

In July 1994 the county appointed an Interim Trail Task Force to recommend how an interim trail could be installed in the right-of-way while the county decided on the ultimate use of the right-of-way.

In 1996, pending a decision on the construction of the transitway, the county built a temporary, or interim, trail from the underpass of Wisconsin Avenue and the adjacent Apex and Air Rights buildings in Bethesda to Stewart Avenue in Lyttonsville. The tracks and ties were removed and a crushed stone trail was constructed. The Rock Creek Trestle 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 trail is a signed route on local streets.

The Georgetown Branch Interim Trail—that is, the temporary trail that currently exists within the Georgetown Branch right-of-way—is not a Section 4(f) resource. 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." As stated in the letter, FTA still maintains that "the intent of the Montgomery County Council to preserve the right-of-way in question for a transportation use has been adequately documented as suggested by the 4(f) policy guidance." 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.

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) resource, 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 (see Table 6-4 of the *FEIS Chapter 6-Draft Section 4(f) Evaluation*).

Removal of Trees and Vegetation in Georgetown Branch Right-of-Way

Many commenters stated concern about the removal of mature trees and the loss of the tree canopy within the Georgetown Branch right-of-way.

Response: Most of the Georgetown Branch right-of-way would need to be cleared for the construction of the transitway and the trail both to allow grading and construction of the tracks and the trail, and to ensure that overhanging branches do not interfere with the overhead wires. Most of the existing tree canopy will be eliminated. (See *FEIS Chapter 4.9.3*, including Table 4-22, and *Chapter 4.13.3*). MTA is working closely with the Maryland Department of Natural Resources (MDNR) to ensure that all tree and forest loss due to the project will be mitigated in accordance with the Maryland Forest Conservation Act. MTA and Montgomery County are currently identifying sites for reforestation (replanting trees) or afforestation (planting trees where there were none before) with a goal to protect or create habitat where it is needed. The project includes landscaping for the transitway and trail that will be funded by the Purple Line project. In addition, Montgomery County has identified funding for additional landscaping as part of the Capital Crescent Trail funding.

Popularity of Trail

Many 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. Commenters were concerned that the trail would not be wide enough because of the high number of users.

Response: MTA and FTA recognize that the trail in the Georgetown Branch right-of-way is an important community asset and believe that the trail will still be widely used after construction of the Purple Line. MTA's earlier plans included a trail that was 10 feet wide, following the Montgomery County standard of 10 feet for a shared use path, however, Montgomery County has directed that the trail be built as a 12-foot wide paved trail plus 2-foot unpaved shoulders, where possible. This width is greater than the County's standard trail width and wider than the portion of the Capital Crescent Trail from Bethesda south towards Washington, DC. 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. Montgomery County has, and will continue to review the plans for the trail.

Noise Effects in and Near Georgetown Branch Right-of-Way

Commenters stated concern about noise impacts to trail users and adjacent residences along the Georgetown Branch right-of-way; with specific concern about Leland Street Park. Commenters noted that the observed quiet on the trail today is an important feature. Commenters stated the noise level along the trail would be 87 decibels. Commenters stated that the lack of analysis of noise impact to trail users was a flaw in the FEIS. Commenters questioned the height, design, and location of the noise barriers. Commenters stated that the Purple Line speed and frequency should be reduced during early morning and late night hours to minimize noise and vibration impacts.

Response: As discussed in the *FEIS Noise Technical Report*, MTA performed an impact analysis for noise following FTA noise guidance and assessed impact using FTA criteria, as defined in *Transit Noise and Vibration Impact Assessment* (FTA, May 2006) (referred to below as "FTA noise guidance"). As explained below, the FTA's noise assessment methodology does not require the calculation of total noise levels—that is, the combination of the existing condition and the noise caused by the project. Moreover, the interim trail itself is considered a transportation facility, not a park, and therefore was not treated as a noise-sensitive receptor in the noise analysis. Therefore, the FEIS did not include total noise levels, and did not include specific noise impacts analysis for trail users. The noise analysis in the FEIS was consistent with FTA's noise guidance. However, in response to comments on the FEIS, total noise levels have been calculated and are shown in the *Clarification of the Results of the Purple Line Noise Analysis*, which is included as an appendix to this document. In addition, the response below provides an estimate of the increased noise levels that could be experienced by trail users.

FTA's Noise Impact Assessment Guidance

Under the FTA noise guidance, a noise analysis compares existing measured ambient outdoor noise levels with project-related noise—that is, "the noise estimated to be generated solely by the transit noise sources as defined by the service operations of the Preferred Alternative." (*FEIS Noise Technical Report*, Section 2.3, p. 5) These two numbers—the "measured" (existing) noise level and the "project-related" noise level—are then compared to determine the level of noise impact caused by the project. As stated in the *FEIS Noise Technical Report*, this methodology "allow[s] 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." (*FEIS Noise Technical Report*, Section 2.3, p. 5) This methodology does not require the calculation of total noise levels—that is, noise level that results from the combination of the existing condition and the noise caused by the project.

The noise levels calculated in an FTA noise analysis for an EIS are average noise levels over a period of time, not single-event noise levels. Average noise levels are measured in two different ways depending on the nature of the land use at the noise receptor. "Leq" is used as the metric for land use where there is no nighttime activity (such as schools, office space and parks), and "Ldn" is used as the metric for residential land use (single homes and apartment buildings). As explained in the FEIS: 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 the greater sensitivity people have to

noise during the nighttime sleeping hours by adding a 10-decibel penalty 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. *FEIS, Chapter 4.11, Noise, pp. 4-101 to 4-102.*

The FTA noise guidance recognizes that a single-event noise level can be calculated using a metric known as "Lmax." According to the guidance, Lmax is useful for describing the sound associated with an individual vehicle during a single passby event. It is not required in an environmental impact assessment because it does not take into account the number and duration of transit events, which is important to people's reaction to noise. The noise effects of passbys were reflected in the Leq and Ldn measurements, which reflect average noise levels over a 1-hour and 24-hour period, respectively.

The FTA noise estimate calculation process considers distance to the transitway, type of track, train length, train speed, service operations (headways), presence of at-grade crossovers (areas where the train and street traffic intersect), and onboard warning devices (or horns) for areas near stations and certain at-grade crossings. Noise mitigation measures that have been incorporated into the project, such as noise barriers and "skirts" on the transit vehicles, also are taken into account in the calculation of noise levels.

For further discussion of noise methodology, refer to *Section E.9-Noise* of this document; *FEIS Chapter 4.11.1*; and the *FEIS Noise Technical Report*.

Noise Impact Assessment for the Purple Line

The noise impact assessment for the Preferred Alternative in the FEIS was prepared in accordance with FTA's noise guidance.

- The noise impact assessment included the benefit of the noise-mitigating measures incorporated into the project, as further described below.
- The noise levels for parks and other institutions with primarily daytime uses were reported as an average one-hour sound level (Leq). The noise levels for residential uses, which have both daytime and nighttime uses, were reported using the 24-hour noise level (Ldn). The Lmax was not included, because it is not required.
- The noise impact assessment included the "measured" and "project-related" noise levels, as required by the noise guidance. It did not include the total noise level, because that information was not required.
- The noise impact assessment included noise levels for 29 noise receptor sites adjacent to the Georgetown Branch right-of-way—seven parks and institutional uses (measured in Leq) and 22 residential uses (measured in Ldn). These locations are shown on FEIS Figure 4-27; they are identified on that figure as sites M1 through M18 and P-1 through P-3. The Georgetown Branch Interim Trail is considered a transportation facility, not a park, and therefore was not treated as a noise-sensitive receptor in the noise analysis per FTA's noise guidance

Commenters questioned how much the project would affect total noise levels at parks and residences adjacent to the Georgetown Branch right-of-way. Even though that measurement is not required under FTA's noise guidance, total noise levels have been calculated in response to the FEIS comments and are shown in the *Clarification of the Results of the Purple Line Noise Analysis*, which included as an appendix to this document. This analysis shows that:

The measured noise levels at the parks and institutions adjacent to the Georgetown Branch right-of-way ranged from 52 dBA to 66 dBA (Leq) and the residences ranged from 55 dBA to 70 dBA (Ldn).

The project-related noise levels at those parks and institutions adjacent to the Georgetown Branch right-of-way would range between 37 dBA and 61 dBA (Leq); at the residences, the range would be 40 dBA to 59 dBA (Ldn).

- The total sound level (or future noise exposure) at the parks and institutional uses would be 52 dBA to 66 dBA (Leq) and at the residences would be 56 dBA to 70 dBA (Ldn).
- Increases over existing sound levels would range from 0 to 3 dBA for the parks and institutional uses, and 0 to 2 dBA for the residences.
- The project would not cause a "moderate" or "severe" noise impact' under FTA's criteria at any of the 29 noise receptors adjacent to the Georgetown Branch right-of-way.
- Where there are increases in the noise levels, the changes at these 29 sites would be barely perceptible or imperceptible by the human ear.

Commenters also questioned the effectiveness of measures to reduce potential noise levels on noise-sensitive receptors along the Georgetown Branch right-of-way. The project includes two specific commitments to minimize noise levels:

- 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, MTA is including a minimum 4-foot retaining wall/noise barrier adjacent to residential properties that abut the Georgetown Branch right-of-way to minimize noise to the adjacent properties.

The retaining wall/noise barrier has been designed to mitigate the wheel/rail noise—the predominant noise associated with the system. Because the noise is generated at the rail level and the noise barrier will be close to the tracks, a 4-foot barrier is sufficient to mitigate the noise. Although breaks in the barrier will be necessary at trail access points, in general, the barriers will provide at a minimum an additional 4 decibel reduction in project-related sound levels. The material and exact height of the noise barrier will be determined during final design.

The combination of both measures would provide a total of 12 decibels in noise reduction; the benefits of these noise-reduction measures were incorporated into the results presented in the noise impacts analysis (see *FEIS Chapter 4.11-Noise, p. 4-107*).

MTA, utilizing FTA's noise criteria, has determined that it is not necessary to reduce the speed and frequency of the Purple Line operations during off-peak hours because of the inclusion of the above stated mitigation measures. As described in the FEIS *Chapter 2.3.2-Preferred Alternative,* the proposed schedule for the Purple Line has been developed to support transfers to Metrorail service.

Effect of Purple Line on Noise Levels Experienced by Trail Users

Commenters raised questions regarding the potential for noise impacts on trail users within the Georgetown Branch right-of-way. The Georgetown Branch right-of-way is designated as a transportation corridor. As such, the existing interim trail is not classified as a park and therefore is not considered as a noise-sensitive receptor per FTA's noise analysis criteria. Nonetheless, in response to comments on the FEIS, the following information is provided to describe the potential change in noise levels for trail users.

The noise barriers will be located between the residences and the trail and between residences and the transitway, and not between the trail and the transitway; therefore the barriers would not benefit the users of the trail. However, the trail users would benefit from the vehicle "skirt" (a panel covering the wheels), which would reduce the sound levels immediately adjacent to the alignment. It is expected that the noise levels experienced by trail users would be somewhat higher than noise levels at the receptors adjacent to the Georgetown Branch right-of-way, because the trail is closer to the transitway than those receptors, and because the noise barrier does not benefit the users of the trail. The minimum distance between the edge of the trail and the centerline of the tracks would be approximately 23 feet. At this distance the maximum sound level of the vehicle passby (Lmax) is estimated to be 80 dBA. It is expected that the duration of the passby event, when the light rail sound level exceeds the ambient sound level, will be in the range of 8 to 10 seconds.

It is important to note that this estimated sound level (80 dBA) is not directly comparable to the noise levels presented in the FEIS, because it measures a single event rather than an average over time. This estimate has been provided in order to respond to comments, and does not constitute a finding of 'noise impact' under FTA's noise guidance.

Noise levels in Leland Street Park

Noise and vibration monitors were used to identify existing noise and vibration levels and then to identify potential impacts. Representative locations along the alignment, S-1 and M-5, were chosen based upon their proximity to the proposed alignment. The closest noise monitoring location to Leland Street Park is M-5, located at 4305 Elm Street. The existing sound level at that location is 55 dBA (Ldn), and the predicted project-related sound level is 46 dBA, resulting in a total sound level of 56 dBA. The closest vibration monitoring location is S-1 at 4309 Elm Street. The existing vibration level is 60 VdB, and the estimated project-related vibration level is 67 VdB, below the 72 VdB impact criteria. These receptors provide a good indication of the expected noise levels in Leland Park.

Vibration Effects on Residences along Georgetown Branch Right-of-Way

Commenters stated concern about vibration impacts to residences adjacent to the Georgetown Branch right-of-way.

Response: The vibration analysis and impacts are discussed in *Section E.10–Vibration* of this document.

Safety

Commenters stated concern about the safety of trail users. Particular areas of concern were:

- Grade crossing of Wisconsin Avenue
- Trail maintenance (clearing of snow, leaves and debris) will be more difficult, making the trail less safe
- Teenagers will go on the tracks, or trail users may fall or be knocked on to the tracks
- Students will not be able to use the trail to get to school and will need to walk on sidewalks
- Narrowness of trail will endanger trail users
- Noise from trains will mean trail users cannot hear each other, particularly bells on bicycles, leading to collisions
- Derailing of trains
- Electrocution hazards from fallen overhead wires

Response: FTA and MTA are committed to providing a transitway and trail that are safe for users. MTA has worked with Montgomery County to increase the number of grade-separated intersection crossings of the trail and busy streets. The grade-separated crossings include a new bridge carrying the trail over Connecticut Avenue, an underpass at Jones Mill Road, and a new trail along the CSX corridor and over Colesville Road into downtown Silver Spring, avoiding the need to use local roadways[5]. To further promote safety, the trail will be separated from the transitway with fencing. In October 2002, 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.[6] This research has shown no safety issues with any of these designs. The Purple Line includes a fence separating the transitway from the trail; where there is sufficient width a 10-foot landscaped buffer will be provided.

Wisconsin Avenue grade crossing: The surface trail alignment at Wisconsin Avenue will be controlled by a traffic signal to allow safe crossings.

[5] The use or purchase of CSX property is under negotiation with CSX. Use of CSX property for the trail is only needed between the Talbot Avenue Bridge and 16th Street.

[6] Parsons Brinckerhoff. *Light Rails with Trails: a study of current practices in the United States and England.* October 2002

MTA has designed the project so that trail users will still be able to use the Bethesda tunnel to cross under Wisconsin Avenue. Because the underground connection is a sidewalk and will be narrower than the trail, bicyclists will be advised to dismount to walk through the tunnel to Woodmont Plaza.

Clearing of debris from trail: The completed Capital Crescent Trail will be easier to clear of debris because it will be paved. Montgomery County will be responsible for maintaining the trail.

People on the train tracks along the trail: The tracks and the trail will be separated by a fence and landscaping to address these concerns.

Students will need to walk on sidewalks: The trail is currently used by many students to get to Bethesda-Chevy Chase High School. Some students travel along the trail, while others cut across the trail. The proposed 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. Sidewalks are widely used today for students to access school. Montgomery County is responsible or considering requests for additional crosswalks, crossing guards, or wider sidewalks on existing roads.

Lynn Drive: MTA has consistently stated that it will not provide an at-grade crossing at Lynn Drive because of safety concerns. MTA has determined that the safety risks associated with an at-grade crossing at this specific location are too high and the crossing will not be included. MTA presented options for a grade-separated crossing both above and below the transitway, but these options are not being carried forward based on comments from the Town of Chevy Chase. MTA will continue to coordinate with the Town of Chevy Chase on grade-separated options. Without the Lynn Drive access some students will use the sidewalks on East West Highway. Others will be able to use the new trail underpass connection to Sleaford Road to access the school.

Narrowness of trail: As discussed above, the completed Capital Crescent Trail will be 12 feet wide, with 2-foot unpaved shoulders on either side except at a few limited locations where the width is constrained. This is wider than the current trail. Montgomery County has determined that the width is appropriate for a safe and well used hiker-biker trail.

Diminished Safety from Noise on Trail: As noted in the section above on Noise and Vibration, trail users will experience increased noise from the light rail trains. The noise will be intermittent, and at any one location the noise from a passing train will be very brief. An increased risk of collisions of bicyclists with other trail users is not anticipated.

Derailing trains: Experience with the Central Light Rail Line in Baltimore and other light rail lines around the country that routinely operate on dedicated alignments at speeds up to 55 mph has demonstrated that incidents of derailments of light rail vehicles that are not associated with collisions at grade crossings or with excessive speed on curves are extremely rare to the point of being virtually non-existent—none are reported in the US rail accidents for the years 2010 to 2013. Light rail vehicles are designed to operate at speeds up to 60 mph, and the Purple Line maximum speed is 50 mph, while in the Georgetown Branch right-of-way the maximum speed will be 45 mph. Between Bethesda and Silver Spring Transit Center and between College Park Metrorail and the junction of Veterans Parkway and Ellin Road where all the speeds above 35 mph occur, the Purple Line will be equipped with a train control system that will prevent trains from exceeding the designated maximum speed limit. MTA does not believe that reducing speed or installing barrier walls is necessary.

Electrocution from fallen overhead catenary wires: If the overhead catenary wires fall for any reason and come into contact with the running rails or any grounded structure such as an adjacent fence, this condition will be detected by the traction power substations and the wires will be automatically de-energized. All metal fences will be grounded in accordance with the National Electric Code and the National Electric Safety Code.

Public Health

Commenters stated concern that the loss of the trail will have a negative impact on public health. A commenter stated that MTA should have prepared a Health Impact Assessment.

Response: As stated above, the trail will not be permanently removed with the construction of the Purple Line. The completed Capital Crescent Trail is part of the *Montgomery County Countywide Bikeways Functional Master Plan* (2005). The Purple Line could provide an opportunity to improve overall public health by providing an improved trail with better access to the existing regional trail network facilitating exercise (see *FEIS Chapter 4.3.3*). The trail will be safer because of the addition of the grade-separated crossings of Connecticut Avenue, Jones Mill Road, and Colesville Road, and it will be longer and will provide a direct off-road connection to downtown Silver Spring, encouraging trail use along the CSX corridor, and into Silver Spring. It will connect with the Rock Creek Trail, the Metropolitan Branch Trail, and the Silver Spring Green Trail, promoting even greater trail use.

Recent studies have shown that transit users walk more than the general public and experience the health benefits associated with increased physical activity because of the walking required at either end of the transit trip.[7]

As the commenter notes, a Health Impact Assessment is not required by the National Environmental Policy Act. However, some topics related to human health were evaluated in the FEIS including air quality, parks and recreational land, noise, water quality and safety. Because some health- related impacts were analyzed as part of the FEIS MTA and there is no Federal requirement to perform a Health Impact Assessment, MTA and FTA has determined there is no need for a separate Health Impact Assessment.

Bethesda Tunnel

Commenters stated support for a grade-separated trail connection through the "tunnel" in Bethesda so that trail users do not have to cross Wisconsin Avenue. A commenter stated concern that the Purple Line plans have been modified since the release of the FEIS to incorporate the changes to the trail through Elm Street Park, presented for the Minor Master Plan (see discussion below).

Response: The Bethesda "tunnel' refers to the underpass under the Apex Building, Wisconsin Avenue, and the Air Rights Building. The trail through the "tunnel" in Bethesda was part of the Locally Preferred Alternative identified by Governor O'Malley in 2009; and it was included in many of the alternatives studied in the early planning stages of the project documented 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. In March 2012, the Montgomery County Council 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 for the trail to use the County's planned surface trail, a street-running alignment from Elm Street Park across Wisconsin Avenue to the current Capital Crescent Trail towards Georgetown. (The cost of the trail is a County responsibility.)

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[7] **Amy L. Freeland**, PhD, **Shailendra N. Banerjee**, PhD, **Andrew L. Dannenberg**, MD, MPH, and **Arthur M. Wendel**, MD, MPH. *Walking Associated With Public Transit: Moving Toward Increased Physical Activity in the United States*. 2012

John M. MacDonald, Robert J. Stokes, Deborah A. Cohen, Aaron Kofner, Greg K. Ridgeway. *The Effect of Light Rail Transit on Body Mass Index and Physical Activity*. American Journal of Preventive Medicine. 2010. 39 (2)

Todd Litman. *Evaluating Public Transportation Health Benefits*. Victoria Transport Policy Institute. 2010

In fall 2012, MTA developed a new option that would provide a sidewalk connection from the trail to the Bethesda station platform. 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, avoiding the need to cross Wisconsin Avenue at-grade. This option was presented to and endorsed by the Montgomery County Council in September 2012. This option has been incorporated into the Purple Line. (Refer to *FEIS Chapter 2.3.2*)

On February 11, 2014, the Montgomery County Council approved a Minor Master Plan Amendment for the Bethesda Purple Line Station. This plan supports the redevelopment of the Apex building and an alternative design for the Bethesda Purple Line Station that would accommodate the Capital Crescent Trail in a new tunnel.

The County has identified the following public benefits from the potential new design:

- Provides a new Capital Crescent Trail access under Wisconsin Avenue with a dedicated tunnel
- Moves the new WMATA Metrorail Red Line Station south entrance from Elm Street sidewalk into the new building
- Enhances circulation on a wider, open Purple Line platform
- Minimizes the distance that the tail track extends into Woodmont Plaza
- Provides an opportunity to relocate the Purple Line exhaust tower from Woodmont Plaza into a new building
- Accommodates a new bike station integrated into the station

It should be noted that the design of the Purple Line project in the Bethesda tunnel has not changed as a result of the proposed redevelopment of the Apex Building. The conceptual trail plans shown at County Planning Board meetings with several options through Elm Street Park have not been incorporated into the Purple Line plans. Any changes to the Purple Line plans must be evaluated for consistency with the ROD in accordance with 23 CFR Sections 771.129 and 771.130, and if required therein, they must be approved by FTA in writing before MTA can proceed with the change.

Trail Access

Commenters stated concern about the loss of access from private property, particularly on the south side of the right-of-way. Others stated support for a trail access point at Lynn Drive in Chevy Chase.

A commenter asked if Susanna Lane would continue to serve as the connector between the Rock Creek and Capital Crescent Trails.

A commenter asked about the access ramp at Jones Bridge Road, regarding its expected design, how much private land it will require, and who is expected to use it. The commenter stated that the impact of this ramp on three adjacent homes will be considerable. The commenter asked how the trail would cross Jones Mill Road and if the underpass would be attractive or safe.

Response: Along the Georgetown Branch right-of-way, where many residents on both sides now have direct access to the trail from their backyards, the Purple Line would result in substantial changes in access to the trail. Residents would no longer be able to access the trail directly from their yards. These trail users would need to use the formal access points being constructed as part of the Capital Crescent Trail, as described in *FEIS Chapter 2.3.2*. These access points would include paving, sidewalks, and ramps or stairs where necessary. Most of these formal access points will now be ADA-compliant.

Neighborhood access to the trail would be maintained in specific areas and enhanced with 23 formal access points included in the design. MTA has worked with the community and representatives from Montgomery County to maximize the number of trail access points. The Purple Line would provide new formal trail access at:

- Bethesda Station
- Pearl Street
- East West Highway

- Sleaford Road
- Kentbury Drive
- Newdale Road
- Rock Creek Trail
- Lyttonsville Place
- Michigan Avenue
- Kansas Avenue
- 4th Avenue
- Lyttonsville Road
- 16th Street
- 3rd Avenue
- Spring Street
- Apple Avenue
- Silver Spring Transit Center
- Bonifant Street/Metropolitan Branch Trail

Existing trail access at Elm Street Park, Connecticut Avenue, Jones Mill Road, Grubb Road, and Stewart Avenue would be maintained and improved.

In addition, 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.

MTA has worked closely with the Town of Chevy Chase for over three years on options for a trail connection from Lynn Drive. Some options were not acceptable to MTA for safety reasons. Other grade-separated options were rejected by the Town of Chevy Chase. Based on coordination between MTA and the Town, the current design does not include an access point at Lynn Drive, but MTA will continue to work with the Town.

Susanna Lane could still be used as a connector between the Capital Crescent Trail and Rock Creek Trail, but a new direct connection will be built just east of the Rock Creek Bridge.

To ensure the safety of all trail users, the Capital Crescent Trail will pass under Jones Mill Road adjacent to the Purple Line. Therefore, an access ramp and stairs are being constructed to provide access to the Capital Crescent Trail from Jones Mill Road (See *FEIS Volume II—Conceptual Engineering Plans*, Sheets 102 and 103). This access will provide direct access to the trail for people in the community who currently access the Capital Crescent Trail at this location. Montgomery County and M-NCPPC are in full support of this connection from the community to the Capital Crescent Trail. The trail crossing under Jones Mill Road will be well-lit, as will all trail underpasses. This trail connection will impact one privately-owned parcel adjacent to the trail.

Trail Design and Amenities

Commenters provided suggestions on the design and amenities of the trail. This included comments about lighting along the trail, safety of the underpasses associated with the trail (East West Highway and Sleaford Road), fencing limiting access to properties along the trail, the need for police call boxes, and the aesthetics of trail including fencing and landscaping.

A commenter stated that Montgomery County should turn the trail into a year-round commuter bike path with bike stations and other bike amenities. The facility should be plowed in winter and lighted for use by early morning and evening commuters.

A commenter stated concern about the impacts of trail lighting and lighting from inside the vehicles on adjacent properties.

Response: Because the trail is a county-owned and funded facility, decisions on the trail amenities, including the trail width, pavement surface, and lighting are being made by Montgomery County. Montgomery County has

budgeted for lighting at key points along the trail, including entrance points and underpasses, for safety. This includes the underpass and access at Jones Mill Road.

Lighting will be designed to reduce spill-over into adjacent areas (the light will be focused on the trail itself.) At this time no final decision has been made regarding lighting along the entire trail. Lights from the Purple Line train are not expected to be intrusive. A final vehicle has not been chosen at this time; however lighting from the interior of the vehicle would be similar to the interior lighting of a bus and would not shine outward. The vehicle's headlight will shine forward onto the track in front of the train and not to the sides.

MTA will forward to Montgomery County any trail design suggestions provided. Trail maintenance such as snow removal will be a county responsibility.

Visual and Aesthetics

Commenters stated concern about the changing visual effects to the Georgetown Branch Interim Trail from the removal of trees and the existing tree canopy. Commenters stated a desire for landscaping and terracing where retaining walls will be greater than six feet, as will be provided for the Columbia Country Club. Commenters stated that MTA should consult with homeowners about their willingness to plant replacement trees in their backyards, and MTA should fund this landscaping. Commenters stated that retaining walls and noise barriers should be designed in an aesthetically pleasing manner.

Response: FTA and MTA have consistently recognized that the visual character of the trail would change due to the loss of the tree canopy and the addition of the new transit facility (refer to *FEIS Chapter 4.9-Visual Resources)*. While the right-of-way would be replanted after construction, and the landscaping would assist in mitigating this visual impact at maturity, the overall appearance of the right-of-way would be substantially changed from present conditions. In addition, the right-of-way would have a minimum 4-foot barrier 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. MTA will prepare the finishes and design of the retaining walls, noise barriers, and fences along the trail in consultation with the County and the community. Though different in type and character, MTA will provide replacement landscaping where practicable. The project doesn't include a commitment to plant on private property, but does include landscaping within the within the County-owned right-of-way. To further enhance the visual setting of the trail, Montgomery County has identified funding for additional landscaping and amenities along the trail.

The Columbia Country Club is a historic resource on the National Register of Historic Places and mitigation measures have been implemented in conformance with historic preservation principles.

Speed of Train

Commenters stated concern about trains operating at 50 mph along the trail.

Response: The trains along the Georgetown Branch Interim Trail will operate at a maximum of 45 mph. See *FEIS Noise Technical Report*, Table 5, and *FEIS Vibration Technical Report*, Table 8. The Purple Line will be equipped with a train control system that will prevent trains from exceeding the designated maximum speed limit. MTA has designed the Purple Line to operate in a safe manner. The speed of the train is determined specifically in all locations based on local conditions and transitway design.

Bethesda Tail Track

Commenters stated opposition to the proposed tail track in Bethesda and expressed concern that trains would be stored there.

Response: Trains will not be stored on the tail track in Bethesda; they will be stored in the Lyttonsville Yard. The tail track in Bethesda will not extend more than 100 feet outside the tunnel (*FEIS Chapter 2.3.2*). It would only be used in rare circumstances if a train had to move beyond the end of the platform.

Property Acquisition along Georgetown Branch Right-of-Way

Commenters stated concern about the need to acquire property along the Georgetown Branch right-of-way. Another commenter stated that the width of the embankment for the Georgetown Branch railroad was only 18-20 feet wide and thus the commenter was concerned that this is not sufficient for the construction of the Purple Line without additional property acquisition. A commenter stated concern about the portion of the right-of-way that is 32 feet wide in Bethesda.

Response: The width of the Georgetown Branch right-of-way ranges from 66 to 200 feet wide, except for a small section near Pearl Street in Bethesda which is 32 feet wide. This width (66 to 200 feet) is sufficient for the construction of both the transitway and the trail. MTA has made every effort to avoid the need to acquire private property along the Georgetown Branch right-of-way. Design elements that minimize the amount of property needed include the use of retaining walls so that the Purple Line can be constructed from within County-owned right-of-way. The Environmental Resource Mapping contained in Volume II of the FEIS shows the property boundaries (white lines) as well as the proposed Limits of Disturbance, or LOD (thick light blue lines). The LOD represents both land needed for final construction, as well as any easements necessary for construction. Only in those areas where the blue LOD is beyond the white property line is additional land needed. As noted, in some areas land will be needed only temporarily during construction and in other areas permanent acquisitions will occur. A specific example along the Georgetown Branch right-of-way is in the Columbia Country Club where property acquisition beyond the Georgetown Branch right-of-way is required. The full LOD was used to assess the potential impacts of the project as presented in the FEIS.

Where private property is acquired for the Purple Line project property owners will receive payment of just compensation or fair market value. See *Section E.3—Property Acquisitions and Displacements* of this document for further discussion of the legal protection afforded property owners.

32-Foot Width near Pearl Street: At the entrance to the Bethesda tunnel where the right-of-way narrows to 32 feet wide, MTA will be acquiring a small portion of a commercial property to accommodate the transitway and trail.

Capital Crescent Trail should be a National Park

A commenter stated that the Capital Crescent Trail should be made a National Park.

Response: National Parks are created by an Act of Congress. FTA and MTA are not aware of any efforts in Congress to designate the Capital Crescent Trail as a National Park.

Trail Construction

Commenters asked if the trail could be used or where detours would be located during trail construction.

Response: The Georgetown Branch Interim Trail will have to be closed during construction; however, not all portions of the trail would be closed at the same time. MTA will work with Montgomery County to designate, communicate, and sign detour routes throughout construction. MTA will also work to minimize the time of closure. It may be possible to re-open portions of the trail before the full construction of the Purple Line is complete.

C.4 Traction Power Substations

Summary of Comments: Many commenters stated concern about the traction power substations that would be used to provide power to the Purple Line. Commenters stated concern regarding visual effects. Commenters asked for the proposed locations of the substations, and others wondered why the locations of the substations had not been shown to the public earlier. Some requested that the substation locations be changed. Commenters stated

concern regarding trucks coming in and out of traction power substations, quality of life impacts to neighboring communities and reduction of property values.

Other issues included:

- Noise
- Burying traction power substations
- Potential health effects
- Moving the substation at the east end of Kansas Avenue to the north side of tracks.

Response: As described in *AA/DEIS Chapter 2-Alternatives Considered* and *FEIS Chapter 2-Alternatives Considered*, the Purple Line would introduce ancillary elements to the corridor, including traction power substations. These substations will be spaced at approximately 1-mile intervals and are needed to provide power to the Purple Line. The substations will be subject to routine maintenance and monitoring, but this will not include regular access by large trucks.

The proposed locations of the traction power substations and their adjacent land uses are listed in the *FEIS Chapter 4.2.3,* Table 4-4 and the proposed locations are shown in FEIS Volume II on the Environmental Resource Maps. The locations of two of the substations have been slightly modified. The substations that have been shifted are on Montgomery Avenue in Bethesda and on University Boulevard near New Hampshire Avenue. These modifications were both made in response to community and property owner input and they are documented in *ROD Attachment F: Design Refinements since the August 2013 FEIS*. MTA is currently studying the feasibility of shifting the substation near the CSX right-of-way at Kansas Avenue slightly farther from adjacent homes to provide space for additional screening. Several of the substations will be in, or adjacent to, residential areas. MTA has sought to avoid, minimize, and mitigate the intrusion of these facilities into local communities. MTA will provide landscaping, other screening, or architectural treatments to address the visual impacts of these structures, where possible. A well-designed substation will not have any impact on the local quality of life or adjacent property values. The proposed locations for the traction power substations are based on the current level of design and the best available knowledge at this time. If different locations are identified in the future, MTA will continue to work with local communities to minimize impacts.

While there has been general discussion of the need for traction power substations every mile for many years (see *AA/DEIS Chapter 2.6.6*), the identification of specific locations could not be done until the project entered the preliminary engineering phase and a light rail operations plan had been developed to an appropriate level. During 2013, MTA held a Neighborhood Work Group meeting focused on the Wayne Avenue area, five Open House meetings, and coordinated a special meeting with Silver Spring neighborhood associations. Information on traction power substations was available at each of those meetings. MTA has committed to continuing to meet with local communities about the design and location of the substations.

