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November 14, 2025

Our File No.: FY25-00061

This is in response to your e-mail of December 13, 2024, requesting information under the Freedom of Information Act (FOIA). Specifically, you requested a copy of "each PMOC report during 2023 and 2024 for 1) The Maryland Transit Administration, and 2) The Maryland Department of Transportation. PMOC is Project Management Oversight Contractor."

A search of the FTA files has disclosed documents responsive to your request which are enclosed. The duplication fee is negligible and is waived pursuant to the FOIA and the Department of Transportation regulations, 49 C.F.R. § 7.43 (c). I hope this information meets your needs.

For additional information, please see the contact information above.

Sincerely,

Nancy Sipes

Nancy Sipes
Office of Management Planning

PMOC MONITORING REPORT
January 2024

National Capital Purple Line Light Rail Transit Project
Montgomery and Prince George's Counties, Maryland

Maryland Transit Administration
Baltimore, Maryland
Final

Draft Report Delivered to FTA on ***February 8, 2024***
Final Report Delivered to FTA on ***February 20,2024***

PMOC Contract No.: 69319519D000016
Task Order No.: 69319520F300095
Project No.: 69319519D000016/69319520F300095
Requisition/Reference No.: FTA-TPM20-20-0106
OPs Referenced: 20, 22, 23, 24, 25, 26, 37, 40
CLINs 0001, 0002, and 0005

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Time on Project: 05/18/2020 through 05/17/2025

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract #69319519D000016, Task Order #69319520F300095. Its purpose is to provide information and data to assist FTA as it continually monitors the management capacity and capability of the Maryland Transit Administration (MTA) (the Project Sponsor) to execute the project efficiently and effectively, and hence, whether the Project Sponsor continues to be ready to receive federal funds for further project development. This report covers the project management activities on the National Capital Purple Line Light Rail Transit Project managed by MTA as the Project Sponsor and financed by the FTA Full Funding Grant Agreement (FFGA). The cost and schedule information in this report was extracted from MTA's submitted information except where noted. The report is organized to comply with the requirements of updated Oversight Procedure 25 – Recurring Oversight and Related Reports, dated June 2020.

THIRD-PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for FTA. This report should not be relied upon by any party, except FTA or the Project Sponsor, in accordance with the purposes as described below.

For projects funded through the FTA FFGA program, FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a Project Sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a Project Sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a Project Sponsor may develop for project execution. Therefore, the information in the monthly reports will change from month to month, based on relevant factors for the month and/or previous months.

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1. EXECUTIVE SUMMARY

1.1. Project Description

The National Capital Purple Line (Purple Line) is a 16.2-mile east-west light rail transit (LRT) line extending inside the Washington, DC Beltway from Bethesda in Montgomery County, Maryland, to New Carrollton in Prince George's County, Maryland. The Purple Line will operate largely at street level in a combination of dedicated and semi-exclusive right-of-way (ROW) and includes segments on elevated structures and in tunnels. The alignment for the Purple Line will provide direct connections to Washington Metropolitan Area Transit Authority (WMATA) service at Bethesda, Silver Spring, College Park, and New Carrollton, Maryland. The project will also connect to all three Maryland Area Regional Commuter rail lines, Amtrak, and local bus routes. The project includes 21 stations, 2 operations control/vehicle storage and maintenance facilities, and 28 light rail vehicles (LRVs). Twenty-five of the LRVs are included in the FFGA and the remaining three vehicles are state funded. Maryland Transit Administration (MTA) is executing the project using a Public-Private Partnership (P3) method of project delivery.

As documented in the Federal Transit Administration (FTA) Full Funding Grant Agreement (FFGA), the original estimated project cost was $2,407,030,289, and the scheduled Revenue Service date (RSD) was December 31, 2022. On January 26, 2022, the Maryland Board of Public Works (BPW) approved significant revisions to the project cost and the Revenue Service Availability (RSA) date. The Transportation Infrastructure Finance and Innovation Act (TIFIA) loan closed on April 14, 2022. Financing approvals and subsequent financial close allowed Purple Line Transit Partners (PLTP), the P3 concessionaire, to issue Notice to Proceed (NTP) to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS). MTA prepared a Final Recovery Plan (FRP), which FTA accepted on April 17, 2023, and which had a revised project cost of $5,116,020,380 and a revised RSD of February 28, 2028. MTA submitted multiple management plan updates for FTA and Project Management Oversight Contractor (PMOC) review and acceptance.

1.2. Project Status

The FFGA was executed on August 22, 2017. The Purple Line project is currently in the construction phase. Due to a contractual dispute, PLTP demobilized the assets/staff and subcontractors of the original D-B contractor, Purple Line Transit Constructors (PLTC), from the project in September 2020.

On November 24, 2020, MTA and PLTP reached a settlement agreement to release PLTC from the P3 consortium and continue the project with the remaining parties. The BPW approved the agreement on December 17, 2020. PLTP agreed to procure a replacement D-B contractor to complete the project and to obtain project financing.

Despite changes within the P3 consortium, MTA intends to complete the full scope of the project as envisioned in the original contract documents, with some minor exceptions such as the addition of three state-funded LRVs. After a procurement process for a replacement D-B

contractor, PLTP selected MTS (a joint venture of Dragados USA and OHL USA) on November 5, 2021. The contract with MTS was executed on April 14, 2022.

MTA submitted a draft Interim Recovery Plan (IRP), dated December 15, 2020, to FTA, and subsequently prepared and submitted the FRP to FTA. FTA accepted the FRP on April 17, 2023.

MTA made deliberate choices about how to proceed with the major project elements once PLTC was released from the project. MTA's planning criteria included schedule, budget, and the reduction of risk for the replacement D-B contractor. MTA and its Project Management Consultant (PMC) added staff to support subcontractor invoicing, payment processes, and other administrative tasks.

MTA was managing a significant number of construction activities during MTA's IRP period, called Operation Step Forward (OSF), and several activities fell behind schedule. Delays related to third-party utility relocations and other unforeseen issues caused MTA to miss milestone dates included in MTA's revised agreements with PLTP that were executed in April 2022. Through October 2023, MTA executed two change orders caused by delays in OSF activities, and there continues to be potential for additional cost and schedule claims from MTS related to OSF. In early November 2023, MTA completed the OSF activities. As of January 2024, MTA and MTS are evaluating potential budget and schedule impacts from additional MTS claims related to OSF delays. The results of these evaluations are expected in ***February 2024.***

Construction work continues under the management of MTS, including activities and elements such as erosion and sediment control maintenance, bridge structures, platform construction, retaining walls, the Glenridge Operation and Maintenance Facility (OMF), and utility installation. The Polk Street Maintenance Facility (for Prince George's County Parks) is complete, and the Paint Branch stream restoration and the Ken-Gar wetlands mitigation projects are complete with the exception of warranty periods.

Completion of the Glenridge OMF has been on or near the critical path and continues to be a focus. MTA completed the majority of the OMF building and utilities, but construction of track that accommodates LRV storage and testing was deferred for completion by MTS. MTS was scheduled to assume control of the facility in early 2023, but as ***of January 25, 2024,*** the date of the formal turnover of the facility from MTA to MTS is still undetermined due to disputes over completeness of the PLTC and OMF work. MTS is installing rail and other features both inside and outside of the building.

Delayed completion of the OMF construction upon PLTC's departure required finding an alternative location to store completed LRVs. MTA reached an agreement with Construcciones y Auxiliar de Ferrocarriles (CAF) to store the LRVs at CAF's Elmira, New York facility until track is ready for acceptance of the LRVs. MTS assumed the storage agreement with CAF upon finalization of the replacement D-B contract.

MTA has revised and submitted the Project Management Plan (PMP), Risk and Contingency Management Plan (RCMP), Quality Assurance Plan (QAP), project schedule, Safety and Security Management Plan (SSMP), and Safety and Security Certification Plan (SSCP). On

December 28, 2023, FTA accepted SSCP Version 7, concluding FTA and PMOC review of the management plans that MTA revised in conjunction with the FRP.

MTA provides FTA and the PMOC with updates on the progress of MTA and MTS construction activities and monthly updates that track project milestones.

- Scope: There have been no significant reductions or changes to project scope. Three LRVs were added to the project scope (non-FFGA) to support improved operations once service commences.
- Schedule:
    - PLTC never developed an approved recovery schedule to address the delayed start of construction caused by the environmental lawsuit (please see the **NEPA Process and Environmental Mitigation** section, below, for a discussion of the environmental lawsuit).
    - MTA developed a schedule for the period during which the D-B contractor PLTC was being replaced. The IRP included project milestones for PLTP to procure a replacement D-B contractor, obtain new financing, and execute contract amendments with MTA. The IRP period also included development of the FRP. FTA subsequently accepted the FRP that includes a revised RSD of February 28, 2028.
    - See also the **Significant Project Activities and/or Key Milestones** subsection of this Executive Summary, below.
    - Table 1 presents MTA's key milestone dates for the project. The schedule in the FRP is considered the baseline schedule for the project. Through the Quantitative Risk Analysis and processes described in MTA's RCMP, a schedule contingency of 16 months was deemed appropriate. However, the delays attributed to OSF activities have consumed significant contingency. The utilization of a large portion of the schedule contingency at the early stages of MTS's contract is a concern.
    - To clarify schedule terminology used by MTA: The RSA date is a contractual date critical to the agreement between MTA and PLTP. The RSD is the contractual date tied to FTA FFGA funding and other project approvals.
    - MTA and MTS have executed two change orders related to delays attributed to OSF activities. These change orders extended the project RSA date by 207 days to May 24, 2027. MTA and MTS are currently reviewing additional potential delays and opportunities for schedule recovery. The RSA date in MTA's ***January 2024 master project schedule is December 10, 2027, and the float for the RSD milestone is 71 days. However, MTS's December 31, 2023 project schedule indicated 269 days of additional delay, which results in an RSA date of February 3, 2028.*** MTA and MTS are developing schedule mitigation ***options and their associated cost impacts*** in attempt to reach a mutually accepted ***change order and*** RSA date.

Table 1 – MTA Master Project Schedule Dates

Activity	Current MTA Master Project Schedule (*Dated January 1, 2024)* Milestone
Original FFGA	August 22, 2017
Financial Close / NTP / Amendment Agreement Effective Date for Revised PLTP Agreement	April 14, 2022
Commencement of Integration Testing	September 2, 2025
Commencement of Trial Running	May 27, 2026
Construction Complete All Segments	November 12, 2026
RSA	***December 10, 2027***
FFGA RSD (includes contingency)	February 28, 2028

- Cost:
  - The project's documented expenditures are ***$3,228,995,360.27 through December 31, 2023***. The current Estimate at Completion (EAC) for the project (construction, management, and LRVs) is $5,116,020,380.00. This budget has been accepted by FTA, and MTA has adopted it as the project cost.
  - The accepted project cost includes $307,293,174 of unallocated contingency, of which $220,991,524 has been committed through change orders (although not yet fully expended), leaving $86,301,650 in unallocated contingency.
  - Refer to **Table 4 – Core Accountability Items**, in Section 1.5 below, for additional project cost information.
  - MTA prepared a summary of actual versus planned expenditures for high-level OSF activities in Standard Cost Category (SCC) format and is updating this summary each month. Through ***January 25, 2024***, MTA forecasted OSF expenditures of ***$475 million***, which exceed the original OSF budget by approximately ***$55 million***. ***This amount excludes scope and cost transferred from MTA to MTS.*** The PMOC has requested an update on the OSF expenditures, and MTA has indicated that it will prepare a revised final EAC for OSF ***in February 2024.*** Significant OSF delays impacted MTS's activities, thus adding to the cost increase that can be attributed to OSF, although ***not all of those impacts are included in the final EAC.***
  - The budget includes funds to address nonconforming construction by PLTC. MTA incorporated known defects into the contract with MTS. However, MTA must pay to address any defects unknown at the time of execution of the MTS contract. In February 2023, MTA estimated the total cost of these unknown defects to be approximately $10 million. Nonconforming PLTC work and several other disputes are being evaluated by MTA and MTS, and each is included as an item in the Risk Register.

- ***Several disputes will be considered at the Dispute Resolution Board meeting scheduled for February 28, 2024. The findings of the Dispute Resolution Board are not binding.***

- Significant Project Activities and/or Key Milestones:

  The COVID-19 pandemic impacted the project in different ways and at different levels. These impacts were primarily related to availability of resources and labor. MTA, the PMC, and other project staff followed recommended COVID-19 protocols. On January 30, 2023, MTA suspended COVID-19 protocols for the project.

  - The third lawsuit filed by the Friends of the Capital Crescent Trail in January 2019 against U.S. Army Corps of Engineers (USACE) was dismissed in April 2020. The plaintiff subsequently filed an appeal on May 11, 2020. The District Court denied the appeal on May 13, 2021. The decision resolved the last active lawsuit related to the project.
  - The original baseline schedule indicated design completion by late fall 2017. The progress through ***January 25, 2024***, is that 214 of the 218 total planned design packages have been issued as Released for Construction (RFC). The packages that remain in design or approval include fare collection, the fire management system at the WMATA/Silver Spring Transit Center (SSTC) combined station, guideway signage, and the train control system. The most significant remaining design package, train control, will not be 100 percent complete until July 2024. The PMOC observed that MTS indicates that the design portion of its contract is 99.9 percent invoiced and paid, and MTA has confirmed that this information is correct. The requirements of MTA's D-B contract with MTS include the payment of all design costs in 15 months, regardless of progress.
  - ***As of January 2024***, there is a dispute pending related to the cost of design changes that were made after execution of the agreement with MTS. MTA's team estimates that the disputed amount is approximately $15 million.
  - WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX Corporation [CSX] ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of ***January 2024*** for the SSTC and other locations where WMATA and Purple Line stations coincide. MTA reports that the slow resolution of these issues has not impacted critical path activities.
  - Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. One jack-and-bore installation remains to be completed by MTS as of ***January 2024, although MTA states that this culvert installation is not on the project critical path***.
  - Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the

railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. MTA is supporting coordination of construction activities that will occur during a planned WMATA shutdown in the summer of 2024.

- MTA and Washington Suburban Sanitary Commission (WSSC) reached agreement on the relocation of the 66-inch water main that was under the Glenridge OMF. The water main has been relocated, and this part of the project is now considered fully complete.
- PLTC reached resolution on the final remaining Alternate Technical Concept (ATC) identified during the proposal process, which is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA reviewed PLTC's design package for National Environmental Policy Act (NEPA) compliance. Final documentation for the ATC is still pending as of ***December 2023.*** MTA will schedule a review of the documentation with FTA as soon as it is complete, ***which is expected to occur in April 2024.*** MTA and MTS optimistically predict that the ATC will have no Section 4(f) impacts or other impacts to the project's Record of Decision (ROD).
- MTA has completed its non-P3 construction contract activities, as follows:
  - Prince George's County Parks (Parks) Polk Street Maintenance Facility D-B – A substantial completion letter was issued to the contractor on March 30, 2021. Parks has taken possession of the facility, and the warranty period has expired. The only remaining action for this portion of the project is a real estate swap that will transfer the maintenance facility property to Parks in exchange for the property needed by MTA for the Purple Line project.
  - Offsite Wetlands Mitigation (Ken-Gar) – The Design-Bid-Build construction NTP was issued on September 5, 2019. The one-year warranty review occurred on January 9, 2022, and the project is now in quarterly monitoring and annual reporting by MTA that will continue through 2028.
  - Offsite Stream Mitigation (Paint Branch) – The Design-Bid-Build construction NTP was issued on September 5, 2019, and the contractor mobilized in late November 2019. Quarterly monitoring and annual reporting by MTA will continue through 2028.
- Building construction at the Glenridge OMF is essentially complete; however, construction of items outside of the building continues, as does final commissioning of systems inside the building. MTS was scheduled to take possession of the Glenridge OMF on December 31, 2022, but that did not occur because MTA had several remaining items to complete. Although transfer of the facility has not occurred, MTS is working in and around the OMF, installing track and conduit outside the building, and completing other interior features. The turnover letter to transfer possession of the facility from MTA to MTS is on hold as ***of December 2023,***

pending resolution of four remaining items. It is uncertain when these items will be resolved or whether additional impacts will result.

- Preparation of Traction Power Substations (TPSSs) continues. As of ***January 2024***, TPSSs Q1, Q8, Q7, and QYG had been placed on their foundations and ***are either complete or being commissioned***.
- The following is the status of LRV manufacturing as of ***January 25, 2024:***
  - All 25 of the vehicles in the FFGA project scope description and one additional vehicle are designated as "Ready for Shipment" and are in storage at CAF's facility in Elmira, New York. These vehicles are under a schedule of inspection and maintenance until delivery can occur.
  - MTA has added three vehicles by change order to CAF's contract. The additional LRVs will support better operations at the RSA date. It is important to note that these three additional LRVs are not a part of the FFGA between MTA and FTA. One of the three additional vehicles is in storage in Elmira along with the 25 FFGA LRVs. All ten railcars that make up the two remaining vehicles are in final assembly.
  - The previously identified quality issue related to the M33 bolt on the LRV trucks ***is not resolved as of January 2024.*** Additional failures occurred in November and December 2023, and the truck manufacturer in Germany performed additional tests. MTA previously indicated that a Root Cause Analysis (RCA) will be performed for this issue. In the PMOC's opinion, the RCA is prudent, in addition to development of corrective actions. The PMOC recommends that the quality process also be included in the RCA, along with design, fabrication, and assembly processes. CAF does not believe that this issue will impact delivery of the vehicles, which currently is scheduled for spring of 2024.
  - Delivery of vehicles was expected to begin in spring of 2021; however, the location for their delivery was uncertain because the Glenridge OMF was not ready to accept railcars. MTA and CAF negotiated an agreement for CAF to store the completed railcars in Elmira to await delivery. The terms of the agreement became a part of MTS's agreement. Deliveries of LRVs to the Glenridge OMF have been delayed until spring 2024.
  - The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. The audit indicates that the percentage of U.S. domestic content is 66.74 percent, which meets FTA requirements.
  - MTA staff visited the CAF facility in Elmira, New York, in October 2023 to observe the twenty-six stored vehicles and the two vehicles currently being assembled.
- MTA is responsible for providing offsite stormwater mitigation in Montgomery County. To date, MTA has accumulated a credit for more than 10 acres of designed,

Maryland Department of the Environment (MDE)-approved, offsite stormwater management (SWM) capacity in its "bank." MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS.

- ROW acquisition activities continue for the original required 464 private parcels and 137 public parcels (a total of 601 parcels). All of the private parcels related to the original P3 contract Exhibit 9 FFGA scope are in MTA's possession for construction. ***As of January 25, 2024***, ***420*** of the 464 private parcels have completed settlement, and an additional ***10*** parcels have settlements pending.
- MTA has identified 188 small property acquisitions that are required for utility relocations, of which 134 are private and 54 are public. As of April 25, 2023, all of the additional properties were in MTA's possession through Right of Entry (ROE), through options, and/or through agreements. As of ***January 25, 2024,*** MTA estimated that approximately $36.2 million of exposure remains in the acquisition process. This amount is included in the risk assessment and in the available project contingency.
- To date, all 177 required property relocation agreements are complete. Costs for the completed relocations continue to be processed in accordance with the applicable procedures. As of ***January 25, 2024***, there is only one relocation property that the former owner still occupies. Two additional relocations may be required.
- MTA estimates that necessary extensions of Temporary Construction Easements (TCEs) will cost approximately $13.2 million. ***As of January 2024,*** this amount has been included in the risk assessment and in the project contingency.
- Preparation for safety certification is an ongoing process for MTA, including the development of the appropriate checklists for both design and construction. Design Criteria Conformance Checklists (DCCCs) are more than 99 percent validated. Construction Specification Conformance Checklists (CSCCs) are 18 percent validated. ***As of January 2024, MTA is not aware of which CSCCs are needed before the test track can be used for testing. Testing is scheduled to begin in late spring 2024.***
- MTA adjusted staffing of management personnel to address the varying activities that MTA was managing during the OSF period. On May 25, 2023, MTA communicated the departure of Executive Director Matthew Pollack, Deputy Project Director and Contracting Officer Anita Rodgers, and Director of Communications David Abrams, from the Purple Line project team. A new Deputy Project Director, Alexa Heidrich, started with the Purple Line project team on July 26, 2023. Kathryn (Kat) Lamb joined the team in August 2023 as the Communications Director, which completes the hiring for open senior staff positions for the Purple line project. In December 2023, MTA replaced PMC Project Director Jim Mitchell with Brian Freerks. As of ***January 25, 2024,*** a new MTA Transit Development and Delivery (TDD) Executive

Director ***has been hired.*** The TDD Executive Director will be responsible for the Purple Line project in addition to other State of Maryland transit projects. ***Also, in January 2024, MTA informed the PMOC that the project's Deputy Communications Director, the Construction Manager, and the Quality Manager have been or need to be replaced. The Deputy Project Director is serving as the Contracting Officer, and the Deputy Project Director's duties have been temporarily transferred to the Project Director.*** The PMOC ***reiterates*** its concerns related to MTA staff continuity and will continue to monitor MTA's management capacity and capabilities.

- MTA carefully considered a request from Montgomery County to single-track the Purple Line through the Bethesda tunnel. Maryland Department of Transportation (MDOT)/MTA determined that it would not be able to accommodate the request.
- MTA and PLTP coordinated to obtain a modified version of the existing TIFIA loan for the project. On April 14, 2022, the TIFIA loan closed, and all bonds were marketed. MTA was required to update the Transportation Investment Program and State Transportation Investment Program plans to reflect changes in the project.
- MTA's Equal Employment Opportunity Officer assigned to the project is Marcques Washington. He is supporting MTS in its hiring program and monitoring project adherence to hiring of specific companies and personnel. As MTS ramps up construction, it is making significant progress toward achieving the project's hiring, wage, and Disadvantaged Business Enterprise (DBE) goals. The PMOC continues to recommend that MTA report the projected end-of-project values for these goals in addition to the current values to allow for a more comprehensive evaluation of progress toward meeting the goals. MTA states that due to the D-B contracting method being utilized to deliver the project, continuous diligence is required to monitor and promote contracted DBE work in the current and upcoming work packages, making it challenging to project future values of DBE participation.
- MTA hired a consultant team that is analyzing alternatives for providing security and fare enforcement services for the Purple Line. MTA does not currently have existing facilities or staff that can adequately provide these services because the distance from their location to the Purple Line light rail facilities is too far. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on Memorandums of Understanding (MOUs) with other local jurisdictions, and developing a facility to house the district. ***As of January 2024,*** the PMOC continues to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget.

- MTA held several Community Advisory Team meetings in October 2023 and completed these meetings in November 2023. MTA will hold the next round of Community Advisory Team meetings in April 2024.

1.3. Major Issues and/or Concerns

Table 2 discusses any major issues or concerns impacting the project's scope, schedule, cost, risks, quality, safety, etc.

Table 2 – Current Major Issues and Concerns

Issue/Concern	Continuation of the project after PLTC's departure was a significant challenge for the project. The replacement D-B contractor, MTS, has now been under contract to PLTP since April 2022. MTA is providing oversight of MTS activities.
Date Identified	September 2020.
Status	The IRP was approved in January 2021, and an update was approved in July 2021. MTA has completed the FRP, which FTA reviewed and accepted in April 2023.
Project Sponsor Action	Management of a transition plan and support of PLTP in the replacement of the D-B contractor was the focus of the Project Sponsor. Another focus was the management of MTA's contractors to continue key activities that maintained the integrity of the schedule under OSF.
PMOC Recommendation	Now that the construction directly managed by MTA is complete, the PMOC recommends that MTA focus on effective oversight of the D-B contractor, MTS. The PMOC recommends that MTA ensure that sufficient staff is dedicated to oversight, execution of the accepted management plans, and implementation of process improvements. ***The PMOC observes that effective oversight of safety and quality processes remains a challenge for MTA.***
Issue/Concern	According to the PMP, the master project schedule should be updated monthly.
Date Identified	2022.
Status	Ongoing.
Project Sponsor Action	FTA accepted the FRP schedule in April 2023 as the new project baseline schedule. Two significant change orders, both of which are based on delays to OSF activities, have caused a substantial utilization of the schedule contingency outlined in the FRP. Additional delays have been identified, and MTA is coordinating potential schedule recovery with MTS. Compensation for the delays will be negotiated between PLTP/MTS and MTA, as appropriate.
PMOC Recommendation	The PMOC continues to recommend that MTA track all schedule elements according to the FRP and report status to FTA and the PMOC each month. MTA should employ additional methods of evaluating schedule progression and performance, including earned-value metrics, to identify issues as soon as possible. The PMOC recommends that MTA secure a mutually agreed-to (with MTS and PLTP) revised baseline schedule before executing any change order that commits compensation for delays. ***The PMOC observes that a baseline schedule acceptable to both MTA and the concessionaire has not been in place for at least three months.***
Issue/Concern	Changes in the project have significantly impacted the project cost as reflected in the original FFGA. The April 2023 FRP includes a revised project cost estimate and a cost contingency intended to address remaining project risks.
Date Identified	September 2020.
Status	Ongoing.

Project Sponsor Action	MTA should continue to monitor project progress against the total project cost estimate. As of July 2023, two significant change orders, both of which were based on delays to OSF activities, caused substantial utilization of the cost contingency outlined in the FRP. Additional delays have been identified, and MTA is coordinating potential schedule mitigation (which would support cost mitigation) with MTS. Disputes between MTA and MTS are impacting project contingency.
PMOC Recommendation	The PMOC recommends that MTA consider the results of the pending Quantitative Risk Analysis and, if necessary, adjust the cost and schedule contingencies.
Issue/Concern	MTA does not have a police force located in proximity to the Purple Line.
Date Identified	September 2022.
Status	As of May 2023, MTA had determined a preferred alternative for providing security and fare enforcement, and had identified several next steps for implementation.
Project Sponsor Action	MTA's preferred security alternative includes the creation of a new Southern District of the MTA Police Department and will require associated staff, operating procedures, and a facility.
PMOC Recommendation	Although the currently forecasted RSA date is in 2027, the PMOC recommends that MTA promptly move toward implementation of the preferred security alternative. MTA should identify the parties responsible for implementing the preferred alternative and determine a detailed schedule and budget in a written plan. The PMOC also recommends that the State Safety Oversight Agency (SSOA) be included in the review and comment process for security and fare enforcement.
Issue/Concern	The Lost Time Injury Rate and Total Case Incident Rate have increased significantly since 2022. The current rates are significantly higher than the stated project goals. The PMOC notes that there are inconsistencies in incident reporting between MTA and MTS. The PMOC has observed that, although MTA has repeatedly stated that it recognizes the need for improvement in the safety process, no improvement or visible process changes have occurred.
Date Identified	April 2023.
Project Sponsor Action	MTA states that it has increased coordination with MTS through additional biweekly coordination meetings. MTA has acknowledged the need for safety process improvements. In November 2023, MTA stated that MTS had replaced its safety director and added safety staff, although MTA did not review the qualifications of the new director or staff.
PMOC Recommendation	The PMOC recommends that MTA review MTS safety staff qualifications and that MTA and MTS review the safety procedures and the implementation of those procedures to identify opportunities for improvement. The PMOC also recommends that MTA and MTS complete the safety process review as soon as practical and that MTA prepare a written summary. The summary should include the action items and the responsible parties for each. In addition, the PMOC recommends that MTA consider dedicating additional resources to construction safety (i.e., resources dedicated to only the construction portion of the Purple Line project). MTA should also consider preparing a comprehensive monthly safety report under the direct supervision of the Senior Project Director and confirm whether their oversight practices are in compliance with the SSMP.

1.4. Status of Key Indicators Dashboard (Post-grant)

Table 3 shows the project Key Indicators Dashboard after the FFGA was awarded.

Table 3 – Key Indicators Dashboard

Project Sponsor:				Maryland Transit Administration	
Project Name:				MTA National Capital Purple Line Light Rail Transit Project	
Date:				***January 25, 2024***	
Project Detail					
Oversight Frequency:				**Monthly**	
Element	**Status**			**Prior Status**	**Issue or Concern**
	● **G**	● **Y**	● **R**		
Project Management Plan		●		●	MTA developed an updated PMP that reflects revised project conditions, and in October 2022, MTA submitted a revised PMP to the PMOC and FTA for review. On February 1, 2023, FTA provided its review comments on the PMP, and on April 28, 2023, MTA submitted the second revision of the PMP to FTA. In May 2023, MTA announced significant changes to the Purple Line leadership staff, including departure of the staff in the TDD Executive Director, Communications Director, and Deputy Project Director positions. In late 2024 MTA filled the vacant Purple Line Deputy Project Director and Communications Director positions. ***In January 2024 MTA announced that the TDD Executive Director position has been filled but the name of individual has not yet been shared. Also, in January 2024, MTA informed the PMOC that the project's Deputy Communications Director, the Construction Manager, and the Quality Manager have been or need to be replaced. The Deputy Project Director is serving as the Contracting Officer, and the Deputy Project Director's duties have been temporarily transferred to the Project Director.*** This concern also applies to the Management Capacity and Capability (MCC) element below.
Management Capacity and Capability			●	●	Management staff changes within MTA and within the supporting PMC have magnified the need for MTA to focus on MCC issues. Construction safety ***and quality processes are specific concerns to the PMOC. Also, the Deputy Project Director was reassigned to be the Acting Contracts Officer, and the Project Director has assumed temporarily the Deputy Project Director duties. In addition, the most recent Construction Manager is no longer on the project team, and MTA will not be hiring a replacement. In December 2023 and January 2024, MTA stated that it would provide a revised management staff organizational chart to the PMOC in January 2024, but this did not occur.***
Cost*		●		●	MTA has developed a revised cost estimate that reflects new project conditions. Based on PMOC and FTA review comments and a revised MTA Quantitative Risk Analysis, MTA established a budget contingency that appeared appropriate for the stage of the project at the time. However, large, executed change orders and potential additional change orders have required commitment of a significant portion of the contingency budget. MTA should track project status according to the FRP and the updated PMP and management plans. The PMOC is concerned that significant additional change orders will further reduce the project cost contingency. MTA currently is preparing a Quantitative Risk Analysis, which will inform project cost and contingency decisions.
Schedule			●	●	MTA has a revised master project schedule that incorporates the current project status in place. Despite the execution of several change orders with significant contract extensions, there has not been a mutually agreed-to construction schedule since the Initial Baseline Schedule in September 2023. MTA has rejected MTS's

					schedule updates each month, citing technical issues. It is the PMOC's opinion that change orders that include adjustments to the RSA date should not be executed unless a mutually agreed-to revised baseline schedule is included with the change order.
Quality		●		●	There are a significant number of nonconforming items from the PLTC-constructed work and the work performed under MTA's management of OSF. The PMOC finds that the quality reporting related to OSF activities is inconsistent. Also, it appears that some key quality management staff have not participated in the project for some time due to contractual issues. The QAP has been modified to reflect many of the noted PMOC concerns, and MTA will incorporate the remaining concerns in the next annual QAP update. MTA has also developed a quality dashboard to improve the tracking of quality issues. ***However, the PMOC observes that changes to the MTA quality management staff have prevented monthly reporting on quality, potentially indicating the need for MTA to enhance its quality oversight and to implement quality process improvements.***
Safety			●	●	In April 2023, the PMOC noted to MTA that both the Lost Time Injury Rate and the Total Case Incident Rate had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in the incident rates, there continues to be an apparent lack of tracking and reporting of safety issues. MTA recognizes the issue and reports that it has scheduled additional safety coordination efforts. In May 2023, the PMOC requested documentation on these additional efforts, and in July 2023, the PMOC questioned the effectiveness of the efforts. MTA acknowledges the need for safety process improvement. It is the opinion of the PMOC that there may be a lack of emphasis on safety or MCC issues that are affecting safety. On September 28, 2023, MTA provided to the PMOC a brief document that indicated it had performed an audit and proposed several safety process improvements. The PMOC needs additional detail in order to evaluate the proposed changes to the safety process. In the opinion of the PMOC, MTA's processes related to construction safety need significant improvement. ***MTA should enhance its comprehensive safety reporting under the direct supervision of the Project Director.***
Risk		●		●	MTA updated the RCMP and the Risk Register to reflect the changes driven by the FRP and updates to the project management plans. In May 2023, FTA accepted the RCMP but also noted additional comments that MTA should address in future updates to the plan. In November 2023, MTA held a risk workshop and began a Quantitative Risk Analysis. A risk review by MTA is ***scheduled to be completed in February 2024***, and results will be shared with the FTA and PMOC at that time.

Legend	
Green	Satisfactory: No Corrective Action necessary.
Yellow	Caution: Risk/Issues exist. Corrective Action may be necessary.
Red	Elevated for immediate Corrective Action: Significant risk to the health of the project.

*Note: With regard to cost, the colors indicate the following status:
Yellow – Forecast cost exceeds the project budget by up to 3%.
Red – Forecast cost exceeds the project budget by more than 5%.

1.5. Core Accountability Items

Table 4 shows the core accountability items for the project, including the current status of the project and the major issues and how they are being addressed.

Table 4 – Core Accountability Items

		Original (Grant)	Current Forecast	PMOC Assessment of Current Forecast
Cost	Capital Cost Estimate	$2,407,030,289	$5,116,020,380	Acceptable
Contingency	Unallocated Contingency	$90,535,748	$86,301,650	Acceptable
	Allocated Contingency	$59,500,464	$0	Acceptable
	Total Contingency	$150,036,212	$86,301,650	Acceptable
Schedule	Revenue Service Date	12/31/2022	02/28/2028	Acceptable

Project Progress		**Amount ($)**	**Percent of Total**
Total Expenditures	Actual cost of all eligible expenditures completed to date	***$3,228,995,360***	***64.2%***
Planned Value to Date[1]	Estimated value of work planned to date	Not Applicable (N/A)	N/A
Actual Value to Date[1]	Actual value of work completed to date	N/A	N/A

Contract Status		**Amount ($)**	**Percent of Total**
Total Contracts Awarded	Value of all contracts (design, support, construction, equipment) awarded; % of total value to be awarded	To Be Determined (TBD)	TBD
Construction Contracts Awarded	Value of construction contracts awarded; % of total construction value to be awarded	TBD	TBD
Physical Construction Completed	Value of physical construction (SCC10-50) completed; % of total construction value completed	***$1,070,917,323***	***55.2%***

Rolling Stock Vehicle Status	**Date Awarded**	**No. Ordered**	**No. Delivered**
28 total car sets[2]	First 26 LRVs: 2016 Additional 2 LRVs: January 2022	28 car sets	0

Next Quarterly Progress Review Meeting Date:	***February 7, 2024***

[1]Earned value information is not available.
[2]The approved FFGA includes a total of 25 LRVs.

2. OBSERVATIONS AND FINDINGS

2.1. Summary of Monitoring Activities

The PMOC received an update from the Purple Line project team during ***the January 25, 2024,*** virtual monthly meeting with MTA, the PMC, and the PMOC. ***FTA, the PMOC, and MTA held virtual meetings on January 9 and January 23, 2024, to review project status.*** MTA provides supplementary information before the PMOC monthly meetings. ***On January 30, 2024, the PMOC and FTA staff held a virtual Pre-Quarterly Status review meeting in preparation for the February 7, 2024 FTA/MTA Quarterly Progress Meeting with MTA.*** PMOC monitoring

activities include review of MTA-provided scope, schedule, risk, financial, construction, safety and security, and real estate information.

After the U.S. Court of Appeals reversed the vacation of the ROD in July 2017 (refer to the **NEPA Process and Environmental Mitigation** section, below, for details), the FFGA was executed on August 22, 2017. In September 2020, the construction (D-B) contractor, PLTC, left the project, and a new project delivery plan was developed, including replacement of the D-B contractor. During the period when the replacement D-B contractor was being solicited, MTA managed specific construction and design activities (OSF activities) in order to reduce uncertainty and support the project schedule. On November 5, 2021, MTS was selected as the replacement D-B contractor, and financial and commercial close occurred on April 14, 2022. MTA managed OSF construction and design activities ***to their completion or until the activities were transferred to MTS***. MTS is performing construction activities across the entire project corridor.

MTA and MTS held initial partnering activities during which they developed relationships, general project priorities for teamwork, and an understanding of key issues for different stakeholders. MTA provided partnering process information to FTA and the PMOC on March 29, 2023. As of August 2023, MTA has replaced the consultant who was leading partnering activities and is developing new processes to facilitate the coordination and relationship between MTA and the MTS/PLTP team. MTA held an internal partnering meeting on October 27, 2023, to help align MTA and PMC staff. On December 11, 2023, a partnering session was held, with MTA, MTS, PLTP, and Purple Line Transit Operators participating. One of the main points of discussion was the schedule mitigation efforts that are currently in progress. ***In January 2024***, MTA stated that it will provide the agenda, meeting notes, and action items from the partnering session once it has compiled that information. ***The next scheduled partnering session is scheduled for June 2024.***

2.2. Oversight Triggers

The oversight triggers most applicable to the project are the Oversight Procedure (OP) 25 cost and schedule triggers. The project did not have a mutually agreed-upon baseline schedule between March 2017 and September 2022. Significant schedule delays and a significant increase in project cost keep the project eligible for rigorous oversight. Project schedule delays typically impact project cost, another significant indicator of project health. MTA has developed a revised project EAC in conjunction with development of the project's schedule and FRP. Significant utilization of schedule and budget contingencies has occurred since development of the FRP. In the opinion of the PMOC, significant additional cost and schedule impacts are occurring.

2.3. Project Management Plan and Sub-plans

2.3.1. Project Management Plan

The PMOC reviewed the Purple Line PMP Version 10 in accordance with OP 20 for a PMP at the FFGA execution stage of a project. Subsequently, FTA and the PMOC reviewed Versions 11, 12, and 13. Due to significant project team changes since those versions, another update to

the PMP was required. In October 2022, MTA provided an updated PMP (Version 14) to FTA and the PMOC for review, and FTA and the PMOC provided comments on PMP Version 14 to MTA. On April 27, 2023, MTA provided PMP Version 15, which FTA accepted, with comment, on June 21, 2023. ***The PMOC recommends that MTA provide its forecasted dates to update management plans.. According to best practices, recent staff changes and fluid project conditions warrant these updates.***

2.3.2. Safety and Security Management Plan

In February 2016, the PMOC reviewed the project's SSMP Version 6, dated October 22, 2014, in accordance with OP 22 for a project at the FFGA execution stage. The PMOC review found that the SSMP was compliant with FTA content requirements for execution of the FFGA, but the PMOC requested that MTA resubmit the SSMP after execution of the FFGA and address the comments in the PMOC report with updated information from the P3 concessionaire. Subsequently, FTA and the PMOC reviewed SSMP Versions 7 through 11 over the next four years. MDOT, which is the State Safety Oversight Agency (SSOA) for the project, also reviewed SSMP Versions 8 through 11. On January 13, 2022, FTA provided comments on SSMP Version 12 to MTA. MTA submitted SSMP Version 13 as well as Version 5 of the Purple Line SSCP to FTA and the PMOC for review in October 2022. FTA and the PMOC reviewed the SSCP and SSMP updates and provided their comments to MTA in February 2023. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the revised SSMP in August 2023, and the revised SSCP on December 28, 2023. ***The PMOC recommends that MTA evaluate whether their current oversight processes are in compliance with those specified in the SSMP.***

2.3.3. Quality Assurance Plan

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on QAP Version 10 to MTA. MTA then submitted a revised QAP to FTA for review in May 2023, and FTA and the PMOC provided comments to MTA in June 2023. In July 2023, MTA provided a response to each specific comment and committed to submitting a revised QAP in August 2023. On August 11, 2023, MTA resubmitted the QAP as Version 12. A technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023, after which the PMOC recommended acceptance of the plan and that MTA should incorporate the outstanding items into the next regularly scheduled plan update. On October 6, 2023, FTA accepted the QAP contingent upon MTA's acceptance of the PMOC recommendations.

The PMOC requested that MTA provide more complete documentation for quality-related activities. In September 2023, MTA presented the PMOC with a quality process dashboard that MTA had developed to display monthly statistics on audits, Deficiency Notices, Nonconformance Reports, and quality oversight assessment reports.

MTA meets with PLTP, the PMC, and the General Engineering Consultant (GEC) monthly to review quality status. In ***January 2024, MTA did not provide the typically submitted quality***

program monthly information, citing a change of leadership on the quality team. On January 25, 2024, MTA introduced the new Quality Manager, Turyalai Momand.

MTS also performs significant Quality Assurance/Quality Control (QA/QC) activities and reports having more than 60 full-time quality staff assigned to the project. ***In December 2023***, those QA/QC activities by MTS included:

- Offsite inspections of structural steel girders and canopies, Overhead Contact System (OCS) poles and hardware, and traffic signal poles.
- ***23*** Design Services During Construction reviews and ***23*** design submittal reviews.
- Completion of numerous quality audits of MTS and subcontractor work, testing, and quality plans.
- Approximately ***600*** materials tests.
- Approximately ***950*** materials samples.

In 2022, MTA frequently provided notes from monthly CAF and SNC-Lavalin LRV manufacturing quality meetings for PMOC review. The information provided a summary of issues and corrective actions, and upcoming quality audits. MTS is now responsible for preparing these notes.

One manufacturing quality issue, the recurring failure of a bolt in multiple vehicles, has not been resolved. MTA determined that the issue does not impact safety, and the solution is likely the use of a higher strength bolt. The final report on this issue was expected in May 2023, although as of ***January 2024, MTA indicates that the report is still in draft form.*** Additional failures have occurred, and the truck manufacturer in Germany was to perform additional tests. MTA does not believe the issue will impact delivery of the vehicles, which is scheduled for spring of 2024.

2.3.4. Real Estate Acquisition Management Plan

The PMOC reviewed the project's Real Estate Acquisition Management Plan (RAMP) Versions 10, 11, and 12. The PMOC reviewed the plans with respect to the guidelines in OP 23 for a project in the construction phase. MTA submitted an updated RAMP Version 13 to FTA and the PMOC in October 2022. FTA provided review comments on RAMP Version 13 to MTA on February 27, 2023, and accepted RAMP Version 13 with comments.

2.3.5. Fleet Management Plans

The current version of the Bus Fleet Management Plan (BFMP) is BFMP Version 8.1, which was submitted for FTA/PMOC review on February 12, 2016. The PMOC completed its review of BFMP Version 8.1 and on March 4, 2016, issued its final OP 37 BFMP review report, concluding that the BFMP met the requirements of OP 37 for the execution of an FFGA for the Purple Line project. ***On January 24, 2024, MTA provided to FTA and the PMOC BFMP Version 10. This plan addresses updates for the period from 2021 through 2023 and is dated September 2023.***

2.3.6. Risk and Contingency Management Plan

In early 2020, MTA commenced another update to the RCMP to incorporate the results of the latest Quantitative Risk Analysis that, in turn, incorporated the results of the replacement D-B contractor resolicitation and the revised project implementation details. MTA held a risk management workshop on January 26, 2021, that focused on the interim period.

MTA provided a comprehensive Risk Register and risk mitigation activities in conjunction with the draft FRP. In preparation for a risk analysis, MTA held risk assessment interviews with individual risk owners to review existing risk items and identify new risks. In December 2021, MTA prepared an updated Risk Register that includes over 100 risk items, including PLTP and MTS risks.

At a risk workshop held the week of May 2, 2022, the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. MTA confirmed and finalized the Risk Register and prepared the Quantitative Risk Analysis and an update of the RCMP. The PMOC developed a draft summary of the risk and contingency review results. FTA provided a risk summary to MTA on June 22, 2022, for MTA's consideration while it was updating the RCMP. MTA provided responses to FTA's comments on the risk summary on July 15, 2022, and provided further clarification on August 25, 2022. MTA submitted RCMP Version 15 to FTA and the PMOC for review in October 2022. In February 2023, FTA and the PMOC provided comments on the revised RCMP, which supported MTA's development of the project's budget and schedule contingency. MTA subsequently submitted the revised RCMP Version 16, dated April 21, 2023, and FTA accepted it on May 22, 2023.

In November 2023, MTA held a risk workshop and began a Quantitative Risk Analysis. Project risks were reassessed, and information needed to reevaluate cost and schedule contingencies was determined. MTA ***expected*** to complete the Quantitative Risk Analysis and contingency review in January 2024. ***However, the efforts by MTA and MTS to re-baseline the project schedule have not been completed. The updated schedule is necessary for the assessment of schedule risk and development of contingency recommendations. When the Quantitative Risk Analysis is complete***, ***MTA will*** share the results with FTA and the PMOC

2.3.7. Safety and Security Certification Plan

Version 3 of the Purple Line SSCP is dated November 4, 2014. The PMOC review found that the SSCP Version 3 met the FTA requirements in support of the FFGA application. MTA submitted SSCP Version 4 on February 3, 2020, in conjunction with the updated SSMP submittal (see the **Safety and Security Management Plan** subsection, above). The SSOA completed its review of SSCP Version 4 and discussed its comments with the PMOC. MTA decided that the new emergency management working group would be a subcommittee to the Fire Life Safety and Security Committee, and this decision would be reflected in the next revisions of the SSMP and the SSCP, which were planned for after the replacement D-B contractor was in place. MTA submitted SSMP Version 13 and SSCP Version 5 to FTA and the PMOC in October 2022. In February 2023, FTA and the PMOC completed their reviews and provided comments on these plan documents to MTA. MTA provided a response to the SSCP review comments to FTA and

the PMOC in May 2023. On July 12, 2023, the PMOC and MTA held a call to review and reconcile PMOC/FTA comments on the SSCP. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023 and accepted the current SSCP (Version 7) on December 28, 2023.

2.4. Management Capacity and Capability

MTA continues to identify and assign sufficient Management Capacity and Capability (MCC), as needed, to complete the project in compliance with applicable FTA requirements. These efforts have included bringing staff, either MTA or MDOT personnel or consultants, onto the project to manage the current needs, such as planning, P3 procurement and contracting, real estate acquisition, and construction.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. It was proposed that Roland Carroll, the Purple Line systems safety and construction safety lead, add the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to the new quality management role. The PMOC has evaluated this change as a part of the PMP review and will continue to monitor management capacity for this function and all positions through ongoing oversight activities. Specific to safety, the PMOC is concerned that there may be a lack of emphasis on safety or on management capacity or capability. Injury rates, particularly for OSF activities, are higher than the MTA goals. Also, reporting of injury and incident statistics is inconsistent. ***As of January 2024, the PMOC continues to have concerns specifically related to construction safety.*** See Section 2.16, below, for more detail.

In March 2023, MTA hired John Donovan in the role of Construction Manager and also formed a commercial project controls team. These changes were in response to: (1) the near completion of OSF and (2) the need to support the management of MTS's increasing amount of work.

On May 25, 2023, MTA communicated the departure of Executive Director Matthew Pollack, Deputy Project Director and Contracting Officer Anita Rodgers, and Communications Director David Abrams from the Purple Line project team. Project Director Ray Biggs, Jim Mitchell of the PMC, and MDOT Chief Financial Officer Jaclyn Hartman were leading the project while those vacated positions were being filled. Ken Forsythe's role changed from his role as Deputy Project Director to the interim Director of Communications role. A new Deputy Project Director, Alexa Heidrich, started with the Purple Line project team on July 26, 2023. Kathryn (Kat) Lamb joined the team in August 2023 as the Communications Director, which completed the hiring for the open senior staff positions for the Purple Line project at that time. In August 2023, MTA provided an updated Purple Line organizational chart that included those newly hired staff. In December 2023, MTA replaced PMC Project Director Jim Mitchell with Brian Freerks.

In January 2024, MTA communicated a significant number of staff changes both within MTA and within the PMC.

- ***Construction Manager John Donovan is no longer on the project. MTA states that two existing project staff, Mike Gales for Civil Construction and Melvin Henderson for Systems Construction, remain with the project. It is unclear who Mike, Melvin, and the two other staff who reported to John Donovon will report to now.***
- ***The new MTA TDD Executive Director has been hired and will be introduced to FTA at the February 7, 2024 QPRM.*** The TDD Executive Director will be responsible for the Purple Line project in addition to other State of Maryland transit projects.
- ***Quality Manager Fahad Moazziz has been replaced by Turyalai Momand.***
- ***Deputy Communications Director Gary Witherspoon has left the project and will be replaced.***
- ***Deputy Project Director Alexa Heidrich is now the Acting Contracting Officer. Project Director Ray Biggs will assume her Deputy Project Director duties temporarily.***

The PMOC continues to express its concern regarding MTA's MCC. Open positions, a lack of continuity, and staff serving in multiple roles all pose a risk to the quality of the oversight the Project Sponsor must provide. Shortfalls in MCC may be causing some of the other issues that the PMOC has identified, such as construction safety and quality management challenges.

2.5. NEPA Process and Environmental Mitigation

2.5.1. NEPA Process

FTA issued a ROD on March 19, 2014. The National Park Service issued its ROD on July 16, 2014.

MTA has continued to submit environmental re-evaluations as required based on design advancement and other causes. To date, PLTC (before it left the project) and MTA have prepared multiple packages, primarily for minor Limits of Disturbance (LOD) cases, which were submitted to FTA for review and have received FTA concurrence. The most recent status ***(as of January 2024)*** of NEPA items is:

- ***MTA submitted an additional LOD case at Sligo Creek that is moving through the MDE and USACE processes. MDE granted approval on January 10, 2024. MTA will submit the necessary information to FTA, however MTA reports that FTA review is not a schedule critical task at this time.***
- The ATC for the Bethesda Station jet fan has been vetted, and final documentation is being prepared for submittal to FTA for concurrence that the ATC meets project requirements. Final documentation for the ATC is still pending as of ***January 2024***. MTA will schedule a review of the documentation with FTA as soon as it is complete, which is expected to occur in April 2024. MTA and MTS optimistically predict that the ATC will have no Section 4(f) impacts or other impacts to the project's ROD.

On August 3, 2016, in response to the lawsuit filed by the Friends of the Capital Crescent Trail against FTA, a federal judge filed his Order and accompanying Memorandum Opinion. In those documents, it was ordered that the ROD for the Purple Line project be vacated and remanded, and that a Supplemental Environmental Impact Statement (SEIS) be prepared, in accordance with the accompanying Memorandum Opinion. In a subsequent Order and Opinion filed on November 22, 2016, the judge, in part, revised the earlier Order by remanding to FTA the responsibility to determine whether an SEIS is required; however, the ROD remained vacated. On May 30, 2017, the judge issued his ruling that dismissed the lawsuit except for the reassessment of the impact of declining Washington Metro ridership in the Purple Line project's Environmental Impact Statement. The Washington Metro ridership aspect of the ruling was immediately appealed by the Maryland Attorney General. On July 19, 2017, the U.S. Court of Appeals reversed the vacation of the ROD and set an expedited schedule for the appeals process. The appeals hearing occurred on November 1, 2017. The U.S. Court of Appeals issued its ruling on December 19, 2017, in which the judges ruled in favor of FTA and the project, and ruled that the transit agencies would not have to conduct a new environmental study to examine other potential routes for the Purple Line.

The Friends of the Capital Crescent Trail filed a second lawsuit after the FFGA signing and after the groundbreaking ceremony was held on August 28, 2017. The September 19, 2017, Preliminary Hearing for this suit resulted in no temporary injunctions or restraining orders, and project construction proceeded as the case progressed through the court system. On December 5, 2017, FTA and MTA filed a Motion to Dismiss. The plaintiffs subsequently amended and significantly revised the complaint in December 2017, and on March 1, 2018, MTA and FTA filed a Motion to Dismiss. On March 29, 2018, the plaintiffs filed their response. On March 5, 2019, the judge ruled in favor of FTA.

The Friends of the Capital Crescent Trail filed a third lawsuit in January 2019, this time against USACE. The USACE legal staff and the Office of the Attorney General provided the defense. MTA filed a motion to intervene on behalf of USACE. In early May 2019, the plaintiffs filed an objection to MTA's motion, but during the week of July 15, 2019, the Court authorized MTA to intervene on behalf of USACE. In October 2019, USACE filed for a Summary Judgment to Dismiss the case, and the plaintiffs filed their response; a hearing date was set for March 23, 2020. However, in late February 2020, the assigned judge recused himself from the case, and the scheduled hearing was canceled. In mid-April 2020, the District Court ruled in favor of the USACE/MTA motion for a Summary Judgement to Dismiss, and the case was dismissed. The plaintiff subsequently filed an appeal on May 11, 2020, and the case continued in the legal process. Oral arguments related to the appeal occurred on March 11, 2021. The District Court denied the appeal on May 13, 2021. The decision resolved the last remaining lawsuit related to the project.

2.5.2. Environmental Mitigation

The project achieved the required mitigation for reforestation through the purchase of 82.5 acres of offsite credits (combined, in both Montgomery County and Prince George's County). This amount of offsite credits is expected to be more than needed, and the P3 concessionaire will

monitor that this remains the case. PLTP's Forest Conservation Plan (FCP), which documented a need of 75.73 acres, was formally submitted to the Maryland Department of Natural Resources (DNR) in August 2016 for approval. The DNR concurred with the FCP on January 31, 2017, and the final approved FCP was received from DNR on July 31, 2017. As LOD cases are identified, they are also reviewed against the FCP credits to maintain an accurate accounting of the reforestation mitigation. In Maryland, need is based on land disturbance rather than only forest removal. MTA's tracking of additional disturbance due to the progress of design and construction indicated that the total need is still within the amount of available offsite credits.

The Joint Permit Application for Wetlands and Stream Mitigation was formally submitted to USACE and MDE in August 2016. In late February 2018, MDE issued its Non-Tidal Wetlands and Waterways permit in advance of the USACE permit, even though it was a joint application. However, because time had passed since the permit was drafted, MDE updated and issued the finalized permit the first week of April 2018. USACE completed its NEPA and conditions review as well as its public interface, receipt of comments, and comment resolution, and issued the Section 10 404 Permit on March 14, 2018. This timing supported MTA's planned advertisement for the Wetlands and Streams Mitigation construction contracts. In October 2018, the project submitted a request to USACE and MDE to extend the duration of the permits until December 2021 to accommodate the longer construction periods resulting from construction moratoriums for forests and streams. The project received approval from MDE during the week of December 3, 2018, and received the USACE approval letter in mid-June 2019.

The project team has been addressing the environmental mitigation for wetlands through the development of the offsite Ken-Gar location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. The construction contract was advertised on May 3, 2019, bids were received on June 10, 2019, and the bids underwent MTA Procurement Department review. BPW approval of the award was received on September 4, 2019. As of June 2021, the Ken-Gar wetlands mitigation project was complete and had completed its one-year warranty period. See the **Construction** section of this report, below, for further discussion of the status of this Ken-Gar Wetlands Mitigation construction contract.

The project team has addressed the environmental mitigation for streams through the development of the offsite Paint Branch location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. MTA advertised the Paint Branch Stream Mitigation construction contract on March 8, 2019. After the bid due date was extended several times, proposals were received on May 21, 2019, and underwent MTA review and evaluation. BPW approval of the award was received on September 4, 2019. The Paint Branch stream restoration is complete, and warranty corrections (partial replanting) occurred in December 2022. See the **Construction** section of this report, below, for further discussion of the status of this contract.

The project has plans to address stormwater mitigation, beyond what can be mitigated on the project site, through retrofitting offsite locations in both Montgomery County and Prince George's County. On November 12, 2021, MTA determined that there is a need for additional

stormwater mitigation in Prince George's County. A project to construct additional stormwater mitigation is included in the scope of work for MTS.

The joint MTA and University of Maryland (UMD) technical board resumed meetings in December 2021 to coordinate efforts related to the mitigation of noise, vibration, and electromagnetic interference at the UMD facilities. Following this meeting, the members of the joint technical board voted to approve the outstanding design packages. This action effectively ended the activities of the technical board until the LRT is in trial running.

The Purple Line project team submits quarterly Environmental Mitigation Monitoring Reports for the project. MTA managed the environmental mitigation and monitoring activities as the project transitioned to the replacement D-B contractor, MTS. Because MTS is now performing construction, MTA will monitor the environmental activities performed by MTS. On November 30, 2023, MTA provided the Third Quarter 2023 Environmental Commitment and Mitigation Monitoring Program Report. The report conveys the status of progress toward meeting commitments in the ROD that was issued in March 2014 and any pending actions required. In the report, MTA notes that "no problems, gaps, nonconformances, or NEPA issues of any sort were found during this quarterly assessment."

The MTA Purple Line team communicated that MDE has implemented a change to the state's construction dewatering monitoring and turbidity requirements. Pumped water discharge from construction sites will need to meet specific requirements—something that Maryland lacked but is common in many states. MTS has indicated that these requirements are a change to the project scope of work and is developing a change order request. In September 2023, MTA and MTS participated in training for managers on the new requirements, and a future round of training for field staff is being planned. Activities on the project currently are functioning under the new MDE requirements.

In January 2024, MTA indicated that it is coordinating with FTA on the NEPA Programmatic Agreement because the agreement expires in March 2024.

2.6. Project Delivery Method and Procurement

The majority of the capital cost of the Purple Line project has been packaged into a Design-Build-Finance-Operate-Maintain P3 contract. This delivery method fits the state's legal definition of a P3 in that it involves a long-term, performance-based agreement between MTA and a private entity (the P3 "concessionaire") in which appropriate risks and benefits are allocated in a cost-effective manner between the contractual partners. The P3 concessionaire is intended to perform some functions normally undertaken by the transit agency, but MTA remains ultimately accountable for the Purple Line project and its public function.

MTA negotiated an approximate 36-year P3 contract, including nearly 6 years of construction and 30 years of operations, and on March 2, 2016, announced that PLTP had been selected as the P3 concessionaire. Commercial close of the P3 contract occurred on April 7, 2016, and financial close occurred on June 17, 2016.

In late April 2020, PLTC notified PLTP that due to PLTC's forecasted schedule delays on the project (which did not receive agreement from MTA), PLTC intended to exercise the clause that allowed it to terminate its contract with PLTP for the design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that would include a definitive path forward. On the response due date of May 14, 2020, PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement to MTA, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice essentially refuted the validity of the PLTP delay claims and stated that if PLTP fails to perform, MTA has a number of options related to the P3 Agreement. Through July 2020, construction activities continued at the levels previously planned and were not affected by the dispute.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a Temporary Restraining Order (TRO) that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO occurred before the expiration of the TRO on September 14, 2020, and the court rescinded the TRO, allowing PLTP to leave the project.

When an agreement was not reached, the bond holder firms had the first right to take over the project. However, MTA planned an alternate path forward based on its exercise of step-in rights. To that end, MTA assumed the contracts of over 100 subcontractors, indicating MTA's intent to continue the project. MTA adjusted staffing for construction management, resident engineers, and inspectors to move forward with the project.

On November 24, 2020, MTA and the P3 concessionaire, PLTP, reached a settlement agreement to release the project's D-B contractor from the P3 consortium and continue the project with the remaining parties. The state's BPW approved the settlement agreement on December 17, 2020. Activities set out in the agreement and the IRP have proceeded with multiple modifications to milestone dates as needed.

The agreement included the following key aspects, as MTA has communicated to the PMOC:

- PLTP agreed to procure a replacement D-B contractor to complete the project and to obtain project financing. The selection of the preferred replacement D-B contractor, MTS, occurred on November 5, 2021. The TIFIA loan for the project closed on April 14, 2022, allowing financial close and commercial close on that same day. MTS is now the D-B contractor for the project.
- The settlement agreement provided a mutual release from all disputed and undisputed amounts (incurred before September 28, 2020) for PLTP, PLTC, and subcontractors. The agreement also released outstanding litigation among the parties.

2.7. Design

2.7.1. MTA Design

MTA's GEC completed the project design to approximately the 30 percent design level in fall of 2013 and provided incremental enhancements through late 2015. This design formed the basis of the Request for Proposals (RFP) for the P3 contract. See the **P3 Design** subsection, below, for a discussion of the advancement of this design by PLTC, the former PLTP partner that was responsible for the design and construction of the capital project, and continued design under MTA.

There is a dispute pending related to the cost of design changes that were made after execution of the agreement with MTS. MTA's team estimates that the disputed amount is approximately $15 million.

MTA was responsible for the design and construction contracts under a Design-Bid-Build delivery method (separate from the P3 scope) for the following projects:

- Stream mitigation – MTA completed the 100 percent design packages in June 2017 and received approval from MDE in May 2018. Construction of the stream mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.
- Wetlands mitigation – MTA completed the 100 percent design packages in June 2017. Several design adjustments were subsequently made based on MDE and Montgomery County comments. The construction contract was advertised on May 3, 2019. Construction of the original wetlands mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.
- Offsite SWM sites – MTA completed design and obtained MDE approval of more than the P3 contract-required 5 acres of offsite mitigation in Montgomery County on May 29, 2018. In late October 2019, MTA received MDE approvals for the next 5 acres to be added to the mitigation credit "bank," thus satisfying the contract requirements for 2019. MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS.
- See the **Environmental Mitigation** subsection of this report, above, for the current requirements.

MTA also completed the design to support a D-B contract for the replacement of the existing Parks Maintenance Facility with a facility on Polk Street. Construction of the facility is now complete. See the **Real Estate Acquisition and Relocation** and the **Construction** (MTA Scope) sections of this report, below, for further details.

2.7.2. P3 Design

PLTC's design progress was forecasted to achieve substantial design completion of Civil packages in August 2020, substantial design completion of Systems packages (except for Fare Collection) in September 2020, and completion of the Fare Collection design package in 2021. The original baseline schedule anticipated design completion by late fall 2017. As of August 2020, the number of planned Civil, Systems, and Utility design packages was 218.

Upon the departure of PLTC, MTA contracted with the project's engineer of record, Atkins, to continue to advance the design of limited aspects of the project.

The current progress through ***January 25, 2024,*** is that 214 of the 218 total planned design packages have been issued as RFC. The packages that remain in design or approval include fare collection, the fire management system at the WMATA/SSTC combined station, guideway signage, and the train control system. A 90 percent design submittal for train control was not completed in December 2023. The design package for train control will not be 100 percent complete until July 2024. The PMOC observed that MTS indicates that the design portion of its contract is billed out to 99.9 percent. The requirements of MTA's D-B contract with MTA include the payment of all design costs in 15 months, regardless of progress.

The State Highway Administration approved the last traffic signal package in October 2023.

An item related to design has been added to the Risk Register regarding an intelligent interface device that could impact implementation and operational costs. MTA and MTS have agreed to put this design change item before the Dispute Resolution Board for feedback, because MTA believes that the change in question would be a betterment that PTLP selected.

PLTC reached resolution on the final remaining ATC identified during the proposal process. The ATC is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA is reviewing the design package for NEPA compliance. Final documentation for the ATC is still pending as of ***January 2024***. MTA and MTS are coordinating to address the noise and aesthetic impacts of the fans, and they optimistically report that the ATC will have no Section 4(f) impacts or associated impacts to the ROD.

MTA and CSX worked to resolve issues related to the applicable design criteria and which project areas were affected until, in July 2019, a mutually agreeable path forward was defined for all areas. The following is the current status of the issues and their resolutions:

- To address CSX comments that would have disallowed passenger amenities (fare gates and ticketing kiosks) on the SSTC mezzanine connector pedestrian bridge above CSX tracks, and that would have required a 25-foot vertical clearance, MTA, PLTC, and CSX reached consensus on a design to interpret this area as a "building concourse." In May 2020, CSX indicated that the final design is acceptable. Revised documents, providing some minor clarifications related to ROW, were submitted to CSX on September 8, 2020, and ultimately CSX approved the design. The revised documents were submitted to WMATA several times in early 2021.

- WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of January 2024 for the SSTC and for other locations where WMATA and Purple Line stations coincide. MTA reports that the slow resolution of these comments has not impacted critical path activities.
- An encroachment into the CSX vertical clearance was discovered upon installation of girders at the SSTC. An exception was requested from CSX to allow the ¾-inch encroachment to remain. CSX denied the exception. MTA and the designer prepared for a contractor to jack and shim the structure to create the required clearance. Construction of this work was completed in August 2021.
- Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items.
- CSX provided review comments disallowing revised drainage networks, related to the Capital Crescent Trail work, which would connect to CSX's existing drainage culverts. The work on the Capital Crescent Trail is not part of the FFGA and is separately funded by Montgomery County. As a result of work with Montgomery County, the connections were relocated from CSX property to Montgomery County property and therefore are no longer a CSX issue. To fully accomplish this approach, two connections required resolution. Montgomery County acquired two parcels of land from CSX (not FFGA-funded) and then accepted responsibility for one connection currently under the responsibility of CSX. Storm sewer construction under the CSX railroad was required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. ***As of January 2024, MTS has one more jack-and-bore installation of culvert pipe yet to complete, although MTA states that this culvert installation is not on the project critical path.***

2.8. Real Estate Acquisition and Relocation

As of January 2024, the total number of planned property acquisitions is 601, including 464 privately owned properties and 137 public acquisitions. All of the original Exhibit 9 FFGA-scope private parcels in the P3 contract are in MTA's possession, some of which are properties that continue in condemnation under the State Highway Administration process. To date, ***420*** of the original 464 private properties have completed settlement, 5 additional properties (not part of the original 464 private properties) are pending settlement, and ***29*** condemnations remain to be settled.

All required public properties have been available for construction when needed. Several public property rights transfers are currently being coordinated to accommodate sidewalk changes, utility easements, and ROW exchanges.

As the project has progressed and new utility relocation needs have been identified, additional small parcel acquisitions have been added to the total as utility down-guys. In December 2017, PLTC initially submitted a list of approximately 280 such parcels related to utility relocations and subsequently added to that list. MTA resolved that it would acquire these properties, rather than execute amendments to the utility agreement that would have the utility companies perform this function. MTA's ability to perform appraisals in house for these parcels or to waive appraisals for low-value, uncomplicated parcels has been expediting the process somewhat. ***As of January 25, 2024,*** the list of additional acquisitions totals 188 parcels, and several more acquisitions potentially may be needed for stormwater facilities. Of these parcels, 54 are public property and will be acquired by agreement, and 134 are private acquisitions. Sixty-six of the 188 properties were filed for condemnation, excluding those that were subsequently optioned or settled, and 17 condemnations remain to be filed. MTA estimates that approximately $36.2 million of exposure remains in the acquisition process. This amount has been included in the Quantitative Risk Analysis.

The project required a total of 177 relocations, of which 57 were residential and 120 were businesses. To date, all 177 of those identified relocations have been completed in accordance with the applicable procedures, and no active claims remain to be settled. Also, MTA is monitoring terms of agreement of the property acquisitions discussed above that have not yet completed settlement, because some of them could potentially result in the need for additional relocations. As of October 2023, there were two new relocations related to commercial properties that potentially will be needed.

In August 2023, MTA indicated that the goal for completion of all real estate transactions is December 2024.

On April 25, 2023, MTA reported that BPW had approved the last of seven critical project acquisitions. These acquisitions were required to allow MTS access to construction areas that include activities on or near the critical path.