Traction Power Substation Noise

Response: The substation noise source is a combination of the power transformers and the cooling units included with the same structure. The "hum" noise resulting from both noise sources is low frequency, and it will be reduced (absorbed) by providing the appropriate building enclosure. MTA has established criteria for the allowable noise level for the traction power substations on the system. The specified traction power substation noise level is 60 dBA at a distance of 3 feet from the substation. Sixty dBA is equivalent to conversation in a restaurant or office, background music, or an air conditioning unit at 100 feet. The “transformer hum” that is typical of a PEPCO pole-mounted or pad-mounted transformer is louder than what may be heard from a traction power substation. All the electrical equipment in a traction power substation is enclosed within a locked building, which provides both security and sound absorption.

Potential Health Impacts

Response: The traction power substation would not introduce any new or different electricity in the community. The existing power lines which bring electricity to homes and businesses would provide the power to the substations. The substations simply convert the levels in the existing lines to a lower level that would power the light rail.

Underground substations

Response: While MTA has evaluated the possibility of burying a substation, there are some reasons why this is not preferable:

- The cost of the underground structure would be prohibitive.
- An underground substation would need more extensive ventilation for cooling (potentially generating more noise at the surface).
- The enhanced ventilation equipment would require more space, making the structure even larger.
- The access stairs from the surface would further enlarge the structure.
- An underground substation would still require a surface structure, specifically a structural head house with a hoist capable of lifting out the largest pieces of equipment if they had to be replaced.
- Underground structures are typically vulnerable to leaks which could potentially damage the equipment.

Kansas Avenue

A commenter requested that the substation at the east end of Kansas Avenue be moved to the north side of tracks.

Response: MTA recognizes that the proposed location of the traction power substation near Kansas Avenue is in a residential area (*FEIS Volume 2, Environmental Resource Mapping*, Sheet 7) and MTA will provide fencing or landscaping to screen it from the adjacent homes. There is insufficient space between the Purple Line and CSX to move it to the other side of the tracks. MTA is investigating shifting this traction power substation slightly closer to Michigan Avenue to provide a greater buffer (and therefore more screening) between the traction power substation and the adjacent homes, with access off Michigan Avenue rather than Kansas Avenue.

D Transportation

D.1 Public Transportation

Summary of Comments: Commenters stated concerns related to other transit services and Purple Line transit stations.

- Commenters stated concern about a perceived lack of connectivity with the WMATA Metrorail system.
- A commenter stated concern about the distance between the Purple Line station and the Bethesda multi-modal transit center for bus connections. The commenter stated that this will be a violation of the Americans with Disabilities Act.
- MTA was requested to continue working with the SHA to develop attractive, safe transit areas for pedestrians and bicyclists.
- A commenter stated concern about potential changes to bus routes and schedules on congested roadways. Commenters stated concern that the cost of the Purple Line will cause a degradation of bus service in the corridor and reduce funding for local buses.

Connections to Metrorail

Response: The connections to Metrorail are an integral element of the project, as approximately 30 percent of Purple Line passengers will use Metrorail for part of their trip. Station locations have been selected to provide convenient connections between the Purple Line and Metro. At Bethesda, the Purple Line is directly above south end of the Metrorail platform. The Purple Line would be directly connected to Metrorail through the new

Bethesda Metrorail South Entrance project (being designed and funded as a separate project by Montgomery County), which includes elevators from Elm Street down to the Metrorail 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 Metrorail platform, between the new Silver Spring Transit Center 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 Metrorail and MARC commuter trains. At both College Park and New Carrollton, MTA has located the Purple Line station platforms close to the Metrorail entrances to permit quick and convenient transfers.

Bethesda Multi-Modal Transit Center

Response: The Bethesda multi-modal transit center is the bus stop on Edgemoor Lane with connections to the current (north) entrance to the Bethesda Red Line Metrorail station. Montgomery County is studying changing or adding bus stop locations near the Purple Line and the Bethesda South entrance to the Metrorail Red Line to facilitate transfers. If these new bus stops are not added, Purple Line riders would walk from Elm Street up East Lane to the buses at the transit center. The station is being designed to comply with the Americans with Disabilities Act (ADA), and includes elevators between Metrorail and the street level.

Transit Areas

Response: MTA will continue to work with SHA and the local jurisdictions to develop safe and attractive transit areas for all users. Examples of this coordination include the addition of bike lanes, bike facilities at stations, wider sidewalks, and landscaped buffers.

Bus Routes

Response: The Counties and WMATA will evaluate changes to bus routes and stops as the Purple Line construction nears completion. The Purple Line will provide improved transit service within the corridor providing faster and more reliable transportation and expanding access to the regional Metrorail service. At this point, very few changes to existing bus routes are anticipated as a result of the Purple Line, except in instances such as the Metrobus J4 where service is duplicated by the Purple Line. Local bus services may be modified to complement the Purple Line such as the possible relocation of bus stops closer to Purple Line stations to facilitate transfers or adjustment of schedules to coordinate services with the Purple Line. The funding of the Purple Line will not take money from the local bus service providers.

D.2 Highways and Roadways

Summary of Comments: Commenters stated concern about existing and future roadway congestion and whether the Purple Line will address or exacerbate congestion.

- Commenters noted the existing and anticipated future roadway congestion in the corridor. Commenters believed the project would alleviate congestion; while others worry that it would not reduce congestion. Commenters stated concern about traffic impacts if a train should break down or an accident were to occur in the segments where the Purple Line operates in mixed traffic.
- Commenters noted that the reduction in vehicle trips is so small that it does not justify the project.
- A commenter stated concern about the congestion that would result from the additional development at the station areas.
- A commenter stated concern that the Purple Line would generate 100,000 new jobs and that if these jobs were in Bethesda, 30,000 would use the Purple Line, resulting in 70,000 more people driving to Bethesda, which could result in additional congestion.
- A commenter stated that the Level of Service measure does not provide sufficient information to understand traffic impacts, and that a number quantifying the amount of delay should be used.

Roadway Congestion

Response: One of the stated purposes of the project is to provide faster, more direct, and more reliable east-west transit service in the corridor, see *FEIS Chapter 1.1-Purpose of the Project*. The Purple Line will achieve this purpose by providing a new transit service that runs on dedicated or exclusive lanes through much of the corridor, which will allow the transit vehicles to avoid back-ups and delays at many of the congested intersections in the corridor. The purpose of the Purple Line is to provide an alternative to the congested roadways, not to reduce congestion. It is projected that 74,160 riders would use the Purple Line each day. For these riders, the Purple Line will provide much faster and more reliable transit service than they have now and certainly more than the No Build Alternative.

The project includes some improvements to area roadways. These roadway improvements include realigning intersections and adding or lengthening turn lanes resulting 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 realignment 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. Also, 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 segments where the Purple Line operates in mixed traffic all include an adjacent traffic lane which vehicular traffic could use, in the event that the lane the Purple Line uses is obstructed. If a train breaks down it would be moved to the nearest maintenance facility by towing it with a functional train.

Change in Vehicle Trips

Response: There is a high travel demand in this area, and congestion is so severe that transit will not effectively reduce congestion on major roadways, but the Purple Line 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 entire Washington metropolitan region, roadway congestion will improve within the Purple Line project corridor, as compared to the No Build (see *FEIS Chapter 3-Transportation Effects)*.

Congestion from Station Area Development

Response: The Purple Line is consistent with zoning regulations, which encourage the development of land uses that are compatible with transportation uses and facilities along the Purple Line corridor. It is not expected to substantially change the current land uses within the study areas. MTA has coordinated extensively with the Montgomery and Prince George's Counties' planning departments to ensure that the Purple Line would be compatible with planned development.

The purpose of the Purple Line is to provide faster, more direct, and more reliable east-west transit service in the Purple Line corridor. As stated in *FEIS Chapter 4.2.3*, the Purple Line is designed to support statewide principles of Maryland's Smart Growth Program by facilitating mixed-use redevelopment of currently built-up areas, taking advantage of existing infrastructure, providing transportation options, and strengthening existing communities. MTA will continue to meet with County planning departments and developers to facilitate effective incorporation of the Purple Line into corridor communities and to avoid, minimize, or mitigate traffic issues related to the Purple Line, as necessary.

Future Congestion in Bethesda from Job Growth

Response: The projected employment growth in the entire corridor by 2040 is estimated to be about 50,000, and this job growth will be due to many factors. The Purple Line is needed to address the already anticipated growth in the region (see *FEIS Chapter 1-Purpose and Need*). The Purple Line is not anticipated to cause 70,000 new

drivers on Bethesda roads daily. Detailed estimates of traffic impacts are provided in *FEIS Chapter 3-Transportation Effects*.

Level of Service

Response: Level of Service (LOS) is a standard qualitative measure of how well a roadway functions. It reflects operational conditions based on many variables including speed, traffic volume, and roadway configuration (*FEIS Chapter 3.2.2*). The letter grades range from A—free flow conditions, to F—a breakdown of vehicular flow. In urbanized areas LOS A-D is typically considered acceptable. The delay thresholds for LOS at signalized vs. unsignalized intersections are different. The table below presents the average delay for the different levels of service.

Level of Service Criteria

Level of Service (LOS)	Average Delay at Signalized Intersections (seconds/vehicle)	Average Delay at Unsignalized Intersections (seconds/vehicle)
A	≤ 10	≤ 10
B	10.1 to 20	10.1 to 15
C	20.1 to 35.0	15.1 to 25
D	35.1 to 55.0	25.1 to 35
E	55.1 to 80.0	35.1 to 50
F	> 80.0	> 50

Source: *Highway Capacity Manual, HCM2000*, Transportation Research Board, 2000

Specific Roadways or Intersections

Summary of Comments: Commenters were concerned about the impact of the Purple Line to local traffic at specific intersections, roadway crossings, or roadways:

- A commenter expressed concerns about traffic impacts in Long Branch, particularly the elimination of left turns from Flower Avenue on to Arliss street, and from Piney Branch Road north on to University Boulevard.
- Commenters stated concern about the additional traffic congestion that would be caused by the proposed Chevy Chase Lake development. A commenter questioned the impacts to Chevy Chase Lake Drive.
- Commenters expressed concern about traffic impacts from mixed-traffic lanes on Wayne Avenue and Piney Branch, and the potential for diversionary traffic from Wayne Avenue onto side streets. A commenter asked how pedestrians would cross Wayne Avenue at Springvale Road.
- Commenters expressed concern about traffic impacts to the North Woodside community if the Talbot Avenue Bridge is rebuilt as a two-lane facility.

Responses: The following transportation improvements are included in the Purple Line FEIS, except the refinement of the Talbot Avenue Bridge which is described in *ROD Attachment F: Design Refinements since the August 2013 FEIS*.

Long Branch: Left turns from Flower Avenue onto Arliss Street will be maintained. In addition, a left turn lane will continue to be provided from Piney Branch Road to University Boulevard towards the Beltway.

Chevy Chase Lake: Traffic projections include currently approved zoning and development for the Chevy Chase Lake area. As part of the Montgomery County process, as development is proposed and approved, it will have to undergo traffic analysis and include improvements to address traffic needs. The Purple Line will help serve the travel needs associated with this development, lessening the reliance on automobile travel. In addition, the

Purple Line crosses over Connecticut Avenue and will not affect local traffic operations or congestion, see *FEIS Chapter 7.2.2*.

The construction and operation of the Purple Line will have no impact on Chevy Chase Lake Drive.

Wayne Avenue Traffic Analysis: While the Purple Line will operate in mixed-traffic lanes along Wayne Avenue, it is not in mixed traffic along Arliss Street or Piney Branch Road, but rather in dedicated lanes either along the side of the road on Arliss Street or in the median on Piney Branch Road.

The MTA, in close coordination with MD State Highway Administration and Prince George's County, has conducted separate traffic studies for Wayne Avenue, Arliss Street, and Piney Branch Road to examine traffic and light rail impacts. Specific measures to improve traffic operations and safety along Wayne Avenue include separate left turn lanes at Cedar Street and Dale Drive, and an additional westbound through lane at Sligo Creek Parkway. Further, MTA will signalize the intersection of Manchester Road and the entrance to the tunnel, providing additional signalized pedestrian crossings of Wayne Avenue.

Earlier traffic studies conducted along Wayne Avenue as part of the Alternatives Analysis/Draft Environmental Impact Statement (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 controls, and included in the FEIS. 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 resulting rail and roadway alignment provides travel lanes to accommodate light rail vehicles in mixed-traffic 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 controls 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 traffic growth rate on Wayne Avenue, the Design Year traffic estimates for the Purple Line FEIS assumed a 1% annual growth (see *FEIS Traffic Analysis Technical Report*. 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 Purple Line showed acceptable levels of service and delay.[8]

It is not anticipated that the introduction of the Purple Line vehicles on Wayne Avenue will result in a diversion of traffic through neighborhood streets. If necessary, however, traffic calming measures would be considered by the County after light rail operations begin.

The crosswalk at Springvale Road will be maintained and pedestrians will cross as they do today.

Talbot Avenue Bridge: The proposed design of the Talbot Avenue Bridge has been refined since the FEIS in response to comments from CSX relating to the Capital Crescent Trail, and further coordination with Montgomery County and Rosemary Hills Elementary School (see *ROD Attachment F: Design Refinements since the August 2013 FEIS*). The bridge has been realigned slightly to minimize impacts to the school and to

[8] Because of the use of slightly higher growth rates the analysis is conservative, meaning the actual design year traffic volumes are likely to be lower and traffic conditions are likely to be better than what the analysis has found (Chapter 3.1, page 12*, FEIS Traffic Analysis Technical Report, 2013*).

improve safety by improving the sight lines. The bridge is being planned to carry the trail as well as Talbot Avenue. The trail will be on the northwest side of the bridge. This will eliminate the need for a second, separate structure for the trail over the CSX tracks, and its associated impacts.

The inside width of the bridge will be approximately 41 feet. This includes two 11-foot lanes with 3-foot shoulders and a 12-foot 8-inch sidewalk and trail. This will allow safe pedestrian and bicycle access over the bridge. And while the bridge is wider than the existing structure, the added width is over the CSX tracks where there is little additional encroachment into the community.

The current bridge is one lane wide but used for travel in both directions. Vehicles take turns crossing the bridge. The use of Federal funding for a portion of this project requires that the bridge be built to current Federal Highway Administration standards, which require two lanes. MTA has worked with Montgomery County to design the roadway with two 11-foot lanes. These narrow traffic lanes will keep traffic speeds low. Montgomery County will own the new bridge and will be responsible for its use and management. MTA anticipates that the current low speeds and truck restrictions would remain.

MTA understands that the community is concerned with potential traffic effects of a two-lane bridge. The traffic calming measures on Hanover Street and Grace Church Road will remain, including the 15 mph posted speed, on-street parking, and speed bumps. If necessary, however, additional traffic calming measures would be considered by the County after the opening of the new bridge.

D.3 Bicycle and Pedestrian Facilities

Summary of Comments: There were many comments about the Capital Crescent Trail. These are addressed in *Section C.3—Capital Crescent Trail* of this document. A commenter requested that MTA continue working with the State Highway Administration to develop transit areas that are safe and attractive for pedestrians and bicyclists.

Response: MTA will continue to work with the State Highway Administration and the local jurisdictions to enhance pedestrian and bicycle facilities. Examples of this coordination include the addition of bike lanes, bike facilities at stations, wider sidewalks, crosswalks, and landscaped buffers.

Bicycle Facilities

Commenters stated the need to improve bicycle facilities in both counties. They stated a need for bike lanes and bike racks, as well as the need to connect bike pathways to create a continuous network for bicyclists.

A commenter stated that the path on Sligo Creek at Wayne Avenue is narrower than current design requirements would call for, and that Purple Line construction should expand the bike lanes where they intersect at Wayne and explore safer mechanisms for junctions of bike lanes and Purple Line and streets.

Response: The Purple Line will provide many improved bicycle facilities. A total length of 16.5 miles of bicycle facilities is being proposed throughout the Purple Line corridor. Bicycle facilities consist of bike trails, shared use paths, and bike lanes, as summarized below:

- Reconstruction of 2.8 miles of the Capital Crescent Trail between Bethesda and Lyttonsville
- Construction of 3.8 miles of new shared use trails, and trail connections, including the extension of the Capital Crescent Trail from Lyttonsville to Silver Spring, the construction of the Green Trail along Wayne Avenue, and a new shared use path across the University of Maryland Campus
- Construction of 9.9 bike “lane miles” along Piney Branch Road, University Boulevard, Kenilworth Avenue, and Veterans Parkway.

Purple Line stations will include bike parking at most stations. MTA will continue working with both counties, the MTA Bicycle Coordinator, and Purple Line design team, to identify opportunities to provide additional bike parking. MTA and Montgomery County will consider the effects of widening the Wayne Avenue bridge over Sligo

Creek to accommodate a wider Green Trail; however, the project is not studying any widening of the Sligo Creek Trail.

Pedestrian Facilities

The following comments addressed issues related to pedestrian facilities:

- Commenters stated the need for signalized pedestrian crosswalks or stop signs for safety and stated that all sidewalks must be ADA compliant.
- A commenter stated that the crosswalks at Wayne Avenue and Cedar Street, and Wayne Avenue and Dale Drive are not shown on the plans.
- Commenters opposed the addition of turning lanes because of safety for pedestrians.
- A commenter stated concern about the number and location of poles in the sidewalk on Bonifant Street.
- A commenter requested a traffic light at the intersection of East West Highway and Edgevale Street to allow pedestrians to safely cross East West Highway.

Response: MTA has designed the Purple Line stations to support safe and convenient pedestrian access, soliciting input from the public on station access at Neighborhood Work Groups throughout the corridor. The completed Capital Crescent Trail will provide bicycle and pedestrian access to the Purple Line and to the communities and destinations between Bethesda and Silver Spring.

The Purple Line will include the addition of new signalized pedestrian crosswalks in many locations. The crosswalks at the intersections of Wayne with Cedar and Dale Drive are shown on the conceptual engineering plans, sheets 116 and 118 in Volume 2 of the FEIS. ADA-compliant facilities are required by State, County, and Federal guidelines and are incorporated into the design. Likewise, appropriate safety measures at all crossings will be incorporated into the final design as required by the *Federal Manual on Uniform Traffic Control Devices*.

See *Section F.6—Bonifant Street* of this document, for responses to comments on Bonifant Street.

The request for a traffic light at East West Highway and Edgevale Street has been forwarded to Montgomery County Department of Transportation.

D.4 Parking

Summary of Comments: Commenter stated concern about the lack of parking provided at Purple Line stations. A commenter stated that there should be fewer parking lots.

Response: As discussed in *FEIS Chapter 3.1.3*, the Purple Line is designed to attract users who will walk or bike to the stations or transfer from other transit including Metrorail and bus. This includes the local County-owned bus services, RideOn in Montgomery County and The Bus in Prince George's County. No new parking facilities will be constructed as part of the Purple Line. The busiest stations (at the Metrorail transfer points in Bethesda, Silver Spring, College Park, and New Carrollton) all have existing parking facilities. To address increased density, additional parking is proposed as part of future development in several of the recent Sector Plans along the corridor.

Summary of Comments: Commenters stated concern that Purple Line users or trail users will park in local neighborhoods. Commenters stated concern about the impact of parking loss on businesses in the corridor.

Response: The counties are responsible for implementing parking restrictions on county roads. Decisions regarding specific restrictions and whether they are needed will be made as the Purple Line construction nears completion. Both Montgomery and Prince George's Counties have a process whereby local residents, on a block-by-block basis, can request implementation of a parking permit program if non-residents are parking in the neighborhood.

MTA will work with the counties to identify opportunities for business parking. This may include improved signage to existing parking facilities, or creation of additional parking.

D.5 Safety and Security

Summary of Comments: Commenters expressed concern about the safety of light rail operations, particularly in areas of high pedestrian activity. A commenter cited railroad fatality statistics for Montgomery County from the Federal Railroad Administration. Areas of concern included:

- Children who attend schools near the Georgetown Branch Interim Trail
- Station access at the Manchester station was not fully described
- How cars will be kept out of the Plymouth tunnel
- How children and animals will be kept out to the Plymouth tunnel
- Light rail through the University of Maryland campus
- Mixed-traffic lanes on Wayne Avenue

A commenter suggested that MTA should calculate the improvement in mortality from drivers switching to transit use; and that this benefit should be noted in the FEIS.

Response: The Purple Line is being designed to be a safe and efficient system. Refer to *FEIS Chapter 3.7.3* for general safety and security considerations relating to the design, construction, and operations of the Purple Line. Unlike Metrorail or commuter rail, light rail is particularly suited to operating within pedestrian environments. The fatalities and injuries cited by the commenter were for freight and commuter rail. Freight and commuter rail are not comparable to light rail. 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. For safety of individuals, all retaining walls over 1.5 feet will include a fence on the top for safety. 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 many roadways. Stations have been designed with safety in mind and have typically been located in areas with high levels of activity and nearby development. Station access will be well marked, safe, and convenient, and stations will be monitored by closed circuit television (see *FEIS Chapter 3.7-Safety and Security*).

Safety of school children is of paramount concern for MTA. MTA will develop a safety and education plan for children and adults in English and Spanish. The program will address construction as well as operational safety. MTA will work with local schools distribution and implementation of this plan. For children who will use the Capital Crescent Trail to walk or bike to school, MTA has worked with the county to design a facility that will be safe for all to use. See *Section C.5* of this document for a description of the safety improvements that will be provided with the completed Capital Crescent Trail. For more information on school safety, see *FEIS, Appendix A, AA/DEIS Comments and Responses, L.5*.

Station Access at Manchester Place: The Manchester Place station can be accessed from both Wayne Avenue and from Plymouth Street via plazas in each location. The Wayne Avenue access is at street level, from the Wayne Avenue sidewalk to the platform. The signalized crosswalk immediately east of the tunnel entrance will provide access to and from the station for the neighborhoods along the north side of the street. The access from Plymouth Street will be via stairs and elevators from Plymouth Street down to the platform level. In order to help the community understand what these two access points would look like, MTA prepared renderings that were shown at the public Open Houses during the comment period and were posted on the project website. Station access will be well-marked and lit, including elevators and stairs.

Plymouth Tunnel: The Purple Line design includes several elements to reinforce the tunnel entrance for transit vehicles only, and preclude the possibility of a car following the train from Wayne Avenue into the tunnel. The first is that the transit vehicles move into their own lane prior to the tunnel, separating the light rail vehicles and general traffic. The second design element is the visual extension of the curb along the side of the roadway. It

will be depressed where the train passes over it, but it will appear as a continuous curb line for passing motorists.

Stations are monitored, including closed circuit television and the end of the platforms are closed off to prevent someone from continuing into the tunnel.

The proposed tunnel will include cameras with motion detectors. If a person, animal, or other object enters the tunnel, the operations center will be immediately alerted.

UMD Campus: MTA continues to work with UMD on the design of the Purple Line through campus. In the areas with the greatest pedestrian activity, near Stamp Student Union and Cole Student Activities Building, the Purple Line will be operating in the existing roadway where pedestrians are typically accustomed to seeing cars and buses. Landscaping will be low to provide good visibility, and crosswalks will be clearly marked and located where pedestrians want to cross.

Wayne Avenue: The light rail alignment has been designed to accommodate light rail speeds comparable to general traffic. The light rail vehicles will not be permitted to exceed the posted speed limit in any mixed-traffic or dedicated alignment, either in the road, in the median or along the side of the road. Braking studies for the Purple Line have concluded that braking distances for light rail vehicles are similar or faster than those of buses.

Reduced Mortality from Transit Use: MTA is aware of studies showing reduced mortality from transit use per miles traveled; however, reduced mortality rates, while beneficial, are not Purple Line project goals.

E Environmental Resources

E.1 Impacts to Natural Environment

Summary of Comments: Many commenters stated concern about the natural environment. Some opposed the project because of general concern about impacts to the natural environment. A commenter stated that specific locations of the impacted resources are not shown and that the FEIS was a limited analysis with many elements being mere guesses at this stage. Commenters stated that the Purple Line should be designed in a community- and environmentally-friendly manner and negative impacts should be mitigated to the greatest extent possible. A commenter stated that all jurisdictional agencies must also be consulted.

- The City of Takoma Park requested that green track be used in commercial areas such as Takoma/Langley Crossroads and Long Branch.
- Commenters stated concern that the Environmental Compliance Plan has not yet been developed and therefore is not available in the FEIS for review.

Response: The alternatives presented in the FEIS were developed to a level necessary to assess the potential impacts of the project to the natural and built environment for the Preferred Alternative as compared to the No Build Alternative. The Environmental Resource Mapping contained in Volume II of the FEIS shows environmental resources in the corridor and the proposed Limits of Disturbance, or LOD (thick light blue line). The LOD includes right-of-way that will be acquired for the project as well as permanent and temporary easements and reflects the areas where resources may be impacted by the project. All construction activities will be within these limits. Despite efforts to avoid and minimize impacts, the transportation, economic, and community benefits of the Purple Line would come with some unavoidable adverse effects. MTA has strived to avoid or minimize potentially adverse effects by working closely with resource agencies, stakeholders, and local communities, and making refinements to the design of the Purple Line. *FEIS Chapter 4-Environmental Resources, Impacts and Mitigation*, discusses a wide range of environmental resources. The Purple Line 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

including Maryland Department of Natural Resources, Maryland Department of the Environment, and Montgomery County and Prince George's County Departments of Planning and Transportation, have been and will continue to be consulted throughout the development of the project. *FEIS Chapter 4* discusses the environmental effects that could be expected to occur with the construction and operation of the Purple Line.

The FEIS summarizes these impacts, while providing further detail within the associated technical reports. The FEIS includes numerous measures to avoid, minimize, and mitigate impacts to the natural environment (see *ROD Attachment A-Commitment and Mitigation Measures*). Following are some examples that are described further in *FEIS Chapters 4.13-Habitat and Wildlife* and *4.14-Water Resources*:

- 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 using green track (in appropriate locations), which would allow for some water absorption.
- 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. In a second example, impacts to a stream will be avoided due to the modification of the alignment along Ellin Road.
- MTA will use green track along the Georgetown Branch right-of-way, and in locations in Prince George's County, which would allow for some water absorption, thereby reducing the movement of contaminants to surface water bodies, reducing impervious cover, and reducing stormwater runoff. The applicability is based on a number of factors including stormwater management, physical location, and the level and/or presence of pedestrian or auto traffic; all of which affect the viability of the plant matter. Locations in the medians of roadways have been determined to be inappropriate for green tracks because of anticipated damage to the plantings from high temperatures, exposure to large quantities of road salt, and pedestrian traffic.
- Where unavoidable forest impacts occur, MTA will offset those impacts within the same watershed by reforestation and afforestation, which is planting trees in cleared areas, and afforestation, which is planting trees in areas not previously forested.

The Environmental Compliance Plan will be developed in the final design phase, prior to the initiation of construction, and will incorporate the commitments made in the FEIS, ROD, Section 4(f) Evaluation, and other documents such as environmental permits. This document will ensure that contractors employ means and methods to avoid or minimize impacts to the environment and general public in compliance with construction contract documents (*FEIS Chapter 5.4*).

FTA has determined, pursuant to Title 23 of the Code of Federal Regulations (CFR), Part 771, and Title 40 CFR Parts 1500-1508, that the requirements of the National Environmental Policy Act of 1969 (NEPA) have been satisfied for the Purple Line project. .

E.2 Land Use, Public Policy, Zoning, and Neighborhoods and Demographics

Land Use

Summary of Comments: Commenters stated concern about changes to land use that would result from the Purple Line. Others stated concern that the descriptions of the existing land uses were not accurate.

- A commenter stated that the FEIS did not acknowledge the residential character of much of the Purple Line corridor. The commenter stated concern that transit-oriented development (TOD) was not appropriate for the residential areas that abut the Purple Line, particularly along the Georgetown Branch.
- A commenter noted that potential impacts to residential areas in College Park and New Carrollton were not addressed.
- A commenter stated that *FEIS Chapter 4.2.2-Existing Land Use* should have discussed the Georgetown Branch Interim Trail.

- Commenters stated concern that proposed zoning and ensuing development associated with the Purple Line were not evaluated.
- A commenter noted that *FEIS Chapter 7.2.6* was incorrect in citing the *East Silver Spring Master Plan* regarding the Dale Drive station.

Response:

- *FEIS Chapter 4.2.2* states that land uses in both counties are largely residential. FEIS Figure 4-1 illustrates the existing and planned land uses in the corridor. Properties that are not adjacent to stations would not be candidates for TOD.
- Impacts to residential areas in College Park and New Carrollton would be limited because of the distance of the Purple Line to neighborhoods in these areas, and the orientation and access of existing roadways.
- The Georgetown Branch Interim Trail is discussed in *FEIS Chapters 2.3.2, 3.3, 4.9,* and *6.3. FEIS Chapter 4.2.2-Existing Land Use* is a larger discussion of land use, rather than a listing of individual facilities.
- The FEIS evaluated impacts to planned development in *FEIS Chapter 4.2*, and cumulative and reasonably foreseeable effects, including development, are discussed in *FEIS, Chapter 7-Indirect and Cumulative Effects*.
- The commenter is correct that the Dale Drive station area is in the *North and West Silver Spring Master Plan (2000),* see *ROD Attachment G: FEIS Errata Sheet*.

Unwanted Development

Summary of Comments: Commenters expressed concern that the Purple Line would generate additional development in the project corridor. Other commenters stated support for the potential new development. Commenters opposed increased density in their neighborhoods; two examples were the proposed Chevy Chase Lake development and denser redevelopment in the Long Branch area. A commenter noted that proposed zoning and ensuing development are not evaluated. Commenters asked how the *Montgomery County Purple Line Functional Plan* addresses specific issues along the route.

Response: 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. 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.

For most communities, the Purple Line provides an opportunity to support planned 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. Montgomery and Prince George's Counties provide opportunities for public involvement in their land use planning and in the responsible management of land use. A full discussion is provided in *FEIS Chapter 4.2-Land Use Public Policy and Zoning* and *FEIS Chapter 7-Indirect and Cumulative Effects*. Chapter 7.2.2 discusses Chevy Chase Lake and acknowledges that over 1 million square feet of new mixed used development would be permitted with the funding of the Purple Line. Chapter 7.2.8 discusses Long Branch. This area is the subject of a new sector plan, currently in draft. If the Purple Line is built the sector plan envisions additional development including residential and commercial uses, and public space.

The proposed zoning changes in Bethesda are County-initiated, and, if approved, the resulting changes to the Purple Line will be assessed through local planning processes.

The *Purple Line Functional Master Plan* is not intended to address specific issues along the route. The goal of this *Purple Line Functional Plan* is to identify the specific alignment and station locations within the County so that existing and future master, sector, station area, and other plans will have the benefit of adopted policy guidance as to the location, mode, function, and general operational characteristics of the Purple Line. For further information, see the Montgomery County Planning website, http://www.montgomeryplanning.org/transportation/projects/purple_line.shtm.

Planned Development

Summary of Comments: A commenter stated that the proposed University of Maryland (UMD) East Campus Redevelopment Initiative and College Park Metrorail Station development were overstated, as both projects are no longer moving forward as described. The WMATA project now proposes less development at the College Park Metrorail station.

Response: MTA has been working with the UMD and understands that the nature and size of the East Campus development has changed. In November 2013, UMD announced that it would sell a 3-acre portion of East Campus to the University of Maryland College Park Foundation. The Foundation will work with a private company to build a 300-room hotel on the site, as the first step of a project-by-project development strategy.

MTA is also participating with M-NCPPC on their transit district development effort which is developing a vision for the future development of the River Road and M Square area, and MTA looks forward to continuing to work with them and the City of College Park on future development plans around the Purple Line stations. WMATA is currently re-bidding the residential component of the College Park Metrorail redevelopment. MTA has worked closely with WMATA to align the Purple Line so that it will be well integrated into any future development.

As stated in *FEIS Chapter 7-Indirect and Cumulative Effects*, FTA and MTA recognized 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 a variety of factors including market conditions, developer preferences, environmental permitting issues, and infrastructure availability.

Demographics, Community Facilities, and Community Definitions

Summary of Comments: Commenters stated that the demographics given for Langley Park and The Town of College Park neighborhoods were incorrect. A commenter stated that the FEIS incorrectly described several community facilities as in Adelphi, when they are in fact in Langley Park, and questioned why several other community facilities were not included in the FEIS. Commenters questioned why the Hamlet Place Co-op townhouse community was not listed as a neighborhood nor specifically identified as a study area.

Response: Concerns that demographics were incorrect were based on a misunderstanding by commenters on the definition of “Neighborhoods” used in the AA/DEIS and the FEIS. In order to describe the Purple Line corridor, MTA defined 16 “neighborhoods” covering the entire corridor. These neighborhoods were given local names. FEIS Figure 4-2 shows the areas covered by the neighborhoods. Because these “neighborhoods” do not necessarily have the same boundaries as defined by several of communities sharing the same name, the demographics are different from those cited by the commenters.

The Chillum-Adelphi Fire Company and Greater Grace Church are both listed as in Langley Park; see FEIS Table 4-5. The community facilities listed by the commenter are outside the study area, defined as 500 feet on either side of the Purple Line.

The Hamlet Place Co-op was included in the Chevy Chase neighborhood as described in *FEIS Chapter 4.3.2* and shown in FEIS Figure 4.2. The 500-foot study area described in *FEIS Chapter 4.1* includes the Hamlet Place Co-op.

Negative Impacts to Neighborhoods: Commenters stated that the overall negative impact of the project was greater than the benefits it would provide.

Response: The Purple Line has been designed to serve the communities in the corridor and to fit into a developed environment with minimal impacts. The Purple Line will provide a convenient and reliable transit service in a corridor where this is lacking. Connections with four branches of the Metrorail system, all three MARC commuter rail lines, and Amtrak at New Carrollton will provide access to the greater Washington metropolitan area facilitating access to employment, education, residential areas, and entertainment. In much of the corridor, the Purple Line will operate in or adjacent to existing roadways to minimize the impacts to both the built and the natural environment. In several areas, such as on Ellin Road and Wayne Avenue, the Purple Line will operate in mixed-traffic lanes, further minimizing the impacts to local communities. FTA and MTA have evaluated and considered the potential adverse effects to neighborhoods and communities throughout the corridor, and MTA has met extensively with communities to identify ways to avoid and minimize impacts to the extent reasonably feasible. There are unavoidable and adverse impacts to neighborhoods in the project corridor; however, FTA and MTA have weighed the benefits versus the effect and determined that the benefits of the Purple Line outweigh the impacts (see *FEIS Chapter 4- Environmental Resources, Impacts, and Mitigation*, and *FEIS Chapter 9- Comparative Evaluation of Alternatives*).

Crime: Commenters stated concerns that the Purple Line would bring crime to communities along the alignment.

Response: FTA and MTA are aware of public perceptions about increased crime in communities served by transit, but are not aware of evidence demonstrating that transit access actually leads to increased crime. Notably, a 2002 study regarding a new light rail line in Los Angeles found that the project had no effect on crime rates.[9] The study assessed the effects of the Green Line light rail line on crime in the adjacent neighborhoods in Los Angeles. The Green Line passes through several high-crime inner city neighborhoods and terminates at its western end in affluent suburban communities. The study examined neighborhood level and municipality-wide crime trends for five years before and five years after the inception of the line. At the end, the study established that the transit line had not had significant impacts on crime trends or crime dislocation in the station neighborhoods, and had not transported crime from the inner city to the suburbs.

As described in FEIS Chapter 3, p 3-20 MTA's Security Program has been developed by MTA Police. The program emphasizes that the security of customers, employees, and property is the responsibility of every employee and department within MTA. The MTA Police Force consists of personnel who possess police officer authority extending throughout the state of Maryland.

E.3 Property Acquisitions and Displacements

Summary of Comments: Commenters expressed concern about right-of-way impacts on private property, and residential and business displacements.

Response: The FEIS discloses the anticipated property acquisitions and displacements caused by the Purple Line as well as the steps MTA has taken to eliminate or reduce the need for acquisition and displacements. See *FEIS, Section 4.11, Property Acquisition and Displacements.* As noted in the FEIS, the Constitution and federal and state laws require payment of just compensation or fair market value should private property be acquired and that owners and tenants be treated in a fair and equitable manner. These laws include the federal Uniform Relocation and Real Property Acquisitions Policies Act of 1970 and 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. A description of the process is provided in the Purple Line brochure "Your Rights as a Property Owner" available on the Purple Line website, www.purplelinemd.com.

[9] LIgget, R., Loukaitou-Sideus, A, and Iseki, H. *Journeys to Crime: Assessing the effect of a light rail line on crime in the neighborhoods*. Transportation Research Board. 2003

Displacements

Commenters who own businesses in the corridor stated concern about the impact to their businesses from relocation, including loss of customer base, the challenge of finding new locations, and the disruption of service. A commenter stated concern that the compensation provided by the State would not be adequate. A commenter stated concern about the potential need to relocate if the Apex building is redeveloped.

Response: MTA has worked diligently to develop the Purple Line to minimize impacts to private property; however, some displacements will be necessary, as shown in FEIS Table 4-8. MTA has coordinated, and will continue to coordinate with affected property owners and tenants to develop means to avoid or minimize property acquisitions and displacements. Since the publication of the FEIS, more detailed design has allowed MTA to reduce the estimated number of properties affected by the project from over 700 as described in the FEIS (both property acquisition and temporary easements) to approximately 615 properties. As discussed in *FEIS Chapter 4.4*, MTA will provide relocation assistance and compensation for displaced residents and businesses, as required by the Uniform Act, FTA Circular 5010.1D, Grants Management Requirements, and the Real Property and Transportation Articles of the Annotated Code of Maryland. See *FEIS Appendix A*, *AA/DEIS Comments and Responses, K. 5.*

The Montgomery County Council approved the Bethesda Minor Master Plan on February 11, 2014. The Minor Master Plan includes new zoning and a Capital Crescent Trail tunnel. A decision has not been made by the owners of the Apex building on whether they will redevelop the property prior to construction of the Purple Line.

Location of Property Acquisition

A commenter stated that the FEIS does not list the 315 properties where the Purple Line would like to obtain easements, or the size or duration of the easements. Commenters stated concern that it is difficult for property owners to determine the impact on their properties in the absence of disclosure of an easement list.

Response: The Environmental Resource Mapping contained in Volume II of the FEIS shows the existing right-of-way lines which include property boundaries (white line) as well as the proposed Limits of Disturbance, or LOD (thick light blue line). The proposed LOD is inclusive of both fee simple rights-of-way currently planned to be acquired for the project as well as easements. Property owners may look at these maps to determine the potential impacts on their property based on the level of design at the time the FEIS was prepared. During the property acquisition process MTA will meet with each property owner and provide property owners with detailed information, plats, and appraisals specific to the property interest being acquired from them. Some easements will be temporary for all or a portion of the construction period but others may be permanent, such as utility easements. It should be noted that the mapping provided in Volume II is based on conceptual engineering, and is subject to refinements.

Cost of Property Acquisition

A commenter asked how much money will be spent for the acquisition process.

Response: Affected owners and tenants will be justly compensated as required by law, including relocation benefits, where eligible. The estimated cost of right-of-way acquisition for the Purple Line is currently $218 million. This includes property acquisitions, both full and partial, and relocation benefits.

Schedule of Property Acquisition

A commenter requested that property acquisition be done as late as possible.

Response: The property acquisition process can be lengthy, particularly if it is a full acquisition that includes relocation. The scheduling of property acquisition will depend, in part, on the construction schedule for the project; however, MTA appreciates that property owners or tenants may wish to remain on the properties as long as possible, and MTA will endeavor to accommodate property owners and tenants, where reasonably feasible.

E.4 Economic Activity

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 to serve the people who live, work, shop, visit, and travel through the corridor. The Purple Line will provide substantial benefit to the commuting public with a new more reliable and efficient transit choice. Transportation investments tend to have benefits to nearby property owners, but this is merely a reflection of the value of the projects and the benefits they will provide.

The land use plans, master plans, and sector plans discussed in *FEIS Chapter 4.2-Land Use, Public Policy, and Zoning*, 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, Chevy Chase Lake, Long Branch, Piney Branch, Takoma/Langley, East Campus, College Park, M Square, Riverdale Park, Annapolis Road, and New Carrollton, zoning supports opportunities for redevelopment and for transit-oriented development, emphasizing a pedestrian-friendly, mixed-use environment with a multi-modal transit network. These plans have been developed and prepared by the respective counties and their elected officials and with significant public input. *FEIS Chapter 7—Indirect and Cumulative Effects* discusses proposed development and land use planning in each station area.

Where it occurs, increased development and high-density infill surrounding key activity centers and the transportation corridors served by the Purple Line 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.

Property Values

Summary of Comments: Commenters stated concern that the Purple Line would lower their property values. Other commenters stated concern that the Purple Line would increase property values, resulting in raised rents for businesses and residents.

Response: Home and property values are influenced by a number of factors including the housing market in general, the local market specifically, and the particular needs of the seller and the buyer. The degree to which the Purple Line would affect short or long-term property values would be subjective and difficult to quantify. Improved access and mobility (such as would be provided by the Purple Line) can have an indirect positive effect on property values. The Purple Line has the potential to have a net positive effect on the tax base by increasing property values in the corridor (see *FEIS Chapter 7-Indirect and Cumulative Effects*). While the overall effect on a municipal scale is expected to be positive, on an individual scale there will be adverse impacts to some property values as well as small businesses with lost earnings and lost wages (*FEIS Chapter 4.5.3—Economic Affects*, p. 4-46) For a discussion of the potential loss of affordable housing and potential impacts to businesses see *Section E.14-Environmental Justice* of this document.

Economic Impacts

Summary of Comments: Commenters questioned the benefit of the proposed project to the economy.

Response: The Purple Line will provide regional and local economic benefits of improved east-west travel, access to and between activity centers, connections to other transit services, and better access to jobs.

Long-term effects on business conditions resulting from the Purple Line are anticipated to be positive, based on analysis shown in the *FEIS Economic Effects Technical Report*. Annual operations and maintenance expenditures resulting from the implementation of the Purple Line are expected to be $38.3 million more than expenditures under the No Build Alternative. As stated in *FEIS, Chapter 4.5.3*, increased transportation capacity and new and improved connections created by the Purple Line would create long-term competitive advantages for businesses in the study area by improving connections between businesses and their employees and customers.

As stated in the *FEIS Chapter 4.5.3*, from the labor force perspective, the Purple Line would improve connections for corridor residents to jobs and educational opportunities. The long-term positive effects to the economy within the study area from development would be the creation of more area jobs, increased area housing, improved mobility and accessibility for commuters, increased access to potentially higher-paying employment opportunities for local residents, and increased customer markets for local businesses.

Potential impacts to small businesses including increased rents and short-term impacts from construction are discussed in *Section E.14-Environmental Justice* of this document.

The displacement of small businesses will have negative impact of lost revenue to business owners and tenants. MTA will work with all displaced businesses in accordance with the Uniform Relocation and Real Property Acquisitions Policies Act of 1970 to ensure that all eligible businesses are provided the full protection of the law.

E.5 Parks, Open Space, and Recreational Resources

Georgetown Branch Interim Trail

Commenters stated that the Georgetown Branch Interim Trail should be evaluated as a park for purposes of Section 4(f) of the Department of Transportation Act. They stated that the impact to the resource as parkland, the loss of trees, and the change of character was not adequately considered in the FEIS.

Response: See Section C.3-Capital Crescent Trail of this document.

Rock Creek Park

A commenter stated concern about potential impacts to Rock Creek Park from the construction and operation of the Purple Line.

Response: Potential impacts to Rock Creek Park have been considered. MTA coordinated with Maryland-National Park and Planning Commission Park (M-NCPPC) and the National Capital Planning Commission, both of whom have responsibility for Rock Creek Park. In addition, the Maryland Department of Natural Resources and the Department of the Environment have reviewed the Purple Line plans to ensure that the Purple Line will be built in full compliance of applicable laws and regulations that protect the natural environment, including water resources. M-NCPPC has concurred with MTA's minimization efforts in the park and with FTA and MTA's temporary occupancy exception determination under Section 4(f).

Elm Street Park

A commenter stated concern that Elm Street Park would be adversely impacted by the noise of horns and bells. Commenters also stated concern about children's safety as children playing in the park would only be separated by a 4-foot wall from the Purple Line.

Response: The County has a separate, planned project for a surface trail through Elm Street Park, and they will be performing environmental studies, as appropriate.

The entire Purple Line will be fenced off from adjacent properties and the Capital Crescent Trail. Trail access will be via formal access points. There are two features of the design along the side of Elm Street Urban Park

adjacent to the proposed Purple Line that will provide further safety for those in the Park. A ventilation structure will be located between the park and the transitway, limiting views of the transitway and acting as a barrier for noise from the passing trains. The trail connection will climb on retained fill under the Air Rights Building to a point where the connection crosses over the transitway. The retained fill will also limit views of the transitway and act as a barrier for noise from passing trains.

The Purple Line will not be sounding a horn as it approaches the station. Horns are only sounded at at-grade roadway crossings and in emergency situations. A complete horn and bell policy is under development by MTA. As noted above, the ventilation structure will function as a noise barrier for noise from the passing trains, as will the retained fill under the trail connection.

The only access between the Capital Crescent Trail and the park will be via the trail connection, which will be fenced to provide safe passage over the transitway.

See *Section H- Section 4(f) Resources* of this document for a discussion of FTA finding under Section 4(f) for this park.

Leland Park

A commenter stated concern about noise and vibration impacts to Leland Park from the traction power substation on Montgomery Avenue.

Response: The specified traction power substation noise level is 60 dBA at a distance of 3 feet from the substation. Sixty dBA is equivalent to conversation in a restaurant or office, background music, or an air conditioning unit at 100 feet. The traction power substation will not be audible from Leland Park. The substation will not generate vibration.

Open space east of Hamlet Place Co-op

Commenters asked why the open space east of Hamlet Place Co-op was not addressed.

Response: This county-owned parcel is not recreational property and is not used as a park; it is simply an undeveloped parcel of land. Montgomery County has requested that MTA provide a large culvert to accommodate a potential trail in the future.

Coordination with NCPC

A commenter stated that the FEIS did not accurately describe the role of the National Capital Planning Commission.

Response: The FEIS describes the statute regarding NCPC coordination, the coordination between NCPC and MTA, and the criteria identified by NCPC (*FEIS Chapter 4.6.1—Park, Recreational Land and Open Space, Regulatory Context and Methodology* and *ROD Section 6.6-Capper-Cramton Act*). MTA acknowledges that coordination with NCPC is ongoing and that as additional design details are developed MTA will submit these refinements to NCPC for approval. FTA and MTA acknowledge that NCPC interprets the Capper-Cramton Act to require NCPC's approval for proposed development on lands acquired with funding under the Capper-Cramton Act. See Section III for NCPC's comments on the FEIS and FTA and MTA's response regarding NCPC's role. In addition, FTA and MTA have made changes at specific locations in the FEIS in responses to NCPC's comments; for a complete list of corrections to the FEIS, refer to Record of Decision, *Attachment G, FEIS Errata Sheet*.

E.6 Historic and Archeological Resources

Rock Creek Trestle

A commenter stated that the trestle bridge over Rock Creek is historic and should have been included as resource under Section 4(f) of the US Department of Transportation Act of 1966.

Response: The Rock Creek Trestle (M: 36-29) was built in 1892 but was altered in 1904, 1928, 1972, and substantially renovated between 2000-2003 following a fire, with the addition of observation bump outs to allow for scenic viewing space that would not impede trail users. Original rails and ties were also removed and replaced with standard wood boards. The trestle was evaluated for National Register of Historic Places (NRHP) eligibility in 2002 and was determined to be not eligible; the Maryland Historical Trust concurred with this determination. In 2012, the Rock Creek Park Montgomery County Survey Area was evaluated for NRHP eligibility, and, at that time the trestle was determined to be a non-contributing element to the park; the Maryland Historical Trust concurred with this determination. Because the trestle was determined to be individually not eligible and also a noncontributing element, it is not a historic resource. Therefore, it is not subject to evaluation under Section 4(f).

Lyttonsville

A commenter stated that Lyttonsville is historic and should receive protection under Section 4(f).

Response: The Area of Potential Effects (APE) for historic resources was established in consultation with Maryland Historical Trust. All resources more than 40 years of age within the APE were evaluated to Maryland Historical Trust standards using the criteria established by the National Register of Historic Places (NRHP), and the Trust concurred with the findings.[10] As a potential historic district Lyttonsville has a low level of integrity with many infill buildings and numerous changes to older buildings and therefore Lyttonsville was not evaluated as a historic resource within the APE. The Purple Line data collection and evaluations was reviewed and concurred with by the Maryland Historical Trust. Therefore, Lyttonsville would not be considered a Section 4(f) resource for the Purple Line.

E.7 Visual and Aesthetic Issues

Summary of Comments: Commenters stated concern about the negative visual impact of the Purple Line, particularly the poles and wires. Commenters stated concern 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 or non-intrusive lighting and simple streamlined stations. Commenters suggested the vehicle technology include wire-free or underground transmission of electricity to avoid visual impacts associated with overhead wires. Commenters asked why Hamlet Place Co-op was not listed as an area in which a high visual effect will occur. Commenters stated concern about the visual impacts of poles, wires, stations, retaining walls, and traction power substations.

Response: *FEIS Chapter 4.9—Visual Resources* is an assessment of the effect of the Purple Line on visual resources. As often noted, the Purple Line will result in a change in visual character; poles, wires, and other structures not present today will generally be visible (see *FEIS, Chapter 5.9.3*). In designing the Purple Line, 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 met and will continue to meet with communities and stakeholders to understand community concerns and visions. *Section C.3—Trail Design and Amenities* of this document discusses the fact that lighting will be designed to reduce spill-over into adjacent areas

Project elements, such as the station shelters, were developed with input from local stakeholders and designed to be understated and fit into the surrounding community. The location, setting, and design of each traction power substation has been analyzed, public input considered, and in areas of moderate or high visual sensitivity, where reasonable and appropriate, MTA will provide landscaping and other screening design features. Traction

[10] 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 at least 40 years old in order to include properties that are reasonably expected to be 50 years of age or older at the time of construction. *See FEIS, Section 4.7.1*, p. 4-61.

power substations are discussed in Section C.4 of this document. MTA has and will continue to coordinate with local communities on treatment of the project elements.

Efforts have been made to reduce the visual effect through the design of the system using center poles where possible to reduce the number of poles, such as along the Georgetown Branch, or side poles where they will blend in with the backdrop of adjacent buildings such as through the University of Maryland campus. MTA will use context-sensitive design principles in the selection of the material and color of poles. There may be limited opportunities in some locations for the joint use of poles of the Purple Line wires and local streetlights or signage.

MTA has and will continue to identify minimization strategies and mitigation for visual impacts. MTA will use the Art-In-Transit program to enhance key elements of the project, as appropriate. Refer to *FEIS Chapter 4.9-Visual Effects* for a discussion of the visual effects of the Purple Line and the proposed mitigation measures.

Many of the retaining walls in the Purple Line plans have been identified as potential locations for enhancement under the Art-In-Transit program. MTA has commissioned architect and sculptor Jo Schneider to lead the Art-In-Transit Program for the Purple Line. The Art-In-Transit Program will incorporate art into the design of the stations and other built elements of the project such as retaining walls and bridges. This will be achieved by turning standard light rail elements, walls, fencing, lighting, etc., into works of art. The mission is to incorporate artwork to make the Purple Line distinct in its design and artistic impact, encourage civic pride, and to be a positive symbol for the neighborhoods, city, and area. Working with the counties, MTA will identify an Artist Selection Committee, which will include community members and arts professionals.

The use of wire-free technologies is discussed in Section C.1-Mode of Transportation or Alternative Technologies

Hamlet Place Co-op

Commenters asked why Hamlet Place Co-op was not listed as an area of high visual impact. These commenters stated that the proposed 4-foot high wall would not be tall enough to mitigate the visual effect and that they would like a 15-foot wall and landscaping.

Response: Hamlet Place is located in Visual Assessment Unit 1 (the entire Georgetown Branch right-of-way from Bethesda to Stewart Avenue), all of which is identified as an area of high visual effect. *See FEIS, Section 4.93*, p. 4-84. The 4-foot wall is proposed by MTA to mitigate noise impacts, not visual effects. Mitigation for visual effects will include landscaping where reasonably feasible and, in some locations, Art-In-Transit.

Sligo Creek Bridge

Commenters requested that the Sligo Creek Bridge be rebuilt with attention to aesthetics.

Response: The Wayne Avenue bridge over Sligo Creek will be reconstructed as part of the Purple Line. MTA has coordinated with Montgomery County on the design of this county-owned bridge. Guardrails, bridge parapets and railings, signs, and other existing structures on Wayne Avenue and Sligo Creek Parkway will be replaced with new structures, where appropriate. Any new structures would match existing elements, including aesthetics on the parapets and the three strand open rail across the bridge. This will result in a bridge that looks very similar to the existing bridge.

E.8 Air Quality, Climate Change, and Energy

Summary of Comments: Commenters stated that the FEIS did not evaluate the impacts to air quality from the emissions generated by the light rail or from increased congestion of general traffic. Commenters stated that the improvement of air quality demonstrated in the FEIS was negligible. Commenters stated that the loss of trees would have a negative impact on air quality and could promote climate change. Commenters asked about the NAAQS impact to Hamlet Place Co-op, given the proximity of the residences to the transitway.

Response: As discussed in *FEIS Chapter 4.10-Air Quality* and the *FEIS Air Quality Technical Report*, the air quality analysis determined that the Purple Line will not cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS) regulated by the Environmental Protection Agency and the Maryland Department of the Environment.

As discussed in *FEIS Chapter 3.2-Roadways* the level of service analysis of the Purple Line shows an improvement at most intersections when compared to the No Build Alternative. The Purple Line 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 Purple Line has the potential to reduce traffic congestion.

As discussed in *FEIS Chapter 4.10* and the *Air Quality Technical Report*, the effect of the project on the air quality was modeled using data from the traffic simulation models, which included the rail line occupying the lanes of traffic, increases in the base traffic, as well as the increase in travel time and delay along the corridor, and any detours that may be caused by the Purple Line.

Tree Loss: The Purple Line will not increase air pollution beyond acceptable National Ambient Air Quality Standards. The NAAQS are stringent federal standard which ensure safety for the public. Matures trees play a significant role in regulating air temperature and removing carbon dioxide from the atmosphere. An inventory of mature trees has been performed, and where reasonably feasible, as many mature trees will be retained as possible. Landscaping will also be installed along the final alignment. As discussed in *FEIS Chapter 4.13*, impacts to forests along the Georgetown Branch trail, as well as the remaining length of the project, will be mitigated in accordance with the Maryland Forest Conservation Act. MTA will follow MDNR direction and develop a Forest Conservation Plan which will identify how MTA will offset those impacts by reforestation, which is planting trees in cleared areas, or afforestation, which is planting trees in areas not previously forested.

Hamlet Place: The Purple Line will not generate emissions locally because it is powered by electricity.

E.9 Noise

Summary of Comments: Commenters stated concern about noise impacts from the Purple Line.

Methodology of Noise Analysis

Commenters asked for information about some of the assumptions used in the analysis, such as number of train passbys, speed and frequency of trains, and whether the noise generated by bells and warning horns, "wheel squeal," and crossovers were included in the analysis. A commenter stated that they did not believe that safety reasons preclude elimination of horns. Commenters stated concern over the noise generated by public address systems at stations. Commenters questioned the metrics used for discussing impacts, specifically mentioning the Lmax metric.

Response: As described in the *FEIS Chapter 4.11-Noise,* MTA performed a noise impact assessment in accordance with FTA impact assessment guidelines and procedures, as detailed in the *Transit Noise and Vibration Impact Assessment* (FTA-VA-90-1003-06 May 2006[11]). Eighty-three representative sites were chosen for noise monitoring, shown on Figure 4-27 of the FEIS, within a 700-foot corridor from the centerline of the alignment (350 feet in each direction). The corridor was expanded to 1,000 feet surrounding proposed yard and maintenance facilities. Monitoring locations were selected on the basis of site equivalence and each site was assigned a land use category in accordance with FTA's noise impact procedures. Existing noise measurements were recorded at each of the representative sites and an analysis was completed to estimate the future noise exposure at that site and all other similarly-located nearby sites within that FTA land use category. The

[11] http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf

measurement results collected and future noise predictions at one site were applied to multiple sites. See Section C.3 of the document for a discussion of noise along the Georgetown Branch Interim Trail.

The FTA noise estimate calculation process considers distance to the transitway, type of track, train length, train speed, service operations (headways), presence of at-grade crossovers (areas where the train and street traffic intersect), and onboard warning devices (or horns) for areas near stations and certain at-grade crossings. Table 5 of the *FEIS Noise Technical Report* notes the assumptions that were used to calculate the project-related sound level at each receptor, based on project design and operations.

Horns on light rail vehicles are a safety measure and are used for the same reasons they are used on automobiles, to alert a person of a potentially dangerous situation. The use of horns cannot be eliminated. MTA is currently developing a policy on horn and bell use.

Public address systems at each station will have volume adjustment controls to maintain announcement volumes at specific sound levels in consideration of the surrounding community and safety requirements. (See *ROD Attachment A—Commitments and Mitigation Measures*).

Table 4 of the *FEIS Noise Technical Report* shows the headway depending upon the time of day and then calculates the total number of trips. Headway is the time between the passage of consecutive vehicles in one direction. For the Purple Line, it is assumed that there will be a total of 139 trips in each direction, for a total of 278 trips per day. This is the number that was used in the noise analysis.

The operating speed of Purple Line is based on vehicle performance characteristics and the system design. The anticipated speed was used in the ridership model. While lower speeds would produce lower sound levels, the lower speed would reduce the number of riders that the project could transport, as well as lower demand due to a longer travel time.

The noise levels calculated in an FTA noise analysis for an EIS are average noise levels over a period of time, not single-event noise levels. Average noise levels are measured in two different ways depending on the nature of the land use at the noise receptor. “Leq” is used as the metric for land use where there is no nighttime activity (such as schools, office space and parks), and “Ldn” is used as the metric for residential land use (single homes and apartment buildings).

As explained in the FEIS:

> *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*

FEIS, Chapter 4.11, Noise, pp. 4-101 to 4-102.

According to *Transit Noise and Vibration Impact Assessment*, Lmax is a descriptor useful for describing the sound associated with an individual vehicle during a single passby event (chapter 13 of the FTA Noise guidance). It was not used for the Purple Line noise impact assessment since it does not take into account the number and duration of transit events, which is important to people’s reaction to noise. While Lmax was not used for this analysis, the noise analysis included and accounted for passbys from either direction over an hour or 24-hours when calculating Leq/Ldn.

Total Noise Exposure

Commenters noted that MTA's technical analysis does not present the total noise exposure that would be experienced with the Purple Line. A commenter stated concern that the noise analysis fails to account for the noise level that occurs when two trains pass each other in opposite directions.

Response: The appendix of this document contains a memo (*Clarification of the Results of the Purple Line Noise Analysis*) clarifying the information previously presented in the *FEIS Noise Technical Report*. Although not required by the FTA methodology, the calculation of total noise levels is included in the *Clarification of the Results of the Purple Line Noise Analysis.* This memo shows the total future noise exposure with the Purple Line, and explains the human perception of noise increases. Other information is included in the memo to show the typical community responses to increases in noise. The increase at each analyzed site is compared to the typical community responses to help the public understand how they may perceive or be affected by the predicted increase.

It is expected that the noise levels experienced by trail users would be somewhat higher than noise levels at the receptors adjacent to the Georgetown Branch right-of-way, because the trail is closer to the transitway than those receptors, and because the noise barriers will be located between the residences and the trail, and not between the trail and the transitway; therefore the noise barriers would not benefit the users of the trail. However, project design incorporates mitigation to minimize noise increased noise to trail users. The transit vehicles will have a vehicle "skirt" (a panel covering the wheels), which would reduce the sound levels immediately adjacent to the alignment. FTA and MTA expect that trail users would experience an increase in noise levels compared to existing conditions. Noise levels when a vehicle passes by are estimated to be approximately 80 dBA. It is expected that the duration of the passby event, when the light rail sound level exceeds the ambient sound level, will be in the range of 8 to 10 seconds and would occur 279 times a day (this includes trains in both directions). The sound from two trains passing simultaneously was included in the analysis.

See *Section C.3-Capital Crescent Trail* of this document, for details regarding noise in the Georgetown Branch right-of-way.

Pantograph Noise

A commenter questioned why the noise from catenary wires and pantographs were not included.

Response: The methodology prescribed by FTA does not require an analysis of the noise associated with the pantograph/catenary wire interface. The noise associated with the catenary wires and pantograph would be imperceptible compared with the existing noise sources.

Mitigation Measures

Commenters requested that mitigation measures be applied to reduce noise levels, such as committing to a maximum of 65 dBA at 50 feet from the centerline of the tracks, as well as an ongoing maintenance program. Others stated that barriers used for noise mitigation would be ineffective or should be taller. A commenter stated that data such as the height of retaining walls and noise barriers, and the composition of retaining walls or noise barriers are necessary for the public to meaningfully comment on MTA's conclusions. A commenter stated that pursuant to FTA's noise guidance, the *FEIS Noise Technical Report* should have discussed the range of noise mitigation measures that were considered.

Response: The FTA noise assessment guidelines determine impact based upon the project-related sound level compared to the measured (existing) sound levels, which varies as described in *FEIS Chapter 4.11-Noise*. Mitigation measures, or design changes, are then incorporated to address impacted areas, where reasonably feasible. The Purple Line includes several noise-mitigating measures that have been incorporated in the design.

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, MTA is including a minimum 4-foot retaining wall/noise barrier adjacent to residential properties that abut the Georgetown Branch right-of-way to minimize noise to those adjacent properties. The material and exact height of these barriers will be determined during final design. The purpose of this barrier is to mitigate the wheel/rail noise—the predominant noise associated with the system. Because the noise is generated at the rail level and the noise barrier will be close to the tracks, a 4-foot barrier is sufficient to block the noise. Although breaks in the barrier will be necessary at trail access points, in general, the barriers 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 *FEIS Chapter 4.11-Noise*). 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. Eliminating the transit horns entirely is not possible due to safety concerns, and constructing barriers at these locations would block driveway access and pedestrian walkways. MTA's Horn and Bell Policy, currently under development, will take into account adjacent land uses and will identify where and when horn and bell use will be required.

To minimize additional noise that may occur over time due to the use of the system, MTA operation guidelines include maintenance programs for the tracks and light rail vehicles. These maintenance programs are conducted on a regular basis to the fleet and tracks, minimizing noise that occurs from worn (flattened) wheels or track irregularities. As stated in the *FEIS Noise Technical Report,* moderate impacts are projected to occur at 11 residential properties; all of which are within 200 feet of a station or grade crossing where horn soundings are required. As stated, elimination of the horn at these locations may not be possible due to safety concerns and noise barriers are not feasible because they would block driveway and pedestrian walkways.

Riviera of Chevy Chase

A commenter was concerned about the potential echo effect associated with the Riviera of Chevy Chase building and was concerned that the building was not included as a representative site.

Response: Although the multi-family building was not included as a measurement site, it is represented in the noise analysis by both nearby sites M-8 (7602 Lynn Drive) and M-9 (4302 Kentbury Drive). Noise impacts were not predicted to occur at these sites; and therefore are not predicted at the Riviera at Chevy Chase. The concern of an echo effect is noted; however, the FTA methodology does not include this in the calculations, so such an effect could not be measured. It should also be noted that if an echo effect were perceived, it would be by receptors across from the building (such as M-8), not at the building itself.

Health Impacts from Noise

Commenters noted concern about health concerns related to exposure to noise, interruptions to sleep, and the effect on children in the schools near the Purple Line. A commenter stated concern about the negative impacts to the cognitive development of children from noise. Specific reference was made to a study by Al Bronzaft entitled "The effect of elevated train noise on reading ability," in the July-August 2002 issue of the *Archives of Environmental Health*, the September 1981 issue of the *Journal of Environmental Psychology* and conclusions by the World Health Organization about noise impacts on health. A commenter stated that the analysis of the noise and vibration impacts to the Rosemary Hills Elementary School was not adequate and mitigation measures not clearly identified. Commenters stated concern about the health impacts of sleep deprivation from noise.

Response: FTA criteria have been established based upon the number of people that would be highly annoyed by the new noise, as well as standard levels for an acceptable living environment. To account for people's nighttime sensitivity to noise, the Ldn noise metric used for residential areas adds 10 dBA for sound levels emitted during the night. Each nighttime train activity is adjusted by adding 10 dBA, which is perceived as the noise levels have doubled.

The FTA criteria for schools also use annoyance to set an acceptable increase, as well as a maximum noise level. These criteria were not reached for any of the schools in the study area. As mentioned above, the *Clarification of the Results of the Purple Line Noise Analysis* describes typical community responses of increases in noise.

MTA has worked to minimize impacts to Rosemary Hills Elementary School and has assessed the potential impacts in its evaluation in the FEIS. From the school, the Purple Line will be located below the existing ground level behind a retaining wall which provides visual and noise protection from the transitway. Existing noise levels were monitored at an outdoor location as 74 dBA. Project-related noise levels were estimated to be 50 dBA at this location, for a total sound level of 74 dBA, no louder than the existing conditions. Under FTA methodology this would not be considered an impact. The *FEIS Noise Technical Report* describes the methodology and impact criteria and details the results. Results from the *FEIS Noise Technical Report*, with a column added to show total sound levels is included in Table 1 of the *Clarification of the Results of the Purple Line Noise Analysis* (appended to this document).

The Bronzaft study cited by the commenter found that children on the noisy side of a school next to an elevated heavy rail train line experienced a 3-4 month delay in reading. It should be noted that the noise level in the classrooms of that study was 89 dBA. A follow-up study found that noise abatement measures of 6-8 dBA eliminated the delay in reading. 89 dBA is far louder that the Purple Line would be, and even the 81-83 dBA achieved with mitigation in the Bronzaft study is still far louder than the outdoor noise level of 74 dBA at Rosemary Hills School that exists today. The noise level with the Purple Line would remain 74 dBA. It is expected that the indoor noise level (in classrooms) at the Rosemary Hills School would be even lower.

The article referred to in the *Journal of Environmental Psychology* is “Longitudinal effects of aircraft noise exposure on children's health and cognition: A six-year follow-up of the UK RANCH cohort.” The conclusions of this study of children who attended primary schools around Heathrow airport were that there is a weak longitudinal association between aircraft noise and poorer reading and no longitudinal association between aircraft noise and psychological health.