Properties that have not yet settled due to disputed compensation values have been going to trial in accordance with the ROW acquisition process. MTA is tracking actual acquisition costs versus planned expenditures, so that contingency can be effectively managed, and MTA shares this information with the PMOC. Based on actual settlement amounts and projected amounts for those not yet closed, settlement/condemnation values are ***57.5 percent higher*** than the original 2014 SCC budget for ROW. MTA included current ROW cost projections in its development of an FRP project cost estimate (see the **Project Cost** section of this report, below).

Due to the extended project duration, some agreements will expire before the expected RSA date. MTA and MTS have started the process of identifying the end dates now needed for the agreements and will begin the process of obtaining extensions. MTA has evaluated the risks, estimated the cost of the extensions, and included those costs in a budget contingency. ***As of January 2024,*** MTA estimates that approximately $13.2 million of risk exposure remains due to necessary TCE extensions. ***To date, the project has expended $4.6 million on TCE extensions.***

2.9. Third-party Agreements and Utilities

All major third-party agreements (specifically, those agreements with Washington Gas, Verizon, Potomac Electric Power Company [PEPCO], CSX, UMD, Montgomery County Parks, Prince George's County Parks, WMATA, WSSC, Montgomery County, and Prince George's County) were executed as of June 7, 2016.

After execution of its third-party agreement, Verizon required that certain lines that are currently overhead be placed underground when they cross the light rail alignment. To minimize the total cost impact of this change, MTA and Verizon reduced the number of locations where Verizon lines cross the alignment to 34. MTA is of the opinion that this reduction is a betterment, and therefore the added cost is Verizon's responsibility, but Verizon has not yet accepted that position. PLTC submitted its cost estimate for placing these 34 locations underground, and after extended cost negotiations between MTA and PLTC while the physical relocations were being implemented, a final change order value of approximately $5.5 million was agreed upon in early March 2019. MTA had planned to negotiate the cost responsibility with PLTC and Verizon after all major Verizon relocations were completed. However, since the departure of PLTC, MTA carries this cost as a betterment outside of the FFGA scope.

In early June 2018, MTA and PLTP completed the negotiation of all remaining third-party agreements with the smaller utility and telecommunications (telecom) fiber companies. According to MTA, most of the minor fiber/telecom utilities are not co-located with the electrical utilities, and, where they are, PEPCO's arrangement with the fiber/telecom utilities does not require PEPCO's relocation schedule to be driven by that of the minor fiber/telecom companies.

In addition, the need for amendments to existing executed agreements continues to be evaluated. The significant items include:

- To date, the design differences with CSX, as discussed earlier in this report, have been adequately resolved through design review and concurrences, and have not resulted in the need to amend the CSX agreement.
- WSSC proposed that the project relocate a 66-inch underground water main that runs through the Glenridge OMF site. In March 2020, MTA and WSSC agreed on a water main alignment primarily in the median of Veterans Parkway, as well as a strategy for completing the relocation. The original Purple Line project GEC performed the design; WSSC provided the material; and MTA separately contracted for the construction, thus avoiding impact to the P3 concessionaire's scope of work. On May 21, 2021, WSSC authorized work, and mobilization began August 9, 2021. Energizing of the cathodic protection was the last remaining activity, and it was completed in November 2023.
- In late July 2022, MTA and MDOT held a summit with the many utility providers that experience relocations related to transportation projects to discuss best practices and improvements to the utility relocation process. As of May 2023, some of the utility providers are experiencing staff shortages that limit construction production rates. These staff shortages present an ongoing challenge to the project.

The project has been addressing its interface with Montgomery County Schools through the third-party agreement already in place with Montgomery County. However, due to the specific concerns related to the schools and the safety and security of the children, MTA drafted a separate MOU with the Montgomery County Schools system, which was approved by the School Board and signed by the School Superintendent, Montgomery County, and MTA. A similar MOU was negotiated between MTA and the Rosemary Hills School and was approved at the School Board meeting on February 12, 2019. MTA submitted a draft second MOU to Montgomery County Schools on November 3, 2022. The Purple Line project team is developing information on the utility pole locations and retaining wall maintenance before going back to the school district for final property transfer negotiations. Work will continue under ROE agreements with these parties through 2024.

As MTS commenced construction work, coordination meetings were held to ensure that prior agreements with third parties (utility companies and others) are followed. It is MTA's position that the transfer of third-party agreements from PLTC to MTA and now to MTS should not allow for a change in the terms of the agreements.

2.10. Construction

2.10.1. MTA Scope

Although the P3 concessionaire is responsible for the majority of the project construction, MTA also has construction responsibility in the areas of the replacement Parks Maintenance Facility (which is part of the real estate effort and budget), wetlands mitigation, stream mitigation, and possibly some offsite SWM sites. MTA has accomplished forest mitigation without the need for additional construction. The following discussion presents the current status of the MTA construction contracts:

- **Prince George's County Parks Polk Street Replacement Maintenance Facility** – This D-B contract was awarded after the BPW approved the construction contract award on March 20, 2019. Forrester Construction Company completed construction, Parks has taken possession of the facility, and the warranty period has expired. The only remaining action for this portion of the project is a real estate swap that will transfer the maintenance facility property to Parks in exchange for the property needed by the Purple Line project to MTA.
- **Offsite Wetlands Mitigation (Ken-Gar)** – The Wetlands Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The contractor mobilized in December 2019 and completed site surveys and the installation of Erosion and Sedimentation controls. Clearing and grubbing began in February 2020. Prince George's County took partial acceptance of the entire project on March 3, 2021. Acceptable growth of vegetation has been achieved, allowing for closure of this project. The one-year warranty review occurred on January 9, 2022, and now the project requires MTA quarterly monitoring until closeout in 2028.

- **Offsite Stream Mitigation (Paint Branch)** – The Stream Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The pre-construction meeting was conducted on October 24, 2019. The contractor mobilized in late November 2019. The one-year warranty inspection occurred on August 4, 2022, and 1,700 plants were replaced in November 2022.

2.10.2. P3 Scope

Highlights of construction activities ***through December 2023*** throughout the alignment include:

- General: As a result of the dispute with PLTC (see the **Project Delivery Method and Procurement** section, above), all project activities slowed in the fall of 2020. In early August 2020, contractor forces, equipment, and materials were demobilized, and work in some areas ceased. Upon legal action from MTA, partial remobilization occurred. Following the court's rescission of the TRO, demobilization and safe-up activities in the construction area began in earnest in mid-September 2020 and continued into October 2020. Following PLTC's exit, MTA engaged a number of former PLTC subcontractors to continue select project activities. This work was progressed under MTA management with a goal of advancing critical path activities and reducing risk for the replacement D-B contractor.
- Status of P3 (OSF) construction items that MTA managed or manages:
  - Utility installations of all types are complete ***or have been transferred to MTS***, including construction by the electric provider (PEPCO) and the communications company (Verizon). Water, storm sewer, sanitary sewer, and gas lines are also complete ***or have been transferred to MTS***.
  - As a part of OSF, MTA ordered rail, ties, special trackwork, and turnouts to mitigate supply chain risks. MTA also secured materials previously procured by PLTC for use by the replacement D-B contractor (MTS). As of September 2023, a dispute between MTA and MTS over the availability of MTA-supplied materials has been resolved. The materials were located along the project corridor and available for use, resolving the dispute.
  - Building construction at the Glenridge OMF is essentially complete; however, construction of civil items outside of the building continues, as does final commissioning of systems inside the building. MTS was scheduled to assume control of the facility in early 2023; however, as of July 2023, there was a dispute over the completeness of the OMF that was delaying turnover from MTA to MTS. The PMOC recommends that this issue be added to the Risk Register, and mitigation plans and an estimate of cost and schedule impacts be developed. The turnover letter to transfer possession of the facility from MTA to MTS is on hold as ***of January 2024,*** pending resolution of ***four disputed*** items. MTA reports that the transfer of possession date has not been determined. MTS is currently installing rail and other

features both inside and outside of the building. MTS will complete the tracks for storage and testing of LRVs.

- Based on the status of construction at the time of PLTC's departure, MTA determined which items would be completed before mobilization of the replacement D-B contractor. OSF construction activities were expected to be completed before September 1, 2022, but caused some activities to continue to November 2023. OSF utility relocations that fell behind schedule caused delays to MTS's work, and delays in OSF activities have driven two MTS change orders ***as of January 2024.*** MTA and PLTP mobilized the Tiger Team to develop schedule alternatives to mitigate additional delays driven by OSF work between March 2023 and July 2023, and the Tiger Team is now evaluating the further delays. ***MTS's December 31, 2023 project schedule indicated 269 days of additional delay, which result*s *in an RSA date of February 3, 2028.***
- MTA's Equal Employment Opportunity Officer assigned to the project is Marcques Washington, and he is supporting MTS in its hiring program. The former contractor, PLTC, left the project with a shortfall in meeting the requirements of its DBE program, and MTS is required to address this shortfall of approximately $12 million in contract value. In March 2023, MTA reported that the design portion and the nationally targeted worker program of the P3 contract had exceeded the DBE program goal, but the percentage DBE participation for general construction is below the goal. In April 2023, Mr. Washington reported that the DBE participation statistics are improving as construction continues. The PMOC continues to recommend that MTA report the projected values for these goals at the end of the project in addition to the current achieved values to allow for a better evaluation of progress toward meeting the goals. MTA has been performing audits each month to monitor the Davis Bacon prevailing wage requirements. To date, only very minor issues have been identified during these audits.

2.11. Vehicle Technology and Procurement

The LRVs are five-car vehicles consisting of 136-foot-long, articulated units. Twenty-five vehicles (22 in operation and 3 spares) will be provided under the FFGA for the opening year. PLTP executed the LRV contract with CAF on June 17, 2016, and issued NTP to CAF on July 5, 2016, for the 25 FFGA vehicles. The original NTP to CAF also included one LRV outside of the FFGA.

Later, MTA added two additional vehicles (outside of the FFGA) by change order to CAF's contract, for a total of 28 vehicles to be supplied by CAF. The two additional LRVs will support better operations. MTS has incorporated these two additional LRVs into its scope of work (in addition to the cost and terms of LRV storage in Elmira).

Vehicle carshell manufacturing activities, which are coordinated with design progress, occurred until the facility in Spain was shut down in late March 2020 due to supply chain issues and to limit the spread of COVID-19. The final assembly facility in Elmira, New York, was shut down

in early April 2020 due to New York State restrictions related to COVID-19 and reopened on May 18, 2020, at 50 percent of its workforce capacity. As of early August 2020, both the Spain facility and the Elmira facility were back to 100 percent staffing levels.

The final assembly of vehicles is being performed in CAF's facility in Elmira. MTA, its PMC, and SNC-Lavalin are meeting weekly with CAF to resolve all open items for design, testing, and manufacturing activities. First Article Inspections (FAIs) for Interior and Cab were completed on March 18, 2021, and FAIs for Exterior, Roof, and Undercar were completed on April 2, 2021.

Shipment of the first vehicle to the project site was expected in late spring of 2021. The lack of available storage at the yet-to-be-completed Glenridge OMF requires use of an offsite storage facility where vehicles can be stored, occasionally powered, and occasionally "exercised" or moved on tracks. MTA and CAF negotiated an agreement for CAF to store the completed LRVs in Elmira. That storage agreement subsequently transferred to MTS, and its terms are part of MTS's agreement. Twenty-six LRVs have been designated as Ready for Shipment and have been placed into storage in Elmira. MTS's proposed construction schedule establishes when the test tracks will be available for acceptance of the railcars at the Glenridge OMF. Currently, the schedule indicates that initial deliveries of LRVs will occur in early 2024.

The status of the LRV manufacturing as of ***January 25, 2024,*** is:

- To date, 130 carshell segments have been assembled in Spain.
- All 130 carshells have been delivered to CAF's facility in Elmira, New York.
- All 25 full LRVs in the FFGA are designated as Ready for Shipment and are in storage at CAF's Elmira facility. One additional LRV (outside of the FFGA) is also Ready for Shipment and in storage.
- Two additional LRVs are under contract. These LRVs are not a part of the FFGA, but rather are an addition to the contract by MTA to support rail operations. Manufacture of the two additional vehicles (ten cars) in Spain is now complete. All ten of those cars have been delivered to Elmira for final assembly and static testing.
- As mentioned in Section 2.3.3 Quality Assurance, one manufacturing quality issue, the recurring failure of the M33 bolt in multiple vehicles, has not been resolved. MTA determined that the issue does not impact safety, and the solution is likely the use of a higher strength bolt. The final report on this issue was expected in May 2023, although as of ***January 2024***, the PMOC has not yet received it. ***Additional failures have occurred, and the truck manufacturer in Germany is performing additional tests. MTA previously indicated that an RCA will be performed for this issue. In the PMOC's opinion, the RCA is prudent, in addition to development of corrective actions. The PMOC recommends that the quality process also be included in the RCA, along with design, fabrication, and assembly processes.*** MTA does not believe the issue will impact delivery of the vehicles, which is scheduled for spring 2024.

2.12. Project Cost

Table 5 summarizes the project's current actual expenditures and EAC, and compares them to the project budget as reported in MTA's SCC Workbook dated June 1, 2016, which is the basis of the project's FFGA. The project's documented expenditures total ***$3,288,995,360 through November 30, 2023.*** Refer also to **Table 4 – FFGA Core Accountability Items** in the **Executive Summary** section of this report for details on the project's planned and actual expenditures. The following table shows project budgets, actual expenditures, and forecast at completion amounts through ***November 30, 2023***, compared with the project budget as reported in MTA's SCC Workbook dated June 1, 2016, and MTA's current working budget.

Table 5 – Project Cost Versus Budget

SCC	Cost Category	Budget (June 1, 2016 Original FFGA)	Working Budget[1] (April 3, 2023 FRP)	Expenditures *(as of November 30, 2023)*[2]	Forecast at Completion[1]
10	Guideway and Track	$280,620,726	$371,508,682	***$215,246,994***	***$374,463,623***
20	Stations	$114,857,016	$161,159,923	***$38,900,644***	$171,571,352
30	Maintenance Facility	$94,155,591	$93,454,387	***$86,736,062***	***$94,746,621***
40	Sitework	$521,968,990	$796,081,289	***$563,229,917***	***$783,671,549***
50	Systems	$263,887,313	$517,256,196	***$166,803,706***	***$517,163,748***
	Subtotal 10–50	$1,275,489,636	$1,939,460,477	***$1,070,917,323***	***$1,941,616,893***
60	Right-of-Way	$229,600,000	$329,126,214	***$293,690,159***	$329,126,214
70	Vehicles	$212,940,927	$292,780,600	***$156,888,835***	$292,584,921
80	Professional Services (total)	$571,658,114	$2,247,359,915	***$1,707,499,043***	***$2,466,390,702***
80.01	Project Development	$87,149,878	$85,469,312	$85,469,312	$85,469,312
80.02	Engineering	$139,766,036	$196,722,013	***$225,222,558***	***$***234,354,725
80.03	Project Management for Design and Construction	$148,555,323	$655,185,988	***$417,688,408***	***$640,985,062***
80.04	Construction Administration and Management	$83,269,280	$734,209,735	***$504,104,654***	***$801,007,978***
80.05	Professional Liability; Other Non-construction Insurance	$34,534,796	$85,701,891	$79,549,426	$79,599,426
80.06	Legal; Permits; Review Fees by Other Agencies, Cities, etc.	$5,805,117	$341,013,320	***$329,826,556***	$476,160,224
80.07	Surveys, Testing, Investigation, Inspection	$15,164,346	$92,504,023	***$60,856,595***	***$92,185,741***
80.08	Startup	$57,413,338	$56,553,635	$4,781,535	$56,678,235
	Subtotal 10–80	$2,289,688,678	$4,808,727,206	***$3,228,995,360***	$5,029,718,730
90	Unallocated Contingency[2]	$90,535,748	$307,293,174	**--**	$86,301,650
100	Finance Charges	$0	$0	$0	$0
	Total	$2,407,030,288	$5,116,020,381	***$3,228,995,360***	$5,116,020,380

[1]The Purple Line project Working Budget and Forecast at Completion are based on the accepted FRP, dated April 3, 2023, and subsequent change orders.

[2]The Unallocated Contingency expenditures will be reflected in SCC 10–SCC 80 expenditures as they occur. As of ***January 25, 2024,*** the committed unallocated contingency amount is $220,991,524.

MTA developed the FRP unallocated contingency amount of $307,293,174 by utilizing a Quantitative Risk Analysis, and the RCMP dated April 21, 2023, recommended that amount for unallocated contingency.

On July 15, 2021, the PMOC requested that MTA provide revised budget tracking information that accurately reflected the combined IRP and OSF expenditures. MTA prepared a summary of actual versus planned expenditures for high-level OSF activities for review by the PMOC. MTA submitted the latest version of the summary that provides information through December 2022. MTA forecasted OSF expenditures of $556.15 million, which exceeded the original OSF budget by approximately $136 million. In May, June, July, and August 2023, the PMOC requested an OSF budget update. The extended OSF schedule and other changes have added cost since the December 2022 budget update. On September 28, 2023, MTA verbally reported (not in writing) to the PMOC an EAC for OSF of approximately $469 million. This EAC amount does not include the previously executed and potential future MTS change orders driven by OSF delays; those costs are transferred to the MTS tracking tables. The PMOC continues to request additional information to better understand the EAC.

In July 2023, the Maryland BPW approved a change order that had a total addition of $204,954,610 of cost and 207 additional days of contract time. The net budget impact to the capital construction portion of the project was $137,144,705, and the balance of the total amount was applied to the financing and lost return on investment for PLTP. The $137,144,705 will be expended over the course of construction; therefore, this amount does not immediately show up in the MTA budget reports. However, that amount, plus the amount of the earlier change order included in the FRP, represents significant utilization of the budget contingency. The PMOC recommends that MTA closely monitor these cost overruns and the potential need for additional contingency.

2.12.1. Project Funding

The funding for the project, as reflected in Attachment 3 of the FFGA, is shown in Table 6.

Table 6 – Baseline Cost Estimate by Source Funding

Initial New Starts Project Cost	Total FFGA Cost in Year of Expenditure (YOE) Dollars	Federal 5309 New Starts in YOE Dollars	Federal 5307 in YOE Dollars	Federal American Rescue Plan Act (ARPA) in YOE Dollars	Federal Surface Transportation Program (STP) in YOE Dollars	Local in YOE Dollars
10 Guideway & Track Elements	$371,508,681	$96,464,907	$0	$0	$0	$275,043,774
20 Stations, Stops, Terminals, Intermodal	$161,159,923	$23,557,000	$0	$0	$0	$137,602,923
30 Support Facilities, Yards, Shops, Admin. Bldgs.	$93,454,387	$29,954,000	$0	$0	$0	$63,500,387
40 Sitework & Special Conditions	$796,081,289	$222,858,301	$0	$0	$0	$573,222,988
50 Systems	$517,256,196	$60,116,405	$0	$0	$0	$457,139,791

60 ROW, Land, Existing Improvements	$329,126,214	$102,108,116	$0	$0	$0	$227,018,098
70 Vehicles	$292,780,600	$80,787,818	$0	$0	$0	$211,992,782
80 Professionals Services	$2,247,359,916	$284,153,453	$41,631,310	$106,163,371	$110,000,000	$1,705,411,782
90 Unallocated Contingency	$307,293174	$0	$0	$0	$0	$307,293,174
100 Finance Charges	0	$0	$0	$0	$0	$0
Total Project Cost (10-100)	**$5,116,020,380**	**$900,000,000**	**$41,631,310**	**$0**	**$0**	**$3,958,225,699**

Source: Maryland Purple Line Project FRP, dated April 3, 2023.

2.13. Project Schedule

The March 15, 2017 progress update of the master project schedule served as the only approved version of the schedule until September 2022. Numerous submissions of schedule updates from PLTC were not approved for various reasons, but the primary reason was the inability of MTA and the P3 concessionaire to agree on the schedule impacts of the approximately one-year delay in the execution of the FFGA. In response to a letter that FTA issued to MTA in early August 2018 expressing concerns about the amount of time that the project had advanced without an approved schedule, MTA prepared a working schedule update of the master project schedule. The working schedule update was based on the negotiations of the P3 contract schedule occurring at the time, but the update was not based on a mutually agreed-upon P3 contract schedule.

In late April 2020, PLTC notified PLTP that, based on its forecasting of schedule delays on the project (which were not mutually agreed upon), PLTC intended to exercise the clause in its P3 contract with PLTP that allows it to terminate the contract for design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that included a definitive path forward for PLTP's intended management of the P3 contract. On May 14, 2020 (the date the response to the formal request was due), PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice refuted the validity of the PLTP delay claims and stated that if PLTP failed to perform, MTA had a number of options related to the agreement. Through late July 2020, construction activities continued at the level previously planned, and construction progress was not affected.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a TRO that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO was held on September 14, 2020. The court rescinded the TRO, allowing PLTP to leave the project. Through negotiation, it was determined that PLTP would remain on the project, although PLTC would not.

MTA contracted with numerous subcontractors to continue the project. MTA developed organizational options with respect to construction management, resident engineers, inspectors, and other staff needed to move forward select project activities.

It was certain that the project schedule as reflected in the FFGA would be negatively affected, and a Recovery Plan for the project, including a revised project schedule with adequate schedule contingency to address remaining project risks, would be required. MTA submitted its draft IRP to FTA in December 2020, and FTA approved the IRP on January 12, 2021. A schedule for the period during which the D-B contractor was to be replaced was developed, and MTA monitored project progress against the schedule.

PLTP and MTA continued to coordinate during the financial process and State of Maryland approvals for the replacement D-B contractor. In addition, MTA successfully coordinated other key issues that needed to be resolved before PLTP could execute the contract with MTS.

The following is a summary of IRP milestones:

- January 6, 2021 – PLTP issued a Request for Qualifications (RFQ) for replacement D-B contractors.
- March 8, 2021 – PLTP issued an RFP to the short list of replacement D-B contractors based on the RFQ.
- October 15, 2021 – PLTP received RFP responses.
- November 5, 2021 – PLTP and MDOT/MTA selected the replacement D-B contractor firm (MTS).
- January 26, 2022 – BPW approved the replacement D-B contractor, contract amendments, schedule, cost, and financing.
- April 11, 2022 – Private activity bonds went to market.
- September 12, 2022 – MTA approved the Initial Baseline Schedule (IBS).
- October 14, 2022 – MTS was required to have commenced action on the 11 critical elements that are specified in the D-B contract. At the December 2022 PMOC meeting, MTA confirmed that MTS missed the 180-day window to commence action on 3 of the 11 critical elements.
- October 28, 2022 – MTA was required to have submitted a draft FRP to FTA and the PMOC for review and comment. On October 4, 2022, MTA submitted the draft FRP to FTA and the PMOC for review.

A milestone not specifically mentioned in the IRP is the requirement to extend the current RSD. The PMOC therefore added the following milestone to this list:

- December 31, 2022 – The RSD in the original FFGA is December 31, 2022. MTA requested an extension to the current RSD identified in the original FFGA. FTA has now accepted the FRP, which indicates a revised RSD of February 28, 2028.

The schedule included in the FRP was considered to be the new baseline schedule. The MTS master schedule incorporated the schedule recovery of implementing Maintenance of Traffic and construction activity resequencing, at a cost of $21,343,588, which reduced schedule delays from 218 days to 81 days. These schedule delays are a result of OSF utility adjustments that fell behind schedule. MTS has indicated that delays continued to occur as a result of the MTA-managed OSF work. The second OSF-delay-driven change order, as approved by the BPW in July 2023, added 207 days to MTS's RSA date.

This addition to the RSA date represents a significant use of schedule contingency, which is a concern considering the remaining duration of the project. In an effort to mitigate continuing OSF delays**,** MTA resumed the Tiger Team process (in this case referred to as "Tiger Team 2") to develop schedule alternatives. OSF construction activities were expected to be completed before September 1, 2022, but schedules that MTA previously provided indicated completion of most OSF activities in mid-2023, with some activities continuing up to November 1, 2023. OSF utility relocations that were behind schedule continued to cause impacts to MTS's work, and as of July 2023, delays in OSF activities had driven two change orders. MTA and PLTP have used the Tiger Team process to develop schedule alternatives to mitigate delays driven by OSF work between March 2023 and ***January 2024***. ***MTS's December 31, 2023 project schedule indicated 269 days of additional delay, which results in an RSA date of February 3, 2028.***

2.13.1 Key Milestones

Table 7 shows the current key milestone dates for the project for the prior approved (March 15, 2017) progress update of the current master project schedule. Issuance of NTP to PLTP on April 14, 2022, triggered the contract requirement that an MTA-approved MTS IBS for the full project be in place within 120 days of financial close (by August 14, 2022). In January 2022, MTA submitted a draft version of the master schedule for FTA and PMOC review, and FTA and the PMOC transmitted their review comments to MTA in April 2022. MTS submitted its IBS, and on September 12, 2022, MTA approved it. MTS submitted the 120-day mobilization schedule, which MTA also approved.

In August 2022, MTA and the PMOC discussed the current state of the baseline schedule, particularly the inclusion of adequate float to address schedule risk. The P65 date that MTA proposed before the risk workshop held in May 2022 included approximately seven months of float and an RSA date in October 2026. After MTA performed the Quantitative Risk Analysis for the updated RCMP, MTA added additional float to address known and unknown schedule risk. The RSD proposed in the FRP is February 28, 2028, and the master schedule dated ***January 1, 2024, indicates that only six weeks of schedule float remain.***

The PMOC recommends that MTA closely monitor schedule contingency and the corresponding budget contingency when evaluating the RSA date/RSD and the EAC that have been incorporated into the FRP. The information in Table 7 will be updated once the schedule reviews and approvals are complete.

Table 7 – Key Milestone Dates

Activity	Prior Approved Master Project Schedule (March 15, 2017)	MTA Master Schedule (*January 1, 2024*) (working schedule)
Locally Preferred Alternative Approval Date	08/04/2009 (A)[1]	---
FTA Approval to Enter Preliminary Engineering	10/07/2011 (A)	---
FTA ROD	03/19/2014 (A)	---
Issue Final RFP for P3 Concessionaire	07/28/2014 (A)	---
FTA Approval to Start Enter Engineering Phase	08/28/2014 (A)	---
Issue Addenda 4 through 6 to the P3 RFP	07/2015 through 11/2015 (A)	---
P3 Technical Proposals Due	11/17/2015 (A)	---
P3 Financial Proposals Due	12/08/2015 (A)	---
Evaluation and Announcement of Selected P3 Proposer	01/02/2016 through 03/02/2016 (A)	---
BPW Approval of P3	04/06/2016 (A)	---
P3 Commercial Close	04/07/2016 (A)	---
Limited NTP for P3 Engineering	04/07/2016 (A)	---
MTA Submit FFGA Application	05/24/2016 (A)	---
P3 Financial Close	06/17/2016 (A)	---
FFGA Signed	08/22/2017 (A)	---
Start of First Major Construction Activity	08/28/2017 (A)	---
All Significant ROW Acquisition and Relocation	As needed by construction	---
Commencement of Contract Work for Replacement D-B Contractor (MTS)	---	04/14/2022 (A)
Commencement of Integration Testing	---	07/28/2025
All Segments Complete Construction (with Contingency)	---	02/19/2027
RSA Date per P3 Amendment (with Contingency)	---	***12/10/2027***
FFGA RSD (Includes Contingency)	12/31/2022	02/28/2028

[1] A = Actual.

2.13.2 90-day Look-ahead

The critical 90-day (***February 2024 through April 2024***) look-ahead includes activities that MTA highlighted in the recent monthly meeting with the PMOC. MTA and MTS also are preparing four-week look-ahead schedules to manage interim activities. Key activities that MTA has identified for the short term are:

- Completion of Tiger Team 2 activities and settlement of disputes related to OSF delays and impacts on MTS's schedule/cost.
- Completion of the bottom-up Quantitative Risk Analysis and revised recommendations for schedule and cost contingencies.

- ***Completion of yard track and initial installation of OCS at the Glenridge OMF to support LRV delivery and testing.***
- ***Preparation for the WMATA coordinated track outages at the SSTC to allow work in the summer of 2024.***
- ***Concrete lining installation at the Bethesda Enclosed Trainway.***
- ***Opening of the reconstructed Talbot Avenue and Arliss Street roadways.***
- MTA's closeout of Glenridge OMF punch lists and turnover of the facility to MTS.

2.13.3 Critical Path Activities

In the MTA master schedule update dated ***January 1, 2024***, the critical path runs through the activities in Segment 3 utilities and track (see Attachment G, Project Map), and then trial running and systems integration/testing.

2.14 Project Risk

MTA has established a risk management organization that is defined in the RCMP and is overseen by MTA's Risk Management Committee. Two major elements of the RCMP are the periodic performance of a Quantitative Risk Analysis and the maintenance and use of the Risk Register.

During the approximately one-year period during which the ROD had been vacated by the federal judge in his decision related to the Friends of the Capital Crescent Trail lawsuit, MTA did not conduct formal Risk Management Committee meetings, conduct Quantitative Risk Analyses, or perform formal updates of the Risk Register. However, the Purple Line project management team did assess and respond to the risks associated with the unforeseen chain of events related to the lawsuit.

The project team resumed formal Risk Management Committee meetings in October 2017, including individual updates of each risk on the current Risk Register by the risk owner. An overall update of the Risk Register was completed in draft form in January 2018, and was updated further and reissued in March 2018. As an ongoing process, MTA currently is performing updates of the Risk Register periodically, though somewhat less frequently than bimonthly (the frequency established in its RCMP). The current status of the RCMP is discussed in the **Project Management Plan and Sub-plans** section of this report, above.

MTA provides copies of significant updates of the Risk Register to FTA and the PMOC. The top risks from the project's latest issued update of the Risk Register and PMOC-assessed risks are discussed at the PMOC monitoring meetings with the project team; the project's top five project risks are included as Attachment B of this report and are updated quarterly. A risk management workshop was held on January 26, 2021, at which the PMOC and FTA participated. The workshop focused on the resolicitation period for the replacement D-B contractor (January through October 2021).

Once the replacement D-B contractor was under contract, risk updates were prepared. The project held a risk workshop the week of May 2, 2022, at which the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. Confirmation and finalization of the Risk Register, the Quantitative Risk Analysis, and an update of the RCMP are components of the FRP. FTA provided a summary of the risk workshop to MTA on June 22, 2022, for MTA's consideration and incorporation into its management plans and contingency evaluation. MTA provided responses to FTA comments on the risk workshop summary on July 15, 2022, and clarification on August 25, 2022. In October 2022, MTA submitted RCMP Version 15 to FTA and the PMOC for review. In February 2023, FTA and the PMOC provided comments on RCMP Version 15 to support MTA's development of the project's budget contingency and schedule contingency. On April 21, 2023, MTA provided a revised RCMP to FTA and the PMOC for review, and on May 22, 2023, FTA accepted the revised RCMP with comment. In June 2023, MTA held its quarterly Risk Management Committee meeting, at which it updated the Risk Register to reflect retired and new risk items. Five of the seven new risk items are related to disputes with MTS. Two significant risks were added to the Risk Register—one related to numerous design changes that occurred during OSF but were not reflected in the amended P3 Agreement and one related to a very specific intelligent interface device.

On November 20, 2023, MTA held its quarterly Risk Management Committee meeting. During the meeting, MTA identified the top four project risks that have a risk rating of "Significant":

1. Construction – Exhibit 24 Utility Adjustments
2. Design – TCE Extensions
3. Design – Design Changes
4. Design – Intelligent Interface Device

As a follow-up to the Risk Management Committee meeting, MTA will complete a Quantitative Risk Analysis, re-baseline the project contingency drawdown curves, and update the RCMP. ***MTA will provide this information in February 2024. The significant consumption of both schedule and budget contingency is a concern to the PMOC.***

2.15 Quality Assurance/Quality Control

The project's QA/QC is addressed in Section 10 of the PMP, the Quality Program Plan, and the updated MTA QAP Revision 8.0, which incorporates the quality plans prepared by PLTC. The **Project Management Plan and Sub-plans** section of this report, above, discusses the most current versions of the PMP and the QAP. MTA also submitted to FTA the package of inter-related quality plans prepared by the P3 concessionaire after the package was reviewed and approved by MTA.

MTA obtained and used PLTP's quality logs and other applicable documents and procedures during the transition to the replacement D-B contractor. Several former subcontractors were under contract with MTA and conducted QA/QC activities during the replacement D-B contractor solicitation period. The budget to address nonconforming construction by PLTC

remains a concern as of July 2023. MTA incorporated known defects into the MTS contract; however, MTA has not clarified the specific budget that will be used to rectify defects found since the contract with MTS was executed. MTA estimates that the potential magnitude of this budget impact will be no more than $10 million, and the current Risk Register carries this risk item.

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on the QAP to MTA. MTA provided a revised QAP to FTA and the PMOC in May 2023. ***Subsequently, FTA and the PMOC made recommendations for revisions to the QAP that MTA committed to include in the next regularly scheduled update to the QAP.***

The project has continued to conduct its monthly meeting to review the QA/QC activities performed by the Purple Line project team, including those activities performed by the PMC and the GEC. MTA states that documentation from this meeting is distributed and maintained. The project's Monthly Progress Report to FTA also contains a summary of the significant current QA/QC activities and events, including quality audits and quality reviews. ***However, in January 2024 MTA did not submit the typical quality program monthly information, citing a change of leadership on the quality team. On January 25, 2024, MTA introduced the project's new Quality Manager, Turyalai Momand.***

In 2023, quality management topics included field inspections, equipment testing inspections, design submittal reviews, records spot checks, approval of MTS's quality management plans, MTS offsite inspections at fabrication locations, and planning of the monthly QC meetings. As of the completion of OSF activities in November 2023, MTA's role in the quality process is now fully that of oversight.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. Roland Carroll, the Purple Line systems and construction safety lead, added the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to his new quality management role. The PMOC evaluated this change as a part of the PMP review and will continue to monitor MTA's management capacity for this function and all positions through ongoing oversight activities.

The PMOC has requested that MTA provide more complete documentation for quality-related activities. MTA modified the QAP to reflect many of the noted PMOC concerns. In addition, a technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023. The PMOC has since recommended acceptance of the QAP contingent upon MTA's incorporation of outstanding items into the next regularly scheduled annual update. On October 6, 2023, FTA accepted the QAP provided that MTA incorporate the PMOC recommendations. MTA has also developed a quality dashboard to improve its tracking of quality issues.

2.16 Safety and Security

PLTP has conducted 44 Preliminary Hazards Analysis (PHA) workshop sessions to date. These workshops were held to resolve MTA's comments on the PHAs completed to date.

To support the ultimate Safety and Security Certification of the Purple Line project, the PLTP System Safety team completed development of its first DCCC in May 2017 and submitted it to MTA for approval. MTA (assisted by the PMC) reviews the DCCCs as part of the Final Design package, according to the established submittal review process. According to PLTP, the DCCCs were being verified before the issuance of RFC packages. To date, an estimated 99 percent of the DCCCs have been verified. All previous comments on PLTP's Certified Elements List (CEL), which includes operations and maintenance and system integration testing elements, have been resolved, and CEL Revision 2 was accepted in March 2020. The Certified Items List (CIL) Revision 1 has been accepted. The next revision of the CIL is expected after MTS completes the design. MTA will provide the revised CIL to FTA and the PMOC as soon as it is completed. Approximately 18 percent of the CSCCs have been verified to date.

MTA chairs a Safety and Security Certification Committee (SSCC) that reviews, comments on, and approves any PLTP hazard management and safety and security certification issues. The first meeting of the MTA SSCC was conducted on March 20, 2018. Since July 11, 2018, the SSCC meeting has been held regularly and will continue as a monthly meeting until the level of activity requires more frequent meetings. ***As of January 2024,*** monthly SSCC meetings continue.

PLTC submitted a Threat and Vulnerability Assessment (TVA), and on July 15, 2019, MTA accepted and verified the comment responses and approved PLTC's TVA. PLTC then completed its TVA process. ***As of January 2024, the replacement D-B contractor, MTS, is performing a cybersecurity TVA for the project.***

MTA continues to conduct bimonthly Fire/Life Safety meetings with Montgomery County and Prince George's County. The meetings provide a basis for the counties' emergency responders to understand the features of the Purple Line systems and to resolve any concerns. Topics of discussion include: Police Department MOUs; Fire Department connection and hydrant locations; access, signage, and station naming conventions; MOUs for training; the PHA at the Glenridge OMF maintenance gate; station names; and addresses/emergency phone numbers for locations along the corridor. Other topics of discussion have included closed circuit television cameras and Mobile Emergency Vehicle Response access. ***As of January 2024***, it remains the opinion of the PMOC that MTA should emphasize resolving the project's outstanding Fire/Life Safety issues, because progress on the resolution of these issues is not apparent.

MTA police continue coordinating MOUs with local safety agencies and developing MOUs with police jurisdictions (such as the Maryland National Capital Park Police) along the Purple Line. These MOUs are related to training the existing police agencies on how to respond to transit situations. During August 2023, the PMOC reiterated that these processes have been ongoing for several years and that milestones for resolution of issues should be established.

During the September 2022 MTA/PMOC meeting, a larger related issue was discussed at length. The SSOA staff participated in this discussion as well. The crux of the issue is that MTA does not have a police force located in proximity to the Purple Line. MTA hired a consultant team to analyze alternatives for providing security and fare enforcement services for the Purple Line. Alternatives included: expanding MTA's enforcement services geographically, bringing on a third party to provide these services through a contract, or sharing police services with another party. On February 23, 2023, MTA submitted its prepared draft recommendation for providing security and fare enforcement to several State of Maryland departments. Representatives from MDOT, which is the SSOA, who are monitoring the Purple Line project development provided comments on the draft recommendation before MTA submitted it to MTA's upper management and the several state departments. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a new Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on MOUs with other local jurisdictions, and developing a facility to house the district. As of January 2024, the PMOC continues to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget for providing security and fare enforcement services.

As required by the P3 contract, PLTP is responsible for directly implementing many of the safety and security requirements for the project, including those for construction safety and the collection and maintenance of the Occupational Safety and Health Administration (OSHA) safety statistics for the project. PLTC performed this work until its departure from the project, at which time MTA assumed responsibility. Later, once the replacement D-B contractor was in place, MTS transitioned into the safety and security role that PLTC held. MTS and MTA are holding regular safety and security coordination meetings.

Safety is a PMOC concern. The rate of recordable incidents remains above project goals, and MTA appears to be having difficulties with incident documentation. For the period from January 1, 2023, through ***December 31, 2023***, the OSHA statistics are:

- TCIR (Total Case Incident Rate) (Recordable Rate) – MTS and OSF activities:
  - Actual: ***12.1/4.81*** (MTS/OSF)
  - MTS goal: 1.68
  - National average: 2.8 (for heavy civil construction)

Note: As of January 2024, the Lost Time Injury Rate (LTIR) is no longer being tracked.

MTA had assumed responsibility for safety oversight during the IRP until MTS assumed control of the project. As of December 2022, MTA reported that MTS needs coaching on expectations for the required reporting of safety statistics. In April 2023, the PMOC noted to MTA that both the LTIR and the TCIR had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in incident rates, there is an apparent lack of tracking and

reporting of safety issues. The PMOC has repeatedly noted that there are inconsistencies in incident reporting between MTA and MTS.

MTA states that it recognizes the issue and reports that it has scheduled additional safety coordination efforts. In May 2023, the PMOC requested documentation on these additional efforts, and in July 2023, the PMOC questioned the effectiveness of the efforts. MTA acknowledges the need for safety process improvement. In November 2023, MTA stated that MTS has replaced its safety director and has added safety staff, although MTA did not review the qualifications of the new director or staff. The PMOC recommended that MTA review the qualifications of MTS safety staff and the safety processes and procedures being followed on the project.

The PMOC recommends that MTA and MTS complete a safety process review as soon as practical and that MTA prepare a written summary. In November 2023, MTA's safety director, Roland Carroll, provided an email and attachment that briefly summarized the safety improvement actions. The document does not indicate target dates for implementation, nor the responsible party for these actions. ***In January 2024, MTA stated that MTS is not following the contractually required incident reporting procedures and timelines, which include a 20-minute verbal reporting requirement and a 24-hour maximum period to submit written documentation of incidents.***

In the opinion of the PMOC, MTA lacks emphasis on construction safety or there may be a lack of safety-related MCC. It remains the opinion of the PMOC that MTA's processes related to construction safety need significant improvement. The PMOC recommends that MTA consider dedicating additional resources to construction safety (i.e., resources dedicated to only the construction portion of the Purple Line project). MTA should also consider preparing a comprehensive monthly safety report under the direct supervision of the Senior Project Director.

In late October 2022, MTA submitted updated SSMP and SSCP documents in conjunction with the updated PMP. On February 13, 2023, and March 8, 2023, FTA provided review comments to MTA on the SSMP and SSCP, respectively. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023, and accepted the SSCP on December 28, 2023.

See the **Project Management Plan and Sub-plans** section of this report, above, for the status of the sub-plans of the PMP related to safety and security.

2.17 Americans with Disabilities Act

The PMOC confirmed that the Design Criteria Manual applicable to the Purple Line project addresses Americans with Disabilities Act (ADA) requirements, including references to the requirements in the Maryland Accessibility Code, the ADA Accessibility Guidelines for Buildings and Facilities, and the ADA Standards for Transportation Facilities.

Accessibility and compliance with the ADA are required as part of the functional requirements for stations and guideway, and as part of the codes and standards for LRVs within the P3 contract (Book 2, Part 2) for the Purple Line project. Based on project reviews conducted by the

PMOC, MTA has confirmed that it included ADA compliance in its QA oversight reviews of PLTC's design packages. A full-time Purple Line project Maintenance of Traffic construction representative also monitors whether temporary pedestrian accommodations during construction continue to comply with ADA requirements. ADA compliance is included in the PMOC's periodic project reviews, during which the PMOC discusses timely project ADA-related items with the project team. Such discussions during the PMOC's most recent reviews identified no current ADA-related issues.

MTA indicates that the project is maintaining ADA accessibility along the project corridor during construction. In addition to planning for ADA accessibility, MTA and MTS respond to public concerns due to construction activities and temporary accessibility features**.**

2.18 Buy America

MTA understands that Buy America compliance applies not only to the rail vehicles but also to the procurement of all manufactured products, including all iron and steel. MTA is also aware that domestic manufacture of all federally funded procurements is required and should be certifiable. Compliance with Buy America regulations is contained in MTA's standard clauses for its procurements, and the P3 contract contains explicit Buy America language in its Appendix 16.

Virginkar and Associates, Inc. conducted the Buy America pre-award audit and concluded that there is reasonable certainty that CAF will satisfy the Buy America requirements as stated in 49 Code of Federal Regulations (CFR) 661. MTA's interpretation is that, because the vehicle RFP was advertised before December 4, 2015 (which is the date of passage of the Fixing America's Surface Transportation Act, also known as the FAST Act), the 49 CFR 661 Public Interest Waiver that limits domestic content to a minimum of 60 percent, as opposed to the escalating domestic content requirements of the FAST Act, applies in this case. During the week of October 2, 2017, an intermediate post-award Buy America audit was conducted of CAF's facility in Elmira, New York, for added confidence that the post-delivery audit would not identify issues. CAF targeted 65 percent domestic content in the completed LRVs.

The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to FTA. On that same day, MDOT also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.

2.19 Start-up, Commissioning, Testing

MTA has begun documentation for the "Roadmap to Revenue Operations" (see Attachment F), which includes both MTA and MTS information on integration, testing, and commissioning. ***An update to Attachment F is expected in February 2024.*** MTS indicates that it is preparing a System Integration Test Plan. As of November 21, 2023, MTA has developed a process for

managing testing submittals and reviews, including detailed tracking of open items. MTS will deliver its full integration and testing plan in May 2024. MTA has not yet contracted with an Independent Integration Engineer to oversee the integration and testing process.

As of December 2023, MTA indicates that MTS has prepared a preliminary certification schedule. The PMOC recommends that MTA incorporate activities and milestones for integration and testing into the master schedule.

2.20 Before-and-After Study Reporting

To be determined.

2.21 Lessons Learned

The resolicitation of a D-B contractor gave MTA the opportunity to apply several lessons learned to the new D-B contract documents and to amend the P3 agreement. After the May 2022 risk workshop with MTA and the PMOC, MTA provided an update on opportunities for improvement that MTA had identified during the resolicitation and is incorporating into the project. MTA and the PMOC will include discussion of lessons learned at future monthly meetings. MTA indicates that it has prepared an initial Lessons Learned summary but is currently revising the document to include information from the MTA-managed OSF activities. MTA will provide this summary when it is complete.

2.22 Action Items

Action Items are identified at MTA/FTA Quarterly Progress Review Meetings, at MTA/PMOC Monthly Update Meetings, and at MTA/FTA Biweekly New Starts Progress Conference Calls. Action Items in ***January 2024*** are as follows:

1. MTA will provide updates to the OSF EAC ***when all contracts are closed***. – OPEN
2. MTA will provide clarification of the difference in safety incident reporting between MTA and MTS. – OPEN
3. MTA will provide initial Lessons Learned documentation. – OPEN
4. MTA will provide the expected date that the written plan, budget, and schedule for development of police and fare enforcement services will be ready. – OPEN
5. MTA will share the results of its internal Risk Review in ***February 2024***. – OPEN
6. MTA will provide an update on the M33 bolt root cause analysis. – OPEN
7. MTA will review the MTS expenditures for November 2023 to determine whether the month-to-month decrease from October was caused by anything other than the Thanksgiving holiday. ***– CLOSED – MTA reports the reduced construction expenditures for November and December 2023 were the result of holiday- and weather-related impacts. A missed invoice from the PMC in November 2023 reduced the SCC 80 expenditures that month and thus increased the SCC 80 expenditures in December2023.***

8. MTA will provide an organizational chart reflecting recent PMC staff changes. – OPEN **–** ***MTA indicated that it would submit this organizational chart to FTA and the PMOC on January 26, 2024. That submittal did not occur.***
9. MTA will provide information on the December 2023 partnering session. – OPEN
10. MTA will provide the Tiger Team 2 results, the schedule and cost impacts related to OSF delays, and the Quantitative Risk Analysis, including revised cost and schedule contingencies. – OPEN
11. MTA will provide the preliminary System Integration and Testing plan. – OPEN
12. ***MTA will update the "Roadmap to Revenue Operations" (Attachment F) in February 2024.***

ATTACHMENT A – LIST OF ACRONYMS

ADA	Americans with Disabilities Act
ARPA	American Rescue Plan Act
ATC	Alternate Technical Concept
BFMP	Bus Fleet Management Plan
BPW	Board of Public Works
CAF	Construcciones y Auxiliar de Ferrocarriles
CEL	Certified Elements List
CFR	Code of Federal Regulations
CIL	Certified Items List
CSCC	Construction Specification Conformance Checklist
CSX	CSX Corporation
D-B	Design-Build
DBE	Disadvantaged Business Enterprise
DCCC	Design Criteria Conformance Checklist
DNR	Maryland Department of Natural Resources
EAC	Estimate at Completion
FAI	First Article Inspection
FCP	Forest Conservation Plan
FFGA	Full Funding Grant Agreement
FRP	Final Recovery Plan
FTA	Federal Transit Administration
GEC	General Engineering Consultant
IBS	Initial Baseline Schedule
IRP	Interim Recovery Plan
LOD	Limits of Disturbance
LRT	Light Rail Transit
LRV	Light Rail Vehicle
LTIR	Lost Time Injury Rate
MCC	Management Capacity and Capability
MDE	Maryland Department of the Environment
MDOT	Maryland Department of Transportation
MOU	Memorandum of Understanding
MTA	Maryland Transit Administration
MTS	Maryland Transit Solutions
N/A	Not Applicable
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
O&M	Operations and Maintenance
OCS	Overhead Contact System
OHA	Operational Hazard Analysis
OMF	Operation and Maintenance Facility
OP	Oversight Procedure
OSF	Operation Step Forward
OSHA	Occupational Safety and Health Administration
P3	Public-Private Partnership
PEPCO	Potomac Electric Power Company
PHA	Preliminary Hazards Analysis
PLTC	Purple Line Transit Constructors
PLTP	Purple Line Transit Partners
PMC	Project Management Consultant
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QA/QC	Quality Assurance/Quality Control
QAP	Quality Assurance Plan
RAMP	Real Estate Acquisition Management Plan

RCA	Root Cause Analysis
RCMP	Risk and Contingency Management Plan
RFC	Released for Construction
RFP	Request for Proposals
RFQ	Request for Qualifications
ROD	Record of Decision
ROE	Right of Entry
ROW	Right-of-Way
RSA	Revenue Service Availability
RSD	Revenue Service Date
SCC	Standard Cost Category
SCIL	Safety Certifiable Item List
SEIS	Supplemental Environmental Impact Statement
SIT	Systems Integration Test
SOP	Standard Operating Procedure
SSCC	Safety and Security Certification Committee
SSCP	Safety and Security Certification Plan
SSCVR	Safety and Security Certification Verification Report
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSTC	Silver Spring Transit Center
STP	Surface Transportation Program
SWM	Stormwater Management
TBD	To Be Determined
TCE	Temporary Construction Easement
TCIR	Total Case Incident Rate
TDD	Transit Development and Delivery
TIFIA	Transportation Infrastructure Finance and Innovation Act
TPSS	Traction Power Substation
TRO	Temporary Restraining Order
TVA	Threat and Vulnerability Assessment
UMD	University of Maryland
USACE	U.S. Army Corps of Engineers
WMATA	Washington Metropolitan Area Transit Authority
WSSC	Washington Suburban Sanitary Commission
YOE	Year of Expenditure

ATTACHMENT B – TOP PROJECT RISKS

An internal risk workshop to support the Interim Recovery Plan (IRP) was held on January 26, 2021. Maryland Transit Administration (MTA) and Purple Line Transit Partners (PLTP) used information from the meeting as they solicited a replacement Design-Build (D-B) contractor.

A risk workshop was held May 3 through May 5, 2022. After the risk workshop, MTA prepared supplementary or updated documents for review, including an updated Risk Register. FTA provided a risk summary to MTA on June 22, 2022, for MTA's consideration when updating risk, contingency, and other project management plans. MTA incorporated the FTA comments in the revised Risk and Contingency Management Plan (RCMP) that is a part of the Final Recovery Plan. On May 22, 2023, FTA accepted the revised RCMP with conditions.

During the November 8, 2023 Quarterly Progress Review Meeting, MTA presented cost and schedule contingency drawdown curves that indicated significant commitment of contingency reserves. Due to this significant commitment of contingency and the recent completion of the MTA-managed OSF activities, MTA determined that an update to the Risk Register was warranted.

On November 20, 2023, MTA held its quarterly Risk Management Committee meeting. During the meeting, MTA identified the top four project risks that have a risk rating of "Significant":

1. Construction – Exhibit 24 Utility Adjustments
2. Design – Temporary Construction Easement Extensions
3. Design – Design Changes
4. Design – Intelligent Interface Device

As a follow-up to the Risk Management Committee meeting, MTA will complete a Quantitative Risk Analysis, re-baseline the project's contingency drawdown curves, and update the RCMP. ***MTA will provide the risk update and QRA, including contingency recommendations, in February 2024.***

ATTACHMENT C – AWARDED CONTRACTS

Included below is information that MTA provided for the ***February 7, 2024*** Quarterly Progress Review Meeting packet. Please note that the total shown in this table for contracts awarded does not reflect the full project value.

Major Contracts:

Company	Vendor Type	Contract No.	Baseline Amount	Change Order Totals	Current Amount	Pending Change Orders
PB/RK&K	Engineers/ Architects	MTA-1054A	$ 12,000	$ 1,850	$ 13,850	
STV/Jacobs	Engineers/ Architects	MTA-1054B	$ 8,000	$ 1,300	$ 9,300	
AECOM/ RK&K/PB	Engineers/ Architects	MTA-1264A	$ 60,000	$ 338,500	$ 398,500	
Gannett Fleming/WRA	Engineers/ Architects	MTA-1265B	$ 80,000	$ 71,000	$ 151,000	
Purple Line Transit Partners	P3 Concession (design build portion only)	PUR16032PP	$ 1,988,816	$ 1,692,228	$ 3,681,044	
Total			**$ 2,148,816**	**$ 2,104,878**	**$ 4,253,694**	**0**

Reason for Change: *Amendment 6 to the Purple Line Transit Partners P3A was not been previously reflected. The amount shown as "Current Amount" represents that portion of the P3A Design-Build contract associated with the New Starts Program.*

ATTACHMENT D – ROLLING STOCK VEHICLE STATUS REPORT

Date: January 25, 2024

Vendor: Construcciones y Auxiliar de Ferrocarriles (CAF)

Model: Multiple-section 136-foot articulated car (total length is 142 feet coupler-to-coupler), used in a five-car consist per vehicle

Year: The first vehicle was completed in 2021, and currently 26 vehicles are designated as "Ready for Shipment." Completion of the storage and testing facilities at the Glenridge Operation and Maintenance Facility (OMF) has been delayed, so Maryland Transit Administration (MTA) and CAF negotiated terms for storage of vehicles at the CAF facility in Elmira, New York. The storage agreement has now transferred to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS).

Quantity: 25 vehicles (125 cars) original contract (Full Funding Grant Agreement [FFGA]). One vehicle (5 cars) was added to the original CAF authorization by MTA, outside of the FFGA.

In July 2021, two vehicles (ten cars) were added via change order to MTS, also outside of the FFGA.

Identification: The original light rail vehicles (LRVs) will be numbered from 101 through 126. The two additional LRVs will be numbered 127 and 128, respectively.

New Technologies: None planned (all major suppliers have service-proven equipment).

Status and Significant Activities:

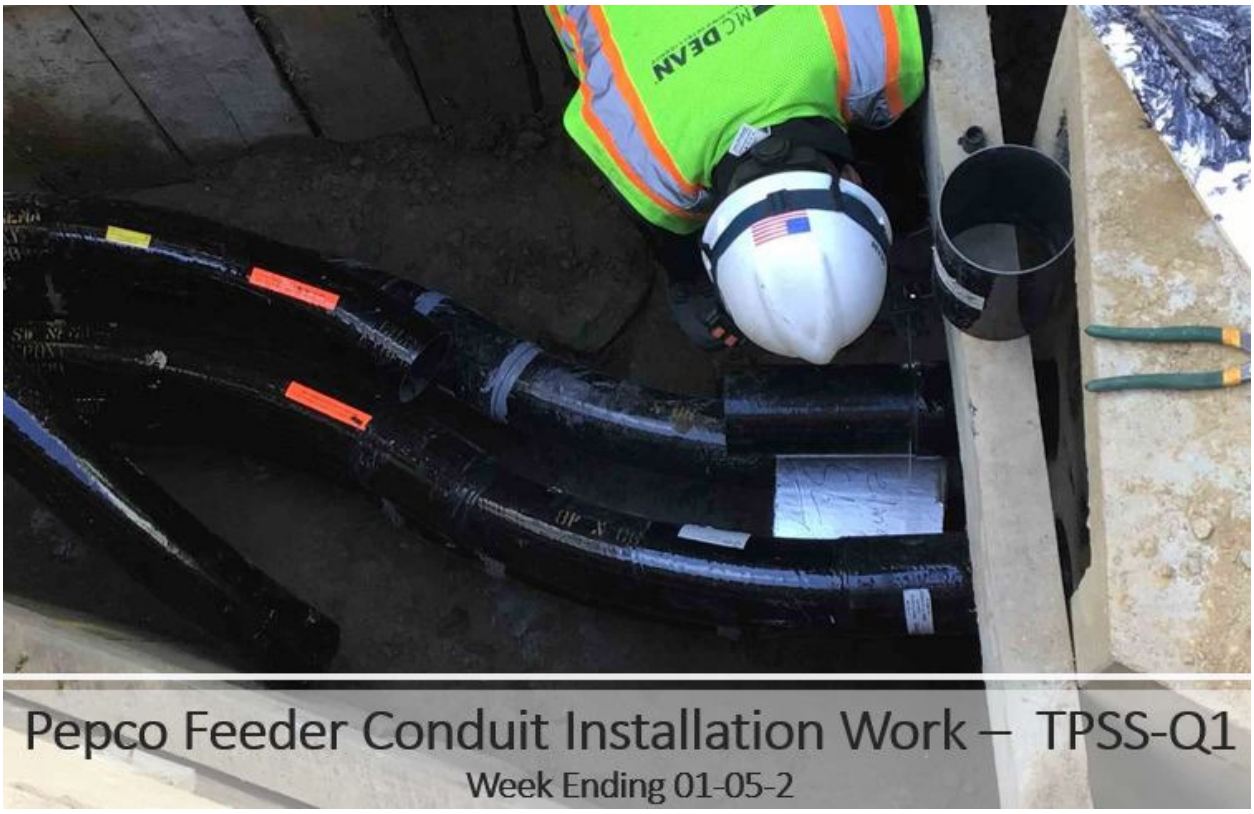
- As a part of the original order, twenty-six vehicles (130 cars) were assembled in Spain and delivered to CAF's facility in Elmira, New York, for final assembly and static testing. Manufacture of the additional two vehicles (ten cars) have been delivered to Elmira for final assembly and static testing.
- Delivery of finished vehicles was expected to begin in spring 2021; however, because the Glenridge OMF is not ready to accept railcars, MTA and CAF have negotiated an agreement for CAF to store the completed cars in Elmira.
- Cost risk for delivery of the finished vehicles has been transferred to MTS. If delays in construction cause a delay, then MTS is responsible to CAF for additional storage cost.
- Twenty-six LRVs have passed static testing, have been designated as Ready for Shipment, and have been placed into storage in Elmira. These include vehicle 110, which was returned to Ready for Shipment status after a second period in static testing.
- Delivery of the first of the original 26 vehicles is currently scheduled for early 2024. Approximately one vehicle per week will be delivered thereafter. The Glenridge OMF

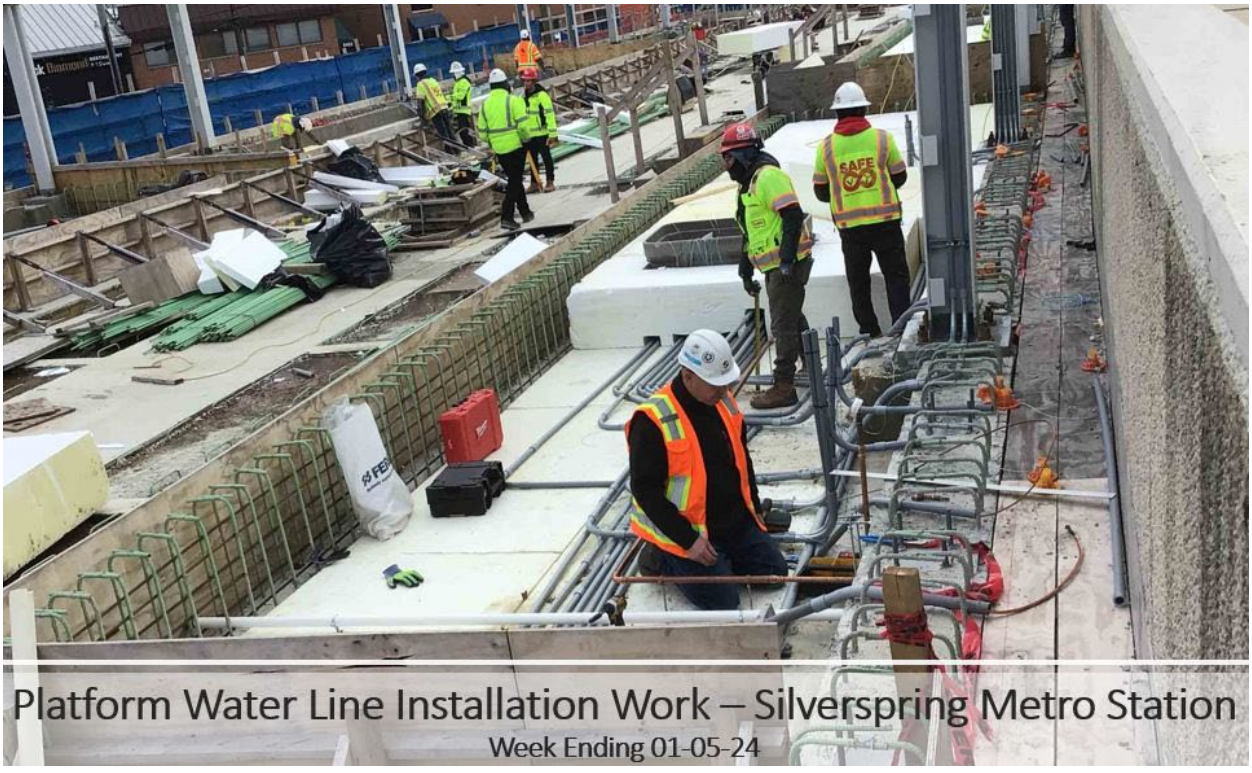
will be able to store three or four vehicles on the yard and in the building, so track must be available for additional storage. The Overhead Contact System and Traction Power Substation (TPSS) Q7 and TPSS QYG must also be completed and installed before delivery of vehicles.

- SNC-Lavalin (now an MTS subcontractor) prepares a monthly quality report documenting safety, production, and quality items at both the Spain and New York production facilities.
- MTA, the Project Management Consultant, and CAF are holding weekly coordination meetings to review all outstanding testing and factory/shop activities, including onsite testing procedures for when the vehicles are delivered to Maryland.
- MTS, which has assumed the CAF contract, is preparing and submitting to MTA reports on LRV maintenance activities required during the storage period.
- The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with the evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to Federal Transit Administration (FTA). On that same day, Maryland Department of Transportation also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.
- The resolution of the previously identified quality issue related to the M33 bolt on the LRVs, and the associated final report, was expected in May 2023. MTA determined that the issue does not impact safety and the solution is likely the use of a higher strength bolt. The effort to resolve the issue included an investigation to determine whether a bolt failure would cause debris to fall on the track. As of September 2023, CAF had identified additional occurrences of the M33 bolt issue. ***As of January 2024,*** the truck manufacturer in Germany ***has performed*** additional tests related to the issues***. CAF and PLTP are finalizing a report on the issue and will provide the report to MTA when it is complete.*** CAF does not believe the issue will impact delivery of the vehicles, which is scheduled for spring 2024.

ATTACHMENT E – PROJECT MILESTONES/KEY EVENTS

Photos courtesy of Maryland Transit Administration.







Mast Arm & Signal Placement Work – Piney Branch at Garland Ave.
Week Ending 01-12-24



Sidewalk Concrete Placement – UMD at Campus Drive
Week Ending 01-12-24



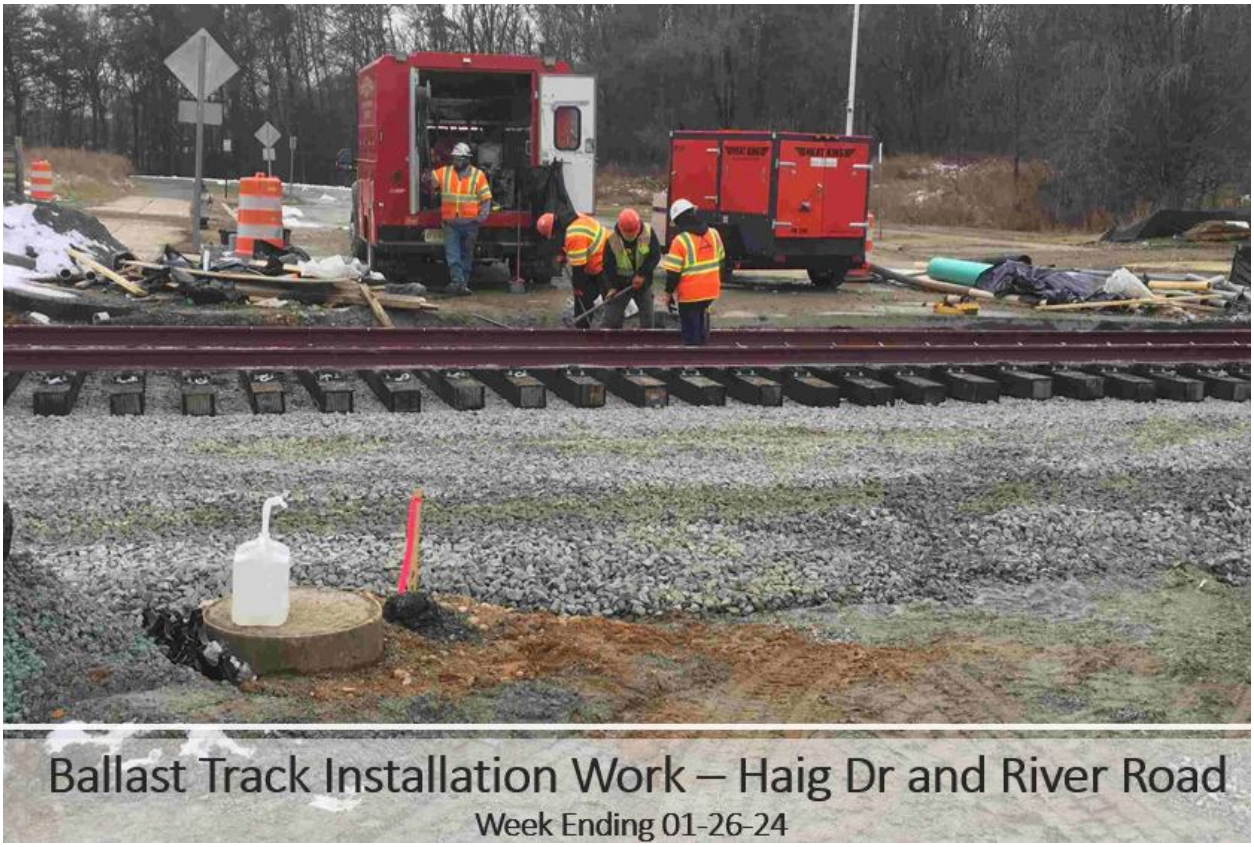
Switchgear Room Conduit Support Work – Bethesda Metro Station
Week Ending 01-19-24



WEC-745 Conduit Concrete Placement – River Road
Week Ending 01-19-24



Kiosk Pad Footer Concrete Placement – New Carrollton Metro Parking Lot
Week Ending 01-26-24



Ballast Track Installation Work – Haig Dr and River Road
Week Ending 01-26-24

ATTACHMENT F – ROADMAP TO REVENUE OPERATIONS

In accordance with Oversight Procedure (OP) 25, the Project Sponsor will prepare the Roadmap to Revenue Operations template based on the current master project schedule, in the general format presented below. The PMOC provided this template to the Project Sponsor as a separate electronic file for its use. MTA provided this quarterly update for the roadmap on November 21, 2023. The Project Sponsor is requested to provide quarterly updates for review and discussion.

ROADMAP TO REVENUE OPERATIONS (MTA provided November 21, 2023)

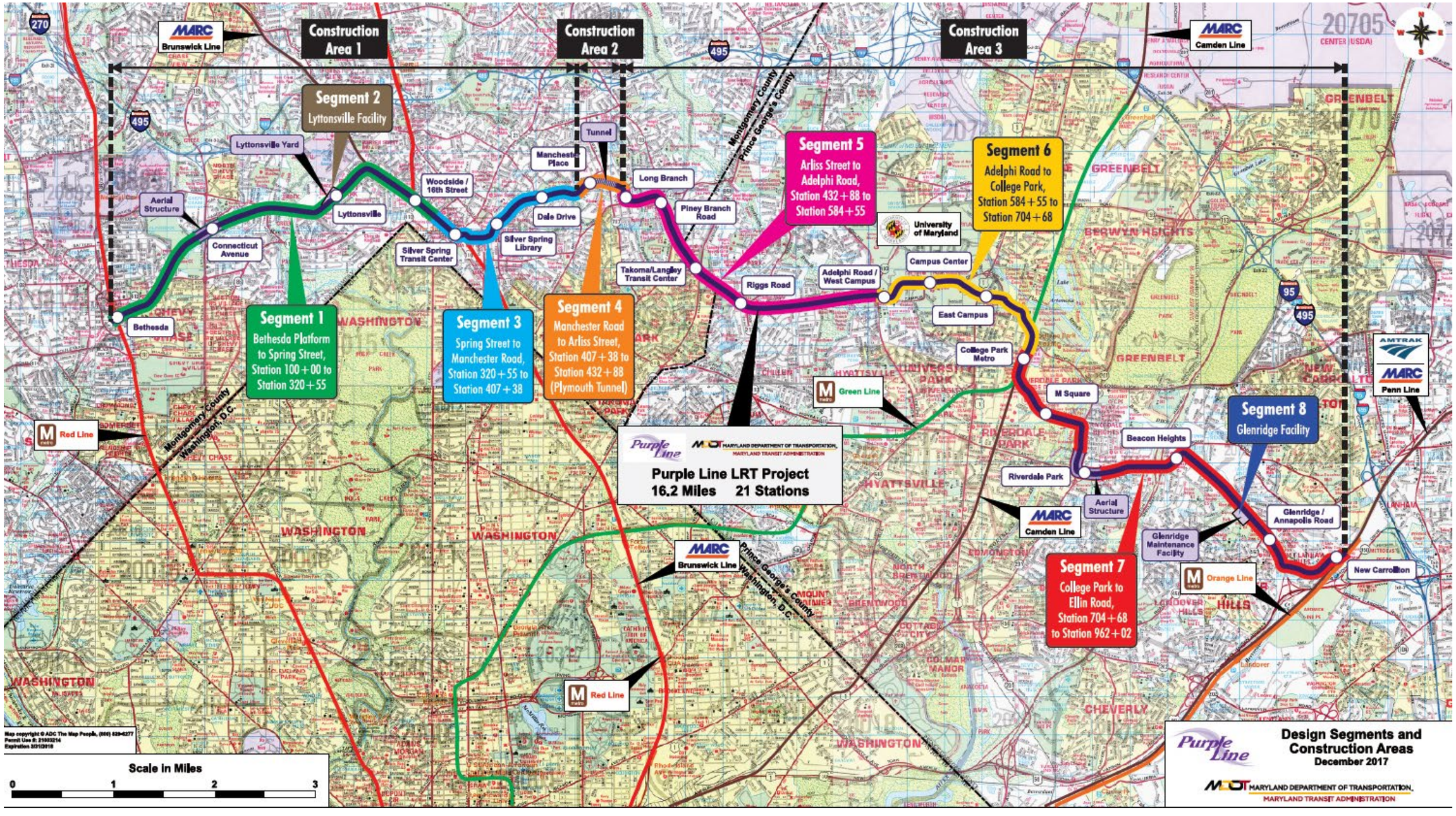
Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Testing								
Finalize Comprehensive Test Plan	PLTP/MTS/ Sener	See Notes	In Progress	3/31/24		**T & C Management Plan** – Comment Resolution **Project Test Program Plan** – Awaiting Responses **LRV Test Plan** – Accepted **TCS Test Plan** – Local – Comment Resolution **TCS Test Plan** – Integration – Awaiting Submittal **TCS/Traffic/CMS Test Plan** – Awaiting Submittal **TPSS Test Plan** – Accepted **OCS Test Plan** – Awaiting Submittal **Communications Test Plan** – Accepted **CMS Test Plan** – Accepted **Fire & Security Test Plan** – Accepted **Fare System Test Plan** – Awaiting Systems Design **Traffic** – QC with AHJs **EMI Test Plan** – Accepted **CCG Test Plan** – Accepted **Noise & Vibration** – MTS Reviewing **OMIS Test Plan** – TBD by PLTO **Ops Simulator Test Plan** – TBD by PLTO **Trackwork** – Under Study by MTS/Sener **OMFs Test Plan** – Pending Commercial Issues **Station Electrical** – Under Study by MTS/Sener **Fire Protection, Mechanical, Plumbing** – Under Study by MTS/Sener		
Finalize / Update Systems Integration Test (SIT) Plan	PLTP/MTS/ Sener	In Preparation	In Progress	2/29/24		Awaiting update of DRC# 3644, CW-164, Systems Integration Test Plan		
Develop Testing Schedule and Monitoring Tools	PLTP/MTS	In Progress	TBD	TBD				
Develop Operating Rules for Testing	PLTP/MTS	In Preparation	In Progress	2/29/24		MTA has only seen a high-level draft of the Test Operating Rules Table of Content		
Conduct System Integrated Testing - Prioritized Traffic Signal Systems	PLTP/MTS	In Progress	TBD	TBD				
Certificates of Occupancy / Substantial Completion	Maryland Office of the State Fire Marshal	Glenridge OMF – In progress.				As state-owned property, no certificates of occupancy are issued. The AHJ ensures building is safe through various system inspections to include fire protection systems, elevators, etc. AHJ will take no exception to occupancy if inspections pass.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Finalize Operating Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Feb. 2026		Projected start of Trial Running: July 2026 (based on May 2027 RSA date): Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running
Finalize / Revise Standard Operating Procedures (SOPs), manuals, and rulebook as applicable	PLTP/PLTO	See Note	TBD	Feb. 2026		Included as part of the Operating Plan. Projected start of Trial Running: July 2026 (based on May 2027 RSA date): : Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running. Revisions to operating/maintenance/emergency rules/procedures may occur during the testing and commissioning period.		Rulebook, SOPs and EOPs to be submitted for review and approval no later than 6 months prior to Trial Running. Preliminary submittal of Operations manuals for review and comment due no later than 18 months prior to Trial Running. Final submittal of Ops manuals for review and approval due no later than 6 months prior to Trial Running
Complete Staffing Plan	PLTP/PLTO	On-going			May, 2023	PLTO has developed a staffing plan. Need to confirm if this reflects the final plan.		
Obtain Required Staff	PLTP/PLTO	See Note	Various	July 2026		Recruitment and staff hiring based on project schedule. PLTO staffing to support vehicle dynamic testing being coordinated with CAF. Onboarding of other PLTO support staff for vehicle maintenance (after acceptance) and test track maintenance tied to vehicle delivery dates and start of vehicle dynamic testing (Spring 2024)		
Training of Operations and Maintenance (O&M) personnel	PLTP/PLTO/ MTS	See Note	Various	July 2026		MTS will need to be fully staffed prior to the start of Trial Running in July 2026.		
Emergency response plan, training, and drills	PLTP/PLTO/ MTS	Various	Feb. 2024	Jan. 2027		Emergency response drills to be conducted during Trial Running. Initial emergency responder training for Glenridge OMF, vehicles and test track area to be conducted at some point prior to the start of vehicle dynamic testing.		
Finalize Revenue Operations Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Feb. 2026		Projected start of Trial Running: July 2026 (based on May 2027 RSA date): Revenue Operations/Service Plan included as part of Operating Plan.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		
Develop / Revise Safety and Security Certification Plan (SSCP) & Safety and Security Management Plan (SSMP)	MTA	On-going	SSMP – 2/02/2011 SSCP – 8/31/2012	TBD		SSMP is currently on revision 14 and the SSCP is on revision 7. The SSMP is updated in conjunction with the PMP as it is considered a sub-plan.		
Federal Transit Administration (FTA) Office of Safety & Security Readiness Review	FTA	See Note	TBD	TBD		No updates at this time		
PMOC OP-54 Readiness for Revenue Operations Review Report	PMOC	See Note	TBD	TBD		No updates at this time		
Conduct Operational Hazard Analysis (OHA) and resolve other hazards / vulnerabilities	PLTP	See Note	TBD	TBD		No updates at this time		
Pre-Revenue Operations	PLTP/PLTO	See Note	July 2026	April 2027		Pre-revenue Operations broken down into: Trial Running and System Demonstration Testing. Projected start of Trial Running: July 2026		
Develop Safety Outreach Plan	MTA/PLTP	Not Started	TBD	Feb. 2025		Projected start of Trial Running: July 2026 (based on May 2027 RSA date): Outreach Plan to be developed 18 months before Trial Running. Additional information to be included in next quarterly update		
Provide Community Outreach	MTA/PLTP	Not Started	TBD	TBD		Additional information to be included in next quarterly update		
Public Timetables / Maps / Website Updates, etc.	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		Additional information to be included in next quarterly update		
Grand Opening Plan	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		Additional information to be included in next quarterly update		
Update / Finalize SSMP	MTA					See previous SSMP entry		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Finalize and/or update Safety Certifiable Item List (SCIL) and SSCP	MTA/PLTP	On-going	TBD	TBD		No updates at this time		
Implement Safety and Security Certification Committee	MTA	On-going	April 2018	TBD		The SSCC has been ongoing since 2018.		
Implement Fire Life Safety Committee	MTA	On-going	7/27/2012 – Montgomery County 9/26/2012 – Prince George's County	TBD	TBD	MTA has implemented two FLSSCs, one for each Maryland County that Purple Line traverses. Both committees were started in 2012.		
Verify design criteria, Preliminary Hazards Analysis (PHA), Threat and Vulnerability Analysis (TVA), change orders are implemented within the project	MTA/PLTP	On-going	PHAs - 6/26/2012 TVA – 12/10/2013 Change Orders	TBD	TBD	PLTP has verified over 98% of the design criteria. Initial PHAs on the 30 % Preliminary Design started in 2012 by MTA. PLTP continued PHAs in 2016. Initial TVA completed in 2015 by MTA. PLTP continued in 2017.		
Review status of quality non-conformances		See Note				No updates and this time		
Closeout of non-safety critical items/non-conformances		See Note				No updates at this time		
Closeout of safety critical items/nonconformances	MTA/PLTP	Not started	TBD	TBD		No updates at this time		
Complete Safety and Security Certification Verification Report (SSCVR)	PLTP	Not started	TBD	May 2027		This report will be due sometime in the May 2027 timeframe.		
Document Workarounds / Open Items List	PLTP	Not started	TBD	TBD				
Verify emergency drills, tabletops, training, etc. are completed	MTA/PLTP/ PLTO		TBD	TBD		Emergency drills to be conducted during the Trial Running period. Training verification will be completed prior to Trial Running		
SSO final certification / signature	SSO	See Note				No updates at this time		
Revenue Service								
Target Revenue Service Date (RSD)	PLTP		TBD	May 2027		Project schedule dependent		
Public RSD	MTA/PLTP		TBD	May 2027		Project schedule dependent		
Full Funding Grant Agreement (FFGA) RSD						No updates at this time		

ATTACHMENT G – PROJECT MAP



COMPREHENSIVE MONITORING REPORT
November 2023–January 2024

Metro Fleet and Train Control Replacement Project
MTA Non-New Starts Capital Projects

Maryland Transit Administration
Baltimore, Maryland
Final

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REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract #69319519D000016, Task Order #69319520F300095. Its purpose is to provide information and data to assist FTA as it continually monitors the management capacity and capability of the Maryland Transit Administration (MTA) (the Project Sponsor) to execute the project efficiently and effectively, and hence, whether the Project Sponsor continues to be ready to receive federal funds for further project development. This report covers the project management activities on the Metro Fleet and Train Control Replacement Project and the MTA Non-New Starts Capital Projects managed by MTA as the Project Sponsor. The cost and schedule information in this report was extracted from MTA's January 17, 2024, monthly report, except where noted. This report has been organized to comply with the requirements of updated Oversight Procedure 25 – Recurring Oversight and Related Reports dated June 2020.

THIRD-PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for FTA. This report should not be relied upon by any party, except FTA or the Project Sponsor, in accordance with the purposes as described below.

Projects funded by FTA and monitored by its Project Management Oversight Contractor (PMOC) can utilize a risk-based assessment process to review and validate a Project Sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a Project Sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a Project Sponsor may develop for project execution. Therefore, the information in the reports will change from quarter to quarter, based on relevant factors for the period and/or previous periods.

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1. EXECUTIVE SUMMARY

1.1. Project Description

The Metro Fleet and Train Control Replacement Project, as part of the Maryland Transit Administration (MTA) (Project Sponsor) Non-New Starts Capital Projects, renovates the MTA Metro System that consists of a double-tracked train-controlled signaling system that is 15 miles long and a Metro railcar fleet consisting of 100 cars that are now more than 30 years old. The MTA Metro System is located in Baltimore, Maryland. The Metro railcars were designed with a 30-year life and are now due for replacement. The Automatic Train Protection system is currently experiencing reliability problems due to its age and parts obsolescence. The Metro Fleet and Train Control Replacement Project, which is using phased construction, consists of installation of a new Communications Based Train Control (CBTC) system, 78 new railcars (based on a needs assessment), phaseout of the old fleet, and decommissioning of the old train control system. The project cost is budgeted at $476,851,000, which is unchanged from the value reported in the 2023 Quarter 3 Project Management Oversight Contractor (PMOC) comprehensive monitoring report.

1.2. Project Status

The contract was awarded to Hitachi Ansaldo Baltimore Rail Partners, LLC (HAB) (now Hitachi Baltimore Rail Partners LLC [HBR]) in July 2017. Notice to Proceed was issued on September 1, 2017. HBR is making contract submittals and conducting project training. Submissions of Train Control and Railcar Conceptual Design Reviews and Preliminary Design Reviews (PDRs) and review meetings have been completed. The PDR phase for the Train Control system was completed in February 2019, and the Railcar PDR phase was completed in March 2019 (with the exception of Lighting, which was completed in early May 2019).

Work by HBR to complete the Reliability, Availability, Maintainability, and System Safety (RAMS) documentation for the vehicles continues, and the impacts of COVID-19 have delayed completion of the Final Design Review phase from the original September 2020 due date. **As of January 25, 2024, HBR is progressing slowly with RAMS Railcar documentation towards completion, as well as with processing of minor MTA comments on HBR engineering documents. MTA expressed concern to HBR that the pre-documentation for yard and test track certification still does not address comments and does not meet the safety milestones agreed to by the revised HBR process. MTA required HBR to develop a plan to address this issue including a means to recover the lost time. MTA also indicated to HBR that MTA Safety has halted rail testing until this issue related to safety certification documentation is corrected. MTA stated that HBR will need to complete all safety certifications by the end of March 2024 in order to meet the milestone for system cutover for revenue service to the Main Operations Control Center (OCC).**

- Scope: No significant changes to the scope have been initiated since MTA added axle counters in the existing Metro vehicle yard as part of the Train Control system portion of the project. There is also a credit due to scope removal of $3.7 million, which is also planned to be used for Construction Management (CM) services.

In May 2023, MTA issued HBR a cure notification regarding HBR's performance or lack thereof. HBR executives are committed to addressing the cure notification and improving HBR's performance overall. In the July 20, 2023 meeting of MTA and Hitachi executives, the discussion topics were current mitigations Hitachi has been providing, Hitachi's desire to vet the systems testing predominately in the lab versus in the field, and increased validation in-house with Hitachi's RAMS group. Hitachi told MTA that when HBR is settled in at the Hagerstown, Maryland facility and initial production is running smoothly, it will increase the vehicle production rate at a steady pace to minimize the impact from the loss of the 33 carshells (see Section 2.2, Oversight Triggers, for information on the scrapping of 33 carshells). At the meeting on September 26, 2023, MTA expressed concern over HBR's slow progress on safety certifications and the fact that it is not addressing the schedule slippage. MTA had a conversation with Hitachi executives regarding Hitachi's purchase of Thalis to discuss a plan to address compatibility, especially compatibility of the zone controllers for the CBTC hardware/software, as a result of the Thalis purchase and use of Thalis products and how it will affect Hitachi's support of the Train Control system portion of the project. Hitachi suggested holding a follow-up meeting specific to this topic.

- Summary of COVID-19-related Items:
    - Most COVID-19 staffing-related delays to the Train Control system ended by September 2021.
    - The final first-round training session for the Solid-state Interlocking (SSI)/Data Communication System (DCS)/Local Automatic Train Supervision (LATS) was postponed and rescheduled to be completed just before startup of the first interlocking.
    - HBR's Italian carshell manufacturer (OMEP) reopened to approximately 95 percent to 100 percent of its normal capacity in June 2020; carshell production work continues.
    - Railcar First Article Inspections (FAIs) did not occur on schedule because of travel restrictions and closed facilities. Railcar FAIs began in late June 2020 and are continuing. Accommodations were made for remote FAIs where needed.
    - Maryland on-site construction and Train Control testing and commissioning were initially shut down in April 2020 and restarted in May 2020; however, these activities experienced another two-week shutdown in December 2020.
    - Factory Acceptance Tests (FATs) for SSI were postponed due to travel restrictions but are now complete.
    - SSI manufacturing was shut down but has resumed.
    - The structural qualification testing required for carshell acceptance that was to be performed on Carshell X, which has a reworked roof, was moved from Italy to Germany as a result of new COVID-19 restrictions that were imposed in October

2020. The beginning of structural qualification testing was delayed from April 2021 to September 2021 due to backlogs and employee COVID-19 exposures at the testing vendor.

- MTA has not reported new issues or impacts from COVID-19 since June 2021, with the exception of the global supply chain disruptions that delayed the delivery of vehicle subsystems and materials. MTA indicated that it is able to segregate COVID-19-related impacts (i.e., labor, material supply, superchips) from other project costs. Regarding HBR's claim for the second no-cost time extension of 20 months due to COVID-19, MTA reported that negotiations have stalled once more; however, MTA imposed a deadline of October 31, 2023 and tied it to a new baseline schedule. This second request by HBR for a no-cost time extension is for issues above and beyond the previously granted extension. **HBR provided a new schedule on November 1, 2023. The schedule, although it attempted to mitigate schedule loss, still had gaps and problems. MTA provided HBR with comments and expects a revised project schedule from HBR.** ***The PMOC recommends that MTA maintain records related to these schedule disruptions in case additional claims on this subject arise in the future.***

- Schedule:
  - MTA approved HBR's February 28, 2018, project baseline schedule (Rev. 3), which showed a project completion date of May 2024, with warranty completion and project closeout scheduled to occur in May 2026. HBR submitted its Project Schedule Update V11, with a data date of March 1, 2019, to address some of MTA's prior comments. In its April 2019 and May 2019 schedule submissions, HBR presented schedule recovery plans to MTA that attempted to recover the Full Revenue Service date (although these recovery plans did not recover the interim milestones, including the Phased Revenue Service Start date).
  - In May 2020, MTA decided to proceed with the addition of axle counters in the yard. Because of uncertainty related to testing requirements for these axle counters, HBR's Project Schedule Update V25 showed a delay of the Full Revenue Service date to February 6, 2024. MTA rejected HBR's Project Schedule Update V25.
  - After multiple submittals, rejections, and comments, MTA accepted Project Schedule Update V28 from HBR in September 2020 as the new baseline schedule. Project Schedule Update V28 showed the completion of the "Train Control" construction milestone on May 4, 2025; the "Last Vehicle Final Acceptance" milestone on March 1, 2024; and the "Revenue Service Full Project" milestone on February 28, 2024.
  - Starting in April 2021 and continuing through January 2022, MTA reported that the project was delayed compared to the previously accepted September 2020 baseline schedule. As of January 12, 2022, HBR projected that the "Last Vehicle

Final Acceptance" milestone was delayed by 257 days from the baseline schedule to November 13, 2024, and that the "Revenue Service Full Project" milestone was delayed by 258 days from the baseline schedule to November 12, 2024.

- In January 2022, HBR proposed a new baseline schedule to MTA, referred to as Schedule Update 41. Since January 2022, MTA and HBR have been negotiating the details of the proposed baseline schedule (Schedule Update 41).
- **In December 2023, HBR proposed a new baseline schedule to MTA, referred to as Schedule Update 42. HBR requested that MTA accept Schedule Update 42 as the new baseline schedule. MTA has stated that it will not re-baseline the project schedule, because doing so would invalidate the Liquidated Damages (LDs) against HBR. MTA again told HBR to go back and address the comments to Schedule Update 42 Revision 19 (42R19). MTA has indicated that once HBR addresses all comments, then MTA will concur that Schedule Update 43 will be the official working project schedule moving forward. MTA indicated that Schedule Update 42R19 provides for the COVID-19-related no-cost time extension and the completion of RAMS documentation. MTA remains in negotiations with HBR as it works through the commercial aspects of a change order to officially replace the contract's baseline schedule. MTA reported that the "First Vehicle Delivery" (aka the "First Married Pair") milestone occurred on September 13, 2023, which is 24.5 months later than the date shown in the current baseline schedule. Schedule Update 42R19 also shows that the "First Vehicle Final Acceptance" milestone will be delayed until July 2025, and the "Last Vehicle Final Acceptance" milestone will be delayed until August 2026. Both of these dates are 30 months or more later than those shown in the current baseline schedule. Schedule Update 42R19 shows that the "Project Closeout" milestone will be delayed until April 2029, which is 23.5 months later than shown in the current baseline schedule.**

- Cost: **On January 17, 2024, MTA reported that $235,045,000 of the $476,851,000 project budget had been expended through December 31, 2023. Forty-eight change requests were in various stages of development, negotiation, and authorization; many were credits or no-cost changes, and the scope of two were funded by other sources.** The total cost of the change requests is within the $20,000,000 contract contingency included in the project's budget. The $476,851,000 project cost contains a miscellaneous work allowance (MWA) budget that is referred to as contingency. Currently, just over $8 million is left in the MWA, and the rest was used for change notices and upcoming estimated change notices. MTA plans to use the remaining $8 million (or whatever portion is left after change notices) for CM services. MTA feels that unless something unforeseen occurs, most, if not all, risks have been identified and estimated. The project also has a credit of $3,700,000 due to scope removal that is also planned to be used for CM services.

- Based on the current estimate at completion (EAC), MTA is approximately $1.0 million short for CM services through the end of the contract. MTA believes that this amount is a conservative estimate, because the EAC assumes a cost of $900,000 per month in CM services, which has been the average for the last two years, during which time MTA had its peak requirement for design reviews, test engineers, and inspectors. The Metro Fleet and Train Control Replacement Project is a force-funded project for MTA; therefore, after this next fiscal year, based on the EAC, MTA will request more funds. MTA stated that the HBR budget will not increase. There are no changes that will require the budget to increase above $400,517,000. This amount of $400,517,000 includes the $20,000,000 MWA, the remainder of which will be used for CM services, as described above. Given that HBR will need 24 to 26 months until it can increase production to mitigate scrapping 33 rail carshells because of corrosion, and barring any other undetermined delays to railcar production, ***the PMOC forecasts that additional funds may be required until there is an approved, realistic baseline schedule that incorporates mitigations to address carshell issues, safety certification, CM costs, and schedule delays.***

- Significant Project Activities and/or Key Milestones:
  - Monthly meetings between Hitachi executives and MTA leadership began in January 2021 to address issues related to vehicle quality and the project schedule. **At the meeting on January 17, 2024, MTA mentioned that the meeting with Hitachi executives focused on staffing and the project schedule. MTA said that the new Hitachi Project Director has completed his move from Boston, Massachusetts, and now is situated in Baltimore, Maryland. MTA representatives indicated that they were pleased that the Project Director was now local, and MTA now feels more confident that HBR will focus on addressing the project concerns and issues. MTA indicated that HBR was hiring local support in Italy for key positions in engineering and safety and had explained that these local hires are needed to assist the project in completing the required safety certifications and in closing out the construction checklists required for the work being performed in Italy. During the meeting, HBR informed MTA that the Railcar Manager, Matteo Ruggeri, accepted a position in HBR's Procurement Office. MTA indicated that HBR will replace Mr. Ruggeri with Giulio Caione and HBR will provide MTA with Mr. Caicone's resume. Mr. Caione will transfer from the Ontario Light Rail Transit (LRT) project and is expected to be settled in Baltimore by March 2024. Bala Rama Iyer of MTA requested to meet with Mr. Caione, because Mr. Iyer had worked on the Ontario LRT project before joining MTA and would like to discuss lessons learned and what to avoid on this MTA project that was done on the Ontario LRT project.**

The PMOC continues to recommend that MTA continue to hold the partnering meetings with Hitachi executives to focus on resolution of key project issues, as well as continue to provide the Federal Transit Administration (FTA) and PMOC with summaries of these meetings.

- **The work on the Automatic Train Supervision (ATS) is essentially complete, and HBR is now working only on addressing defects and the comprehensive list, as well as focusing on the priorities for Phase 4 and anything that remains for Phase 3A. HBR has finalized Customer Information System (CIS) and Google Transit Interfaces, and the CIS FAT occurred around January 17, 2024. Testing of Google Transit Interfaces is scheduled for February 2024. MTA indicated that HBR's ATS work will be complete by summer of 2024. The Backup Operations Control Center (BOCC) for Phase 3A will be completed in June 2024, and then the Main OCC will be completed in July 2024.**
- **The development of the CBTC software continues with work on incorporating light detection and ranging (LiDAR) data and finalizing updates for open defects. MTA expects HBR to perform interim testing in February 2024, so that the final FAT remains on target for March 2024. Software field testing then is scheduled for a mainline release in April 2024.**
- **Regarding Railcar and System Safety certification, HBR missed Railcar Safety Schedule Milestone 1, which was scheduled for January 25, 2024. This milestone involved completing the remaining Construction Conformance Checklist (CCC) items that are connected to non-safety criteria. This was part of the HBR process that MTA had approved as an interim step to help HBR move forward with obtaining full approvals and allowing the railcars to be tested at operating speeds between 25 miles per hour (mph) and 35 mph. MTA indicated that the Design Conformance Checklist (DCC) has been completed for both ATS and CBTC. HBR is expected to have the Train Control CCC by May 2024. MTA indicated that it will not receive the CBTC CCC reports for May/June 2024 until late summer 2024.**
- **With respect to system testing updates, HBR continues Phase 4 testing at Rogers Avenue and Reisterstown Plaza, and the yard interface is expected to be complete by the end of February 2024, while Phase 4 interlocking testing on the mainline is expected to continue through February 2024. MTA indicated that the testing of Vehicle Information Systems, which occurred on the evenings of January 17 and January 18, 2024, were successful, allowing MTA to move forward with a few more nights of testing for Google ATS. The expectation is that this testing schedule will allow HBR to have the BOCC in revenue service by the end of June 2024, so that HBR can perform testing in July 2024 for the Main OCC and put Phase 3B in revenue service.**

- **MTA visited the Hagerstown facility on October 30, 2023. MTA mentioned that HBR's International Organization for Standardization (ISO) audit was conducted the week of January 8, 2024, and HBR is on target for making the transfer of certification from Miami, Florida, to Hagerstown by April 1, 2024. HBR was planning to share its Transfer of Technology Plan with MTA the week of January 15, 2024. MTA indicated that HBR's Transfer of Technology Plan is not a formal plan. During this meeting scheduled for the week of January 15, 2024, MTA and HBR will review the MTA criteria for the project (with respect to training, processes, etc.) in detail and will determine the type of evidentiary document HBR must provide to demonstrate that it meets that criteria. MTA's Quality Manager will be present to assist in determining the appropriate documentation.**

1.3. Major Issues and/or Concerns

Table 1 discusses the major issues or concerns impacting the project's scope, schedule, cost, risks, quality, safety, etc., as well as the Project Sponsor actions and FTA and PMOC recommendations.

Table 1 – Major Issues/Concerns and Action Items

Issue/Concern	HBR's schedule updates continue to show slippage of the project baseline schedule interim milestones and the project completion dates. Project Schedule Update V28 was accepted as the new baseline schedule and reflects initial COVID-19-related impacts, but the pandemic caused additional impacts not covered by the new baseline schedule. This September 2020 baseline schedule does not include contingency time or "float." HBR has now proposed a new baseline schedule (Schedule Update **42R19**) that delays most vehicle delivery and acceptance milestones by approximately **more than 25 months** from the current baseline schedule.
Date Identified	June 2020
Status	In progress
Project Sponsor Action	MTA is conducting monthly executive meetings throughout the calendar year 2024. **In the most recent partnering meeting, which occurred on January 5, 2024, and focused on project staff and the new schedule, MTA expressed concern over HBR's slowdown of safety certifications and its lack of addressing the schedule slippage. MTA wants to ensure that HBR is incorporating all the necessary functionality for the Train Control system programming. Hitachi executives made commitments to hire more local staff in Italy to assist with completing safety certifications before shipping the new carshells.**
PMOC Recommendation	MTA should continue to perform its own schedule analysis to forecast realistic key milestones **and aid HBR in managing to meet shorter milestone deliveries**. This schedule analysis should include a reasonable amount of schedule contingency based on MTA's experience with HBR's performance to date and MTA's professional experience. It should be used as the basis to report schedule status to FTA and the PMOC. MTA should track delays closely and continue to provide monthly updates to assess how delays are being mitigated. **MTA should maintain the partnering meetings and focus on resolution of key project issues with Hitachi executives, as well as continue to provide FTA and the PMOC with summaries of meetings with Hitachi executives.**
Issue/Concern	Since the incident when MTA rejected Roof #1 due to significant quality issues, HBR continues to experience significant quality issues. Corrosion of carshells due to desiccant, corrosive dust, the need to rework axle counters, a cracked structural bolster beam, and roof dimpling are a few of the more recent quality concerns and issues affecting the project.
Date Identified	July 2020

Status	Ongoing
Project Sponsor Action	In the May 2023 executive meeting with Hitachi, MTA issued a cure notification. HBR executives are committed to rectifying the quality issues and improving quality and performance. **HBR has improved its quality program and its production process in the OMEP plant in Italy, and will resume shipping of carshells to Baltimore in April 2024. HBR developed a fix for the bolster beams, but the related warranty testing has not been developed.**
PMOC Recommendation	**Upon HBR's resuming carshell delivery to the United States, MTA should have a periodic inspection program in place to validate that HBR has addressed the quality and corrosion issues. MTA also should consider informing the Hitachi executives of MTA's concern regarding the HBR team's lack of partnering to develop the seven-year warranty testing plan for the bolster beams.**
Issue/Concern	Outstanding change notifications are yet to be finalized, such as the second COVID-19 no-cost time extension.
Date Identified	May 2022
Status	Ongoing
Project Sponsor Action	MTA reports that there are no further COVID-19-related impacts aside from those that are the basis for HBR's latest request for a no-cost time extension. **MTA stated that it has issued a deadline to resolve the remaining COVID-19-related change notice, and MTA continues to work closely with HBR to resolve the remaining three change notices that are not related to COVID-19.**
PMOC Recommendation	**In the opinion of the PMOC, MTA has taken a positive management step in issuing HBR a deadline to complete the COVID-19-related no-cost time extension, as well as taking additional steps to attempt to close out the three remaining non-COVID-19-related change notices. MTA should ensure that the impact of the resulting cost or schedule delays to the project are incorporated into an approved baseline schedule and project budget.**

1.4. Status of Key Indicators Dashboard (Post-Grant)

Table 2 shows the key indicators dashboard for the project.

Table 2 – Key Indicators Dashboard

Project Sponsor:				Maryland Transit Administration	
Project Name:				Metro Fleet and Train Control Replacement Project/MTA Non-New Starts Capital Projects	
Date:				**February 8, 2024**	
Project Detail					
Oversight Frequency:				**Monthly**	
Element	**Status**			**Prior Status**	**Issue or Concern**
	●	●	●		
	G	**Y**	**R**		
Project Management Plan (PMP)		●		●	The PMP is due for another update now that MTA is getting ready to receive railcars and entering the significant test phase.
Management Capacity and Capability		●		●	Management capacity and capability reviews are not being performed on this Non-New Starts Project.
Cost*		●		●	The recently added funds are not currently reflected; however, MTA maintains a $1 million deficit in the project budget. MTA's MWA may not be sufficient to cover change orders under negotiation or other project risks that still could occur.
Schedule			●	●	The currently proposed baseline schedule extends the project by up to 27 more months without float.
Quality			●	●	**No new quality issues have been presented since the previous Quarterly Progress Review Meeting; a fix has been developed for the bolster beam, but the required testing is still being resolved. MTA is working to try to prevent a future quality issue regarding the CBTC system as it relates to HBR's purchase of Thalis and HBR's use of Thalis equipment and software for CBTC.**
Safety	●			●	No issues.
Risk			●	●	Schedule, cost, and quality risks remain high.
Legend					
Green	*Satisfactory: No corrective action necessary.*				
Yellow	*Caution: Risk/issues exist. Corrective action may be necessary.*				
Red	*Elevated for immediate corrective action: Significant risk to the health of the project.*				

*Note: With regard to cost:
Yellow – Forecast cost exceeds the project budget by up to 3%.
Red – Forecast cost exceeds the project budget by more than 5%.

1.5. Core Accountability Items

Table 3 shows the core accountability items for the project, including the current status of the project and the PMOC's assessment.

Table 3 – Core Accountability Items

		Original (Grant)	Current Forecast	PMOC Assessment of Current Forecast
Cost	Capital Cost Estimate	$465,851,000	$476,851,000	This estimate does not include $10 million of additional budget from state funds for CM and administration or the $3.7 million credit from removed project scope.
Contingency	Unallocated Contingency		$0	MTA only has an MWA, which can be considered as contingency that is assigned to CM and administration. MTA has just over $8 million left in the MWA, with the rest having been used for change notices and to be used for upcoming estimated change notices. That $8 million (or whatever portion is left after change notices are resolved) is to be used for CM services. Most, if not all, change notices have been identified and estimated, although unforeseen change notices may arise. A credit of $3.7 million due to scope removal is also planned to be used for CM services.
	Allocated Contingency		$20,000,000	This contingency level does not appear adequate at this point in the project; schedule delays are likely to exhaust this amount before project completion.
	Total Contingency	$20,000,000	$20,000,000	MTA is approximately $1 million short for CM services through the end of the contract. This $1 million amount is a conservative estimate, because the EAC assumes a cost of $900,000 per month in CM services, which has been the average for the last two years during which MTA had peak requirements for design reviews, test engineers, and inspectors**.** The project is a force-funded project for MTA; therefore, after this next fiscal year, based on the EAC, more funds will be requested to cover additional needs/shortfalls.
Schedule	Revenue Service Date	11/29/2022	08/21/2026	This forecasted date is **30.5** months later than shown in the baseline schedule agreed to by the contractor in January 2021. **HBR is still working on finalizing a new baseline schedule that incorporates the delays and mitigation actions.**

Project Progress		Amount	Percent of Total
Total Expenditures	Actual cost of all eligible expenditures completed to date	**$235,045,000**	**50.4%**
Planned Value to Date	Estimated value of work planned to date	Not Available	Not Applicable (N/A)
Actual Value to Date	Actual value of work completed to date	Not Available	N/A
Contract Status		**Amount**	**Percent of Total**
Total Contracts Awarded	Value of all contracts (design, support, construction, equipment) awarded; % of total value to be awarded	$466,767,000*	97.9%
Construction Contracts Awarded	Value of construction contracts awarded; % of total construction value to be awarded	$449,924,000*	96.4%
Physical Construction Completed	Value of physical construction (infrastructure) completed; % of total construction value completed	**$235,045,000****	**50.4%**
Rolling Stock Vehicle Status	**Date Awarded**	**No. Ordered**	**No. Delivered**
300 through 377	**09/01/2017**	78	0
Next Quarterly Progress Review Meeting:	**February 8, 2024**		

*** Includes change orders issued through January 11, 2024.**

**** Does not include invoices that are on hold due to the cure letter.**

2. OBSERVATIONS AND FINDINGS

2.1. Summary of Monitoring Activities

The PMOC attended an in-person Quarterly Progress Review Meeting on November 8, 2023, and monthly virtual meetings on December 20, 2023, and January 17, 2024, with MTA project staff and MTA's Project Management Consultant. The PMOC prepared a trip report for each meeting to document the discussions. As part of enhanced oversight, the PMOC has been invited to a biweekly status meeting between MTA and Hitachi management (Hitachi); the PMOC attended its first of these meetings on January 19, 2024, and the next is scheduled for February 2, 2024.

The PMOC observed the following during the January 19, 2024 meeting:

- **MTA reminded Hitachi that the remaining Safety Certifications need to be complete by the March 2024 milestone date. Hitachi acknowledged that it has a large queue of safety work but committed to having the Safety Certifications ready for March.**
- **MTA then reminded Hitachi of open items on routine/non-routine certifications on Married Pair 2 (MP 2) that have not been addressed since September 2023 and need to be closed. Hitachi wanted to review the minutes from that meeting and regroup its team to address those items before the second half of MP 2 arrives.**
- **MTA reminded Hitachi that Hitachi does not have enough local RAMS staff to address the outstanding issues related to finalizing Safety Certifications and CCCs. Hitachi said it has approval to hire local people to help address remaining issues and finalize the Safety Certifications and CCCs.**
- **MTA asked about Vehicle Integration Testing. Hitachi agreed to step up its efforts for Vehicle Integration Testing and to hire a Requirements Traceability Matrix (RTM) Engineer. Hitachi indicated that it may hire an outside consultant and asked whether anyone knew of a possible consultant and to forward that individual's information to Hitachi.**
- **MTA also reminded Hitachi that there should be a traceability matrix approved before the start of both the Railcar testing and System testing. MTA indicated that Automatic Train Control (ATC), ATS, and CBTC are close to being needed and that there is still time for the Railcar testing. Hitachi committed to meeting Milestone 9 in March 2024 and may complete it before March. (The PMOC observed that there may be a communication disconnect between Hitachi management and Hitachi local staff.)**
- **MTA raised a concern regarding work package schedules. MTA told Hitachi that the local team continues to not provide work package schedules. MTA has insisted that the dates on the schedule are not the concern, but that MTA wants the work package schedules in order to ensure that HBR is covering all the necessary activities, especially for CBTC and ATC, because the schedule cannot afford to have**

any more gaps due to not including the proper activities. MTA presented ATS as an example where HBR had numerous activity gaps that delayed ATS. Hitachi indicated that it would address this issue with the local HBR team in Baltimore and also would speak with the local team about providing the work package schedules.

- **MTA informed Hitachi that MTA is having internal discussions regarding HBR's request for six weekend outages and that Hitachi should not be surprised if the number of outages are reduced to four once MTA determines what work can realistically occur. Hitachi indicated it prefers six weekend outages to meet Construction Milestone 18 but is willing to adjust accordingly if only four outages can occur.**
- **Hitachi mentioned that it realizes that RTM and Interfaces have caused most of the problems because Hitachi did not expect the enormity of data involved with RTM and Interfaces and therefore was not able to manage it. However, HBR is working to mitigate this issue.**

2.2. Oversight Triggers

The oversight triggers most applicable to the project are the Oversight Procedure (OP) 25 schedule, cost, and quality triggers. The project schedule was in one form of update or another throughout the quarter. MTA and HBR agreed upon a no-cost change order in January 2021 that extended the Project Closeout date by 12 months to May 2027. Since the September 2020 revised baseline schedule was agreed upon with the contractor in December 2020, nearly every key milestone has been delayed by more than 12 months. MTA and HBR are trying to wrap up a negotiation for another no-cost time extension (the last one associated with COVID-19). The current unapproved Schedule Update 42R19 projects that the "Revenue Service Full Project" milestone will be delayed to August 2026, which represents an additional **30.5 months from the approved schedule baseline.** Project schedule delays typically impact project cost, another significant indicator of project health.

Quality issues in carshell manufacturing, first noted in July 2020, reportedly have been addressed. A second issue resulted in a roof buckling after it was assembled on Carshell #002 in November 2020. MTA reported additional minor quality issues with the carshells in March, April, June, and July 2021, which HBR has addressed. HBR completed root cause analysis of the nonconforming paint inclusions on frame subassemblies on three carshells and of paint on the F-end mask assemblies. HBR determined that the causes were related to shipping and handling, and painting errors. HBR has not confirmed the corrective actions but was inspecting for paint errors, so that they can be repaired before the mask assemblies arrive at the Miami, Florida facility. In November 2022, MTA reported that calcium chloride from desiccant packs had caused corrosion on the floor beams of the carshells, including small holes less than 1/4 inch in diameter in some floor beams where desiccant packs had been placed before shipment from Italy. MTA then reported in December 2022 that, upon closer inspection of the first 16 cars, HBR found the same corrosion on the floor beams on cars that were in production and FAI. As of January 18, 2023, HBR was assessing whether each car could be repaired or would need to be scrapped. At the May 2023 FTA

Quarterly Progress Review Meeting, MTA reported that HBR was scrapping all 33 carshells that had the corrosion. HBR found the related problem with the manufacturing process in its facility in Italy and has since corrected the manufacturing process and developed a means to clean rail carshells that have minor corrosion dust on them. MTA then reported in June 2023 that HBR has successfully cleaned the seven rail carshells in Miami. HBR continues to reuse components from corroded carshells. MTA indicated that HBR would need 24 to 26 months before it can increase production at Hagerstown to mitigate the scrapping of the 33 rail carshells because of corrosion.

In July 2023, the PMOC recommended that the vehicle corrosion issue be tabled until HBR commences the delivery of the new carshells from Italy during the first quarter of 2024, at which point MTA can restart the quality monitoring efforts to determine whether HBR has addressed the manufacturing and shipping corrosion issue.

2.3. Project Management Plan and Subplans

Project Management Plan (PMP) Rev. 5, dated 2022, is the latest formal version issued for this project. Due to significant schedule and budget revisions, quality issues, and project status regarding delivery and testing, MTA should consider updating the PMP. Incorporating lessons learned into MTA's daily management practices could benefit project performance moving forward.

2.4. Management Capacity and Capability

The PMOC is not performing comprehensive Management Capacity and Capability Reviews for these Non-New Starts Capital Projects.

2.5. National Environmental Policy Act Process and Environmental Mitigation

The National Environmental Policy Act process and environmental mitigation are not applicable to this task order assignment.

2.6. Project Delivery Method and Procurement

Project delivery method and procurement reviews are not being performed on this task order assignment.

2.7. Design

As of January 17, 2024, MTA expects that HBR will finalize design changes by February 29, 2024.

2.7.1. Train Control, System, Certification and Testing

On November 8, 2023, MTA was working with HBR to complete the DCCs and the CCCs. HBR had achieved considerable progress on completing these checklists in June and July 2023, before the August 2023 break. As of November 2023, HBR was back on track, and the final DCCs reached resolution and should be closed out by December 2023. MTA was working with HBR to prioritize CCC documents that carry the greatest number of criteria. As of November 2023, HBR had completed two of three largest CCCs, which had approximately 100 criteria each, and the third

one is back in resubmission. However, once resubmitted, this CCC will eliminate 150 criteria, leaving only smaller CCC documents with 25 to 30 criteria to complete. MTA had been meeting with HBR multiple times per week to set priorities for the next set of documents. MTA indicated that HBR appeared to have insufficient workforce to complete the documents in a timely manner. MTA was to address this issue during the next Hitachi executive meeting on November 11, 2023. MTA had emphasized that completion of DCCs and CCCs is needed for MP 1 to move from static testing and begin testing on the test track, which would occur in early December 2023.

Also, MTA stated that it did not attend the FAT of the CBTC software in November 2023 because not all of the development needed for Baltimore was in place, and MTA had a concern that its attendance would imply approval of an incomplete package. HBR agreed that the November 2023 FAT was intended as a preliminary FAT to witness progress to date and provide guiding corrective comments, and that the final FAT will occur in March 2024 when LiDAR data will be available and open items will have been addressed before the mainline software release. The next official release will occur after mainline testing and will incorporate MTA comments from the March 2024 release. MTA held six workshops with HBR from mid-October 2023 up to November 8, 2023, to address testing procedures and gaps between its requirements traceability matrix and the associated procedure to address those requirements. MTA had requested resumes of personnel devoted to this effort to ensure that HBR has proper expertise and sufficient resources onsite when testing does start.

At the December 20, 2023 meeting regarding Railcar certification, MTA indicated that HBR had made significant progress toward completing the safety certification. HBR had been using MTA's recommendation of splitting the documentation into two parts: safety and non-safety. Non-safety is the area that had been delaying the approvals. HBR now submits the non-safety documents to MTA Engineering, who reviews and approves them, or returns them quickly for HBR to address comments, without holding up safety approval. HBR is in the process of addressing two comments from MTA Safety.

HBR had submitted the remaining CCC criteria, which was in the approval process. As of December 2023, MTA's and HBR's focus was on having MP 1 ready for testing on the test track by January 17, 2024. MTA was reviewing all the criteria with the new submission methodology, and then MTA Safety would either approve or provide comments for HBR to address.

Regarding Rail testing, on December 15, 2023, HBR performed a Bump (Static) Test on MP 1, and MTA stated that all went well and the vehicle moved under its own power. MTA repeated that the focus was on readying MP 1 for testing on the test track for January 17, 2024. MTA mentioned that all testing and inspections in Miami had been completed on MP 2 and MP 3. Both married pairs are expected to be shipped to Baltimore for future multiple railcar consist testing. HBR is still working on plans for what FAIs need to be repeated once production starts in Hagerstown; this topic is covered in the Transfer of Technology Plan.

Regarding the system update for development of ATS, MTA stated that the yard dynamic testing was completed and associated test reports were submitted and had been approved. On the weekend of December 8, 2023, MTA issued certificates of conformance for the "Yard Cutover." MTA

mentioned the interfaces for CIS, Google Transit, Penta, and Time Server were finalized for the DCS, thus allowing test procedures for these interfaces with ATS to be finalized for customer interface in January and testing in February 2024. MTA indicated that HBR's ATS work is tracking to a detailed schedule shared with MTA. HBR is developing a similar schedule for Phase 4 activities. High-level activities for both of the ATS and Phase 4 schedules are captured in the project progress schedule. HBR continues Phase 4 testing at Rogers Avenue and Reisterstown Plaza and for the yard interface. Cable replacement has been completed at Old Court and Owings Mills and continues at Reisterstown Plaza.

MTA indicated that HBR's preliminary CBTC FAT was completed the week of November 13, 2023. HBR still will need to finalize the functionality for speed restriction, interlockings, and back-ins for the final FAT in March 2024. CBTC software development continues with incorporation of LIDAR data and finalizing of updates for open defects. Final FAT appears on target for March 2024, and software field testing is scheduled in April 2024 for a mainline release.

MTA indicated that HBR had completed the DCC for system safety certification and is working on the CCC. The last SSI Certificate of Conformance was issued on December 10, 2023, after the weekend outage in the yard. This action completed the SSI safety certification.

MTA mentioned that all testing was tied to the new schedule, and HBR is developing a service outage and single tracking plan. This plan will address the outages needed to complete the system testing. MTA told HBR that it expects this plan to cover all testing needed by project completion in April 2027. MTA mentioned that HBR is planning to overlap all subsystem tests with ATC testing, including ATS and CBTC, in order to reduce testing durations that were previously scheduled to be conducted separately for the subsystems. Instead, testing will occur in parallel, in line with the potential time savings of 20 weeks. Phase 4 testing on the mainline is expected to continue throughout 2024.

At the meeting on January 17, 2024, regarding railcar certification, MTA indicated that HBR had submitted the remaining CCC criteria, which were partially approved. This interim process allowed MP 1 to be put on the test track on January 15, 2024. The interim testing approval allowed MP 1 to operate on the test track at a reduced speed of 12 mph rather than the full speed of 30 mph. HBR ran the test for two days to make sure all the systems were functional according to MTA criteria. MTA stated that MTA staff observed the test track operation but did not sign off on it as a witness test. MTA is expecting that on January 25, 2024, MTA Safety will lift the restriction based on HBR's submission of the remaining documentation, thus allowing HBR to operate MP 1 on the test track at speeds up to 25 mph and complete the final evidentiary testing.

HBR will use a pared down process for MP 2 and MP 3, based on the testing performed on MP 1 and on the testing and inspections that have been completed in Miami. The pared down testing ensures that routine items are still functional and working properly. MTA Safety will review any items that are deemed "routine." MTA reported that the vehicle shipper currently has the means to ship only one carshell; therefore, only half of MP 2 will be picked up on Friday, January 19, 2024. The shipper will be able to ship the other half of MP 2 and

the full MP 3 to Baltimore by the second week of February 2024. HBR is still working on plans for which FAIs need to be repeated once production starts in Hagerstown and are covered in the Transfer of Technology Plan.

MTA has stated that the ATS work is essentially complete, and HBR is now working on addressing defects and the comprehensive list, as well as focusing on the priorities for Phase 4 and anything that remains for Phase 3A. HBR has finalized CIS and Google Transit Interfaces, and testing of Google Transit Interfaces is scheduled for February 2024. MTA indicated that HBR's ATS work will be complete by summer of 2024; the BOCC for Phase 3A will be completed in June 2024; and then the Main OCC will be completed in July 2024.

The development of the CBTC software continues with work on incorporating LiDAR data and finalizing updates for open defects. MTA expects HBR to perform interim testing in February 2024, so that the final FAT remains on target to occur in March 2024. Software field testing is then scheduled for a mainline release in April 2024.

MTA indicated that the DCCs have been completed for both ATS and CBTC. HBR is expected to have the Train Control CCC completed by May 2024. MTA indicated that it will not receive the CBTC CCC reports for May/June until late summer 2024.

HBR will continue Phase 4 testing at Rogers Avenue and Reisterstown Plaza, and the yard interface is expected to be complete by the end of February 2024, while Phase 4 interlocking testing on the mainline is expected to continue through February 2024. MTA indicated that the testing on Vehicle Information Systems occurred the evenings of January 17 and January 18, 2024, and went well, allowing MTA to move forward on Google Transit testing and a few more nights of testing for ATS. The expectation is that this testing schedule will allow HBR to have the BOCC in revenue service by the end of June 2024, so that HBR can perform testing in July 2024 for the Main OCC and put Phase 3B in revenue service.

2.7.2. Metro Fleet

On May 15, 2023, MTA reported that Michael Ollinger was promoted, and Wane-Jang Lin assumed his role temporarily until the vacancy could be filled. On June 29, 2023, MTA reported that HBR had hired additional safety experts to help address the problems with developing safety certification documents. On July 26, 2023, MTA reported that the additional safety staff had proven helpful, and HBR had made progress with respect to safety. Also, MTA stated that since issuance of the cure notice, HBR has been improving its quality and making adjustments in quality staff. On October 18, 2023, MTA introduced Bala Rama Iyer, who filled the vacant position left by Mr. Ollinger. Mr. Noureddine Benkaza was introduced at the September 2023 executive meeting as HBR's new Project Director for the Metro Fleet and Train Control Replacement Project, replacing Brian Freerks.

On January 17, 2024, MTA announced that Mr. Benkaza has permanently relocated to Baltimore. MTA indicated that HBR was also hiring local support in Italy for key positions in engineering and safety. HBR had explained to MTA that these local hires are needed to assist the project in completing the required safety certifications and closing out CCCs

required for the work being performed in Italy. During the MTA/Hitachi executives meeting, HBR informed MTA that the Railcar Manager, Matteo Ruggeri, had accepted a position in HBR's Procurement Office. However, HBR assured MTA that HBR already had someone to replace him, and since the meeting has announced that Giulio Caione will replace Mr. Ruggeri as Railcar Manager. Mr. Caione is transferring from the Ontario LRT project and is expected to be settled in Baltimore by March 2024.

The PMOC recommends that MTA continue to monitor the progress HBR makes with new staff and replacement staff in the areas of Railcar and System safety.

As of January 17, 2024, the "Vehicle Design" milestone is projected to be complete on February 29, 2024. This date is four months later than reported in the PMOC's Comprehensive Monitoring Report for the third quarter of 2023, and 38 months later than shown in the current baseline schedule.

The PMOC recommends that MTA continue to analyze the schedule and require HBR to develop and implement recovery activities, and that MTA incorporate float and report realistic milestone dates to FTA.

2.8. Value Engineering and Constructability Reviews

Value Engineering and constructability reviews are not applicable to this task order assignment.

2.9. Real Estate Acquisition and Relocation

Real estate acquisition and relocation reviews are not applicable to this task order assignment.

2.10. Third-party Agreements and Utilities

Third-party agreements and utilities are not applicable to this task order assignment.

2.11. Construction

2.11.1. Train Control System Construction

On December 20, 2023, MTA indicated that HBR was not ready to provide axle counter training for the yard during the December 8, 2023 weekend outage. HBR had committed to providing 24-hour support regarding the axle counters. HBR provided MTA with a schedule showing how the support would work at differing levels and hours. HBR plans to be ready to perform this training on January 8, 2024. MTA mentioned that HBR will perform a similar training for the mainline upon its completion. HBR is still working on replacing the axle counters along the mainline, including junction boxes, counters, and S21 cable replacements for melters and switches.

Operator training cannot occur until HBR has met the safety certification requirements for the train to go on the test track. HBR was given the option of continuing with the scheduled operator training the week of January 8, 2024, by conducting only the classroom portion and returning to conduct the hands-on driving portion when the safety certification for test track is completed. HBR believes that the pilot course train could be ready to conduct this training on January 8, 2024, but MTA disagrees. MTA recommended that if HBR wanted to move forward with the pilot training on

January 8, 2024, HBR should break the training into a classroom training session with a follow-on live session at a later date or postpone the training completely until the safety certification was ready.

MTA reported that platform barrier installation had begun, and four locations were complete.

Regarding HBR's Hagerstown facility, MTA stated that HBR had included the training activities/materials in the Transfer of Technology Plan. Training for HBR staff that had transferred from the Miami facility and new employees is covered in the Hagerstown Training Plan. Also, new employees went to Miami for initial training. MTA reported on the status of staff for the Hagerstown facility and HBR staffing in general. MTA stated that HBR obtained 50 precent retention of existing staff from Miami, which is a very favorable number by industry standards. HBR indicated that out of the key staff, the warehouse manager, two quality staff members, and the senior line managers had accepted permanent transfer to Hagerstown. The Transfer of Technology Plan demonstrates HBR's one-year plan to staff the Hagerstown facility to full capacity. MTA is still observing problems with HBR staffing overall, even though HBR continues to state that the status of its staffing is good. MTA will validate whether HBR's assertion about successful staffing is true by witnessing whether HBR actually performs according to its commitments and plans. ***The PMOC recommends that MTA links these actions to the project schedule.***

On January 17, 2024, MTA reported that cable replacement work continues on the mainline, including active work at John Hopkins, and plans are in place for cable replacement work to start in February 2024 at Charles Center and in March 2024 at State Center. Cable replacement work has been completed at Rogers Avenue and Reisterstown Plaza.

MTA indicated that HBR completed pilot axle counter training for the yard, and full student training occurred at the end of January 2024. On January 12, 2024, HBR completed a pilot course for operator training; once it is complete, this pilot course operator training will be incorporated into the larger operator training for the mainline. HBR also is developing training for ATS.

2.11.2. Metro Fleet Fabrication and Assembly

On November 8, 2023, MTA provided an update regarding the critical actions list for the start of Hagerstown production work. MTA stated that HBR had received the certificate of occupancy for the Hagerstown facility, and material is being transferred from Miami to Hagerstown. Direct shipments to Hagerstown have started as well. MTA indicated that staffing risk remains a concern; however, HBR has hired a plant manager and key staff are relocating to Hagerstown (see Section 2.11.1, Train Control System Construction). HBR's quality team is in place to transfer processes from Miami to Hagerstown. MTA has scheduled a visit the Hagerstown facility on December 4, 2023. The goal is to start production at the Hagerstown facility in April 2024. The three married pairs in Miami will be transferred to Hagerstown to complete production in early 2024. HBR engaged a third party to help with the Transfer of Technology Plan that MTA requested. ISO certification is underway and should be in place by the time production starts. HBR is also working

on the necessary updates to quality plans and other documents that are part of the Transfer of Technology Plan. HBR is to provide a copy of the Transfer of Technology Plan within 30 days.

Regarding the bolster beam indications, HBR had failed to complete any additional tests requested by MTA on the bolster beams. HBR also failed to provide the final test report to MTA, although it did provide a draft copy. The general consensus was that the bolster beam problem is not fatigue-related but is an issue with the manufacturing process. MTA remains concerned, because MTA needs to know how HBR will correct the manufacturing process and how it will examine and perform inspections of the bolster beams during production, not only at the seven-year overhaul inspection. MTA issued a letter to HBR stating that it needs to repeat the fatigue test only on the bolster beam. HBR asked whether it could use the current bolster beams as-is and conduct tests during the seven-year overhaul. This issue is being addressed in coordination with Hitachi executives, and MTA wants it to be resolved before MP 1 testing begins on the test track.

HBR performed the equalization testing on half of MP 3. The vehicle did not tip over and thus passed the equalization test. This test is important because it is one of the steps required for the trains to get on the mainline track after operating on the test track.

At the December 20, 2023 meeting, regarding railcar corrosion, MTA reported that there were no new carshell corrosion issues. HBR claimed that the new cleaning and passivation process instituted in Italy functions well. ***The PMOC recommended tabling this issue until HBR starts production at the Hagerstown facility in the first quarter of 2024, at which time MTA should revisit the issue of the condition of carshells being shipped from Italy.***

In December 2023, MTA met with HBR to discuss the bolster beam concerns again. HBR continued to say that there was no need to perform further testing because this is a non-safety issue, and HBR was still leaning toward performing a review at the time of the seven-year warranty inspection. MTA reaffirmed that HBR's approach is unreasonable and not acceptable. MTA and its Subject Matter Expert require proof of this is a non-safety issue through new fatigue testing that fully covers the spectrum, even if HBR needs to perform ultrasonic testing. Also, HBR must address the letter MTA sent that requested HBR provide specifics about how the seven-year warranty inspection would be structured differently in order to check the bolster beams at that time. The letter also requested the results of the weld and inclusion testing that was performed and HBR's actions for correcting that process, as well as HBR's process for testing the bolster beams that have been fabricated since the issue was discovered. ***The PMOC recommends that, at the next bolster beam meeting with HBR, MTA fully explain its perspective regarding the concerns relating to the bolster beams by providing real life scenarios of the impact of a failure and explaining the importance of MTA's request for a working solution for future inspections.***

During the December 2023 meeting, MTA indicated that MP 2 and MP 3 are to be shipped to Baltimore in January 2024. HBR has stopped all final assembly work in Miami on MPs 4, 5, 6, and half of 7, and is in the process of prepping those carshells to be shipped to Hagerstown in February 2024. HBR will transport them over the highway and is planning the routes and obtaining permits. HBR must vacate the Miami facility by March 2024.

MTA visited the Hagerstown facility on December 4, 2023, and witnessed that the facilities and equipment needed for ATS manufacturing and testing are present. The facility is similar in design to the Miami facility, except Hagerstown is larger. HBR still needs to acquire the train stands, and not having the train stands is part of the delay in receiving the carshells. MTA indicated that the warehouse is also receiving new materials. HBR will continue to use its Hagerstown off-site warehouse for the transfer of material from the Miami warehouse. During MTA's visit, HBR gave a presentation on the Transfer of Technology Plan, and all activities are tracking so that production can begin in April 2024.

MTA reported that HBR may try to advance a shipment of two carshells ahead of the original April 2024 date, because HBR has stockpiled a number of carshells in its yard in Italy that are ready to be delivered. MTA indicated that there is also a key payment tied to the initial delivery of these vehicles and that HBR had commented that this payment was needed for project support.

On January 17, 2024, MTA reported that there are no new carshell corrosion issues. HBR told MTA that the new cleaning and passivation process instituted in Italy functions well.

The PMOC recommends tabling these issues related to carshell corrosion until HBR starts production at the Hagerstown facility in the first quarter of 2024, at which time, MTA should revisit the issue of the condition of carshells being shipped from Italy.

The PMOC also recommends that MTA continue to require HBR to develop and demonstrate a mitigation plan to address the scrapping of the 33 carshells. This mitigation plan should include a realistic schedule, along with an EAC that includes sufficient contingency based on that mitigation plan.

MTA is scheduled to meet with HBR on February 1, 2024, to discuss the results of the additional fatigue testing and MTA's bolster beam concerns. Regarding the additional fatigue testing, HBR utilized bolster beams whose serial numbers match the bracket of the bolster beams that had the same welding inclusion issues. MTA stated that it is resolute in its stance against having reviews be performed only at the time of the seven-year warranty inspection.

The PMOC recommends that MTA continue to partner with HBR to achieve a working solution for resolution of, and inspections related to, the bolster beam issue.

Regarding the current assembly status, MTA indicated that half of MP 2 will be picked up for delivery to Baltimore on January 19, 2024, and will be followed by MP 3 in early February. MP 1 test track testing started on January 15, 2024.

MTA mentioned that HBR's ISO audit was conducted the week of January 8, 2024, and HBR is on target for making the transfer of certification from Miami to Hagerstown by April 1, 2024. HBR is planning to share its Transfer of Technology Plan with MTA the week of January 15, 2024. MTA indicated that HBR's Transfer of Technology Plan is not a formal plan. During their meeting, MTA and HBR will review the MTA criteria for the project (with respect to training, processes, etc.) in detail and will determine the type of evidentiary document HBR must provide to demonstrate that it meets MTA's criteria. MTA's Quality Manager will be present to assist in determining the appropriate documentation.

2.12. Vehicle Technology and Procurement

Vendor: Hitachi Ansaldo Baltimore Rail Partners, LLC

Model: Hitachi Rail Italy (HRI)-MTA

Year: 2023 (first vehicle delivery)

Quantity: 78

Identification: 300 through 377

New Technologies: Not applicable

Significant Events:

Time Frame	Event
October 2023	**Manufacturer's Design Complete**
September 2023	**First Vehicle Delivery (Married Pair)**

Bus Vehicle Testing: Not applicable

2.13. Project Cost

2.13.1. Project Budget

MTA reported the latest project cost data to the PMOC on January 17, 2024, which is through November 30, 2023, the project has total expenditures of $235,045,000. Table 4 shows the federal grants used for the project, and Table 5 shows the total project funding and the drawdowns on that funding through November 2023, as reported by MTA on January 17, 2024. MTA has added two future federal grants to the list, thus increasing the federal share and decreasing the state share.

The PMOC recommends that MTA continue to analyze the overall project budget, including administrative and oversight costs, in light of the ongoing schedule delays.

Table 4 – Project Federal Grants

Federal Grants	Federal Amount	Drawdown
MD-2016-006	$34,054,000	$34,054,000
MD-2016-007	$3,645,000	$3,645,000
MD-2019-014 / ZC02XX	$19,621,000	$18,435,000
MD-2019-017	$5,002,000	$5,002,000
MD-2019-018 / ZC01XX / ZC03XX	$5,785,000	$5,785,000
MD-2020-003 / ZD22XX	$16,847,000	$16,847,000
MD-2021-004 / STP-20	$13,730,000	$8,687,000
MD-2021-013 / ZD20XX	$27,946,000	$27,490,000
MD-2022-010/ **ZF08XX**	$7,578,000	$2,286,000
1401-2021-30 / ZE02XX	$9,745,000	-

Federal Grants	Federal Amount	Drawdown
1401-2021-18 / ZF20XX	$38,032,000	-
5307-22 / *ZG24XX*	$ 33,038,000	-
5307-23 / ZH02XX	$26,098,000	-
B5307-24	$24,010,000	-
B5307-25	$15,043,000	-
B5307-26	$3,331,000	-
B5307-28	**$43,904,000**	-
ZG08XX	$10,301,000	-
CMAQ-23 / ZH11XX	$29,072,000	-
B5337-22	**$666,000**	-
B5337-25	$12,163,000	-
B5337-26	$2,469,000	-
SHA-FLEX	**$20,978,000**	-
Total	**$403,058,000**	**$122,231,000**

Note: Rounding in grant values is not reflected in the totals.

Table 5 – Project Funding Summary

Funding Source	Amount	Drawdown
Federal	**$403,058,000**	$122,231,000
State/County	**$73,793,000**	**$112,814,000**
Total	$476,851,000	**$235,045,000**

MTA continues to manage change orders and change requests. The following is the status of contract changes as reported by MTA on **January 17, 2024:**

- Forty-eight change requests have been initiated to date.
- Four of the change requests were cancelled.
- MTA and HBR have negotiated **42** change orders (with a related net increase to the contract value of **$10,148,670.66**), which include two change orders funded by separate MTA projects and Change Notice (CN)-34 (Yard Axle Counters).
- MTA and HBR have not yet finalized negotiations on the following change requests: CN-16 (Train Control Specs), CN-36 (Emergency Walkover Plate), CN-45 (COVID No-Cost Time Extension), CN-47 (Replacement of Metro Mainline Raceways), and CN-48 (Damaged Axle Counter Replacements). CN-16 has one open item that HBR is attempting to address through software development. HBR and MTA are discussing the design for the emergency plate (CN-36). CN-45 is tied to the finalization of the project schedule. CN-47 and CN-48 are related to damage that occurred as a result of a Metro train ripping out axle counters and damaging conduits.

2.13.2. Disadvantaged Business Enterprise Performance

The project has the following Disadvantaged Business Enterprise (DBE) goals:

- HRI DBE goal: 4.00 percent (2021)
- Ansaldo STS DBE goal: 9.72 percent

Actual performance relative to these goals is reported separately to FTA by HRI and by Ansaldo STS (as a transit vehicle manufacturer) in accordance with the U.S. Department of Transportation DBE regulations.

2.14. Project Schedule

HBR submitted a preliminary project schedule that was revised to address comments that MTA provided in November 2017. MTA approved the February 28, 2018 Project Schedule (Rev. 3) as the project baseline schedule in March 2018.

After initial delays, HBR submitted the integrated Train Control and Railcar schedule recovery plan (HBR's Project Schedule Update 12) in May 2019. MTA reviewed Project Schedule Update 12 and accepted it as the schedule recovery plan. HBR's project schedule updates through March 2020 continued to show delays to interim milestones and the Full Revenue Service date. Delays due to COVID-19 then began to occur.

In May 2020, MTA decided to proceed with the addition of axle counters in the yard, which MTA understood would result in delays that would be experienced concurrently with delays already resulting from design delays and COVID-19 restrictions.

HBR submitted Project Schedule Update 28 on September 10, 2020. MTA and its consultant reviewed it and returned it to HBR for revision and resubmission. MTA and HBR then met twice to resolve the comments and concerns, and HBR resubmitted Project Schedule Update 28 in October 2020. MTA's comments on Project Schedule Update 28 related to changes to the schedule since the previous update that were not fully documented and to other scheduling practices. HBR's proposed Schedule Update 28 also included the past delays related to COVID-19, but the documentation to back up the COVID-19-related delays (starts and stops) of each activity was not provided.

In December 2020, MTA accepted Project Schedule Update 28 from HBR as the new baseline schedule. Comparison of the prior baseline schedule to the new baseline schedule indicated that the completion of the Train Control system construction was delayed by 343 days (just over 11 months), and the "Revenue Service Full Project" milestone was delayed by 456 days (just under 15 months). MTA reported that this baseline schedule did not include contingency time, or float.