The conclusions from the World Health Organization report, *The Burden of Disease from Environmental Noise*, 2011 cited by several commenters on the relationship between environmental noise and specific health effects have been noted and considered.

Based on available evidence, a hypothetical exposure–response relationship between noise level (Ldn) and risk of cognitive impairment was formulated. The conclusions were that all of the noise-exposed children were cognitively affected at a level as high as 95 dBA Ldn, and no children were affected at a relatively low level, such as 50 dBA Ldn.

The FTA noise evaluation criteria places special emphasis on sleep through the three land use categories (including Number 2, which is defined as where people sleep) and the weighting of noise impacts at night. This acknowledges impacts to sleep and gauges the extent of the impact with more sensitivity than in other areas or in daytime.

FTA Noise Categories for Parks

A commenter stated concern that MTA changed how some parks were classified under FTA’s categories from the AA/DEIS to the FEIS.

Response: Although the AA/DEIS and the *AA/DEIS Noise and Vibration Technical Report* stated that the five parks (Rock Creek SVP, Long Branch, Sligo SVP, Anacostia River SVP, or West Lanham Hills) were classified as Category 1, the footnote to the impacts table states: Existing noise levels (Leq) for Parks were based on 1-hour noise measurements and impact assessment is based on peak hour FTA Category 3 impact criteria. The impact results are consistent with using the Category 3 impact criteria. Therefore the parks were analyzed as

Category 3 land uses in the AA/DEIS analysis. Under FTA guidance and the description of Land Use categories, Category 1 includes "tracts of land where quiet is an essential element in their intended purpose" see *FTA, Transit Noise and Vibration Impact Assessment (2006)*, Section 3.1.1, Table 3-2, "Land Use Categories and Metrics for Transit Noise Impact Criteria". Category 1 includes "lands set aside for serenity and quiet, and such land uses as outdoor amphitheaters and concert pavilions, as well as National Historic Landmarks with significant outdoor use." Id. The five parks referenced in this comment would not meet this standard and therefore were appropriately classified as Category 3 uses in the FEIS.

Ambient Noise Levels in Parks

A commenter stated concern that the ambient noise measurements in the parks have increased since the AA/DEIS completed in 2008, and that no explanation was provided in the FEIS for the increase in the ambient noise levels.

Response: The change in ambient noise measurements between the AA/DEIS and the FEIS is associated with where the measurements were taken within each park. The further the site is from the roadway or other noise source, the lower the ambient noise. If the ambient measurements were taken at closer distances within each park, this would automatically result in higher sounds levels. The following table compares the parks that were analyzed for the light rail alternatives in the AA/DEIS to the measurements made in the same parks for the FEIS. As can be seen from the table, two of the sites were farther from the noise source in the FEIS analysis and had lower monitored sound levels, while three of the sites were closer to the noise source in the FEIS analysis and had higher measured sound levels. Appendix C of the FTA guidance states that for outdoor noise-sensitive clusters, such as an urban park, the receiver should be located at the closest point of active noise-sensitive use. Additionally, FTA notes that a park's noise-sensitivity depends on how it is used. Most parks used for active recreation would not be considered noise-sensitive. However, parks used for passive recreation like reading, conversation, meditation, etc. should be treated as noise-sensitive. As noted in the table, the sites chosen for noise measurements in the FEIS were located near these areas of noise-sensitive uses, not necessarily the point of a trail closest to the roadway. Regarding differences between the AA/DEIS and the FEIS locations, the changes in location could have been affected by modification to park elements between the AA/DEIS and the FEIS—possibly changing noise sensitive use locations, activity at the site that precluded measuring in the same location, or the technician doing the monitoring believing that a different location better represented the noise-sensitive use..

Noise Measurement Data	Rock Creek SVP	Long Branch Park	Sligo Creek SVP	Anacostia River SVP	West Lanham Hills Park
AA/DEIS					
Date of Measurement	10/4/2007	10/4/2007	10/4/2007	10/2/2007	10/2/2007
Time of Measurement	9:10 AM	10:45 AM	10:15 AM	1:30 PM	10:40 AM
Length of Measurement	20 minutes	20 minutes	20 minutes	20 minutes	20 minutes
Approximate Distance to LRT	100 feet	90 feet	100 feet	100 feet	150 feet
Monitored Sound Level	56 dBA	51 dBA	56 dBA	50 dBA	63 dBA

FEIS					
Date of Measurement	10/4/2011	8/11/2011	8/11/2011	4/25/2012	10/5/2011
Time of Measurement	Since the FTA criteria for Park is based on Leq. Only the sound level at the (AM or PM) hour that corresponded to the LRT AM or PM Peak Headway was used from the noise analysis.				
Length of Measurement	24 hour	24 hour	24 hour	24 hour	24 hour
Distance to Noise Source	233 feet	64 feet	52 feet	57 feet	238 feet
Monitored Sound Level	52 dBA	68 dBA	69 dBA	61 dBA	60 dBA
Reason for Choosing Monitoring Location	Nearest active park area to the LRT	Nearest park area to the LRT	Closest location to playground	Nearest active park area to the LRT	Closest location to the park trail

E.10 Vibration

Summary of Comments: Commenters stated concern about vibration impacts, some stated concern about impacts to residences, and others to commercial properties on Bonifant Street.

Commenters asked why their homes were not specifically evaluated for vibration impacts. A commenter stated that MTA should commit to a maximum vibration level of 65 VdB at 50 feet from the centerline of tracks and mitigation measures should be included wherever homes legally may be built within 50 feet of the tracks.

A commenter expressed concern over the number of vibration events that were included in the analysis, and stated that the FEIS did not clearly state the number of residences that would be affected by vibration.

Response: MTA analyzed potential vibration impacts according to the procedures outlined in the FTA's *Transit Noise and Vibration Impact Assessment* (May 2006). *FEIS Chapter 4.12.3* discusses how and where vibration impacts are estimated for the project. Within 50 feet of the alignment, only three receptors are predicted to experience vibration levels at or above the 72 VdB impact threshold. FEIS Table 4-31 summarizes these vibration impact findings.

The effect of project-related vibration is based upon one train passby, not the number of passbys. However, to account for the variations in community response based upon how frequently the trains pass by, criteria have been developed based upon the number of events, with "frequent events" being classified as having more than 70 vibration events per day. As the project will have approximately 278 passby events per day (counting trains in each direction), the "frequent events" criteria were used for this project.

Vibration monitoring was performed at vibration sensitive receptors to understand the existing environment and whether any sensitive receptors are currently experiencing measureable vibration from existing sources. The FTA's procedures for the assessment of ground-borne vibration do not consider future development; only existing land uses are analyzed. Vibration monitoring locations were selected based on their proximity to the proposed track alignment and existing sources of vibration, such as the freight lines.

In accordance with FTA's procedures, monitoring is not performed at every sensitive receptor; rather, the information taken from the representative receptors is applied to or representative of nearby neighboring receptors. Low existing vibration levels do not preclude a site from being assessed for project-related vibration.

Sensitive receptors include buildings where vibration would interfere with interior human activity. In addition, extremely sensitive receptors include those buildings where interior operations include vibration-sensitive equipment. Therefore, since the uses along Bonifant Street are predominantly commercial, the majority of which would not include vibration-sensitive uses or human activity particularly sensitive to vibration, the area was not chosen as a representative vibration receptor.

As discussed in *FEIS Chapter 4.12-Vibration*, the analysis identifies potential impacts to four residences and one apartment complex, containing approximately six units. The vibration at the apartment complex already exceeds FTA's impact threshold because of vibration levels caused by daily CSX freight train passbys.

The potential for vibration impacts on Bonifant Street is discussed in *Section F.6-Bonifant Street*, of this document.

Mitigation

A commenter, whose property was identified as potentially experiencing vibration impacts from the Purple Line, stated concern that specific mitigation measures were not identified and committed for their property.

Response: There are a variety of measures suggested by FTA to minimize or eliminate vibration; they include specific materials and construction methods, such as using resilient fasteners, ballast mats, resiliently supported ties, or other vibration damping techniques. Identification of specific mitigation measures at individual locations is not typically done at this early design phase of the project. As design progresses MTA will perform a site specific assessment of the need for mitigation at each location, and use mitigation materials or methods as appropriate. These options will be evaluated by MTA with regard to both reasonableness and feasibility. Refer to *FEIS Chapter 4.12* and the *FEIS Vibration Technical Report* for more detailed information on potential vibration impacts and any proposed mitigation measures.

Where potential vibration impacts from construction are anticipated MTA will conduct detailed preconstruction surveys (including photographs) to document the condition of local buildings. These buildings will be carefully monitored for evidence of impacts such as cracks. If impacts are identified, MTA will implement control measures to reduce impacts and will repair any damage caused.

Rosemary Hills Elementary School

Commenters stated concern about impacts from vibration to children in Rosemary Hills Elementary School.

Response: The *FEIS Vibration Technical Report* outlines the vibration assessments conducted for the project. Vibration sensitive land uses were identified along the project corridor including Rosemary Hills Elementary School (p. 13 of the *FEIS Vibration Technical Report*). Table 8, Predicted Levels of Ground-Borne Vibration, identifies potential vibration impacts along the corridor. Rosemary Hills Elementary School is Site S-8 and is projected to have no vibration impacts from the project.

E.11 Habitat and Wildlife

Summary of Comments: Commenters expressed concern that the wildlife and habitat impacts were not adequately considered in the FEIS. Commenters stated that the Georgetown Branch right-of-way was not considered as a wildlife corridor. Commenters stated concern about birds and small mammals being hit by the light rail trains.

Habitat and Wildlife

Response: *FEIS Chapter 4.13-Habitat and Wildlife* describes the type of wildlife present in the project corridor and proposed impacts. Although some wildlife would be displaced by the project, following an existing trail and roadways minimizes the permanent impact. 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.

A detailed assessment of the forests located within the Purple Line project area will be described in the Purple Line Forest Stand Delineation document which is currently being completed. Once approved by Maryland Department of Natural Resources (MDNR), it will be available on the project website, www.purplelinemd.com. All forests are being identified in adherence with the Maryland Forest Conservation Act. Under this Act, all forest impacts associated with the project will be mitigated for in the same watershed in which the project is located.

Wildlife Corridors

Response: The discussion of wildlife corridors and impacts associated with the Purple Line is located in *FEIS Chapter 4.13*. The Georgetown Branch is not identified as a wildlife corridor. The wildlife corridors are within the stream valley parks crossed by the Preferred Alternative. The wildlife corridor associated with Rock Creek Stream Valley Park will not be broken as the transitway will follow the existing bridge that spans Rock Creek. Wildlife will still be able to move under this bridge and through other adjacent riparian areas. There will be a break in the forest canopy in Rock Creek, resulting in an impact to FIDS habitat, which is discussed in more detail in the *FEIS Chapter 4.13.3*.

Wildlife Hit by Trains

Response: As with vehicular traffic and buses, there is a potential that wildlife will run in the way of traffic or light rail vehicles. The transitway will have fencing and other features at certain locations, which will minimize the potential for wildlife to enter the transitway. Wildlife corridors and riparian areas will be maintained as part of the project.

Federally listed Species

Commenters questioned the potential direct and indirect impact that could occur to federally-listed species, such as the Hay's Spring Amphipod, an endangered species in Rock Creek Park, the candidate species, Kenk's Amphipod, as well as state listed species of concern, such as the Appalachian Spring snail. Potential impacts mentioned were groundwater pollution and sediment loads downstream, particularly from rock fractures during construction.

Hay's Spring Amphipod

Response: Consultation under Section 7 of the Endangered Species Act was conducted for the project in 2011 as part of the required NEPA process. The MTA solicited input from the Maryland Department of Natural Resources (MDNR) and U.S. Fish and Wildlife Service (USFWS) on the potential presence of state and federally listed endangered and threatened species that may be impacted by construction of the Purple Line. Neither agency indicated the potential presence of endangered or threatened species within or immediately adjacent to the project area. The USFWS and MDNR issued letters saying that no federally listed, state listed, or proposed threatened or endangered species are known to exist within the project impact area.[12] By impact area, the USFWS takes into consideration both direct and potential secondary or indirect impacts associated with the project.

In response to comments on the FEIS, MTA has conducted additional coordination with USFWS and MDNR regarding Hay's Spring Amphipod and Kenk's amphipod and received correspondence from USFWS on January 7, 2014 (see *Attachment E, Agency Correspondence*). In that letter, the USFWS confirmed its original conclusion that the project will have no effect on the Hay's Spring Amphipod. This conclusion was based on discussions with MTA concerning project construction methods and measures to minimize siltation and other effects of the project. No effect on the groundwater system supporting the Hay's Spring Amphipod is expected because of the 4.5 miles separating these systems from the project construction area. In addition USFWS does

[12] See FEIS, p. 4-115. The USFWS response letter was received on October 27, 2011. Responses from MDNR were received on October 26, 2011 and January 9, 2012. FEIS Appendix G contains these letters.

not anticipate an adverse effect on this species from changes in the flow and water quality in Rock Creek related to the Purple Line construction.

In addition, the USFWS letter states that while Kenk's Amphipod has no legal protection under the Endangered Species Act, the USFWS has taken a close look at the potential for effect to the species. The species occurs in a spring approximately 40 vertical feet above the level of Coquelin Run, fed by a small catchment basin completely separated from the groundwater source to the north of Coquelin Run. Therefore ground and surface water draining from the area where the Purple Line is to be constructed is expected to have no effect on this spring site or Kenk's amphipod.

With respect to other federally listed species that could be affected by the project, FTA and MTA rely upon the resource agencies, in this case the USFWS, to alert them of any potential occurrences of federally listed species within the project area. No such mention was made in the USFWS response letter.

Appalachian Spring Snail

Response: The Maryland Department of Natural Resources in its response letter on rare, threatened, and endangered species did not identify the potential presence of the Appalachian Spring snail (*Fontigens bottimeri*) within the project area. In a paper published in 2012 in *Northeast Naturalist* (David C. Culver, John R. Holsinger and Daniel J. Feller. 2012. "The Fauna of Seepage Springs and Other Shallow Subterranean Habitats in the Mid-Atlantic Piedmont and Coastal Plain," Northeast Naturalist 19(m9):1-42), Culver et al. indicated the locations of Appalachian Spring snails found during their surveys and referenced historical records. Snails were located within spring seeps along Rock Creek downstream of Military Road within the District of Columbia. Other sites where this snail was found were along the Potomac River in western Montgomery County. Therefore, known sites of occurrence for this state rare snail lie several miles downstream of the project area and are not likely to be affected by proposed project activities for similar reasons to those given for potential impacts to Hay's Spring amphipod.

Birds protected by the Migratory Bird Treaty Act

Commenters stated that the potential impacts to birds protected by the federal Migratory Bird Treaty Act were not evaluated in the FEIS. Commenters also questioned the potential effects of un-insulated wires and light pollution on migratory birds.

Response: The comment indicates that the Purple Line will disturb up to 48 acres of forest habitat and that this impact could affect migratory birds in violation of the federal Migratory Bird Treaty Act (MBTA). The MBTA prohibits the take or attempted take of over 1,000 species of migratory birds. "Take" is further defined as to pursue, hunt, shoot, wound, kill, trap, capture or collect. Violations of the Act are subject to criminal prosecution, though with some exceptions, the federal government has generally avoided prosecution for otherwise lawful commercial activities.

To minimize the potential for impact to migratory birds, the project will incorporate time of year restrictions for forest clearing operations. Clearing trees outside of the prime breeding season for migratory birds will minimize the likelihood of impacting the nests, eggs, or young of migratory bird species.

With respect to the potential effects of un-insulated wires on migratory birds, all power supplied to the train system from PEPCO lines will occur underground, eliminating new overhead wires. Relocation of existing overhead wires will occur, but will not result in a net increase in overhead wires. The overhead wires that run with the track are 750kV direct current. This wire will run over the center of the track and all other wires adjacent to it will be insulated. Therefore, birds will not be able to close a circuit between them. In general, birds are not affected by the un-insulated wires themselves. Electrocution occurs when birds touch two wires simultaneously, completing a circuit.

With respect to the light pollution effects on migratory birds, lights will only be used along the trail at trail connections to the community and within tunnels and underpasses. Lighting at stations will be free-standing utility module fixtures designed to conform to dark skies and control light spills. This limited and controlled use of overhead lighting will minimize potential impacts to migrating birds and bats.

Trees

Many commenters stated concern about the removal of mature trees within the project corridor, particularly along the trail. A commenter stated that the FEIS understates the loss of tree canopy and natural green space. A commenter suggested the use of the U.S. Department of Agriculture's "i-Tree" program to quantify forestry impacts and benefits. Commenters stated that not all the specimen trees in the corridor were shown on the environmental mapping. A commenter requested the exact geographic location of specimen trees that would be impacted, including "three specimen trees located along the Capital Crescent Trail on private properties along Elm Street." Commenters requested replacement of trees with native canopy trees and requested that newly planted trees be monitored for three years. Commenters requested that the trees begin to be planted now. Commenters stated that the removal of trees would impact air quality adversely. Commenters stated concern about trees on private property whose roots would be damaged by construction. A commenter requested a copy of the Forest Stand Delineation Report.

Response: *FEIS Chapter 4.13-Habitat and Wildlife* describes the impact to forested habitat in acres, and the number of specimen trees that will be removed. The assessment and delineation of forests within the project area are based on the methods specified in the State Forest Conservation Manual.

The USDA's i-Tree software was not used as part of the forest impacts analysis in the FEIS. The use of this software is not part of FTA's standard protocol for analyzing forest impacts, and none of the resource agencies involved in NEPA process recommended use of that software to assess the impacts of the Purple Line project. In response to comments on the FEIS, MTA and FTA have considered the i-Tree software. While the software appears to provide a useful planning tool, it is not designed as a tool for assessing impacts of a specific project in an EIS.[13] The impact analysis in the FEIS provides a sufficient basis for making an informed decision regarding the impacts of the Purple Line; therefore, additional analysis using i-Tree will not be performed.

The locations of all identified specimen trees are noted with orange circles on the Environmental Resources Maps in Volume II of the FEIS. The three specimen trees located adjacent to the Georgetown Branch right-of-way that would be affected are shown on p. 1 of the Environmental Resource Maps.

The project has been designed to minimize tree loss during construction, but tree loss is unavoidable. The project will be subject to the Maryland Forest Conservation Act. MTA is working closely with the Maryland Department of Natural Resources (MDNR) to ensure that all tree and forest loss due to the project are mitigated in accordance with the Forest Conservation Act. The Forest Conservation Act is a means to protect not only forest and trees in developing areas but also any sensitive area identified during the local planning or comprehensive land use plan adoption process. Identifying and mapping of these areas is part of the Forest Stand Delineation.

Under the Forest Conservation Act, protection occurs through the establishment of long-term protection agreements as part of the local approval of Forest Conservation Plan. The Forest Conservation Plan indicates the limits of disturbance for the proposed project and how existing forested and sensitive areas will be protected during and after development. It includes tree protection specifications, a mitigation planting plan, a maintenance agreement, and the long-term protection agreement to be placed on the retained forest and mitigation areas.

[13] The i-Tree program is described by the USDA as a tool to "help communities of all sizes to strengthen their urban forest management and advocacy efforts by quantifying the environmental services that trees provide and the structure of the urban forest." See http://www.itreetools.org/about.php

MTA, and Montgomery and Prince George's Counties are currently identifying sites for reforestation (replanting trees) or afforestation (planting trees where there were none before) with a goal to protect or create habitat where appropriate. Priority areas for reforestation and afforestation include open areas within stream and forested corridors. For a discussion of tree loss in the Georgetown Branch right-of-way, see *Section C.3-Capital Crescent Trail* of this document. Landscaping plans will be developed during design and in coordination with the appropriate entities as the Purple Line design moves forward.

The Forest Stand Delineation Report is currently being completed and will be made available on the Purple Line website at www.purplelinemd.com upon MDNR approval. As noted above, the Forest Conservation Plan will be developed during final design. It will identify how many acres will need to be reforested or afforested, and it will contain protective measures for the critical root zones of trees during construction. MTA will coordinate with MDNR during the design phase regarding efforts to minimize and mitigate for impact to specimen trees.

MTA will not plant replacement trees until construction is completed, as they would likely be damaged by the construction.

The impact on air quality from the removal of trees is addressed in *Section E.9- Air Quality, Climate Change, and Energy* of this document.

MTA will plant street trees to

- Replace existing plantings removed or damaged by construction
- Enhance the environment of the guideway and project corridor
- Visually screen traction power substations and communication equipment
- Stabilize steep slopes and other disturbed areas
- Contribute to tree canopy cover and reduction of urban heat islands.

E.12 Water Resources

Summary of Comments: Commenters noted concern about increased impervious surface and the degradation of wetlands and waterways in general. Commenters stated concerns about the impact to water quality from the loss of the tree canopy. Commenters suggested the use of low impact development stormwater controls such as those being implemented by the Montgomery County Department Environmental Protection, such as bioswales, porous surfaces, and bioretention. A commenter stated concern about impacts to the health of the Chesapeake Bay.

- Commenters stated concern about the Sligo Creek channel modifications. These concerns included a lack of detail in the FEIS on the channel modifications and how stream and parkland habitat would be protected. Short-term damage or interruption of the creek and park could be harmful to efforts to bring back fish species, macroinvertebrates, and the rest of the biome.
- Commenters requested that well before construction, collaborative planning with M-NCPPC and Friends of Sligo Creek take place to minimize and mitigate any damage to the biome.
- Commenters stated concern that wetlands and waterways were not adequately addressed, specifically the waters along the Capital Crescent Trail that drain south and into the Coquelin Run, and stormwater management at the Jones Mill intersection near the railway embankment.

Response: *FEIS Chapter 4.14* outlines the anticipated effects to water resources within the project area and includes general measures for stormwater management. These measures include green track, which allows for some water absorption within the transitway. 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 stormwater techniques.

Project design includes best management practices where reasonably feasible to address potential project-related water quality impacts, including impacts that could result from tree loss. Throughout the corridor, MTA

has refined the alignment, geometry and right-of-way needs wherever possible to avoid or minimize effects to water resources. Early coordination with MDNR and the National Marine Fisheries Service resulted in alignment changes to minimize impacts to water resources. Following are some examples that are described further in *FEIS Chapters 4.13* and *4.14*.

- 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 using green track, which would allow for some water absorption.
- As discussed in FEIS Chapter 4.14 and the *FEIS Water Quality Technical Report*, MTA will use green track along the Georgetown Branch right-of-way and in locations in Prince George's County to minimize runoff. The Purple Line green tracks will consist of sedum plantings in an 8-inch deep section of planting medium. Green track allows for some water absorption within the planting medium, thereby reducing the movement of potential contaminants to surface water bodies. The green track reduces stormwater runoff.
- MTA will develop an Erosion and Sediment Control Plan, in accordance with the Stormwater Management Act of 2007 during final design and construction, which will specify proper slope and soil stabilization techniques, erosion and sediment controls, and specific stormwater management facilities. This plan will include stormwater management at the Jones Mill intersection near the railway embankment.
- MTA is evaluating the use of a variety of stormwater treatment techniques including environmental site design facilities such as alternative surfaces (permeable pavement and green track) and micro-scale practices (rain gardens, planter boxes, and bio-swales), filtration devices (underground sand filters), open channel systems (wet swales), and ponds.

The health of the Chesapeake Bay is linked to stormwater management controlling the quantity and quality of rainwater runoff. Compliance with Maryland's Stormwater Management Act of 2007 will help to protect the bay. See FEIS p. 4-122 for a discussion of the Total Maximum Daily Loads (TMDL) for the Chesapeake Bay.

Sligo Creek

Response: MTA is committed to designing an environmentally-sensitive stream crossing when designing the Wayne Avenue bridge over Sligo Creek. The bridge will be designed to provide the least amount of environmental impact reasonably feasible, and improve the hydraulics of Sligo Creek through the proposed project area. Sligo Creek will be realigned as part of the bridge replacement. MTA continues to work with M-NCPPC on the design at Sligo Creek. A work group will be formed between M-NCPPC and MTA to further study and recommend appropriate design and mitigation for the stream realignment at Sligo Creek with the goal of ensuring long-term stability and reducing stress on the stream. The group will work together, hold field visits, and coordinate with the appropriate resource agencies to gain approval for the recommended improvements. The work group will collect and assess data on the competing issues in the area, including a downstream project by WSSC, specimen trees, existing utilities, floodplain connectivity, structural requirements for the new bridge, stream hydraulics, and existing habitat. They will also consider the effects of widening the bridge to accommodate a wider Green Trail. Finally, the work group will weigh the cost (impacts and financial) and benefits of the proposals and recommend specific mitigation. MTA will provide opportunities for the Friends of Sligo Creek to provide input on the plans. The final recommended mitigation measure is contingent upon approval from the regulatory agencies.

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. Any impacts to Sligo Creek as result of the project will be mitigated for within project area watersheds through stream restoration of watershed improvements such as fish blockage removals. A detailed discussion of proposed stream mitigation is located on p. 52 of the *FEIS Water Resources Technical Report*.

Wetlands and Waterways

Response: All waters of the U.S., including wetlands, that will be impacted permanently or temporarily by the Purple Line were delineated and assessed using the U.S. Army Corps of Engineers guidance. All wetlands and waterways located within the Purple Line project area are discussed in detail in regards to their classifications and perennial nature in the wetland/waterway summary table located within Table 1 of the *FEIS Water Resources Technical Report*. Also, within the *FEIS Water Resources Technical Report*, Section 3.1 discusses the functions associated with wetlands located in the Purple Line project area. A tributary to Coquelin Run was identified within the project limits of disturbance, but the mainstem of Coquelin Run is not impacted by the project.

Any watershed impacts associated with the Purple Line will be mitigated for through wetland and stream mitigation in project area watersheds. A detailed discussion of proposed wetland and stream mitigation starts on Page 49 in the *FEIS Water Resources Technical Report*.

E.13 Hazardous Materials

Summary of Comments: Commenters asked where Hamlet Place Co-op fell in the list of areas of potential concern for hazardous materials. Commenters stated concern about hazardous materials in local communities resulting from Purple Line operations.

Response: Hamlet Place Co-op is not an area of potential concern for hazardous materials. *FEIS Chapter 4.16.1-Hazardous Materials* describes the methodology used for identification of such sites.

The Purple Line will not be transporting hazardous materials and because it will be powered by electricity, it will not have fuel tanks, making release of hazardous materials unlikely. If hazardous materials are released as a result of the Purple Line operations, then MTA will follow the MDE regulations identified in Code of Maryland (COMAR) 26.10, 26.14, and 40 Code of Federal Regulation (CFR) Part 112.

E.14 Environmental Justice

Summary of Comments: Commenters stated concern about environmental justice, disproportionate adverse impacts to low-income or minority populations. Specific concerns included increased rents and property values, loss of affordable housing, and displacement of residents and businesses. Commenters stated concern that the following environmental justice communities would experience adverse impacts: downtown Silver Spring, Lyttonsville, and Langley Park. A commenter stated concern that the project new jobs resulting directly from the construction of the project should be reserved for local residents.

Response: *FEIS Chapter 4.19-Environmental Justice* addresses environmental justice and considers the potential for adverse effects to environmental justice populations. After a discussion of potential effects and the proposed mitigation, *FEIS Chapter 4.19.6* assesses the potential for disproportionately high and adverse effects on minority and low-income populations. The majority of transit users derive from an area within ½ mile of a transit station. The majority of the Purple Line and its stations are located in environmental justice communities and serve those communities. It also follows that the impacts associated with the structural improvements are located in those same communities.

One of the main purposes of the Executive Order on Environmental Justice (E.O. 12898) is to protect minority and low-income populations from bearing a disproportionate burden of adverse impacts from projects without receiving a proportionate share of the benefits. This is not the case with the Purple Line; the project has substantial benefits as well as impacts within environmental justice communities.

Another purpose of the Executive Order is to assure project sponsors conduct sufficient outreach to ensure that they understand the needs of environmental justice communities. The study process for the Purple Line project has included extensive outreach to environmental justice communities. For example, the Purple Line has

Spanish-speaking outreach staff and has met with hundreds of business owners along the alignment in order to better understand unique concerns of the small businesses potentially impacted.

As set out in the FEIS and this ROD, FTA has concluded that the Purple Line will not have disproportionate adverse impacts on minority and low-income populations.

Some of the specific impacts of the Purple Line which may adversely affect environmental justice populations, include business property acquisitions, business disruption during construction, loss of affordable housing, and increased rents for businesses. In order to avoid and minimize impacts, the alignment options have been refined, where possible. Environmental commitments and mitigation measures identified throughout *FEIS Chapter 3-Transportation Effects* and *FEIS Chapter 4-Environmental Resources, Impacts, and Mitigation* will address impacts from light rail operations and construction activities that may affect environmental justice populations. MTA will continue to provide enhanced outreach to environmental justice communities, particularly Spanish-speaking communities with limited English proficiency, to implement mitigation strategies effectively in those communities. MTA will engage local advocacy groups for their support in engaging these communities in the Purple Line outreach events.

As stated in *FEIS Chapter 4.5-Economic Activity*, the Purple Line will have both short-term and long-term economic benefits. It will result in increases in employment, earnings, and output in the region. Future development will create more jobs for local residents and improve mobility and accessibility for commuters. Purple Line will complement and support the many state, regional, and local land use plans that have proposed transit-oriented development focused around the Purple Line stations. In many cases, state initiatives 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. It is important to recognize 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. 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.

In the fall of 2013, MTA created an Economic Empowerment Program for the Purple Line. See the Purple Line website (http://purplelinemd.com/en/doing-business and http://purplelinemd.com/en/workforce-development). The mission of this program is to:

- Facilitate workforce development to support local residents in the Purple Line corridor in preparing for job opportunities with the Purple Line
- Provide assistance to small and disadvantaged businesses (SBE/DBE) interested in participating in the construction and operation of the Purple Line
- Engage County and State agencies and foundations in providing programs to support small businesses in the corridor.

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 *FEIS Chapter 4.19-Environmental Justice* and *FEIS Chapter 8-Public Involvement and Agency Outreach*, 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 the 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 project staff canvassed the corridor visiting each business and meeting with owners or their representatives. These efforts will continue through completion of design work and construction.

Purple Line Compact

A commenter urged MTA to create a Purple Line Compact, similar to what was created for the MTA Red Line project in Baltimore.

Response: The MTA Red Line project compact was a preliminary planning agreement between MTA and Baltimore City. It provided an opportunity to memorialize preliminary concepts, and establish a framework for governmental collaboration to bring the Red Line to Baltimore. The compact created a forum for such aims as transit oriented development and workforce development. These broad aims are being discussed with Prince George's and Montgomery Counties. MDOT/MTA is willing to enter into agreements with Prince George's and Montgomery Counties and local stakeholders on similar issues.

Degradation of Bus Service

A commenter stated that a new DEIS or supplemental DEIS should include an Environmental Justice analysis addressing whether the cost of the Purple Line will cause a degradation of bus service in the corridor.

Response: Bus service in the Purple Line corridor is provided by WMATA, and Prince George's and Montgomery Counties, not MTA, and the funding of the Purple Line is not expected to have any effect on the operations funding of these bus services. Bus service in the corridor will remain, except in instances such as Metrobus's J4 where service is duplicated by the Purple Line. Local bus services may be modified to complement the Purple Line, such as the possible relocation of bus stops closer to Purple Line stations to facilitate transfers, or the adjustment of schedules to coordinate services with the Purple Line.

The Purple Line will provide improved transit service for environmental justice communities within the corridor providing faster and more reliable transportation and expanding access to the regional Metrorail service (see *FEIS Chapter 4.19-Environmental Justice*, p. 4-168).

Based on these facts, FTA confirms its previous determination that the Purple Line is not expected to cause an degradation in bus service planning by WMATA and the respective Counties, and these is no need for a new DEIS or supplemental DEIS to address those issues.

Job Opportunities and Economic Development

Summary of comments: Commenters stated the need for job opportunities and economic development in the Purple Line corridor, particularly in the "International Corridor" which is located in Long Branch and along University Boulevard in Langley Park.

Response: As described above, MTA's Economic Empowerment Program has a mission to identify workforce needs for the construction and operation of the Purple Line and support the development of training opportunities to create a workforce ready to fill these positions. MTA has entered into a partnership with the Department of Labor, Licensing, and Regulation (DLLR) to target training resources to the skills most needed to build the Purple Line (and the MTA Red Line project in the Baltimore region). On November 15th 2013, MTA and DLLR issued a Request for Proposals to identify Preferred Training Partners who can deliver successful training in ten high-demand positions needed to build the project.

On February 21st, 2014 Governor Martin O'Malley announced the selection of 16 Preferred Training Partners to prepare and link "opportunity ready" residents in each project corridor directly to the contractors selected to design, build, operate, and maintain the Purple Line and the MTA Red Line project in the Baltimore area.

Affordable Housing and Gentrification

Summary of Comments: Commenters stated concern about the loss of affordable housing and increased rent for commercial properties. Commenters stated concern that MTA has not addressed the issues of increased rents, both for housing and businesses. A commenter stated that they believed that MTA has not discussed the issue of affordable housing with the counties or engaged elected officials.

Response: The FEIS states that "A potential indirect effect of the Purple Line to environmental justice populations would be a reduction in affordable housing as a result of redevelopment of existing housing and increased commercial rents and property values." (*FEIS Chapter 4.19.5*, p. 4-166). The FEIS also discusses the indirect impacts to environmental justice populations in *FEIS Chapter 7.4*. 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.

Land use and zoning decisions made by the counties and cities in the corridor also may affect the stock and affordability of local housing. 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. In the Planning Commission proposed master plan, much of the MD 193 corridor had initially planned to be re-zoned for higher density, mixed-use redevelopment. The County Council significantly scaled back the proposed rezoning to the areas immediately adjacent to Purple Line stations rather than a broad, community-wide upzoning.

MTA is a member of the Purple Line Corridor Coalition. This group, created by the University of Maryland's National Center for Smart Growth and Education, and funded in part by MTA, has a mission to encourage dialogue among community advocacy organizations, local governments, and the philanthropic community and to encourage investments in areas of high need and in preserving and encouraging the creation of affordable housing in the Purple Line corridor. One of the purposes of the Coalition's work is to provide information to public agencies and stakeholders to help 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.

Montgomery and Prince George's have agreed to make the development of affordable housing in the Takoma/Langley area a priority.

Displacements caused by increased rents (i.e. gentrification) are difficult to predict; it is especially difficult to separate gentrification caused by a specific project from the economic trends that already exist in any community. MTA understands from interviews with local businesses that commercial and residential rents are already high in this corridor, perhaps due to the visibility from busy roadways, a concentration of low income residents who have limited options for housing, and overall market pressure in an economically vibrant region. Based on these interviews, it appears likely that increased rents would contribute to gentrification even in the absence of the Purple Line project. Nonetheless, the FEIS does acknowledge that the Purple Line may contribute to increased rents for residents and businesses. These potential impacts are being addressed through various commitments described in the FEIS, including MTA's participation in the Purple Line Corridor Coalition, MTA's Economic Empowerment Program, and the project's Business Impact Minimization Program, discussed below.

Business Impacts

Summary of Comments: Commenters stated concern about the impacts of business disruption during construction. Commenters stated that the FEIS failed to adequately discuss the direct construction impacts on environmental justice neighborhoods.

Response: In the *FEIS Chapter 4.19.5-Short Term Construction Impacts*, FTA and MTA recognize that construction would have negative impacts to businesses and that small businesses in particular would have difficulty withstanding the resulting loss of commerce.

MTA is working to coordinate with other state, county, and local agencies, as well as nonprofit organizations throughout the corridor to identify potential resources that can help businesses handle impacts associated with construction and operations and benefit from the Purple Line. In fall 2013, MTA began to meet monthly with the Montgomery County Department of Economic Development and Prince George's County Economic Development Corporation. The goal of these meetings is to identify resources, training, or other programs that could support and strengthen small businesses during construction of the Purple Line. Representatives of these departments are considering amendments to existing programs to make them more suitable for the businesses in the Purple Line corridor. As described above, in summer 2013, the National Center for Smart Growth formed the Purple Line Corridor Coalition with support from the University of Maryland and MTA. Coalition members include nonprofits, governments, developers, and employers in the corridor; MTA is a member of this coalition. The Purple Line Corridor Coalition engages organizations active in the Purple Line corridor, facilitates collaboration and integration, and conducts and disseminates research to assure that investments in the Purple Line achieve the maximum possible economic, social, and environmental benefits to its neighborhoods, residents, and businesses. The mission of this coalition includes stimulating and sustaining small business growth. For more information see the Purple Line Corridor Coalition website at http://smartgrowth.umd.edu/plcc.html.

MTA's Business Impact Minimization Plan is described in *FEIS Chapter 4.19.5*, pp. 4-164 to 165. This plan is currently under development and will be finalized before construction begins. The plan will include the following:

- Spanish-speaking outreach staff
- A 24/7 construction hotline in Spanish and English
- Maintenance of access to business during construction
- Signage in Spanish and English regarding access changes and parking, and including "Open for Business during Construction"
- An "Open for Business" marketing campaign during construction, translated where appropriate
- Local business groups to facilitate ongoing, timely communication with local businesses, specifically businesses adjacent to construction
- promotion of local businesses in project materials, including the website, social media, and project newsletters
- Timing or phasing of construction, where reasonably feasible.

The Purple Line outreach team will be located in the project corridor. MTA will hold regular meetings with local businesses to facilitate communication with the Purple Line construction team so that local businesses are informed about upcoming project activities.

F Locations of Interest

Commenters made comments or suggestions about the design of the project at specific locations. It should be noted that these responses to comments are based upon the conceptual design plans at the time of the FEIS, which are preliminary. These plans will be refined and revised with final design.

F.1 Wayne Avenue

Summary of Comments: Many comments were received regarding issues along the Wayne Avenue portion of the Purple Line. These issues included the following:

- Surface alignment on Wayne Avenue
- Location and design of a traction power substation

- Inclusion of the Dale Drive Station
- Tunnel alignment
- Noise
- Traffic
- Streetscape

A commenter stated that the stability of the residential area was an important part of the successful revitalization of downtown Silver Spring.

Surface Alignment on Wayne Avenue

Commenters stated concern about traffic impacts, private property impacts, and pedestrian and bicycle safety.

Response: As documented in the *AA/DEIS, Chapter 2-Alternatives Considered*, MTA evaluated a variety of surface and tunnel options between Silver Spring to Long Branch. Wayne Avenue was ultimately selected as the most desirable alignment because it is the arterial roadway in the area and is the location of many bus routes. MTA has worked extensively with the local community on Wayne Avenue to minimize impacts from the Purple Line, particularly property acquisition. To minimize the widening of the roadway, MTA conducted a detailed study of the feasibility of operating the Purple Line in mixed-traffic lanes.[14] The study determined that this option was feasible from the perspective of traffic and light rail operations. MTA's analysis and engagement with the community revealed that this option would address key concerns of the community: parking, traffic operations, and property impacts. Because the transitway would share center lanes with vehicular traffic, on-street parking could continue during off-peak periods in most areas. In addition, MTA proposed the addition of left turn lanes at Cedar Street, Dale Drive, and Manchester Road, which improves overall traffic operations relative to the No Build Alternative. The alignment would require acquiring minimal amounts of private property, with most impacts being near intersections due to the added turn lanes. This alignment has been incorporated into the Purple Line.

The Purple Line is being designed to be a safe and efficient system (see *FEIS Chapters 3.2.4* and *3.3.3*). 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 on Wayne Avenue at Plymouth Tunnel. The light rail would essentially operate in lanes similar to the buses that currently travel along Wayne Avenue. The light rail would travel at the posted speed limit of 30 mph. In the vicinity of Dale Drive, the school zone speed limit would be maintained at 25 mph for all traffic.

Traction Power Substation on Wayne Avenue

Many commenters stated a desire that MTA continue to work with the local community on the placement and design of the traction power substation in their community. Commenters objected to the location of a traction power substation on Wayne Avenue at Cloverfield Road. Objections were primarily based on the visual impact of the substation. Suggestions were made that the substation be located elsewhere, buried, or replaced with two smaller substations.

Response: FTA and MTA have consistently recognized that the traction power substation on Wayne Avenue is in a sensitive location, and MTA is committed to continue to work with the adjacent community on the placement and design of this substation. MTA presented several screening options for the traction power substation at a community meeting. MTA is considering all of the suggested alternatives from community members, as well as

[14] Maryland Transit Administration, *Wayne Avenue—Summary of Transportation Impacts from Purple Line Alternatives (*2007)

other options to address community concerns. Technical feasibility may constrain some options. Meetings with local residents will continue to be held to explore options. For additional discussion of comments on traction power substations see *Section C.4—Traction Power Substations* of this document.

Dale Drive Station

Commenters and one petition supported a station on Wayne Avenue at Dale Drive. Other commenters opposed a station. The reasons for support of the station were that it would provide better access, it would serve the neighborhood, and it would be useful. The comments opposing the station cited low projected ridership, proximity to other stations, noise, and traffic problems and concern about future upzoning of the neighborhood. Commenters requested that MTA identify a method to determine community support for the station.

Response: FTA and MTA included Dale Drive station in the FEIS to evaluate the potential impacts of the station. The station would provide improved access and mobility to the local community. The physical impacts of the light rail, including the widening for added turn lanes, would occur whether the station was built or not, as the Montgomery County Council requested that the Purple Line be built so that the station could be added without reconstruction of the line. The County Council passed Resolution 16-1470, July 27, 2010, which states that there is no intent or desire to change the zoning in the area around the station if the station is built. On January 28, 2014, after coordination with Montgomery County, MTA announced that it will construct the station with the rest of the project.

MTA has received and considered much correspondence, comments, and petitions from community members in support of a decision to build the Dale Drive station at the outset.

Tunnel under Wayne Avenue

Commenters stated support for placing the alignment in a tunnel under Wayne Avenue. The reasons provided were concerns about noise, traffic, and a statement that Wayne Avenue is a residential street incompatible with the light rail.

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 options along Wayne Avenue, including an additional underground tunnel alignment extending from the Silver Spring Transit Center to a tunnel portal between Mansfield Road and Sligo Creek Parkway (see memo # 7 *Evaluation of LRT Options between the Silver Spring Transit Center and Mansfield Road,* in FEIS Technical Report *Supporting Documentation for Alternatives Development*).

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 mixed-traffic 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 several 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 houses at this location, as well as adding retaining walls in the front yards. Also, left turn access into and out of driveways would have been eliminated for the three 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.

A tunnel option with underground stations at the Silver Spring Library and Dale Drive would have significant construction impacts and would be so costly that it was determined not reasonable; therefore, the tunnel option was evaluated without these stations. With this option there would be no stations between the Silver Spring

Transit Center and Mansfield Place, an approximate 1½-mile stretch which otherwise would have served the residents of Silver Spring.

Other tunnel options for Silver Spring were evaluated in the early planning phase as part of the alternatives analysis of the project. These options are described in *AA/DEIS Chapter2.4.9, 2.4.10 and 2.4.12*

The affordability of the Purple Line project is a critical consideration when evaluating proposed alternatives. 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 FEIS Chapter 2.2.3). When assessing the costs associated with tunnel options, MTA considered both the Federal cost-effectiveness ratios prescribed by FTA as well as the overall cost in terms of affordability.

Noise on Wayne Avenue

Commenters stated concern that a surface alignment on Wayne Avenue would raise noise levels in the community.

Response: Wayne Avenue carries high volumes of vehicular and bus traffic. As such, there is existing traffic-related noise. The noise analysis described in *FEIS Chapter 4.11- Noise* and the *FEIS Noise Technical Report* documents the projected noise levels. 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. For further discussion of noise analyses for the Purple Line see *Section E.9-Noise* of this document.

Traffic Impacts on Wayne Avenue

Commenters stated concern about potential impacts to traffic on Wayne Avenue from the mixed-traffic operations and the potential for diversion of traffic on to local neighborhood streets.

Response: As discussed in *Section D.2—Highways and Roadways* of this document, a detailed analysis of traffic operations on Wayne Avenue was performed. MTA, in close coordination with MD State Highway Administration and Prince George's County, has conducted traffic studies for Wayne Avenue to examine traffic and light rail impacts. Specific measures to improve traffic operations and safety along Wayne Avenue include separate left turn lanes at Cedar Street and Dale Drive, and an additional westbound through lane at Sligo Creek Parkway. Further, MTA is proposing to signalize the intersection of Manchester Road and the entrance to the tunnel, providing additional signalized pedestrian crossings of Wayne Avenue.

Earlier traffic studies conducted along Wayne Avenue and documented in the 2008 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 resulting rail and roadway alignment provides travel lanes that are one foot wider to accommodate light rail vehicles in mixed-traffic 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 signals 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.

It is not anticipated that the introduction of the Purple Line vehicles on Wayne Avenue will result in a diversion of traffic through neighborhood streets. If necessary, however, traffic calming measures would be considered by the County after light rail operations begin.

Wayne Avenue Streetscape

Response: MTA worked throughout the alternatives development process to address community concerns by refining the Wayne Avenue surface alignment to minimize impacts. Operating the light rail vehicles in mixed traffic lanes in the center of the roadway minimizes the impacts to private property, with most of the property acquisitions being near the intersections due to the addition of turn lanes. The streetscape will be changed with the introduction of the Green Trail on the north side of the roadway. The Green Trail will be separated from the roadway with a landscaped buffer and/or planter boxes where space permits. MTA will continue to work with the local community as design progresses.

F.2 University Boulevard

Summary of Comment: A commenter questioned the plans to convert two general traffic lanes of University Boulevard to light rail lanes.

Response: During preparation of the FEIS in 2012 and 2013, MTA studied the feasibility of reducing the six-lane portions of University Boulevard to four lanes, essentially using the existing two center lanes for the light rail transitway. This analysis was done in close coordination with MD State Highway Administration, Montgomery County, and Prince George's County. This option was documented in the FEIS and has been incorporated in to the Purple Line plans.[15] See *FEIS Chapter 2.2.3, Additional Refinements to the Alignments (Post-August 2012)*.With the implementation of a number of specific intersection improvements, the future build condition operates comparably to the future no build conditions while significantly reducing property acquisition and business displacements, improving the safety of pedestrians crossing University Boulevard, and providing space for other future pedestrian and bicycle facilities as recommended in the various Sector Plans. All relevant agencies and jurisdictions supported this design.

This option has been shared and discussed with communities and business in the University Boulevard corridor.

F.3 Connecticut Avenue

Summary of Comments: A commenter suggested that the Purple Line be built below grade at Connecticut Avenue in a cut-and-cover tunnel and that Connecticut Avenue be raised slightly to provide additional clearance for the light rail. Commenters stated concern about the visual impact of the Purple Line bridges over Connecticut Avenue. In addition, a commenter stated concern that the Purple Line has facilitated the use of single occupancy vehicles because the Chevy Chase Lake Sector Plan calls for widening Connecticut Avenue and East West Highway.

Options for crossing Connecticut Avenue below grade: At the request of the community and elected officials, MTA has assessed numerous configurations of the crossing at Connecticut Avenue at various stages of this study. Those carried forward in the AA/DEIS included both an at-grade and aerial crossing. In response to stakeholder input MTA considered other options including tunnels, including depressing Connecticut Avenue, and other changes in elevation of Connecticut Avenue, but determined that these created additional impacts. A tunnel along all or portions of the Georgetown Branch right-of-way was considered, this option would result in significant costs and impacts with no benefit from an operations or ridership standpoint. In this area, the costs would be even higher with a resulting underground station. Depressing Connecticut Avenue under the Purple Line at grade level would require the realignment of several roads and driveways along Connecticut Avenue. It would result in substantial impacts to several community and natural resources, including residential and commercial access points as well as a nearby stream crossing just south of Chevy Chase Lake Drive. Raising Connecticut Avenue over the transitway would result in similar impacts to adjacent properties, cutting off access or requiring service roads that would impact the businesses it would be trying to serve. Under the current design for the Purple Line,

[15] MTA, University Boulevard (MD193) Reduction from Six to Four Lanes—Benefits Summary (2013)

the transitway and trail will pass on bridges over Connecticut Avenue. Montgomery County supports this design and has incorporated it into the new Sector Plan for the area.

Design of Connecticut Avenue Bridges: 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. MTA understands that visual impacts to the Connecticut Avenue area from the proposed Connecticut Avenue bridges are a community concern. 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 (*FEIS Chapter 4.9.3*). The retaining walls and bridge structure have been identified as candidates for enhancement under the Art-In-Transit program. 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.

Widening of Connecticut Avenue and East West Highway: The Chevy Chase Lake Sector Plan specifically recommends not widening either Connecticut Avenue or East West Highway. Intersection improvements at Connecticut Avenue and Jones Bridge Road are being implemented in response to the changes at the Walter Reed National Military Medical Center resulting from the Base Realignment and Closure Act.

F.4 Lyttonsville Area

Summary of Comments: Commenters asked specific questions about parcels of property and proposed plans.

- Property near Albert Stewart Avenue
- Traction power substation near Kansas Avenue
- Retaining walls near the Lyttonsville station
- Vehicular access to the rail yard at Lyttonsville
- Existing landscaping supply yard
- Property at Brookville Road and Stewart Avenue
- Talbot Avenue Bridge

Property near Albert Stewart Avenue

A commenter asked what was proposed for a parcel of property near Albert Stewart Avenue.

Response: The parcel south of the Purple Line and west of Albert Stewart Avenue is proposed to be acquired to provide an access road to the existing businesses to the west as shown on Sheets 106 and 107 in the Conceptual Engineering Plans contained in Volume II of the FEIS. This will result in a six-foot wide grass buffer between the trail and the barrier for the access road to the south. A stormwater pond is proposed slightly to the east adjacent to Stewart Avenue.

Traction power substation near Kansas Avenue

Commenters asked if the traction power substation near Kansas Avenue could be moved to the other side of the Purple Line tracks.

Response: As described in *Section C.4—Traction Power Substations* of this document, there is insufficient space between the Purple Line and CSX to move it to the other side of the tracks. MTA recognizes that the location of the traction power substation near Kansas Avenue is in a residential area and will provide fencing and landscaping to screen it from the adjacent homes. MTA is investigating the possibility of shifting this traction power substation closer to Michigan Avenue to allow a greater buffer between the substation and the adjacent homes, with access off Michigan Avenue rather than Kansas Avenue.

Retaining Walls

A commenter asked if the retaining walls near the Lyttonsville station could be used for the Art-In-Transit program.

Response: These walls have been recommended for enhancement in the Art-In-Transit program.

Vehicular Access to the Rail Yard

A commenter asked if the vehicular access to the rail yard at Lyttonsville could be moved to the west, so that the area north of the station could be used for public space.

Response: MTA is planning to construct a wide, landscaped plaza at the corner of Lyttonsville Place and Brookville Road on some of the land in this quadrant. In working with the community, MTA made every effort to minimize the size of the Lyttonsville Yard. However, a portion of the yard extends east of the Lyttonsville Place bridge. Primary access to the yard will be to the west of Lyttonsville Place; however, with the current design, a secondary entrance is needed to the east of the bridge to provide access to that portion of the yard. Even without this entrance, much of that area is required for the yard tracks.

Landscaping Supply Yard

A commenter suggested that instead of the proposed new access road to the existing landscaping supply yard an at-grade crossing could be used if the land use remains what it is today, and replaced with a bridge (by the developer) if the land is developed.

Response: As outlined above, this road is planned to provide access to the existing businesses to the west. At the request of Montgomery County, the road is being designed to County standards as a 20-foot wide commercial entrance (See Sheet 429 of the Conceptual Engineering Plans in Volume II of the FEIS). Another reason to relocate the entrance is that an at-grade entrance is not desirable, because it would cross the tracks into Purple Line yard and the trail. The future use, zoning, and access to this area will be further evaluated through the M-NCPPC's ongoing sector planning process.

Property at Brookville Road and Stewart Avenue

A commenter requested that MTA acquire the former E.C. Keys property at Brookville Road and Stewart Avenue for a permanent museum of local history.

Response: MTA does not plan to purchase the former E.C. Keys property. MTA will develop a comprehensive interpretive plan for the Purple Line that includes signage at stations, Art-In-Transit, historic images, etc. Other interpretive opportunities include historic information (documents, photographs, mapping) offered online and through associated applications.

Talbot Avenue Bridge

A commenter requested that an historic portion of the Talbot Avenue Bridge be preserved for further use as part of Lyttonsville community history.

Response: The decision to replace the Talbot Avenue bridge, and not lengthen or modify it to accommodate the Purple Line, was based on the significant structural deterioration and distress of the bridge. Montgomery County has stated they are not interested in salvaging the structure or its components because of its poor condition. As a County-owned structure, the final disposition of the bridge will be a county decision. The County will be responsible for considering any requests from the community to salvage the structure or a portion of the structure.

The historic bridge will be documented with photographs and a historic context report as part of the Historic American Engineering Record documentation as determined by the Section 106 consulting parties and included in the Programmatic Agreement for the project. This information may be integrated into educational and interpretive materials developed as part of the interpretive historic plan for the project, as stipulated in the Programmatic Agreement.

F.5 River Road

Summary of Comments: Commenters suggested that the Purple Line run in River Road, rather than adjacent to it, near the American Center for Physics, to the M Square station. Commenters stated that this would support local visions for more urban pedestrian development.

Response: MTA has been coordinating with Prince George's County and the M-NCPPC extensively throughout the alternatives development process, and both agencies support the alignment on the south side of River Road through this area (as shown in the FEIS), and they see it as compatible with future plans for transit-oriented development. Even if a shared-use configuration were considered, it would still result in property impacts to the American Center for Physics, as the alignment would still have to pass through the property to return to River Road from the College Park Metrorail property.

F.6 Bonifant Street

Summary of Comments: Commenters had several questions and concerns about the design of Bonifant Street in Silver Spring.

- Location of poles in sidewalks
- Noise and Vibration
- Questions about Conceptual Engineering Plans

Response: MTA continues to work with Montgomery County and local business owners to address their concerns relating to the design along this block of Bonifant Street. As a result of this coordination, design refinements have been proposed to facilitate truck deliveries to local businesses. The eastbound track will be in a mixed-traffic lane so that a truck can stop in the right travel lane to load or unload, if parking spaces are not available, and other vehicular traffic can pass using the eastbound shared lane.

Street Light and Catenary Poles on Bonifant Street

A commenter stated concern about the need for street lights on Bonifant Street and the need to widen the sidewalk and rebuild it to the Silver Spring district's brick sidewalk standard. Commenters stated concern about location of catenary poles and crowding of sidewalk. Commenters stated concern about the proximity of the transit lane to the front doors of businesses.

Response: The Purple Line project does not include the installation of new street lights along the 900 block of Bonifant Street. However, new streetlights are being added by the builders of both the Silver Spring Library and Silver Spring Library residential development as part of those projects. Sidewalks will be maintained but, because of limited space, cannot be widened. The plans on Sheets 114 and 115 in the Conceptual Engineering Plans contained in Volume II of the FEIS show the preliminary (conceptual) location of the catenary poles. They are denoted as small circles, outside of the tracks on either side of the roadway, as depicted in the Typical Section. The final location of the poles will be determined in the final design phase of the project. Generally, the poles will be located on the front edge of the sidewalk closest to the street in the same area as other signs and poles.

Noise and Vibration on Bonifant Street

Commenters stated concern about noise and vibration impacts to businesses on Bonifant Street. Commenters asked why vibration was not measured on Bonifant Street.

Response: As part of the noise analysis for the project, a noise monitoring and assessment site was located on the block of Bonifant Street between Georgia Avenue and Fenton Street. Noise monitoring site M23 was located at 949 Bonifant Street. Noise data was collected at this site to establish existing noise levels and project-related noise projections were assessed. The information is included in the *FEIS Noise Technical Report* and

summarized in the FEIS. Based on this analysis, there is no projected noise impact from the project to the businesses along Bonifant Street.

A vibration study was also conducted for the project. A vibration monitoring site was not included on Bonifant Street. Monitoring sites were selected on the basis of several factors, the most important of which was the site's potential sensitivity (see *Section E.10 -Vibration* of this document). These include sites where uses are particularly sensitive to vibration such as research facilities and places where people sleep. The commercial uses along Bonifant Street typically are not at this level of sensitivity. Purple Line trains traveling on this block of Bonifant Street will not exceed 10 mph, further mitigating the potential for vibration. Vibration levels generated from the Purple Line will be less than a truck or bus going over a bump or pothole.

Vibration during construction is discussed in *Section G.2-Noise and Vibration during Construction* of this document.

Questions about Conceptual Engineering Plans

A commenter asked what the stippled background of the transitway on the plans for the 900 block of Bonifant Street indicated and who would maintain this area.

Response: The stippled back ground indicates concrete, as the tracks are embedded in the roadway in this area. MTA is responsible for maintaining the transitway but may assign this responsibility to the public-private partner or Montgomery County through an agreement.

A commenter asked why the track alignment profile on *FEIS, Volume II,* p. 198 doesn't show the at-grade alley crossing.

Response: The alleyway entrance on the north side of Bonifant Street will be maintained. It does not appear on the profile sheet as these sheets do not show all driveways and entrances.

F.7 Long Branch

Summary of Comments: A commenter asked whether the town homes on Arliss Street would be displaced by the Purple Line.

A commenter stated that the plans and sections shown for Arliss Road in the Long Branch area did not correspond. Commenter requested changes to the proposed construction staging areas and proposed long-term property access.

Response: The Purple Line will be located on the southwest side of Arliss Street (the same side as the shopping center) and the town houses will not be acquired for the project. There are no plans to replace the town homes for public space. *FEIS Volume II, Environmental Resource Mapping, Sheet 12 of 32.*

Commenter is correct regarding the plans and sections shown for this Arliss Street in Long Branch. The section is incorrect and does not reflect the plans. MTA has continued to coordinate with the local property owner and the requested modifications are under consideration.

G Construction Impacts

Summary of Comments: Commenters stated concerns that specific construction impact mitigation measures were not described for their specific community. Commenters requested more information about the construction schedule. Commenters requested that the construction sites be secured from entry by non-authorized persons. Commenters requested that vacant or publically-owned property, rather than privately-owned and developed property, be used for construction staging activities. Commenters requested active engagement with MTA and the construction contractor during the construction phase of the project. A commenter requested restrictions on the hours of construction in residential areas. A commenter stated concern about use of local community

facilities by construction workers. A commenter stated that although *FEIS Chapter 5-Overview of Construction Activities* describes the construction activities, the environmental impacts of construction have not been fully examined and analyzed. A commenter asked how Hamlet Place Co-op would be impact by the construction of the four-foot noise walls. Commenters asked for the *Construction Activities Technical Report*.

Response: *FEIS Chapter 5-Overview of Construction Activities* describes how construction might be undertaken, while *FEIS Chapter 4-Environmental Resources, Impacts, and Mitigation* examines and analyzes the impacts during construction within each study topic, under the heading "Short-term Construction Effects." The Purple Line is too early in the design and engineering phase to have developed a construction schedule yet. As the design progresses, details of construction will be shared with local residents, including the schedule, utility impacts, planned haulage routes, and hours of construction. MTA has endeavored to identify areas for construction staging which are vacant, slated for acquisition for the project, or publicly-owned.

MTA will work closely with affected communities during the construction phase of the project, forming working groups, if requested. The project's public involvement plan includes community liaisons who will serve as the point of contact for local residents and businesses prior to and during the construction process. MTA will require that the contractor maintain a secure construction site and that noise, dust, and vibration be minimized and that all applicable ordinances and requirements be met. MTA will work with Montgomery County and local residents to monitor use of local community facilities, such as the Coffield Community Center, and will provide additional resources such as policing or maintenance, if necessary.

Construction of the Purple Line, including the noise barriers and the grading for the elevation of the tracks over Connecticut Avenue would all occur within the county-owned right-of-way, which is approximately 100 feet wide at Hamlet Place Co-op. The elevation of the tracks would begin near Hamlet Place Co-op.

The reference in the FEIS to the *Construction Activities Technical Report* is an error, as MTA decided to include this content in the FEIS and to not prepare a separate report. The project's Environmental Compliance Plan, which will be developed after the ROD and prior to the initiation of construction, will ensure that contractors employ means and methods to avoid or minimize impact to the environment and general public in compliance with construction contract documents (*FEIS Chapter 5.4*).

Rosemary Hills Elementary School

A commenter stated concern about the impacts of construction to the Rosemary Hills Elementary School.

Response: MTA will implement construction work at Talbot Avenue Bridge immediately adjacent to the Rosemary Hills Elementary School during the summer months. MTA will endeavor to complete construction of the Talbot Avenue Bridge in 15 months. MTA will coordinate the schedule for the bridge closure with Montgomery County Department of Transportation, Montgomery County Public Schools, and the community.

Rodent and Pest Control

A commenter stated concern about animal and pest invasions due to blasting and spoil removal.

Response: Construction contractors will be required to implement pest control programs prior to and during construction where animal or insect pests could be a problem.

G.1 Traffic during Construction

Summary of Comments: Commenters stated concern about disruption of traffic during construction. A commenter was concerned about the traffic impacts due to the construction of the underpass of Jones Mill Road. A commenter expressed concern about the closure of the trail during construction. The major concern was the segment from Stewart Avenue to Jones Mill Road, which does not have convenient on-road detour routes.

Response: MTA is developing a Transportation Management Plan to minimize impacts to traffic during construction. The plan, being developed collaboratively with MD State Highway Administration and Montgomery and Prince George's Counties, will include traffic plans for transit, roadways, pedestrian, and bicycle traffic. The construction of the underpass for the Purple Line at Jones Mill Road and traffic in this area will be carefully planned for in the Transportation Management Plan. MTA will work with Montgomery County to minimize construction impacts and the amount of time that portions of the trail or transitway would be closed during construction (See *FEIS Chapter 5*). A segment-by-segment detour plan is being developed for the trail, and this route will be signed when in use.

G.2 Noise and Vibration during Construction

Summary of Comments: Commenters stated concern about noise and vibration from construction. A commenter stated concern about vibration impacts to businesses on Bonifant Street, particularly items falling off shelves or tables. A commenter stated concern that MTA has not made specific commitments to conform to Montgomery County construction noise ordinances, including the creation of a Noise Suppression Plan for exposures that exceed 75 dBA during the hours of 7 AM to 5 PM or temporary noise waivers for after hours or nighttime work.

A commenter stated that MTA should commit to specific vibration mitigation measures during construction such as:

- selecting pile driving hammers,
- offering a monitoring program to houses within 75 feet of the construction area
- compensating residents for any construction related damage

Vibration

Response: MTA expects relatively small areas of the proposed project corridor to experience vibration effects from construction activities at any given time. These areas include the tunnel construction under Plymouth Street, the Purple Line structures at the Silver Spring Transit Center, and sections along the transitway where extensive bridge and retaining wall work would occur. Using best management practices, MTA will identify where potential vibration impacts could occur, and conduct detailed preconstruction surveys (including photographs) to document the condition of local buildings. These buildings will be carefully monitored for evidence of impacts, such as cracks. If impacts are identified, MTA will implement control measures to reduce impacts and will repair any damage caused.

MTA will conform to local noise ordinances, as appropriate.

As described in *FEIS Chapter 4.20*, MTA has committed to the following construction mitigation measures: analyzing extremely vibration sensitive buildings located within the UMD campus, as agreed upon by MTA and UMD, and identifying control measures to be implemented by the contractor during construction activities to minimize the potential for vibration impacts.

Bonifant Street

Response: A vibration monitoring site was not included on Bonifant Street. Monitoring sites were selected on the basis of several factors, the most important of which was the site's potential sensitivity. These include sites where uses are particularly sensitive to vibration such as research facilities, recording studios, and places where people sleep. The commercial uses along Bonifant Street typically are not at this level of sensitivity. While construction activities have the potential to generate vibration, those activities with the highest potential such as blasting or pile driving are not anticipated along Bonifant Street.

G.3 Plymouth Tunnel Construction

Summary of Comment: A commenter stated concern about the disruption to community from the construction of the tunnel under Plymouth Street.

Response: In February 2013, MTA met with local residents who could be impacted by construction of the Plymouth Tunnel. The tunnel construction will be a long process lasting over four years (see FEIS Table 5-1). MTA will require avoidance and minimization strategies, including establishing performance standards for construction equipment to reduce noise and vibration associated with the construction activities. As described in *Section E.1-Impacts to the Natural Environment* of this document, the Environmental Compliance Plan will ensure that contractors employ means and methods to avoid or minimize impact to the environment and general public. MTA will work closely with homeowners and residents in the area of potential impact of the tunnel to ensure they are fully informed of the tunnel construction activities. Information on potential construction-related noise may be found in the *FEIS Noise Technical Report* in Short-term Construction Effects. Also refer to *FEIS Chapter 5-Overview of Construction Activities*.

H Section 4(f) Resources

Summary of Comments: Commenters identified resources that they believed should have been evaluated (or should have been evaluated differently) under Section 4(f) of the Department of Transportation Act (DOT Act) of 1966. These were:

- Elm Street Park
- Georgetown Branch Interim Trail
- Rock Creek Trestle Bridge
- Lyttonsville

Elm Street Park

A commenter stated that the impacts to Elm Street Park should not be considered *de minimis* and that potential safety issues at the park, combined with the "attractive nuisance" of the trail, would be a violation of 4(f). The commenter believes that the transitway will be a danger to children because they will be attracted to trespassing on the tracks.

Response: As a separate project, Montgomery County is constructing an at-grade connection between the existing Capital Crescent Trail in Bethesda and Elm Street Park, with the goal of linking to the permanent Capital Crescent Trail. The County's project includes bike lanes and signage on existing streets. Safety of park and trail users is a component of their consideration in advancing this project. The County's project is part of the Montgomery County *Countywide Bikeways Functional Master Plan* (2005).

The Purple Line will connect the County's project with the permanent Capital Crescent Trail at Elm Street Urban Park. As stated in the FEIS (Chapter 6.4.1) and the *ROD Attachment D—Section 4(f) Evaluation*, the Purple Line will not permanently use any part of Elm Street Urban Park or substantially impair the activities, features or attributes—playgrounds, gazebo, picnic tables, benches, trails and public art—that qualify the park for protection under Section 4(f).

Through its coordination with the County, MTA has agreed to 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 park land to be temporarily used includes a portion of an existing path, an undeveloped corner of a playground, and a grassy area adjacent to the path. As temporary construction easements on park property would be required, FTA proposed a temporary occupancy exception determination for Elm Street Park in Chapter 6.4.1 of the FEIS. After considering the FEIS comments, FTA made a final temporary occupancy exception determination for Elm Street Park in the Record of Decision (*Attachment D-Final Section 4(f) Evaluation, Chapter 1.4.1*).