Since MTA accepted Schedule Update 28 as the revised contract baseline schedule, HBR has submitted 13 updates that MTA has accepted. HBR submitted Schedule Update 42 in January 2022 and requested that MTA accept it as the new baseline schedule. As of December 20, 2023, HBR had submitted 19 schedule revisions after receiving comments from MTA. The latest schedule revision, which is being used for reporting, is Schedule Update 42R19, which HBR submitted on November 1, 2023.

On January 17, 2024, MTA stated that HBR had almost completed its Schedule Update 43, which will become HBR's new baseline schedule. MTA reiterated that it will not re-baseline the project schedule. MTA stated that if it accepts any update to the schedule as the new project baseline schedule, it will lose all LDs it can charge HBR. After MTA demonstrated to HBR the calculations it used to develop the LDs charge of $25 million, HBR became resigned to the fact that MTA is correct. MTA shared with the PMOC a strategy on how HBR can reduce the LDs by providing deliverables according to contractual milestones and key project milestones. Basically, by Construction Milestone 18, HBR can reduce the LDs by 20 percent. MTA has not yet shared this incentive strategy with HBR, because this strategy will require approval from the Maryland State Board of Public Works to implement. MTA is attempting to incentivize HBR to stay on the new project schedule and meet critical dates not only to reduce the LDs, but also to complete the project. MTA indicated that it still must obtain approval from the Board of Public Works to utilize the incentive strategy. Schedule Update 43 will be the official project schedule, and HBR will be held accountable to meeting it. MTA will provide the PMOC with a copy of Schedule Update 43 for FTA review. MTA mentioned that HBR has requested six rail outages towards the end of the year (one in September 2024, two in October 2024, one in December 2024, and two in January 2025). MTA believes that the number of outages may be reduced to four. Regarding how many outages occur, there is recognition that the weekend outages are needed to meet Construction Milestone 18 (which puts the first train into revenue service). Meeting Construction Milestone 18 is important to MTA because its fleet has been aging faster than expected and having the new vehicles will help reduce the stress on the existing revenue fleet. Upon achieving Milestone 18, the expectation is that two married pairs will be placed on the tracks per month, which is important to MTA.

Schedule Update 42R19 shows that the "Contractor Design Completion" milestone has been delayed until February 29, 2024, 38 months later than shown in the current baseline schedule and 4 months later than previously reported at the Quarterly Progress Review Meeting. In addition, Schedule Update 42R19 indicates that the "Manufacturer Design Complete" milestone has been delayed until February 29, 2024, 38 months later than shown in the current baseline schedule and 4 months later than previously reported at the Quarterly Progress Review Meeting, and also indicates that the "Integrated Testing" milestone will occur on March 30, 2024, 23 months later than shown in the current baseline schedule and about 4 months later than previously reported at the Quarterly Progress Review Meeting. The "Revenue Service Full Project" milestone has been pushed back 15 days to August 21, 2026, 33 months later than shown in the current baseline schedule.

Based on the consistent schedule slippage and lack of float in the project schedule, the current project schedule and budget do not appear achievable. ***The PMOC commends MTA in demonstrating management capacity by proactively providing Hitachi with alternative solutions and incentives to achieve a realistic and workable project schedule. The PMOC understands the contractual situation MTA faces and why MTA has decided not to re-baseline the project schedule. The PMOC looks forward to receiving Schedule Update 43 and also will monitor how Hitachi progresses in meeting the schedule requirements.***

FTA and the PMOC do not want to see consistent schedule slippage moving forward, because such schedule slippage would demonstrate a lack of management capacity, which in turn carries the risk of major impacts to the project budget. The PMOC recommends that MTA continue to require Hitachi to adhere to MTA's new plan to meet the project schedule using interim key project milestones and contractual milestones, and that MTA closely monitor Hitachi's progress.

Table 6 shows the project schedule, completion dates for the current approved baseline schedule and for subsequent recent schedule updates, and the change since the last quarter.

Table 6 – Project Schedule

Activity	Original Contract or Grant Date	Current Approved Baseline Completion Schedule (Update 28, 9/1/2020)	Last Quarter Completion Dates (Update 41R17, 8/1/2023)	Current Completion Date (Update 42R19, 11/1/2023)	Change Since Last Quarter*	Actual
MTA Design Complete	3/1/2015	3/1/2015	3/1/2015	3/1/2015	-	3/1/2015
Right-of-Way Complete	N/A	N/A	N/A	N/A	N/A	N/A
Advertisement	9/30/2015	9/30/2015	9/30/2015	9/30/2015	-	9/30/2015
Bids/Proposal Due	3/31/2016	3/31/2016	8/12/2016	8/12/2016	-	8/12/2016
Award/**Board of Public Works** Date	11/30/2016	11/30/2016	7/26/2017	7/26/2017	-	7/26/2017
Notice to Proceed	12/15/2016	12/15/2016	9/1/2017	9/1/2017	-	9/1/2017
Construction:						
Contractor Design Complete	2/7/2019	12/15/2020	**10/27/2023**	**2/29/2024**	**-125 Days**	
Construction Start	5/14/2018	5/14/2018	4/2/2018	4/2/2018	-	4/2/2018
Construction Complete	5/26/2024	5/4/2025	9/19/2025	9/19/2025	-	
Vehicles:						
Mfgr Design Complete	5/29/2019	2/23/2021	**10/27/2023**	**2/29/2024**	**-125 Days**	
First Vehicle Delivery	5/29/2020	8/23/2021	**9/4/2023**	**9/4/2023**		**9/13/2023**
First Vehicle Cond. Accept	6/26/2021	11/3/2022	**6/8/2025**	**7/20/2025**	**-42 Days**	
First Vehicle Final Accept	6/26/2021	11/4/2022	**6/9/2025**	**7/21/2025**	**-42 Days**	
Last Vehicle Delivery	10/25/2022	1/23/2024	**6/19/2026**	**5/20/2026**	**30 Days**	
Last Vehicle Cond. Accept	11/28/2022	2/28/2024	**8/5/2026**	**8/20/2026**	**-15 Days**	
Last Vehicle Final Accept	11/29/2022	3/1/2024	**8/6/2026**	**8/21/2026**	**-15 Days**	
Integrated Test Start	6/26/2021	6/21/2022	**12/4/2023**	**3/30/2024**	**-117 Days**	
Revenue Service Start, if Phased	6/26/2021	11/3/2022	**6/8/2025**	**7/21/2025**	**-43 Days**	
Revenue Service Full Project	11/29/2022	2/28/2024	**8/6/2026**	**8/21/2026**	**-15 Days**	
Project Closeout	5/26/2026	5/4/2027	**3/26/2029**	**4/29/2029**	**-34 Days**	

***Reason for Change:** HBR updated the schedule as the new proposed baseline. The schedule includes delays due to late delivery of the first married pair from testing in Miami, expected delays related to the move to Hagerstown, and delays associated with repair/replacement of corroded carshells.

2.15. Project Risk

It is recognized that the Train Control system work has been very challenging, because both the new system and the existing system need to operate simultaneously during the transition period, when both new railcars and existing railcars are in operation. MTA has recently identified a new potential risk: HBR's purchase of Thalis.

During the September 26, 2023 meeting with Hitachi executives, MTA requested a discussion regarding HBR's plan for supporting the MTA CBTC system. A meeting will be set up to discuss MTA's concerns related to this topic. MTA indicated that the Thalis system is more robust and well-tested than the HBR system. MTA indicated that Bay Area Rapid Transit had provided MTA with information regarding Microlok and other CBTC products that HBR is proposing. The products are supposed to be backwards compatible, but items such as zone controllers do not appear to be. MTA has concerns about the product life cycle, the use of a mixed system, and spares. MTA will be discussing these items in a separate meeting with HBR.

The impacts of a second COVID-19 no-cost time extension and the scrapping of 33 rail carshells, although it eliminated the issue regarding the rust/corrosion impacts, both still pose risks to the production schedule. HBR needs to develop a mitigation plan for these risks. MTA also must wait for the Hagerstown facility to restart production in 2024 in order to validate that HBR's mitigation for the corrosion issue has been addressed successfully. The impacts of ongoing schedule delays, primarily due to safety certifications, are significantly increasing the risk of project cost overruns.

2.16. Quality Assurance/Quality Control

MTA's contract with HBR establishes the quality assurance/quality control requirements for the project in accordance with FTA Quality Management System Guidelines. Quality problems related to carshell manufacturing, which were first noted in July 2020, reportedly have been addressed. See the discussion in Section 2.11.2, above.

MTA indicated that no new quality issues related to railcars have been reported since the May 2023 Quarterly Progress Review Meeting. HBR is concentrating on closing out old issues. Similarly, no new quality issues related to systems have been reported recently, and HBR is closing out old issues.

At the December 20, 2023 meeting, MTA had stated that it had requested the biweekly quality meetings to resume after they were canceled, without explanation, by Hitachi management. MTA was informed that the biweekly quality meetings would resume beginning January 10, 2024, with a combined meeting for OMEP (Italy), HRI (management), and HRU (Hagerstown). This biweekly quality meeting will replace any monthly railcar quality meetings.

On January 17, 2024, MTA confirmed that the biweekly quality meetings with HBR had restarted. MTA has asked HBR to concentrate on closing out old issues but to focus first on big ticket items, such as the bolster beams and the car numbering. MTA explained that the car numbering issue dates back to when HBR produced the first carshell group, which eventually got scrapped due to the corrosion issue.

2.17. Safety and Security

MTA's contract with HBR establishes the requirements for safety and security, including those for safety certification of the work performed on this project. Railway Worker Protection safety training is ongoing. MTA announced that HBR hired well-known industry consultants to assist with addressing the security certification issues that have been plaguing HBR. MTA has since noticed positive movement toward resolution of these issues, albeit slower than MTA anticipated.

2.18. Americans with Disabilities Act

The contract for this project requires compliance with the Americans with Disabilities Act regulations. The new vehicles do not have barriers to guide sight-impaired passengers from mistaking the gap between the vehicles as an entry door.

2.19. Buy America

The contract for this project requires compliance with FTA's Buy America requirements. MTA reported in January 2022 that it had completed the interim Buy America audit and found that both the train control and the railcar materials exceeded the requirements. MTA plans to conduct another audit after the first railcars are delivered and the train control materials have all been installed.

2.20. Start-Up, Commissioning, Testing

As MTA reported on November 8, 2023, MTA had emphasized that completion of DCCs and CCCs is needed for MP 1 to move from static testing and begin testing on the test track, which at that time MTA hoped would be by early December 2023.

Also, MTA stated that it did not attend the FAT of the CBTC software in November 2023 because not all of the development needed for Baltimore was in place, and MTA had a concern that attendance would imply approval of an incomplete package. HBR agreed that the November 2023 FAT was intended as a preliminary FAT to witness progress to date and provide guiding corrective comments, and that the final FAT will occur in March 2024 when LiDAR data will be available and open items will have been addressed before the mainline software release. The next official release will occur after mainline testing and will incorporate MTA's comments from the March release. MTA held six workshops with HBR from mid-October 2023 up to November 8, 2023, to address testing procedures and gaps between its requirements traceability matrix and the associated procedure to address those requirements. MTA requested resumes to ensure that HBR has proper expertise and sufficient resources on-site when testing does start.

Regarding Rail testing, on December 15, 2023, HBR performed a Bump (Static) Test on MP 1, and MTA stated that all went well and the vehicle moved under its own power. MTA repeated that the focus was on readying MP 1 for testing on the test track on January 17, 2024. MTA mentioned that all testing and inspections in Miami had been completed on MP2 and MP3. Both married pairs are expected to be shipped to Baltimore for future multiple railcar consist testing. HBR is still working on plans for the FAIs that will need to be repeated once production starts in Hagerstown, as covered in the Transfer of Technology Plan.

Regarding the system update for development of ATS, MTA stated that the yard dynamic testing was completed and associated test reports were submitted and had been approved. On the weekend of December 8, 2023, MTA issued certificates of conformance for the "Yard Cutover." MTA mentioned that the interfaces for CIS, Google Transit, Penta, and Time Server were finalized for the DCS, thus allowing finalization of the test procedures for these interfaces with ATS for customer interface in January 2024 and testing in February 2024. MTA indicated that HBR's ATS work is tracking to a detailed schedule that was shared with MTA. A similar schedule is being developed for Phase 4 activities. High-level activities in both of these schedules are captured in the project progress schedule. HBR continues Phase 4 testing at Rogers Avenue and Reisterstown Plaza and for the yard interface.

At the meeting on January 17, 2024, regarding railcar certification, MTA indicated that HBR had submitted the remaining CCC criteria, which were partially approved. This interim process allowed MP 1 to be put on the test track on January 15, 2024. The interim testing approval allowed MP 1 to operate on the test track at a reduced speed of 12 mph rather than the full speed of 30 mph. HBR ran the test for two days to make sure all the systems were functional in accordance with MTA criteria. MTA stated that MTA staff observed the test track operation but did not sign off on it as a witness test. MTA is expecting that on January 25, 2024, MTA Safety will lift the restriction based on HBR's submission of the remaining documentation, thus allowing HBR to operate MP 1 on the test track at speeds up to 25 mph and complete the final evidentiary testing.

MTA has stated that the ATS work is essentially complete, and HBR is now working on addressing defects and the comprehensive list, as well as focusing on the priorities for Phase 4 and anything that remains for Phase 3A. HBR has finalized the CIS and Google Transit Interfaces. Testing of Google Transit Interfaces is scheduled for February 2024. MTA indicated that HBR's ATS work will be complete by summer of 2024, the BOCC for Phase 3A will be completed in June 2024, and then the Main OCC will be completed in July 2024.

HBR will continue Phase 4 testing at Rogers Avenue and Reisterstown Plaza; the yard interface is expected to be completed by the end of February 2024, and Phase 4 interlocking testing on the mainline is expected to continue through February 2024. MTA indicated that the testing on Vehicle Information Systems occurred on the evenings of January 17 and January 18, 2024, and went well. The expectation is that this testing schedule will allow HBR to put the BOCC into revenue service by the end of June 2024, so that HBR can perform testing in July 2024 for the Main OCC and put Phase 3B in revenue service.

The PMOC recommends that MTA maintain a general Systems Start-up, Commissioning, and Testing Plan that can be utilized on all types of projects and also issue a project-specific supplemental plan. These plans would aid both MTA's project team and HBR's team to better manage key/critical activities and also would be a valuable input to the project schedule.

2.21. Before-and-After Study Reporting

Before-and-after study reporting is not applicable to this task order.

2.22. Lessons Learned

At the PMOC's request, MTA provided four Lessons Learned documents on September 25, 2020, to illustrate the project processes that were using lessons learned from past events during the control system construction and railcar manufacturing. At the time, MTA and the PMOC reviewed and briefly discussed these documents during their monthly meeting.

The process of incorporating lessons learned involves review of those events from the last major work activity (either positive or negative) that should be agenda items for the next major work activity being prepared. There are generally one or two meetings before a major activity, including those activities that require a power outage.

After a major activity, a new Lessons Learned document is prepared. MTA staff, consultant staff, and HBR each provide a list of lessons learned and recommend future actions separately, and then these are consolidated into post-activity debriefing meeting minutes. However, the meeting minutes document does not build upon items from previous major activities; thus, the lessons learned are not cumulatively documented.

As first stated in the October 2020 PMOC Comprehensive Monitoring Report, in the opinion of the PMOC, MTA should document and track lessons learned in a cumulative fashion. MTA should then refer to this more complete document in order to integrate lessons learned into the construction process and adjust them as project conditions dictate.

2.23. Actions Items/Critical Issues Table

Table 7 lists action items or critical issues identified at the previous quarterly meetings and monthly meetings related to this project.

Table 7 – Critical Issues

No.	Issue Description	Status	Resolution	Date
1	FDR – Design checklists are needed for ATC, CBTC, and Railcar. All are nearly complete.	Open		2/29/2024
2	Safety certification is a key concern for both Railcar and Train Control. • Train Control: CCC criteria are being verified as testing is completed in the field. Progress has been made on ATS. ATC and CBTC will start in April 2024.	Open		4/30/2024
3	Safety certification is key concern for both Railcar and Train Control. • Railcar: Work is being done to finalize DCC criteria verification and the portion of CCC that can be done before test track and mainline testing.	Open		2/29/2024
4	CBTC Software Development – With the development team located in France (no local team), there is a risk that software updates and testing will be prolonged. This will be monitored. Preliminary ATC/CBTC FAT was successful. Development work remains and field testing will be key to proving stability of software.	Open		5/31/2024

5	Hitachi has notified MTA that it will shift production of Railcar to Hagerstown at the end of 2023. This poses significant risk associated with readiness of the facility, training of staff, competition for staff, and production space with Washington Metropolitan Area Transit Authority.	Open		4/30/2024
6	Hitachi notified MTA in February 2023 that four indications were noted with respect to the bolster beam at the conclusion of the truck fatigue test. Repairs will be needed regardless of the root cause. Trucks already produced will need to be repaired.	Open		2/29/2024

ATTACHMENT A – LIST OF ACRONYMS

ATC	Automatic Train Control
ATS	Automatic Train Supervision
BOCC	Backup Operations Control Center
BRT	Bus Rapid Transit
CBTC	Communications Based Train Control
CCC	Construction Conformance Checklist
CFR	Code of Federal Regulations
CIS	Customer Information System
CM	Construction Management
CMGC	Construction Manager General Contractor
CN	Change Notice
CSSP	Construction Safety and Security Plan
DBE	Disadvantaged Business Enterprise
DBOM	Design, Build, Operate, and Maintain
DCC	Design Conformance Checklist
DCS	Data Communication System
DF	Designated Function
EAC	Estimate at Completion
FAI	First Article Inspection
FAT	Factory Acceptance Test
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
HAB	Hitachi Ansaldo Baltimore Rail Partners, LLC
HBR	Hitachi Baltimore Rail Partners LLC
HRI	Hitachi Rail Italy
ISO	International Organization for Standardization
LATS	Local Automatic Train Supervision
LDs	Liquidated Damages
LiDAR	light detection and ranging

LRT	Light Rail Transit
MP	Married Pair
mph	miles per hour
MTA	Maryland Transit Administration
MWA	Miscellaneous Work Allowance
N/A	Not Applicable
O&M	Operations and Maintenance
OCC	Operations Control Center
OHA	Operational Hazard Analysis
OP	Oversight Procedure
OSHA	Occupational Safety and Health Administration
PDR	Preliminary Design Review
PHA	Preliminary Hazard Analysis
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
RAMS	Reliability, Availability, Maintainability, and System Safety
RAP	Rail Activation Plan
RTM	Requirements Traceability Matrix
SCIL	Safety Certifiable Item List
SEPP	Security and Emergency Preparedness Plan
SIT	Systems Integration Test
SOP	Standard Operating Procedure
SSCP	Safety and Security Certification Plan
SSCVR	Safety & Security Certification Verification Report
SSI	Solid-state Interlocking
SSMP	Safety and Security Management Plan
SSO	State Safety Oversight
SSPP	System Safety Program Plan
STS	Signaling and Transportation Systems
TVA	Threat and Vulnerability Assessment

ATTACHMENT B – SAFETY AND SECURITY CHECKLIST

To be revised and populated in future reports.

Project Overview			
Project Mode (Rail, Bus, BRT, Multimode)			
Project Phase (Project Development, Engineering, Construction, Start-Up)			
Project Delivery Method (Design/Build, DBOM, CMGC, etc.)			
Project Plans	**Version**	**Review by FTA**	**Status**
Safety and Security Management Plan (SSMP)			
Safety and Security Certification Plan (SSCP)			
System Safety Program Plan (SSPP)			
System Security Plan or Security and Emergency Preparedness Plan (SEPP)			
Construction Safety and Security Plan (CSSP)			

Area of Focus	**Y/N**	**Notes/Status**
Safety and Security Authority		
Is the project sponsor subject to 49 CFR Part 659 state safety oversight requirements?		
Has the state designated an oversight agency as per Part 659.9?		
Has the oversight agency reviewed and approved the project sponsor's Security Plan or SSPP as per 49 CFR Part 659.17?		
Did the oversight agency participate in the last Quarterly Program Review Meeting?		
Has the project sponsor submitted its safety certification plan to the oversight agency?		
Has the project sponsor implemented security directives issues by the Department Homeland Security and/or Transportation Security Administration?		
SSMP Monitoring		
Is the SSMP project-specific, clearly demonstrating the scope of safety and security activities for this project?		
Does the project sponsor review the SSMP and related project plans to determine if updates are necessary?		
Does the project sponsor implement a process through which the Designated Function (DF) for Safety and DF for Security are integrated into the overall project management team? Please specify.		
Does the project sponsor maintain a regularly scheduled report on the status of safety and security activities?		
Has the project sponsor established staffing requirements, procedures, and authority for safety and security activities throughout all project phases?		
Does the project sponsor update the safety and security responsibility matrix/organizational chart as necessary?		
Has the project sponsor allocated sufficient resources to oversee or carry out safety and security activities?		
Has the project sponsor developed hazard and vulnerability analysis techniques, including specific types of analysis to be performed during different project phases?		

Does the project sponsor implement regularly scheduled meetings to track to resolution any identified hazards and/or vulnerabilities?		
Does the project sponsor monitor the progress of safety and security activities throughout all project phases? Please describe briefly.		
Does the project sponsor ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted.		
Has the project sponsor ensured the development of safety design criteria?		
Has the project sponsor ensured the development of security design criteria?		
Has the project sponsor ensured conformance with safety and security requirements in design?		
Has the project sponsor verified construction specifications conformance?		
Has the project sponsor identified safety and security critical tests to be performed prior to passenger operations?		
Has the project sponsor verified conformance with safety and security requirements during testing, inspection, and start-up phases?		
Does the project sponsor evaluate change orders, design waivers, or test variances for potential hazards and/or vulnerabilities?		
Has the project sponsor ensured the performance of safety and security analyses for proposed workarounds?		
Has the project sponsor demonstrated through meetings or other methods, the integration of safety and security in the following? • Activation Plan and Procedures • Integrated Test Plan and Procedures • Operations and Maintenance Plan • Emergency Operations Plan		
Has the project sponsor issued final safety and security certification?		
Has the project sponsor issued the final safety and security verification report?		
Construction Safety		
Does the project sponsor have a documented/implemented Contractor Safety Program with which it expects to comply?		
Does the project sponsor's contractor(s) have a documented companywide safety and security program plan?		
Does the project sponsor's contractor(s) have a site-specific safety and security program plan?		
How do the project sponsor's OSHA statistics compare to the national average for the same type of work?		
If the comparison is not favorable, what actions are being taken by the project sponsor to improve its safety record?		

Federal Railroad Administration		
If shared track, has the project sponsor submitted its waiver request application to FRA? (Please identify specific regulations for which waivers are being requested.)		
If shared corridor: has the project sponsor specified specific measures to address shared corridor safety concerns?	N/A	This is not a shared corridor.
Is the Collision Hazard Analysis underway?		
Other FRA required Hazard Analysis – Fencing, etc.?		
Does the project have Quiet Zones?		
Does FRA attend the Quarterly Review Meetings?	N	

ATTACHMENT C – TOP 5 PROJECT RISKS

Please see Section 1.3, Table 1 – Major Issues/Concerns; Section 2.15, Project Risk; and Section 2.23, Table 7 – Action Items, in this report for the top project risks.

ATTACHMENT D – AWARDED CONTRACTS

As reported by MTA on **January 17, 2024**.

Company	Vendor Type	Contract Number	Baseline Amount (in thousands)	Current Amount (in thousands)	Projected Amount (in thousands)	Percent of Projected Total
RKK	Design	1354A	$800	$163	$252	0.05%
JMT	Design	1354B	$487	$452	$698	0.15%
PB	Design	1265A	$2,030	$97	$150	0.03%
HAB Rail Partners	Contractor	T-8000-1415	$400,517	$400,517	$400,517	84.01%
AECOM	Construction Services	1445A	$16,396	$16,093	$24,834	5.21%
CH2M Hill	Construction Services	1345A/ AGY-16A	$6,191	$7,025	$10,842	2.27%
HNTB	Construction Services	1445A/ AGY-16A	$7,785	$8,598	$13,269	2.78%
STV	Construction Services	1345B/ AGY-16D	$5,030	$6,118	$9,442	1.98%
OMNI	Construction Services	AGY-16B	$1,907	$1,728	$2,667	0.56%
WSP	Construction Services	1345C/ AGY-16E	$247	$1,921	$2,965	0.62%
Urban	Construction Services	15-01C	$505	$846	$1,306	0.27%
GF	Construction Services	1445C	$3,044	$73	$113	0.02%
MTA	Construction Services	Misc.	$15,973	$438	$676	0.14%
ADS	Construction Services	AE-19-04D/1399C	$5,855	$5,855	$9,036	1.90%
Contracted Total			$466,767	$449,924	$476,767	100.00%*

* Totals may vary slightly due to rounding.

ATTACHMENT E – ROLLING STOCK VEHICLE STATUS REPORT

Vendor: Hitachi Ansaldo Baltimore Rail Partners, LLC

Model: Hitachi Rail Italy (HRI)-MTA

Year: 2023 (first vehicle delivery)

Quantity Ordered: 78

Quantity Delivered to Date: 0

Identification: 300 through 377

New Technologies: Not applicable

Significant Events:

Time Frame	Event
February 2024	Manufacturer's Design Complete
September 2023	First Vehicle Delivery (Married Pair)

ATTACHMENT F – PROJECT MILESTONES/KEY EVENTS

Milestones	Actual or Currently Planned Dates
MTA Design Complete	March 2015
Notice to Proceed	September 2017
Control System	
Contractor Design Complete	**February 2024**
Construction Start	April 2018
Construction Complete	September 2025
Fleet	
Manufacturer's Design Complete	**February 2024**
First Vehicle Delivery	September 2023
First Vehicle Final Acceptance	**July 2025**
Last Vehicle Delivery	**May 2026**
Last Vehicle Final Acceptance	**August 2026**
Integrated Project	
Integrated Test Start	**March 2024**
Revenue Service, if Phased	**July 2025**
Revenue Service Full Project	August 2026
Project Closeout	**April 2029**

Note: Dates shown are based on Project Schedule Update 42R19.

ATTACHMENT G – ROADMAP TO REVENUE OPERATIONS

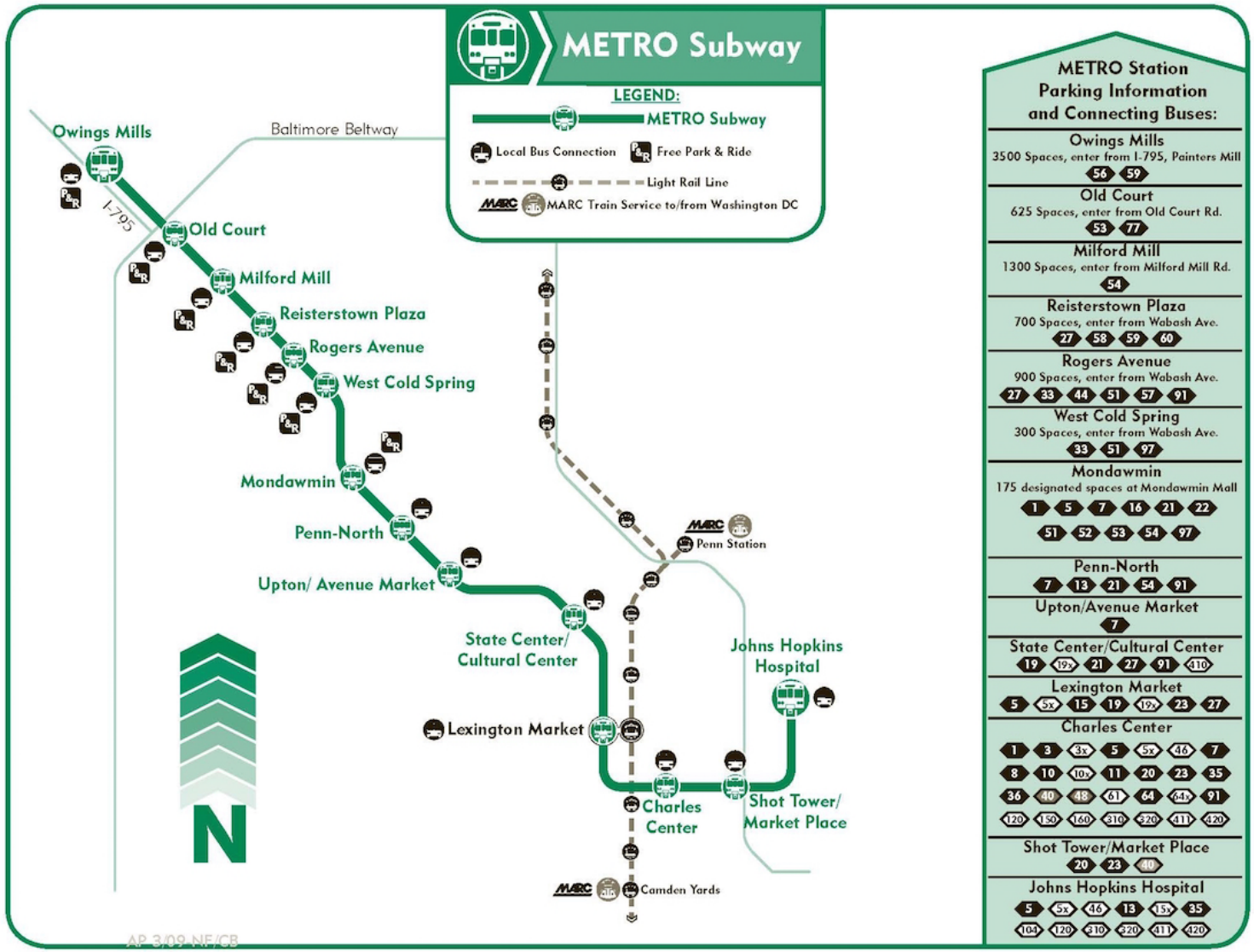
In accordance with Oversight Procedure 25, the Roadmap to Revenue Operations, prepared from the Project Sponsor's Master Schedule, is issued quarterly as a separate electronic file. It will be revised and populated in future reports.

Description	Responsible Party	Status	Estimated Start Date	Estimated Completion Date	Actual Completion Date	Notes
Testing						
Finalize Comprehensive Test Plan						
Finalize/update Systems Integration Test (SIT) Plan						
Develop Testing Schedule and Monitoring Tools						
Develop Operating Rules for Testing						
Conduct System Integrated Testing - Building Systems						
Conduct System Integrated Testing - Train Systems						
Conduct Testing and Commissioning - Train Systems						
Certificates of Occupancy/Substantial Completion						
Operating Plan, Rules						
Finalize Operating Plan						
Finalize/revise SOPs, manuals, and rulebook as applicable						
Complete Staffing Plan						
Obtain Required Staff						
Training of O&M personnel						
Emergency response plan, training, and drills						

Description	Responsible Party	Status	Estimated Start Date	Estimated Completion Date	Actual Completion Date	Notes
Maintenance and Asset Management						
Pre-Revenue Operations						
Finalize and/or update Rail Activation Plan (RAP) and/or Pre-Revenue Operations Plan						
Implement Rail Activation Committee						
Develop/revise SSPP and Security Plan (approved by State Safety Oversight (SSO))						
FTA Office of Safety and Security Readiness Review						
PMOC OP-54 Readiness for Revenue Operations Review Report, Phase I						
PMOC OP-54 Readiness for Revenue Operations Review Report, Phase II						
Conduct Operational Hazard Analysis (OHA) and resolve other hazards/ vulnerabilities						
Pre-revenue Operations						
Public Outreach						
Develop Safety Outreach Plan						
Provide Community Outreach						
Public Timetables/Maps/Website Updates, etc.						
Grand Opening Plan						
Safety, Security, and Fire-Life Safety Certifications						
Update/Finalize SSMP						

Description	Responsible Party	Status	Estimated Start Date	Estimated Completion Date	Actual Completion Date	Notes
Finalize and/or update SCIL and SSCP						
Implement Safety and Security Certification Committee						
Implement Fire Life Safety Committee						
Verify design criteria, PHA, TVA, change orders are implemented within the project						
Review status of quality nonconformances						
Close-out of non-safety critical items/ non-conformances						
Close-out of safety critical items/ nonconformances						
Complete Safety & Security Certification Verification Report (SSCVR)						
Document Workarounds/Open Items List						
Verify emergency drills, tabletops, training, etc. are completed						
SSO final certification/signature						
FRA?						
Revenue Service						
Target Revenue Service Date						
Public Revenue Service Date						
Revenue Service Date						

ATTACHMENT H – PROJECT MAP



PMOC MONITORING REPORT
February 2024

National Capital Purple Line Light Rail Transit Project
Montgomery and Prince George's Counties, Maryland

Maryland Transit Administration
Baltimore, Maryland
Final

Draft Report Delivered to FTA on ***March 8, 2024***
Final Report Delivered to FTA on ***March 18, 2024***

PMOC Contract No.: 69319519D000016
Task Order No.: 69319520F300095
Project No.: 69319519D000016/69319520F300095
Requisition/Reference No.: FTA-TPM20-20-0106
OPs Referenced: 20, 22, 23, 24, 25, 26, 37, 40
CLINs 0001, 0002, and 0005

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Time on Project: 05/18/2020 through 05/17/2025

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract #69319519D000016, Task Order #69319520F300095. Its purpose is to provide information and data to assist FTA as it continually monitors the management capacity and capability of the Maryland Transit Administration (MTA) (the Project Sponsor) to execute the project efficiently and effectively, and hence, whether the Project Sponsor continues to be ready to receive federal funds for further project development. This report covers the project management activities on the National Capital Purple Line Light Rail Transit Project managed by MTA as the Project Sponsor and financed by the FTA Full Funding Grant Agreement (FFGA). The cost and schedule information in this report was extracted from MTA's submitted information except where noted. The report is organized to comply with the requirements of updated Oversight Procedure 25 – Recurring Oversight and Related Reports, dated June 2020.

THIRD-PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for FTA. This report should not be relied upon by any party, except FTA or the Project Sponsor, in accordance with the purposes as described below.

For projects funded through the FTA FFGA program, FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a Project Sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a Project Sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a Project Sponsor may develop for project execution. Therefore, the information in the monthly reports will change from month to month, based on relevant factors for the month and/or previous months.

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1. EXECUTIVE SUMMARY

1.1. Project Description

The National Capital Purple Line (Purple Line) is a 16.2-mile east-west light rail transit (LRT) line extending inside the Washington, DC Beltway from Bethesda in Montgomery County, Maryland, to New Carrollton in Prince George's County, Maryland. The Purple Line will operate largely at street level in a combination of dedicated and semi-exclusive right-of-way (ROW) and includes segments on elevated structures and in tunnels. The alignment for the Purple Line will provide direct connections to Washington Metropolitan Area Transit Authority (WMATA) service at Bethesda, Silver Spring, College Park, and New Carrollton, Maryland. The project will also connect to all three Maryland Area Regional Commuter rail lines, Amtrak, and local bus routes. The project includes 21 stations, 2 operations control/vehicle storage and maintenance facilities, and 28 light rail vehicles (LRVs). Twenty-five of the LRVs are included in the Full Funding Grant Agreement (FFGA), and the remaining three vehicles are state funded. Maryland Transit Administration (MTA) is executing the project using a Public-Private Partnership (P3) method of project delivery.

As documented in the Federal Transit Administration (FTA) FFGA, the original estimated project cost was $2,407,030,289, and the scheduled Revenue Service date (RSD) was December 31, 2022. On January 26, 2022, the Maryland Board of Public Works (BPW) approved significant revisions to the project cost and the Revenue Service Availability (RSA) date. The new Transportation Infrastructure Finance and Innovation Act (TIFIA) loan closed on April 14, 2022. Financing approvals and subsequent financial close allowed Purple Line Transit Partners (PLTP), the P3 concessionaire, to issue Notice to Proceed (NTP) to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS). MTA prepared a Final Recovery Plan (FRP), which FTA accepted on April 17, 2023, and which had a revised project cost of $5,116,020,380 and a revised RSD of February 28, 2028. In conjunction with the FRP, MTA submitted multiple management plan updates for FTA and Project Management Oversight Contractor (PMOC) review and acceptance.

1.2. Project Status

The FFGA was executed on August 22, 2017. The Purple Line project is currently in the construction phase. Due to a contractual dispute, PLTP demobilized the assets/staff and subcontractors of the original D-B contractor, Purple Line Transit Constructors (PLTC), from the project in September 2020.

On November 24, 2020, MTA and PLTP reached a settlement agreement to release PLTC from the P3 consortium and continue the project with the remaining parties. The BPW approved the agreement on December 17, 2020. PLTP agreed to procure a replacement D-B contractor to complete the project and to obtain project financing.

Despite changes within the P3 consortium, MTA intends to complete the full scope of the project as envisioned in the original contract documents, with some minor exceptions such as the addition of three state-funded LRVs. After a procurement process for a replacement D-B contractor, PLTP

selected MTS (a joint venture of Dragados USA and OHL USA) on November 5, 2021. The contract with MTS was executed on April 14, 2022.

MTA submitted a draft Interim Recovery Plan (IRP), dated December 15, 2020, to FTA, and subsequently prepared and submitted the FRP to FTA. FTA accepted the FRP on April 17, 2023.

MTA made deliberate choices about how to proceed with the major project elements once PLTC was released from the project. MTA's planning criteria included schedule, budget, and the reduction of risk for the replacement D-B contractor. MTA and its Project Management Consultant (PMC) added staff to support subcontractor invoicing, payment processes, and other administrative tasks.

MTA managed, in a General Contractor-type role, a significant number of construction activities during MTA's IRP period, called Operation Step Forward (OSF), and several activities fell behind schedule. Delays related to third-party utility relocations and other unforeseen issues caused MTA to miss milestone dates included in MTA's revised agreements with PLTP that were executed in April 2022. Through October 2023, MTA executed two change orders caused by delays in OSF activities. In early November 2023, MTA completed the OSF activities. As of ***February 2024***, MTA and MTS are evaluating potential budget and schedule impacts from additional MTS claims related to OSF delays. The results of these evaluations are expected in ***March 2024.***

Construction continues under the management of MTS, including activities and elements such as erosion and sediment control maintenance, bridge structures, platform construction, retaining walls, the Glenridge Operation and Maintenance Facility (OMF), and utility installation. The Polk Street Maintenance Facility (for Prince George's County Parks) is complete, and the Paint Branch stream restoration and the Ken-Gar wetlands mitigation projects are complete with the exception of warranty periods.

Completion of the Glenridge OMF has been on or near the critical path and continues to be a focus. MTA completed the majority of the OMF building and utilities, but construction of track that accommodates LRV storage and testing was deferred for completion by MTS. MTS ***has assumed control*** of the facility as ***of February 2024, but disputes remain concerning the*** completeness of the PLTC and MTS performed OMF work. MTS is installing rail, utilities, and other elements both inside and outside of the building.

Delayed completion of the OMF construction upon PLTC's departure required an alternative location to store completed LRVs. MTA reached an agreement with Construcciones y Auxiliar de Ferrocarriles (CAF) to store the LRVs at CAF's Elmira, New York facility until track is ready for delivery of the LRVs. MTS assumed the storage agreement with CAF upon finalization of the replacement D-B contract. ***As of February 2024, the first LRV delivery is scheduled for mid-April 2024. Purple Line Transit Operators (PLTO), the entity that PLTP has under contract to operate the light rail system, will assume storage and maintenance responsibilities of the LRVs once delivered.***

MTA has revised and submitted the Project Management Plan (PMP), Risk and Contingency Management Plan (RCMP), Quality Assurance Plan (QAP), project schedule, Safety and Security Management Plan (SSMP), and Safety and Security Certification Plan (SSCP). On December 28,

2023, FTA accepted SSCP Version 7, concluding the FTA and PMOC reviews of the management plans that MTA had revised in conjunction with the FRP.

MTA provides FTA and the PMOC with updates on the progress of MTS construction activities, MTA oversight activities, and other monthly updates that track project progress.

- Scope: There have been no significant reductions or changes to project scope. Three LRVs were added to the project scope (non-FFGA) to support improved operations once service commences.
- Schedule:
    - PLTC never developed an approved recovery schedule to address the delayed start of construction caused by the environmental lawsuit (please see the **NEPA Process and Environmental Mitigation** section, below, for a discussion of the environmental lawsuit).
    - MTA developed a schedule for the period during which the D-B contractor, PLTC, was being replaced. The IRP included project milestones for PLTP to procure a replacement D-B contractor, obtain new financing, and execute contract amendments with MTA. The IRP period also included development of the FRP. FTA subsequently accepted the FRP that includes a revised RSD of February 28, 2028.
    - See also the **Significant Project Activities and/or Key Milestones** subsection of this Executive Summary, below.
    - Table 1 presents MTA's key milestone dates for the project. The schedule in the FRP is considered the baseline schedule for the project. Through the Quantitative Risk Analysis and processes described in MTA's RCMP, a schedule contingency of 16 months was deemed appropriate. However, the delays attributed to OSF activities have consumed significant contingency. The utilization of a large portion of the schedule contingency at the early stages of MTS's contract is a very significant concern.
    - To clarify schedule terminology used by MTA: The RSA date is a contractual date critical to the agreement between MTA and PLTP. The RSD is the contractual date tied to FTA FFGA funding and other project approvals.
    - MTA and MTS have executed two change orders related to delays attributed to OSF activities. These change orders extended the project RSA date by 207 days to May 24, 2027. MTA and MTS are currently reviewing additional potential delays and opportunities for schedule recovery. The RSA date in MTA's ***February 2024*** master project schedule is ***November 1, 2027,*** and the float for the RSD milestone is ***119 days.*** However, MTS's ***January 31, 2024*** project schedule indicated ***270*** days of additional delay, which results in an RSA date of ***February 4, 2028.*** MTA and MTS are developing schedule mitigation options and their associated cost impacts in attempt to reach a mutually accepted change order and RSA date.

Table 1 – MTA Master Project Schedule Dates

Activity	Current MTA Master Project Schedule (*Dated February 1, 2024)* Milestone
Original FFGA	August 22, 2017
Financial Close / NTP / Amendment Agreement Effective Date for Revised PLTP Agreement	April 14, 2022
Commencement of Integration Testing	September 2, 2025
Commencement of Trial Running	May 27, 2026
Construction Complete All Segments	November 12, 2026
RSA	***November 1, 2027***
FFGA RSD (includes contingency)	February 28, 2028

- Cost:
  - The project's documented expenditures are ***$3,276,860,181.60 through January 31, 2024***. The current Estimate at Completion (EAC) for the project (construction, management, and LRVs) is $5,116,020,380.00. This budget has been accepted by FTA, and MTA has adopted it as the project cost.
  - The accepted project cost includes $307,293,174 of unallocated contingency, of which ***$220,955,293.37*** has been committed through change orders (although not yet fully expended), leaving ***$86,337,880.63*** in unallocated contingency that is not yet committed.
  - Refer to **Table 4 – Core Accountability Items**, in Section 1.5 below, for additional project cost information.
  - MTA prepared a summary of actual versus planned expenditures for high-level OSF activities in Standard Cost Category (SCC) format and is updating this summary each month. Through ***February 22, 2024***, MTA forecasted OSF expenditures of $475 million, which exceed the original OSF budget by approximately $55 million. This amount excludes scope and cost transferred from MTA to MTS. The PMOC has requested an update on the OSF expenditures, and MTA has indicated that it will prepare a revised final EAC for OSF ***in May 2024.*** Significant OSF delays impacted MTS's activities, thus adding to the cost increase that can be attributed to OSF, although ***not all of those impacts are included in the final EAC.***
  - The budget includes funds to address nonconforming construction by PLTC. MTA incorporated known defects into the contract with MTS. However, MTA must pay to address any defects unknown at the time of execution of the MTS contract. In February 2023, MTA estimated the total cost of these unknown defects to be approximately $10 million. Nonconforming PLTC work and several other disputes are being evaluated by MTA and MTS, and each is included as an item in the Risk Register.

- Several disputes were to be considered at the Dispute Resolution Board (DRB) meeting scheduled for February 28, 2024. The findings of the DRB are not binding. ***Feedback from the DRB meeting is expected in March 2024.***

- Significant Project Activities and/or Key Milestones:

  The COVID-19 pandemic impacted the project in different ways and at different levels. The impacts were primarily related to availability of resources and labor. MTA, the PMC, and other project staff followed recommended COVID-19 protocols. On January 30, 2023, MTA suspended COVID-19 protocols for the project.

  - The third lawsuit filed by the Friends of the Capital Crescent Trail in January 2019 against U.S. Army Corps of Engineers (USACE) was dismissed in April 2020. The plaintiff subsequently filed an appeal on May 11, 2020. The District Court denied the appeal on May 13, 2021. The decision resolved the last active lawsuit related to the project.
  - The original baseline schedule indicated design completion by late fall 2017. The progress through ***February 22, 2024***, is that 214 of the 218 total planned design packages have been issued as Released for Construction (RFC). The packages that remain in design or approval include fare collection, the fire management system at the WMATA/Silver Spring Transit Center (SSTC) combined station, guideway signage, and the train control system. The most significant remaining design package, train control, will not be 100 percent complete until July 2024. The PMOC observed that MTS indicates that the design portion of its contract is 99.9 percent invoiced and paid. The requirements of MTA's D-B contract with MTS include the payment of all design costs in the first 15 months of initiating the MTS contract, regardless of progress.
  - ***As of February 2024***, there is a dispute pending related to the cost of design changes that were made after execution of the agreement with MTS. MTA's team estimates that the disputed amount is approximately $15 million.
  - WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX Corporation [CSX] ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of ***February 2024*** for the SSTC and other locations where WMATA and Purple Line stations coincide. MTA reports that the slow resolution of these issues has not impacted critical path activities. ***MTA will provide an update on its coordination with WMATA in March 2024.***
  - Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. One jack-and-bore installation remains to be completed by MTS, and as of ***February 2024, is scheduled for spring of 2024.***

- Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. MTA is supporting coordination of construction activities that will occur during a planned WMATA shutdown in the summer of 2024. ***The Purple Line is taking advantage of the WMATA service outage to perform work near and above the tracks.***
- MTA and Washington Suburban Sanitary Commission (WSSC) reached agreement on the relocation of the 66-inch water main that was under the Glenridge OMF. The water main has been relocated, and this part of the project is now considered fully complete.
- PLTC reached resolution on the final remaining Alternate Technical Concept (ATC) identified during the proposal process, which is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA reviewed PLTC's design package for National Environmental Policy Act (NEPA) compliance. Final documentation for the ATC is still pending as of ***February 2024.*** MTA will schedule a review of the documentation with FTA as soon as it is complete, which is expected to occur in April 2024. MTA and MTS optimistically predict that the ATC will have no Section 4(f) impacts or other impacts to the project's Record of Decision (ROD).
- MTA has completed its non-P3 construction contract activities, as follows:
  - Prince George's County Parks (Parks) Polk Street Maintenance Facility D-B – A substantial completion letter was issued to the contractor on March 30, 2021. Parks has taken possession of the facility, and the warranty period has expired. The only remaining action for this portion of the project is a real estate swap that will transfer the maintenance facility property to Parks in exchange for the property needed by MTA for the Purple Line project.
  - Offsite Wetlands Mitigation (Ken-Gar) – The Design-Bid-Build construction NTP was issued on September 5, 2019. The one-year warranty review occurred on January 9, 2022, and the project is now in quarterly monitoring and annual reporting by MTA that will continue through 2028.
  - Offsite Stream Mitigation (Paint Branch) – The Design-Bid-Build construction NTP was issued on September 5, 2019, and the contractor mobilized in late November 2019. Quarterly monitoring and annual reporting by MTA will continue through 2028.
- Building construction at the Glenridge OMF is essentially complete; however, construction of items outside of the building continues, as does final commissioning of systems inside the building. MTS was scheduled to take possession of the Glenridge OMF on December 31, 2022, but that did not occur because MTA had

several remaining items to complete. Although official transfer of the facility ***did not occur until January 2024***, MTS has performed work in and around the OMF ***for the last year***.

- Preparation of Traction Power Substations (TPSSs) continues. As of ***February 2024***, TPSSs Q1, Q8, Q7, and QYG ***are in place, and installation of TPSS Q03 is scheduled to occur within the next 60 days***.
- The following is the status of LRV manufacturing as of ***February 22, 2024:***
  - All 25 of the vehicles in the FFGA project scope description and one additional vehicle are designated as "Ready for Shipment" and are in storage at CAF's facility in Elmira, New York. These vehicles are under a schedule of inspection and maintenance until delivery can occur.
  - MTA has added three vehicles by change order to CAF's contract. The additional LRVs will support better operations at the RSA date. It is important to note that these three additional LRVs are not a part of the FFGA between MTA and FTA. One of the three additional vehicles is in storage in Elmira along with the 25 FFGA LRVs. All ten railcars that make up the two remaining vehicles are in final assembly.
  - The previously identified quality issue related to the M33 bolt on the LRV trucks is not resolved ***as of February 2024.*** Additional failures occurred in November and December 2023, and the truck manufacturer in Germany performed additional tests. MTA previously indicated that a Root Cause Analysis (RCA) will be performed for this issue. In the PMOC's opinion, the RCA is prudent, in addition to development of corrective actions. ***In January 2024, CAF concluded that the main/root cause of the issue was a misalignment of the bolts during assembly. CAF will now examine 50 gear boxes to determine whether the assembly process has been addressed. If it has been addressed, the RCA will be completed, and the maintenance manuals will be modified and tools provided to PLTO.*** The PMOC recommends that the quality process also be included in the RCA, along with design, fabrication, and assembly processes. CAF does not believe that this issue will impact delivery of the vehicles, which currently is scheduled for spring of 2024.
  - Delivery of vehicles was expected to begin in spring of 2021; however, the location for their delivery was uncertain because the Glenridge OMF was not ready to accept railcars. MTA and CAF negotiated an agreement for CAF to store the completed railcars in Elmira to await delivery. The terms of the agreement became a part of MTS's agreement. ***As of February 2024,*** deliveries of LRVs to the Glenridge OMF ***are now scheduled to begin in mid-April 2024***. ***The PMOC recommends that MTA expedite the planning and completion of readiness activities for delivery of LRVs, such as testing and certifications.***

  - The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. The audit indicates that the percentage of U.S. domestic content is 66.74 percent, which meets FTA requirements.
  - MTA staff visited the CAF facility in Elmira, New York, in October 2023 to observe the 26 stored vehicles and the 2 vehicles currently being assembled.

- MTA is responsible for providing offsite stormwater mitigation in Montgomery County. To date, MTA has accumulated a credit for more than 10 acres of designed, Maryland Department of the Environment (MDE)-approved, offsite stormwater management (SWM) capacity in its "bank." MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS.
- ROW acquisition activities continue for the original required 464 private parcels and 137 public parcels (a total of 601 parcels). All of the private parcels related to the original P3 contract Exhibit 9 FFGA scope are in MTA's possession for construction. ***As of February 2024***, ***428*** of the 464 private parcels have completed settlement, and a number of parcels have settlements pending.
- MTA has identified 188 small property acquisitions that are required for utility relocations, of which 134 are private and 54 are public. As of April 25, 2023, all of the additional properties were in MTA's possession through Right of Entry (ROE), through options, and/or through agreements. As of ***February 22, 2024,*** MTA estimated that ***approximately $34.3 million*** of exposure remains in the acquisition process. This amount is included in the risk assessment and in the available project contingency.
- To date, 177 required property relocation agreements are complete. Costs for the completed relocations continue to be processed in accordance with the applicable procedures. As of ***February 22, 2024***, there is one relocation offer pending for a property that the former owner still occupies. ***One*** additional relocation may be required.
- MTA estimates that necessary extensions of Temporary Construction Easements (TCEs) will cost approximately $13.2 million. ***As of February 2024,*** this amount has been included in the risk assessment and in the project contingency.
- Preparation for safety certification is an ongoing process for MTA, including the development of the appropriate checklists for both design and construction. Design Criteria Conformance Checklists (DCCCs) are more than 99 percent validated. Construction Specification Conformance Checklists (CSCCs) are 18 percent validated. ***As of February 2024, MTA is currently preparing plans, including operating rules for vehicle testing on the test track, in advance of vehicle delivery. Testing is scheduled to begin in late spring 2024.***

- MTA adjusted staffing of management personnel to address the varying activities that MTA was managing during the OSF period. On May 25, 2023, MTA communicated the departure of Executive Director Matthew Pollack, Deputy Project Director and Contracting Officer Anita Rodgers, and Director of Communications David Abrams, from the Purple Line project team. A new Deputy Project Director, Alexa Heidrich, started with the Purple Line project team on July 26, 2023. Kathryn (Kat) Lamb joined the team in August 2023 as the Communications Director, which completes the hiring for open senior staff positions for the Purple line project. In December 2023, MTA replaced PMC Project Director Jim Mitchell with Brian Freerks. As of ***February 22, 2024,*** a new MTA Transit Development and Delivery (TDD) Executive Director ***has not been hired.*** The TDD Executive Director will be responsible for the Purple Line project in addition to other State of Maryland transit projects. In ***February 2024***, MTA informed the PMOC that the project's Deputy Communications Director position ***is being advertised***, the Construction Manager ***will not be replaced***, and the new Quality Manager ***has been in the position for one month***. The Deputy Project Director currently is serving as the Contracting Officer, and the Deputy Project Director's duties have been temporarily transferred to the Project Director. The PMOC reiterates its concerns related to MTA staff continuity and will continue to monitor MTA's management capacity and capabilities.
- MTA carefully considered a request from Montgomery County to single-track the Purple Line through the Bethesda tunnel. Maryland Department of Transportation (MDOT)/MTA determined that it would not be able to accommodate the request.
- MTA and PLTP coordinated to obtain a modified version of the existing TIFIA loan for the project. On April 14, 2022, the TIFIA loan closed, and all bonds were marketed. MTA was required to update the Transportation Investment Program and State Transportation Investment Program plans to reflect changes in the project.
- MTA's Equal Employment Opportunity Officer assigned to the project is Marcques Washington. He is supporting MTS in its hiring program and monitoring project adherence to hiring of specific companies and personnel. As MTS ramps up construction, it is making significant progress toward achieving the project's hiring, wage, and Disadvantaged Business Enterprise (DBE) goals. The PMOC continues to recommend that MTA report the projected end-of-project values for these goals in addition to the current values to allow for a more comprehensive evaluation of progress toward meeting the goals. MTA states that due to the D-B contracting method being utilized to deliver the project, continuous diligence is required to monitor and promote contracted DBE work in the current and upcoming work packages, making it challenging to project future values of DBE participation.
- MTA hired a consultant team that is analyzing alternatives for providing security and fare enforcement services for the Purple Line. MTA does not currently have existing facilities or staff that can adequately provide these services because the distance from their location to the Purple Line light rail facilities is too far. In late April 2023,

MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on Memorandums of Understanding (MOUs) with other local jurisdictions, and developing a facility to house the district. ***As of February 2024,*** the PMOC continues to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget***. MTA stated that this implementation plan will be completed on March 31, 2024.***

- MTA held several Community Advisory Team meetings in October 2023 and completed these meetings in November 2023. MTA will hold the next round of Community Advisory Team meetings ***on Tuesdays and Thursdays each week in May 2024.***

1.3. Major Issues and/or Concerns

Table 2 discusses any major issues or concerns impacting the project's scope, schedule, cost, risks, quality, safety, etc.

Table 2 – Current Major Issues and Concerns

Issue/Concern	Continuation of the project after PLTC's departure was a significant challenge for the project. The replacement D-B contractor, MTS, has now been under contract to PLTP since April 2022. MTA is providing oversight of MTS activities.
Date Identified	September 2020.
Status	The IRP was approved in January 2021, and an update was approved in July 2021. MTA has completed the FRP, which FTA reviewed and accepted in April 2023.
Project Sponsor Action	Management of a transition plan and support of PLTP in the replacement of the D-B contractor was the focus of the Project Sponsor. Another focus was the management of MTA's contractors to continue key activities that maintained the integrity of the schedule under OSF.
PMOC Recommendation	Now that the construction directly managed by MTA is complete, the PMOC recommends that MTA focus on effective oversight of the D-B contractor, MTS. The PMOC recommends that MTA ensure that sufficient staff is dedicated to oversight, execution of the accepted management plans, and implementation of process improvements. The PMOC observes that effective oversight of safety and quality processes remains a challenge for MTA.
Issue/Concern	According to the PMP, the master project schedule should be updated monthly.
Date Identified	2022.
Status	Ongoing.
Project Sponsor Action	FTA accepted the FRP schedule in April 2023 as the new project baseline schedule. Two significant change orders, both of which are based on delays to OSF activities, have caused a substantial utilization of the schedule contingency outlined in the FRP. Additional delays have been identified, and MTA is coordinating potential schedule recovery with MTS. Compensation for the delays will be negotiated between PLTP/MTS and MTA, as appropriate.

PMOC Recommendation	The PMOC continues to recommend that MTA track all schedule elements according to the FRP and report status to FTA and the PMOC each month. MTA should employ additional methods of evaluating schedule progression and performance, including earned-value metrics, to identify issues as soon as possible. The PMOC recommends that MTA secure a mutually agreed-to (with MTS and PLTP) revised baseline schedule before executing any change order that commits compensation for delays. The PMOC observes that a baseline schedule acceptable to both MTA and the concessionaire has not been in place ***for at least four months.***
Issue/Concern	Changes in the project have significantly impacted the project cost as reflected in the original FFGA. The April 2023 FRP includes a revised project cost estimate and a cost contingency intended to address remaining project risks.
Date Identified	September 2020.
Status	Ongoing.
Project Sponsor Action	MTA should continue to monitor project progress against the total project cost estimate. As of July 2023, two significant change orders, both of which were based on delays to OSF activities, caused substantial utilization of the cost contingency outlined in the FRP. Additional delays have been identified, and MTA is coordinating potential schedule mitigation (which would support cost mitigation) with MTS. Disputes between MTA and MTS are impacting project contingency.
PMOC Recommendation	The PMOC recommends that MTA consider the results of the pending Quantitative Risk Analysis and, if necessary, adjust the cost and schedule contingencies.
Issue/Concern	MTA does not have a police force located in proximity to the Purple Line.
Date Identified	September 2022.
Status	As of May 2023, MTA had determined a preferred alternative for providing security and fare enforcement, and had identified several next steps for implementation.
Project Sponsor Action	MTA's preferred security alternative includes the creation of a new Southern District of the MTA Police Department and will require associated staff, operating procedures, and a facility. ***MTA indicates that it will prepare the written implementation plan for the required security services by March 31, 2024.***
PMOC Recommendation	Although the currently forecasted RSA date is in 2027, the PMOC recommends that MTA promptly move toward implementation of the preferred security alternative. MTA should identify the parties responsible for implementing the preferred alternative and determine a detailed schedule and budget in a written plan. The PMOC also recommends that the State Safety Oversight Agency be included in the review and comment process for security and fare enforcement.
Issue/Concern	The Lost Time Injury Rate and Total Case Incident Rate have increased significantly since 2022. The current rates are significantly higher than the stated project goals. The PMOC notes that there are inconsistencies in incident reporting between MTA and MTS. The PMOC has observed that, although MTA has repeatedly stated that it recognizes the need for improvement in the safety process, no improvement or visible process changes have occurred.
Date Identified	April 2023.
Project Sponsor Action	MTA states that it has increased coordination with MTS through additional biweekly coordination meetings. MTA has acknowledged the need for safety process improvements. In November 2023, MTA stated that MTS had replaced its safety director and added safety staff, although MTA did not review the qualifications of the new director or staff.

PMOC Recommendation	The PMOC recommends that MTA review MTS safety staff qualifications and that MTA and MTS review the safety procedures and the implementation of those procedures to identify opportunities for improvement. The PMOC also recommends that MTA and MTS complete the safety process review as soon as practical and that MTA prepare a written summary. The summary should include the action items and the responsible parties for each. In addition, the PMOC recommends that MTA consider dedicating additional resources to construction safety (i.e., resources dedicated to only the construction portion of the Purple Line project). MTA should also consider preparing a comprehensive monthly safety report under the direct supervision of the Senior Project Director and confirm whether their oversight practices are in compliance with the SSMP.
Issue/Concern	***Plans for testing, inspection, and certification in advance of LRV delivery are not complete. LRV delivery is scheduled to begin in mid-April 2024, and MTA has scheduled media events related to vehicle delivery for early May 2024. The PMOC is concerned that the necessary preparations may not be complete when the LRVs begin to arrive.***
Project Sponsor Action	***MTA indicates that plans for readiness activities for LRV delivery are not yet complete. Temporary Use Notifications will be required to place the vehicles on the tracks. MTA states that the responsibility for readiness activities lies with the P3 concessionaire.***
PMOC Recommendation	***The PMOC recommends that MTA expedite readiness activities for LRV delivery (inspection, testing, and certification) and that MTA engage sufficient resources to provide oversight of the related concessionaire activities.***

1.4. Status of Key Indicators Dashboard (Post-grant)

Table 3 shows the project Key Indicators Dashboard after the FFGA was awarded.

Table 3 – Key Indicators Dashboard

Project Sponsor:				Maryland Transit Administration	
Project Name:				MTA National Capital Purple Line Light Rail Transit Project	
Date:				***February 29, 2024***	
Project Detail					
Oversight Frequency:				**Monthly**	
Element	**Status**			**Prior Status**	**Issue or Concern**
	● **G**	● **Y**	● **R**		
Project Management Plan		●		●	MTA developed an updated PMP that reflects revised project conditions, and in October 2022, MTA submitted a revised PMP to the PMOC and FTA for review. On February 1, 2023, FTA provided its review comments on the PMP, and on April 28, 2023, MTA submitted the second revision of the PMP to FTA. In May 2023, MTA announced significant changes to the Purple Line leadership staff, including departure of the staff in the TDD Executive Director, Communications Director, and Deputy Project Director positions. In late 2023, MTA filled the vacant Purple Line Deputy Project Director and Communications Director positions. In early 2024, MTA replaced the Quality Manager. ***As of February 2024, the project team has the following open positions: TDD Executive Director and Deputy Communications Director. The Deputy Project Director currently is serving as the Contracting Officer, and the Deputy Project Director's duties have been temporarily transferred to the Project Director.*** This concern also applies to the Management Capacity and Capability (MCC) element below.

Management Capacity and Capability			●	●	Management staff changes within MTA and within the supporting PMC have magnified the need for MTA to focus on MCC issues. Construction safety and quality processes are specific concerns to the PMOC. Also, the Deputy Project Director was reassigned to be the Acting Contracts Officer, and the Project Director has assumed temporarily the Deputy Project Director duties. In addition, the most recent Construction Manager is no longer on the project team, and MTA will not be hiring a replacement. ***In January 2024, MTA provided a revised management staff organizational chart to the PMOC.***
Cost*		●		●	MTA has developed a revised cost estimate that reflects new project conditions. Based on PMOC and FTA review comments and a revised MTA Quantitative Risk Analysis, MTA established a budget contingency that appeared appropriate for the stage of the project at the time. However, large, executed change orders and potential additional change orders have required commitment of a significant portion of the contingency budget. MTA should track project status according to the FRP and the updated PMP and management plans. The PMOC is concerned that significant additional change orders will further reduce the project cost contingency. MTA currently is preparing a Quantitative Risk Analysis, which will inform project cost and contingency decisions.
Schedule			●	●	MTA has a revised master project schedule that incorporates the current project status in place. Despite the execution of several change orders with significant contract extensions, there has not been a mutually agreed-to construction schedule since the Initial Baseline Schedule in September 2023. MTA has rejected MTS's schedule updates each month, citing technical issues. It is the PMOC's opinion that change orders that include adjustments to the RSA date should not be executed unless a mutually agreed-to revised baseline schedule is included with the change order.
Quality		●		●	There are a significant number of nonconforming items from the PLTC-constructed work and the work performed under MTA's management of OSF. The PMOC finds that the quality reporting related to OSF activities is inconsistent. Also, it appears that some key quality management staff have not participated in the project for some time due to contractual issues. The QAP has been modified to reflect many of the noted PMOC concerns, and MTA will incorporate the remaining concerns in the next annual QAP update. MTA has also developed a quality dashboard to improve the tracking of quality issues. ***The PMOC has asked MTA to provide an update on quality process improvements in March 2024.***
Safety			●	●	In April 2023, the PMOC noted to MTA that both the Lost Time Injury Rate and the Total Case Incident Rate had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in the incident rates, there continues to be an apparent lack of tracking and reporting of safety issues. MTA recognizes the issue and reports that it has scheduled additional safety coordination efforts. In May 2023, the PMOC requested documentation on these additional efforts, and in July 2023, the PMOC questioned the effectiveness of the efforts. MTA acknowledges the need for safety process improvement. It is the opinion of the PMOC that there may be a lack of emphasis on safety or MCC issues that are affecting safety. On September 28, 2023, MTA provided to the PMOC a brief document that indicated it had performed an audit and proposed several safety process improvements. The PMOC needs additional detail in order to

					evaluate the proposed changes to the safety process. In the opinion of the PMOC, MTA's processes related to construction safety require significant improvement. MTA should enhance its comprehensive safety reporting under the direct supervision of the Project Director.
Risk		●		●	MTA updated the RCMP and the Risk Register to reflect the changes driven by the FRP and updates to the project management plans. In May 2023, FTA accepted the RCMP but also noted additional comments that MTA should address in future updates to the plan. In November 2023, MTA held a risk workshop and began a Quantitative Risk Analysis (QRA). MTA's QRA is scheduled to be completed ***in March 2024***, and results will be shared with the FTA and PMOC at that time.

Legend	
Green	Satisfactory: No Corrective Action necessary.
Yellow	Caution: Risk/Issues exist. Corrective Action may be necessary.
Red	Elevated for immediate Corrective Action: Significant risk to the health of the project.

*Note: With regard to cost, the colors indicate the following status:
Yellow – Forecast cost exceeds the project budget by up to 3%.
Red – Forecast cost exceeds the project budget by more than 5%.

1.5. Core Accountability Items

Table 4 shows the core accountability items for the project, including the current status of the project and the major issues and how they are being addressed.

Table 4 – Core Accountability Items

		Original (Grant)	Current Forecast	PMOC Assessment of Current Forecast
Cost	Capital Cost Estimate	$2,407,030,289	$5,116,020,380	Acceptable
Contingency	Unallocated Contingency	$90,535,748	***$86,337,881***	Acceptable
	Allocated Contingency	$59,500,464	***$20,650,000***	Acceptable
	Total Contingency	$150,036,212	$106,987,881	Acceptable
Schedule	Revenue Service Date	12/31/2022	02/28/2028	Acceptable

Project Progress		**Amount ($)**	**Percent of Total**
Total Expenditures	Actual cost of all eligible expenditures completed to date	***$3,276,860,182***	***64.1%***
Planned Value to Date[1]	Estimated value of work planned to date	Not Applicable (N/A)	N/A
Actual Value to Date[1]	Actual value of work completed to date	N/A	N/A

Contract Status		**Amount ($)**	**Percent of Total**
Total Contracts Awarded	Value of all contracts (design, support, construction, equipment) awarded; % of total value to be awarded	To Be Determined (TBD)	TBD
Construction Contracts Awarded	Value of construction contracts awarded; % of total construction value to be awarded	TBD	TBD
Physical Construction Completed	Value of physical construction (SCCs 10-50) completed; % of total construction value completed	***$1,109,555,169***	***57.1%***

Rolling Stock Vehicle Status	Date Awarded	No. Ordered	No. Delivered
28 total car sets[2]	First 26 LRVs: 2016 Additional 2 LRVs: January 2022	28 car sets	0
Next Quarterly Progress Review Meeting Date:	***May 8, 2024***		

[1]Earned value information is not available.
[2]The approved FFGA includes a total of 25 LRVs.