FTA made a temporary occupancy exception determination for the construction easements as they satisfy the five criteria for temporary occupancy set forth in the regulations of Section 4(f), codified in 23 CFR 774.13(d) and discussed in the Record of Decision (*Attachment D*-Final Section 4(f) Evaluation,, Chapter 1.1.1).

Specifically, (1) the duration of the work is temporary, less than the overall project construction period and no change in property ownership will occur; (2) the work is confined to a small area of the park and will 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 will occur; (4) the disturbed land will be fully restored to at least as good condition; and (5) the officials with jurisdiction have provided documented agreement to these findings. As such, the temporary construction easements do not constitute a use of Elm Street Urban Park under Section 4(f).

The Maryland-National Capital Park and Planning Commission (M-NCPPC), which is the official with jurisdiction, concurred with FTA's proposed determination on December 17, 2013 (see M-NCPPC concurrence in FTA's November 17, 2013 letter to M-NCPPC (ROD, *Attachment E- Agency Correspondence*)).

The entire Purple Line will be fenced off from adjacent properties including Elm Street Urban Park and the Capital Crescent Trail. Trail access will be via formal access points. There are two features of the Purple Line design that will enhance safety for Park users. First, a ventilation structure will be located between the park and the transitway. The trail connection would climb on retained fill under the Air Rights Building to a point where the connection crosses over the transitway. The retained fill will also limit views of the transitway and act as a barrier for noise from passing trains. The only access between the Capital Crescent Trail and the Park would be via the trail connection. Second, the trail connection would be fenced to provide safe passage over the transitway. The Purple Line will not be sounding a horn as it approaches the station. Horns are only sounded at at-grade roadway crossings and in emergency situations. They would not be sounded at the approach to the Bethesda station. A complete horn and bell policy is under development by MTA.

Georgetown Branch Interim Trail

Commenters stated that the Georgetown Branch Interim Trail is a park and should be evaluated as a Section 4(f) resource.

Response: The Georgetown Branch Interim Trail is not a Section 4(f) resource. 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." FTA believes that "the intent of the Montgomery County Council to preserve the right-of-way in question for a transportation use has been adequately documented as suggested by the 4(f) policy guidance." 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.

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) resource, 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 of the *FEIS Chapter 6*).

Although the right-of-way is not a Section 4(f) resource, the impacts to forests and specimen trees have been studied. As described above, a Forest Stand Delineation is being conducted within all forested areas in the study area. For more information on this topic see *Section E.11- Habitat and Wildlife* of this document.

Rock Creek Trestle Bridge

Commenters stated that the Rock Creek Trestle Bridge is an historic resource and should be evaluated as a 4(f) resource.

Response: As described in *Section E.6—Historic Resources* of this document, the trestle was determined to be not individually eligible and also not a contributing element to an historic property, it is not a historic property protected by Section 4(f).

Lyttonsville

Commenter stated that the Lyttonsville is a historic resource and should be afforded the protections of Section 4(f).

Response: As described in *Section E.6—Historic Resources*, Lyttonsville was not identified as a historic property. Therefore, Lyttonsville would not be considered a Section 4(f) resource for the Purple Line.

I Indirect and Cumulative Effects

Summary of Comments: Commenters expressed concern about indirect and cumulative impacts related to increased development, particularly for overcrowded schools in the Bethesda-Chevy Chase cluster. One particular area of concern was Chevy Chase Lake.

Response: MTA has actively participated in the public land use planning process of both Montgomery and Prince George's counties because of the importance of the Purple Line stations in the influencing how land will be developed or redeveloped. The FEIS considered and assessed the reasonably foreseeable impacts of such future development, and it provides minimization and mitigation measures including design standards and safety features. The analysis in the FEIS found that the Purple Line will likely be the catalyst for denser transit-oriented development, in support of visions for the future in both counties. The FEIS also noted that the Purple Line is in the Master Plan and the induced growth has been accounted for in local county planning. See *FEIS Chapter 7.2.2—Indirect and Cumulative Effects.*

The impacts of redevelopment at Chevy Chase Lake, which would be permitted under the Chevy Chase Lake Sector Plan (approved and adopted in 2013), were considered in *FEIS Chapter 7.2.2—Indirect and Cumulative Effects*. The Purple Line will induce the projects of the second step in the zoning amendments that would redevelop an urbanized area. This potential redevelopment would focus development near the Purple Line station, and provide more housing options and new pedestrian-oriented community amenities. 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.

Because the Purple Line will have such a prominent role in shaping the neighborhood, MTA has worked closely with Montgomery County in the public process that is part of the development of the local sector plan; attending public meetings, and working with local communities and stakeholders.

Summary of Comments: Commenters stated concern about the cumulative impact of the loss of forests.

Response: As discussed in *FEIS Chapter 7.3.4—Forests,* MTA is guided by the Maryland Forest Conservation Act which regulates development impact to forest land, as well as the use of the Georgetown Branch right-of-way. The estimated loss of forest within the cumulative effects study area is 0.6 percent of the forest land.

J Public Involvement

Summary of Comments: Commenters provided comments on the public involvement program of the Purple Line.

J.1 Continued Public Involvement

Summary of Comments: Commenters stated a desire for continued engagement of MTA with local communities as the project moves forward, particularly during construction. Commenters wish to continue to work with designers on visual impacts such as retaining wall design and landscaping.

Commenters wish to work with the construction team to minimize impacts from construction, on the issues such as haul routes, hours of construction, traffic management, and noise and dust control measures.

Commenters stated that MTA had not met with the Hamlet Place Co-operative. These commenters requested coordination similar to what was done with the Town of Chevy Chase.

Response: MTA continues to expand the public outreach program associated with the Purple Line in an effort to share information and gain input into the project. MTA is committed to engagement with the local communities in the corridor throughout the planning, final design, and construction of the Purple Line. MTA has a dedicated public outreach team who will meet regularly with local residents and businesses serving as liaisons between the community and the design and construction team. Part of the role of the outreach team is to identify the appropriate technical staff for particular issues and to assist in ensuring that communities understand how those issues are being addressed.

MTA met with the Hamlet Place Co-operative at the Co-op offices on 8/29/07 and 9/15/11. Hamlet Place representatives attended Purple Line Community Focus Group meetings in 2007, 2008, and 2009. Five residents of the Co-op attended a Purple Line Neighborhood Work Group in October 2011. Residents of this community were sent the project newsletters and invited to larger project public meeting including Open Houses in 2011 and 2013. MTA looks forward to continued coordination with the residents of Hamlet Place.

J.2 MTA Outreach Efforts

Summary of Comments: Commenters stated that they believed the community outreach conducted by MTA was a "check the box" exercise, rather than a legitimate effort to solicit public input. A commenter stated that MTA has not upheld its promises to preserve trees, the trail, and the at-grade crossing of the trail at Lynn Drive. Other commenters expressed their appreciation for MTA's outreach efforts.

Response: MTA has conducted an extensive outreach program (see FEIS Table 4-27). The plans for the Purple Line reflect the many changes to the project that came about from coordination with the public. Many early alignments, such as the use of East West Highway, were eliminated from further consideration based in part on community and stakeholder input, while some, such as the Silver Spring/Thayer alignment and the aerial alignment over Kenilworth Avenue and Riverdale Road were added later in the alternatives planning process. Some of the changes made in response to public input include:

- the use of mixed-traffic lanes on Wayne Avenue
- the minimization of the Lyttonsville Storage Facility and its shift to the west,
- the reduction of University Boulevard from six general traffic lanes to four,
- the shift of the alignment on Kenilworth Avenue to the median, and
- the shift of the alignment on Riverdale Road from the median to the south side of the road.
- the development of the current plans that will permit trucks to double park while making deliveries on Bonifant Street (based in input from local businesses).

In addition, MTA has made efforts to minimize tree loss along the Georgetown Branch right-of-way. The right-of-way would be replanted after construction, and the landscaping would assist in mitigating this visual impact at

maturity, 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 or noise barrier 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. MTA will prepare the finishes and design of the walls and fences along the trail in consultation with the County and the community. Though different in type and character, MTA will provide replacement landscaping where practicable. To further enhance the visual setting of the trail, Montgomery County has identified funding for additional landscaping and amenities along the trail. MTA has met with communities and residents along the Georgetown Branch more than 30 times and held open houses on the project in Bethesda or Chevy Chase nine times. Although the Lynn Drive at-grade crossing was removed from the project, MTA presented options for a grade-separated crossing below the transitway. However, these options are not being carried forward based on comments from the Town of Chevy Chase.

Summary of Comment: A commenter was disturbed at the development of a children's page on the project website.

Response: These pages are used as part of the project's student safety education program for construction, and later, operations.

J.3 Graphics and Renderings

Summary of Comments: Commenters both praised and criticized the graphics and renderings used for the Purple Line public outreach. Commenters 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.

Commenters stated that FEIS Figure 4-18 distorts the distance impacts experienced by the adjacent community. Commenters stated that FEIS Figure 5-1 distorted the location of Hamlet Place relative to the Purple Line right-of-way.

Response: MTA uses graphics to help portray the ultimate design of the facility. Plans and displays are clearly marked that landscaping is shown for illustrative purposes and does not fully represent the existing or proposed future conditions. Figure 5-1 is not intended to show Hamlet Place.

K Evaluation of Alternatives

K.1 Project Will Not Make Money

Summary of comment: A commenter stated the Purple Line will not make money, and the fares collected will not cover the cost of operating the line, and for this reason a private company will not want to operate the Purple Line.

Response: MTA does not expect fares to cover the cost of operating and maintaining the Purple Line. Transportation facilities, including roadways, light rail transit, and bus services do not regularly produce a profit and require subsidy as a general rule. Transportation facilities are built and subsidized as a public service. MTA's proposed use of a public-private partnership does not assume that the operator will control or retain the fares.

K.2 Project Cost

Summary of Comments: Commenters stated that they believe the project is too costly and that the cost of the project has risen substantially since the initiation of the project. Commenters stated that they believe the benefits from the project do not justify the cost. Commenters stated that they did not think the fares would cover the cost

of operations. Commenters expressed skepticism about the accuracy of the costs. Commenters were concerned with how the project costs were calculated, the cost to build and maintain the project, and the high cost per rider.

Response: The 16-mile Purple Line is a needed investment in local communities and the region. While MTA recognizes that this project is costly, transit is part of the solution needed to address the continuing growth in jobs and population in the Washington metropolitan area. The MTA has concluded that the benefits of this long-term transportation investment justify the cost. The goal of the Purple Line project is to provide an improved and more reliable alternative mode of transportation for people traveling east-west and convenient access to existing rail services, such as the Metrorail and MARC systems, for those who do not have it now. The value created by the Purple Line will be reflected not only in the added accessibility to both Prince George's and Montgomery Counties, but also in growth and reinvestment at many of the station areas. *FEIS Chapter 1-Purpose and Need* explains the need for the project. *FEIS Chapter 9-Evaluation of Alternatives* states the conclusions of the evaluation of the impacts.

The cost of the project has to be considered in light of its expected benefits, which include serving 74,160 riders daily by 2040 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, thereby providing improved access to the Washington region. It will also connect communities and provide access to housing and employment throughout the corridor and beyond.

Project cost estimates are developed following a methodology prescribed by FTA. The costs are thoroughly reviewed and approved by FTA (see *FEIS Capital Cost Technical Report*).

Summary of Comments: A commenter stated that a new DEIS should be performed comparing the same alternatives (from the AA/DEIS) with updated costs. The commenter stated that estimated costs were significant considerations in selecting reasonable alternatives for study in the AA/DEIS and in comparing the selected alternatives in the AA/DEIS. The commenter asserted that projected costs for the Preferred Alternative have fundamentally changed since MTA compared project alternatives in the AA/DEIS and assert that a light rail alternative may not have qualified as a reasonable alternative given the costs currently being cited. The commenter stated that the additional alternatives analysis should be prepared at the DEIS level since an FEIS for a New Starts transit project typically focuses on the Preferred Alternative and a No Action Alternative.

Response: The costs of light-rail transit alternatives (and other alternatives) have not fundamentally changed since the publication of the AA/DEIS in 2008. The cost estimates have been refined over time as more information was available and have been reported in different base years, which can cause confusion. The perception that costs have increased significantly since the AA/DEIS results from the different ways that costs were presented at different points during the study. The AA/DEIS presented "base year" cost estimates, while the FEIS presented a "year of expenditure" cost estimate. The base-year cost estimate represents the cost if all construction happened in that base year. The year-of-expenditure cost estimate takes into account the multi-year construction schedule; it reflects the effects of inflation over that multi-year period.

Over the course of this study, the following cost estimates have been provided for the light-rail alternative that culminated in the Preferred Alternative.

The AA/DEIS included base-year cost estimates for the build alternatives. The Medium and High Investment LRT alternatives in the AA/DEIS were estimated at $1.2 billion and $1.6 billion, respectively in 2007 dollars.

When the Locally Preferred Alternative (LPA) was announced in August 2009, the base-year cost of the LPA was reported at approximately $1.5 billion in 2009 dollars. The LPA was a blend of the Medium and High Investment LRT alternatives. Therefore, the $1.5 billion cost estimate for the LPA in 2009 dollars was consistent with the $1.2 to $1.6 billion range reported for the Medium and High Investment LRT alternatives in 2007 dollars in the AA/DEIS.

The FEIS included a year-of-expenditure cost estimate of $2.2 billion for the Preferred Alternative. To compare the LPA and FEIS cost estimates, both have been converted into 2012 dollars:

The $1.5 billion figure for the LPA in 2009 dollars is equivalent to a cost of approximately $1.7 billion in 2012 dollars. This increase reflects the fact that construction costs in the Washington DC region rose 13% from fiscal year 2009 to 2012 (construction costs increase faster than general inflation, both in recent years and in the cost estimate).

The $2.2 billion figure for the Preferred Alternative (as stated in the FEIS) is equivalent to a cost of approximately $1.8 billion in 2012 dollars.

As this analysis shows, the majority of the cost "increase" is due to the effects of inflation, which would apply to all of the alternatives. When the effects of inflation are excluded, the project cost has increased by approximately $100 million, or approximately 6 percent (from $1.7 billion when the LPA was announced to $1.8 billion when the FEIS was issued, as measured in 2012 dollars).

Aside from inflation, the primary factors that have contributed to the increased cost are:

- More information on construction techniques/challenges at the Plymouth Tunnel and Silver Spring Transit Center,
- Changes in State of Maryland stormwater management requirements,
- Additional and more costly transit vehicles.

These factors would have caused the cost estimates to increase to a similar degree for all of the build alternatives considered in the AA/DEIS:

- All of the alternatives would have experienced cost increases due to changes in Maryland Department of Environment (MDE) stormwater management requirements.
- All of the alternatives would have experienced cost increases due to the need for additional and more costly transit vehicles.
- All of the alternatives except for the Low Investment BRT alternative passed through the Silver Spring Transit Center, so the cost estimate for this component would have increased based on more detailed design.
- Finally, all of the alternatives except for the Low and Medium Investment BRT included the Plymouth Tunnel.

In summary, while the cost of the Preferred Alternative has changed, the reasons for this change are not specific to this alternative. As a result, the relative differences between the modes and alternatives remain the same. Heavy rail is still far more expensive than light rail, and while BRT can be somewhat lower in cost than light rail, the costs are relatively close.[16]

Finally, it is important to note that while cost was a factor in the evaluation of alternatives, the Preferred Alternative was not selected because it was the lowest-cost alternative. At the time light rail was selected as the mode for the project, it was recognized that the BRT alternatives generally were lower in cost. Light rail was selected despite its higher cost, because it provided greater benefits and greater capacity to accommodate increased ridership in the future, while still meeting FTA's cost-effectiveness requirements. This conclusion remains valid: the Preferred Alternative continues to greater superior benefits than BRT and continues to meet the cost-effectiveness requirements for New Starts funding. Because this conclusion remains valid, the

[16] The cost of any individual BRT or LRT alternative could be lowered by shifting from the investment level closer to the "Low" end of the spectrum, which requires removing elements such as dedicated or exclusive right-of-way. These types of savings apply equally to BRT and LRT, and do not affect the choice between those modes. In addition, these cost-saving options were fully evaluated in the AA/DEIS through the development of the High, Medium and Low Investment Alternatives.

increased cost of the Preferred Alternative does not provide any basis for re-opening the analysis of alternatives considered in the AA/DEIS.

For further information on cost estimates, as well as the reasons for recent increases and decreases, refer to the *FEIS Capital Costs Technical Report*, which was included in the appendices to the FEIS.

K.3 Funding

Summary of Comments: Commenters stated that they do not believe the State of Maryland has the financial resources to build the project. Commenters expressed concern that it is unknown if the federal government will fund the project. A commenter supported a request for federal funding to construct the entire project at once, rather than breaking it into lengthy phases.

A commenter stated that the cost increase of the project has resulted in the FTA changing the project's cost-effectiveness rating from "medium" to "medium low" in the FTA 2013 Annual Report on Funding Recommendations. The commenter stated that this change puts the project at risk for receiving federal funding.

Response: In March 2013, the Maryland General Assembly approved the Transportation Infrastructure Investment Act of 2013, which provides critical funding for the Purple Line, allowing the engineering and property acquisition phases to proceed.

The State has dedicated a $400 million investment for construction of the project with the remainder to be paid with a combination of federal grants, state and local financial contributions, and private investment. MTA intends to seek funding for and construct the entire project.

On August 5, 2013, Governor O'Malley announced that the Purple Line will be delivered through a Public-Private Partnership (P3). The Maryland Board of Public Works reviewed and approved the solicitation plan for the decision to develop the Purple Line using a P3. This decision was made after approximately a year of comprehensive analysis of project delivery and financing options for this project. The P3 approach can achieve up to 20 percent in cost savings for the project over its life and allow MTA to deliver the project without adding significant organizational and internal cost responsibilities to the agency.

An Application to Enter Preliminary Engineering (PE) was submitted to 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 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 Regional Administrator, FTA Region III: "The FTA has received sufficient project justification and local financial commitment information from 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. MTA's Purple Line financial plan was the basis for FTA's determination of the financial commitment.

For the FTA FY14 New Starts criteria update, FTA used an interim approach for the cost effectiveness ratings. FTA's intent with the interim approach was to reflect some of the changes associated with the new MAP-21 federal transit authorization bill even though new guidelines and criteria measures were not yet defined. The Purple Line did not request any New Starts project rating using the information prepared under the interim approach.

FTA has since implemented final guidance and metrics for how it will evaluate New Starts cost effectiveness under MAP-21. The ratings in the 2013 report was a Medium Low, however, the Purple Line has submitted information for the FY15 New Starts criteria update, and MTA expects to receive a Medium or better rating for the cost-effectiveness index criteria.

While the conclusion of the NEPA process does not commit FTA to approve funding for a project, FTA is satisfied that the Purple Line project, as currently proposed, is a viable candidate for funding under the New Starts program. Uncertainties regarding the outcome of the New Starts process are normal at this stage of project development and do not provide a basis for re-opening the analysis of alternatives rejected at previous stages of the NEPA process.

On March 4, 2014, FTA issued its recommendation under the New Starts Program that the Purple Line be the recipient of a Full Funding Grant Agreement. The project received a cost-effectiveness rating of "medium-high."

K.4 Public-Private Partnerships

Summary of Comments: Commenters stated concern about the use of a Public Private Partnership (P3). A commenter stated that key elements of any binding contract between public and private partners are not yet available.

Response: P3s have been successfully implemented for public transit projects nationally and internationally. MTA has reported that a private entity, also referred to as a concessionaire, will be responsible for key aspects of final design, construction, financing, operations, and maintenance of the Purple Line over an operating period of approximately 30 years. MTA will retain ownership of the Purple Line and remain ultimately accountable for the Purple Line and its public function. The concessionaire would be paid using a payment structure that is directly linked to the performance of the Purple Line. In return for operating and maintaining the project at a specific level of service along with financing a portion of the design and construction, the State will pay the private partner annual operating payments throughout an approximately 30-year contract period. The state will also repay the private financing funds. Deductions will be made from these payments if the contractor does not meet pre-determined performance targets. For more information see Purple Line website: http://www.purplelinemd.com/en/p3.

It is not unusual that NEPA approval is gained prior to decisions on the method to be used for project delivery (i.e., financing and construction), and it would be extremely unusual for a design or construction contract to be in place at the time the NEPA approval is issued. Therefore, it is not necessary for MTA to conclude its contract with a concessionaire prior to conclusion of the NEPA process.

K.5 Other Issues

Ridership

Summary of Comments: A commenter stated that the uncertain ridership projections for the Purple Line did not justify the damage to the trail. Commenters believe that the ridership projections are unrealistically high. Others believe that the ridership projections are too low and so do not justify the expense of the project or the adverse impacts. A commenter asks for an explanation of the methodology used to make the ridership projections. A commenter stated concern that the ridership projections had been made using old data. A commenter questioned the boardings projected in Bethesda. Commenters questioned the projected population and employment growth. A commenter asked if surveys had been done to estimate ridership. A commenter suggested that a BRT system that mimics the Purple Line could be used for a year to gauge the demand for the Purple Line.

Response: 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 summarized in *FEIS Chapter 3.1-Public*

Transportation and are described in detail in the *FEIS Travel Forecasts Results Report* and the *FEIS Purple Line Travel Demand Methodology Report.*

The methodologies for travel demand analysis are established in the transportation planning industry and are reviewed and approved by FTA. Local population, household, and employment forecasts are used to develop the travel demand analysis. The Metropolitan Washington Council of Governments, MWCOG, an independent, nonprofit regional organization of Washington area local governments, provides regularly updated demographic forecasts and modeling methodology. FTA reviewed the MWCOG model at the beginning of the analysis conducted for the 2008 Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS). Per their guidance, an on-board transit riders' survey of the region's 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. The model is calibrated by comparing the model projections for current ridership with actual ridership. Subsequent to the AA/DEIS, FTA reviewed the results and approved the forecasts for the Purple Line for use in the Application to Enter Preliminary Engineering. The Purple Line was approved for Entry into Preliminary Engineering by FTA. The Purple Line projections in the FEIS used the MWCOG Round 8.0 forecasts, published in December 2010.

MTA and FTA are confident of the travel demand projections made for the Purple Line. These numbers are consistent with the ridership of other new light rail lines in the United States.

A BRT system that truly mimics the Purple Line would require substantial investment and construction of dedicated travel lanes, including along the Georgetown Branch right-of-way.

Summary of Comments: A commenter questioned the assumptions in travel forecasting, specifically asking whether the forecasts assume:

- Increases in telecommuting
- Drivers adjusting their commutes based on adverse traffic conditions
- Increases in carpooling

Response: The MWCOG model used for travel forecasting does include changes in trips including telecommuting. The model also reflects changes from congestion increases on particular roadway networks. The congestion would result in changes in travel times; which would in turn result in changes in travel behavior. Carpooling is a modal choice in the model, and is impacted by changing conditions. See *Travel Forecasts Results Technical Report.*

Travel Forecasts Results Technical Report Table 3: Household Growth and 4: Employment Growth

A commenter asked why, if the household growth in the transit corridor is 3% by 2040 (Table 3), and the employment growth is 4% (Table 4), why is the number of daily person trips in the corridor forecasted to grow by 20% (Page 20).

Response: The 3% household growth and 4% employment growth shown in the last rows of these tables are the percentage of regional growth in the corridor. The household and employment growth in the corridor itself are projected to be 27% and 32%, respectively.

Travel Forecasts Results Technical Report Table 18: Travel Time Savings

A commenter asks why Walk Time is included in the No Build. Commenter asked if the travel time savings shown Figure 9 and Table 18 include the time to get to the train station (walking or taking the bus)

Response: Table 18 is referring to travel time savings for transit users who would still have Walk Time under the No Build (see *Travel Forecasts Results Technical Report* Section 4.2.2, p.41).

As noted in the text on p. 41, the travel time savings shown in Figure 9 are "In-Vehicle Travel Time," so do not include walking or taking other transit to the Purple Line. Table 18 shows "In-Vehicle Time," "Wait Time," and "Walk Access Time." It also combines "Wait Time" and "Walk Access Time." Then it presents "Total Travel Time" and compares the "Total Travel Time" for the Purple Line and the No Build, showing the savings in the third row, for each market.

Travel Forecasts Results Technical Report Table 23: Minutes of User Benefits per Project Trip

A commenter requested clarification on this table. Commenter noted that the row and column labeled Total do not show totals. Commenter asked if the table showed the average travel savings time per user.

Response: The commenter is correct about final row and column. The row labeled "Total" at the bottom of the chart should be labeled "Average by Attraction District." The column labeled "Total" is the "Average by Production District." It should be noted that these figures are weighted by number of trips per district so the average will not be a straight numerical average of the numbers shown in the table.

Table 23 is a chart of User Benefits. User benefits are calculated using a measure of the traveler's value of time to convert monetary and other costs to their equivalence in time, which is added to actual time savings. This measure was developed to include a comprehensive accounting of the total benefits of travel. Therefore, an average user benefit per project trip of 30 minutes is not a savings of 30 minutes.

Travel Forecasts Results Technical Report - Certainty of Future Forecasts

A commenter states that future forecasts are normally presented as a range and asks why this document is so specific. Commenter also asked what the impact of changes to the assumptions would be.

Response: Section 5. Uncertainties (p. 60 of Technical Report) addresses the uncertainties in the forecasts, and how they are related to assumptions regarding the networks and land use. This text recognizes that there is a range for the forecasts. Table 27 shows this range and how different assumptions would impact the resulting forecasts.

The growth rates used for the modeling are MWCOG's forecasted growth rates, which assume approved and adopted land use plans.

Travel Forecasts Results Technical Report - Benefit of Travel Time Savings

A commenter asked if one assumes the travel time estimates are reasonable accurate; are the savings of ~10 minutes enough to justify a $2.2 billion investment?

Response: The travel time savings are for thousands of users on a daily basis. When considered collectively, and over time, these benefits make the project cost-effective.

Travel Forecasts Results Technical Report - Data and Calculations

Commenter asks for data and calculation of travel forecasting.

Response: The *FEIS Travel Forecasts Technical Report* is the data and calculations of travel forecasts.

Continuing Design Development

Summary of Comments: A commenter stated that because all design elements were not been presented in the FEIS, a new DEIS is required. Additionally, elements have been modified since the publication of the FEIS. Bethesda Station and Capital Crescent Trail are two examples where the design continues to change.

Response: Alternatives presented in an environmental document are developed to the level needed to assess the overall potential effects of the project. In some cases, as with the Purple Line, more detailed design is developed during the NEPA process in order to evaluate impacts or mitigation measures. All design elements are not required to be presented in the FEIS. It is normal for design refinements to continue in response to

public comments and engineering analysis; and to further minimize impacts to the project. The refinements that have taken place since the FEIS are described and included in the ROD (see *ROD Attachment F: Design Refinements Since the August 2013 FEIS.*) The ROD is required for the project to move forward to final design where more detailed elements are determined. FTA has determined in accordance with 23 CFR 771.129 that the design refinements since the FEIS do not result in new significant impacts beyond those evaluated in the FEIS.

The proposed zoning changes in Bethesda are a County-initiated effort, and, if approved, the resulting changes to the Purple Line will be assessed.

The design of the Capital Crescent Trail was refined based on coordination with Montgomery County and comments from CSX in order to improve community access, meet CSX design requirements, and provide a continuous trail to Silver Spring. This is outlined in *ROD Attachment F: Design Refinements since the August 2013 FEIS*.

Equity

Summary of Comments: Commenters stated concern that communities in different locations were not treated equitably. Commenters felt that communities along the Georgetown Branch right-of-way, particularly the Town of Chevy Chase, were given special treatment because of the noise walls. Commenters stated that they believed that residents in other areas, such as along Wayne Avenue, should be given comparable mitigation. Commenters also noted that commitments affecting the Columbia Country Club were embodied in a legally binding agreement while others were not. A commenter asked if the Purple Line has the authority to make agreements with the Country Club "in secret" or without public comment.

However, other commenters stated that communities along the Georgetown Branch right-of-way were not treated as well as the Columbia Country Club.

A commenter suggested that the benefits were largely to the residents of the eastern end of the alignment, while the residents at the western end would be subjected to the majority of impacts.

A commenter stated that business mitigation was not being equally distributed in the corridor.

Response: MTA has worked hard to consider and treat all communities in the corridor fairly during the project planning process, including the AA/DEIS and FEIS. One of the goals of the Purple Line public outreach program is to engage local residents in the planning and design process (see *FEIS Chapter 8-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 goal of the public involvement program is to engage anybody who has a stake in the project—residents, community leaders, businesses, elected officials, local jurisdictional staff, developers, and environmental and other advocacy groups. MTA developed a public outreach strategy that created meaningful opportunities for public engagement for all member of the community, including the EJ population. This outreach will continue as the project moves forward. Much of the planning and decisions on the project have been shaped by these efforts. Just a few examples of the many changes made in response to community input include:

- Operating in mixed-traffic lanes on Wayne Avenue to reduce residential property impacts
- Converting two general traffic lanes on University Boulevard to transit lanes to create a safer, more attractive pedestrian environment and reduce property impacts
- Shifting the rail storage yard in Lyttonsville to the west side of Lyttonsville Place to locate it farther from residents and preserve more of the commercial area for future redevelopment as envisioned in the local sector planning process.

Residences along the Georgetown Branch right-of-way will be provided with noise barriers because they were eligible for them under FTA noise impact guidelines. If, later in design, noise thresholds are crossed in any areas, appropriate noise mitigation will be provided to those areas.

The Columbia Country Club is listed on the National Register of Historic Places, and as such is accorded legal protection under Section 106 of the National Historic Preservation Act and Section 4(f) of the Department of Transportation Act. Pursuant to those requirements, FTA and MTA have determined that it is necessary to incorporate landscaping treatments to preserve the character of the historic resource. In addition, a written agreement was needed for the Country Club because the project required a complex exchange of property ownership issues, which were interconnected with the resolution of the project's alignment and design in that location. MTA may enter into agreements without public comment, as it will with property owners throughout the corridor.

All real estate transactions are required to be in writing and MTA will be required to enter into written agreements with each property owner from whom property rights will be acquired.

MTA will mitigate impacts to businesses throughout the corridor, providing mitigation appropriate to the impacts.

The Purple Line will serve stakeholders and communities throughout the corridor, providing new and improved access to and between the major activity centers, and to the Metrorail system. Impacts will vary by type, extent, and location. Throughout the development of the Preferred Alternative, MTA has refined the design and alignment where reasonably feasible, to avoid or minimize effects. MTA will continue this iterative 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. Where unavoidably adverse effects of the Preferred Alternative remain, MTA has identified mitigation measures intended to offset remaining effects to the extent possible. 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 (see FEIS Chapter 9.2—*Balancing Benefits and Effects*).

K.6 FEIS Failed to Consider Reasonable Alternatives

Summary of Comments: Commenter stated that the FEIS had not adequately compared alternatives because only the No Build and the Preferred Alternative were included in the FEIS, so the FEIS did not include an analysis on any reasonable alternatives. The commenter stated that because the No Build did not achieve the purpose and need it is not reasonable.

Response: The AA/DEIS and FEIS, taken together, satisfy the requirement to consider all reasonable alternatives. FTA's approach to alternatives analysis is documented in an FTA guidance document, *Version 1.1 of Advancing Major Transit Investments through Planning and Project Development* (2003), available at http://www.fta.dot.gov/12304_2591.html. Section I.III.I of the guidance states that "Where the alternatives analysis study is undertaken concurrently with a traditional Draft EIS, preliminary engineering is limited to the conduct and completion of the Final EIS on the Locally Preferred Alternative." In addition, Section I.III.II states that:

> *"Preliminary engineering results in a level of design that permits the identification, with a high degree of confidence, of the full costs, benefits, and impacts of the Locally Preferred Alternative. In contrast to alternatives analysis, which involved an evaluation of multiple alternatives at a relatively broad level of detail, preliminary engineering requires a higher degree of detailed analysis on a single alternative. The differences in approaches between the two phases of development reflect the nature of the decision at-hand, with alternatives analysis providing decisionmakers with adequate information to distinguish between the costs and benefits of "competing" solutions to locally-identified transportation problems, and preliminary engineering generating more detailed analysis of how to implement the*

preferred solution, to mitigate undesirable impacts, and to estimate capital costs at a much higher level of detail than necessary in earlier planning."

Under this guidance, the analysis of all reasonable alternatives is included in the AA/DEIS. As described in *Section C.1-Mode of Transportation and Alternative Technologies,* of this document, the Purple Line planning was initiated in 2003. The Notice of Intent announced that a transitway was proposed between Bethesda and New Carrollton and invited interested individuals, organizations, and agencies to provide their ideas, comments, and concerns about proposed alignments, modes, and station locations. Beginning in scoping and continuing to this day, MTA has conducted an extensive outreach program which has informed the development and refinement of the alternatives. These alignment options were considered and are documented in the September 2008 AA/DEIS as part of early planning for the project. The AA/DEIS included a detailed analysis of several modal alternatives, including three bus rapid transit (BRT) alternatives, three light rail alternatives, and a Transportation System Management (TSM) Alternative. In addition, other modes, such as heavy rail, were considered in the alternatives development and screening process that occurred prior to the 2008 AA/DEIS, and were eliminated because they were found not to be reasonable alternatives.

The evaluation factors in the AA/DEIS included impacts to the natural and built environment, engineering feasibility, public input, benefits, level of success in meeting the purpose and need, and cost.