2. OBSERVATIONS AND FINDINGS

2.1. Summary of Monitoring Activities

The PMOC received an update from the Purple Line project team during ***the February 22, 2024,*** virtual monthly meeting with MTA, the PMC, and the PMOC. MTA provides supplementary information before the PMOC monthly meetings. ***On February 6, 2024, the PMOC visited the project site with MTA staff. On February 7, 2024, the PMOC attended and subsequently prepared meeting notes for the FTA/MTA Quarterly Progress Review Meeting at MTA offices in Baltimore, Maryland. On February 8, 2024, the PMOC attended a meeting with MDOT (the State Safety Oversight Agency [SSOA] for the project), MTA TDD, MTS, PLTP, and PLTO staff to review the Rail Safety Oversight Program and the responsibilities of PLTO compared to those of MTA's Public Transportation Agency Safety Plans (PTASP).*** PMOC monitoring activities include review of MTA-provided scope, schedule, risk, financial, construction, safety and security, and real estate information.

After the U.S. Court of Appeals reversed the vacation of the ROD in July 2017 (refer to the **NEPA Process and Environmental Mitigation** section, below, for details), the FFGA was executed on August 22, 2017. In September 2020, the construction (D-B) contractor, PLTC, left the project, and a new project delivery plan was developed, including replacement of the D-B contractor. During the period when the replacement D-B contractor was being solicited, MTA managed specific construction and design activities (OSF activities) in order to reduce uncertainty and support the project schedule. On November 5, 2021, MTS was selected as the replacement D-B contractor, and financial and commercial close occurred on April 14, 2022. MTA managed OSF construction and design activities to their completion or until the activities were transferred to MTS. MTS is performing construction activities across the entire project corridor.

MTA and MTS held initial partnering activities during which they developed relationships, general project priorities for teamwork, and an understanding of key issues for different stakeholders. MTA provided partnering process information to FTA and the PMOC on March 29, 2023. As of August 2023, MTA had replaced the consultant who was leading partnering activities and is developing new processes to facilitate the coordination and relationship between MTA and the MTS/PLTP team. MTA held an internal partnering meeting on October 27, 2023, to help align MTA and PMC staff. On December 11, 2023, a partnering session was held, and MTA, MTS, PLTP, and PLTO participated. One of the main points of discussion was the schedule mitigation efforts that are currently in progress. ***In February 2024***, ***MTA provided a summary of project goals developed during the December 2023 partnering session. MTA said that action items related to the partnering session goals are incorporated into many project meetings, and senior***

executives from MTA, PLTP, and MTS meet frequently. The next scheduled partnering session will be held in June 2024. ***The PMOC repeated the request that PMOC and FTA staff be invited to future partnering events.***

2.2. Oversight Triggers

The oversight triggers most applicable to the project are the Oversight Procedure (OP) 25 cost and schedule triggers. The project did not have a mutually agreed-upon baseline schedule between March 2017 and September 2022. Significant schedule delays and a significant increase in project cost keep the project eligible for rigorous oversight. Project schedule delays typically impact project cost, another significant indicator of project health. MTA has developed a revised project EAC in conjunction with development of the project's schedule and FRP. Significant utilization of schedule and budget contingencies has occurred since development of the FRP. In the opinion of the PMOC, significant additional cost and schedule impacts are occurring.

2.3. Project Management Plan and Sub-plans

2.3.1. Project Management Plan

The PMOC reviewed the Purple Line PMP Version 10 in accordance with OP 20 for a PMP at the FFGA execution stage of a project. Subsequently, FTA and the PMOC reviewed Versions 11, 12, and 13. Due to significant project team changes since those versions, another update to the PMP was required. In October 2022, MTA provided an updated PMP (Version 14) to FTA and the PMOC for review, and FTA and the PMOC provided comments on PMP Version 14 to MTA. On April 27, 2023, MTA provided PMP Version 15, which FTA accepted, with comment, on June 21, 2023. ***In February 2024, MTA provided a summary of its forecasted dates for updating the management plans.*** According to best practices, the recent staff changes and fluid project conditions may warrant revisions to some or all of the management plans before the regularly scheduled updates.

2.3.2. Safety and Security Management Plan

In February 2016, the PMOC reviewed the project's SSMP Version 6, dated October 22, 2014, in accordance with OP 22 for a project at the FFGA execution stage. The PMOC review found that the SSMP was compliant with FTA content requirements for execution of the FFGA, but the PMOC requested that MTA resubmit the SSMP after execution of the FFGA and address the comments in the PMOC report with updated information from the P3 concessionaire. Subsequently, FTA and the PMOC reviewed SSMP Versions 7 through 11 over the next four years. MDOT, which is the SSOA for the project, also reviewed SSMP Versions 8 through 11. On January 13, 2022, FTA provided comments on SSMP Version 12 to MTA. MTA submitted SSMP Version 13 as well as Version 5 of the Purple Line SSCP to FTA and the PMOC for review in October 2022. FTA and the PMOC reviewed the SSCP and SSMP updates and provided their comments to MTA in February 2023. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the revised SSMP in August 2023, and the revised SSCP on December 28, 2023. The PMOC ***continues to recommend*** that

MTA evaluate whether its current oversight processes are in compliance with those specified in the SSMP.

2.3.3. Quality Assurance Plan

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on QAP Version 10 to MTA. MTA then submitted a revised QAP to FTA for review in May 2023, and FTA and the PMOC provided comments to MTA in June 2023. In July 2023, MTA provided a response to each specific comment and committed to submitting a revised QAP in August 2023. On August 11, 2023, MTA resubmitted the QAP as Version 12. A technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023, after which the PMOC recommended acceptance of the plan and that MTA should incorporate the outstanding items into the next regularly scheduled plan update. On October 6, 2023, FTA accepted the QAP contingent upon MTA's acceptance of the PMOC recommendations.

The PMOC requested that MTA provide more complete documentation for quality-related activities. In September 2023, MTA presented the PMOC with a quality process dashboard that MTA had developed to display monthly statistics on audits, Deficiency Notices, Nonconformance Reports, and quality oversight assessment reports.

MTA meets with PLTP, the PMC, and the General Engineering Consultant (GEC) monthly to review quality status. On January 25, 2024, MTA introduced the new Quality Manager, Turyalai Momand. ***In February 2024, MTA stated that it is developing a full schedule of quality audits to be performed in 2024. When asked about a number of very old deficiency notices and instances of non-conforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of final sign-offs by managers. MTA is deferring some other older open quality items until the related issues can be addressed without impacting the project schedule critical path.***

MTS also performs significant Quality Assurance/Quality Control (QA/QC) activities and reports having more than 60 full-time quality staff assigned to the project. ***In February 2024***, those QA/QC activities by MTS included:

- Offsite inspections of structural steel girders and canopies, Overhead Contact System (OCS) poles and hardware, traffic signal poles***, special trackwork, and other items being fabricated offsite***.
- ***34*** Design Services During Construction reviews and ***20*** design submittal reviews.
- Completion of numerous quality audits of MTS and subcontractor work, testing, and quality plans.
- Approximately ***700*** materials tests.
- Approximately ***400*** materials samples.

In 2022, MTA frequently provided notes from monthly CAF and SNC-Lavalin LRV manufacturing quality meetings for PMOC review. The information provided a summary of issues

and corrective actions, and upcoming quality audits. MTS is now responsible for preparing these notes.

One manufacturing quality issue, the recurring failure of the M33 bolt in multiple vehicles, has not been resolved ***as of February 2024.*** MTA determined that the issue does not impact safety, and the solution is likely the use of a higher strength bolt. Additional failures occurred in November and December 2023, and the truck manufacturer in Germany performed additional tests. MTA previously indicated that an RCA will be performed for this issue. ***In January 2024, CAF concluded that the main/root cause of the issue was a misalignment of the bolts during assembly. CAF will now examine 50 gear boxes to determine whether the assembly process has been addressed. If it has been addressed, the RCA will be complete, and the maintenance manuals will be modified and tools provided to PLTO.*** MTA does not believe the issue will impact delivery of the vehicles, which is scheduled ***for mid-April 2024.***

2.3.4. Real Estate Acquisition Management Plan

The PMOC reviewed the project's Real Estate Acquisition Management Plan (RAMP) Versions 10, 11, and 12. The PMOC reviewed the plans with respect to the guidelines in OP 23 for a project in the construction phase. MTA submitted an updated RAMP Version 13 to FTA and the PMOC in October 2022. FTA provided review comments on RAMP Version 13 to MTA on February 27, 2023, and accepted RAMP Version 13 with comments.

2.3.5. Fleet Management Plans

The current version of the Bus Fleet Management Plan (BFMP) is BFMP Version 8.1, which was submitted for FTA/PMOC review on February 12, 2016. The PMOC completed its review of BFMP Version 8.1 and on March 4, 2016, issued its final OP 37 BFMP review report, concluding that the BFMP met the requirements of OP 37 for the execution of an FFGA for the Purple Line project. On January 24, 2024, MTA provided to FTA and the PMOC BFMP Version 10. This plan addresses updates for the period from 2021 through 2023 and is dated September 2023.

2.3.6. Risk and Contingency Management Plan

In early 2020, MTA commenced another update to the RCMP to incorporate the results of the latest Quantitative Risk Analysis that, in turn, incorporated the results of the replacement D-B contractor resolicitation and the revised project implementation details. MTA held a risk management workshop on January 26, 2021, that focused on the interim period.

MTA provided a comprehensive Risk Register and risk mitigation activities in conjunction with the draft FRP. In preparation for a risk analysis, MTA held risk assessment interviews with individual risk owners to review existing risk items and identify new risks. In December 2021, MTA prepared an updated Risk Register that includes over 100 risk items, including PLTP and MTS risks.

At a risk workshop held the week of May 2, 2022, the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. MTA confirmed and finalized the Risk Register and prepared the Quantitative Risk Analysis and an

update of the RCMP. The PMOC developed a draft summary of the risk and contingency review results. FTA provided a risk summary to MTA on June 22, 2022, for MTA's consideration while it was updating the RCMP. MTA provided responses to FTA's comments on the risk summary on July 15, 2022, and provided further clarification on August 25, 2022. MTA submitted RCMP Version 15 to FTA and the PMOC for review in October 2022. In February 2023, FTA and the PMOC provided comments on the revised RCMP, which supported MTA's development of the project's budget and schedule contingency. MTA subsequently submitted the revised RCMP Version 16, dated April 21, 2023, and FTA accepted it on May 22, 2023.

In November 2023, MTA held a risk workshop and began a Quantitative Risk Analysis. Project risks were reassessed, and information needed to reevaluate cost and schedule contingencies was determined. MTA expected to complete the Quantitative Risk Analysis and contingency review in January 2024. However, the efforts by MTA and MTS to re-baseline the project schedule have not been completed. The updated schedule is necessary for the assessment of schedule risk and development of contingency recommendations. When the Quantitative Risk Analysis is complete, MTA will share the results with FTA and the PMOC.

2.3.7. Safety and Security Certification Plan

Version 3 of the Purple Line SSCP is dated November 4, 2014. The PMOC review found that the SSCP Version 3 met the FTA requirements in support of the FFGA application. MTA submitted SSCP Version 4 on February 3, 2020, in conjunction with the updated SSMP submittal (see the **Safety and Security Management Plan** subsection, above). The SSOA completed its review of SSCP Version 4 and discussed its comments with the PMOC. MTA decided that the new emergency management working group would be a subcommittee to the Fire Life Safety and Security Committee, and this decision would be reflected in the next revisions of the SSMP and the SSCP, which were planned for after the replacement D-B contractor was in place. MTA submitted SSMP Version 13 and SSCP Version 5 to FTA and the PMOC in October 2022. In February 2023, FTA and the PMOC completed their reviews and provided comments on these plan documents to MTA. MTA provided a response to the SSCP review comments to FTA and the PMOC in May 2023. On July 12, 2023, the PMOC and MTA held a call to review and reconcile PMOC/FTA comments on the SSCP. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023 and accepted the current SSCP (Version 7) on December 28, 2023.

2.4. Management Capacity and Capability

MTA continues to identify and assign sufficient Management Capacity and Capability (MCC), as needed, to complete the project in compliance with applicable FTA requirements. These efforts have included bringing staff, either MTA or MDOT personnel or consultants, onto the project to manage the current needs, such as planning, P3 procurement and contracting, real estate acquisition, and construction.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. It was proposed that Roland Carroll, the Purple Line systems safety and construction safety lead,

add the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to the new quality management role. The PMOC has evaluated this change as a part of the PMP review and will continue to monitor management capacity for this function and all positions through ongoing oversight activities. Specific to safety, the PMOC is concerned that there may be a lack of emphasis on safety or on management capacity or capability. Injury rates, particularly for OSF activities, are higher than the MTA goals. Also, reporting of injury and incident statistics is inconsistent. ***As of February 2024***, the PMOC continues to have concerns specifically related to construction safety. See **Section 2.16**, below, for more detail.

In March 2023, MTA hired John Donovan in the role of Construction Manager and also formed a commercial project controls team. These changes were in response to: (1) the near completion of OSF and (2) the need to support the management of MTS's increasing amount of work.

On May 25, 2023, MTA communicated the departure of Executive Director Matthew Pollack, Deputy Project Director and Contracting Officer Anita Rodgers, and Communications Director David Abrams from the Purple Line project team. Project Director Ray Biggs, Jim Mitchell of the PMC, and MDOT Chief Financial Officer Jaclyn Hartman were leading the project while those vacated positions were being filled. Ken Forsythe's role changed from his role as Deputy Project Director to the interim Director of Communications role. A new Deputy Project Director, Alexa Heidrich, started with the Purple Line project team on July 26, 2023. Kathryn (Kat) Lamb joined the team in August 2023 as the Communications Director, which completed the hiring for the open senior staff positions for the Purple Line project at that time. In August 2023, MTA provided an updated Purple Line organizational chart that included those newly hired staff. In December 2023, MTA replaced PMC Project Director Jim Mitchell with Brian Freerks.

In January 2024, MTA communicated a significant number of staff changes both within MTA and within the PMC.

- Construction Manager John Donovan is no longer on the project. MTA stated that two existing project staff, Mike Gales for Civil Construction and Melvin Henderson for Systems Construction, remain with the project. It is unclear who Mike, Melvin, and the two other staff who reported to John Donovon will report to now.
- The new MTA TDD Executive Director has not been ***identified or hired as of the February 2024 Quarterly Progress Review Meeting.*** The TDD Executive Director will be responsible for the Purple Line project in addition to other State of Maryland transit projects.
- Quality Manager Fahad Moazziz has been replaced by Turyalai Momand.
- Deputy Communications Director Gary Witherspoon has left the project and will be replaced.
- Deputy Project Director Alexa Heidrich is now the Acting Contracting Officer. Project Director Ray Biggs will assume her Deputy Project Director duties temporarily.

The PMOC continues to express its concern regarding MTA's MCC. Open positions, a lack of continuity, and staff serving in multiple roles all pose a risk to the quality of the oversight the Project Sponsor must provide. Shortfalls in MCC may be causing some of the other issues that the PMOC has identified, such as construction safety and quality management challenges.

2.5. NEPA Process and Environmental Mitigation

2.5.1. NEPA Process

FTA issued a ROD on March 19, 2014. The National Park Service issued its ROD on July 16, 2014.

MTA has continued to submit environmental re-evaluations as required based on design advancement and other causes. To date, PLTC (before it left the project) and MTA have prepared multiple packages, primarily for minor Limits of Disturbance (LOD) cases, which were submitted to FTA for review and have received FTA concurrence. The most recent status ***(as of February 2024)*** of NEPA items is:

- MTA submitted an additional LOD case at Sligo Creek that is moving through the MDE and USACE processes. MDE granted approval on January 10, 2024. MTA will submit the necessary information to FTA, however, MTA reports that FTA review is not a schedule critical task at this time.
- The ATC for the Bethesda Station jet fan has been vetted, and final documentation is being prepared for submittal to FTA for concurrence that the ATC meets project requirements. Final documentation for the ATC is still pending as of ***February 2024***. MTA will schedule a review of the documentation with FTA as soon as it is complete, which is expected to occur in April 2024. MTA and MTS optimistically predict that the ATC will have no Section 4(f) impacts or other impacts to the project's ROD.

On August 3, 2016, in response to the lawsuit filed by the Friends of the Capital Crescent Trail against FTA, a federal judge filed his Order and accompanying Memorandum Opinion. In those documents, it was ordered that the ROD for the Purple Line project be vacated and remanded, and that a Supplemental Environmental Impact Statement (SEIS) be prepared, in accordance with the accompanying Memorandum Opinion. In a subsequent Order and Opinion filed on November 22, 2016, the judge, in part, revised the earlier Order by remanding to FTA the responsibility to determine whether an SEIS is required; however, the ROD remained vacated. On May 30, 2017, the judge issued his ruling that dismissed the lawsuit except for the reassessment of the impact of declining Washington Metro ridership in the Purple Line project's Environmental Impact Statement. The Washington Metro ridership aspect of the ruling was immediately appealed by the Maryland Attorney General. On July 19, 2017, the U.S. Court of Appeals reversed the vacation of the ROD and set an expedited schedule for the appeals process. The appeals hearing occurred on November 1, 2017. The U.S. Court of Appeals issued its ruling on December 19, 2017, in which the judges ruled in favor of FTA and the project, and ruled that the transit agencies would not have to conduct a new environmental study to examine other potential routes for the Purple Line.

The Friends of the Capital Crescent Trail filed a second lawsuit after the FFGA signing and after the groundbreaking ceremony was held on August 28, 2017. The September 19, 2017, Preliminary Hearing for this suit resulted in no temporary injunctions or restraining orders, and project construction proceeded as the case progressed through the court system. On December 5, 2017, FTA and MTA filed a Motion to Dismiss. The plaintiffs subsequently amended and significantly revised the complaint in December 2017, and on March 1, 2018, MTA and FTA filed a Motion to Dismiss. On March 29, 2018, the plaintiffs filed their response. On March 5, 2019, the judge ruled in favor of FTA.

The Friends of the Capital Crescent Trail filed a third lawsuit in January 2019, this time against USACE. The USACE legal staff and the Office of the Attorney General provided the defense. MTA filed a motion to intervene on behalf of USACE. In early May 2019, the plaintiffs filed an objection to MTA's motion, but during the week of July 15, 2019, the Court authorized MTA to intervene on behalf of USACE. In October 2019, USACE filed for a Summary Judgment to Dismiss the case, and the plaintiffs filed their response; a hearing date was set for March 23, 2020. However, in late February 2020, the assigned judge recused himself from the case, and the scheduled hearing was canceled. In mid-April 2020, the District Court ruled in favor of the USACE/MTA motion for a Summary Judgement to Dismiss, and the case was dismissed. The plaintiff subsequently filed an appeal on May 11, 2020, and the case continued in the legal process. Oral arguments related to the appeal occurred on March 11, 2021. The District Court denied the appeal on May 13, 2021. The decision resolved the last remaining lawsuit related to the project.

2.5.2. Environmental Mitigation

The project achieved the required mitigation for reforestation through the purchase of 82.5 acres of offsite credits (combined, in both Montgomery County and Prince George's County). This amount of offsite credits is expected to be more than needed, and the P3 concessionaire will monitor that this remains the case. PLTP's Forest Conservation Plan (FCP), which documented a need of 75.73 acres, was formally submitted to the Maryland Department of Natural Resources (DNR) in August 2016 for approval. The DNR concurred with the FCP on January 31, 2017, and the final approved FCP was received from DNR on July 31, 2017. As LOD cases are identified, they are also reviewed against the FCP credits to maintain an accurate accounting of the reforestation mitigation. In Maryland, need is based on land disturbance rather than only forest removal. MTA's tracking of additional disturbance due to the progress of design and construction indicated that the total need is still within the amount of available offsite credits.

The Joint Permit Application for Wetlands and Stream Mitigation was formally submitted to USACE and MDE in August 2016. In late February 2018, MDE issued its Non-Tidal Wetlands and Waterways permit in advance of the USACE permit, even though it was a joint application. However, because time had passed since the permit was drafted, MDE updated and issued the finalized permit the first week of April 2018. USACE completed its NEPA and conditions review as well as its public interface, receipt of comments, and comment resolution, and issued the Section 10 404 Permit on March 14, 2018. This timing supported MTA's planned advertisement for the Wetlands and Streams Mitigation construction contracts. In October 2018, the project submitted a request to USACE and MDE to extend the duration of the permits until December

2021 to accommodate the longer construction periods resulting from construction moratoriums for forests and streams. The project received approval from MDE during the week of December 3, 2018, and received the USACE approval letter in mid-June 2019.

The project team has been addressing the environmental mitigation for wetlands through the development of the offsite Ken-Gar location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. The construction contract was advertised on May 3, 2019, bids were received on June 10, 2019, and the bids underwent MTA Procurement Department review. BPW approval of the award was received on September 4, 2019. As of June 2021, the Ken-Gar wetlands mitigation project was complete and had completed its one-year warranty period. See the **Construction** section of this report, below, for further discussion of the status of this Ken-Gar Wetlands Mitigation construction contract.

The project team has addressed the environmental mitigation for streams through the development of the offsite Paint Branch location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. MTA advertised the Paint Branch Stream Mitigation construction contract on March 8, 2019. After the bid due date was extended several times, proposals were received on May 21, 2019, and underwent MTA review and evaluation. BPW approval of the award was received on September 4, 2019. The Paint Branch stream restoration is complete, and warranty corrections (partial replanting) occurred in December 2022. See the **Construction** section of this report, below, for further discussion of the status of this contract.

The project has plans to address stormwater mitigation, beyond what can be mitigated on the project site, through retrofitting offsite locations in both Montgomery County and Prince George's County. On November 12, 2021, MTA determined that there is a need for additional stormwater mitigation in Prince George's County. A project to construct additional stormwater mitigation is included in the scope of work for MTS.

The joint MTA and University of Maryland (UMD) technical board resumed meetings in December 2021 to coordinate efforts related to the mitigation of noise, vibration, and electromagnetic interference at the UMD facilities. Following this meeting, the members of the joint technical board voted to approve the outstanding design packages. This action effectively ended the activities of the technical board until the LRT is in trial running.

The Purple Line project team submits quarterly Environmental Mitigation Monitoring Reports for the project. MTA managed the environmental mitigation and monitoring activities as the project transitioned to the replacement D-B contractor, MTS. Because MTS is now performing construction, MTA will monitor the environmental activities performed by MTS. On November 30, 2023, MTA provided the Third Quarter 2023 Environmental Commitment and Mitigation Monitoring Program Report. The report conveys the status of progress toward meeting commitments in the ROD that was issued in March 2014 and any pending actions required. In the report, MTA notes that "no problems, gaps, nonconformances, or NEPA issues of any sort were found during this quarterly assessment."

The MTA Purple Line team communicated that MDE has implemented a change to the state's construction dewatering monitoring and turbidity requirements. Pumped water discharge from

construction sites will need to meet specific requirements—something that Maryland lacked but is common in many states. MTS has indicated that these requirements are a change to the project scope of work and is developing a change order request. In September 2023, MTA and MTS participated in training for managers on the new requirements, and a future round of training for field staff is being planned. Activities on the project currently are functioning under the new MDE requirements.

As of February 2024, MTA is still coordinating with FTA on the NEPA Programmatic Agreement because the agreement expires in March 2024.

2.6. Project Delivery Method and Procurement

The majority of the capital cost of the Purple Line project has been packaged into a Design-Build-Finance-Operate-Maintain P3 contract. This delivery method fits the state's legal definition of a P3 in that it involves a long-term, performance-based agreement between MTA and a private entity (the P3 "concessionaire") in which appropriate risks and benefits are allocated in a cost-effective manner between the contractual partners. The P3 concessionaire is intended to perform some functions normally undertaken by the transit agency, but MTA remains ultimately accountable for the Purple Line project and its public function.

MTA negotiated an approximate 36-year P3 contract, including nearly 6 years of construction and 30 years of operations, and on March 2, 2016, announced that PLTP had been selected as the P3 concessionaire. Commercial close of the P3 contract occurred on April 7, 2016, and financial close occurred on June 17, 2016.

In late April 2020, PLTC notified PLTP that due to PLTC's forecasted schedule delays on the project (which did not receive agreement from MTA), PLTC intended to exercise the clause that allowed it to terminate its contract with PLTP for the design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that would include a definitive path forward. On the response due date of May 14, 2020, PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement to MTA, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice essentially refuted the validity of the PLTP delay claims and stated that if PLTP fails to perform, MTA has a number of options related to the P3 Agreement. Through July 2020, construction activities continued at the levels previously planned and were not affected by the dispute.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a Temporary Restraining Order (TRO) that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO occurred before the expiration of the TRO on September 14, 2020, and the court rescinded the TRO, allowing PLTP to leave the project.

When an agreement was not reached, the bond holder firms had the first right to take over the project. However, MTA planned an alternate path forward based on its exercise of step-in rights. To that end, MTA assumed the contracts of over 100 subcontractors, indicating MTA's intent to continue the project. MTA adjusted staffing for construction management, resident engineers, and inspectors to move forward with the project.

On November 24, 2020, MTA and the P3 concessionaire, PLTP, reached a settlement agreement to release the project's D-B contractor from the P3 consortium and continue the project with the remaining parties. The state's BPW approved the settlement agreement on December 17, 2020. Activities set out in the agreement and the IRP have proceeded with multiple modifications to milestone dates as needed.

The agreement included the following key aspects, as MTA has communicated to the PMOC:

- PLTP agreed to procure a replacement D-B contractor to complete the project and to obtain project financing. The selection of the preferred replacement D-B contractor, MTS, occurred on November 5, 2021. The TIFIA loan for the project closed on April 14, 2022, allowing financial close and commercial close on that same day. MTS is now the D-B contractor for the project.
- The settlement agreement provided a mutual release from all disputed and undisputed amounts (incurred before September 28, 2020) for PLTP, PLTC, and subcontractors. The agreement also released outstanding litigation among the parties.

2.7. Design

2.7.1. MTA Design

MTA's GEC completed the project design to approximately the 30 percent design level in fall of 2013 and provided incremental enhancements through late 2015. This design formed the basis of the Request for Proposals (RFP) for the P3 contract. See the **P3 Design** subsection, below, for a discussion of the advancement of this design by PLTC, the former PLTP partner that was responsible for the design and construction of the capital project, and continued design under MTA.

There is a dispute pending related to the cost of design changes that were made after execution of the agreement with MTS. MTA's team estimates that the disputed amount is approximately $15 million.

MTA was responsible for the design and construction contracts under a Design-Bid-Build delivery method (separate from the P3 scope) for the following projects:

- Stream mitigation – MTA completed the 100 percent design packages in June 2017 and received approval from MDE in May 2018. Construction of the stream mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.

- Wetlands mitigation – MTA completed the 100 percent design packages in June 2017. Several design adjustments were subsequently made based on MDE and Montgomery County comments. The construction contract was advertised on May 3, 2019. Construction of the original wetlands mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.
- Offsite SWM sites – MTA completed design and obtained MDE approval of more than the P3 contract-required 5 acres of offsite mitigation in Montgomery County on May 29, 2018. In late October 2019, MTA received MDE approvals for the next 5 acres to be added to the mitigation credit "bank," thus satisfying the contract requirements for 2019. MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS.
- See the **Environmental Mitigation** subsection of this report, above, for the current requirements.

MTA also completed the design to support a D-B contract for the replacement of the existing Parks Maintenance Facility with a facility on Polk Street. Construction of the facility is now complete. See the **Real Estate Acquisition and Relocation** and the **Construction** (MTA Scope) sections of this report, below, for further details.

2.7.2. P3 Design

PLTC's design progress was forecasted to achieve substantial design completion of Civil packages in August 2020, substantial design completion of Systems packages (except for Fare Collection) in September 2020, and completion of the Fare Collection design package in 2021. The original baseline schedule anticipated design completion by late fall 2017. As of August 2020, the number of planned Civil, Systems, and Utility design packages was 218.

Upon the departure of PLTC, MTA contracted with the project's engineer of record, Atkins, to continue to advance the design of limited aspects of the project.

The current progress through ***February 22, 2024,*** is that 214 of the 218 total planned design packages have been issued as RFC. The packages that remain in design or approval include fare collection, the fire management system at the WMATA/SSTC combined station, guideway signage, and the train control system. ***The most significant remaining design package, the design package for train control, is scheduled to enter final design review in June 2024.*** The PMOC observed that MTS indicates that the design portion of its contract is billed out to 99.9 percent. The requirements of MTA's D-B contract with MTA include the payment of all design costs in the first 15 months of its contract with MTS, regardless of progress.

The State Highway Administration approved the last traffic signal package in October 2023.

An item related to design has been added to the Risk Register regarding an intelligent interface device that could impact implementation and operational costs. MTA and MTS have agreed to

put this design change item before the Dispute Resolution Board for feedback, because MTA believes that the change in question would be a betterment that PTLP selected.

PLTC reached resolution on the final remaining ATC identified during the proposal process. The ATC is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA is reviewing the design package for NEPA compliance. Final documentation for the ATC is still pending as of ***February 2024***. MTA and MTS are coordinating to address the noise and aesthetic impacts of the fans, and they optimistically report that the ATC will have no Section 4(f) impacts or associated impacts to the ROD.

MTA and CSX worked to resolve issues related to the applicable design criteria and which project areas were affected until, in July 2019, a mutually agreeable path forward was defined for all areas. The following is the current status of the issues and their resolutions:

- To address CSX comments that would have disallowed passenger amenities (fare gates and ticketing kiosks) on the SSTC mezzanine connector pedestrian bridge above CSX tracks, and that would have required a 25-foot vertical clearance, MTA, PLTC, and CSX reached consensus on a design to interpret this area as a "building concourse." In May 2020, CSX indicated that the final design is acceptable. Revised documents, providing some minor clarifications related to ROW, were submitted to CSX on September 8, 2020, and ultimately CSX approved the design. The revised documents were submitted to WMATA several times in early 2021.

- WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of ***February 2024*** for the SSTC and for other locations where WMATA and Purple Line stations coincide. MTA reports that the slow resolution of these comments has not impacted critical path activities.

- An encroachment into the CSX vertical clearance was discovered upon installation of girders at the SSTC. An exception was requested from CSX to allow the ¾-inch encroachment to remain. CSX denied the exception. MTA and the designer prepared for a contractor to jack and shim the structure to create the required clearance. Construction of this work was completed in August 2021.

- Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. ***The Purple Line is taking advantage of the WMATA service outage to perform work near and above the tracks.***

- CSX provided review comments disallowing revised drainage networks, related to the Capital Crescent Trail work, which would connect to CSX's existing drainage culverts. The work on the Capital Crescent Trail is not part of the FFGA and is separately funded by Montgomery County. As a result of work with Montgomery County, the connections were relocated from CSX property to Montgomery County property and therefore are no

longer a CSX issue. To fully accomplish this approach, two connections required resolution. Montgomery County acquired two parcels of land from CSX (not FFGA-funded) and then accepted responsibility for one connection currently under the responsibility of CSX. Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. ***As of February 2024,*** MTS has one more jack-and-bore installation of culvert pipe yet to complete. This culvert installation is not on the project critical path and is scheduled for ***the summer of 2024.***

2.8. Real Estate Acquisition and Relocation

As of February 2024, the total number of planned property acquisitions is 601, including 464 privately owned properties and 137 public acquisitions. All of the original Exhibit 9 FFGA-scope private parcels in the P3 contract are in MTA's possession, some of which are properties that continue in condemnation under the State Highway Administration process. To date, ***425*** of the original 464 private properties have completed settlement, several additional properties (not part of the original 464 private properties) are pending settlement, and ***24*** condemnations remain to be settled.

All required public properties have been available for construction when needed. Several public property rights transfers are currently being coordinated to accommodate sidewalk changes, utility easements, and ROW exchanges.

As the project has progressed and new utility relocation needs have been identified, additional small parcel acquisitions have been added to the total as utility down-guys. In December 2017, PLTC initially submitted a list of approximately 280 such parcels related to utility relocations and subsequently added to that list. MTA resolved that it would acquire these properties, rather than execute amendments to the utility agreement that would have the utility companies perform this function. MTA's ability to perform appraisals in house for these parcels or to waive appraisals for low-value, uncomplicated parcels has been expediting the process somewhat. ***As of February 22, 2024,*** the list of additional acquisitions totals 188 parcels, and several more acquisitions potentially may be needed for stormwater facilities. Of these parcels, 54 are public property and will be acquired by agreement, and 134 are private acquisitions. Sixty-six of the 188 properties were filed for condemnation, excluding those that were subsequently optioned or settled, and 17 condemnations remain to be filed. MTA estimates that approximately ***$34.3*** million of exposure remains in the acquisition process. This amount has been included in the Quantitative Risk Analysis.

The project required a total of 176 relocations, of which 57 were residential and 120 were businesses. To date, 177 of those identified relocations have been completed in accordance with the applicable procedures, and ***one*** active claim remains to be settled. Also, MTA is monitoring terms of agreement of the property acquisitions discussed above that have not yet completed settlement, because some of them could potentially result in the need for additional relocations. ***As of February 2024, there is one*** new relocation related to commercial properties that potentially will be needed.

In August 2023, MTA indicated that the goal for completion of all real estate transactions is December 2024.

On April 25, 2023, MTA reported that BPW had approved the last of seven critical project acquisitions. These acquisitions were required to allow MTS access to construction areas that include activities on or near the critical path.

Properties that have not yet settled due to disputed compensation values have been going to trial in accordance with the ROW acquisition process. MTA is tracking actual acquisition costs versus planned expenditures, so that contingency can be effectively managed, and MTA shares this information with the PMOC. Based on actual settlement amounts and projected amounts for those not yet closed, settlement/condemnation values are 57.5 percent higher than the original 2014 SCC budget for ROW. MTA included current ROW cost projections in its development of an FRP project cost estimate (see the **Project Cost** section of this report, below).

Due to the extended project duration, some agreements will expire before the expected RSA date. MTA and MTS have started the process of identifying the end dates now needed for the agreements and will begin the process of obtaining extensions. MTA has evaluated the risks, estimated the cost of the extensions, and included those costs in a budget contingency. ***As of February 2024,*** MTA estimates that approximately $13.2 million of risk exposure remains due to necessary TCE extensions. To date, the project has expended $4.6 million on TCE extensions.

2.9. Third-party Agreements and Utilities

All major third-party agreements (specifically, those agreements with Washington Gas, Verizon, Potomac Electric Power Company [PEPCO], CSX, UMD, Montgomery County Parks, Prince George's County Parks, WMATA, WSSC, Montgomery County, and Prince George's County) were executed as of June 7, 2016.

After execution of its third-party agreement, Verizon required that certain lines that are currently overhead be placed underground when they cross the light rail alignment. To minimize the total cost impact of this change, MTA and Verizon reduced the number of locations where Verizon lines cross the alignment to 34. MTA is of the opinion that this reduction is a betterment, and therefore the added cost is Verizon's responsibility, but Verizon has not yet accepted that position. PLTC submitted its cost estimate for placing these 34 locations underground, and after extended cost negotiations between MTA and PLTC while the physical relocations were being implemented, a final change order value of approximately $5.5 million was agreed upon in early March 2019. MTA had planned to negotiate the cost responsibility with PLTC and Verizon after all major Verizon relocations were completed. However, since the departure of PLTC, MTA carries this cost as a betterment outside of the FFGA scope.

In early June 2018, MTA and PLTP completed the negotiation of all remaining third-party agreements with the smaller utility and telecommunications (telecom) fiber companies. According to MTA, most of the minor fiber/telecom utilities are not co-located with the electrical utilities, and, where they are, PEPCO's arrangement with the fiber/telecom utilities does not require PEPCO's relocation schedule to be driven by that of the minor fiber/telecom companies.

In addition, the need for amendments to existing executed agreements continues to be evaluated. The significant items include:

- To date, the design differences with CSX, as discussed earlier in this report, have been adequately resolved through design review and concurrences, and have not resulted in the need to amend the CSX agreement.
- WSSC proposed that the project relocate a 66-inch underground water main that runs through the Glenridge OMF site. In March 2020, MTA and WSSC agreed on a water main alignment primarily in the median of Veterans Parkway, as well as a strategy for completing the relocation. The original Purple Line project GEC performed the design; WSSC provided the material; and MTA separately contracted for the construction, thus avoiding impact to the P3 concessionaire's scope of work. On May 21, 2021, WSSC authorized work, and mobilization began August 9, 2021. Energizing of the cathodic protection was the last remaining activity, and it was completed in November 2023.
- In late July 2022, MTA and MDOT held a summit with the many utility providers that experience relocations related to transportation projects to discuss best practices and improvements to the utility relocation process. As of May 2023, some of the utility providers are experiencing staff shortages that limit construction production rates. These staff shortages present an ongoing challenge to the project.

The project has been addressing its interface with Montgomery County Schools through the third-party agreement already in place with Montgomery County. However, due to the specific concerns related to the schools and the safety and security of the children, MTA drafted a separate MOU with the Montgomery County Schools system, which was approved by the School Board and signed by the School Superintendent, Montgomery County, and MTA. A similar MOU was negotiated between MTA and the Rosemary Hills School and was approved at the School Board meeting on February 12, 2019. MTA submitted a draft second MOU to Montgomery County Schools on November 3, 2022. The Purple Line project team is developing information on the utility pole locations and retaining wall maintenance before going back to the school district for final property transfer negotiations. Work will continue under ROE agreements with these parties through 2024.

As MTS commenced construction work, coordination meetings were held to ensure that prior agreements with third parties (utility companies and others) are followed. It is MTA's position that the transfer of third-party agreements from PLTC to MTA and now to MTS should not allow for a change in the terms of the agreements.

2.10. Construction

2.10.1. MTA Scope

Although the P3 concessionaire is responsible for the majority of the project construction, MTA also has construction responsibility in the areas of the replacement Parks Maintenance Facility (which is part of the real estate effort and budget), wetlands mitigation, stream mitigation, and possibly some offsite SWM sites. MTA has accomplished forest mitigation without the need for

additional construction. The following discussion presents the current status of the MTA construction contracts:

- **Prince George's County Parks Polk Street Replacement Maintenance Facility** – This D-B contract was awarded after the BPW approved the construction contract award on March 20, 2019. Forrester Construction Company completed construction, Parks has taken possession of the facility, and the warranty period has expired. The only remaining action for this portion of the project is a real estate swap that will transfer the maintenance facility property to Parks in exchange for the property needed by the Purple Line project to MTA.
- **Offsite Wetlands Mitigation (Ken-Gar)** – The Wetlands Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The contractor mobilized in December 2019 and completed site surveys and the installation of Erosion and Sedimentation controls. Clearing and grubbing began in February 2020. Prince George's County took partial acceptance of the entire project on March 3, 2021. Acceptable growth of vegetation has been achieved, allowing for closure of this project. The one-year warranty review occurred on January 9, 2022, and now the project requires MTA quarterly monitoring until closeout in 2028.
- **Offsite Stream Mitigation (Paint Branch)** – The Stream Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The pre-construction meeting was conducted on October 24, 2019. The contractor mobilized in late November 2019. The one-year warranty inspection occurred on August 4, 2022, and 1,700 plants were replaced in November 2022.

2.10.2. P3 Scope

Highlights of construction activities ***through February 2024*** throughout the alignment include:

- General: As a result of the dispute with PLTC (see the **Project Delivery Method and Procurement** section, above), all project activities slowed in the fall of 2020. In early August 2020, contractor forces, equipment, and materials were demobilized, and work in some areas ceased. Upon legal action from MTA, partial remobilization occurred. Following the court's rescission of the TRO, demobilization and safe-up activities in the construction area began in earnest in mid-September 2020 and continued into October 2020. Following PLTC's exit, MTA engaged a number of former PLTC subcontractors to continue select project activities. This work was progressed under MTA management with a goal of advancing critical path activities and reducing risk for the replacement D-B contractor.
- Status of P3 (OSF) construction items that MTA managed or manages:
    - Utility installations of all types are complete or have been transferred to MTS, including construction by the electric provider (PEPCO) and the communications

company (Verizon). Water, storm sewer, sanitary sewer, and gas lines are also complete or have been transferred to MTS.

- As a part of OSF, MTA ordered rail, ties, special trackwork, and turnouts to mitigate supply chain risks. MTA also secured materials previously procured by PLTC for use by the replacement D-B contractor (MTS). As of September 2023, a dispute between MTA and MTS over the availability of MTA-supplied materials has been resolved. The materials were located along the project corridor and available for use, resolving the dispute.
- Building construction at the Glenridge OMF is essentially complete; however, construction of civil items outside of the building continues, as does final commissioning of systems inside the building. MTS was scheduled to assume control of the facility in early 2023; however, ***through January 2024***, there was a dispute over the completeness of the OMF that was delaying official turnover from MTA to MTS. ***MTS continued to perform work in and near the OMF during the dispute period. In January 2024, MTS took control of the facility.*** MTS is currently installing rail and other features both inside and outside of the building. MTS will complete the tracks for storage and testing of LRVs.
- Based on the status of construction at the time of PLTC's departure, MTA determined which items would be completed before mobilization of the replacement D-B contractor. OSF construction activities were expected to be completed before September 1, 2022, but some activities continued until November 2023. OSF utility relocations that fell behind schedule caused delays to MTS's work, and delays in OSF activities have driven two MTS change orders ***as of February 2024.*** MTA and PLTP mobilized the Tiger Team to develop schedule alternatives to mitigate additional delays driven by OSF work between March 2023 and July 2023, and the Tiger Team is now evaluating the further delays. ***MTS's January 31, 2024 project schedule indicated 270 days of additional delay, which result*s ***in an RSA date of February 4, 2028.***
- MTA's Equal Employment Opportunity Officer assigned to the project is Marcques Washington, and he is supporting MTS in its hiring program. The former contractor, PLTC, left the project with a shortfall in meeting the requirements of its DBE program, and MTS is required to address this shortfall of approximately $12 million in contract value. In March 2023, MTA reported that the design portion and the nationally targeted worker program of the P3 contract had exceeded the DBE program goal, but the percentage DBE participation for general construction is below the goal. In April 2023, Mr. Washington reported that the DBE participation statistics are improving as construction continues. The PMOC continues to recommend that MTA report the projected values for these goals at the end of the project in addition to the current achieved values to allow for a better evaluation of progress toward meeting the goals. MTA has been performing audits each month to monitor the

Davis Bacon prevailing wage requirements. To date, only very minor issues have been identified during these audits.

2.11. Vehicle Technology and Procurement

The LRVs are five-car vehicles consisting of 136-foot-long, articulated units. Twenty-five vehicles (22 in operation and 3 spares) will be provided under the FFGA for the opening year. PLTP executed the LRV contract with CAF on June 17, 2016, and issued NTP to CAF on July 5, 2016, for the 25 FFGA vehicles. The original NTP to CAF also included one LRV outside of the FFGA.

Later, MTA added two additional vehicles (outside of the FFGA) by change order to CAF's contract, for a total of 28 vehicles to be supplied by CAF. The two additional LRVs will support better operations. MTS has incorporated these two additional LRVs into its scope of work (in addition to the cost and terms of LRV storage in Elmira).

Vehicle carshell manufacturing activities, which are coordinated with design progress, occurred until the facility in Spain was shut down in late March 2020 due to supply chain issues and to limit the spread of COVID-19. The final assembly facility in Elmira, New York, was shut down in early April 2020 due to New York State restrictions related to COVID-19 and reopened on May 18, 2020, at 50 percent of its workforce capacity. As of early August 2020, both the Spain facility and the Elmira facility were back to 100 percent staffing levels.

The final assembly of vehicles is being performed in CAF's facility in Elmira. MTA, its PMC, and SNC-Lavalin are meeting weekly with CAF to resolve all open items for design, testing, and manufacturing activities. First Article Inspections (FAIs) for Interior and Cab were completed on March 18, 2021, and FAIs for Exterior, Roof, and Undercar were completed on April 2, 2021.

Shipment of the first vehicle to the project site was expected in late spring of 2021. The lack of available storage at the yet-to-be-completed Glenridge OMF requires use of an offsite storage facility where vehicles can be stored, occasionally powered, and occasionally "exercised" or moved on tracks. MTA and CAF negotiated an agreement for CAF to store the completed LRVs in Elmira. That storage agreement subsequently transferred to MTS, and its terms are part of MTS's agreement. Twenty-six LRVs have been designated as Ready for Shipment and have been placed into storage in Elmira. MTS's proposed construction schedule establishes when the test tracks will be available for acceptance of the railcars at the Glenridge OMF. Currently, the schedule indicates that initial deliveries of LRVs will occur in early 2024.

The status of the LRV manufacturing as of ***February 22, 2024,*** is:

- To date, 130 carshell segments have been assembled in Spain.
- All 130 carshells have been delivered to CAF's facility in Elmira, New York.
- All 25 full LRVs in the FFGA are designated as Ready for Shipment and are in storage at CAF's Elmira facility. One additional LRV (outside of the FFGA) is also Ready for Shipment and in storage.

- Two additional LRVs are under contract. These LRVs are not a part of the FFGA, but rather are an addition to the contract by MTA to support rail operations. Manufacture of the two additional vehicles (ten cars) in Spain is now complete. All ten of those cars have been delivered to Elmira for final assembly and static testing.
- As mentioned in Section 2.3.3, Quality Assurance, one manufacturing quality issue, the recurring failure of the M33 bolt in multiple vehicles, has not been resolved. MTA indicated that an RCA will be performed for this issue. ***Additional bolt failures occurred in November and December 2023, and the truck manufacturer in Germany performed additional tests. In January 2024, CAF concluded that the main/root cause of the issue was a misalignment of the bolts during assembly. CAF will now examine 50 gear boxes to determine whether the assembly process has been addressed. If it has been addressed, the RCA will be completed, and the maintenance manuals modified and tools provided to PLTO.*** MTA does not believe the issue will impact delivery of the vehicles, which is scheduled for spring 2024.

2.12. Project Cost

Table 5 summarizes the project's current actual expenditures and EAC, and compares them to the project budget as reported in MTA's SCC Workbook dated June 1, 2016, which is the basis of the project's FFGA. The project's documented expenditures total ***$3,276,860,182 through January 31, 2024.*** Refer also to **Table 4 – FFGA Core Accountability Items** in the **Executive Summary** section of this report for details on the project's planned and actual expenditures. The following table shows project budgets, actual expenditures, and forecast at completion amounts through ***January 31, 2024***, compared with the project budget as reported in MTA's SCC Workbook dated June 1, 2016, and MTA's current working budget.

Table 5 – Project Cost Versus Budget

SCC	Cost Category	Budget (June 1, 2016 Original FFGA)	Working Budget[1] (April 3, 2023 FRP)	Expenditures *(as of January 31, 2024)*	Forecast at Completion[1]
10	Guideway and Track	$280,620,726	$371,508,682	***$217,071,340***	$374,463,623
20	Stations	$114,857,016	$161,159,923	***$42,320,088***	***$171,528,112***
30	Maintenance Facility	$94,155,591	$93,454,387	***$86,798,602***	$94,746,621
40	Sitework	$521,968,990	$796,081,289	***$583,906,782***	***$783,717,927***
50	Systems	$263,887,313	$517,256,196	***$179,458,358***	***$517,203,477***
	Subtotal 10–50	$1,275,489,636	$1,939,460,477	***$1,109,555,169***	***$1,941,659,760***
60	Right-of-Way	$229,600,000	$329,126,214	***$296,771,543***	$329,126,214
70	Vehicles	$212,940,927	$292,780,600	***$158,038,215***	$292,584,921
80	Professional Services (total)	$571,658,114	$2,247,359,915	***$1,712,495,254***	***$2,466,311,605***
80.01	Project Development	$87,149,878	$85,469,312	$85,469,312	$85,469,312
80.02	Engineering	$139,766,036	$196,722,013	***$217,827,017***	***$***234,354,725

SCC	Cost Category	**Budget** (June 1, 2016 Original FFGA)	**Working Budget**[1] (April 3, 2023 FRP)	**Expenditures** ***(as of January 31, 2024)***	**Forecast at Completion**[1]
80.03	Project Management for Design and Construction	$148,555,323	$655,185,988	***$423,419,527***	$640,985,062
80.04	Construction Administration and Management	$83,269,280	$734,209,735	***$508,088,700***	***$800,928,881***
80.05	Professional Liability; Other Non-construction Insurance	$34,534,796	$85,701,891	$79,549,426	$79,549,426
80.06	Legal; Permits; Review Fees by Other Agencies, Cities, etc.	$5,805,117	$341,013,320	***$330,682,014***	$476,160,224
80.07	Surveys, Testing, Investigation, Inspection	$15,164,346	$92,504,023	***$62,677,722***	$92,185,741
80.08	Startup	$57,413,338	$56,553,635	$4,781,535	$56,678,235
	Subtotal 10–80	$2,289,688,678	$4,808,727,206	***$3,276,860,182***	***$5,029,682,500***
90	Unallocated Contingency[2]	$90,535,748	$307,293,174	**--**	***$86,337,881***
100	Finance Charges	$0	$0	$0	$0
	Total	$2,407,030,288	$5,116,020,381	***$3,276,860,182***	$5,116,020,380

[1]The Purple Line project Working Budget and Forecast at Completion are based on the accepted FRP, dated April 3, 2023, and subsequent change orders.

[2]The Unallocated Contingency expenditures will be reflected in SCC 10–SCC 80 expenditures as they occur. As of ***February 22, 2024,*** the committed unallocated contingency amount is ***$220,955,293.***

MTA developed the FRP unallocated contingency amount of $307,293,174 by utilizing a Quantitative Risk Analysis, and the RCMP dated April 21, 2023, recommended that amount for unallocated contingency.

In July 2023, the Maryland BPW approved a change order that had a total addition of $204,954,610 of cost and 207 additional days of contract time. The net budget impact to the capital construction portion of the project was $137,144,705, and the balance of the total amount was applied to the financing and lost return on investment for PLTP. The $137,144,705 will be expended over the course of construction; therefore, this amount does not immediately show up in the MTA budget reports. However, that amount, plus the amount of the earlier change order included in the FRP, represents significant utilization of the budget contingency. The PMOC recommends that MTA closely monitor these cost overruns and the potential need for additional contingency. ***As of February 2024, another change order is being negotiated. This change order is expected to impact both the budget and the schedule.***

2.12.1. Project Funding

The funding for the project, as reflected in Attachment 3 of the FFGA, is shown in Table 6.

Table 6 – Baseline Cost Estimate by Source Funding

Initial New Starts Project Cost	Total FFGA Cost in Year of Expenditure (YOE) Dollars	Federal 5309 New Starts in YOE Dollars	Federal 5307 in YOE Dollars	Federal American Rescue Plan Act (ARPA) in YOE Dollars	Federal Surface Transportation Program (STP) in YOE Dollars	Local in YOE Dollars
10 Guideway & Track Elements	$371,508,681	$96,464,907	$0	$0	$0	$275,043,774
20 Stations, Stops, Terminals, Intermodal	$161,159,923	$23,557,000	$0	$0	$0	$137,602,923
30 Support Facilities, Yards, Shops, Admin. Bldgs.	$93,454,387	$29,954,000	$0	$0	$0	$63,500,387
40 Sitework & Special Conditions	$796,081,289	$222,858,301	$0	$0	$0	$573,222,988
50 Systems	$517,256,196	$60,116,405	$0	$0	$0	$457,139,791
60 ROW, Land, Existing Improvements	$329,126,214	$102,108,116	$0	$0	$0	$227,018,098
70 Vehicles	$292,780,600	$80,787,818	$0	$0	$0	$211,992,782
80 Professionals Services	$2,247,359,916	$284,153,453	$41,631,310	$106,163,371	$110,000,000	$1,705,411,782
90 Unallocated Contingency	$307,293,174	$0	$0	$0	$0	$307,293,174
100 Finance Charges	0	$0	$0	$0	$0	$0
Total Project Cost (10-100)	**$5,116,020,380**	**$900,000,000**	**$41,631,310**	**$0**	**$0**	**$3,958,225,699**

Source: Maryland Purple Line Project FRP, dated April 3, 2023.

2.13. Project Schedule

The March 15, 2017 progress update of the master project schedule served as the only approved version of the schedule until September 2022. Numerous submissions of schedule updates from PLTC were not approved for various reasons, but the primary reason was the inability of MTA and the P3 concessionaire to agree on the schedule impacts of the approximately one-year delay in the execution of the FFGA. In response to a letter that FTA issued to MTA in early August 2018 expressing concerns about the amount of time that the project had advanced without an approved schedule, MTA prepared a working schedule update of the master project schedule. The working schedule update was based on the negotiations of the P3 contract schedule occurring at the time, but the update was not based on a mutually agreed-upon P3 contract schedule.

In late April 2020, PLTC notified PLTP that, based on its forecasting of schedule delays on the project (which were not mutually agreed upon), PLTC intended to exercise the clause in its P3 contract with PLTP that allows it to terminate the contract for design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that included a definitive path forward for PLTP's intended management of the P3 contract. On May 14, 2020 (the date the response to the formal request was due), PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice refuted the validity of the PLTP delay claims and stated that if PLTP failed to perform, MTA had a number of options related to the agreement. Through late July 2020, construction activities continued at the level previously planned, and construction progress was not affected.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a TRO that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO was held on September 14, 2020. The court rescinded the TRO, allowing PLTP to leave the project. Through negotiation, it was determined that PLTP would remain on the project, although PLTC would not.

MTA contracted with numerous subcontractors to continue the project. MTA developed organizational options with respect to construction management, resident engineers, inspectors, and other staff needed to move forward select project activities.

It was certain that the project schedule as reflected in the FFGA would be negatively affected, and a Recovery Plan for the project, including a revised project schedule with adequate schedule contingency to address remaining project risks, would be required. MTA submitted its draft IRP to FTA in December 2020, and FTA approved the IRP on January 12, 2021. A schedule for the period during which the D-B contractor was to be replaced was developed, and MTA monitored project progress against the schedule.

PLTP and MTA continued to coordinate during the financial process and State of Maryland approvals for the replacement D-B contractor. In addition, MTA successfully coordinated other key issues that needed to be resolved before PLTP could execute the contract with MTS.

The following is a summary of IRP milestones:

- January 6, 2021 – PLTP issued a Request for Qualifications (RFQ) for replacement D-B contractors.
- March 8, 2021 – PLTP issued an RFP to the short list of replacement D-B contractors based on the RFQ.
- October 15, 2021 – PLTP received RFP responses.
- November 5, 2021 – PLTP and MDOT/MTA selected the replacement D-B contractor firm (MTS).
- January 26, 2022 – BPW approved the replacement D-B contractor, contract amendments, schedule, cost, and financing.
- April 11, 2022 – Private activity bonds went to market.
- September 12, 2022 – MTA approved the Initial Baseline Schedule (IBS).
- October 14, 2022 – MTS was required to have commenced action on the 11 critical elements that are specified in the D-B contract. At the December 2022 PMOC meeting, MTA confirmed that MTS missed the 180-day window to commence action on 3 of the 11 critical elements.

- October 28, 2022 – MTA was required to have submitted a draft FRP to FTA and the PMOC for review and comment. On October 4, 2022, MTA submitted the draft FRP to FTA and the PMOC for review.

A milestone not specifically mentioned in the IRP is the requirement to extend the current RSD. The PMOC therefore added the following milestone to this list:

- December 31, 2022 – The RSD in the original FFGA is December 31, 2022. MTA requested an extension to the current RSD identified in the original FFGA. FTA accepted the FRP, which indicates a revised RSD of February 28, 2028.

The schedule included in the FRP was considered to be the new baseline schedule. The MTS master schedule incorporated the schedule recovery of implementing Maintenance of Traffic and construction activity resequencing, at a cost of $21,343,588, which reduced schedule delays from 218 days to 81 days. These schedule delays are a result of OSF utility adjustments that fell behind schedule. MTS has indicated that delays continued to occur as a result of the MTA-managed OSF work. The second OSF-delay-driven change order, as approved by the BPW in July 2023, added 207 days to MTS's RSA date.

This addition to the RSA date represents a significant use of schedule contingency, which is a concern considering the remaining duration of the project. In an effort to mitigate continuing OSF delays**,** MTA resumed the Tiger Team process (in this case referred to as "Tiger Team 2") to develop schedule alternatives. OSF construction activities were expected to be completed before September 1, 2022, but schedules that MTA previously provided indicated completion of most OSF activities in mid-2023, with some activities continuing up to November 1, 2023. OSF utility relocations that were behind schedule continued to cause impacts to MTS's work, and as of July 2023, delays in OSF activities had driven two change orders. MTA and PLTP have used the Tiger Team process to develop schedule alternatives to potentially mitigate delays driven by OSF work between March 2023 and ***February 2024***. ***MTS's January 31, 2024 project schedule indicated 270 days of additional delay, which results in an RSA date of February 4, 2028.***

2.13.1 Key Milestones

Table 7 shows the current key milestone dates for the project for the prior approved (March 15, 2017) progress update of the current master project schedule. Issuance of NTP to PLTP on April 14, 2022, triggered the contract requirement that an MTA-approved MTS IBS for the full project be in place within 120 days of financial close (by August 14, 2022). In January 2022, MTA submitted a draft version of the master schedule for FTA and PMOC review, and FTA and the PMOC transmitted their review comments to MTA in April 2022. MTS submitted its IBS, and on September 12, 2022, MTA approved it. MTS submitted the 120-day mobilization schedule, which MTA also approved.

In August 2022, MTA and the PMOC discussed the current state of the baseline schedule, particularly the inclusion of adequate float to address schedule risk. The P65 date that MTA proposed before the risk workshop held in May 2022 included approximately seven months of float and an RSA date in October 2026. After MTA performed the Quantitative Risk Analysis for

the updated RCMP, MTA added additional float to address known and unknown schedule risk. The RSD proposed in the FRP is February 28, 2028, and MTA's master project schedule dated ***February 1, 2024, indicates that 17 weeks of schedule float remain. However, the change order that currently is being negotiated and the outcomes of the current update of the Quantitative Risk Analysis will advise schedule float and contingency recommendations.***

The PMOC recommends that MTA closely monitor schedule contingency and the corresponding budget contingency when evaluating the RSA date/RSD and the EAC that have been incorporated into the FRP. The information in Table 7 will be updated once the schedule reviews and approvals are complete.

Table 7 – Key Milestone Dates

Activity	Prior Approved Master Project Schedule (March 15, 2017)	MTA Master Project Schedule (*February 1, 2024*) (working schedule)
Locally Preferred Alternative Approval Date	08/04/2009 (A)[1]	---
FTA Approval to Enter Preliminary Engineering	10/07/2011 (A)	---
FTA ROD	03/19/2014 (A)	---
Issue Final RFP for P3 Concessionaire	07/28/2014 (A)	---
FTA Approval to Start Enter Engineering Phase	08/28/2014 (A)	---
Issue Addenda 4 through 6 to the P3 RFP	07/2015 through 11/2015 (A)	---
P3 Technical Proposals Due	11/17/2015 (A)	---
P3 Financial Proposals Due	12/08/2015 (A)	---
Evaluation and Announcement of Selected P3 Proposer	01/02/2016 through 03/02/2016 (A)	---
BPW Approval of P3	04/06/2016 (A)	---
P3 Commercial Close	04/07/2016 (A)	---
Limited NTP for P3 Engineering	04/07/2016 (A)	---
MTA Submit FFGA Application	05/24/2016 (A)	---
P3 Financial Close	06/17/2016 (A)	---
FFGA Signed	08/22/2017 (A)	---
Start of First Major Construction Activity	08/28/2017 (A)	---
All Significant ROW Acquisition and Relocation	As needed by construction	---
Commencement of Contract Work for Replacement D-B Contractor (MTS)	---	04/14/2022 (A)
Commencement of Integration Testing	---	07/28/2025
All Segments Complete Construction (with Contingency)	---	02/19/2027
RSA Date per P3 Amendment (with Contingency)	---	***11/01/2027***
FFGA RSD (Includes Contingency)	12/31/2022	02/28/2028

[1] A = Actual.

2.13.2 90-day Look-ahead

The critical 90-day (***March 2024 through May 2024***) look-ahead includes activities that MTA highlighted in the recent monthly meeting with the PMOC. MTA and MTS also are preparing four-week look-ahead schedules to manage interim activities. Key activities that MTA has identified for the short term are:

- Completion of Tiger Team 2 activities and settlement of disputes related to OSF delays and impacts on MTS's schedule/cost.
- Completion of the bottom-up Quantitative Risk Analysis and revised recommendations for schedule and cost contingencies.
- Completion of yard track and initial installation of OCS at the Glenridge OMF to support LRV delivery and testing.
- Preparation for the WMATA coordinated track outages at the SSTC to allow work in the summer of 2024.
- Concrete lining installation at the Bethesda Enclosed Trainway.
- ***Installation of TPSS Q03.***
- ***Installation of bridge girders for the Riverdale aerial structure.***
- ***Initial installation of rail in Segment 1.***

2.13.3 Critical Path Activities

In the MTA master schedule update dated ***February 22, 2024***, the critical path runs through the activities in Area 3 utilities and track (see **Attachment G, Project Map**), and then trial running and systems integration/testing.

2.14 Project Risk

MTA has established a risk management organization that is defined in the RCMP and is overseen by MTA's Risk Management Committee. Two major elements of the RCMP are the periodic performance of a Quantitative Risk Analysis and the maintenance and use of the Risk Register.

During the approximately one-year period during which the ROD had been vacated by the federal judge in his decision related to the Friends of the Capital Crescent Trail lawsuit, MTA did not conduct formal Risk Management Committee meetings, conduct Quantitative Risk Analyses, or perform formal updates of the Risk Register. However, the Purple Line project management team did assess and respond to the risks associated with the unforeseen chain of events related to the lawsuit.

The project team resumed formal Risk Management Committee meetings in October 2017, including individual updates of each risk on the current Risk Register by the risk owner. An overall update of the Risk Register was completed in draft form in January 2018, and was updated further and reissued in March 2018. As an ongoing process, MTA currently is performing updates of the Risk Register periodically, though somewhat less frequently than bimonthly (the frequency

established in its RCMP). The current status of the RCMP is discussed in the **Project Management Plan and Sub-plans** section of this report, above.

MTA provides copies of significant updates of the Risk Register to FTA and the PMOC. The top risks from the project's latest issued update of the Risk Register and PMOC-assessed risks are discussed at the PMOC monitoring meetings with the project team; the project's top five project risks are included as Attachment B of this report and are updated quarterly. A risk management workshop was held on January 26, 2021, at which the PMOC and FTA participated. The workshop focused on the resolicitation period for the replacement D-B contractor (January through October 2021).

Once the replacement D-B contractor was under contract, risk updates were prepared. The project held a risk workshop the week of May 2, 2022, at which the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. Confirmation and finalization of the Risk Register, the Quantitative Risk Analysis, and an update of the RCMP are components of the FRP. FTA provided a summary of the risk workshop to MTA on June 22, 2022, for MTA's consideration and incorporation into its management plans and contingency evaluation. MTA provided responses to FTA comments on the risk workshop summary on July 15, 2022, and clarification on August 25, 2022. In October 2022, MTA submitted RCMP Version 15 to FTA and the PMOC for review. In February 2023, FTA and the PMOC provided comments on RCMP Version 15 to support MTA's development of the project's budget contingency and schedule contingency. On April 21, 2023, MTA provided a revised RCMP to FTA and the PMOC for review, and on May 22, 2023, FTA accepted the revised RCMP with comment. In June 2023, MTA held its quarterly Risk Management Committee meeting, at which it updated the Risk Register to reflect retired and new risk items. Five of the seven new risk items are related to disputes with MTS. Two significant risks were added to the Risk Register—one related to numerous design changes that occurred during OSF but were not reflected in the amended P3 Agreement and one related to a very specific intelligent interface device.

On November 20, 2023, MTA held its quarterly Risk Management Committee meeting. During the meeting, MTA identified the top four project risks that have a risk rating of "Significant."

1. Construction – Exhibit 24 Utility Adjustments
2. Design – TCE Extensions
3. Design – Design Changes
4. Design – Intelligent Interface Device

As a follow-up to the Risk Management Committee meeting, MTA will complete a Quantitative Risk Analysis, re-baseline the project contingency drawdown curves, and update the RCMP. ***MTA will provide this information in March 2024.*** The significant consumption of both schedule and budget contingency is a concern to the PMOC.

2.15 Quality Assurance/Quality Control

The project's QA/QC is addressed in Section 10 of the PMP, the Quality Program Plan, and the updated MTA QAP Revision 8.0, which incorporates the quality plans prepared by PLTC. The **Project Management Plan and Sub-plans** section of this report, above, discusses the most current versions of the PMP and the QAP. MTA also submitted to FTA the package of inter-related quality plans prepared by the P3 concessionaire after the package was reviewed and approved by MTA.

MTA obtained and used PLTP's quality logs and other applicable documents and procedures during the transition to the replacement D-B contractor. Several former subcontractors were under contract with MTA and conducted QA/QC activities during the replacement D-B contractor solicitation period. The budget to address nonconforming construction by PLTC remains a concern as of July 2023. MTA incorporated known defects into the MTS contract; however, MTA has not clarified the specific budget that will be used to rectify defects found since the contract with MTS was executed. MTA estimates that the potential magnitude of this budget impact will be no more than $10 million, and the current Risk Register carries this risk item.

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on the QAP to MTA. MTA provided a revised QAP to FTA and the PMOC in May 2023. Subsequently, FTA and the PMOC made recommendations for revisions to the QAP that MTA committed to include in the next regularly scheduled update to the QAP.

The project has continued to conduct its monthly meeting to review the QA/QC activities performed by the Purple Line project team, including those activities performed by the PMC and the GEC. MTA states that documentation from this meeting is distributed and maintained. The project's Monthly Progress Report to FTA also contains a summary of the significant current QA/QC activities and events, including quality audits and quality reviews. However, in January 2024 MTA did not submit the typical quality program monthly information, citing a change of leadership on the quality team. On January 25, 2024, MTA introduced the project's new Quality Manager, Turyalai Momand.

In February 2024, MTA stated that it is developing a full schedule of quality audits to be performed in 2024. When asked about a number of very old deficiency notices and instances of non-conforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of sign-offs by managers. MTA is deferring some other older open quality items because making corrections now will negatively impact other critical path activities.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. Roland Carroll, the Purple Line systems and construction safety lead, added the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to his new quality management role. The PMOC evaluated this change as a part of the PMP review and will

continue to monitor MTA's management capacity for this function and all positions through ongoing oversight activities.