After the completion of the AA/DEIS the Governor of Maryland identified a Locally Preferred Alternative (LPA) in August 2009. The LPA identified a mode (light rail) and an alignment. Conceptual engineering continued and this alternative was further developed and refined based on public and stakeholder input. This refined alternative became the Preferred Alternative evaluated in the FEIS (see *FEIS Chapter 2.2-The Locally Preferred Alternative*).

The MTA and FTA continued throughout FEIS to consider public comments, validity of assumptions, and any significant new information. This approach includes a detailed analysis of all reasonable alternatives as required by the CEQ regulations. This approach also is desirable from a practical standpoint, because it focuses each document on the issues related to the decisions under consideration at each stage: the analysis in the AA/DEIS focuses on broad issues related to the choice of mode and general location, while the analysis in the FEIS focuses on a multitude of specific issues related to the specific alignment, design, and mitigation measures for the LPA

The CEQ guidance document cited by the commenter does not contradict the approach used in the AA/DEIS and FEIS. The CEQ guidance document states that "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" (see FEIS, p. 2-4.) The AA/DEIS followed the approach outlined in the guidance, by analyzing a range of distinctly different approaches to improving transit service in the corridor, including high, medium, and low investment alternatives for both BRT and light rail transit. The FEIS then summarized the alternatives analysis in the AA/DEIS (see *FEIS Chapter 2.1.4*.) The presentation of a summary in the FEIS is consistent with the CEQ's regulations, which direct federal agencies to avoid unnecessary paperwork by "preparing analytic rather than encyclopedic environmental impact statements" 40 CFR 1500.4.

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Sligo Branview Community Association	730	C.4, D.2, D.4, D.5, E.2, E.9, E.10, K.5
Spring Beer & Wine	515	E.14, E.3
Town of Chevy Chase	625	C.1, K.2, K.6
Town of Riverdale Park	1032	F.5
Washington Area Bicyclist Association	627	A.1, C.3
Washington Real Estate Investment Trust	666	F.7

B Individuals

Last Name	First Name	Comment Number	Topics
Abreu	Beverly	341	A.1, C.3
Adamovich	John	773	E.9
Adams	Allison	210	A.1, C.3
Adams	Brennan	230	A.1, C.3
Ades	Emily	417	A.1, C.3
Alcorn	Janis	45	B.1, E.4, E.9, E.11
Alderdice	Andrea	502	C.3
Alexander	Jonathan	379	A.1, C.3
Alipio	P.	365	A.1, C.3
Allen	Abigail	858	C.3, E.5, E.9
Alper	Ronald	190	A.1, C.3
Amoruso	Philip	402	A.1, C.3
Amsellem	Rae	434	A.1, C.3
Andersen	Terri	74	A.2
Anderson	Harold	286	A.1, C.3
Anderson	Jeannine	391	A.1, C.3
Anderson	Carol and John	907	E.9, E.10, K.5
Anderson	Vernon	952	A.1, C.3
Anderson	John & Carol	1019	G.2, K.5, E.10
Andrea	Susan	813	C.4
Andrea	Susan	888	C.4
Andrews	David	338	A.1, C.3
Annis	Jeff	656	C.2, C.3
Armstrong	Emily	494	C.3
Armstrong	Tom	677	C.2, C.4, D.2, D.3, E.7, E.8, E.9, E.11, E.14, F.1, K.2
Arndt	Chris	163	A.1, C.3
Arnold	Nathan	527	C.3, E.3, C.1, C.2,
Arnold	Agnese	604	C.3, E.5, E.9, D.5, K.5
Arnson	Cindy	1015	C.3
Arons	Nancy	463	C.3
Arreaza	Tina	654	C.3

Last Name	First Name	Comment Number	Topics
Asher	Lila	464	A.2, D.2, E.2
Ashurst	Stephen	249	C.3
Atabek	Karen	905	C.3
Auger	Margaret	734	C.3
Austin	Kirstin	112	E.9, E.10
Avery	Carolyn	172	A.1, C.3
Ayers	Seth	912	C.3
B. Perry	Richard	340	E.2, E.5, E.7, E.8, E.9, E.10, E.12, E.13, G.1, G.2, J.1, J.3, K.5
Bacharach	Joan	932	A.2
Bader	Eric	310	A.1, C.3
Baird	Bruce	684	C.3
Baker	Kathee	646	E.4
Baker	Dave	745	C.3, E.5
Balaban	Eleanor	16	C.1, C.2, C.3
Balfour	Ana Maria	66	A.2, C.3
Ball	Stephanie	245	A.1, C.3
Bamji	Zubin	299	A.1, C.3
Banks	TJ	914	C.3
Bar	Cindy	199	A.1, C.3
Barnes	James	44	A.1, J.1
Barr	Valarie	616	C.3, C.4, E.9. E.14
Barranca	Dominic	538	A.1, C.3
Barsky	Sandy	75	A.2, E.2, E.7, E.9, K.2
Barsky	Sandy	162	A.1, C.3
Barsky	Sandy	957	A.1, C.3
Basken	Paul	696	A.1, C.3
Baskir	Cecily	723	C.3
Bateman	Terry	17	A.2, B.1, C.3, E.2, K.2
Bateman	Terry	487	C.3, D.2, E.4, E.9, E.11, K.2, K3, K.4
Bawer	Ken	864	C.1, C.3
Beach	Ben	560	C.3, K.2
Becker	Kurt	357	A.1, C.3
Begin	Eileen	894	C.4
Begley	Julia	778	C.4
Bellis	Jennifer	507	C.1, C.4
Belsky	Deborah	821	C.1, C.2, C.3, K.2, K.5
Bengeri	Sudhindra	963	A.1, C.3
Bennett	Ralph	783	A.1
Berg	Jeanne	776	C.3, E.9, E.11

Last Name	First Name	Comment Number	Topics
Bergal	J	83	C.2, C.4, D.2, E.2, E.9, E.10, F.1
Bergman	Stephen	58	C.4, J.2
Berliner	Roger	719	C.1, C.2, E.8, E.9, E.10, E.11
Bernstein	Robert	206	A.1, C.3
Bernstein	Joshua	326	A.1, C.3
Bernstein	Edward	327	C.3
Bertera	Robert	945	A.1, C.3
Bigio	David	757	A.1, C.3
Bittman	Ann	733	C.3, E.5, E.9
Bjellos	Darrell	571	A.2
Bjellos	Darrell	572	A.2
Blenkinsop	Courtney	610	C.4, E.11
Block	Tom	809	C.1, D.2, K3, K.4
Bloom	Dan	215	A.1, C.3
Blumenthal	Pam	416	A.2, C.1, C.2, C.3
Bolling	Dan	669	C.3
Bollinger	Juli	764	C.4
Bonnard	Patricia	492	A.2, B.2, C.3
Bonson	Kit	105	A.2, C.1, D.2, E.3, E.8, K.2
Boortrill		1009	C.3
Bosin	Randall	992	B.1, C.3, E.14
Boswell	Jeff	833	A.1, C.3
Boyer	Spencer	125	A.1, F.1
Bradley	Katherine	674	C.3
Brandt	Ed	154	A.1, C.3
Branson	Patricia	901	C.3
Brennan	Casey	82	A.1
Brenner	Pryor	450	C.3, E.2, E.9, E.11
Breslow	May	87	A.2, E.4, E.2, E.9, E.11
Breslow	Leonard	88	A.2, D.2, E.2, E.11
Brewer	Laura	388	A.1, C.3
Brewster-Geisz	Zachary	227	A.1, C.3
Brezny	Rasto	328	A.1, C.3
Brinker	Allen	455	C.2, C.3
Brown	Frank	201	A.1, C.3
Browne	Janice	69	A.2, K.2
Browning	Pam	697	C.3, D.5, E.2, E.11
Brubaker	Lisa	273	A.1, C.3
Bruso	Leo	587	Information Request
Bruso	Leo	590	Information Request

Last Name	First Name	Comment Number	Topics
Bryant	Linda	1010	C.3
Bubar	Eric	440	A.1, C.3
Burgess	Alex	409	A.1, C.3
Burgess	Alex	415	A.1, C.3
Burns	William	309	A.1, C.3
Burns	Calvin	673	C.3
Burns	Brian	688	C.3, E.5
Butler	John	851	A.1, C.3
Byrd	Nakengi	372	A.1, C.3
Cairney	Gina	239	A.1, C.3
Calomiris	Leon	32	A.2
Cameron	Joann	824	C.4
Camilli	Tony	937	A.1, C.3
Camillo	Scott	413	A.1, C.3
Campbell	Chris	441	A.1, C.3
Campbell	Chris	504	C.2
Carmouze	Guillermo	803	A.1, C.3
Carr	Al	1001	B.2, C.1, D.1, F.3
Carrier	David	954	A.1, C.3
Carroll	Paul	488	A.2, C.3, D.5, E.9, E.11
Carroll	Paul	490	A.2, C.3, E.2, E.9, K.2
Carty	Tom	315	A.1, C.3
Casey	Riley	428	A.1, C.3
Casto	Benjamin	367	A.1, C.3
Castro	Bradford	925	A.1, C.3
Cavanaugh	Jean	51	E.2
Cavendish	Sara	612	A.1, F.1
Chan	Warren	838	C.3
Charness	Diane	497	C.3, E.9
Chatfield	Catherine	836	A.1, C.3
Cheney	David	260	A.1, C.3
Childress	Martina	603	C.4
Choppin	Timothy J.	588	C.3
Claffey	Susan K.	798	C.4
Clark	Daniel	345	A.1, C.3
Clarke	Jim	221	A.1, C.3
Clarke	Seircha	460	C.3
Clauss	Mark	65	C.3
Clauss	Mark	892	C.3, E.9
Clay	Mary G.	991	C.3

Last Name	First Name	Comment Number	Topics
Cleary	Patrick	425	A.1, C.3
Clements	Jill	431	A.1, C.3
Coe	Bonnie	493	C.3
Cohen	Ronald	191	A.1, C.3
Coleman	Heidi	203	A.1, C.3
Colino	Stacey	772	C.2, C.3, E.9, K.5
Connell	Genevieve P.	896	C.2, C.1, C.3
Conte	Kristen	847	C.4
Convard	Nancy	364	A.1, C.3
Cooper	Karen	37	E.9
Cooper	Dean and Karen	573	E.9
Cope	David	468	C.3
Cornelius	Ellen	535	C.3, E.11, E.7
Corrigan	John	284	A.1, C.3
Coughlin	Cheryl	454	C.3, E.9, E.11
Cowgill	Ann	993	B.1, C.3
Cox	Austin	853	A.1, C.3
Coyne	Philip	277	A.1, C.3
Cranor	David	987	A.1, C.3
Crissey III	John D.	403	A.1, C.3
Cuming	Don	877	A.1, C.3
Cunningham	Charlotte	648	C.3, D.3, D.5
Cushwa	Richard	942	A.1, C.3
Dack	Leonard	451	A.2, C.3, K.2
Dack	Leonard	452	A.2, C.3
Daily	Kenneth	132	C.3
Dalhoff	Jeff	938	A.1, C.3
Daniel	Adam	189	A.1, C.3
Dasbach	Mona Lisa & Joseph	1035	C.4, E.9, E.10, E.14, K.5
Davies	Katherine	792	C.3, E.5
Davis	Carter	25	C.3, E.11
Davis	Ashley	29	C.3, C.4, E.7, E.9, E.11
Davis	Neil C.	668	E.9, G.2
Deighton	Sandie	815	E.9, K.5
Deighton	Sandie	822	A.2, C.3
Deighton	Russell	843	C.3, C.4
Delacour	Olivier	305	A.1, C.3
Delahunty	Lesley-Alicia	807	C.3
Delgoshaei	Parastoo	262	A.1, C.3

Last Name	First Name	Comment Number	Topics
Detwiler	Brian	995	C.3
Detzner	Jack	849	C.4
Dewey	Reed	630	C.2, C.3
Dewey	Reed	678	C.2, C.3, E.4
Dietrich	Karen	820	B.1, C.3, D.5, E.7, E.9, E.10, E.11, E.12, G.1, G.2, J.1, K.4
Dinsmoor	Tessa	194	E.9, E.10
Ditzler	Barbara	26	A.1, C.3
Dohlie	Maj-Britt	699	B.1, C.1, C.3, E.5, K.2
Donahue	Karen	84	A.2, E.2, E.11
Donaldson	Fergus	124	A.1, F.1
Donnellan	Michael	900	C.3, E.9
Donnelly	Maureen	47	A.2, D.2, E.2
Dotson	Sarah	146	A.1, C.3
Doumani	Fadi	806	C.3
Dowling	Joshua	35	A.1
Downey	Leslie	116	A.1, F.1
Downey	Phil	631	A.1, F.1
Dueck	Jonathan	226	A.1, C.3
Dugge	Irmgard	476	C.3, E.11
Dunn	Antoine	831	C.1, C.2, K3, K.4
DuPont	Helen	93	A.2, K.2, B.1, C.3, D.2, D.3, E.2, E.4, E.9, G, G.1, G.2
Dwyer	Greg	148	A.1, C.3
Dyal	Montichand	505	F.7
Earl	James	143	A.1, C.3
Eason	Theresa	704	A.2, C.2
Edwards	Tom	649	C.4
Edwards	Nancy	761	C.3
Ehrlich	Vivian	19	A.2, C.4, E.9, E.10, G.2
Ehrlich	Vivian	22	A.2, E.9
Ehrlich	Vivian	46	A.2, B.1, E.9, E.10, K.5
Ehrman	James	561	C.4, E.2
Ehrman	James	897	C.4
Eisenberg	Rita	923	C.3
Eisner	David	396	A.1, C.3
Elias	Kenneth	207	A.1, C.3
Emerson	AJ	736	A.1, C.3
English	Doug	934	C.1, C.3
Eriksson	Peter	960	A.1, C.3
Ervin	Valerie	111	C.3, C.4, E.1, E.2, E.3, E.4, F.1, G.2

Last Name	First Name	Comment Number	Topics
Esterson	Pamela	826	C.1, C.3, D.2
Eulau	James	234	A.1, C.3
Eulau	James	235	A.1, C.3
Evenson	Michael	1020	B.2, C.3
Everson-Fisher	Margaret	622	C.1, C.2, D.2
Ezban	Mike	562	C.4
Fair	Sandra	95	C.2, E.2, E.9, E.12
Farrell-Kendrick	John	840	A.1, C.3
Farthing	Shane	449	A.1, C.3
Faust	Dottie	97	C.2, C.1, E.2, E.7, E.9
Feehely	Christopher	181	A.1, C.3
Feldman	Daniel	240	A.1, C.3
Feldman	Paul	709	E.3, E.9, E.10, E.11
Feldman	Harry	711	C.3, E.8, E.11, E.14
Felling	Bill	632	A.1, C.3
Fendrick	Peter	89	C.2, C.3
Fendrick	Barbara	845	C.3, E.4
Few	Debra	251	A.1, C.3
Fiaher	Mary Ann	534	A.1, C.3
Fiala	Anne-Marie	642	A.2, C.3, E.11
Fidler	Justin	10	A.1
Figueroa	Michael	100	B.2, C.1, C.3, D.2, E.4, E.8, E.9, E.11, E.12, K.2
Finley	Timothy	348	A.1, C.3
FitzGerald	Karen	643	C.4
FitzGerald	Martha Blair	724	A.2, C.1
Fitzgerald	Robert	726	C.4
Flaherty	Tom	782	C.4, D.2, E.7, E.8, E.9, E.10, K.2, K.5
Flaherty	Maya	805	C.4, E.8, G.2
Flammia	Thomas	68	C.4, E.4
Flammia	Thomas	598	C.4
Flank	S.	584	C.3
Flax	Mindy	48	D.2, F.21
Flugge	Mark	334	A.1, C.3
Foley	Jonathan	400	A.1, C.3
Foradori	Laura	829	C.3
Forhan	Tom	43	A.1
Forsbacka	Matt	439	A.1, C.3
Foster	Mary	810	C.1, C.3
Fouse	David	418	A.1, C.3

Last Name	First Name	Comment Number	Topics
Fox	Robert	681	C.3
Francis	Marsha A	640	C.3, E.9
Frankel	Brian	569	A.2
Franks	James	420	A.1, C.3
Fredley	Rob	394	A.1, C.3
Frei	Robin	354	A.1, C.3
Friedman	Patricia	676	C.3
Friend	Julius W.	862	C.1, C.3, E.4
Frisch	Andrea	236	A.1, C.3
Frisch	Mathias	291	A.1, C.3, E.8
Fry	Justin	157	A.1, C.3
Fuentes	Alicia	702	C.3
Fulcher	Thomas	319	A.1, C.3
Furcolo	Richard	657	C.3
Gad Bigio	Anthony	253	A.1, C.3
Gage	Marc	165	A.1, C.3
Gallivan	Jennifer	780	C.3, E.5
Ganibar	JS	555	E.7
Gans	Jennifer	819	C.4
Garcia	Jose	160	A.1, C.3
Gardiner	Mary	533	A.2, C.3
Gaylin	Dr. Ned L.	1014	C.3
Gehman	Nancy	865	C.4
Giblin	Walter	811	C.1, E.11
Gladstein	Neil	593	A.1, F.1
Glenn	Kahlil S	731	C.3, D.5
Glick	Jerome	1002	A.1, C.3
Gobbo	Mario	683	C.3
Goldman	Scott	352	A.1, C.3
Goldstein	Steve	192	A.1, C.3
Golla	Joe	175	A.1, C.3
Gollub	Richard	283	A.1, C.3
Good	Sheldon C.	489	C.3
Gordon	Ilana	751	C.3
Gorin	Diana	872	C.4
Gorman	Susan	789	C.3
Gotthelf	Michael	287	A.1, C.3
Grace Rice	Kerry	228	A.1, C.3
Grant	Cara	344	A.1, C.3
Graves	Thomas	955	A.1, C.3

Last Name	First Name	Comment Number	Topics
Gray	David	266	A.1, C.3
Green	Cynthia	60	C.1, C.2, C.3, E.9, K.2
Green	Cynthia	634	C.3, D.5, E.9, E.11
Greenbaum	Ann	306	A.1, C.3
Gregersen	Morten	217	A.1, C.3
Gregory	Kathleen	741	E.9, K.5
Grinc	Gregory	80	A.2, B.1, C.3, E.4, K.2
Gross	Margaret	777	C.3, E.9
Gugerty	Mike	261	A.1, C.3
Guhin	Georgia	1000	C.4, D.3, E.3, E.11, K.2, K.5
Gupta	Ashish	274	A.1, C.3
Haines	Sigrid	272	A.1, C.3
Hakim	Daniel	1024	G.2, E.7, E.14
Hal	Dale	223	A.1, C.3
Hall	Marina	570	A.2
Handwerker	Daniel	322	A.1, C.3
Handwerker	Daniel	990	C.3, E.11
Hantman	Isaac	512	C.3, D.5, E.9, E.10
Harris	Michael	282	A.1, C.3
Harrison	Ken	633	C.3, E.5, E.11
Harvey	Catherine	307	A.1, C.3
Haslinger	John	891	C.4
Hasselwander	Andy	701	E.9, E.11
Hayes	Michelle	362	A.1, C.3
Hefter	Larry	466	C.3, K.5
Heidenberger	Betsy	178	A.2, E.2
Heitz	Ryan	225	A.1, C.3
Heller	JIm	302	A.1, C.3
Helmen	Benjamin	147	A.1, C.3
Herlihy	Dan	834	A.1, C.3
Hernandez	Zaida	887	C.3
Hewitt	Rudy	408	A.1, C.3
Heyman	Mat	866	C.3, E.8, E.9, E.12, E.11
Hill	Leslie	867	C.2, C.1, C.3, E.14
Hillabrant	Walter	360	A.1, C.3
Himmelfarb	Anne	759	C.3, D.2, E.10
Hirschhorn	Eric	568	B.1, C.3, K.2
Hirschhorn and Rams	Joel and Jaqueline	480	C.3
Hisle-Gorman	Elizabeth	363	A.1, C.3

Last Name	First Name	Comment Number	Topics
Hoff	Val	1031	C.3, E.11
Hoffman	Rainey	285	A.1, C.3
Hogan	Elisabeth	706	C.3
Holemans	Walter	909	C.3
Holman	Amy	804	C.4, K.5
Holt	Brett	320	A.1, C.3
Hongtong	Rachel	267	A.1, C.3
Honsa	Jeanette	653	C.1
Horst	Brian	171	A.1, C.3
Hostler	Lou	542	A.1, C.3
Huang	Teena	343	A.1, C.3
Hudson	Hannah	135	A.1, C.3
Huff	James	297	A.1, C.3
Huguley	Alan	387	A.1, C.3
Hunt	Jim	926	C.3
Hutton	Glen	31	D.2, E.8, E.11, G
Hyder	Eddie	539	A.1, C.3
Ingram	Dedun	823	C.3, D.2, D.5, E.2, E.9, E.10, E.11, E.12, G.1, K.5
Inouye	David	339	A.1, C.3
Ireland	Jeanne	121	A.1, F.1
Iribarren	Carmen	675	C.3
Irwin	Anna	462	C.1, C.2, C.3
Jackson	Paul	180	A.1, C.3
Jacobson	Ted	8	C.1
Jais-Mick	Maureen	842	C.3, E.14, K3, K.4
James	Betsy	149	A.1, C.3
Janifer	Darren	951	A.1, C.3
Jaskot	Sheila	599	C.4, J.1
Jaskot	Sheila	600	
Jenci	Krysten	986	C.3
Jewett	Libby	333	A.1, C.3
Jhangiani	A.K.	767	E.11
Jimenez	Emmanuel	183	A.1, C.3
Johnsen	Mike	34	A.1, D.5
Johnson	Lucien	108	C.2
Johnson	Lizzie	384	A.1, C.3
Johnson	Gerald	557	Information Request
Johnson	Julia	749	A.2, K.2, K.5
Johnston	Rhona	650	C.3, E.9, E.11

Last Name	First Name	Comment Number	Topics
Jolly	Paul	332	A.1, C.3
Jones	Carol	978	C.4, F.1
Kahn	David	224	A.1, C.3
Kampia	Taylor	205	A.1, C.3
Kapsalis	Glenda	323	A.1, C.3
Karbley	Russel	258	A.1, C.3
Karger	Judith	988	C.3
Karson	James	794	B.1, C.3
Katz	Steve	304	A.1, C.3
Kaufmann	Lara	312	A.1, C.3
Kaupe	Arthur	176	A.1, C.3
Kelly	Ian	7	E.11, K.2
Kelly	Andrea	685	E.14, K.5
Kelly	Ian	906	C.2, C.3
Kelly	Sally	969	C.2, E.2
Kelso	Nathaniel	331	A.1, C.3
Kenary	Joseph	903	C.3, K.5
Keppler	John and Dianne	629	C.3, D.5, E.3
Kesler	May	575	A.2, J.1
Keys	Shirley and Marshall	641	C.3, E.2
Khalsa	Gurujeet	42	B.1, C.3, D.2, D.3, D.5, E.2, E.3, E.4, E.9, E.10, E.11
Khanna	Anuj	472	C.3
Kim	Brian	931	C.3
King	Thomas	117	A.1, F.1
King	Gordon	933	C.3
Kingery	Elizabeth	153	A.1, C.3
King-Leatham	Dwight	959	A.1, C.3
Kirsch	David	601	A.1
Kirsh	Melissa	478	C.3
Klein	Elisa	662	C.3
Klevan	Carla and Morton	36	E.9, E.10
Kluge	Lorene	252	A.1, C.3
Kohlenberger	Jim	308	A.1, C.3
Kokopeli	Peter	159	A.1, C.3
Kolakowski	John L.	465	C.3
Kostant	Amy	802	C.2, C.1, C.3, D.5, E.5, E.9
Kotschoubey	Nicolas	269	A.1, C.3

Last Name	First Name	Comment Number	Topics
Koziol	Dee	256	A.1, C.3
Koziol	Deloris	920	C.3
Krainsky	Ella	758	C.3
Kriesberg	Caleb	517	C.1, C.3, E.11
Kristiansen	Cathy	606	C.4
Kristiansen	Cathy	854	C.4
Kroll	Aileen	445	A.1, C.3
Kubetin	Randy	347	A.1, C.3
Kules	Bill	254	A.1, C.3
Kulkarni	Sean G.	791	C.3, E.9
Kupers	Larry	122	A.1, F.1
Kurland	Julie	238	A.1, C.3
Kuszak	Adam	59	C.2, C.3, E.3
La Noue	Jeff	250	A.1, C.3
Labaree	Benjamin	292	A.1, C.3
Lai	Cary	935	A.1, C.3
Lamphere	JoAnn	832	C.3, K.5
Landay	Alan	908	C.3
Lane	Robert	744	C.3
Lane	Tobey	800	C.3
Langford	Debra	703	C.3, E.5
Langosch	Paul	775	A.2, E.3, K.2
Langston	Rob	301	A.1, C.3
Lanning	Sarah	170	A.1, C.3
Larson	Douglas	243	A.1, C.3
Larson	Lenore	566	E.11
Latty	Richard	482	C.3, E.2
Laughlin	Sherburne	496	C.3, E.11
LaVallee	Claude	916	C.3, D.3
Lawrence Pfleeger	Shari	484	C.3, D.5, E.9
Lawson	Ryan	368	A.1, C.3
Lawson	Chris	881	A.2, E.4
LeaMond	Beth	947	A.1, C.3
Lederman	Laura	24	A.2, C.1, C.2, C.3, D.2, E.8
Lederman	Robert	626	C.4, J.2, K.5
Lee	John	204	A.1, C.3
Lee	Edward	318	C.3
lee	edward	329	A.1, C.3
Leger	Ann	771	C.4
Leggett	Daniel	637	C.3, E.5

Last Name	First Name	Comment Number	Topics
Lehman	Jane	750	A.1, C.3
Leibowitz	Pat	528	E.4, J.2
Leisher	Edward	915	C.3
Lemieux	Laurie	548	A.1, C.3
Lerner	Marcie	474	C.3, E.3
Leus	Joey	799	
Leventhal	Carol	878	C.4
Lever	Rob	356	A.1, C.3
Levin	Marci	461	C.3, E.11
Lewis	Greg	377	A.2, C.1, C.3, E.4, K.2, K3, K.4
Lewis	Greg	617	C.1, C.3, E.11
Lichten	Michael	330	A.1, C.3
Lichtenstein	Lynn	918	A.2, D.2, E.2, E.9, E.11
Liebstein	Lili	361	A.1, C.3
Lin	George	164	A.1, C.3
Linden	Frank	276	A.1, C.3
Lindsay	Bruce	353	A.1, C.3
Link	Gerald	924	C.3
Lippel	Philip	186	A.1, C.3
Littles	Stephanie	422	A.1, C.3
Littleton	Preston	142	A.1, C.3
Littleton	Pauline	766	A.1, C.3
Lizotte	Katherine	150	A.1, C.3
Lloyd	Alan	392	A.1, C.3
Lodge	Jeff	544	A.1, C.3
Long	Jay	467	A.2
Long	Chris	927	C.3, D.3
Loonsk	John	930	C.3, D.3
Lorr	Richard	602	C.4
Loss	Jennifer	970	A.1, C.3
Love	Jenny	619	C.4
Lukas	Terri	873	C.2, E.9
Lupo	Katie	437	A.1, C.3
Luttrell	Jason	99	C.1, D.1, E.3, E.7, J.2
Lynch	Sharon	812	C.1, C.4
Lysy	Frank	130	E.5, C.3
MacEachern	Diane	214	A.1, C.3
Macedo	Augusto	211	A.1, C.3
Machiela	Mitch	324	A.1, C.3
Madison	Chris	421	A.1, C.3

Last Name	First Name	Comment Number	Topics
Maglaty	Jeanne	281	A.1, C.3
Magnetti	Collin	841	A.1, C.3
Mahajan	Saurabh	133	B.2
Mahajan	Saurabh	1018	A.2
Malatesta	Lee	296	A.1, C.3
Mancuso	Joan	21	C.2, C.3
Mangum	Margaret	944	A.1, C.3
Manion	S.P.	636	C.2, C.1, C.3, E.4, G.1, J.2, K.2
Mansouri	Babak	264	A.1, C.3
Marcus	Patty	755	A.2
Marcus	Maeva	893	C.3
Marcus	John	913	C.1
Marier	Véronique	429	A.1, C.3
Marsh	Kim	28	A.2, C.3, E.2, G.1, G.2, J.2
Marsh	Michael R.	70	C.1, C.2, C.3, E.2, E.9, E.10, E.11, J.2
Marshak	Judith	6	A.2, E.11, E.3, J.3, J.4, K.3
Martin	Joel	144	A.1, C.3
Martinez	Pedro	294	A.1, C.3
Martinez	Kristine	679	C.3
Mathers	Peter	349	A.1, C.3
Mathews	Linda	857	C.3
Mathura	Karen	96	C.2, C.3, E.11
Matthews	Valerie	232	A.1, C.3
Matthews	Nancy	863	C.3, D.2, E.10, E.11
Matthiesen	Lance	311	A.1, C.3
Maya	Penina	635	C.3, E.11
Mays	Darren	18	A.2, C.3, D.2, D.5, E.2, E.4, J.3, J.4
Mazie	Sara	63	C.3, E.11
Mazur	Mark	177	A.1, C.3
McAvoy	Meghan	889	A.1, C.3
McBride	Sean	137	A.1, C.3
McCann	Bryan	589	C.3
McCann	Thane	605	C.2, E.4
McCann	Thane	868	C.3, E.3
McCauley	Susan	119	A.1, F.1
McCauley	Moira	231	A.1, C.3
McChesney	Kathleen	785	A.1, C.3
McDaniel	Mary	1016	C.3
McDermott	Thelma	658	B.1, C.3, D.5, E.2, E.9, G.2
McGaughy	Robert	607	C.4

Last Name	First Name	Comment Number	Topics
McGleenan	Diarmaid	401	A.1, C.3
McGleenan	Owen	808	C.3
McGleenan	Diarmaid	902	C.3, C.2, C.1
McGleenan	Erin	939	C.3
McHenry	Nancy	229	A.1, C.3
McIntyre	Eleanor	33	A.2, C.1, E.2, E.9, K.2, K3, K.4
McKinnon	Elizabeth	949	A.1, C.3
McLeod	Kevin	325	A.1, C.3
McMahon	S.	1011	C.3
McManus	Rich	581	A.2, B.1, C.3
McNamee-Mahaffey	Christina	300	A.1, C.3
McNeely	James	383	A.1, C.3
Medley	Andrew	965	A.1, C.3
Meehan	Marsha	985	C.3
Meer	Richelle	298	A.1, C.3
Mencarini	Katie	195	A.1, C.3
Merritt	Nick	139	C.3
Metzger	Brian	973	A.1, C.3
Michel	Pierre	61	E.9
Michel	Frank	966	A.1, C.3
Midlen	John	728	C.3, E.5
Miles	Joanna	936	A.1, C.3
Miller	Kristi	41	C.3
Miller	Wayne	145	A.1, C.3
Minor	C.	518	B.1
Mintz-Urquhart	R. Shoshana	672	C.3
Mira	Shanks	948	A.1, C.3
Miron	Edward	859	A.1, C.3
Misra	Asheesh	597	F.4
Molina	Ezequiel	498	C.3
Monange	Arielle	1030	C.3
Moreland	Ryan	546	A.1, C.3
Morsberger	Grace	774	C.3
Moss	Suzie	196	A.1, C.3
Mumford	Elizabeth	458	C.1, C.3, E.8, E.11
Murphy	Christopher	280	A.1, C.3
Murrell	Jeffrey	290	A.1, C.3
Nalewajk and Feigenbaum	Joyce and Steve	837	C.1, C.2, E.2, K3, K.4
Nash	Mike	511	K.5

Last Name	First Name	Comment Number	Topics
Navratil	John	698	C.3
Neighbors	George	187	A.1, C.3
Nelson	Robert	248	A.1, C.3
Neuman	Bob	884	A.2, C.1
New	Sarah	73	C.3, D.3, D.5
Newell	Juanita	596	A.2, E.2, E.9
Nichols	Jackie	161	A.1, C.3
Nicole	Preston	385	A.1, C.3
Nielsen	Heidi	436	A.1, C.3
Nilsson	Hanna	351	A.1, C.3
Nolan	John	316	A.1, C.3
Nothwehr	Steve	940	A.1, C.3
Nowakowski	Jacek	964	A.1, C.3
Okrent	Deanna	270	A.1, C.3
O'Laughlin	Daniel	919	C.3
O'Neal	Brandis	971	A.1, C.3
Oneil	Tim	293	A.1, C.3
O'Neill	Tim	547	A.1, C.3
Onufer	Virginia	756	B.1, C.3, K.2, K3, K.4
O'Toole	Matt	860	A.1, C.3
Owen	Dan	423	A.1, C.3
Paden	Roger	54	C.3, F.4
Padgett	Miles	374	A.1, C.3
Palladino	Grace	200	B.1, C.1, C.3, E.4, E.11, E.14, K.5
Palladino	Grace	550	A.2, K.2
Panagos	Renee	835	C.1, C.2, C.3
Panner	Aaron M.	495	C.3, E.7, E.9
Papageorge	Alex	624	C.2
Parker	Alan	691	B.1, C.3, E.4
Parker	Cynthia	980	E.9, D.5, E.14, E.10, G.2,
Pascalev	Assya	23	B.1, B.2, C.3, E.11
Pascalev	Mario	52	B.2, C.1, E.4, E.9, E.11
Paster	Doreen Cantor	982	C.4, E.2, E.3, E.9, E.10, E.11, E.12, E.14, J.1
Patrick	Ed	197	A.1, C.3
Patterson	Mary-Margaret	578	C.3, E.4, E.8, E.11, K3, K.4
Paul	Noreen	686	C.1, C.3, E.4
Pavelle	Ken	457	C.3, D.5, E.9, E.11
Payne	Elspeth	219	A.1, C.3
Peck	Daniel	395	A.1, C.3