The PMOC has requested that MTA provide more complete documentation for quality-related activities. MTA modified the QAP to reflect many of the noted PMOC concerns. In addition, a technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023. The PMOC has since recommended acceptance of the QAP contingent upon MTA's incorporation of outstanding items into the next regularly scheduled annual update. On October 6, 2023, FTA accepted the QAP provided that MTA incorporate the PMOC recommendations. MTA has also developed a quality dashboard to improve its tracking of quality issues.

2.16 Safety and Security

PLTP has conducted 44 Preliminary Hazards Analysis (PHA) workshop sessions to date. These workshops were held to resolve MTA's comments on the PHAs completed to date.

To support the ultimate Safety and Security Certification of the Purple Line project, the PLTP System Safety team completed development of its first DCCC in May 2017 and submitted it to MTA for approval. MTA (assisted by the PMC) reviews the DCCCs as part of the Final Design package, according to the established submittal review process. According to PLTP, the DCCCs were being verified before the issuance of RFC packages. To date, an estimated 99 percent of the DCCCs have been verified. All previous comments on PLTP's Certified Elements List (CEL), which includes operations and maintenance and system integration testing elements, have been resolved, and CEL Revision 2 was accepted in March 2020. The Certified Items List (CIL) Revision 1 has been accepted. The next revision of the CIL is expected after MTS completes the design. MTA will provide the revised CIL to FTA and the PMOC as soon as it is completed. Approximately 18 percent of the CSCCs have been verified to date.

MTA chairs a Safety and Security Certification Committee (SSCC) that reviews, comments on, and approves any PLTP hazard management and safety and security certification issues. The first meeting of the MTA SSCC was conducted on March 20, 2018. Since July 11, 2018, the SSCC meeting has been held regularly and will continue as a monthly meeting until the level of activity requires more frequent meetings. ***As of February 2024,*** monthly SSCC meetings continue.

PLTC submitted a Threat and Vulnerability Assessment (TVA), and on July 15, 2019, MTA accepted and verified the comment responses and approved PLTC's TVA. PLTC then completed its TVA process. As of January 2024, the replacement D-B contractor, MTS, is performing a cybersecurity TVA for the project.

MTA continues to conduct bimonthly Fire/Life Safety meetings with Montgomery County and Prince George's County. The meetings provide a basis for the counties' emergency responders to understand the features of the Purple Line systems and to resolve any concerns. Topics of discussion include: Police Department MOUs; Fire Department connection and hydrant locations; access, signage, and station naming conventions; MOUs for training; the PHA at the Glenridge OMF maintenance gate; station names; and addresses/emergency phone numbers for locations

along the corridor. Other topics of discussion have included closed circuit television cameras and Mobile Emergency Vehicle Response access. ***As of February 2024***, it remains the opinion of the PMOC that MTA should emphasize resolving the project's outstanding Fire/Life Safety issues, because progress on the resolution of these issues is not apparent.

MTA police continue coordinating MOUs with local safety agencies and developing MOUs with police jurisdictions (such as the Maryland National Capital Park Police) along the Purple Line. These MOUs are related to training the existing police agencies on how to respond to transit situations. During August 2023, the PMOC reiterated that these processes have been ongoing for several years and that milestones for resolution of issues should be established.

During the September 2022 MTA/PMOC meeting, a larger related issue was discussed at length. The SSOA staff participated in this discussion as well. The crux of the issue is that MTA does not have a police force located in proximity to the Purple Line. MTA hired a consultant team to analyze alternatives for providing security and fare enforcement services for the Purple Line. Alternatives included: expanding MTA's enforcement services geographically, bringing on a third party to provide these services through a contract, or sharing police services with another party. On February 23, 2023, MTA submitted its prepared draft recommendation for providing security and fare enforcement to several State of Maryland departments. Representatives from MDOT, which is the SSOA, who are monitoring the Purple Line project development provided comments on the draft recommendation before MTA submitted it to MTA's upper management and the several state departments. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a new Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on MOUs with other local jurisdictions, and developing a facility to house the district. As of January 2024, the PMOC continues to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget for providing security and fare enforcement services. ***In February 2024, MTA stated that it will complete the implementation plan by March 31, 2024.***

As required by the P3 contract, PLTP is responsible for directly implementing many of the safety and security requirements for the project, including those for construction safety and the collection and maintenance of the Occupational Safety and Health Administration (OSHA) safety statistics for the project. PLTC performed this work until its departure from the project, at which time MTA assumed responsibility. Later, once the replacement D-B contractor was in place, MTS transitioned into the safety and security role that PLTC held. MTS and MTA are holding regular safety and security coordination meetings.

Safety is a PMOC concern. The rate of recordable incidents remains above project goals, and MTA appears to be having difficulties with incident documentation. For the period from January 1, 2023, through ***December 31, 2023***, the OSHA statistics are:

- TCIR (Total Case Incident Rate) (Recordable Rate):
  - Actual: ***4.86*** (MTS)
  - MTS goal: 1.68

- National average: 2.8 (for heavy civil construction)

Note: As of January 2024, the Lost Time Injury Rate (LTIR) is no longer being tracked.

MTA had assumed responsibility for safety oversight during the IRP until MTS assumed control of the project. As of December 2022, MTA reported that MTS needs coaching on expectations for the required reporting of safety statistics. In April 2023, the PMOC noted to MTA that both the LTIR and the TCIR had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in incident rates, there is an apparent lack of tracking and reporting of safety issues. The PMOC has repeatedly noted that there are inconsistencies in incident reporting between MTA and MTS.

MTA states that it recognizes the issue and reports that it has scheduled additional safety coordination efforts. In May 2023, the PMOC requested documentation on these additional efforts, and in July 2023, the PMOC questioned the effectiveness of the efforts. MTA acknowledges the need for safety process improvement. In November 2023, MTA stated that MTS has replaced its safety director and has added safety staff, although MTA did not review the qualifications of the new director or staff. The PMOC recommended that MTA review the qualifications of MTS safety staff and the safety processes and procedures being followed on the project.

The PMOC recommends that MTA and MTS complete a safety process review as soon as practical and that MTA prepare a written summary. In November 2023, MTA's safety director, Roland Carroll, provided an email and attachment that briefly summarized the safety improvement actions. The document does not indicate target dates for implementation, nor the responsible party for these actions. In January 2024, MTA stated that MTS is not following the contractually required incident reporting procedures and timelines, which include a 20-minute verbal reporting requirement and a 24-hour maximum period to submit written documentation of incidents. ***In February 2024, MTA provided 12 months of incident reporting information to the PMOC. The document quality requires improvement and should include identifying information, such as the date and who prepared it. The data indicates that nearly 80 percent of all safety incidents are reported late, some as much as several months. The delayed reporting has occurred for both MTA-managed incidents (under OSF) and for MTS-managed incidents under both the former and current MTS Chief of Safety.***

In the opinion of the PMOC, MTA lacks emphasis on construction safety or there may be a lack of safety-related MCC. It remains the opinion of the PMOC that MTA's processes related to construction safety need significant improvement. The PMOC recommends that MTA consider dedicating additional resources to construction safety (i.e., resources dedicated to only the construction portion of the Purple Line project). MTA should also consider preparing a comprehensive monthly safety report under the direct supervision of the Senior Project Director.

In late October 2022, MTA submitted updated SSMP and SSCP documents in conjunction with the updated PMP. On February 13, 2023, and March 8, 2023, FTA provided review comments to MTA on the SSMP and SSCP, respectively. MTA submitted a revised SSMP to FTA on June 28,

2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023, and accepted the SSCP on December 28, 2023.

See the **Project Management Plan and Sub-plans** section of this report, above, for the status of the sub-plans of the PMP related to safety and security.

2.17 Americans with Disabilities Act

The PMOC confirmed that the Design Criteria Manual applicable to the Purple Line project addresses Americans with Disabilities Act (ADA) requirements, including references to the requirements in the Maryland Accessibility Code, the ADA Accessibility Guidelines for Buildings and Facilities, and the ADA Standards for Transportation Facilities.

Accessibility and compliance with the ADA are required as part of the functional requirements for stations and guideway, and as part of the codes and standards for LRVs within the P3 contract (Book 2, Part 2) for the Purple Line project. Based on project reviews conducted by the PMOC, MTA has confirmed that it included ADA compliance in its QA oversight reviews of PLTC's design packages.

All design reviews include ADA specifically. The contract requires a full-time MTS Maintenance of Traffic construction representative for the project to monitor whether temporary pedestrian accommodations during construction continue to comply with ADA requirements. The contract also includes an incentive program for ADA compliance. The Maryland State Highway Administration also inspects temporary facilities.

MTA indicates that the project is maintaining ADA accessibility along the project corridor during construction. In addition to planning for ADA accessibility, MTA and MTS respond to public concerns due to construction activities and temporary accessibility features.

2.18 Buy America

MTA understands that Buy America compliance applies not only to the rail vehicles but also to the procurement of all manufactured products, including all iron and steel. MTA is also aware that domestic manufacture of all federally funded procurements is required and should be certifiable. Compliance with Buy America regulations is contained in MTA's standard clauses for its procurements, and the P3 contract contains explicit Buy America language in its Appendix 16.

Virginkar and Associates, Inc. conducted the Buy America pre-award audit and concluded that there is reasonable certainty that CAF will satisfy the Buy America requirements as stated in 49 Code of Federal Regulations (CFR) 661. MTA's interpretation is that, because the vehicle RFP was advertised before December 4, 2015 (which is the date of passage of the Fixing America's Surface Transportation Act, also known as the FAST Act), the 49 CFR 661 Public Interest Waiver that limits domestic content to a minimum of 60 percent, as opposed to the escalating domestic content requirements of the FAST Act, applies in this case. During the week of October 2, 2017, an intermediate post-award Buy America audit was conducted of CAF's facility in Elmira, New York, for added confidence that the post-delivery audit would not identify issues. CAF targeted 65 percent domestic content in the completed LRVs.

The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to FTA. On that same day, MDOT also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.

MTS regularly audits its suppliers and subcontractors regarding the construction Buy America requirements. MTS audits its subcontractor's Buy America requirements and any issues are reported in conjunction with the project quality process.

2.19 Start-up, Commissioning, Testing

MTA has begun documentation for the "Roadmap to Revenue Operations" (see **Attachment F**), which includes both MTA and MTS information on integration, testing, and commissioning. MTA submitted an update of Attachment F to the PMOC in February 2024. MTS indicates that it is preparing a System Integration Test Plan. As of November 21, 2023, MTA has developed a process for managing testing submittals and reviews, including detailed tracking of open items. MTS will deliver its full integration and testing plan in May 2024. MTA has not yet contracted with an Independent Integration Engineer to oversee the integration and testing process.

The PMOC recommends that MTA expedite readiness activities for delivery of LRVs, such as testing and certifications. MTA indicates that plans for the activities are not yet complete, and that Temporary Use Notifications will be required in order to place the vehicles on the tracks. MTA states that the responsibility for readiness activities lies with the P3 concessionaire. LRV delivery is scheduled to begin mid-April 2024, and MTA media events related to vehicle delivery are scheduled for early May 2024. The PMOC has concerns that the necessary preparations may not be complete when LRV delivery commences.

The PMOC continues to recommend that MTA incorporate activities and milestones for integration and testing into the master schedule.

2.20 Before-and-After Study Reporting

To be determined.

2.21 Lessons Learned

The resolicitation of a D-B contractor gave MTA the opportunity to apply several lessons learned to the new D-B contract documents and to amend the P3 agreement. After the May 2022 risk workshop with MTA and the PMOC, MTA provided an update on opportunities for improvement that MTA had identified during the resolicitation and is incorporating into the project. MTA and the PMOC will include discussion of lessons learned at future monthly meetings. MTA indicates that it has prepared an initial Lessons Learned summary but is currently revising the document to include information from the MTA-managed OSF activities. MTA will provide this summary when it is complete.

2.22 Action Items

Action Items are identified at MTA/FTA Quarterly Progress Review Meetings, at MTA/PMOC Monthly Update Meetings, and at MTA/FTA Biweekly New Starts Progress Conference Calls. Action Items in ***February 2024*** are as follows:

1. MTA will provide updates to the OSF EAC when all contracts are closed; ***these updates are expected in May 2024***. – OPEN
2. MTA will provide clarification of the difference in safety incident reporting between MTA and MTS. – OPEN
3. MTA will provide initial Lessons Learned documentation. – ***CLOSED***
4. MTA will provide the expected date that the written plan, budget, and schedule for development of police and fare enforcement services will be ready; ***this information is expected March 31, 2024***. – OPEN
5. MTA will share the results of its internal risk review in ***March 2024***. – OPEN
6. MTA will provide an update on the M33 bolt root cause analysis. – ***CLOSED***
7. MTA will provide an organizational chart reflecting recent PMC staff changes. – ***CLOSED***
8. MTA will provide information on the December 2023 partnering session. – ***CLOSED***
9. MTA will provide the Tiger Team 2 results, the schedule and cost impacts related to OSF delays, and the Quantitative Risk Analysis, including revised cost and schedule contingencies. – OPEN
10. MTA will provide the preliminary System Integration and Testing plan. – OPEN
11. MTA will update the "Roadmap to Revenue Operations" (Attachment F) in February 2024. – ***CLOSED***
12. ***MTA will provide an update on quality process improvements, including incorporation of previous FTA and PMOC recommendations for the QAP. – OPEN***

ATTACHMENT A – LIST OF ACRONYMS

ADA	Americans with Disabilities Act
ARPA	American Rescue Plan Act
ATC	Alternate Technical Concept
BFMP	Bus Fleet Management Plan
BPW	Board of Public Works
CAF	Construcciones y Auxiliar de Ferrocarriles
CEL	Certified Elements List
CFR	Code of Federal Regulations
CIL	Certified Items List
CSCC	Construction Specification Conformance Checklist
CSX	CSX Corporation
D-B	Design-Build
DBE	Disadvantaged Business Enterprise
DCCC	Design Criteria Conformance Checklist
DNR	Maryland Department of Natural Resources
DRB	Dispute Resolution Board
EAC	Estimate at Completion
FAI	First Article Inspection
FCP	Forest Conservation Plan
FFGA	Full Funding Grant Agreement
FRP	Final Recovery Plan
FTA	Federal Transit Administration
GEC	General Engineering Consultant
IBS	Initial Baseline Schedule
IRP	Interim Recovery Plan
LOD	Limits of Disturbance
LRT	Light Rail Transit
LRV	Light Rail Vehicle
LTIR	Lost Time Injury Rate
MCC	Management Capacity and Capability
MDE	Maryland Department of the Environment
MDOT	Maryland Department of Transportation
MOU	Memorandum of Understanding
MTA	Maryland Transit Administration
MTS	Maryland Transit Solutions
N/A	Not Applicable
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
O&M	Operations and Maintenance
OCS	Overhead Contact System
OHA	Operational Hazard Analysis
OMF	Operation and Maintenance Facility
OP	Oversight Procedure
OSF	Operation Step Forward
OSHA	Occupational Safety and Health Administration
P3	Public-Private Partnership
PEPCO	Potomac Electric Power Company
PHA	Preliminary Hazards Analysis
PLTC	Purple Line Transit Constructors
PLTO	Purple Line Transit Operators
PLTP	Purple Line Transit Partners
PMC	Project Management Consultant
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QA/QC	Quality Assurance/Quality Control
QAP	Quality Assurance Plan

RAMP	Real Estate Acquisition Management Plan
RCA	Root Cause Analysis
RCMP	Risk and Contingency Management Plan
RFC	Released for Construction
RFP	Request for Proposals
RFQ	Request for Qualifications
ROD	Record of Decision
ROE	Right of Entry
ROW	Right-of-Way
RSA	Revenue Service Availability
RSD	Revenue Service Date
SCC	Standard Cost Category
SCIL	Safety Certifiable Item List
SEIS	Supplemental Environmental Impact Statement
SIT	Systems Integration Test
SOP	Standard Operating Procedure
SSCC	Safety and Security Certification Committee
SSCP	Safety and Security Certification Plan
SSCVR	Safety and Security Certification Verification Report
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSTC	Silver Spring Transit Center
STP	Surface Transportation Program
SWM	Stormwater Management
TBD	To Be Determined
TCE	Temporary Construction Easement
TCIR	Total Case Incident Rate
TDD	Transit Development and Delivery
TIFIA	Transportation Infrastructure Finance and Innovation Act
TPSS	Traction Power Substation
TRO	Temporary Restraining Order
TVA	Threat and Vulnerability Assessment
UMD	University of Maryland
USACE	U.S. Army Corps of Engineers
WMATA	Washington Metropolitan Area Transit Authority
WSSC	Washington Suburban Sanitary Commission
YOE	Year of Expenditure

ATTACHMENT B – TOP PROJECT RISKS

An internal risk workshop to support the Interim Recovery Plan (IRP) was held on January 26, 2021. Maryland Transit Administration (MTA) and Purple Line Transit Partners (PLTP) used information from the meeting as they solicited a replacement Design-Build (D-B) contractor.

A risk workshop was held May 3 through May 5, 2022. After the risk workshop, MTA prepared supplementary or updated documents for review, including an updated Risk Register. FTA provided a risk summary to MTA on June 22, 2022, for MTA's consideration when updating risk, contingency, and other project management plans. MTA incorporated the FTA comments in the revised Risk and Contingency Management Plan (RCMP) that is a part of the Final Recovery Plan. On May 22, 2023, FTA accepted the revised RCMP with conditions.

During the ***February 7, 2024*** Quarterly Progress Review Meeting, MTA presented cost and schedule contingency drawdown curves that indicated significant commitment of contingency reserves. Due to this significant commitment of contingency and the recent completion of the MTA-managed OSF activities, MTA determined that an update to the Risk Register was warranted.

On November 20, 2023, MTA held its quarterly Risk Management Committee meeting. During the meeting, MTA identified the top four project risks that have a risk rating of "Significant":

1. Construction – Exhibit 24 Utility Adjustments
2. Design – Temporary Construction Easement Extensions
3. Design – Design Changes
4. Design – Intelligent Interface Device

As a follow-up to the Risk Management Committee meeting, MTA will complete a Quantitative Risk Analysis, re-baseline the project's contingency drawdown curves, and update the RCMP. MTA will provide the risk update and Quantitative Risk Analysis, including contingency recommendations, ***in March 2024.***

ATTACHMENT C – AWARDED CONTRACTS

Included below is information that MTA provided for the February 7, 2024 Quarterly Progress Review Meeting packet. Please note that the total shown in this table for contracts awarded does not reflect the full project value.

Major Contracts:

Company	Vendor Type	Contract No.	Baseline Amount	Change Order Totals	Current Amount	Pending Change Orders
PB/RK&K	Engineers/ Architects	MTA-1054A	$ 12,000	$ 1,850	$ 13,850	
STV/Jacobs	Engineers/ Architects	MTA-1054B	$ 8,000	$ 1,300	$ 9,300	
AECOM/ RK&K/PB	Engineers/ Architects	MTA-1264A	$ 60,000	$ 338,500	$ 398,500	
Gannett Fleming/WRA	Engineers/ Architects	MTA-1265B	$ 80,000	$ 71,000	$ 151,000	
Purple Line Transit Partners	P3 Concession (design build portion only)	PUR16032PP	$ 1,988,816	$ 1,692,228	$ 3,681,044	
Total			**$ 2,148,816**	**$ 2,104,878**	**$ 4,253,694**	**0**

Reason for Change: *Amendment 6 to the Purple Line Transit Partners P3A was not been previously reflected. The amount shown as "Current Amount" represents that portion of the P3A Design-Build contract associated with the New Starts Program.*

ATTACHMENT D – ROLLING STOCK VEHICLE STATUS REPORT

Date: February 22, 2024

Vendor: Construcciones y Auxiliar de Ferrocarriles (CAF)

Model: Multiple-section 136-foot articulated car (total length is 142 feet coupler-to-coupler), used in a five-car consist per vehicle

Year: The first vehicle was completed in 2021, and currently 26 vehicles are designated as "Ready for Shipment." Completion of the storage and testing facilities at the Glenridge Operation and Maintenance Facility (OMF) has been delayed, so Maryland Transit Administration (MTA) and CAF negotiated terms for storage of vehicles at the CAF facility in Elmira, New York. The storage agreement has now transferred to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS).

Quantity: 25 vehicles (125 cars) were in the original contract (Full Funding Grant Agreement [FFGA]). One vehicle (5 cars) was added to the original CAF authorization by MTA, outside of the FFGA.

In July 2021, two vehicles (ten cars) were added via change order to MTS, also outside of the FFGA.

Identification: The original light rail vehicles (LRVs) will be numbered from 101 through 126. The two additional LRVs will be numbered 127 and 128, respectively.

New Technologies: None planned (all major suppliers have service-proven equipment).

Status and Significant Activities:

- As a part of the original order, twenty-six vehicles (130 cars) were assembled in Spain and delivered to CAF's facility in Elmira, New York, for final assembly and static testing. Manufacture of the additional two vehicles (ten cars) have been delivered to Elmira for final assembly and static testing.
- Delivery of finished vehicles was expected to begin in spring 2021; however, because the Glenridge OMF is not ready to accept railcars, MTA and CAF have negotiated an agreement for CAF to store the completed cars in Elmira.
- Cost risk for delivery of the finished vehicles has been transferred to MTS. If delays in construction cause a delay, then MTS is responsible to CAF for additional storage cost.
- Twenty-six LRVs have passed static testing, have been designated as Ready for Shipment, and have been placed into storage in Elmira. These include vehicle 110, which was returned to Ready for Shipment status after a second period in static testing.
- Delivery of the first of the original 26 vehicles is currently scheduled for April 2024. Approximately one vehicle per week will be delivered thereafter. The Glenridge OMF

will be able to store three or four vehicles on the yard and in the building, so track must be available for additional storage. The Overhead Contact System and Traction Power Substation (TPSS) Q7 and TPSS QYG must also be completed and installed before delivery of vehicles.

- SNC-Lavalin (now an MTS subcontractor) prepares a monthly quality report documenting safety, production, and quality items at the New York production facility.
- MTA, the Project Management Consultant, and CAF are holding weekly coordination meetings to review all outstanding testing and factory/shop activities, including onsite testing procedures for when the vehicles are delivered to Maryland.
- MTS, which has assumed the CAF contract, is preparing and submitting to MTA reports on LRV maintenance activities required during the storage period.
- The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with the evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to Federal Transit Administration (FTA). On that same day, Maryland Department of Transportation also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.
- The resolution of previously identified quality issue related to the M33 bolt on the LRV trucks is not resolved as of February 2024. Additional failures occurred in November and December 2023, and the truck manufacturer in Germany performed additional tests. MTA previously indicated that a Root Cause Analysis (RCA) will be performed for this issue. In January 2024, CAF concluded that the main/root cause of the issue was a misalignment of the bolts during assembly. CAF will now examine 50 gear boxes to determine if the assembly process has been addressed. If so, the RCA will be completed, maintenance manuals modified, and needed tools provided to PLTO. CAF does not believe the issue will impact delivery of the vehicles, which is scheduled for April 2024.

ATTACHMENT E – PROJECT MILESTONES/KEY EVENTS

Photos courtesy of Maryland Transit Administration.



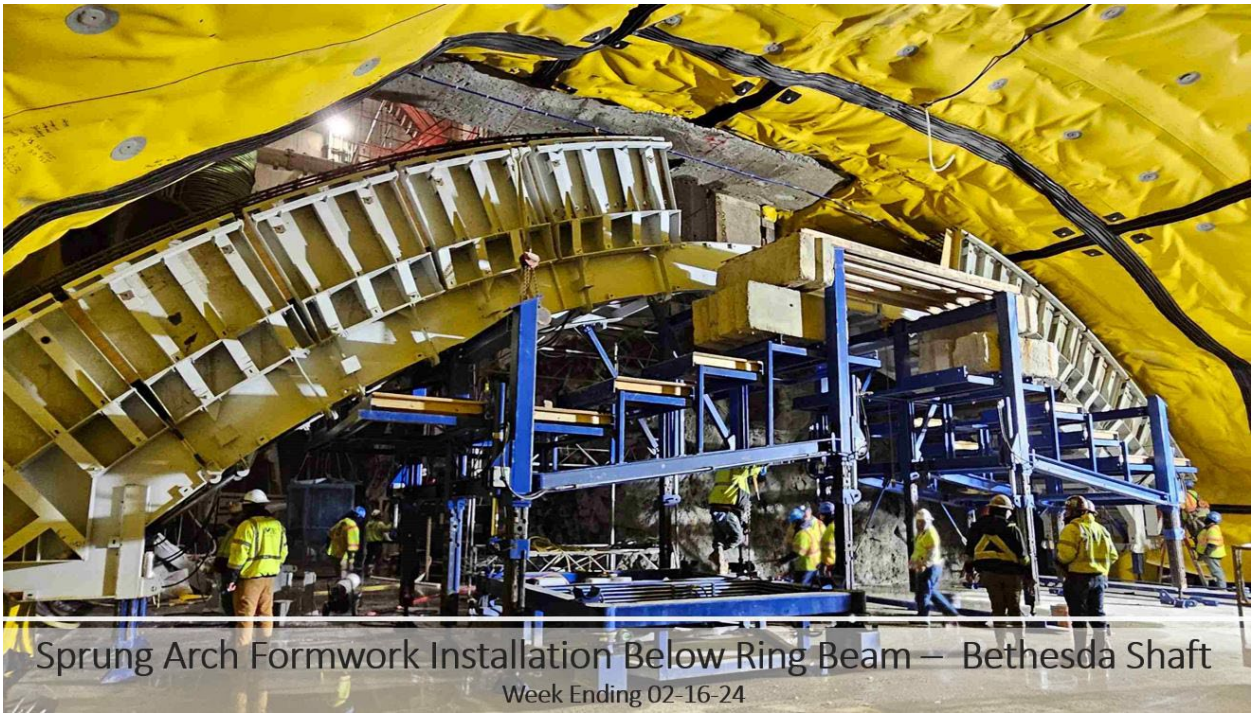




North Platform Wall Barrier Beam Formwork – Manchester Place
Week Ending 02-09-24



SWM Underground Sand Filter F2-92-01 Work Progress – UMD at Presidential Dr.
Week Ending 02-09-24



Sprung Arch Formwork Installation Below Ring Beam – Bethesda Shaft
Week Ending 02-16-24



Wall 4-164 Stem Prep for Concrete Work – Arliss Street
Week Ending 02-16-24



Ballast Track #15 Thermite Weld Work – Glenridge Yard
Week Ending 02-23-24



Platform Canopy Installation Work – Beacon Heights-East Pines Station
Week Ending 02-23-24

ATTACHMENT F – ROADMAP TO REVENUE OPERATIONS

In accordance with Oversight Procedure (OP) 25, the Project Sponsor will prepare the Roadmap to Revenue Operations template based on the current master project schedule, in the general format presented below. The PMOC provided this template to the Project Sponsor as a separate electronic file for its use. The Project Sponsor is requested to provide quarterly updates for review and discussion. MTA then provided this quarterly update for the roadmap on February 19, 2024.

ROADMAP TO REVENUE OPERATIONS (MTA to provide updates)

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Testing								
Finalize Comprehensive Test Plan	PLTP/MTS/ Sener	See Notes	In Progress	3/31/24		**T & C Management Plan** – Accepted **Project Test Program Plan** – Comment Resolution (5 of 41 open) **LRV Test Plan** – Accepted **TCS Test Plan – Local** – Accepted **TCS Test Plan – Integration** – Awaiting Submittal **TCS/Traffic/CMS Test Plan** – Awaiting Submittal **TPSS Test Plan** – Accepted **OCS Test Plan** – Accepted **Communications Test Plan** – Accepted **CMS Test Plan** – Accepted **Fire & Security Test Plan** – Accepted **Fare System Test Plan** – Awaiting Systems Design **Traffic** – QC with AHJs **EMI Test Plan** – Accepted **CCG Test Plan** – Accepted **Noise & Vibration** – MTS Reviewing **OMIS Test Plan** – TBD - Project Update to be provided 03/24 **Ops Simulator Test Plan** TBD- Project Update to be provided 03/24 **Trackwork** – Under Study by MTS/Sener **OMFs Test Plan** – Pending Commercial Issues **Station Electrical** – Under Study by MTS/Sener **Fire Protection, Mechanical, Plumbing** – Under Study by MTS/Sener		
Finalize / Update Systems Integration Test (SIT) Plan	PLTP/MTS/ Sener	In Preparation	In Progress	2/29/24		Awaiting update of DRC# 3644, CW-164, Systems Integration Test Plan		
Develop Testing Schedule and Monitoring Tools	PLTP/MTS	In Progress	TBD	TBD				
Develop Operating Rules for Testing	PLTP/MTS	In Preparation	In Progress	03/31/24		The development of the test operating rules, procedures and plans are progressing. Informal 1st draft of the Construction Railway Operations Rules & Procedures (CRO) has been shared with the MTA and PLTO for high level review and comments. CRO Rev 2 is being drafted. Page turn review of Rev 2 with PLTP/MTS/PLTO/MTA scheduled for 03/24.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Conduct System Integrated Testing - Prioritized Traffic Signal Systems	PLTP/MTS	In Progress	TBD	TBD				
Certificates of Occupancy / Substantial Completion	Maryland Office of the State Fire Marshal	Glenridge OMF – In progress.				As state-owned property, no certificates of occupancy are issued. The AHJ ensures building is safe through various system inspections to include fire protection systems, elevators, etc. AHJ will take no exception to occupancy if inspections pass.		
Finalize Operating Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept. 2025 Feb 2026		Projected start of Trial Running: July 2026 (based on May 2027 RSA date): Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running
Finalize / Revise Standard Operating Procedures (SOPs), manuals, and rulebook as applicable	PLTP/PLTO	See Note	TBD	Sept. 2025 Feb 2026		Included as part of the Operating Plan. Projected start of Trial Running: July 2026 (based on May 2027 RSA date): : Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running. Revisions to operating/maintenance/emergency rules/procedures may occur during the testing and commissioning period. Rules and SOPs for test operations under development by PLTP/MTS. CRO to become effective prior to commencement of regular movements of vehicles within the yard (Refer to Develop Operating Rules for Testing above)		Rulebook, SOPs and EOPs to be submitted for review and approval no later than 6 months prior to Trial Running. Preliminary submittal of Operations manuals for review and comment due no later than 18 months prior to Trial Running. Final submittal of Ops manuals for review and approval due no later than 6 months prior to Trial Running
Complete Staffing Plan	PLTP/PLTO	On-going			May, 2023	PLTO has developed a draft staffing and hiring plan that is tied to the approved project schedule. Hiring plan subject to change based on Project schedule changes.		
Obtain Required Staff	PLTP/PLTO/ MTS	See Note	Various	July 2026		Recruitment and staff hiring based on project schedule. PLTO staffing to support vehicle dynamic testing being coordinated with		

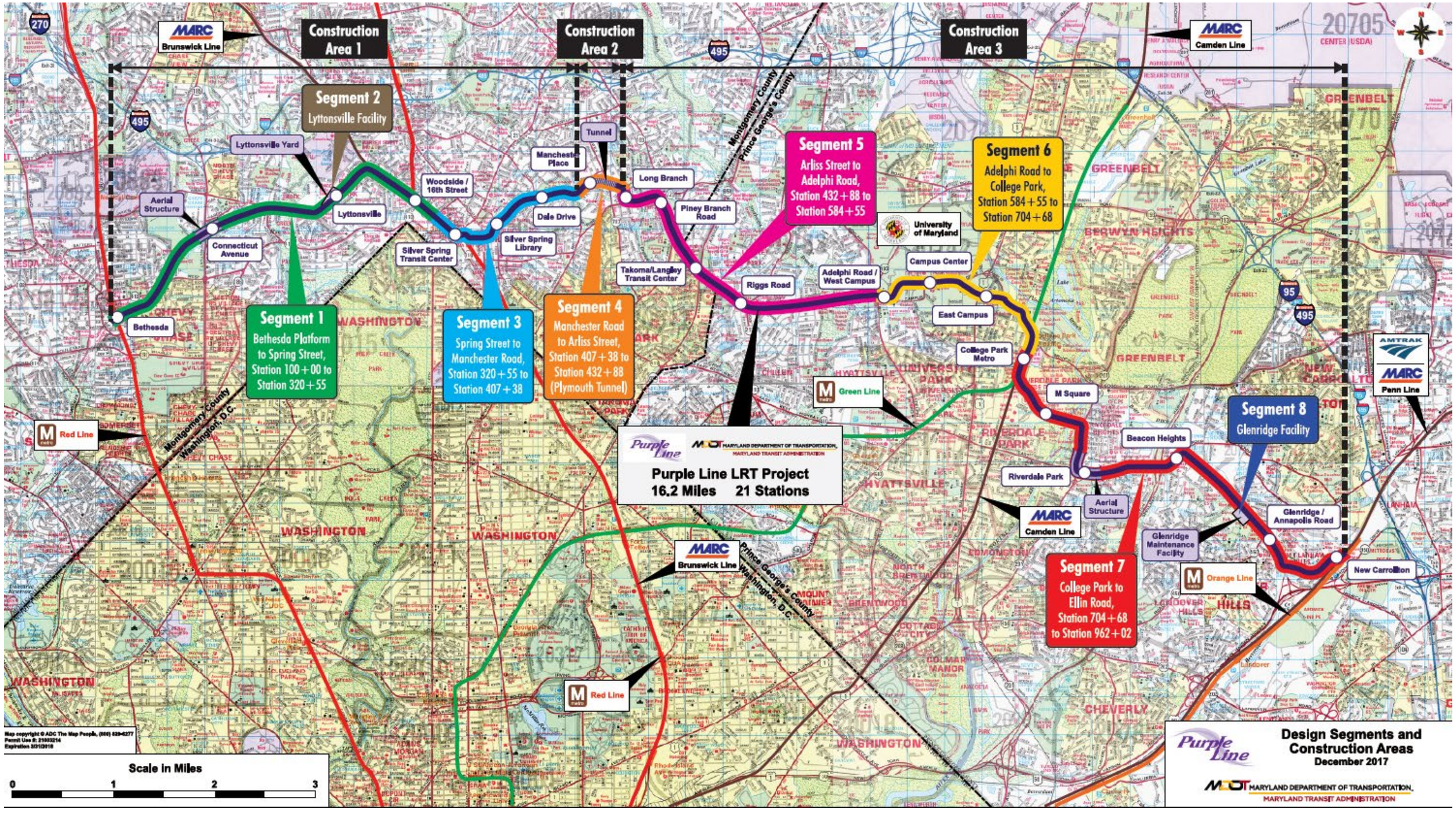
Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
T&C Support Staff	PLTO		March 2024			CAF. Onboarding of other PLTO support staff for vehicle maintenance (after acceptance) and test track maintenance to vehicle delivery dates and start of vehicle dynamic testing (Spring 2024) **PLTO Current On-site Staffing:** General Manager Dir. of Maintenance CFO/Admn Manager Facilities Maintenance Manager Systems Engineer Structural Engineer Current On-site Staff supported by various home office operations and engineering staff and consultants such as Safety & Operations, Vehicles, Systems, etc. **Near Term Hiring:** HR Manager Facilities Maintainer Vehicle Maintenance Engineer and Technician Training Instructor Track Engineer/Inspector Buyer/Procurement Specialist Train Dispatchers (2) Rail Operators (6) Building maintenance contracts being solicited for the OMF (elevator, janitorial/building cleaning, trash removal, mechanical/plumbing equipment maintenance, and etc.)		
Training of Operations and Maintenance (O&M) personnel	PLTP/PLTO/ MTS	See Note	Various	July 2026		**For Testing & Commissioning Support:** PLTO to send 6 train operators to Elmira NY to receive initial training on the PL vehicles currently scheduled for March 2024. Level of initial dispatcher training dependent upon qualifications of personnel hired. PLTP/MTS developing training plans for testing & commissioning rules, procedures, and requirements. PLTO will need to be fully staffed prior to the start of Trial Running in July 2026.		
Emergency response plan, training, and drills	PLTP/PLTO/ MTS	Various	Feb. 2024	Jan. 2027		Emergency response drills to be conducted during Trial Running.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Initial emergency responder training for Glenridge OMF, vehicles and test track area to be conducted at some point prior to the start of vehicle dynamic testing. Training class syllabus for initial emergency responder training has been developed and shared with the local emergency responders. All parties are in agreement with the content. They still need to iron out how the training will be provided. The initial quantity of Prince George's County Fire/EMS first responders to receive training will be 110.		
Finalize Revenue Operations Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept 2025 Feb. 2026		Projected start of Trial Running: July 2026 (based on May 2027 RSA date): Revenue Operations/Service Plan included as part of Operating Plan. Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		
Develop / Revise Safety and Security Certification Plan (SSCP) & Safety and Security Management Plan (SSMP)	MTA	On-going	SSMP – 2/02/2011 SSCP – 8/31/2012	TBD		SSMP is currently on revision 14 and the SSCP is on revision 7. The SSMP is updated in conjunction with the PMP as it is considered a sub-plan.		
Federal Transit Administration (FTA) Office of Safety & Security Readiness Review	FTA	See Note	TBD	TBD		No updates at this time		
PMOC OP-54 Readiness for Revenue Operations Review Report	PMOC	See Note	TBD	TBD		No updates at this time		
Conduct Operational Hazard Analysis (OHA) and resolve other hazards / vulnerabilities	PLTP	See Note	TBD	TBD		No updates at this time		
Pre-Revenue Operations	PLTP/PLTO	See Note	July 2026	April 2027		Pre-revenue Operations broken down into: Trial Running and System Demonstration Testing. Projected start of Trial Running: July 2026		
Develop Safety Outreach Plan	MTA/PLTP	Not Started	TBD	Feb. 2025		Projected start of Trial Running: July 2026 (based on May 2027 RSA date):		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Outreach Plan to be developed 18 months before Trial Running. Additional information to be included in next quarterly update.		
Provide Community Outreach	MTA/PLTP	Not Started	TBD	TBD		Outreach plan for test track OCS energization and start of vehicle dynamic testing under development.		
Public Timetables / Maps / Website Updates, etc.	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time.		
Grand Opening Plan	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time		
Update / Finalize SSMP	MTA					See previous SSMP entry.		
Finalize and/or update Safety Certifiable Item List (SCIL) and SSCP	MTA/PLTP	On-going	TBD	TBD		No updates at this time.		
Implement Safety and Security Certification Committee	MTA	On-going	April 2018	TBD		The SSCC has been ongoing since 2018.		
Implement Fire Life Safety Committee	MTA	On-going	7/27/2012 – Montgomery County 9/26/2012 – Prince George's County	TBD	TBD	MTA has implemented two FLSSCs, one for each Maryland County that Purple Line traverses. Both committees were started in 2012.		
Verify design criteria, Preliminary Hazards Analysis (PHA), Threat and Vulnerability Analysis (TVA), change orders are implemented within the project	MTA/PLTP	On-going	PHAs - 6/26/2012 TVA – 12/10/2013 Change Orders	TBD	TBD	PLTP has verified over 98% of the design criteria. Initial PHAs on the 30 % Preliminary Design started in 2012 by MTA. PLTP continued PHAs in 2016. Initial TVA completed in 2015 by MTA. PLTP continued in 2017.		
Review status of quality non-conformances		See Note				No updates and this time.		
Closeout of non-safety critical items/non-conformances		See Note				No updates at this time.		
Closeout of safety critical items/nonconformances	MTA/PLTP	Not started	TBD	TBD		No updates at this time.		
Complete Safety and Security Certification Verification Report (SSCVR)	PLTP	Not started	TBD	May 2027		This report will be due sometime in the May 2027 timeframe.		
Document Workarounds / Open Items List	PLTP	Not started	TBD	TBD				

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Verify emergency drills, tabletops, training, etc. are completed	MTA/PLTP/ PLTO		TBD	TBD		Emergency drills to be conducted during the Trial Running period. Training verification will be completed prior to Trial Running.		
SSO final certification / signature	SSO	See Note				No updates at this time		
Revenue Service								
Target Revenue Service Date (RSD)	PLTP		TBD	May 2027		Project schedule dependent.		
Public RSD	MTA/PLTP		TBD	May 2027		Project schedule dependent.		
Full Funding Grant Agreement (FFGA) RSD						No updates at this time.		

ATTACHMENT G – PROJECT MAP



PMOC MONITORING REPORT
March 2024

National Capital Purple Line Light Rail Transit Project
Montgomery and Prince George's Counties, Maryland

Maryland Transit Administration
Baltimore, Maryland
FINAL

Draft Report Delivered to FTA on ***April 5, 2024***
Final Report Delivered to FTA on ***April 17, 2024***

PMOC Contract No.: 69319519D000016
Task Order No.: 69319520F300095
Project No.: 69319519D000016/69319520F300095
Requisition/Reference No.: FTA-TPM20-20-0106
OPs Referenced: 20, 22, 23, 24, 25, 26, 37, 40
CLINs 0001, 0002, and 0005

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Voice –720.448.6730; Email – pzh@deainc.com
Time on Project: 05/18/2020 through 05/17/2025

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract #69319519D000016, Task Order #69319520F300095. Its purpose is to provide information and data to assist FTA as it continually monitors the management capacity and capability of the Maryland Transit Administration (MTA) (the Project Sponsor) to execute the project efficiently and effectively, and hence, whether the Project Sponsor continues to be ready to receive federal funds for further project development. This report covers the project management activities on the National Capital Purple Line Light Rail Transit Project managed by MTA as the Project Sponsor and financed by the FTA Full Funding Grant Agreement (FFGA). The cost and schedule information in this report was extracted from MTA's submitted information except where noted. The report is organized to comply with the requirements of updated Oversight Procedure 25 – Recurring Oversight and Related Reports, dated June 2020.

THIRD-PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for FTA. This report should not be relied upon by any party, except FTA or the Project Sponsor, in accordance with the purposes as described below.

For projects funded through the FTA FFGA program, FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a Project Sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a Project Sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a Project Sponsor may develop for project execution. Therefore, the information in the monthly reports will change from month to month, based on relevant factors for the month and/or previous months.

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1. EXECUTIVE SUMMARY

1.1. Project Description

The National Capital Purple Line (Purple Line) is a 16.2-mile east-west light rail transit (LRT) line extending inside the Washington, DC Beltway from Bethesda in Montgomery County, Maryland, to New Carrollton in Prince George's County, Maryland. The Purple Line will operate largely at street level in a combination of dedicated and semi-exclusive right-of-way (ROW) and includes segments on elevated structures and in tunnels. The alignment for the Purple Line will provide direct connections to Washington Metropolitan Area Transit Authority (WMATA) service at Bethesda, Silver Spring, College Park, and New Carrollton, Maryland. The project will also connect to all three Maryland Area Regional Commuter rail lines, Amtrak, and local bus routes. The project includes 21 stations, 2 operations control/vehicle storage and maintenance facilities, and 28 light rail vehicles (LRVs). Twenty-five of the LRVs are included in the Full Funding Grant Agreement (FFGA), and the remaining three vehicles are state funded. Maryland Transit Administration (MTA) is executing the project using a Public-Private Partnership (P3) method of project delivery.

As documented in the Federal Transit Administration (FTA) FFGA, the original estimated project cost was $2,407,030,289, and the scheduled Revenue Service date (RSD) was December 31, 2022. On January 26, 2022, the Maryland Board of Public Works (BPW) approved significant revisions to the project cost and the Revenue Service Availability (RSA) date. The new Transportation Infrastructure Finance and Innovation Act (TIFIA) loan closed on April 14, 2022. Financing approvals and subsequent financial close allowed Purple Line Transit Partners (PLTP), the P3 concessionaire, to issue Notice to Proceed (NTP) to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS). MTA prepared a Final Recovery Plan (FRP), which FTA accepted on April 17, 2023, and which had a revised project cost of $5,116,020,380 and a revised RSD of February 28, 2028. ***As of March 13, 2024, due to project changes and delays, MTA has received approval from the BPW to increase the total construction cost to approximately $5.52 billion. MTA is currently developing additional budget and schedule contingency recommendations.*** In conjunction with the FRP, MTA submitted multiple management plan updates for FTA and Project Management Oversight Contractor (PMOC) review and acceptance.

1.2. Project Status

The FFGA was executed on August 22, 2017. The Purple Line project is currently in the construction phase. Due to a contractual dispute, PLTP demobilized the assets/staff and subcontractors of the original D-B contractor, Purple Line Transit Constructors (PLTC), from the project in September 2020.

On November 24, 2020, MTA and PLTP reached a settlement agreement to release PLTC from the P3 consortium and continue the project with the remaining parties. The BPW approved the agreement on December 17, 2020. PLTP agreed to procure a replacement D-B contractor to complete the project and to obtain project financing.

Despite changes within the P3 consortium, MTA intends to complete the full scope of the project as envisioned in the original contract documents, with some minor exceptions such as the addition of three state-funded LRVs. After a procurement process for a replacement D-B contractor, PLTP selected MTS (a joint venture of Dragados USA and OHL USA) on November 5, 2021. The contract with MTS was executed on April 14, 2022.

MTA submitted a draft Interim Recovery Plan (IRP), dated December 15, 2020, to FTA, and subsequently prepared and submitted the FRP to FTA. FTA accepted the FRP on April 17, 2023.

MTA chose to proceed with several major project elements once PLTC was released from the project. MTA's planning criteria included schedule, budget, and the reduction of risk for the replacement D-B contractor. MTA and its Project Management Consultant (PMC) added staff to support subcontractor invoicing, payment processes, and other administrative tasks.

MTA managed, in a General Contractor-type role, a significant number of construction activities during MTA's IRP period, called Operation Step Forward (OSF). During that time, several OSF activities fell behind schedule, and delays related to third-party utility relocations and other unforeseen issues caused MTA to miss milestone dates included in MTA's revised agreements with PLTP that were executed in April 2022. Through October 2023, MTA executed two change orders caused by delays in OSF activities. In early November 2023, MTA completed the OSF activities. ***As of March 2024, MTA and MTS reached an agreement on the budget and schedule impacts resulting from OSF delays and other disputes. This agreement resulted in an additional $406 million in construction cost and a revised RSA date of December 30, 2027. The agreement is essentially a large change order that resolves a number of disputes and contract modifications. This contract change is referred to as Amendment 7 to the P3 Agreement.***

Construction continues under the management of MTS, including activities and elements such as erosion and sediment control maintenance, bridge structures, platform construction, retaining walls, the Glenridge Operation and Maintenance Facility (OMF), and utility installation. The Polk Street Maintenance Facility (for Prince George's County Parks) is complete, and the Paint Branch stream restoration and the Ken-Gar wetlands mitigation projects are complete with the exception of warranty periods.

Completion of the Glenridge OMF has been on or near the critical path and continues to be a focus. MTA completed the majority of the OMF building and utilities, but construction of track that accommodates LRV storage and testing was deferred for completion by MTS. MTS has assumed control of the facility as of ***March 2024, and the disputes regarding the*** completeness of the OMF work that PLTC and MTS had performed now have ***been fully resolved***. MTS is installing rail, utilities, and other elements both inside and outside of the building.

Delayed completion of the OMF construction upon PLTC's departure required an alternative location to store completed LRVs. MTA reached an agreement with Construcciones y Auxiliar de Ferrocarriles (CAF) to store the LRVs at CAF's Elmira, New York facility until track is ready for delivery of the LRVs. MTS assumed the storage agreement with CAF upon finalization of the replacement D-B contract. As of March 2024, the first LRV delivery is scheduled for mid-April ***or early May*** 2024. Purple Line Transit Operators (PLTO), the entity that PLTP has under contract

to operate the light rail system, will assume storage and maintenance responsibilities of the LRVs once they are delivered.

MTA revised and submitted the Project Management Plan (PMP), Risk and Contingency Management Plan (RCMP), Quality Assurance Plan (QAP), project schedule, Safety and Security Management Plan (SSMP), and Safety and Security Certification Plan (SSCP). On December 28, 2023, FTA accepted SSCP Version 7, concluding the FTA and PMOC reviews of the management plans that MTA had revised in conjunction with the FRP.

MTA provides FTA and the PMOC with updates on the progress of MTS construction activities, MTA oversight activities, and other monthly updates that track project progress.

- Scope: There have been no significant reductions or changes to project scope. Three LRVs were added to the project scope (non-FFGA) to support improved operations once service commences.
- Schedule:
    - PLTC never developed an approved recovery schedule to address the delayed start of construction caused by the environmental lawsuit (please see the **NEPA Process and Environmental Mitigation** section, below, for a discussion of the environmental lawsuit).
    - MTA developed a schedule for the period during which the D-B contractor, PLTC, was being replaced. The IRP included project milestones for PLTP to procure a replacement D-B contractor, obtain new financing, and execute contract amendments with MTA. The IRP period also included development of the FRP. FTA subsequently accepted the FRP that includes a revised RSD of February 28, 2028.
    - See also the **Significant Project Activities and/or Key Milestones** subsection of this Executive Summary, below.
    - Table 1 presents MTA's key milestone dates for the project. The schedule in the FRP is considered the baseline schedule for the project. Through the Quantitative Risk Analysis and processes described in MTA's RCMP, a schedule contingency of 16 months was deemed appropriate. However, the delays attributed to OSF activities have consumed significant contingency. The utilization of a large portion of the schedule contingency at the early stages of MTS's contract is a very significant concern.
    - To clarify schedule terminology used by MTA: The RSA date is a contractual date critical to the agreement between MTA and PLTP. The RSD is the contractual date tied to FTA FFGA funding and other project approvals.
    - MTA and MTS have executed two change orders related to delays attributed to OSF activities. These change orders extended the project RSA date by 207 days to May 24, 2027. ***As of March 2024, MTA and MTS have agreed to an extension of the RSA date. MTS's new RSA date is December 30, 2027, which represents an***

addition of 250 days. MTA is currently assessing schedule risk to determine sufficient project schedule contingency.

Table 1 – MTA Master Project Schedule Dates

Activity	Current MTA Master Project Schedule (*March 13, 2024 P3 Amendment Date)* Milestone
Original FFGA	August 22, 2017
Financial Close / NTP / Amendment Agreement Effective Date for Revised PLTP Agreement	April 14, 2022
Commencement of Integration Testing	September 2, 2025
Commencement of Trial Running	May 27, 2026
Construction Complete All Segments	November 12, 2026
RSA Date	***December 30, 2027***
FFGA RSD (includes contingency)	February 28, 2028

- Cost:
  - The project's documented expenditures are ***$3,310,380,036.88 through February 29, 2024***. The Estimate at Completion (EAC) for the project (construction, management, and LRVs) is $5,116,020,380.00; ***however, this EAC does not yet include the effects of the approval of Amendment 7 of the P3 Agreement, which will add approximately $406 million to the construction budget. MTA indicates that it will update the project budget in the Standard Cost Category (SCC) format in April 2024.***
  - The accepted project cost ***(before approval of Amendment 7)*** includes $307,293,174 of unallocated contingency, of which ***$220,958,178.50*** has been committed through change orders (although not yet fully expended), leaving ***$86,334,995.40*** of remaining unallocated contingency. ***Amendment 7 to the P3 Agreement, which the BPW approved on March 13, 2024, commits the entire contingency of $307,293,174 to the project budget. MTA is currently determining additional contingency needs.***
  - Refer to **Table 4 – Core Accountability Items**, in Section 1.5 below, for additional project cost information.
  - MTA prepared a summary of actual versus planned expenditures for high-level OSF activities in SCC format and is updating this summary each month. Through ***March 21, 2024***, MTA forecasted OSF expenditures of $475 million, which exceed the original OSF budget by approximately $55 million. This amount excludes scope and cost transferred from MTA to MTS. The PMOC has requested an update on the OSF expenditures, and MTA has indicated that it will prepare a revised final EAC for OSF in May 2024. Significant OSF delays impacted MTS's activities, thus adding to the cost increase that can be attributed to OSF.

- The budget includes funds to address nonconforming construction by PLTC. MTA incorporated known defects into the contract with MTS. However, MTA must pay to address any defects unknown at the time of execution of the MTS contract. In February 2023, MTA estimated the total cost of these unknown defects to be approximately $10 million. MTA and MTS have evaluated the nonconforming PLTC work as well as several other disputes. ***The disputes are included in Amendment 7, and MTA reports that the execution of the amendment in March 2024 resolved all disputes. However, Amendment 7 includes a provision for additional compensation to MTS if, in the future, other defects are discovered in previous PLTC or MTA construction.***
- Several disputes were to be considered at the Dispute Resolution Board (DRB) meeting scheduled for February 28, 2024. The findings of the DRB are not binding. ***However, given the resolution of all current outstanding disputes through the execution of Amendment 7 to the P3 Agreement, the February DRB meeting included only a general project update.***

- Significant Project Activities and/or Key Milestones:
  - The COVID-19 pandemic impacted the project in different ways and at different levels. The impacts were primarily related to availability of resources and labor. MTA, the PMC, and other project staff followed recommended COVID-19 protocols. On January 30, 2023, MTA suspended COVID-19 protocols for the project.
  - The third lawsuit filed by the Friends of the Capital Crescent Trail in January 2019 against U.S. Army Corps of Engineers (USACE) was dismissed in April 2020. The plaintiff subsequently filed an appeal on May 11, 2020. The District Court denied the appeal on May 13, 2021. The decision resolved the last active lawsuit related to the project.
  - The original baseline schedule indicated design completion by late fall 2017. The progress through ***March 21, 2024***, is that ***215*** of the 218 total planned design packages have been issued as Released for Construction (RFC). The packages that remain in design or approval include fare collection, the fire management system at the WMATA/Silver Spring Transit Center (SSTC) combined station, and the train control system. The most significant remaining design package, train control, will not be 100 percent complete until July 2024. ***Developing equipment specifications and other vendor preparation for the train control package will extend RFC of the train control package until February 2025.*** The PMOC observed that MTS indicates that the design portion of its contract is 99.9 percent invoiced and paid. The requirements of MTA's D-B contract with MTS include the payment of all design costs in the first 15 months of initiating the MTS contract, regardless of progress.
  - ***As of March 2024***, disputes related to the cost of design changes that were made after execution of the agreement with MTS ***have been resolved***. MTA's team estimated that the amounts required to resolved the disputes is approximately $15 million.

- WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX Corporation [CSX] ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of ***March 2024*** for the SSTC and other locations where WMATA and Purple Line stations coincide. MTA reports that the slow resolution of these issues has not impacted critical path activities. MTA will provide an update on its coordination with WMATA in ***April 2024.***
- Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. One jack-and-bore installation remains to be completed by MTS, and as of ***March 2024, is still scheduled*** for spring of 2024. ***Coordination of CSX flagging has been a challenge throughout the Purple Line construction. Recently, MTS has been able to secure a second flagger to allow more work to occur in the railroad ROW.***
- Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. MTA is supporting coordination of construction activities that will occur during a planned WMATA shutdown in the summer of 2024. The Purple Line project is taking advantage of the WMATA service outage to perform work near and above the tracks.
- MTA and Washington Suburban Sanitary Commission (WSSC) reached agreement on the relocation of the 66-inch water main that was under the Glenridge OMF. The water main has been relocated, and this part of the project is now considered fully complete.
- PLTC reached resolution on the final remaining Alternate Technical Concept (ATC) identified during the proposal process, which is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA reviewed PLTC's design package for National Environmental Policy Act (NEPA) compliance. Final documentation for the ATC is still pending as of ***March 2024.*** MTA will schedule a review of the documentation with FTA as soon as it is complete, which is expected to occur in April 2024. MTA and MTS optimistically predict that the ATC will have no Section 4(f) impacts or other impacts to the project's Record of Decision (ROD).
- MTA has completed its non-P3 construction contract activities, as follows:
  - Prince George's County Parks (Parks) Polk Street Maintenance Facility D-B – A substantial completion letter was issued to the contractor on March 30, 2021. Parks has taken possession of the facility, and the warranty period has expired. The only remaining action for this portion of the project is a real estate swap that will transfer the maintenance facility property to Parks in exchange for the property needed by MTA for the Purple Line project.

- Offsite Wetlands Mitigation (Ken-Gar) – The Design-Bid-Build construction NTP was issued on September 5, 2019. The one-year warranty review occurred on January 9, 2022, and the project is now in quarterly monitoring and annual reporting by MTA that will continue through 2028.
- Offsite Stream Mitigation (Paint Branch) – The Design-Bid-Build construction NTP was issued on September 5, 2019, and the contractor mobilized in late November 2019. Quarterly monitoring and annual reporting by MTA will continue through 2028.

- Building construction at the Glenridge OMF is essentially complete; however, construction of items outside of the building continues, as does final commissioning of systems inside the building. MTS was scheduled to take possession of the Glenridge OMF on December 31, 2022, but that did not occur because MTA had several remaining items to complete. Although official transfer of the facility did not occur until January 2024, MTS has performed work in and around the OMF for the last year.
- Preparation of Traction Power Substations (TPSSs) continues. As of ***March 2024***, TPSSs Q1, Q8, Q7, and QYG are in place, and installation of TPSS Q03 is scheduled to occur within the next 60 days. ***TPSS Q06 foundations are currently being prepared for installation.***
- The following is the status of LRV manufacturing as of ***March 21, 2024:***
  - All 25 of the vehicles in the FFGA project scope description and one additional vehicle are designated as "Ready for Shipment" and are in storage at CAF's facility in Elmira, New York. These vehicles are under a schedule of inspection and maintenance until delivery can occur.
  - MTA has added three vehicles by change order to CAF's contract. The additional LRVs will support better operations at the RSA date. It is important to note that these three additional LRVs are not a part of the FFGA between MTA and FTA. One of the three additional vehicles is in storage in Elmira along with the 25 FFGA LRVs. All ten railcars that make up the two remaining vehicles are in final assembly.
  - The previously identified quality issue related to the M33 bolt on the LRV trucks is not fully resolved ***as of March 2024.*** Additional failures occurred in November and December 2023, and the truck manufacturer in Germany performed additional tests. MTA indicated that a Root Cause Analysis (RCA) will be performed by CAF for this issue. In January 2024, CAF concluded that the root cause of the issue was a misalignment of the bolts during assembly. ***In January and February 2024 CAF examined 50 gear boxes that included the M33 bolt. CAF determined that an alignment issue prior to torquing the M33 bolt is the likely cause of the issue. Currently CAF is performing a sample installation of***

48 bolts on 12 LRVs using a modified procedure. If the results of the sample installation are as expected, the RCA will be completed, maintenance manuals modified, and needed tools provided to PLTO. CAF does not believe the issue will impact delivery of the vehicles, which is scheduled for April ***or May*** 2024. The PMOC recommends that the quality process also be included in the RCA, along with design, fabrication, and assembly processes.

- Delivery of vehicles was expected to begin in spring of 2021; however, the location for their delivery was uncertain because the Glenridge OMF was not ready to accept railcars. MTA and CAF negotiated an agreement for CAF to store the completed railcars in Elmira to await delivery. The terms of the agreement became a part of MTS's agreement. ***As of March 2024,*** deliveries of LRVs to the Glenridge OMF ***are now scheduled to begin in April or May 2024***. The PMOC continues to recommend that MTA expedite the planning and completion of readiness activities for delivery of LRVs, such as testing and certifications.
- The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. The audit indicates that the percentage of U.S. domestic content is 66.74 percent, which meets FTA requirements.
- MTA staff visited the CAF facility in Elmira, New York, in October 2023 to observe the 26 stored vehicles and the 2 vehicles currently being assembled.

- MTA is responsible for providing offsite stormwater mitigation in Montgomery County. To date, MTA has accumulated a credit for more than 10 acres of designed, Maryland Department of the Environment (MDE)-approved, offsite stormwater management (SWM) capacity in its "bank." MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS.
- ROW acquisition activities continue for the original required 464 private parcels and 137 public parcels (a total of 601 parcels). All private parcels related to the original P3 contract Exhibit 9 FFGA scope are in MTA's possession for construction. ***As of March 2024***, ***429*** of the 601 parcels have completed settlement, and a number have settlements pending.
- MTA has identified 188 small property acquisitions that are required for utility relocations, of which 134 are private and 54 are public. As of April 25, 2023, all additional properties were in MTA's possession through Right of Entry (ROE), through options, and/or through agreements.
- To date, 177 required property relocation agreements are complete. Costs for the completed relocations continue to be processed in accordance with the applicable procedures. As of ***March 2024***, there is one relocation offer pending for a property that the former owner still occupies. One additional relocation may be required.

- As of ***March 2024,*** MTA estimates that ***approximately $33.1 million*** of exposure remains in the real estate acquisition process. This amount is included in the risk assessment and in the currently available project contingency.
- MTA estimates that the cost for extensions of Temporary Construction Easements (TCEs) ***has increased due to the project delays included in Amendment 7. The estimated cost for TCE extensions as of March 2024 is approximately $18.1 million, which represents a $5 million increase in this cost.***
- Preparation for safety certification is an ongoing process for MTA, including the development of the appropriate checklists for both design and construction. Design Criteria Conformance Checklists (DCCCs) are more than 99 percent validated. Construction Specification Conformance Checklists (CSCCs) are 18 percent validated. ***As of March 2024, MTA and MTS are*** currently preparing plans, including operating rules for vehicle testing on the test track, in advance of vehicle delivery. Testing is scheduled to begin in late spring 2024.
- MTA adjusted staffing of management personnel to address the varying activities that MTA was managing during the OSF period. A number of key staff changes have occurred since the OSF period ended. One position that is open as of ***March 22, 2024,*** is the MTA Transit Development and Delivery (TDD) Executive Director. The TDD Executive Director will be responsible for the Purple Line project in addition to other State of Maryland transit projects. In ***March 2024***, MTA informed the PMOC that a candidate for Deputy Communications Director ***has been identified.*** The open Construction Manager position will not be filled. The Deputy Project Director currently is serving as the Contracting Officer, and the Deputy Project Director's duties have been temporarily transferred to the Project Director. ***Similar to the Deputy Communications Director, a candidate for the Contracting Officer position has been identified.*** The PMOC reiterates its concerns related to MTA staff continuity and will continue to monitor MTA's management capacity and capabilities.
- MTA carefully considered a request from Montgomery County to single-track the Purple Line through the Bethesda tunnel. Maryland Department of Transportation (MDOT)/MTA determined that it would not be able to accommodate the request.
- MTA and PLTP coordinated to obtain a modified version of the existing TIFIA loan for the project. On April 14, 2022, the TIFIA loan closed, and all bonds were marketed. MTA was required to update the Transportation Investment Program and State Transportation Investment Program plans to reflect changes in the project.
- MTA's Equal Employment Opportunity Officer assigned to the project is Marcques Washington. He is supporting MTS in its hiring program and monitoring project adherence to hiring of specific companies and personnel. MTS is making significant progress toward achieving the project's hiring, wage, and Disadvantaged Business Enterprise (DBE) goals. MTA states that due to the D-B contracting method being

utilized to deliver the project, continuous diligence is required to monitor and promote contracted DBE work in the current and upcoming work packages, making it challenging to project future values of DBE participation. ***As of March 2024, the Equal Employment Opportunity Officer is preparing revised DBE goals that reflect the new total construction cost established by Amendment 7 to the P3 Agreement.***

- MTA hired a consultant team that is analyzing alternatives for providing security and fare enforcement services for the Purple Line. MTA does not currently have existing facilities or staff that can adequately provide these services because the distance from their location to the Purple Line light rail facilities is too far. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on Memorandums of Understanding (MOUs) with other local jurisdictions, and developing a facility to house the district. ***As of March 2024,*** the PMOC continues to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget. MTA stated that this implementation plan will be completed on ***April 1, 2024.***
- MTA held several Community Advisory Team meetings in October 2023 and completed these meetings in November 2023. MTA will hold the next round of Community Advisory Team meetings on Tuesdays and Thursdays each week in May 2024.

1.3. Major Issues and/or Concerns

Table 2 discusses any major issues or concerns impacting the project's scope, schedule, cost, risks, quality, safety, etc.

Table 2 – Current Major Issues and Concerns

Issue/Concern	According to the PMP, the master project schedule should be updated monthly.
Date Identified	2022.
Status	Ongoing.
Project Sponsor Action	FTA accepted the FRP schedule in April 2023 as the new project baseline schedule. Two significant change orders, both of which are based on delays to OSF activities, have caused a substantial utilization of the schedule contingency outlined in the FRP. ***A third change order (Amendment 7 to the P3 Agreement) consumed all remaining schedule contingency and resulted in a significant increase in project cost.***

PMOC Recommendation	The PMOC continues to recommend that MTA track all schedule elements according to the FRP and report status to FTA and the PMOC each month. MTA should employ additional methods of evaluating schedule progression and performance, including earned-value metrics, to identify issues as soon as possible. The PMOC recommended that MTA secure a mutually agreed-to (with MTS and PLTP) revised baseline schedule before executing any change order that commits compensation for delays. ***Amendment 7 to the P3 Agreement, however, included an agreed-to RSA date but did not include a revised baseline schedule.*** The PMOC observes that a baseline schedule acceptable to both MTA and the concessionaire has not been in place ***for at least five months. Although execution of Amendment 7 resolved all pending disputes at the time, additional project contingency is recommended to cover completion of the project.***
Issue/Concern	Changes in the project have significantly impacted the project cost as reflected in the original FFGA. The April 2023 FRP includes a revised project cost estimate and a cost contingency intended to address remaining project risks.
Date Identified	September 2020.
Status	Ongoing.
Project Sponsor Action	MTA should continue to monitor project progress against the total project cost estimate. As of July 2023, two significant change orders, both of which were based on delays to OSF activities, caused substantial utilization of the cost contingency outlined in the FRP. Additional delays have been identified, and MTA is coordinating potential schedule mitigation (which would support cost mitigation) with MTS. Disputes between MTA and MTS are impacting project contingency. ***Amendment 7 consumed all the remaining budget contingency and resulted in a significant increase in project cost. Although execution of Amendment 7 resolved all pending disputes at the time, additional project contingency is recommended to cover completion of the project.***
PMOC Recommendation	The PMOC recommends that MTA consider the results of the pending Quantitative Risk Analysis and, if necessary, adjust the cost and schedule contingencies.
Issue/Concern	MTA does not have a police force located in proximity to the Purple Line.
Date Identified	September 2022.
Status	As of May 2023, MTA had determined a preferred alternative for providing security and fare enforcement, and had identified several next steps for implementation.
Project Sponsor Action	MTA's preferred security alternative includes the creation of a new Southern District of the MTA Police Department and will require associated staff, operating procedures, and a facility. MTA indicates that it will prepare the written implementation plan for the required security services by ***April 2024.***
PMOC Recommendation	Although the currently forecasted RSA date is in 2027, the PMOC recommends that MTA promptly move toward implementation of the preferred security alternative. MTA should identify the parties responsible for implementing the preferred alternative and determine a detailed schedule and budget in a written plan. The PMOC also recommends that the State Safety Oversight Agency be included in the review and comment process for security and fare enforcement.
Issue/Concern	The Lost Time Injury Rate and Total Case Incident Rate have increased significantly since 2022. The current rates are significantly higher than the stated project goals. The PMOC notes that there are inconsistencies in incident reporting between MTA and MTS.
Date Identified	April 2023.

Project Sponsor Action	MTA states that it has increased coordination with MTS through additional biweekly coordination meetings. MTA has acknowledged the need for safety process improvements. In November 2023, MTA stated that MTS had replaced its safety director and added safety staff.. ***In March 2024, MTA increased the amount of safety information included in its monthly status report.***
PMOC Recommendation	The PMOC recommends that MTA review MTS safety staff qualifications and that MTA and MTS review the safety procedures and the implementation of those procedures to identify opportunities for improvement. The PMOC also recommends that MTA and MTS complete the safety process review as soon as practical and that MTA prepare a written summary. The summary should include the action items and the responsible parties for each. In addition, the PMOC recommends that MTA consider dedicating additional resources to construction safety (i.e., resources dedicated to only the construction portion of the Purple Line project). MTA should also consider preparing a comprehensive monthly safety report under the direct supervision of the Project Director and confirm whether MTA's oversight practices are in compliance with the SSMP. ***The number of incidents is trending in the right direction, and MTA has stated that safety processes are being modified. The PMOC will continue to monitor safety documentation and safety process improvements.***
Issue/Concern	Plans for testing, inspection, and certification in advance of LRV delivery are not complete. LRV delivery is scheduled to begin in mid-April 2024, and MTA has scheduled media events related to vehicle delivery for early May 2024. The PMOC is concerned that the necessary preparations may not be complete when the LRVs begin to arrive.
Project Sponsor Action	MTA indicates that plans for readiness activities for LRV delivery are not yet complete. Temporary Use Notifications will be required to place the vehicles on the tracks. MTA states that the responsibility for readiness activities lies with the P3 concessionaire.
PMOC Recommendation	The PMOC recommends that MTA expedite readiness activities for LRV delivery (inspection, testing, and certification) and that MTA engage sufficient resources to provide oversight of the related concessionaire activities.

1.4. Status of Key Indicators Dashboard (Post-grant)

Table 3 shows the project Key Indicators Dashboard after the FFGA was awarded.

Table 3 – Key Indicators Dashboard

Project Sponsor:				Maryland Transit Administration	
Project Name:				MTA National Capital Purple Line Light Rail Transit Project	
Date:				***March 30, 2024***	
Project Detail					
Oversight Frequency:				**Monthly**	
Element	**Status**			**Prior Status**	**Issue or Concern**
	●	●	●		
	G	**Y**	**R**		
Project Management Plan		●		●	MTA developed an updated PMP that reflects revised project conditions, and in October 2022, MTA submitted a revised PMP to the PMOC and FTA for review. On February 1, 2023, FTA provided its review comments on the PMP, and on April 28, 2023, MTA submitted the second revision of the PMP to FTA. In May 2023, MTA announced significant changes to the Purple Line leadership staff, including departure of the staff in the TDD Executive Director, Communications Director, and Deputy Project Director positions. In late 2023, MTA filled the vacant Purple Line

					Deputy Project Director and Communications Director positions. In early 2024, MTA replaced the Quality Manager. ***As of March 2024,*** the project team has the following open positions: TDD Executive Director, Contracting Officer, and Deputy Communications Director. The Deputy Project Director currently is serving as the Contracting Officer, and the Deputy Project Director's duties have been temporarily transferred to the Project Director. This concern also applies to the Management Capacity and Capability (MCC) element below.
Management Capacity and Capability		●		●	Management staff changes within MTA and within the supporting PMC have magnified the need for MTA to focus on MCC issues. Construction safety and quality processes are specific concerns to the PMOC. Also, the Deputy Project Director was reassigned to be the Acting Contracts Officer, and the Project Director has assumed temporarily the Deputy Project Director duties. In addition, the most recent Construction Manager is no longer on the project team, and MTA will not be hiring a replacement. In January 2024, MTA provided a revised management staff organizational chart to the PMOC.
Cost*			●	●	MTA developed a revised cost estimate that reflected project conditions at the time of the FRP. Based on PMOC and FTA review comments and a revised MTA Quantitative Risk Analysis, MTA established a budget contingency that appeared appropriate for the stage of the project at the time. However, large, executed change orders have required commitment of all of the contingency budget. MTA currently is preparing a Quantitative Risk Analysis, which will inform project cost and contingency decisions.
Schedule			●	●	MTA has a revised master project schedule that incorporates the current project status in place. Despite the execution of several change orders with significant contract extensions, there has not been a mutually agreed-to construction schedule since the Initial Baseline Schedule in September 2023. MTA has rejected MTS's schedule updates each month, citing technical issues. It is the PMOC's opinion that change orders that include adjustments to the RSA date should not be executed unless a mutually agreed-to revised baseline schedule is included with the change order.
Quality		●		●	There are a significant number of nonconforming items from the PLTC-constructed work and the work performed under MTA's management of OSF. The PMOC finds that the quality reporting related to OSF activities is inconsistent. Also, it appears that some key quality management staff have not participated in the project for some time due to contractual issues. The QAP has been modified to reflect many of the noted PMOC concerns, and MTA will incorporate the remaining concerns in the next annual QAP update. MTA has also developed a quality dashboard to improve the tracking of quality issues. ***In March 2024, the PMOC continued to coordinate with MTA on quality process improvements.***
Safety			●	●	In April 2023, the PMOC noted to MTA that both the Lost Time Injury Rate and the Total Case Incident Rate had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in the incident rates, there continues to be inconsistent tracking and reporting of safety issues. MTA recognizes the issue and reports that it has scheduled additional safety coordination efforts. In the opinion of the PMOC, MTA's processes related to construction safety can be improved. MTA should enhance its comprehensive safety reporting under the direct supervision of the Project Director.

Risk		●		●	MTA updated the RCMP and the Risk Register to reflect the changes driven by the FRP and updates to the project management plans. In May 2023, FTA accepted the RCMP but also noted additional comments that MTA should address in future updates to the plan. In November 2023, MTA held a risk workshop and began a Quantitative Risk Analysis. MTA's Quantitative Risk Analysis is scheduled to be completed ***in April or May 2024***, and results will be shared with the FTA and PMOC at that time.
Legend					
Green	Satisfactory: No Corrective Action necessary.				
Yellow	Caution: Risk/Issues exist. Corrective Action may be necessary.				
Red	Elevated for immediate Corrective Action: Significant risk to the health of the project.				

*Note: With regard to cost, the colors indicate the following status:
Yellow – Forecast cost exceeds the project budget by up to 3%.
Red – Forecast cost exceeds the project budget by more than 5%.

1.5. Core Accountability Items

Table 4 shows the core accountability items for the project, including the current status of the project and the major issues and how they are being addressed.

Table 4 – Core Accountability Items

		Original (Grant)	Current Forecast[3]	PMOC Assessment of Current Forecast[3]
Cost	Capital Cost Estimate	$2,407,030,289	$5,116,020,380	Unacceptable
Contingency	Unallocated Contingency	$90,535,748	***$86,334,995***	Unacceptable
	Allocated Contingency	$59,500,464	***$20,650,000***	Unacceptable
	Total Contingency	$150,036,212	***$106,984,995***	Unacceptable
Schedule	Revenue Service Date	12/31/2022	02/28/2028	Unacceptable

Project Progress		**Amount ($)**	**Percent of Total**
Total Expenditures	Actual cost of all eligible expenditures completed to date	***$3,310,380,037***	***64.7%***
Planned Value to Date[1]	Estimated value of work planned to date	Not Applicable (N/A)	N/A
Actual Value to Date[1]	Actual value of work completed to date	N/A	N/A

Contract Status		**Amount ($)**	**Percent of Total**
Total Contracts Awarded	Value of all contracts (design, support, construction, equipment) awarded; % of total value to be awarded	To Be Determined (TBD)	TBD
Construction Contracts Awarded	Value of construction contracts awarded; % of total construction value to be awarded	TBD	TBD
Physical Construction Completed	Value of physical construction (SCCs 10-50) completed; % of total construction value completed	***$1,127,846,450***	***58.1%***

Rolling Stock Vehicle Status	**Date Awarded**	**No. Ordered**	**No. Delivered**
28 total car sets[2]	First 26 LRVs: 2016 Additional 2 LRVs: January 2022	28 car sets	0

Next Quarterly Progress Review Meeting Date:	May 8, 2024

[1]Earned value information is not available.
[2]The approved FFGA includes a total of 25 LRVs.
[3]***Amendment 7 to the P3 Agreement has not yet been incorporated into MTA's financial reporting as of March 2024. Amendment 7 added $405 million to the construction cost of the project. Revised project cost contingency and schedule contingency is under development by MTA.***

2. OBSERVATIONS AND FINDINGS

2.1. Summary of Monitoring Activities

The PMOC received an update from the Purple Line project team during ***the March 21, 2024,*** virtual monthly meeting with MTA, the PMC, and the PMOC. MTA provides supplementary information before the PMOC monthly meetings. ***On March 20, 2024, MTA asked the PMOC to attend a virtual meeting to review comments on the project QAP. On March 12 and 26, the PMOC attended virtual project update calls with FTA and MTA.*** PMOC monitoring activities include review of MTA-provided scope, schedule, risk, financial, construction, safety and security, and real estate information.

After the U.S. Court of Appeals reversed the vacation of the ROD in July 2017 (refer to the **NEPA Process and Environmental Mitigation** section, below, for details), the FFGA was executed on August 22, 2017. In September 2020, the construction (D-B) contractor, PLTC, left the project, and a new project delivery plan was developed, including replacement of the D-B contractor. During the period when the replacement D-B contractor was being solicited, MTA managed specific construction and design activities (OSF activities) in order to reduce uncertainty and support the project schedule. On November 5, 2021, MTS was selected as the replacement D-B contractor, and financial and commercial close occurred on April 14, 2022. MTA managed OSF construction and design activities to their completion or until the activities were transferred to MTS. MTS is performing construction activities across the entire project corridor.

MTA and MTS held initial partnering activities during which they developed relationships, general project priorities for teamwork, and an understanding of key issues for different stakeholders. MTA provided partnering process information to FTA and the PMOC on March 29, 2023. As of August 2023, MTA had replaced the consultant who was leading partnering activities and is developing new processes to facilitate the coordination and relationship between MTA and the MTS/PLTP team. MTA held an internal partnering meeting on October 27, 2023, to help align MTA and PMC staff. On December 11, 2023, a partnering session was held, and MTA, MTS, PLTP, and PLTO participated. One of the main points of discussion was the schedule mitigation efforts that are currently in progress. In February 2024, MTA provided a summary of project goals developed during the December 2023 partnering session. MTA said that action items related to the partnering session goals are incorporated into many project meetings, and senior executives from MTA, PLTP, and MTS meet frequently. The next scheduled partnering session will be held in June 2024. The PMOC repeated the request that PMOC and FTA staff be invited to future partnering events.

2.2. Oversight Triggers

The oversight triggers most applicable to the project are the Oversight Procedure (OP) 25 cost and schedule triggers. The project did not have a mutually agreed-upon baseline schedule between March 2017 and September 2022. Significant schedule delays and a significant increase in project cost keep the project eligible for rigorous oversight. Project schedule delays typically impact project cost, another significant indicator of project health. MTA has developed a revised project EAC in conjunction with development of the project's schedule and FRP. Significant utilization of schedule and budget contingencies has occurred since development of the FRP. In the opinion of the PMOC, significant additional cost and schedule impacts are occurring.

2.3. Project Management Plan and Sub-plans

2.3.1. Project Management Plan

The PMOC reviewed the Purple Line PMP Version 10 in accordance with OP 20 for a PMP at the FFGA execution stage of a project. Subsequently, FTA and the PMOC reviewed Versions 11, 12, and 13. Due to significant project team changes since those versions, another update to the PMP was required. In October 2022, MTA provided an updated PMP (Version 14) to FTA and the PMOC for review, and FTA and the PMOC provided comments on PMP Version 14 to MTA. On April 27, 2023, MTA provided PMP Version 15, which FTA accepted, with comment, on June 21, 2023. In February 2024, MTA provided a summary of its forecasted dates for updating the management plans. According to best practices, the recent staff changes and fluid project conditions may warrant revisions to some or all of the management plans before the regularly scheduled updates.

2.3.2. Safety and Security Management Plan

In February 2016, the PMOC reviewed the project's SSMP Version 6, dated October 22, 2014, in accordance with OP 22 for a project at the FFGA execution stage. The PMOC review found that the SSMP was compliant with FTA content requirements for execution of the FFGA, but the PMOC requested that MTA resubmit the SSMP after execution of the FFGA and address the comments in the PMOC report with updated information from the P3 concessionaire. Subsequently, FTA and the PMOC reviewed SSMP Versions 7 through 11 over the next four years. MDOT, which is the State Safety Oversight Agency (SSOA) for the project, also reviewed SSMP Versions 8 through 11. On January 13, 2022, FTA provided comments on SSMP Version 12 to MTA. MTA submitted SSMP Version 13 as well as Version 5 of the Purple Line SSCP to FTA and the PMOC for review in October 2022. FTA and the PMOC reviewed the SSCP and SSMP updates and provided their comments to MTA in February 2023. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the revised SSMP in August 2023, and the revised SSCP on December 28, 2023. The PMOC continues to recommend that MTA evaluate whether its current oversight processes are in compliance with those specified in the SSMP.

2.3.3. Quality Assurance Plan

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on QAP Version 10 to MTA. MTA then submitted a revised QAP to FTA for review in May 2023, and FTA and the PMOC provided comments to MTA in June 2023. In July 2023, MTA provided a response to each specific comment and committed to submitting a revised QAP in August 2023. On August 11, 2023, MTA resubmitted the QAP as Version 12. A technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023, after which the PMOC recommended acceptance of the plan and that MTA should incorporate the outstanding items into the next regularly scheduled plan update. On October 6, 2023, FTA accepted the QAP contingent upon MTA's acceptance of the PMOC recommendations.

The PMOC requested that MTA provide more complete documentation for quality-related activities. In September 2023, MTA presented the PMOC with a quality process dashboard that MTA had developed to display monthly statistics on audits, Deficiency Notices, Nonconformance Reports, and quality oversight assessment reports. ***In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational chart for quality management and administration.***

MTA meets with PLTP, the PMC, and the General Engineering Consultant (GEC) monthly to review quality status. On January 25, 2024, MTA introduced the new Quality Manager, Turyalai Momand. In February 2024, MTA stated that it is developing a full schedule of quality audits to be performed in 2024. When asked about a number of very old deficiency notices and instances of non-conforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of final sign-offs by managers. MTA is deferring some other older open quality items until the related issues can be addressed without impacting the project schedule critical path.

MTS also performs significant Quality Assurance/Quality Control (QA/QC) activities and reports having more than 60 full-time quality staff assigned to the project. ***In March 2024***, those QA/QC activities by MTS included:

- Offsite inspections of structural steel girders and canopies, Overhead Contact System (OCS) poles and hardware, traffic signal poles, special trackwork, ***precast concrete structural elements,*** and other items being fabricated offsite.
- ***30*** Design Services During Construction reviews and ***30*** design submittal reviews.
- Completion of numerous quality audits of MTS and subcontractor work, testing, and quality plans.
- Approximately ***600*** materials tests.
- Approximately ***550*** materials samples.

In 2022, MTA frequently provided notes from monthly CAF and SNC-Lavalin LRV manufacturing quality meetings for PMOC review. The information provided a summary of issues and corrective actions, and upcoming quality audits. MTS is now responsible for preparing these notes ***from the manufacturing quality meetings. Because the LRV manufacturing process is now nearly complete, in March 2024 these notes included only a few very minor issues.***

The previously identified quality issue related to the M33 bolt on the LRV trucks is not fully resolved ***as of March 2024.*** Additional failures occurred in November and December 2023, and the truck manufacturer in Germany performed additional tests. MTA indicated that a Root Cause Analysis (RCA) will be performed by CAF for this issue. In January 2024, CAF concluded that the root cause of the issue was a misalignment of the bolts during assembly. ***In January and February 2024 CAF examined 50 gear boxes that included the M33 bolt. CAF determined that an alignment issue prior to torquing the M33 bolt is the likely cause of the issue. Currently CAF is performing A sample installation of 48 bolts on 12 LRVs using a modified procedure.*** If the results of the sample installation are as expected, the RCA will be completed, maintenance manuals modified, and needed tools provided to PLTO. CAF does not believe the issue will impact delivery of the vehicles, which is scheduled for April ***or May*** 2024. The PMOC recommends that the quality process also be included in the RCA, along with design, fabrication, and assembly processes.

2.3.4. Real Estate Acquisition Management Plan

The PMOC reviewed the project's Real Estate Acquisition Management Plan (RAMP) Versions 10, 11, and 12. The PMOC reviewed the plans with respect to the guidelines in OP 23 for a project in the construction phase. MTA submitted an updated RAMP Version 13 to FTA and the PMOC in October 2022. FTA provided review comments on RAMP Version 13 to MTA on February 27, 2023, and accepted RAMP Version 13 with comments.

2.3.5. Fleet Management Plans

The current version of the Bus Fleet Management Plan (BFMP) is BFMP Version 8.1, which was submitted for FTA/PMOC review on February 12, 2016. The PMOC completed its review of BFMP Version 8.1 and on March 4, 2016, issued its final OP 37 BFMP review report, concluding that the BFMP met the requirements of OP 37 for the execution of an FFGA for the Purple Line project. On January 24, 2024, MTA provided to FTA and the PMOC BFMP Version 10. This plan addresses updates for the period from 2021 through 2023 and is dated September 2023.

2.3.6. Risk and Contingency Management Plan

In early 2020, MTA commenced another update to the RCMP to incorporate the results of the latest Quantitative Risk Analysis that, in turn, incorporated the results of the replacement D-B contractor resolicitation and the revised project implementation details. MTA held a risk management workshop on January 26, 2021, that focused on the interim period.

MTA provided a comprehensive Risk Register and risk mitigation activities in conjunction with the draft FRP. In preparation for a risk analysis, MTA held risk assessment interviews with individual risk owners to review existing risk items and identify new risks. In December 2021,

MTA prepared an updated Risk Register that includes over 100 risk items, including PLTP and MTS risks.

At a risk workshop held the week of May 2, 2022, the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. MTA confirmed and finalized the Risk Register and prepared the Quantitative Risk Analysis and an update of the RCMP. The PMOC developed a draft summary of the risk and contingency review results. FTA provided a risk summary to MTA on June 22, 2022, for MTA's consideration while it was updating the RCMP. MTA provided responses to FTA's comments on the risk summary on July 15, 2022, and provided further clarification on August 25, 2022. MTA submitted RCMP Version 15 to FTA and the PMOC for review in October 2022. In February 2023, FTA and the PMOC provided comments on the revised RCMP, which supported MTA's development of the project's budget and schedule contingency. MTA subsequently submitted the revised RCMP Version 16, dated April 21, 2023, and FTA accepted it on May 22, 2023.

In November 2023, MTA held a risk workshop and began a Quantitative Risk Analysis. Project risks were reassessed, and information needed to reevaluate cost and schedule contingencies was determined. MTA expected to complete the Quantitative Risk Analysis and contingency review in January 2024. However, the efforts by MTA and MTS to re-baseline the project schedule have not been completed. The updated schedule is necessary for the assessment of schedule risk and development of contingency recommendations. When the Quantitative Risk Analysis is complete, ***which is expected in April or May 2024,*** MTA will share the results with FTA and the PMOC.

2.3.7. Safety and Security Certification Plan

Version 3 of the Purple Line SSCP is dated November 4, 2014. The PMOC review found that the SSCP Version 3 met the FTA requirements in support of the FFGA application. MTA submitted SSCP Version 4 on February 3, 2020, in conjunction with the updated SSMP submittal (see the **Safety and Security Management Plan** subsection, above). The SSOA completed its review of SSCP Version 4 and discussed its comments with the PMOC. MTA decided that the new emergency management working group would be a subcommittee to the Fire Life Safety and Security Committee, and this decision would be reflected in the next revisions of the SSMP and the SSCP, which were planned for after the replacement D-B contractor was in place. MTA submitted SSMP Version 13 and SSCP Version 5 to FTA and the PMOC in October 2022. In February 2023, FTA and the PMOC completed their reviews and provided comments on these plan documents to MTA. MTA provided a response to the SSCP review comments to FTA and the PMOC in May 2023. On July 12, 2023, the PMOC and MTA held a call to review and reconcile PMOC/FTA comments on the SSCP. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023 and accepted the current SSCP (Version 7) on December 28, 2023.

2.4. Management Capacity and Capability

MTA continues to identify and assign sufficient Management Capacity and Capability (MCC), as needed, to complete the project in compliance with applicable FTA requirements. These efforts

have included bringing staff, either MTA or MDOT personnel or consultants, onto the project to manage the current needs, such as planning, P3 procurement and contracting, real estate acquisition, and construction.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. It was proposed that Roland Carroll, the Purple Line systems safety and construction safety lead, add the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to the new quality management role. The PMOC has evaluated this change as a part of the PMP review and will continue to monitor management capacity for this function and all positions through ongoing oversight activities. Specific to safety, the PMOC is concerned that there may be a lack of emphasis on safety or on management capacity or capability. Injury rates, particularly for OSF activities, are higher than the MTA goals. Also, reporting of injury and incident statistics is inconsistent. ***As of March 2024, the PMOC notes that incident trends are improving but*** continues to have concerns specifically related to construction safety. See **Section 2.16**, below, for more detail.

In March 2023, MTA hired John Donovan in the role of Construction Manager and also formed a commercial project controls team. These changes were in response to: (1) the near completion of OSF and (2) the need to support the management of MTS's increasing amount of work.

On May 25, 2023, MTA communicated the departure of Executive Director Matthew Pollack, Deputy Project Director and Contracting Officer Anita Rodgers, and Communications Director David Abrams from the Purple Line project team. Project Director Ray Biggs, Jim Mitchell of the PMC, and MDOT Chief Financial Officer Jaclyn Hartman were leading the project while those vacated positions were being filled. Ken Forsythe's role changed from his role as Deputy Project Director to the interim Director of Communications role. A new Deputy Project Director, Alexa Heidrich, started with the Purple Line project team on July 26, 2023. Kathryn (Kat) Lamb joined the team in August 2023 as the Communications Director, which completed the hiring for the open senior staff positions for the Purple Line project at that time. In August 2023, MTA provided an updated Purple Line organizational chart that included those newly hired staff. In December 2023, MTA replaced PMC Project Director Jim Mitchell with Brian Freerks.

In January 2024, MTA communicated a significant number of staff changes both within MTA and within the PMC.

- Construction Manager John Donovan is no longer on the project. MTA stated that two existing project staff, Mike Gales for Civil Construction and Melvin Henderson for Systems Construction, remain with the project.
- The new MTA TDD Executive Director position ***is still open as of March 2024.*** The TDD Executive Director will be responsible for the Purple Line project in addition to other State of Maryland transit projects.
- Quality Manager Fahad Moazziz has been replaced by Turyalai Momand.

- Deputy Communications Director Gary Witherspoon has left the project and will be replaced. ***As of March 2024, a candidate has been identified to fill this position.***
- Deputy Project Director Alexa Heidrich is now the Acting Contracting Officer. Project Director Ray Biggs has assumed her Deputy Project Director duties temporarily. ***As of March 2024, a candidate has been identified to fill the Contracting Officer position.***

The PMOC continues to express its concern regarding MTA's MCC. Open positions, a lack of continuity, and staff serving in multiple roles all pose a risk to the quality of the oversight the Project Sponsor must provide. Shortfalls in MCC may be causing some of the other issues that the PMOC has identified, such as construction safety and quality management challenges.

2.5. NEPA Process and Environmental Mitigation

2.5.1. NEPA Process

FTA issued a ROD on March 19, 2014. The National Park Service issued its ROD on July 16, 2014.

MTA has continued to submit environmental re-evaluations as required based on design advancement and other causes. To date, PLTC (before it left the project) and MTA have prepared multiple packages, primarily for minor Limits of Disturbance (LOD) cases, which were submitted to FTA for review and have received FTA concurrence. The most recent status ***(as of March 2024)*** of NEPA items is:

- MTA submitted an additional LOD case at Sligo Creek that is moving through the MDE and USACE processes. MDE granted approval on January 10, 2024. MTA will submit the necessary information to FTA, however, MTA reports that FTA review is not a schedule critical task at this time.
- The ATC for the Bethesda Station jet fan has been vetted, and final documentation is being prepared for submittal to FTA for concurrence that the ATC meets project requirements. Final documentation for the ATC is still pending as of ***March 2024***. MTA will schedule a review of the documentation with FTA as soon as it is complete, which is expected to occur in April 2024. MTA and MTS optimistically predict that the ATC will have no Section 4(f) impacts or other impacts to the project's ROD.
- ***A ten-year extension of the project's Programmatic Agreement was approved on March 14, 2024.***

On August 3, 2016, in response to the lawsuit filed by the Friends of the Capital Crescent Trail against FTA, a federal judge filed his Order and accompanying Memorandum Opinion. In those documents, it was ordered that the ROD for the Purple Line project be vacated and remanded, and that a Supplemental Environmental Impact Statement (SEIS) be prepared, in accordance with the accompanying Memorandum Opinion. In a subsequent Order and Opinion filed on November 22, 2016, the judge, in part, revised the earlier Order by remanding to FTA the responsibility to determine whether an SEIS is required; however, the ROD remained vacated. On May 30, 2017, the judge issued his ruling that dismissed the lawsuit except for the reassessment of the impact of

declining Washington Metro ridership in the Purple Line project's Environmental Impact Statement. The Washington Metro ridership aspect of the ruling was immediately appealed by the Maryland Attorney General. On July 19, 2017, the U.S. Court of Appeals reversed the vacation of the ROD and set an expedited schedule for the appeals process. The appeals hearing occurred on November 1, 2017. The U.S. Court of Appeals issued its ruling on December 19, 2017, in which the judges ruled in favor of FTA and the project, and ruled that the transit agencies would not have to conduct a new environmental study to examine other potential routes for the Purple Line.

The Friends of the Capital Crescent Trail filed a second lawsuit after the FFGA signing and after the groundbreaking ceremony was held on August 28, 2017. The September 19, 2017, Preliminary Hearing for this suit resulted in no temporary injunctions or restraining orders, and project construction proceeded as the case progressed through the court system. On December 5, 2017, FTA and MTA filed a Motion to Dismiss. The plaintiffs subsequently amended and significantly revised the complaint in December 2017, and on March 1, 2018, MTA and FTA filed a Motion to Dismiss. On March 29, 2018, the plaintiffs filed their response. On March 5, 2019, the judge ruled in favor of FTA.

The Friends of the Capital Crescent Trail filed a third lawsuit in January 2019, this time against USACE. The USACE legal staff and the Office of the Attorney General provided the defense. MTA filed a motion to intervene on behalf of USACE. In early May 2019, the plaintiffs filed an objection to MTA's motion, but during the week of July 15, 2019, the Court authorized MTA to intervene on behalf of USACE. In October 2019, USACE filed for a Summary Judgment to Dismiss the case, and the plaintiffs filed their response; a hearing date was set for March 23, 2020. However, in late February 2020, the assigned judge recused himself from the case, and the scheduled hearing was canceled. In mid-April 2020, the District Court ruled in favor of the USACE/MTA motion for a Summary Judgement to Dismiss, and the case was dismissed. The plaintiff subsequently filed an appeal on May 11, 2020, and the case continued in the legal process. Oral arguments related to the appeal occurred on March 11, 2021. The District Court denied the appeal on May 13, 2021. The decision resolved the last remaining lawsuit related to the project.

2.5.2. Environmental Mitigation

The project achieved the required mitigation for reforestation through the purchase of 82.5 acres of offsite credits (combined, in both Montgomery County and Prince George's County). This amount of offsite credits is expected to be more than needed, and the P3 concessionaire will monitor that this remains the case. PLTP's Forest Conservation Plan (FCP), which documented a need of 75.73 acres, was formally submitted to the Maryland Department of Natural Resources (DNR) in August 2016 for approval. The DNR concurred with the FCP on January 31, 2017, and the final approved FCP was received from DNR on July 31, 2017. As LOD cases are identified, they are also reviewed against the FCP credits to maintain an accurate accounting of the reforestation mitigation. In Maryland, need is based on land disturbance rather than only forest removal. MTA's tracking of additional disturbance due to the progress of design and construction indicated that the total need is still within the amount of available offsite credits.

The Joint Permit Application for Wetlands and Stream Mitigation was formally submitted to USACE and MDE in August 2016. In late February 2018, MDE issued its Non-Tidal Wetlands and Waterways permit in advance of the USACE permit, even though it was a joint application. However, because time had passed since the permit was drafted, MDE updated and issued the finalized permit the first week of April 2018. USACE completed its NEPA and conditions review as well as its public interface, receipt of comments, and comment resolution, and issued the Section 10 404 Permit on March 14, 2018. This timing supported MTA's planned advertisement for the Wetlands and Streams Mitigation construction contracts. In October 2018, the project submitted a request to USACE and MDE to extend the duration of the permits until December 2021 to accommodate the longer construction periods resulting from construction moratoriums for forests and streams. The project received approval from MDE during the week of December 3, 2018, and received the USACE approval letter in mid-June 2019.

The project team has been addressing the environmental mitigation for wetlands through the development of the offsite Ken-Gar location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. The construction contract was advertised on May 3, 2019, bids were received on June 10, 2019, and the bids underwent MTA Procurement Department review. BPW approval of the award was received on September 4, 2019. As of June 2021, the Ken-Gar wetlands mitigation project was complete and had completed its one-year warranty period. See the **Construction** section of this report, below, for further discussion of the status of this Ken-Gar Wetlands Mitigation construction contract.

The project team has addressed the environmental mitigation for streams through the development of the offsite Paint Branch location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. MTA advertised the Paint Branch Stream Mitigation construction contract on March 8, 2019. After the bid due date was extended several times, proposals were received on May 21, 2019, and underwent MTA review and evaluation. BPW approval of the award was received on September 4, 2019. The Paint Branch stream restoration is complete, and warranty corrections (partial replanting) occurred in December 2022. See the **Construction** section of this report, below, for further discussion of the status of this contract.

The project has plans to address stormwater mitigation, beyond what can be mitigated on the project site, through retrofitting offsite locations in both Montgomery County and Prince George's County. On November 12, 2021, MTA determined that there is a need for additional stormwater mitigation in Prince George's County. A project to construct additional stormwater mitigation is included in the scope of work for MTS.

The joint MTA and University of Maryland (UMD) technical board resumed meetings in December 2021 to coordinate efforts related to the mitigation of noise, vibration, and electromagnetic interference at the UMD facilities. Following this meeting, the members of the joint technical board voted to approve the outstanding design packages. This action effectively ended the activities of the technical board until the LRT is in trial running.

The Purple Line project team submits quarterly Environmental Mitigation Monitoring Reports for the project. MTA managed the environmental mitigation and monitoring activities as the project

transitioned to the replacement D-B contractor, MTS. Because MTS is now performing construction, MTA will monitor the environmental activities performed by MTS. On ***January 25, 2024,*** MTA provided the ***Fourth*** Quarter 2023 Environmental Commitment and Mitigation Monitoring Program Report. The report conveys the status of progress toward meeting commitments in the ROD that was issued in March 2014 and any pending actions required. In the report, MTA notes that "no problems, gaps, nonconformances, or NEPA issues of any sort were found during this quarterly assessment."

The MTA Purple Line team communicated that MDE has implemented a change to the state's construction dewatering monitoring and turbidity requirements. Pumped water discharge from construction sites will need to meet specific requirements—something that Maryland lacked but is common in many states. MTS has indicated that these requirements are a change to the project scope of work and is developing a change order request. In September 2023, MTA and MTS participated in training for managers on the new requirements, and a future round of training for field staff is being planned. Activities on the project currently are functioning under the new MDE requirements.

2.6. Project Delivery Method and Procurement

The majority of the capital cost of the Purple Line project has been packaged into a Design-Build-Finance-Operate-Maintain P3 contract. This delivery method fits the state's legal definition of a P3 in that it involves a long-term, performance-based agreement between MTA and a private entity (the P3 "concessionaire") in which appropriate risks and benefits are allocated in a cost-effective manner between the contractual partners. The P3 concessionaire is intended to perform some functions normally undertaken by the transit agency, but MTA remains ultimately accountable for the Purple Line project and its public function.

MTA negotiated an approximate 36-year P3 contract, including nearly 6 years of construction and 30 years of operations, and on March 2, 2016, announced that PLTP had been selected as the P3 concessionaire. Commercial close of the P3 contract occurred on April 7, 2016, and financial close occurred on June 17, 2016.

In late April 2020, PLTC notified PLTP that due to PLTC's forecasted schedule delays on the project (which did not receive agreement from MTA), PLTC intended to exercise the clause that allowed it to terminate its contract with PLTP for the design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that would include a definitive path forward. On the response due date of May 14, 2020, PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement to MTA, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice essentially refuted the validity of the PLTP delay claims and stated that if PLTP fails to perform, MTA has a number of options related to the P3 Agreement. Through July 2020, construction activities continued at the levels previously planned and were not affected by the dispute.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a Temporary Restraining Order (TRO) that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO occurred before the expiration of the TRO on September 14, 2020, and the court rescinded the TRO, allowing PLTP to leave the project.

When an agreement was not reached, the bond holder firms had the first right to take over the project. However, MTA planned an alternate path forward based on its exercise of step-in rights. To that end, MTA assumed the contracts of over 100 subcontractors, indicating MTA's intent to continue the project. MTA adjusted staffing for construction management, resident engineers, and inspectors to move forward with the project.

On November 24, 2020, MTA and the P3 concessionaire, PLTP, reached a settlement agreement to release the project's D-B contractor from the P3 consortium and continue the project with the remaining parties. The state's BPW approved the settlement agreement on December 17, 2020. Activities set out in the agreement and the IRP have proceeded with multiple modifications to milestone dates as needed.

The agreement included the following key aspects, as MTA has communicated to the PMOC:

- PLTP agreed to procure a replacement D-B contractor to complete the project and to obtain project financing. The selection of the preferred replacement D-B contractor, MTS, occurred on November 5, 2021. The TIFIA loan for the project closed on April 14, 2022, allowing financial close and commercial close on that same day. MTS is now the D-B contractor for the project.
- The settlement agreement provided a mutual release from all disputed and undisputed amounts (incurred before September 28, 2020) for PLTP, PLTC, and subcontractors. The agreement also released outstanding litigation among the parties.

2.7. Design

2.7.1. MTA Design

MTA's GEC completed the project design to approximately the 30 percent design level in fall of 2013 and provided incremental enhancements through late 2015. This design formed the basis of the Request for Proposals (RFP) for the P3 contract. See the **P3 Design** subsection, below, for a discussion of the advancement of this design by PLTC, the former PLTP partner that was responsible for the design and construction of the capital project, and continued design under MTA.

There is a dispute pending related to the cost of design changes that were made after execution of the agreement with MTS. MTA's team estimates that the disputed amount is approximately $15 million.

MTA was responsible for the design and construction contracts under a Design-Bid-Build delivery method (separate from the P3 scope) for the following projects:

- Stream mitigation – MTA completed the 100 percent design packages in June 2017 and received approval from MDE in May 2018. Construction of the stream mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.
- Wetlands mitigation – MTA completed the 100 percent design packages in June 2017. Several design adjustments were subsequently made based on MDE and Montgomery County comments. The construction contract was advertised on May 3, 2019. Construction of the original wetlands mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.
- Offsite SWM sites – MTA completed design and obtained MDE approval of more than the P3 contract-required 5 acres of offsite mitigation in Montgomery County on May 29, 2018. In late October 2019, MTA received MDE approvals for the next 5 acres to be added to the mitigation credit "bank," thus satisfying the contract requirements for 2019. MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS.
- See the **Environmental Mitigation** subsection of this report, above, for the current requirements.

MTA also completed the design to support a D-B contract for the replacement of the existing Parks Maintenance Facility with a facility on Polk Street. Construction of the facility is now complete. See the **Real Estate Acquisition and Relocation** and the **Construction** (MTA Scope) sections of this report, below, for further details.

2.7.2. P3 Design

PLTC's design progress was forecasted to achieve substantial design completion of Civil packages in August 2020, substantial design completion of Systems packages (except for Fare Collection) in September 2020, and completion of the Fare Collection design package in 2021. The original baseline schedule anticipated design completion by late fall 2017. As of August 2020, the number of planned Civil, Systems, and Utility design packages was 218.

Upon the departure of PLTC, MTA contracted with the project's engineer of record, Atkins, to continue to advance the design of limited aspects of the project.

The current progress through ***March 2024*** is that ***215*** of the 218 total planned design packages have been issued as RFC. One of the remaining design packages, ***guideway signage, was completed recently.*** The packages that remain in design or approval include fare collection, the fire management system at the WMATA/SSTC combined station, and the train control system. The most significant remaining design package, the design package for train control, is scheduled to enter final design review in ***July 2024***. ***Developing additional equipment specifications and***

other vendor plans for the train control package will extend until February 2025. The PMOC observed that MTS indicates that the design portion of its contract is billed out to 99.9 percent. The requirements of MTA's D-B contract with MTA include the payment of all design costs in the first 15 months of its contract with MTS, regardless of progress.

The State Highway Administration approved the last traffic signal package in October 2023.

An item related to design has been added to the Risk Register regarding an intelligent interface device that could impact implementation and operational costs. MTA and MTS have agreed to put this design change item before the Dispute Resolution Board for feedback, because MTA believes that the change in question would be a betterment that PTLP selected.

PLTC reached resolution on the final remaining ATC identified during the proposal process. The ATC is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA is reviewing the design package for NEPA compliance. Final documentation for the ATC is still pending as of ***March 2024***. MTA and MTS are coordinating to address the noise and aesthetic impacts of the fans, and they optimistically report that the ATC will have no Section 4(f) impacts or associated impacts to the ROD.

MTA and CSX worked to resolve issues related to the applicable design criteria and which project areas were affected until, in July 2019, a mutually agreeable path forward was defined for all areas. The following is the current status of the issues and their resolutions:

- To address CSX comments that would have disallowed passenger amenities (fare gates and ticketing kiosks) on the SSTC mezzanine connector pedestrian bridge above CSX tracks, and that would have required a 25-foot vertical clearance, MTA, PLTC, and CSX reached consensus on a design to interpret this area as a "building concourse." In May 2020, CSX indicated that the final design is acceptable. Revised documents, providing some minor clarifications related to ROW, were submitted to CSX on September 8, 2020, and ultimately CSX approved the design. The revised documents were submitted to WMATA several times in early 2021.

- WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of ***March 2024*** for the SSTC and for other locations where WMATA and Purple Line stations coincide. MTA reports that the slow resolution of these comments has not impacted critical path activities.

- An encroachment into the CSX vertical clearance was discovered upon installation of girders at the SSTC. An exception was requested from CSX to allow the ¾-inch encroachment to remain. CSX denied the exception. MTA and the designer prepared for a contractor to jack and shim the structure to create the required clearance. Construction of this work was completed in August 2021.

- Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as

schedule risk items. The Purple Line project is taking advantage of the WMATA service outage to perform work near and above the tracks.

- CSX provided review comments disallowing revised drainage networks, related to the Capital Crescent Trail work, which would connect to CSX's existing drainage culverts. The work on the Capital Crescent Trail is not part of the FFGA and is separately funded by Montgomery County. As a result of work with Montgomery County, the connections were relocated from CSX property to Montgomery County property and therefore are no longer a CSX issue. To fully accomplish this approach, two connections required resolution. Montgomery County acquired two parcels of land from CSX (not FFGA-funded) and then accepted responsibility for one connection currently under the responsibility of CSX. Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. ***As of March 2024,*** MTS has one more jack-and-bore installation of culvert pipe yet to complete. This culvert installation is not on the project critical path and is scheduled for the summer of 2024.
- ***Track protection (flagging) availability has limited production work near the CSX rail lines. In March 2024, CSX made a second flagger available.***

2.8. Real Estate Acquisition and Relocation

As of March 2024, the total number of planned property acquisitions is 601, including 464 privately owned properties and 137 public acquisitions. All of the original Exhibit 9 FFGA-scope private parcels in the P3 contract are in MTA's possession, some of which are properties that continue in condemnation under the State Highway Administration process. To date, ***429*** of the original 464 private properties have completed settlement, several additional properties (not part of the original 464 private properties) are pending settlement, and ***23*** condemnations remain to be settled.

All required public properties have been available for construction when needed. Several public property rights transfers are currently being coordinated to accommodate sidewalk changes, utility easements, and ROW exchanges.

As the project has progressed and new utility relocation needs have been identified, additional small parcel acquisitions have been added to the total as utility down-guys. In December 2017, PLTC initially submitted a list of approximately 280 such parcels related to utility relocations and subsequently added to that list. MTA resolved that it would acquire these properties, rather than execute amendments to the utility agreement that would have the utility companies perform this function. MTA's ability to perform appraisals in house for these parcels or to waive appraisals for low-value, uncomplicated parcels has been expediting the process somewhat. ***As of March 2024,*** the list of additional acquisitions totals 188 parcels, and several more acquisitions potentially may be needed for stormwater facilities. Of these parcels, 54 are public property and will be acquired by agreement, and 134 are private acquisitions. Sixty-six of the 188 properties were filed for condemnation, excluding those that were subsequently optioned or settled, and 17 condemnations

remain to be filed. MTA estimates that approximately ***$33.1*** million of exposure remains in the acquisition process. This amount has been included in the Quantitative Risk Analysis.

The project required a total of 176 relocations, of which 57 were residential and 120 were businesses. To date, 177 of those identified relocations have been completed in accordance with the applicable procedures, and one active claim remains to be settled. Also, MTA is monitoring terms of agreement of the property acquisitions discussed above that have not yet completed settlement, because some of them could potentially result in the need for additional relocations. ***As of March 2024,*** there is one new relocation related to commercial properties that potentially will be needed.

In August 2023, MTA indicated that the goal for completion of all real estate transactions is December 2024.

On April 25, 2023, MTA reported that BPW had approved the last of seven critical project acquisitions. These acquisitions were required to allow MTS access to construction areas that include activities on or near the critical path.

Properties that have not yet settled due to disputed compensation values have been going to trial in accordance with the ROW acquisition process. MTA is tracking actual acquisition costs versus planned expenditures, so that contingency can be effectively managed, and MTA shares this information with the PMOC. Based on actual settlement amounts and projected amounts for those not yet closed, settlement/condemnation values are 57.5 percent higher than the original 2014 SCC budget for ROW. MTA included current ROW cost projections in its development of an FRP project cost estimate (see the **Project Cost** section of this report, below).

Due to the extended project duration, some agreements will expire before the expected RSA date. MTA and MTS have started the process of identifying the end dates now needed for the agreements and will begin the process of obtaining extensions. MTA has evaluated the risks, estimated the cost of the extensions, and included those costs in a budget contingency. ***As of March 2024,*** MTA estimates that approximately $18 million of risk exposure remains due to necessary TCE extensions. To date, the project has expended $4.6 million on TCE extensions.

2.9. Third-party Agreements and Utilities

All major third-party agreements (specifically, those agreements with Washington Gas, Verizon, Potomac Electric Power Company [PEPCO], CSX, UMD, Montgomery County Parks, Prince George's County Parks, WMATA, WSSC, Montgomery County, and Prince George's County) were executed as of June 7, 2016.

After execution of its third-party agreement, Verizon required that certain lines that are currently overhead be placed underground when they cross the light rail alignment. To minimize the total cost impact of this change, MTA and Verizon reduced the number of locations where Verizon lines cross the alignment to 34. MTA is of the opinion that this reduction is a betterment, and therefore the added cost is Verizon's responsibility, but Verizon has not yet accepted that position. PLTC submitted its cost estimate for placing these 34 locations underground, and after extended cost negotiations between MTA and PLTC while the physical relocations were being implemented,

a final change order value of approximately $5.5 million was agreed upon in early March 2019. MTA had planned to negotiate the cost responsibility with PLTC and Verizon after all major Verizon relocations were completed. However, since the departure of PLTC, MTA carries this cost as a betterment outside of the FFGA scope.

In early June 2018, MTA and PLTP completed the negotiation of all remaining third-party agreements with the smaller utility and telecommunications (telecom) fiber companies. According to MTA, most of the minor fiber/telecom utilities are not co-located with the electrical utilities, and, where they are, PEPCO's arrangement with the fiber/telecom utilities does not require PEPCO's relocation schedule to be driven by that of the minor fiber/telecom companies.

In addition, the need for amendments to existing executed agreements continues to be evaluated. The significant items include:

- To date, the design differences with CSX, as discussed earlier in this report, have been adequately resolved through design review and concurrences, and have not resulted in the need to amend the CSX agreement.
- WSSC proposed that the project relocate a 66-inch underground water main that runs through the Glenridge OMF site. In March 2020, MTA and WSSC agreed on a water main alignment primarily in the median of Veterans Parkway, as well as a strategy for completing the relocation. The original Purple Line project GEC performed the design; WSSC provided the material; and MTA separately contracted for the construction, thus avoiding impact to the P3 concessionaire's scope of work. On May 21, 2021, WSSC authorized work, and mobilization began August 9, 2021. Energizing of the cathodic protection was the last remaining activity, and it was completed in November 2023.
- In late July 2022, MTA and MDOT held a summit with the many utility providers that experience relocations related to transportation projects to discuss best practices and improvements to the utility relocation process. As of May 2023, some of the utility providers are experiencing staff shortages that limit construction production rates. These staff shortages present an ongoing challenge to the project.

The project has been addressing its interface with Montgomery County Schools through the third-party agreement already in place with Montgomery County. However, due to the specific concerns related to the schools and the safety and security of the children, MTA drafted a separate MOU with the Montgomery County Schools system, which was approved by the School Board and signed by the School Superintendent, Montgomery County, and MTA. A similar MOU was negotiated between MTA and the Rosemary Hills School and was approved at the School Board meeting on February 12, 2019. MTA submitted a draft second MOU to Montgomery County Schools on November 3, 2022. The Purple Line project team is developing information on the utility pole locations and retaining wall maintenance before going back to the school district for final property transfer negotiations. Work will continue under ROE agreements with these parties through 2024.

As MTS commenced construction work, coordination meetings were held to ensure that prior agreements with third parties (utility companies and others) are followed. It is MTA's position that the transfer of third-party agreements from PLTC to MTA and now to MTS should not allow for a change in the terms of the agreements.

2.10. Construction

2.10.1. MTA Scope

Although the P3 concessionaire is responsible for the majority of the project construction, MTA also has construction responsibility in the areas of the replacement Parks Maintenance Facility (which is part of the real estate effort and budget), wetlands mitigation, stream mitigation, and possibly some offsite SWM sites. MTA has accomplished forest mitigation without the need for additional construction. The following discussion presents the current status of the MTA construction contracts:

- **Prince George's County Parks Polk Street Replacement Maintenance Facility** – This D-B contract was awarded after the BPW approved the construction contract award on March 20, 2019. Forrester Construction Company completed construction, Parks has taken possession of the facility, and the warranty period has expired. The only remaining action for this portion of the project is a real estate swap that will transfer the maintenance facility property to Parks in exchange for the property needed by the Purple Line project to MTA.
- **Offsite Wetlands Mitigation (Ken-Gar)** – The Wetlands Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The contractor mobilized in December 2019 and completed site surveys and the installation of Erosion and Sedimentation controls. Clearing and grubbing began in February 2020. Prince George's County took partial acceptance of the entire project on March 3, 2021. Acceptable growth of vegetation has been achieved, allowing for closure of this project. The one-year warranty review occurred on January 9, 2022, and now the project requires MTA quarterly monitoring until closeout in 2028.
- **Offsite Stream Mitigation (Paint Branch)** – The Stream Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The pre-construction meeting was conducted on October 24, 2019. The contractor mobilized in late November 2019. The one-year warranty inspection occurred on August 4, 2022, and 1,700 plants were replaced in November 2022.

2.10.2. P3 Scope

Highlights of construction activities ***through March 2024*** throughout the alignment include***:***

- General: As a result of the dispute with PLTC (see the **Project Delivery Method and Procurement** section, above), all project activities slowed in the fall of 2020. In early

August 2020, contractor forces, equipment, and materials were demobilized, and work in some areas ceased. Upon legal action from MTA, partial remobilization occurred. Following the court's rescission of the TRO, demobilization and safe-up activities in the construction area began in earnest in mid-September 2020 and continued into October 2020. Following PLTC's exit, MTA engaged a number of former PLTC subcontractors to continue select project activities. This work was progressed under MTA management with a goal of advancing critical path activities and reducing risk for the replacement D-B contractor.

- Status of P3 (OSF) construction items that MTA managed or manages:
  - Utility installations of all types are complete or have been transferred to MTS, including construction by the electric provider (PEPCO) and the communications company (Verizon). Water, storm sewer, sanitary sewer, and gas lines are also complete or have been transferred to MTS.
  - As a part of OSF, MTA ordered rail, ties, special trackwork, and turnouts to mitigate supply chain risks. MTA also secured materials previously procured by PLTC for use by the replacement D-B contractor (MTS). As of September 2023, a dispute between MTA and MTS over the availability of MTA-supplied materials has been resolved. The materials were located along the project corridor and available for use, resolving the dispute.
  - Building construction at the Glenridge OMF is essentially complete; however, construction of civil items outside of the building continues, as does final commissioning of systems inside the building. MTS assume control of the facility in January 2024. As of March 2024, Amendment 7 to the P3 agreement settled all remaining disputes. MTS is currently installing rail and other features both inside and outside of the building. MTS will complete the tracks for storage and testing of LRVs.
  - Based on the status of construction at the time of PLTC's departure, MTA determined which items would be completed before mobilization of the replacement D-B contractor. OSF construction activities were expected to be completed before September 1, 2022, but some activities continued until November 2023. OSF utility relocations that fell behind schedule caused delays to MTS's work, and delays in OSF activities have led ***to three MTS change orders as of March 2024. The cost and schedule impacts resulting from OSF delays have been incorporated into Amendment 7. Multiple other disputes were also included in Amendment 7***.
  - MTA's Equal Employment Opportunity Officer assigned to the project is Marcques Washington, and he is supporting MTS in its hiring program. The former contractor, PLTC, left the project with a shortfall in meeting the requirements of its DBE program, and MTS is required to address this shortfall of approximately $12 million in contract value. In March 2023, MTA reported that the design portion and the nationally targeted worker program of the P3 contract had exceeded the DBE

program goal, but the percentage DBE participation for general construction is below the goal. In April 2023, Mr. Washington reported that the DBE participation statistics are improving as construction continues. The PMOC continues to recommend that MTA report the projected values for these goals at the end of the project in addition to the current achieved values to allow for a better evaluation of progress toward meeting the goals. MTA has been performing audits each month to monitor the Davis Bacon prevailing wage requirements. To date, only very minor issues have been identified during these audits. ***As of March 2024, the Equal Employment Opportunity Officer is preparing revised DBE goals that reflect the new total construction cost established by Amendment 7 to the P3 Agreement.***

2.11. Vehicle Technology and Procurement

The LRVs are five-car vehicles consisting of 136-foot-long, articulated units. Twenty-five vehicles (22 in operation and 3 spares) will be provided under the FFGA for the opening year. PLTP executed the LRV contract with CAF on June 17, 2016, and issued NTP to CAF on July 5, 2016, for the 25 FFGA vehicles. The original NTP to CAF also included one LRV outside of the FFGA.

Later, MTA added two additional vehicles (outside of the FFGA) by change order to CAF's contract, for a total of 28 vehicles to be supplied by CAF. The two additional LRVs will support better operations. MTS has incorporated these two additional LRVs into its scope of work (in addition to the cost and terms of LRV storage in Elmira).

Vehicle carshell manufacturing activities, which are coordinated with design progress, occurred until the facility in Spain was shut down in late March 2020 due to supply chain issues and to limit the spread of COVID-19. The final assembly facility in Elmira, New York, was shut down in early April 2020 due to New York State restrictions related to COVID-19 and reopened on May 18, 2020, at 50 percent of its workforce capacity. As of early August 2020, both the Spain facility and the Elmira facility were back to 100 percent staffing levels.

The final assembly of vehicles is being performed in CAF's facility in Elmira. MTA, its PMC, and SNC-Lavalin are meeting weekly with CAF to resolve all open items for design, testing, and manufacturing activities. First Article Inspections (FAIs) for Interior and Cab were completed on March 18, 2021, and FAIs for Exterior, Roof, and Undercar were completed on April 2, 2021.

Shipment of the first vehicle to the project site was expected in late spring of 2021. The lack of available storage at the yet-to-be-completed Glenridge OMF requires use of an offsite storage facility where vehicles can be stored, occasionally powered, and occasionally "exercised" or moved on tracks. MTA and CAF negotiated an agreement for CAF to store the completed LRVs in Elmira. That storage agreement subsequently transferred to MTS, and its terms are part of MTS's agreement. Twenty-six LRVs have been designated as Ready for Shipment and have been placed into storage in Elmira. MTS's proposed construction schedule establishes when the test tracks will be available for acceptance of the railcars at the Glenridge OMF. Currently, the schedule indicates that initial deliveries of LRVs will occur in early 2024.

The status of the LRV manufacturing as of ***March 22, 2024,*** is:

- To date, 130 carshell segments have been assembled in Spain.
- All 130 carshells have been delivered to CAF's facility in Elmira, New York.
- All 25 full LRVs in the FFGA are designated as Ready for Shipment and are in storage at CAF's Elmira facility. One additional LRV (outside of the FFGA) is also Ready for Shipment and in storage.
- Two additional LRVs are under contract. These LRVs are not a part of the FFGA, but rather are an addition to the contract by MTA to support rail operations. Manufacture of the two additional vehicles (ten cars) in Spain is now complete. All ten of those cars have been delivered to Elmira for final assembly and static testing.
- As mentioned in Section 2.3.3, Quality Assurance, one manufacturing quality issue, the recurring failure of the M33 bolt in multiple vehicles, has not been completely resolved. ***LRV manufacturer CAF performed a root cause analysis, and as of March 2024, it is performing a modified assembly process on a second sample group.*** MTA does not believe the issue will impact delivery of the vehicles, which is scheduled for spring 2024.

2.12. Project Cost

Table 5 summarizes the project's current actual expenditures and EAC, and compares them to the project budget as reported in MTA's SCC Workbook dated June 1, 2016, which is the basis of the project's FFGA. The project's documented expenditures total ***$3,310,380,037 through February 29, 2024.*** Refer also to **Table 4 – FFGA Core Accountability Items** in the **Executive Summary** section of this report for details on the project's planned and actual expenditures. The following table shows project budgets, actual expenditures, and forecast at completion amounts through ***February 2024***, compared with the project budget as reported in MTA's SCC Workbook dated June 1, 2016, and MTA's current working budget.

Table 5 – Project Cost Versus Budget

SCC	Cost Category	Budget (June 1, 2016 Original FFGA)	Working Budget[1] (April 3, 2023 FRP)	Expenditures *(as of February 29, 2024)*[2]	Forecast at Completion[1,2]
10	Guideway and Track	$280,620,726	$371,508,682	***$218,615,513***	$374,463,623
20	Stations	$114,857,016	$161,159,923	$44,023,405	$171,528,112
30	Maintenance Facility	$94,155,591	$93,454,387	***$86,884,427***	***$94,820,806***
40	Sitework	$521,968,990	$796,081,289	***$591,265,877***	***$783,720,812***
50	Systems	$263,887,313	$517,256,196	***$187,057,228***	$517,203,477
	Subtotal 10–50	$1,275,489,636	$1,939,460,477	***$1,127,846,450***	***$1,941,736,830***
60	Right-of-Way	$229,600,000	$329,126,214	***$296,813,384***	$329,126,214
70	Vehicles	$212,940,927	$292,780,600	***$159,187,596***	$292,584,921
80	Professional Services (total)	$571,658,114	$2,247,359,915	***$1,726,532,607***	***$2,466,237,419***
80.01	Project Development	$87,149,878	$85,469,312	$85,469,312	$85,469,312

SCC	Cost Category	**Budget** (June 1, 2016 Original FFGA)	**Working Budget**[1] (April 3, 2023 FRP)	**Expenditures** ***(as of February 29, 2024)***[2]	**Forecast at Completion**[1,2]
80.02	Engineering	$139,766,036	$196,722,013	***$217,829,794***	***$***234,374,725
80.03	Project Management for Design and Construction	$148,555,323	$655,185,988	***$426,676,225***	$640,985,062
80.04	Construction Administration and Management	$83,269,280	$734,209,735	***$512,072,746***	***$798,834,695***
80.05	Professional Liability; Other Non-construction Insurance	$34,534,796	$85,701,891	***$80,805,415***	***$81,549,426***
80.06	Legal; Permits; Review Fees by Other Agencies, Cities, etc.	$5,805,117	$341,013,320	***$334,408,937***	$476,160,224
80.07	Surveys, Testing, Investigation, Inspection	$15,164,346	$92,504,023	***$64,488,643***	$92,185,741
80.08	Startup	$57,413,338	$56,553,635	$4,781,535	$56,678,235
	Subtotal 10–80	$2,289,688,678	$4,808,727,206	***$3,310,380,037***	***$5,029,685,385***
90	Unallocated Contingency[3]	$90,535,748	$307,293,174	***--***	***$86,334,995***
100	Finance Charges	$0	$0	$0	$0
	Total	$2,407,030,288	$5,116,020,381	***$3,310,380,037***	$5,116,020,380

[1]The Purple Line project Working Budget and Forecast at Completion are based on the accepted FRP, dated April 3, 2023, and subsequent change orders.

[2]Amendment 7 to the P3 Agreement has not yet been incorporated into MTA's financial reporting as of March 2024. Amendment 7 added $405 million to the construction cost of the project.

[3]The Unallocated Contingency expenditures will be reflected in SCC 10–SCC 80 expenditures as they occur. As of ***March 21, 2024,*** the committed unallocated contingency amount is ***$220,958,179.***

MTA developed the FRP unallocated contingency amount of $307,293,174 by utilizing a Quantitative Risk Analysis and the RCMP, dated April 21, 2023, recommended that amount for unallocated contingency.

In July 2023, the Maryland BPW approved a change order that had a total addition of $204,954,610 of cost and 207 additional days of contract time. The net budget impact to the capital construction portion of the project was $137,144,705, and the balance of the total amount was applied to the financing and lost return on investment for PLTP. The $137,144,705 will be expended over the course of construction; therefore, this amount does not immediately show up in the MTA budget reports. However, that amount, plus the amount of the earlier change order included in the FRP, represents significant utilization of the budget contingency. The PMOC recommends that MTA closely monitor these cost overruns and the potential need for additional contingency. ***As of March 2024, a third change order (and amendment to the P3 Agreement [Amendment 7]) was negotiated. The change order essentially utilized all of the FRP budget and schedule contingency, added $406 million to the construction budget, and added 250 more days to the schedule. As a result, MTA is currently developing revised cost and schedule contingency budgets.***

2.12.1. Project Funding

The funding for the project, as reflected in Attachment 3 of the FFGA, is shown in Table 6. ***As mentioned previously, MTA has not yet added Amendment 7 to the P3 Agreement to the financial information it provides. MTA has reported that the additional funds (approximately $406 million) related to Amendment 7 will come from the State of Maryland/MDOT Transportation Trust Fund.***

Table 6 – Baseline Cost Estimate by Source Funding

Initial New Starts Project Cost	Total FFGA Cost in Year of Expenditure (YOE) Dollars	Federal 5309 New Starts in YOE Dollars	Federal 5307 in YOE Dollars	Federal American Rescue Plan Act (ARPA) in YOE Dollars	Federal Surface Transportation Program (STP) in YOE Dollars	Local in YOE Dollars
10 Guideway & Track Elements	$371,508,681	$96,464,907	$0	$0	$0	$275,043,774
20 Stations, Stops, Terminals, Intermodal	$161,159,923	$23,557,000	$0	$0	$0	$137,602,923
30 Support Facilities, Yards, Shops, Admin. Bldgs.	$93,454,387	$29,954,000	$0	$0	$0	$63,500,387
40 Sitework & Special Conditions	$796,081,289	$222,858,301	$0	$0	$0	$573,222,988
50 Systems	$517,256,196	$60,116,405	$0	$0	$0	$457,139,791
60 ROW, Land, Existing Improvements	$329,126,214	$102,108,116	$0	$0	$0	$227,018,098
70 Vehicles	$292,780,600	$80,787,818	$0	$0	$0	$211,992,782
80 Professionals Services	$2,247,359,916	$284,153,453	$41,631,310	$106,163,371	$110,000,000	$1,705,411,782
90 Unallocated Contingency	$307,293,174	$0	$0	$0	$0	$307,293,174
100 Finance Charges	0	$0	$0	$0	$0	$0
Total Project Cost (10-100)	**$5,116,020,380**	**$900,000,000**	**$41,631,310**	**$0**	**$0**	**$3,958,225,699**

Source: Maryland Purple Line Project FRP, dated April 3, 2023. ***Note Amendment 7 to the P3 Agreement is not yet included in this table.***

2.13. Project Schedule

The March 15, 2017 progress update of the master project schedule served as the only approved version of the schedule until September 2022. Numerous submissions of schedule updates from PLTC were not approved for various reasons, but the primary reason was the inability of MTA and the P3 concessionaire to agree on the schedule impacts of the approximately one-year delay in the execution of the FFGA. In response to a letter that FTA issued to MTA in early August 2018 expressing concerns about the amount of time that the project had advanced without an approved schedule, MTA prepared a working schedule update of the master project schedule. The working schedule update was based on the negotiations of the P3 contract schedule occurring at the time, but the update was not based on a mutually agreed-upon P3 contract schedule.

In late April 2020, PLTC notified PLTP that, based on its forecasting of schedule delays on the project (which were not mutually agreed upon), PLTC intended to exercise the clause in its P3 contract with PLTP that allows it to terminate the contract for design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that included a definitive path forward for PLTP's intended management of the P3 contract. On

May 14, 2020 (the date the response to the formal request was due), PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice refuted the validity of the PLTP delay claims and stated that if PLTP failed to perform, MTA had a number of options related to the agreement. Through late July 2020, construction activities continued at the level previously planned, and construction progress was not affected.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a TRO that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO was held on September 14, 2020. The court rescinded the TRO, allowing PLTP to leave the project. Through negotiation, it was determined that PLTP would remain on the project, although PLTC would not.

MTA contracted with numerous subcontractors to continue the project. MTA developed organizational options with respect to construction management, resident engineers, inspectors, and other staff needed to move forward select project activities.

It was certain that the project schedule as reflected in the FFGA would be negatively affected, and a Recovery Plan for the project, including a revised project schedule with adequate schedule contingency to address remaining project risks, would be required. MTA submitted its draft IRP to FTA in December 2020, and FTA approved the IRP on January 12, 2021. A schedule for the period during which the D-B contractor was to be replaced was developed, and MTA monitored project progress against the schedule.

PLTP and MTA continued to coordinate during the financial process and State of Maryland approvals for the replacement D-B contractor. In addition, MTA successfully coordinated other key issues that needed to be resolved before PLTP could execute the contract with MTS.

The following is a summary of IRP milestones:

- January 6, 2021 – PLTP issued a Request for Qualifications (RFQ) for replacement D-B contractors.
- March 8, 2021 – PLTP issued an RFP to the short list of replacement D-B contractors based on the RFQ.
- October 15, 2021 – PLTP received RFP responses.
- November 5, 2021 – PLTP and MDOT/MTA selected the replacement D-B contractor firm (MTS).
- January 26, 2022 – BPW approved the replacement D-B contractor, contract amendments, schedule, cost, and financing.
- April 11, 2022 – Private activity bonds went to market.

- September 12, 2022 – MTA approved the Initial Baseline Schedule (IBS).
- October 14, 2022 – MTS was required to have commenced action on the 11 critical elements that are specified in the D-B contract. At the December 2022 PMOC meeting, MTA confirmed that MTS missed the 180-day window to commence action on 3 of the 11 critical elements.
- October 28, 2022 – MTA was required to have submitted a draft FRP to FTA and the PMOC for review and comment. On October 4, 2022, MTA submitted the draft FRP to FTA and the PMOC for review.

A milestone not specifically mentioned in the IRP is the requirement to extend the current RSD. The PMOC therefore added the following milestone to this list:

- December 31, 2022 – The RSD in the original FFGA is December 31, 2022. MTA requested an extension to the current RSD identified in the original FFGA. FTA accepted the FRP, which indicates a revised RSD of February 28, 2028.

The schedule included in the FRP was considered to be the new baseline schedule. The MTS master schedule incorporated the schedule recovery of implementing Maintenance of Traffic and construction activity resequencing, at a cost of $21,343,588, which reduced schedule delays from 218 days to 81 days. These schedule delays are a result of OSF utility adjustments that fell behind schedule. MTS has indicated that delays continued to occur as a result of the MTA-managed OSF work. The second OSF-delay-driven change order, as approved by the BPW in July 2023, added 207 days to MTS's RSA date.

This addition to the RSA date represents a significant use of schedule contingency, which is a concern considering the remaining duration of the project. In an effort to mitigate continuing OSF delays**,** MTA resumed the Tiger Team process (in this case referred to as "Tiger Team 2") to develop schedule alternatives. OSF construction activities were expected to be completed before September 1, 2022, but schedules that MTA previously provided indicated completion of most OSF activities in mid-2023, with some activities continuing up to November 1, 2023. OSF utility relocations that were behind schedule continued to cause impacts to MTS's work, and as of July 2023, delays in OSF activities had driven two change orders. MTA and PLTP have used the Tiger Team process to develop schedule alternatives to potentially mitigate delays driven by OSF work between March 2023 and February 2024. ***Amendment 7 to the P3 Agreement resolved the outstanding disputes and delays related to OSF activities. The amendment added 250 days to the schedule, placing the RSA date at December 30, 2027. MTS has not yet prepared, and MTA has not yet approved, a revised baseline schedule.***

2.13.1 Key Milestones

Table 7 shows the current key milestone dates for the project for the prior approved (March 15, 2017) progress update of the current master project schedule. Issuance of NTP to PLTP on April 14, 2022, triggered the contract requirement that an MTA-approved MTS IBS for the full project be in place within 120 days of financial close (by August 14, 2022). In January 2022, MTA submitted a draft version of the master schedule for FTA and PMOC review, and FTA and the

PMOC transmitted their review comments to MTA in April 2022. MTS submitted its IBS, and on September 12, 2022, MTA approved it. MTS submitted the 120-day mobilization schedule, which MTA also approved.

In August 2022, MTA and the PMOC discussed the current state of the baseline schedule, particularly the inclusion of adequate float to address schedule risk. The P65 date that MTA proposed before the risk workshop held in May 2022 included approximately seven months of float and an RSA date in October 2026. After MTA performed the Quantitative Risk Analysis for the updated RCMP, MTA added additional float to address known and unknown schedule risk. The RSD proposed in the FRP is February 28, 2028. ***However, the recently approved Amendment 7 to the P3 Agreement sets the RSA date at December 30, 2027, essentially utilizing all of the schedule contingency. The outcomes of the current update of the Quantitative Risk Analysis will advise new recommendations regarding schedule float and contingency.***

The PMOC recommends that MTA closely monitor schedule contingency and the corresponding budget contingency when evaluating the RSA date/RSD and the EAC that have been incorporated into the FRP. The information in Table 7 will be updated once the schedule reviews and approvals are complete.