Last Name	First Name	Comment Number	Topics
Peek	Hope	941	C.3
Pelaez	Juan	760	C.3
Penczner	Nancy	740	C.3
Perenyi	Peter	886	C.4
Pérez Báez	Gabriela	830	C.2, C.1, E.4, E.11
Petersen	Rafe	732	E.9, E.10; E.14; I
Petrash	Jack	594	C.3
Petrides	Bette	869	C.1, C.2, C.3, J.2
Picard	Matthew	532	A.2, C.3, K3, K.4
Pierson	Lisa	369	A.1, C.3
Piotrowski	Jason	288	A.1, C.3
Pisciotta	Carol Ann	259	A.1, C.3
Poland	Drew	499	A.1
Pollack	Seth	375	A.1, C.3
Pongrace	Olwen	779	C.3
Posner	Robert	158	C.1, C.2, C.3, E.11
Pottern	Richard	787	C.2, C.1, C.3
Potts	Stephen	94	A.2, B.1, C.1, E.2
Pratt	Richard	737	C.1, A.1, C.2
Presley	Jennifer	895	C.4
Price	Cristina	342	A.1, C.3
Prussin	Calman	407	A.1, C.3
Putterman	Sharon	98	A.2, B.1, C.3
Q	Pascale	718	C.2, C.3
Quintana	Carlos	609	C.4
Quiros	Raul	389	A.1, C.3
Ralph	Eric	263	A.1, C.3
Randall	Julia	784	A.2
Randolph	Carolyn	371	A.1, C.3
Raskin	Lynn	503	C.2, C.3
Ratner	Blake	366	A.1, C.3
Rattien	Dr.Stephen	928	C.2, C.1, C.3
Rauber	John	469	B.1, C.3, E.9, E.11
Raue	Elaine	15	A.2
Raue	Elaine	559	K.2, B.1
Reding	Phil	921	C.3
Reed	Kevin	796	C.3
Reene	Richard	722	C.3
Reider	Roger	317	A.1, C.3
Reinhold	Eric	182	A.1, C.3

Last Name	First Name	Comment Number	Topics
Reinstein	Betsy	961	C.3
Reis	Richard	314	A.1, C.3
Rhodes	Stephen	743	C.1, C.3
Rhyne	Nancy	350	A.1, C.3
Rice	Adam	419	A.1, C.3
Richman	Charlie	380	A.1, C.3
Riddell	Jennifer	762	C.3
Riley	James	152	C.4, E.7, E.9
Rind	Richard	827	C.4
Rittenhouse	John	848	A.1, C.3
Rivkin	Mary S.	644	E.5, H
Rivkin	Mary S.	645	D.5, E.5, E.9, E.11
Rivoal	Denise	411	A.1, C.3
Robbins	Michael	106	A.1, F.1
Roberts	Brandon	390	A.1, C.3
Roberts	Carol	580	K.2, K.5
Rome	Abigail	216	A.1, C.3
Roscello	Walt	855	A.1, C.3
Roscoe	Pamela	510	Information Request
Rosen	H.S.	880	C.3
Rosenberg	Katie	647	C.2, D.2, E.11
Ross	Marianne	233	A.1, C.3
Ross	Amy	355	A.1, C.3
Ross	Amy	746	A.1
Roth	Renee	244	A.2, C.3, D.3, E.11
Rothberg	Daniel	430	A.1, C.3
Rothstein	Vanessa	237	B.1, C.3, D.5, E.9, E.11
Roy	C.	613	C.3, E.2
Roy	Jim	735	A.2,C.1, C.3, D.5, E.9, E.11, K.5
Ruark	Jenny	426	A.1, C.3
rubenstein	Erica	922	C.3
Rubino	Michael	265	A.1, C.3
Ruff	Patrick	20	A.1, D.2
Rule	Jeff	39	E.9
Rule	Jeff	40	C.4
Rushovich	Berenice	136	A.1, C.3
Russ	Jim	155	A.1, C.3
Ryan-Silva	Rob	358	A.1, C.3
Ryder	Phyllis	427	A.1, C.3
S	Alisa	477	C.3

Last Name	First Name	Comment Number	Topics
Sachs	Howard	911	C.3
Saltzman	David	57	C.3, K3, K.4
Sanborn	Maxwell	213	A.1, C.3
Sander	Ben	433	A.1, C.3
Sanders	Barbara	608	A.1
Santorini	Eva	754	C.2, C.1, C.3, E.11
Saraf	Fawaz	567	C.2, E.7
Sargent	Keith	381	A.1, C.3
Sargent	Keith	382	A.1, C.3
Sartori	Jason	246	A.1, C.3
Sartori	Michele	370	A.1, C.3
scarff	margaret	90	B.1, E.2, E.3, E.4
Scheel	Marti	378	A.1, C.3
Scheiner	Stanley	752	C.3, E.4
Schirmer	Neil	335	A.1, C.3
Schmal	Steve	552	A.1, C.3, J.3
schmidt	martha	844	A.1, C.3
Schollard	Cynthia	712	C.3, E.9, E.10
Schulz	Peter	128	A.1
Schulz	Nick	247	C.3
Schuster	Henry	541	A.1, C.3
Schwartz	Daniel	529	A.2, B.1, E.1, E.2, K.2, K.5
Schwenger-Huffman	Barbara	212	A.1, C.3
Scott	Angel	55	A.1
Scott	David	414	A.1, C.3
Scott	Nigel and Mona	1034	C.4, E.3, E.9, E.10, E.14, K.5
Seeley	Timothy	659	C.3
Seibel	Nancy	255	A.1, C.3
Seidman	Joshua	337	A.1, C.3
Seltman	Paul	129	F.1
Seng	Victoria	443	A.1, C.3
Shapiro	Beth	531	A.1
Shaw	Alexander	313	A.1, C.3
Sheehan	Frank	519	C.1, C.2
Shepard	Fern	1004	C.3
Sherburne-Benz	Lynne	303	A.1, C.3
Shingleton	Brad	652	A.2, B.1, K3, K.4
Shish	Imix	874	C.4
Shuker	Iain	1008	C.3, D.3

Last Name	First Name	Comment Number	Topics
Siegel	Julie	846	A.1, C.3
Siegner	A. Wes	556	C.1, C.3, E.4
Sigrist	Benjamin	193	A.1, C.3
Silverman	Elsa	113	A.2, J.2
Silverman	Alexei	929	C.3
Silversmith	Gary	376	A.1, C.3
Simler	Kenneth	818	A.1, C.3
Simon	Stuart	140	A.1, C.3
Simon	Jonathan	141	A.1, C.3
Simson	Bert	473	C.3
Singh	Shamsher	271	A.1, C.3
Sirovatka	Jono	958	A.1, C.3
Skigen	Zachary	537	A.1, C.3
Slater	Tina	707	A.1, F.1
Slater	James	748	A.2, C.3
Slazer	Frank	695	A.2, C.3, D.3
Small	Sue	871	C.3
Smith	Michael	118	A.1, F.1
Smith	Nathaniel	185	A.1, C.3
Smith	Lisa	424	A.1, C.3
Smith	Judy	475	C.3, E.7, E.9
Smith	Sarah	576	C.1, C.2, C.3, D.5, E.9, K3, K.4
Smith	Lane	898	C.4
Smoak	Frederic	346	A.1, C.3
Snell	Tracy	188	A.1, C.3
Snipper	Reuben	972	A.1, C.3
Snouck-Hurgronje	Anne	222	A.1, C.3
Snyder	David	486	C.3
Solana	Ernesto	910	C.3
Solomon	Howard	275	A.1, C.3
Somma	Dan	412	A.1, C.3
Soria	Fabian E	620	C.4
Sorkin	Barbara	198	A.2, C.3, E.2
Spallone	Regina	917	A.1, C.3
Spencer	Elizabeth	27	A.2, E.9
Spencer	Elizabeth	1017	B.1, E.9
Sperling	Joyce	861	C.3, E.9, G.2, K.5
Spiegel	Bruce	801	C.3
Spielberg	Anne	727	C.1, C.4, D.2, D.5, E.2, E.4, E.7, E.9, E.11, E.12, F.1

Last Name	First Name	Comment Number	Topics
Spira	Howard	168	A.1, C.3
Srnik	Michael	738	A.2, B.1
Srnik	Kathy	739	A.2, C.3
St. Thomas	Jonathan	115	A.1
Stagg	Brian	53	A.1
Stamas	Vicky	102	A.1
Stanek	Jason	618	C.2
Stanish	Julie	742	C.3, D.2, E.11
Starr	Allan	386	A.1, C.3
Stern	Joann	705	C.3
Stern	Gary	839	A.1, C.3
Stewart	Ken	543	A.1, C.3
Stines	Sonia	950	A.1, C.3
Stinson	David	725	C.4
Stob	Barbara	850	C.4
Stokes	Carrie	852	A.1, C.3
Strang	William	169	A.1, C.3
Stromberg	Edwin	179	A.1, C.3
Strulson	Sam	763	C.3
Stutzman	Benjamin	279	A.1, C.3
Subramanian	Prem	825	C.4, E.8, E.11, E.12
Suchoski	Richard	138	A.1, C.3
Suite II	William	879	A.1, C.3
Sullivan	Andy	953	A.1, C.3
Sup Lee	Soong	483	C.3
Susan	Alexander	268	A.1, C.3
Sushka	Nik	393	A.1, C.3
Sutter	Allan	30	D.5
Szczygiel	John	456	C.3, D.5, E.9
Tatum	Donald	76	A.1
Tender	Neil	638	B.1, B.2, C.2, C.1, C.3, E.11, K.5
Tennyson	E. L.	104	A.1, B.1, C.1, E.8
Teslik	Randy	491	A.2, C.3, E.9, E.11
Thomas	Jan	513	C.1
Thompson	Amy	107	C.1, C.2
Threefoot	Tracy	167	A.1, C.3
Thumprasert	Sutonta	651	D.3, E.7, E.9, E.10
Tilghman	Dina	485	F.4
Titus	Donald	553	C.2, C.3
Tolentino	Kristoffer	295	A.1, C.3

Last Name	First Name	Comment Number	Topics
Tom	Jonathan	174	A.1, C.3
Toolanen	Doris	563	C.1, C.3, E.8, E.11
Toombes	Gil	890	A.1, C.3
Trembley	Andrew	218	A.1, C.3
Trimingham	Loch	996	C.3
Tsubata	Sarah	592	Information Request
Tunon	Jessica	974	A.1, C.3
Turkat	Debra	615	B.1, B.2, C.3, C.3
Turow	Steve	459	C.3, E.9
Uhlman	Michael	109	C.1, C.3
Unger	Darian	989	C.4, D.3, E.3, E.11, E.14
Ussery	Michael	120	A.1, F.1
Van Gelder	Beth	770	C.3
Van Pelt	Steve	968	A.1, C.3
VanDeWeghe	Meg	38	D.2, E.9, E.10, E.11
VanDeWeghe	Meg	574	A.2, B.1, E.4, K.2
Vega	Clara	540	A.1, C.3
Velez	Frank	545	A.1, C.3
Versteeg	Steven	828	C.3
Vincent	Andrew	621	C.4
Viner	Lou	151	A.1, C.3
Vivian	Ehrlich	56	A.2, C.4, E.9
Vollmer	Deborah	470	C.1, C.2, C.3, D.5, E.4, E.11, K3, K.4
Vongkovit	Veeraporn	173	A.1, C.3
Vongkovit	Piyapong	220	A.1, C.3
Vorce	Anne	979	C.4, E.12
Wagner-Smith	Wendy	870	E.11
Walden	Harvey	664	C.4
Wall	Joanne	64	C.3, D.2, D.5, E.4, E.9, E.10, E.11,
Wang	Margaret	85	A.1
Wannen	John	435	A.1, C.3
Wannen	Mark	438	A.1, C.3
Ward	Mary	184	A.1, C.3
Watson	John	166	A.1, C.3
Watson	Andy	257	A.1, C.3
Watson	John	994	C.3, C.4, D.2
Wawrzusin	Mario	241	A.1, C.3
Weakley	Jason	336	A.1, C.3
Webb	Mary	202	A.1, C.3
Webb	Jason	208	A.1, C.3

Last Name	First Name	Comment Number	Topics
Weber	Nancy	814	B.2, C.1, C.4, D.2, E.7, E.14, G.3, K.2
Wegner	Adam	398	A.1, C.3
Weidow	Paul	623	C.3, B.1, E.5, E.9, K.5
Welch	Laura	875	A.1, C.3
Wenner	Adam	448	C.3
Werner	James	92	A.1, D.3
Whetzel	Jim	788	E.9, E.10
White	Julia	79	D.2, F.3, J.2
Whitehead	Charles	579	C.2, C.3
Whitling	Thomas	405	A.1, C.3
Wild	Ann	883	B.1, C.1, C.3, D.5, E.3, E.9
Wilets	Scott	289	A.1, C.3
willcher	mark	793	C.3
Williams	Jon	131	C.3, E.9, E.11
Williams	Carolyn	134	A.1, C.3
Williams	Chester	525	A.1
Williams	Scott	720	C.2, C.1, C.3
Williamson	Taylor	549	C.3
Willig	Sharon	81	C.2, C.3
Willig	Sharon	209	C.3
Wilson	Paris	404	A.1, C.3
Wilson	Scott	946	A.1, C.3
Windhoffer	Laszlo	442	A.1, C.3
Winslow	Walter T	899	C.3
Wise	Dana	406	A.1, C.3
Withers	Jerry	110	F.1
Witkop	Carrie	481	C.3, E.2, E.4, E.11, E.12
Wittrock	Allison	432	A.1, C.3
Wolven	Brian	876	A.1, C.3
Wong	Dee	359	A.1, C.3
Wood	Kent	611	C.3, D.5, E.9
Woodard	Ken	49	C.3, K.2
Woodard	Terri	50	C.3, C.4
Worthington	Aileen	665	C.3, E.5
Wright	Christy	943	A.1, C.3
Wyrick	Phelan	5	A.1
Wyrick	Sasha	91	A.1
Yeh	Jordi	78	C.2
Zajac	Alex	967	C.3, D.3, E.9, D.5
Zbar	Fred	522	A.2, C.3, E.2

Last Name	First Name	Comment Number	Topics
Zbar	Fred	558	A.2, C.3, E.2, K.2, K3, K.4
Zentek	Kathy	278	A.1, C.3
Zhang	Jing	242	A.1, C.3
Zielinski	Mike	321	C.3, E.11
Zimmer	Kristin	373	A.1, C.3
Zwiebel	James	156	A.1, C.3
(no last name given)	Melissa	663	C.3
(no last name given)	Sara	768	C.3
(no last name given)	Libby	769	C.3
(no last name given)	Melanie	786	C.3
(no last name given)	Donnie	984	C.3
(no last name given)	Miriam	1029	C.3
(no last name given)	@lorosoria	1038	C.4

Appendix A—Clarification of the Results of the Purple Line Noise Analysis

The following text clarifies and expands upon text from the *FEIS Noise Technical Report*. Commenters asked for a clarification of the noise analysis and an explanation of what the total noise exposures would be. This document does not provide any new analysis, but presents information from data in the *FEIS Noise Technical Report*.

Introduction

In response to public comments on the noise impacts presented in the Final Environmental Impact Statement (FEIS), this Supplemental Memo to Purple Line FEIS Noise Technical Report was prepared. This memo clarifies the analysis and conclusions presented in the Technical Report; however, no new analysis is presented in this memo. This memo explains the total future sound level that are anticipated from adding the predicted project-related sound levels to existing sound levels at the representative locations studied. This memo includes:

- The difference between the total future sound level (existing noise plus predicted noise with the Preferred Alternative) and the existing sound level at each analyzed site.
- Information that shows the typical community responses to similar increases in noise.
- Future predicted noise analysis response to help the public understand how they may perceive or be affected by the predicted increase.

Summary of Future Total Sound Level in Comparison with FTA Impact Thresholds

Table 1 summarizes the predicted sound levels from operations with the Preferred Alternative for each of the representative receptor locations where ambient noise levels were measured as presented in the FEIS Noise Technical Report. The analysis concluded that none of the studied representative sensitive receptors would experience project-related sound levels that would exceed the FTA Severe Impact threshold. It also concluded that moderate impacts due to Purple Line operations are projected to occur at 11 residential properties comprising seven single-family residences represented by Receptors 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 locations of the receptors are shown in FEIS Figure 4-27). Moderate impacts under FTA criteria are not required to have mitigation. The sixth site, M-52, on Ellin Road is located within 200 feet of a grade crossing. The higher noise exposure projected at all of these sites is due to horn soundings, which are assumed as the light rail vehicle approaches stations and grade crossings. Noise exposure levels at all other receptor sites indentified for the Purple Line are projected to remain below FTA Moderate Impact threshold.

In addition, the future total noise exposure was determined at each of the representative receptor sites by adding noise levels due to transit operations with those measured under existing conditions. The total future predicted noise levels are presented in **Table 1.** The predicted increase in sound level over existing conditions is compared to the human annoyance criteria described below, showing an individual's probable perception of changes in noise levels.

Individual Perception and Community Response

The average ability of an individual to perceive changes in noise levels is well documented in the 1973 FHWA criteria (see **Table 2**). Generally, increases in noise levels less than 3 dBA are barely perceptible to most listeners, whereas 10 dBA increases are normally perceived as doubling noise

levels. Furthermore, it is also possible to characterize the effects of noise on people by studying the aggregate response of people in communities. The rating method used for this purpose is based on a statistical analysis of the fluctuations in noise levels in a community, and it integrates the fluctuating sound energy over a known period of time, most typically over one hour or 24 hours. Various government and research institutions have proposed criteria that attempt to relate changes in noise levels to community response. One commonly applied criterion for estimating community response to changes in noise levels, developed by the International Standards Organization (ISO), incorporates the response scale shown in **Table 3**. This scale relates changes in noise level to the degree of community response and is used to estimate of the probable response of a community to a projected change in noise level.

According to the criteria in **Table 2**, noise level increases of 3 dBA are considered barely perceptible, and the community response of noise level increases of less than 5 dBA shown in **Table 3** will likely result in little or no observed human reaction.

As shown in **Table 1** a maximum noise level increase of 3 dBA occurs at five locations: a park (P-10), an institutional receptor (M-17), a church (M-40), and two residential properties (M-27A and M-28). The two residential locations would be moderately impacted, per the FTA guidance. At all other sites where FTA moderate impacts are predicted to occur, total future noise level increases are projected to range from 0 to 2 dBA. Accordingly, as indicated in **Tables 2** and **3,** noise level increases in this range are considered below the threshold level of human perceptibility and will likely result in little or no observed community reaction to Purple Line operations.

Table 1. Noise Analysis Summary

Receptor		Land Use		Track Type	Crossovers	Warning Device	Distance to Tracks Centerline (feet)	Maximum Speed (mph)	Existing Noise (dBA)	Project-related Noise (dBA)	FTA Criteria		FTA Impact?	Total Future Noise Exposure (dBA)	Noise Level Increase over Existing (dBA)	Human Perceptibility and Potential Community Annoyance
P-1	Elm Street Park	Park	3	Green	Yes	No	240	37/45	66 Leq	37	67	73	No	66	0	None
P-2A	Columbia Country Club (West)	Park	3	Green	No	No	42	45	60 Leq	49	63	69	No	60	0	None
P-2B	Columbia Country Club (East)	Park	3	Green	No	No	30	45	60 Leq	51	63	69	No	61	1	None
P-3	Rock Creek Park	Park	3	Green	Yes	No	233	45	52 Leq	38	60	66	No	52	0	None
P-4	Sligo Creek Park	Park	3	Embedded	No	No	52	10	69 Leq	42	69	75	No	69	0	None
P-5	Long Branch Trail Park	Park	3	Embedded	No	No	64	30	68 Leq	50	68	74	No	68	0	None
P-6	New Hampshire Park	Park	3	Ballast	No	Yes	127	15	65 Leq	56	66	72	No	66	1	None
P-7	Northwest Branch Stream Park	Park	3	Ballast	No	No	105	35	65 Leq	45	66	72	No	65	0	None
P-8	Paint Branch Stream Park	Park	3	Embedded	No	No	58	21/17	74 Leq	47	71	78	No	74	0	None
P-9	Calvert Park	Park	3	Ballast	Yes	No	260	37	67 Leq	40	68	73	No	67	0	None
P-10	Anacostia River Stream Park	Park	3	Ballast	No	Yes	57	57	61 Leq	61	64	70	No	64	**3**	Minor
P-11	Glenridge Community Park	Park	3	Ballast	No	No	285	45	64 Leq	41	66	71	No	64	0	None
P-12	West Lanham Hills Park	Park	3	Ballast	No	No	238	40/32	60 Leq	40	63	69	No	60	0	None
UMD-1	Ludwig Field & Kehoe Track	SCH	3	Embedded	No	No	100	10	57 Leq	38	62	68	No	57	0	None
UMD-2	Union Drive (Benjamin Bldg)	SCH	3	Embedded	No	No	53	10	63 Leq	42	65	71	No	63	0	None
UMD-3	Campus Drive (Health Center)	SCH	3	Embedded	No	Yes	43	10	68 Leq	63	68	74	No	69	1	None
UMD-4	Campus Drive (Hornbake Library)	SCH	3	Embedded	No	No	50	10	65 Leq	42	66	72	No	65	0	None
UMD-5	Mitchell Building	SCH	3	Embedded	Yes	No	25	15	60 Leq	53	63	69	No	61	1	None
UMD-6	Turner Hall Visitor Center	SCH	3	Embedded	No	No	95	15	59 Leq	41	63	69	No	59	0	None
UMD-7	Rossborough Drive (Fraternity Housing)	RES	2	Embedded	No	Yes	185	15	71 Ldn	61	66	71	No	71	0	None
UMD-8	Rossborough Drive (Leonardtown Housing)	RES	2	Embedded	No	No	65	17/21	66 Ldn	50	62	68	No	66	0	None
M-1	4509 Elm Street	RES	2	Green	Yes	No	72	37/45	58 Ldn	49	59	65	No	59	1	None
M-2	4505 Elm Street	RES	2	Green	Yes	No	104	40/45	57 Ldn	47	62	68	No	57	0	None
M-3	4502 Elm Street	RES	2	Green	No	No	263	45	56 Ldn	41	66	73	No	56	0	None
M-4	4407 Elm Street	RES	2	Green	No	No	138	45	57 Ldn	45	71	78	No	57	0	None
M-5	4305 Elm Street	RES	2	Green	No	No	115	45	55 Ldn	46	66	72	No	56	1	None
M-6	The Family Academy	SCH	3	Green	No	No	44	45	59 Leq	53	66	72	No	60	1	None
M-7	4210 Oakridge Lane	RES	2	Green	No	No	130	45	56 Ldn	46	66	76	No	56	0	None
M-8	7602 Lynn Drive	RES	2	Green	No	No	66	45	56 Ldn	50	66	76	No	57	1	None
M-8A	Lynn Drive	RES	2	Green	No	No	40	45	56 Ldn	53	64	70	No	58	2	None
M-9	4302 Kentbury Drive	RES	2	Green	No	No	62	45	57 Ldn	50	63	68	No	58	1	None
M-9A	Edgevale Court	RES	2	Green	No	No	40	45	57 Ldn	53	67	71	No	58	1	None
M-10	8003 Kentbury Drive	RES	2	Green	No	No	94	45	65 Ldn	48	67	73	No	65	1	None
M-10A	Edgevale Street	RES	2	Green	No	No	74	45	65 Ldn	49	66	71	No	65	0	None

[1] CHC = church INS = institution RES = residence SCH = school

Table 1. Noise Analysis Summary (continued)

Receptor		Land Use		Track Type	Crossovers	Warning Device	Distance to Tracks Centerline (feet)	Maximum Speed (mph)	Existing Noise (dBA)	Project-related Noise (dBA)	FTA Criteria		FTA Impact?	Total Future Noise Exposure (dBA)	Noise Level Increase over Existing (dBA)	Human Perceptibility and Potential Community Annoyance
M-11	3939 Newdale Drive	RES	2	Green	No	No	117	45	64 Ldn	50	63	69	No	64	0	None
M-11A	Newdale Drive	RES	2	Direct Fixation	No	Yes	120	43/35	64 Ldn	59	65	70	No	65	1	None
M-12	Hamlet Place	RES	2	Green	No	No	70	50	62 Ldn	51	65	70	No	62	0	None
M-12A	Chevy Chase Lake Drive	RES	2	Green	No	No	120	35/45	62 Ldn	57	61	67	No	63	0	None
M-13	3326 Jones Bridge Court	RES	2	Green	No	No	81	45	62 Ldn	49	66	71	No	62	0	None
M-13A	West Coquelin Terrace	RES	2	Green	No	No	63	45	62 Ldn	50	64	70	No	62	0	None
M-14	3225 Coquelin Terrace	RES	2	Green	No	No	113	45	66 Ldn	47	66	75	No	66	0	None
M-152	Apartments on Terrace Drive	RES	2	Green	No	No	48	50	70 Ldn	58	69	75	No	70	0	None
M-162	Grubb Road (Rock Creek Pool)	INS	3	Green	No	No	160	45	52 Leq	50	63	68	No	54	2	None
M-172	2481 Lyttonsville Road	INS	3	Ballast	No	No	85	20/15	62 Leq	61	66	75	No	65	3	None
M-17A2	2481 Lyttonsville Road	RES	2	Ballast	No	No	290	20/15	62 Ldn	56	59	65	No	63	1	None
M-182	810 Albert Stewart Lane	RES	2	Embedded	No	Yes	228	35	66 Ldn	57	62	68	No	67	1	None
M-19	8906 Talbot Avenue	RES	2	Ballast	No	No	81	37/45	74 Ldn	52	66	73	No	74	0	None
M-19A	Rosemary Hills Elementary School	SCH	3	Ballasted	No	No	69	45	74 Leq	50	71	78	No	74	0	None
M-20	Apartments on Rosemary Hills Drive	RES	2	Ballasted	No	No	20	45	72 Ldn	62	66	72	No	72	0	None
M-21	3rd Avenue	RES	2	Direct Fixation	No	Yes	168	20	73 Ldn	60	66	72	No	73	0	None
M-22	North Falkland Lane	RES	2	Ballasted	No	No	45	45	78 Ldn	57	66	76	No	78	0	None
M-22A	Silver Spring Transit Center	RES	2	Ballasted	No	Yes	100	45	78 Ldn	59	66	76	No	78	0	None
M-23	949 Bonifant Street	INS	3	Embedded	No	No	50	10	62 Leq	42	64	70	No	62	0	None
M-23A	Apartment Bldg. on Wayne Avenue	RES	2	Embedded	No	Yes	140	10	67 Ldn	64	63	68	Yes	69	2	None
M-23B	First Baptist Church	CHC	3	Embedded	No	Yes	130	10	66 Leq	58	67	71	No	67	1	None
M-24	Saint Michael Church	CHC	3	Embedded	No	No	70	20	66 Leq	47	67	73	No	66	0	None
M-25	Springdale Road. and Wayne Avenue	RES	2	Embedded	No	No	45	10	71 Ldn	43	66	71	No	71	0	None
M-26	Bonifant Street and Wayne Avenue	RES	2	Embedded	No	Yes	93	10	68 Ldn	65	63	69	Yes	70	2	None
M-27	Wayne Avenue	RES	2	Embedded	No	No	62	10	70 Ldn	44	65	70	No	70	0	None
M-27A	Manchester Place	RES	2	Embedded	Yes	Yes	42	10	70 Ldn	69	65	70	Yes	73	3	None
M-28	Arliss Street	RES	2	Embedded	No	Yes	60	20/10	65 Ldn	65	61	67	Yes	68	3	None
M-29	Piney Branch Road	RES	2	Embedded	No	No	63	30	71 Ldn	64	66	71	No	72	1	None
M-30	University Boulevard	RES	2	Ballasted	No	Yes	95	15	69 Ldn	63	64	70	No	70	1	None
M-31	Bayfield Street and University Boulevard	RES	2	Ballasted	Yes	No	88	35	76 Ldn	50	66	75	No	76	0	None
M-32	Takoma Park Spanish Church	CHC	3	Ballasted	No	No	230	35	69 Leq	40	69	75	No	69	0	None
M-33	1020 University Boulevard	RES	2	Ballasted	No	No	97	35	67 Ldn	49	63	68	No	67	0	None
M-34	14th Avenue and University Boulevard	RES	2	Ballasted	Yes	No	95	35	76 Ldn	50	66	75	No	76	0	None

[1] CHC = church INS = institution RES = residence SCH = school

Table 1. Noise Analysis Summary (continued)

Receptor		Land Use		Track Type	Crossovers	Warning Device	Distance to Tracks Centerline (feet)	Maximum Speed (mph)	Existing Noise (dBA)	Project-related Noise (dBA)	FTA Criteria		FTA Impact?	Total Future Noise Exposure (dBA)	Noise Level Increase over Existing (dBA)	Human Perceptibility and Potential Community Annoyance
M-35	University Boulevard	RES	2	Ballasted	No	No	104	35	72 Ldn	49	66	72	No	72	0	None
M-36	West Park Drive	RES	2	Ballasted	No	No	105	35	70 Ldn	49	65	70	No	70	0	None
M-37	3400 Tulane Drive	RES	2	Ballasted	No	No	113	20/30	72 Ldn	45	66	72	No	72	0	None
M-37A	Apartment Building on Adelphi Road	RES	2	Ballasted	Yes	Yes	375	20	62 Ldn	56	59	65	No	63	1	None
M-37B	University Baptist Church	CHC	3	Ballasted	Yes	Yes	200	20	60 Leq	53	63	69	No	61	1	None
M-38	Columbia Avenue	RES	2	Embedded	No	No	408	21/17	67 Ldn	38	63	68	No	67	0	None
M-39	Erskine Road	RES	2	Ballasted	Yes	No	260	37	78 Ldn	44	66	76	No	78	0	None
M-40	First Korean Presbyterian Church	CHC	3	Ballasted	No	Yes	57	10	61 Leq	61	64	70	No	64	3	None
M-41	Kenilworth Avenue	RES	2	Ballasted	Yes	No	110	30	72 Ldn	48	66	72	No	72	0	None
M-42	5800 58th Avenue	RES	2	Ballasted	No	Yes	162	21/33	76 Ldn	60	66	75	No	76	0	None
M-43	9100 63th Avenue	RES	2	Ballasted	No	Yes	100	35	75 Ldn	63	66	74	No	75	0	None
M-44	Patterson Street and Riverdale Road	RES	2	Ballasted	No	Yes	61	10/21	70 Ldn	65	65	70	Yes	71	0	None
M-44A	Patterson Street	RES	2	Ballasted	No	No	85	25	70 Ldn	47	65	70	No	70	0	None
M-45	Patterson Drive	RES	2	Ballasted	No	No	218	35/45	58 Ldn	45	57	63	No	58	0	None
M-46	Rosalie Lane	RES	2	Ballasted	No	No	253	45	68 Ldn	45	63	69	No	68	0	None
M-47	6532 Rosalie Lane	RES	2	Ballasted	Yes	No	285	45	68 Ldn	49	63	69	No	68	0	None
M-48	Jefferson Street	RES	2	Ballasted	No	Yes	220	35/40	64 Ldn	58	61	66	No	65	1	None
M-49	Glenridge Elementary School	SCH	3	Ballasted	Yes	Yes	380	37/45	57 Leq	53	62	68	No	58	1	None
M-50	Chesapeake Landing Apartments	RES	2	Ballasted	No	No	61	27/10	57 Ldn	48	57	63	No	58	1	None
M-51	Decatur Road	INS	3	Ballasted	No	No	173	25	62 Leq	43	64	70	No	62	0	None
M-52	Hanson Oak Drive	RES	2	Ballasted	No	Yes	70	25	67 Ldn	63	63	68	Yes	68	1	None
M-53	4913 78th Avenue	RES	2	Ballasted	No	Yes	228	25	63 Ldn	58	60	66	No	64	1	None

[1] CHC = church INS = institution RES = residence SCH = school

Table 2. Average Ability to Perceive Changes in Noise Levels

Noise Level Change (dBA)	Human Perception of Sound
3	Barely perceptible
5	Readily noticeable
10	A doubling or halving of the loudness of sound
20	A dramatic change
40	Difference between a faintly audible sound and a very loud sound

Source: Bolt Beranek and Neuman, Inc., Fundamentals and Abatement of Highway Traffic Noise, Report No. PB-222-70. Prepared for Federal Highway Administration, June 1973.

Table 3: Community Response to Increases in Noise Levels

Noise Level Change (dBA)	Category	Human Response Description
0	None	No observed reaction
5	Little	Sporadic complaints
10	Medium	Widespread complaints
15	Strong	Threats of community action
20	Very strong	Vigorous community action

Source: International Standards Organization, Noise Assessment with Respect to Community Responses, ISO/TC 43 (New York: United Nations, November 1969).