Table 7 – Key Milestone Dates

Activity	Prior Approved Master Project Schedule (March 15, 2017)	MTA Master Project Schedule (*March 1, 2024*) (working schedule)
Locally Preferred Alternative Approval Date	08/04/2009 (A)[1]	---
FTA Approval to Enter Preliminary Engineering	10/07/2011 (A)	---
FTA ROD	03/19/2014 (A)	---
Issue Final RFP for P3 Concessionaire	07/28/2014 (A)	---
FTA Approval to Start Enter Engineering Phase	08/28/2014 (A)	---
Issue Addenda 4 through 6 to the P3 RFP	07/2015 through 11/2015 (A)	---
P3 Technical Proposals Due	11/17/2015 (A)	---
P3 Financial Proposals Due	12/08/2015 (A)	---
Evaluation and Announcement of Selected P3 Proposer	01/02/2016 through 03/02/2016 (A)	---
BPW Approval of P3	04/06/2016 (A)	---
P3 Commercial Close	04/07/2016 (A)	---
Limited NTP for P3 Engineering	04/07/2016 (A)	---
MTA Submit FFGA Application	05/24/2016 (A)	---
P3 Financial Close	06/17/2016 (A)	---
FFGA Signed	08/22/2017 (A)	---
Start of First Major Construction Activity	08/28/2017 (A)	---
All Significant ROW Acquisition and Relocation	As needed by construction	---

Activity	Prior Approved Master Project Schedule (March 15, 2017)	MTA Master Project Schedule (*March 1, 2024*) (working schedule)
Commencement of Contract Work for Replacement D-B Contractor (MTS)	---	04/14/2022 (A)
Commencement of Integration Testing	---	07/28/2025
All Segments Complete Construction (with Contingency)	---	02/19/2027
RSA Date per P3 Amendment ***(without Contingency)***	---	***12/30/2027***
FFGA RSD (Includes Contingency)	12/31/2022	02/28/2028

[1]A = Actual.

1.13.2 90-day Look-ahead

The critical 90-day (***April 2024 through June 2024***) look-ahead includes activities that MTA highlighted in the recent monthly meeting with the PMOC. MTA and MTS also are preparing four-week look-ahead schedules to manage interim activities. Key activities that MTA has identified for the short term are:

- Completion of the bottom-up Quantitative Risk Analysis and revised recommendations for schedule and cost contingencies.
- Completion of yard track and initial installation of OCS at the Glenridge OMF to support LRV delivery and testing.
- Preparation for the WMATA coordinated track outages at the SSTC to allow work in the summer of 2024.
- Concrete lining installation at the Bethesda Enclosed Trainway.
- Installation of TPSSs Q03 ***and Q06.***
- ***Completion of*** installation of bridge girders for the Riverdale aerial structure.
- ***Initial installation of rail in Segment 1.***

1.13.3 Critical Path Activities

In the MTA master schedule update dated ***March 1, 2024***, the critical path runs through the activities in Area 3 utilities and track (see **Attachment G, Project Map**), and then trial running and systems integration/testing.

1.14 Project Risk

MTA has established a risk management organization that is defined in the RCMP and is overseen by MTA's Risk Management Committee. Two major elements of the RCMP are the periodic performance of a Quantitative Risk Analysis and the maintenance and use of the Risk Register.

During the approximately one-year period during which the ROD had been vacated by the federal judge in his decision related to the Friends of the Capital Crescent Trail lawsuit, MTA did not

conduct formal Risk Management Committee meetings, conduct Quantitative Risk Analyses, or perform formal updates of the Risk Register. However, the Purple Line project management team did assess and respond to the risks associated with the unforeseen chain of events related to the lawsuit.

The project team resumed formal Risk Management Committee meetings in October 2017, including individual updates of each risk on the current Risk Register by the risk owner. An overall update of the Risk Register was completed in draft form in January 2018, and was updated further and reissued in March 2018. As an ongoing process, MTA currently is performing updates of the Risk Register periodically, though somewhat less frequently than bimonthly (the frequency established in its RCMP). The current status of the RCMP is discussed in the **Project Management Plan and Sub-plans** section of this report, above.

MTA provides copies of significant updates of the Risk Register to FTA and the PMOC. The top risks from the project's latest issued update of the Risk Register and PMOC-assessed risks are discussed at the PMOC monitoring meetings with the project team; the project's top five project risks are included as Attachment B of this report and are updated quarterly. A risk management workshop was held on January 26, 2021, at which the PMOC and FTA participated. The workshop focused on the resolicitation period for the replacement D-B contractor (January through October 2021).

Once the replacement D-B contractor was under contract, risk updates were prepared. The project held a risk workshop the week of May 2, 2022, at which the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. Confirmation and finalization of the Risk Register, the Quantitative Risk Analysis, and an update of the RCMP are components of the FRP. FTA provided a summary of the risk workshop to MTA on June 22, 2022, for MTA's consideration and incorporation into its management plans and contingency evaluation. MTA provided responses to FTA comments on the risk workshop summary on July 15, 2022, and clarification on August 25, 2022. In October 2022, MTA submitted RCMP Version 15 to FTA and the PMOC for review. In February 2023, FTA and the PMOC provided comments on RCMP Version 15 to support MTA's development of the project's budget contingency and schedule contingency. On April 21, 2023, MTA provided a revised RCMP to FTA and the PMOC for review, and on May 22, 2023, FTA accepted the revised RCMP with comment. In June 2023, MTA held its quarterly Risk Management Committee meeting, at which it updated the Risk Register to reflect retired and new risk items. Five of the seven new risk items are related to disputes with MTS. Two significant risks were added to the Risk Register—one related to numerous design changes that occurred during OSF but were not reflected in the amended P3 Agreement and one related to a very specific intelligent interface device.

On November 20, 2023, MTA held its quarterly Risk Management Committee meeting. During the meeting, MTA identified the top four project risks that have a risk rating of "Significant."

1. Construction – Exhibit 24 Utility Adjustments
2. Design – TCE Extensions
3. Design – Design Changes

4. Design – Intelligent Interface Device

As a follow-up to the Risk Management Committee meeting, MTA will complete a Quantitative Risk Analysis, re-baseline the project contingency drawdown curves, and update the RCMP. MTA will provide this information in ***April 2024.*** The significant consumption of both schedule and budget contingency is a concern to the PMOC.

1.15 Quality Assurance/Quality Control

The project's QA/QC is addressed in Section 10 of the PMP, the Quality Program Plan, and the updated MTA QAP Revision 8.0, which incorporates the quality plans prepared by PLTC. The **Project Management Plan and Sub-plans** section of this report, above, discusses the most current versions of the PMP and the QAP. MTA also submitted to FTA the package of inter-related quality plans prepared by the P3 concessionaire after the package was reviewed and approved by MTA.

MTA obtained and used PLTP's quality logs and other applicable documents and procedures during the transition to the replacement D-B contractor. Several former subcontractors were under contract with MTA and conducted QA/QC activities during the replacement D-B contractor solicitation period. The budget to address nonconforming construction by PLTC remains a concern as of July 2023. MTA incorporated known defects into the MTS contract; however, MTA has not clarified the specific budget that will be used to rectify defects found since the contract with MTS was executed. MTA estimates that the potential magnitude of this budget impact will be no more than $10 million, and the current Risk Register carries this risk item.

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on the QAP to MTA. MTA provided a revised QAP to FTA and the PMOC in May 2023. Subsequently, FTA and the PMOC made recommendations for revisions to the QAP that MTA committed to include in the next regularly scheduled update to the QAP.

The project has continued to conduct its monthly meeting to review the QA/QC activities performed by the Purple Line project team, including those activities performed by the PMC and the GEC. MTA states that documentation from this meeting is distributed and maintained. The project's Monthly Progress Report to FTA also contains a summary of the significant current QA/QC activities and events, including quality audits and quality reviews. However, in January 2024 MTA did not submit the typical quality program monthly information, citing a change of leadership on the quality team. On January 25, 2024, MTA introduced the project's new Quality Manager, Turyalai Momand.

In February 2024, MTA stated that it is developing a full schedule of quality audits to be performed in 2024. When asked about a number of very old deficiency notices and instances of non-conforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of sign-offs by managers. MTA is deferring some other older open quality items because making corrections now will negatively impact other critical path activities.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. Roland Carroll, the Purple Line systems and construction safety lead, added the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to his new quality management role. The PMOC evaluated this change as a part of the PMP review and will continue to monitor MTA's management capacity for this function and all positions through ongoing oversight activities.

The PMOC requested that MTA provide more complete documentation for quality-related activities. MTA modified the QAP to reflect many of the noted PMOC concerns. In addition, a technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023. The PMOC has since recommended acceptance of the QAP contingent upon MTA's incorporation of outstanding items into the next regularly scheduled annual update. On October 6, 2023, FTA accepted the QAP provided that MTA incorporate the PMOC recommendations. MTA has also developed a quality dashboard to improve its tracking of quality issues. ***In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational chart for quality management and administration.***

2.16 Safety and Security

PLTP has conducted 44 Preliminary Hazards Analysis (PHA) workshop sessions to date. These workshops were held to resolve MTA's comments on the PHAs completed to date.

To support the ultimate Safety and Security Certification of the Purple Line project, the PLTP System Safety team completed development of its first DCCC in May 2017 and submitted it to MTA for approval. MTA (assisted by the PMC) reviews the DCCCs as part of the Final Design package, according to the established submittal review process. According to PLTP, the DCCCs were being verified before the issuance of RFC packages. To date, an estimated 99 percent of the DCCCs have been verified. All previous comments on PLTP's Certified Elements List (CEL), which includes operations and maintenance and system integration testing elements, have been resolved, and CEL Revision 2 was accepted in March 2020. The Certified Items List (CIL) Revision 1 has been accepted. The next revision of the CIL is expected after MTS completes the design. MTA will provide the revised CIL to FTA and the PMOC as soon as it is completed. Approximately 18 percent of the CSCCs have been verified to date.

MTA chairs a Safety and Security Certification Committee (SSCC) that reviews, comments on, and approves any PLTP hazard management and safety and security certification issues. The first meeting of the MTA SSCC was conducted on March 20, 2018. Since July 11, 2018, the SSCC meeting has been held regularly and will continue as a monthly meeting until the level of activity requires more frequent meetings. ***As of March 2024,*** monthly SSCC meetings continue.

PLTC submitted a Threat and Vulnerability Assessment (TVA), and on July 15, 2019, MTA accepted and verified the comment responses and approved PLTC's TVA. PLTC then completed

its TVA process. As of ***March 2024***, the replacement D-B contractor, MTS, is performing a cybersecurity TVA for the project.

MTA continues to conduct bimonthly Fire/Life Safety meetings with Montgomery County and Prince George's County. The meetings provide a basis for the counties' emergency responders to understand the features of the Purple Line systems and to resolve any concerns. Topics of discussion include: Police Department MOUs; Fire Department connection and hydrant locations; access, signage, and station naming conventions; MOUs for training; the PHA at the Glenridge OMF maintenance gate; station names; and addresses/emergency phone numbers for locations along the corridor. Other topics of discussion have included closed circuit television cameras and Mobile Emergency Vehicle Response access. ***As of March 2024***, it remains the opinion of the PMOC that MTA should emphasize resolving the project's outstanding Fire/Life Safety issues, because progress on the resolution of these issues is not apparent.

MTA police continue coordinating MOUs with local safety agencies and developing MOUs with police jurisdictions (such as the Maryland National Capital Park Police) along the Purple Line. These MOUs are related to training the existing police agencies on how to respond to transit situations. During August 2023, the PMOC reiterated that these processes have been ongoing for several years and that milestones for resolution of issues should be established.

During the September 2022 MTA/PMOC meeting, a larger related issue was discussed at length. The SSOA staff participated in this discussion as well. The crux of the issue is that MTA does not have a police force located in proximity to the Purple Line. MTA hired a consultant team to analyze alternatives for providing security and fare enforcement services for the Purple Line. Alternatives included: expanding MTA's enforcement services geographically, bringing on a third party to provide these services through a contract, or sharing police services with another party. On February 23, 2023, MTA submitted its prepared draft recommendation for providing security and fare enforcement to several State of Maryland departments. Representatives from MDOT, which is the SSOA, who are monitoring the Purple Line project development provided comments on the draft recommendation before MTA submitted it to MTA's upper management and the several state departments. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a new Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on MOUs with other local jurisdictions, and developing a facility to house the district. As of January 2024, the PMOC continues to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget for providing security and fare enforcement services. In February 2024, MTA stated that it will complete the implementation plan by March 31, 2024. ***As of March 2024, MTA indicates that it will complete the police and security implementation plan by April 2024.***

As required by the P3 contract, PLTP is responsible for directly implementing many of the safety and security requirements for the project, including those for construction safety and the collection and maintenance of the Occupational Safety and Health Administration (OSHA) safety statistics for the project. PLTC performed this work until its departure from the project, at which time MTA

assumed responsibility. Later, once the replacement D-B contractor was in place, MTS transitioned into the safety and security role that PLTC held. MTS and MTA are holding regular safety and security coordination meetings.

Safety is a PMOC concern. The rate of recordable incidents remains above project goals, and MTA appears to be having difficulties with incident documentation. For the period from ***January 1, 2024***, through ***February 29, 2024***, the OSHA statistics are:

- TCIR (Total Case Incident Rate) (Recordable Rate):
  - Actual: ***3.23*** (MTS)
  - MTS goal: 1.68
  - National average: 2.8 (for heavy civil construction)

Note: As of January 2024, the Lost Time Injury Rate (LTIR) is no longer being tracked.

MTA had assumed responsibility for safety oversight during the IRP until MTS assumed control of the project. As of December 2022, MTA reported that MTS needs coaching on expectations for the required reporting of safety statistics. In April 2023, the PMOC noted to MTA that both the LTIR and the TCIR had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in incident rates, there is an apparent lack of tracking and reporting of safety issues. The PMOC has repeatedly noted that there are inconsistencies in incident reporting between MTA and MTS.

MTA states that it recognizes the issue and reports that it has scheduled additional safety coordination efforts. In May 2023, the PMOC requested documentation on these additional efforts, and in July 2023, the PMOC questioned the effectiveness of the efforts. MTA acknowledges the need for safety process improvement. In November 2023, MTA stated that MTS has replaced its safety director and has added safety staff, although MTA did not review the qualifications of the new director or staff. The PMOC recommended that MTA review the qualifications of MTS safety staff and the safety processes and procedures being followed on the project.

The PMOC recommends that MTA and MTS complete a safety process review as soon as practical and that MTA prepare a written summary. In November 2023, MTA's safety director, Roland Carroll, provided an email and attachment that briefly summarized the safety improvement actions. The document does not indicate target dates for implementation, nor the responsible party for these actions. In January 2024, MTA stated that MTS is not following the contractually required incident reporting procedures and timelines, which include a 20-minute verbal reporting requirement and a 24-hour maximum period to submit written documentation of incidents. In February 2024, MTA provided 12 months of incident reporting information to the PMOC. The document quality requires improvement and should include identifying information, such as the date and who prepared it. The data indicates that nearly 80 percent of all safety incidents are reported late, some as much as several months. The delayed reporting has occurred for both MTA-managed incidents (under OSF) and for MTS-managed incidents under both the former and current MTS Chief of Safety.

It remains the opinion of the PMOC that MTA's processes related to construction safety can be improved. The PMOC recommends that MTA consider dedicating additional resources to construction safety (i.e., resources dedicated to only the construction portion of the Purple Line project). MTA should also consider preparing a comprehensive monthly safety report under the direct supervision of the Project Director.

MTA has stated that safety processes and documentation are being improved The PMOC observed in March 2024 that incident trends have improved, but remain above the stated project goals. .

In late October 2022, MTA submitted updated SSMP and SSCP documents in conjunction with the updated PMP. On February 13, 2023, and March 8, 2023, FTA provided review comments to MTA on the SSMP and SSCP, respectively. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023, and accepted the SSCP on December 28, 2023.

See the **Project Management Plan and Sub-plans** section of this report, above, for the status of the sub-plans of the PMP related to safety and security.

2.17 Americans with Disabilities Act

The PMOC confirmed that the Design Criteria Manual applicable to the Purple Line project addresses Americans with Disabilities Act (ADA) requirements, including references to the requirements in the Maryland Accessibility Code, the ADA Accessibility Guidelines for Buildings and Facilities, and the ADA Standards for Transportation Facilities.

Accessibility and compliance with the ADA are required as part of the functional requirements for stations and guideway, and as part of the codes and standards for LRVs within the P3 contract (Book 2, Part 2) for the Purple Line project. Based on project reviews conducted by the PMOC, MTA has confirmed that it included ADA compliance in its QA oversight reviews of PLTC's design packages.

All design reviews include ADA specifically. The contract requires a full-time MTS Maintenance of Traffic construction representative for the project to monitor whether temporary pedestrian accommodations during construction continue to comply with ADA requirements. The contract also includes an incentive program for ADA compliance. The Maryland State Highway Administration also inspects temporary facilities.

MTA indicates that the project is maintaining ADA accessibility along the project corridor during construction. In addition to planning for ADA accessibility, MTA and MTS respond to public concerns due to construction activities and temporary accessibility features**.**

2.18 Buy America

MTA understands that Buy America compliance applies not only to the rail vehicles but also to the procurement of all manufactured products, including all iron and steel. MTA is also aware that domestic manufacture of all federally funded procurements is required and should be certifiable.

Compliance with Buy America regulations is contained in MTA's standard clauses for its procurements, and the P3 contract contains explicit Buy America language in its Appendix 16.

Virginkar and Associates, Inc. conducted the Buy America pre-award audit and concluded that there is reasonable certainty that CAF will satisfy the Buy America requirements as stated in 49 Code of Federal Regulations (CFR) 661. MTA's interpretation is that, because the vehicle RFP was advertised before December 4, 2015 (which is the date of passage of the Fixing America's Surface Transportation Act, also known as the FAST Act), the 49 CFR 661 Public Interest Waiver that limits domestic content to a minimum of 60 percent, as opposed to the escalating domestic content requirements of the FAST Act, applies in this case. During the week of October 2, 2017, an intermediate post-award Buy America audit was conducted of CAF's facility in Elmira, New York, for added confidence that the post-delivery audit would not identify issues. CAF targeted 65 percent domestic content in the completed LRVs.

The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to FTA. On that same day, MDOT also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.

MTS regularly audits its suppliers and subcontractors regarding the construction Buy America requirements. MTS audits its subcontractor's Buy America requirements and any issues are reported in conjunction with the project quality process.

2.19 Start-up, Commissioning, Testing

MTA has begun documentation for the "Roadmap to Revenue Operations" (see **Attachment F**), which includes both MTA and MTS information on integration, testing, and commissioning. MTA submitted an update of Attachment F to the PMOC in February 2024. MTS indicates that it is preparing a System Integration Test Plan. As of November 21, 2023, MTA has developed a process for managing testing submittals and reviews, including detailed tracking of open items. MTS will deliver its full integration and testing plan in May 2024. MTA has not yet contracted with an Independent Integration Engineer to oversee the integration and testing process.

The PMOC recommends that MTA expedite readiness activities for delivery of LRVs, such as testing and certifications. MTA indicates that plans for the activities are not yet complete, and that Temporary Use Notifications will be required in order to place the vehicles on the tracks. MTA states that the responsibility for readiness activities lies with the P3 concessionaire. LRV delivery is scheduled to begin April ***or May 2024,*** and MTA media events related to vehicle delivery are scheduled for early May 2024. The PMOC has concerns that the necessary preparations may not be complete when LRV delivery commences.

The PMOC continues to recommend that MTA incorporate activities and milestones for integration and testing into the master schedule.

2.20 Before-and-After Study Reporting

To be determined.

2.21 Lessons Learned

The resolicitation of a D-B contractor gave MTA the opportunity to apply several lessons learned to the new D-B contract documents and to amend the P3 agreement. After the May 2022 risk workshop with MTA and the PMOC, MTA provided an update on opportunities for improvement that MTA had identified during the resolicitation and is incorporating into the project. MTA and the PMOC will include discussion of lessons learned at future monthly meetings. MTA indicates that it has prepared an initial Lessons Learned summary but is currently revising the document to include information from the MTA-managed OSF activities. MTA will provide this summary when it is complete.

2.22 Action Items

Action Items are identified at MTA/FTA Quarterly Progress Review Meetings, at MTA/PMOC Monthly Update Meetings, and at MTA/FTA Biweekly New Starts Progress Conference Calls. Action Items in ***March 2024*** are as follows:

1. MTA will provide updates to the OSF EAC when all contracts are closed; these updates are expected in May 2024. – OPEN
2. MTA will provide clarification of the difference in safety incident reporting between MTA and MTS. – OPEN
3. MTA will provide the expected date that the written plan, budget, and schedule for development of police and fare enforcement services will be ready; this information is expected on ***April 1, 2024***. – OPEN
4. MTA will share the results of its internal risk review in ***April or May 2024***. – OPEN
5. MTA will provide the Tiger Team 2 results, the schedule and cost impacts related to OSF delays, and the Quantitative Risk Analysis, including revised cost and schedule contingencies. – ***CLOSED***
6. MTA will provide the preliminary System Integration and Testing Plan. – OPEN
7. MTA will provide an update on quality process improvements, including incorporation of previous FTA and PMOC recommendations for the QAP. – OPEN

ATTACHMENT A – LIST OF ACRONYMS

ADA	Americans with Disabilities Act
ARPA	American Rescue Plan Act
ATC	Alternate Technical Concept
BFMP	Bus Fleet Management Plan
BPW	Board of Public Works
CAF	Construcciones y Auxiliar de Ferrocarriles
CEL	Certified Elements List
CFR	Code of Federal Regulations
CIL	Certified Items List
CSCC	Construction Specification Conformance Checklist
CSX	CSX Corporation
D-B	Design-Build
DBE	Disadvantaged Business Enterprise
DCCC	Design Criteria Conformance Checklist
DNR	Maryland Department of Natural Resources
DRB	Dispute Resolution Board
EAC	Estimate at Completion
FAI	First Article Inspection
FCP	Forest Conservation Plan
FFGA	Full Funding Grant Agreement
FRP	Final Recovery Plan
FTA	Federal Transit Administration
GEC	General Engineering Consultant
IBS	Initial Baseline Schedule
IRP	Interim Recovery Plan
LOD	Limits of Disturbance
LRT	Light Rail Transit
LRV	Light Rail Vehicle
LTIR	Lost Time Injury Rate
MCC	Management Capacity and Capability
MDE	Maryland Department of the Environment
MDOT	Maryland Department of Transportation
MOU	Memorandum of Understanding
MTA	Maryland Transit Administration
MTS	Maryland Transit Solutions
N/A	Not Applicable
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
O&M	Operations and Maintenance
OCS	Overhead Contact System
OHA	Operational Hazard Analysis
OMF	Operation and Maintenance Facility
OP	Oversight Procedure
OSF	Operation Step Forward
OSHA	Occupational Safety and Health Administration
P3	Public-Private Partnership
PEPCO	Potomac Electric Power Company
PHA	Preliminary Hazards Analysis
PLTC	Purple Line Transit Constructors
PLTO	Purple Line Transit Operators
PLTP	Purple Line Transit Partners
PMC	Project Management Consultant
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QA/QC	Quality Assurance/Quality Control
QAP	Quality Assurance Plan

RAMP	Real Estate Acquisition Management Plan
RCA	Root Cause Analysis
RCMP	Risk and Contingency Management Plan
RFC	Released for Construction
RFP	Request for Proposals
RFQ	Request for Qualifications
ROD	Record of Decision
ROE	Right of Entry
ROW	Right-of-Way
RSA	Revenue Service Availability
RSD	Revenue Service Date
SCC	Standard Cost Category
SCIL	Safety Certifiable Item List
SEIS	Supplemental Environmental Impact Statement
SIT	Systems Integration Test
SOP	Standard Operating Procedure
SSCC	Safety and Security Certification Committee
SSCP	Safety and Security Certification Plan
SSCVR	Safety and Security Certification Verification Report
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSTC	Silver Spring Transit Center
STP	Surface Transportation Program
SWM	Stormwater Management
TBD	To Be Determined
TCE	Temporary Construction Easement
TCIR	Total Case Incident Rate
TDD	Transit Development and Delivery
TIFIA	Transportation Infrastructure Finance and Innovation Act
TPSS	Traction Power Substation
TRO	Temporary Restraining Order
TVA	Threat and Vulnerability Assessment
UMD	University of Maryland
USACE	U.S. Army Corps of Engineers
WMATA	Washington Metropolitan Area Transit Authority
WSSC	Washington Suburban Sanitary Commission
YOE	Year of Expenditure

ATTACHMENT B – TOP PROJECT RISKS

An internal risk workshop to support the Interim Recovery Plan (IRP) was held on January 26, 2021. Maryland Transit Administration (MTA) and Purple Line Transit Partners (PLTP) used information from the meeting as they solicited a replacement Design-Build (D-B) contractor.

A risk workshop was held May 3 through May 5, 2022. After the risk workshop, MTA prepared supplementary or updated documents for review, including an updated Risk Register. FTA provided a risk summary to MTA on June 22, 2022, for MTA's consideration when updating risk, contingency, and other project management plans. MTA incorporated the FTA comments in the revised Risk and Contingency Management Plan (RCMP) that is a part of the Final Recovery Plan. On May 22, 2023, FTA accepted the revised RCMP with conditions.

During the February 7, 2024 Quarterly Progress Review Meeting, MTA presented cost and schedule contingency drawdown curves that indicated significant commitment of contingency reserves. Due to this significant commitment of contingency and the recent completion of the MTA-managed OSF activities, MTA determined that an update to the Risk Register was warranted.

On November 20, 2023, MTA held its quarterly Risk Management Committee meeting. During the meeting, MTA identified the top four project risks that have a risk rating of "Significant." ***Amendment 7 to the Public-Private Partnership (P3) Agreement, which was executed in March 2024, resolved several disputes that had been listed as Significant risks. Subsequently, one new Significant risk was identified, as follows***:

1. Construction – Exhibit 24 Utility Adjustments – ***retired with the execution of Amendment 7***
2. Design – Temporary Construction Easement Extensions
3. Design – Design Changes – ***retired with the execution of Amendment 7***
4. Design – Intelligent Interface Device – ***retired with the execution of Amendment 7***
5. ***Real Estate – Remaining ROW Acquisitions***

As a follow-up to the Risk Management Committee meeting, MTA will complete a Quantitative Risk Analysis, re-baseline the project's contingency drawdown curves, and update the RCMP. MTA will provide the risk update and Quantitative Risk Analysis, including contingency recommendations, ***in April or May 2024.***

ATTACHMENT C – AWARDED CONTRACTS

Included below is information that MTA provided for the February 7, 2024 Quarterly Progress Review Meeting packet. Please note that the total shown in this table for contracts awarded does not reflect the full project value.

Major Contracts:

Company	Vendor Type	Contract No.	Baseline Amount	Change Order Totals	Current Amount	Pending Change Orders
PB/RK&K	Engineers/ Architects	MTA-1054A	$ 12,000	$ 1,850	$ 13,850	
STV/Jacobs	Engineers/ Architects	MTA-1054B	$ 8,000	$ 1,300	$ 9,300	
AECOM/ RK&K/PB	Engineers/ Architects	MTA-1264A	$ 60,000	$ 338,500	$ 398,500	
Gannett Fleming/WRA	Engineers/ Architects	MTA-1265B	$ 80,000	$ 71,000	$ 151,000	
Purple Line Transit Partners	P3 Concession (design build portion only)	PUR16032PP	$ 1,988,816	$ 1,692,228	$ 3,681,044	
Total			**$ 2,148,816**	**$ 2,104,878**	**$ 4,253,694**	**0**

Reason for Change: *Amendment 6 to the Purple Line Transit Partners P3A was not been previously reflected. The amount shown as "Current Amount" represents that portion of the P3A Design-Build contract associated with the New Starts Program.*

ATTACHMENT D – ROLLING STOCK VEHICLE STATUS REPORT

Date: March 28, 2024

Vendor: Construcciones y Auxiliar de Ferrocarriles (CAF)

Model: Multiple-section 136-foot articulated car (total length is 142 feet coupler-to-coupler), used in a five-car consist per vehicle

Year: The first vehicle was completed in 2021, and currently 26 vehicles are designated as "Ready for Shipment." Completion of the storage and testing facilities at the Glenridge Operation and Maintenance Facility (OMF) has been delayed, so Maryland Transit Administration (MTA) and CAF negotiated terms for storage of vehicles at the CAF facility in Elmira, New York. The storage agreement has now transferred to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS).

Quantity: 25 vehicles (125 cars) were in the original contract (Full Funding Grant Agreement [FFGA]). One vehicle (5 cars) was added to the original CAF authorization by MTA, outside of the FFGA.

In July 2021, two vehicles (ten cars) were added via change order to MTS, also outside of the FFGA.

Identification: The original light rail vehicles (LRVs) will be numbered from 101 through 126. The two additional LRVs will be numbered 127 and 128, respectively.

New Technologies: None planned (all major suppliers have service-proven equipment).

Status and Significant Activities:

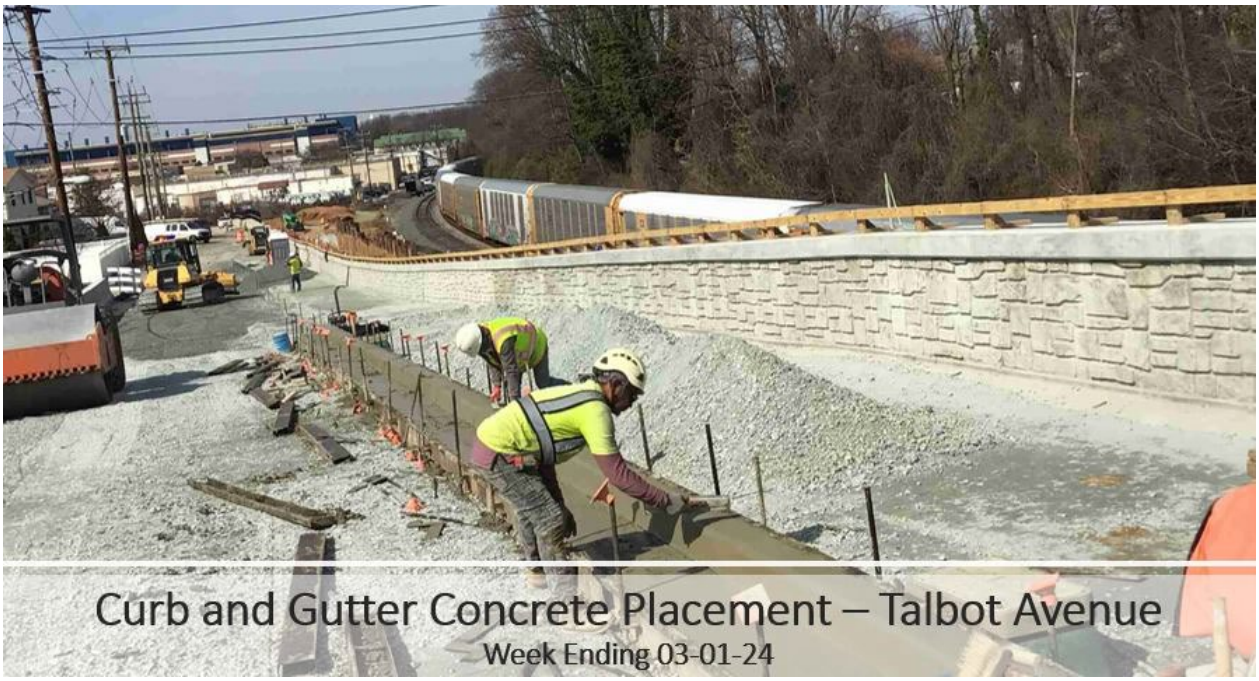
- As a part of the original order, twenty-six vehicles (130 cars) were assembled in Spain and delivered to CAF's facility in Elmira, New York, for final assembly and static testing. Manufacture of the additional two vehicles (ten cars) have been delivered to Elmira for final assembly and static testing.
- Delivery of finished vehicles was expected to begin in spring 2021; however, because the Glenridge OMF is not ready to accept railcars, MTA and CAF have negotiated an agreement for CAF to store the completed cars in Elmira.
- Cost risk for delivery of the finished vehicles has been transferred to MTS. If delays in construction cause a delay, then MTS is responsible to CAF for additional storage cost.
- Twenty-six LRVs have passed static testing, have been designated as Ready for Shipment, and have been placed into storage in Elmira. These include vehicle 110, which was returned to Ready for Shipment status after a second period in static testing.
- Delivery of the first of the original 26 vehicles is currently scheduled for April or May 2024. Approximately one vehicle per week will be delivered thereafter. The Glenridge

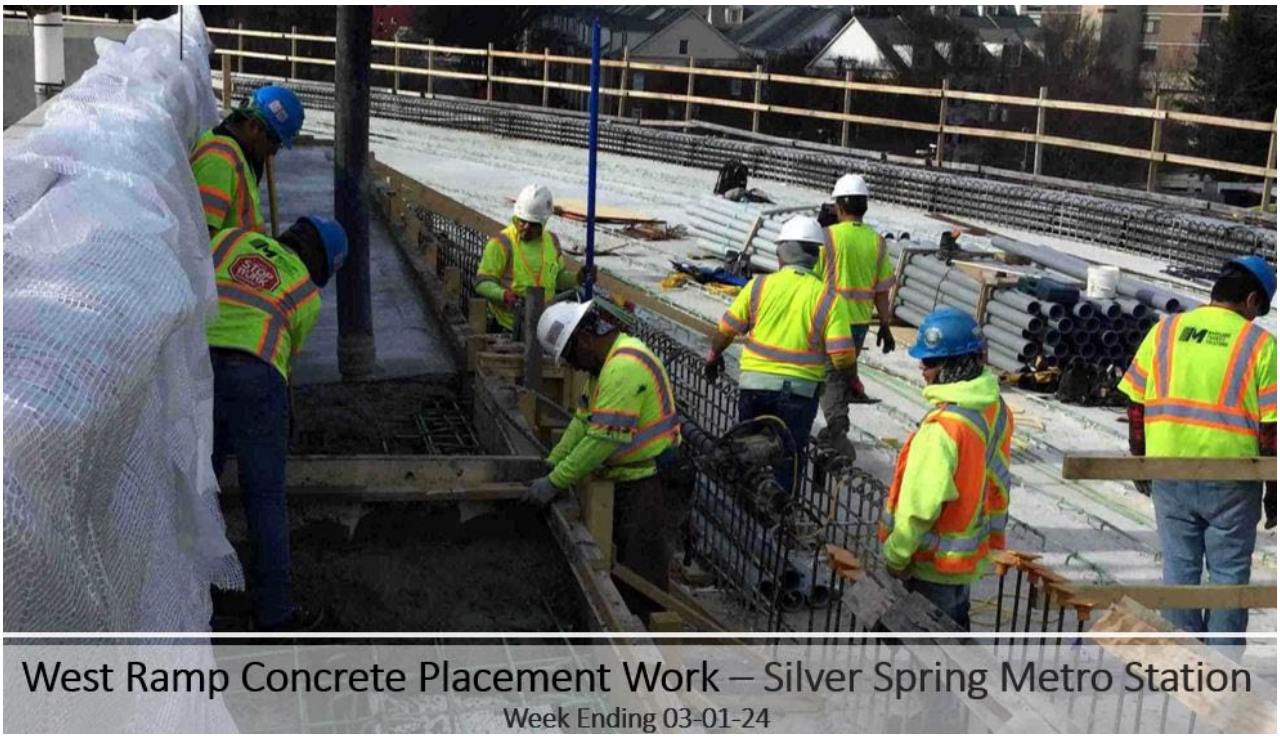
OMF will be able to store three or four vehicles on the yard and in the building, so track must be available for additional storage. The Overhead Contact System and Traction Power Substation (TPSS) Q7 and TPSS QYG must be completed and installed before delivery of vehicles.

- SNC-Lavalin (now an MTS subcontractor) prepares a monthly quality report documenting safety, production, and quality items at the New York production facility.
- MTA, the Project Management Consultant, and CAF are holding weekly coordination meetings to review all outstanding testing and factory/shop activities, including onsite testing procedures for when the vehicles are delivered to Maryland.
- MTS, which has assumed the CAF contract, is preparing and submitting to MTA reports on LRV maintenance activities required during the storage period.
- The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with the evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to Federal Transit Administration (FTA). On that same day, Maryland Department of Transportation also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.
- The resolution of previously identified quality issue related to the M33 bolt on the LRV trucks is not resolved as of March 2024. Additional failures occurred in November and December 2023, and the truck manufacturer in Germany performed additional tests. MTA previously indicated that a Root Cause Analysis (RCA) is being performed for this issue. In January 2024, CAF concluded that the main/root cause of the issue was a misalignment of the bolts during assembly. CAF examined 50 gear boxes to determine if the assembly process has been addressed. It was determined that an alignment issue prior to torquing is the likely cause of the issue. A sample installation of 48 bolts on 12 LRVs is being performed. If the results of the testing is as expected, the RCA will be completed, maintenance manuals modified, and needed tools provided to PLTO. CAF does not believe the issue will impact delivery of the vehicles, which is scheduled for April 2024.

ATTACHMENT E – PROJECT MILESTONES/KEY EVENTS

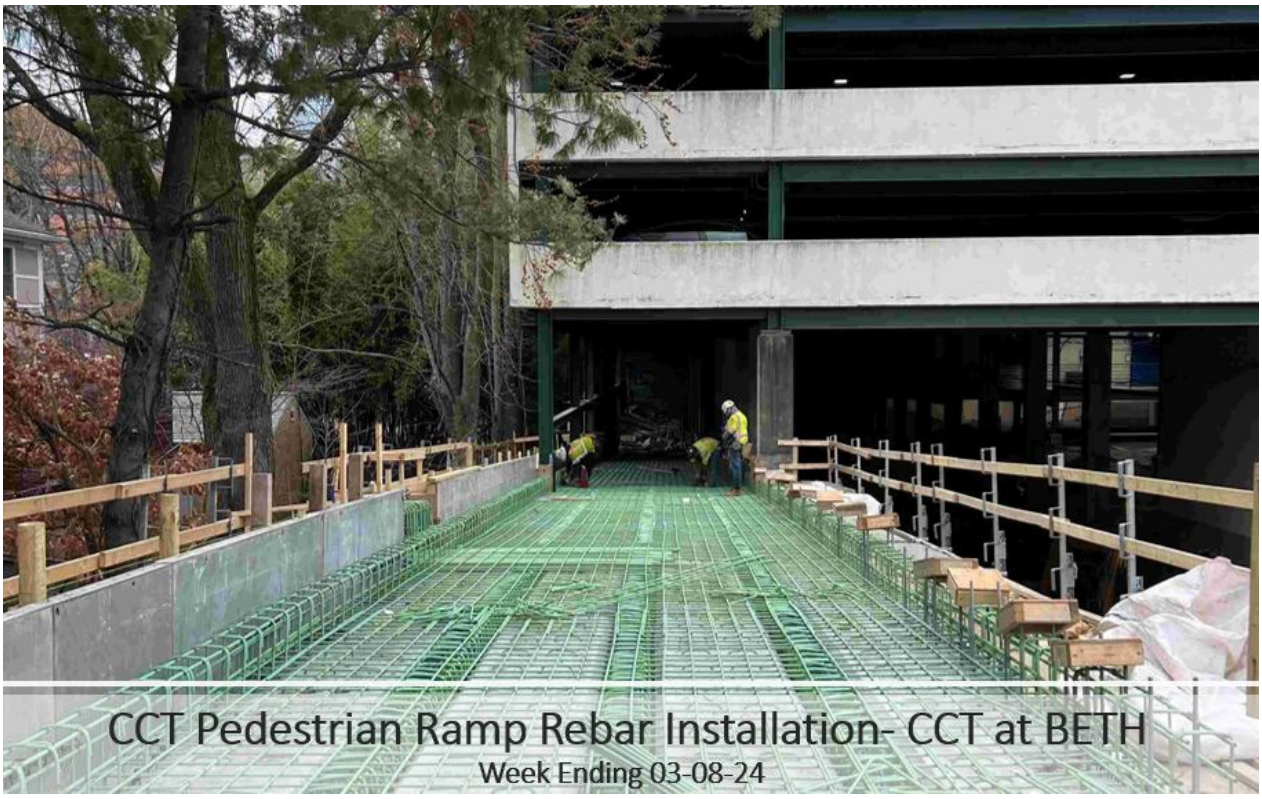
Photos courtesy of Maryland Transit Administration.







Service Core Wall Formwork – Lyttonsville Station
Week Ending 03-08-24



CCT Pedestrian Ramp Rebar Installation- CCT at BETH
Week Ending 03-08-24


WMATA Adit CMU Bulkhead Wall Installation - Bethesda Metro South Entrance
Week Ending 03-15-24


Stream Restoration Progress – GBT at Coquelin Run Culvert
Week Ending 03-15-24


HMA Placement – UMD Campus at Symons Hall
Week Ending 03-22-24


S29 Aerial LRT Bridge 1st Section Girder Set-in-Place – Kenilworth Ave.
Week Ending 03-22-24


S01 CCT Pedestrain Bridge Rebar Work Installation – GBT at Bethesda
Week Ending 03-29-24


Thermite Welding at Track G15 – Glenridge OMF Yard
Week Ending 03-29-24

ATTACHMENT F – ROADMAP TO REVENUE OPERATIONS

In accordance with Oversight Procedure 25, the Project Sponsor will prepare the Roadmap to Revenue Operations template based on the current master project schedule, in the general format presented below. The PMOC provided this template to the Project Sponsor as a separate electronic file for its use. The Project Sponsor is requested to provide quarterly updates for review and discussion. MTA provided this quarterly update for the roadmap on February 19, 2024.

ROADMAP TO REVENUE OPERATIONS (MTA to provide updates)

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Testing								
Finalize Comprehensive Test Plan	PLTP/MTS/ Sener	See Notes	In Progress	3/31/24		**T & C Management Plan** – Accepted **Project Test Program Plan** – Comment Resolution (5 of 41 open) **LRV Test Plan** – Accepted **TCS Test Plan – Local** – Accepted **TCS Test Plan – Integration** – Awaiting Submittal **TCS/Traffic/CMS Test Plan** – Awaiting Submittal **TPSS Test Plan** – Accepted **OCS Test Plan** – Accepted **Communications Test Plan** – Accepted **CMS Test Plan** – Accepted **Fire & Security Test Plan** – Accepted **Fare System Test Plan** – Awaiting Systems Design **Traffic** – QC with AHJs **EMI Test Plan** – Accepted **CCG Test Plan** – Accepted **Noise & Vibration** – MTS Reviewing **OMIS Test Plan** – TBD - Project Update to be provided 03/24 **Ops Simulator Test Plan** TBD- Project Update to be provided 03/24 **Trackwork** – Under Study by MTS/Sener **OMFs Test Plan** – Pending Commercial Issues **Station Electrical** – Under Study by MTS/Sener **Fire Protection, Mechanical, Plumbing** – Under Study by MTS/Sener		
Finalize / Update Systems Integration Test (SIT) Plan	PLTP/MTS/ Sener	In Preparation	In Progress	2/29/24		Awaiting update of DRC# 3644, CW-164, Systems Integration Test Plan		
Develop Testing Schedule and Monitoring Tools	PLTP/MTS	In Progress	TBD	TBD				
Develop Operating Rules for Testing	PLTP/MTS	In Preparation	In Progress	03/31/24		The development of the test operating rules, procedures and plans are progressing. Informal 1st draft of the Construction Railway Operations Rules & Procedures (CRO) has been shared with the MTA and PLTO for high level review and comments. CRO Rev 2 is being drafted. Page turn review of Rev 2 with PLTP/MTS/PLTO/MTA scheduled for 03/24.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Conduct System Integrated Testing - Prioritized Traffic Signal Systems	PLTP/MTS	In Progress	TBD	TBD				
Certificates of Occupancy / Substantial Completion	Maryland Office of the State Fire Marshal	Glenridge OMF – In progress.				As state-owned property, no certificates of occupancy are issued. The AHJ ensures building is safe through various system inspections to include fire protection systems, elevators, etc. AHJ will take no exception to occupancy if inspections pass.		
Finalize Operating Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept. 2025 Feb 2026		Projected start of Trial Running: July 2026 (based on May 2027 RSA date): Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running
Finalize / Revise Standard Operating Procedures (SOPs), manuals, and rulebook as applicable	PLTP/PLTO	See Note	TBD	Sept. 2025 Feb 2026		Included as part of the Operating Plan. Projected start of Trial Running: July 2026 (based on May 2027 RSA date): : Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running. Revisions to operating/maintenance/emergency rules/procedures may occur during the testing and commissioning period. Rules and SOPs for test operations under development by PLTP/MTS. CRO to become effective prior to commencement of regular movements of vehicles within the yard (Refer to Develop Operating Rules for Testing above)		Rulebook, SOPs and EOPs to be submitted for review and approval no later than 6 months prior to Trial Running. Preliminary submittal of Operations manuals for review and comment due no later than 18 months prior to Trial Running. Final submittal of Ops manuals for review and approval due no later than 6 months prior to Trial Running
Complete Staffing Plan	PLTP/PLTO	On-going			May, 2023	PLTO has developed a draft staffing and hiring plan that is tied to the approved project schedule. Hiring plan subject to change based on Project schedule changes.		
Obtain Required Staff	PLTP/PLTO/ MTS	See Note	Various	July 2026		Recruitment and staff hiring based on project schedule. PLTO staffing to support vehicle dynamic testing being coordinated with		

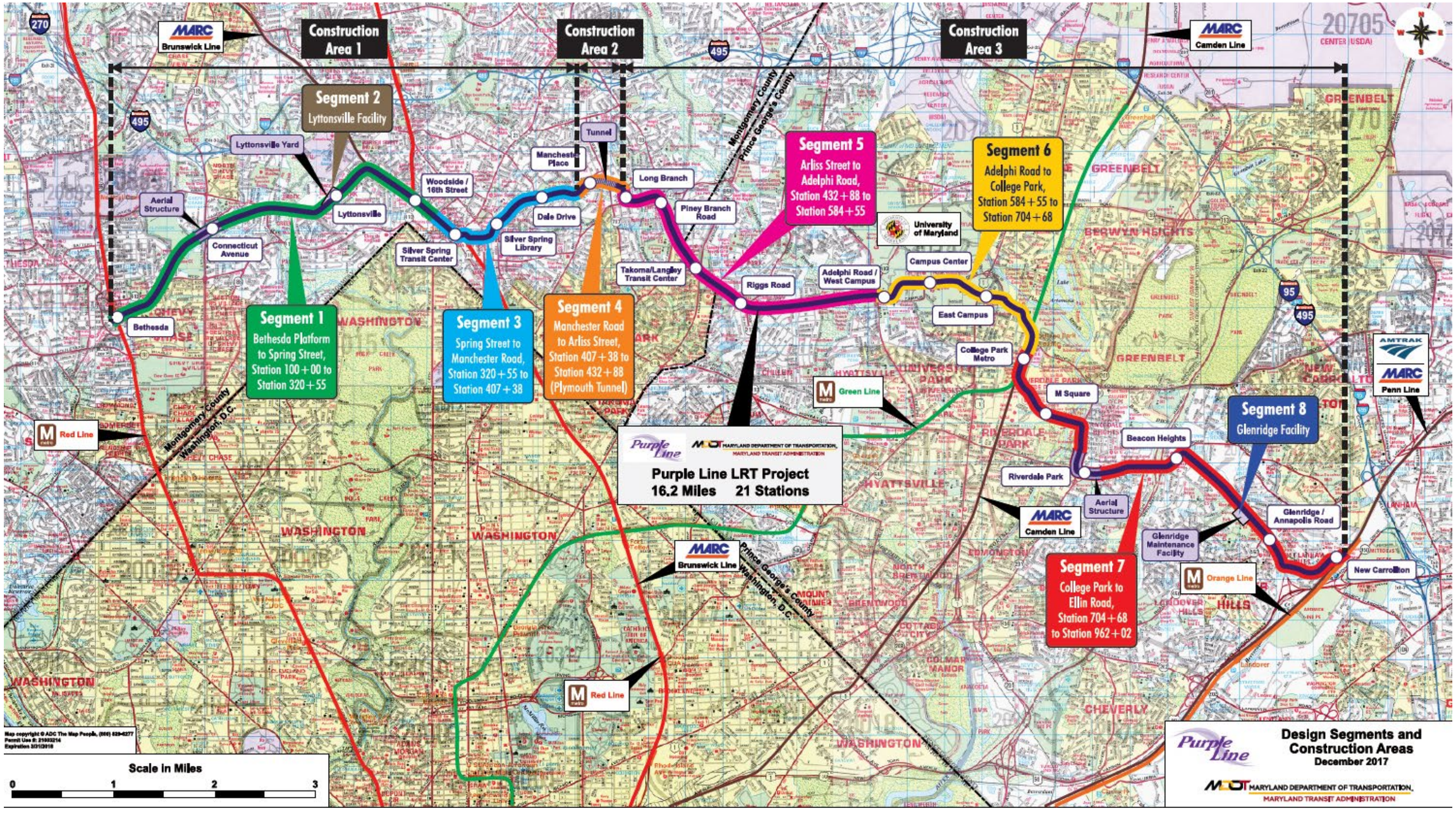
Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
T&C Support Staff	PLTO		March 2024			CAF. Onboarding of other PLTO support staff for vehicle maintenance (after acceptance) and test track maintenance to vehicle delivery dates and start of vehicle dynamic testing (Spring 2024) **PLTO Current On-site Staffing:** General Manager Dir. of Maintenance CFO/Admn Manager Facilities Maintenance Manager Systems Engineer Structural Engineer Current On-site Staff supported by various home office operations and engineering staff and consultants such as Safety & Operations, Vehicles, Systems, etc. **Near Term Hiring:** HR Manager Facilities Maintainer Vehicle Maintenance Engineer and Technician Training Instructor Track Engineer/Inspector Buyer/Procurement Specialist Train Dispatchers (2) Rail Operators (6) Building maintenance contracts being solicited for the OMF (elevator, janitorial/building cleaning, trash removal, mechanical/plumbing equipment maintenance, and etc.)		
Training of Operations and Maintenance (O&M) personnel	PLTP/PLTO/ MTS	See Note	Various	July 2026		**For Testing & Commissioning Support:** PLTO to send 6 train operators to Elmira NY to receive initial training on the PL vehicles currently scheduled for March 2024. Level of initial dispatcher training dependent upon qualifications of personnel hired. PLTP/MTS developing training plans for testing & commissioning rules, procedures, and requirements. PLTO will need to be fully staffed prior to the start of Trial Running in July 2026.		
Emergency response plan, training, and drills	PLTP/PLTO/ MTS	Various	Feb. 2024	Jan. 2027		Emergency response drills to be conducted during Trial Running.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Initial emergency responder training for Glenridge OMF, vehicles and test track area to be conducted at some point prior to the start of vehicle dynamic testing. Training class syllabus for initial emergency responder training has been developed and shared with the local emergency responders. All parties are in agreement with the content. They still need to iron out how the training will be provided. The initial quantity of Prince George's County Fire/EMS first responders to receive training will be 110.		
Finalize Revenue Operations Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept 2025 Feb. 2026		Projected start of Trial Running: July 2026 (based on May 2027 RSA date): Revenue Operations/Service Plan included as part of Operating Plan. Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		
Develop / Revise Safety and Security Certification Plan (SSCP) & Safety and Security Management Plan (SSMP)	MTA	On-going	SSMP – 2/02/2011 SSCP – 8/31/2012	TBD		SSMP is currently on revision 14 and the SSCP is on revision 7. The SSMP is updated in conjunction with the PMP as it is considered a sub-plan.		
Federal Transit Administration (FTA) Office of Safety & Security Readiness Review	FTA	See Note	TBD	TBD		No updates at this time		
PMOC OP-54 Readiness for Revenue Operations Review Report	PMOC	See Note	TBD	TBD		No updates at this time		
Conduct Operational Hazard Analysis (OHA) and resolve other hazards / vulnerabilities	PLTP	See Note	TBD	TBD		No updates at this time		
Pre-Revenue Operations	PLTP/PLTO	See Note	July 2026	April 2027		Pre-revenue Operations broken down into: Trial Running and System Demonstration Testing. Projected start of Trial Running: July 2026		
Develop Safety Outreach Plan	MTA/PLTP	Not Started	TBD	Feb. 2025		Projected start of Trial Running: July 2026 (based on May 2027 RSA date):		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Outreach Plan to be developed 18 months before Trial Running. Additional information to be included in next quarterly update.		
Provide Community Outreach	MTA/PLTP	Not Started	TBD	TBD		Outreach plan for test track OCS energization and start of vehicle dynamic testing under development.		
Public Timetables / Maps / Website Updates, etc.	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time.		
Grand Opening Plan	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time		
Update / Finalize SSMP	MTA					See previous SSMP entry.		
Finalize and/or update Safety Certifiable Item List (SCIL) and SSCP	MTA/PLTP	On-going	TBD	TBD		No updates at this time.		
Implement Safety and Security Certification Committee	MTA	On-going	April 2018	TBD		The SSCC has been ongoing since 2018.		
Implement Fire Life Safety Committee	MTA	On-going	7/27/2012 – Montgomery County 9/26/2012 – Prince George's County	TBD	TBD	MTA has implemented two FLSSCs, one for each Maryland County that Purple Line traverses. Both committees were started in 2012.		
Verify design criteria, Preliminary Hazards Analysis (PHA), Threat and Vulnerability Analysis (TVA), change orders are implemented within the project	MTA/PLTP	On-going	PHAs - 6/26/2012 TVA – 12/10/2013 Change Orders	TBD	TBD	PLTP has verified over 98% of the design criteria. Initial PHAs on the 30 % Preliminary Design started in 2012 by MTA. PLTP continued PHAs in 2016. Initial TVA completed in 2015 by MTA. PLTP continued in 2017.		
Review status of quality non-conformances		See Note				No updates and this time.		
Closeout of non-safety critical items/non-conformances		See Note				No updates at this time.		
Closeout of safety critical items/nonconformances	MTA/PLTP	Not started	TBD	TBD		No updates at this time.		
Complete Safety and Security Certification Verification Report (SSCVR)	PLTP	Not started	TBD	May 2027		This report will be due sometime in the May 2027 timeframe.		
Document Workarounds / Open Items List	PLTP	Not started	TBD	TBD				

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Verify emergency drills, tabletops, training, etc. are completed	MTA/PLTP/ PLTO		TBD	TBD		Emergency drills to be conducted during the Trial Running period. Training verification will be completed prior to Trial Running.		
SSO final certification / signature	SSO	See Note				No updates at this time		
Revenue Service								
Target Revenue Service Date (RSD)	PLTP		TBD	May 2027		Project schedule dependent.		
Public RSD	MTA/PLTP		TBD	May 2027		Project schedule dependent.		
Full Funding Grant Agreement (FFGA) RSD						No updates at this time.		

ATTACHMENT G – PROJECT MAP



PMOC MONITORING REPORT
April 2024

National Capital Purple Line Light Rail Transit Project
Montgomery and Prince George's Counties, Maryland

Maryland Transit Administration
Baltimore, Maryland
FINAL

Draft Report Delivered to FTA on ***May 10, 2024***
Final Report Delivered to FTA on ***May 22, 2024***

PMOC Contract No.: 69319519D000016
Task Order No.: 69319520F300095
Project No.: 69319519D000016/69319520F300095
Requisition/Reference No.: FTA-TPM20-20-0106
OPs Referenced: 20, 22, 23, 24, 25, 26, 37, 40
CLINs 0001, 0002, and 0005

David Evans and Associates, Inc.
Pete Hankovszky, Task Order Manager
Voice –720.448.6730; Email – pzh@deainc.com
Time on Project: 05/18/2020 through 05/17/2025

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract #69319519D000016, Task Order #69319520F300095. Its purpose is to provide information and data to assist FTA as it continually monitors the management capacity and capability of the Maryland Transit Administration (MTA) (the Project Sponsor) to execute the project efficiently and effectively, and hence, whether the Project Sponsor continues to be ready to receive federal funds for further project development. This report covers the project management activities on the National Capital Purple Line Light Rail Transit Project managed by MTA as the Project Sponsor and financed by the FTA Full Funding Grant Agreement (FFGA). The cost and schedule information in this report was extracted from MTA's submitted information except where noted. The report is organized to comply with the requirements of updated Oversight Procedure 25 – Recurring Oversight and Related Reports, dated June 2020.

THIRD-PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for FTA. This report should not be relied upon by any party, except FTA or the Project Sponsor, in accordance with the purposes as described below.

For projects funded through the FTA FFGA program, FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a Project Sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a Project Sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a Project Sponsor may develop for project execution. Therefore, the information in the monthly reports will change from month to month, based on relevant factors for the month and/or previous months.

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1 EXECUTIVE SUMMARY

1.1 Project Description

The National Capital Purple Line (Purple Line) is a 16.2-mile east-west light rail transit (LRT) line extending inside the Washington, DC Beltway from Bethesda in Montgomery County, Maryland, to New Carrollton in Prince George's County, Maryland. The Purple Line will operate largely at street level in a combination of dedicated and semi-exclusive right-of-way (ROW) and includes segments on elevated structures and in tunnels. The alignment for the Purple Line will provide direct connections to Washington Metropolitan Area Transit Authority (WMATA) service at Bethesda, Silver Spring, College Park, and New Carrollton, Maryland. The project will also connect to all three Maryland Area Regional Commuter rail lines, Amtrak, and local bus routes. The project includes 21 stations, 2 operations control/vehicle storage and maintenance facilities, and 28 light rail vehicles (LRVs). Twenty-five of the LRVs are included in the Full Funding Grant Agreement (FFGA), and the remaining three vehicles are state funded. Maryland Transit Administration (MTA) is executing the project using a Public-Private Partnership (P3) method of project delivery.

As documented in the Federal Transit Administration (FTA) FFGA, the original estimated project cost was $2,407,030,289, and the scheduled Revenue Service date (RSD) was December 31, 2022. On January 26, 2022, the Maryland Board of Public Works (BPW) approved significant revisions to the project cost and the Revenue Service Availability (RSA) date. The new Transportation Infrastructure Finance and Innovation Act (TIFIA) loan closed on April 14, 2022. Financing approvals and subsequent financial close allowed Purple Line Transit Partners (PLTP), the P3 concessionaire, to issue Notice to Proceed (NTP) to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS). MTA prepared a Final Recovery Plan (FRP), which FTA accepted on April 17, 2023, and which had a revised project cost of $5,116,020,380 and a revised RSD of February 28, 2028. On March 13, 2024, MTA received approval from the BPW to increase the total construction cost to approximately $5.52 billion. This change to the construction cost, and also a change to the construction budget, was due to project changes and delays. MTA is currently developing additional budget and schedule contingency recommendations. In conjunction with the FRP, MTA submitted multiple management plan updates for FTA and Project Management Oversight Contractor (PMOC) review and acceptance.

1.2 Project Status

The FFGA was executed on August 22, 2017. The Purple Line project is currently in the construction phase. Due to a contractual dispute, PLTP demobilized the assets/staff and subcontractors of the original D-B contractor, Purple Line Transit Constructors (PLTC), from the project in September 2020.

On November 24, 2020, MTA and PLTP reached a settlement agreement to release PLTC from the P3 consortium and continue the project with the remaining parties. The BPW approved the agreement on December 17, 2020. PLTP agreed to procure a replacement D-B contractor to complete the project and to obtain project financing.

Despite changes within the P3 consortium, MTA intends to complete the full scope of the project as envisioned in the original contract documents, with some minor exceptions such as the addition of three state funded LRVs. After a procurement process for a replacement D-B contractor, PLTP selected MTS (a joint venture of Dragados USA and OHL USA) on November 5, 2021. The contract with MTS was executed on April 14, 2022.

MTA submitted a draft Interim Recovery Plan (IRP), dated December 15, 2020, to FTA, and subsequently prepared and submitted the FRP to FTA. FTA accepted the FRP on April 17, 2023.

MTA chose to proceed with several major project elements once PLTC was released from the project. MTA's planning criteria included schedule, budget, and the reduction of risk for the replacement D-B contractor. MTA and its Project Management Consultant (PMC) added staff to support subcontractor invoicing, payment processes, and other administrative tasks.

MTA managed, in a general-contractor-type role, a significant number of construction activities during MTA's IRP period, called Operation Step Forward (OSF). During that time, several OSF activities fell behind schedule, and delays related to third-party utility relocations and other unforeseen issues caused MTA to miss milestone dates included in MTA's revised agreements with PLTP that were executed in April 2022. Through October 2023, MTA executed two change orders caused by delays in OSF activities. In early November 2023, MTA completed the OSF activities. As of March 2024, MTA and MTS reached an agreement on the budget and schedule impacts resulting from OSF delays and other disputes. This agreement resulted in an additional $406 million in construction cost and a revised RSA date of December 30, 2027. The agreement is essentially a large change order that resolves a number of disputes and contract modifications. This contract change is referred to as Amendment 7 to the P3 Agreement.

Construction continues under the management of MTS, including activities and elements such as erosion and sediment control maintenance, bridge structures, platform construction, retaining walls, the Glenridge Operation and Maintenance Facility (OMF), and utility installation. The Polk Street Maintenance Facility (for Prince George's County Parks) is complete, and the Paint Branch stream restoration and the Ken-Gar wetlands mitigation projects are complete with the exception of warranty periods.

Completion of the Glenridge OMF has been on or near the critical path and continues to be a focus. MTA completed the majority of the OMF building and utilities, but construction of track that accommodates LRV storage and testing was deferred for completion by MTS. MTS has assumed control of the facility as of March 2024, and the disputes regarding the completeness of the OMF work that PLTC and MTS had performed now have been fully resolved. MTS is installing rail, utilities, and other elements both inside and outside of the building.

Delayed completion of the OMF construction upon PLTC's departure required an alternative location to store completed LRVs. MTA reached an agreement with Construcciones y Auxiliar de Ferrocarriles (CAF) to store the LRVs at CAF's Elmira, New York facility until track is ready for delivery of the LRVs. MTS assumed the storage agreement with CAF upon finalization of the replacement D-B contract. As of March 2024, the first LRV delivery is scheduled for ***mid-May 2024***. Purple Line Transit Operators (PLTO), the entity that PLTP has under contract to operate

the light rail system, will assume storage and maintenance responsibilities of the LRVs once they are delivered.

MTA revised and submitted the Project Management Plan (PMP), Risk and Contingency Management Plan (RCMP), Quality Assurance Plan (QAP), project schedule, Safety and Security Management Plan (SSMP), and Safety and Security Certification Plan (SSCP). On December 28, 2023, FTA accepted SSCP Version 7, concluding the FTA and PMOC reviews of the management plans that MTA had revised in conjunction with the FRP. ***In April 2024, MTA transmitted to FTA SSCP Version 8, which incorporates review comments from Maryland Department of Transportation's (MDOT) State Safety Oversight Agency (SSOA), and also incorporates the Temporary Use Notice (TUN) process. A TUN will be required to begin testing of the LRVs in fall of 2024.***

MTA provides FTA and the PMOC with updates on the progress of MTS construction activities, MTA oversight activities, and other monthly updates that track project progress.

- Scope: There have been no significant reductions or changes to project scope. Three LRVs were added to the project scope (non-FFGA) to support improved operations once service commences.
- Schedule:
    - PLTC never developed an approved recovery schedule to address the delayed start of construction caused by the environmental lawsuit (please see the **NEPA Process and Environmental Mitigation** section, below, for a discussion of the environmental lawsuit).
    - MTA developed a schedule for the period during which the D-B contractor, PLTC, was being replaced. The IRP included project milestones for PLTP to procure a replacement D-B contractor, obtain new financing, and execute contract amendments with MTA. The IRP period also included development of the FRP. FTA subsequently accepted the FRP that includes a revised RSD of February 28, 2028.
    - See also the **Significant Project Activities and/or Key Milestones** subsection of this Executive Summary, below.
    - Table 1 presents MTA's key milestone dates for the project. The schedule in the FRP is currently considered the baseline schedule for the project, ***although a revised baseline schedule is expected in June 2024.*** Through the Quantitative Risk Analysis and processes described in MTA's RCMP, a schedule contingency of 16 months was deemed appropriate. However, the delays attributed to OSF activities have consumed significant contingency. The utilization of a large portion of the schedule contingency at the early stages of MTS's contract is a very significant concern.
    - To clarify schedule terminology used by MTA: The RSA date is a contractual date critical to the agreement between MTA and PLTP. The RSD is the contractual date tied to FTA FFGA funding and other project approvals.

- MTA and MTS have executed two change orders related to delays attributed to OSF activities. These change orders extended the project RSA date by 207 days to May 24, 2027. As of March 2024, MTA and MTS have agreed to an extension of the RSA date. MTS's new RSA date is December 30, 2027, which represents an addition of 250 days. MTA is currently assessing schedule risk to determine sufficient project schedule contingency.

Table 1 – MTA Master Project Schedule Dates

Activity	Current MTA Master Project Schedule (March 13, 2024)
Original FFGA	August 22, 2017
Financial Close / NTP / Amendment Agreement Effective Date for Revised PLTP Agreement	April 14, 2022
Commencement of Integration Testing	September 2, 2025
Commencement of Trial Running	May 27, 2026
Construction Complete All Segments	November 12, 2026
RSA Date	December 30, 2027
FFGA RSD (includes contingency)	February 28, 2028

- Cost:
  - The project's documented expenditures are ***$3,435,303,117 through March 31, 2024***. The Estimate at Completion (EAC) for the project (construction, management, and LRVs) ***is now $5,522,020,380. This revised EAC includes an additional $406,000,000 attributed to Amendment 7 of the P3 Agreement. MTA currently assigns the additional cost to Standard Cost Category (SCC) 80.06 Legal; Permits; Review Fees.***
  - The accepted project cost (before approval of Amendment 7) included $307,293,174 of unallocated contingency, of which ***$220,958,178.50*** was committed through change orders, leaving $80,391,611 of remaining unallocated contingency. Amendment 7 to the P3 Agreement, which the BPW approved on March 13, 2024, commits the entire contingency of $307,293,174 to the project budget. MTA is currently determining additional contingency needs.
  - ***The PMOC has questioned MTA about the significant amount of SCC 80 expenditures each month. In recent months, SCC 80 expenditures by MTA and MTS are as much as 50 percent to 100 percent of the expenditures for SCCs 10 through 50 combined. As of April 2024, MTA has committed to providing more information to FTA and the PMOC on this issue.***
  - Refer to **Table 4 – Core Accountability Items**, in Section 1.5 below, for additional project cost information.

- MTA prepared a summary of actual versus planned expenditures for high-level OSF activities in SCC format and is updating this summary each month. Through ***April 2024***, MTA forecasts OSF expenditures of $475 million, which exceed the original OSF budget by approximately $55 million. This amount excludes scope and cost transferred from MTA to MTS. Significant OSF delays impacted MTS's activities, ***and these additional costs due to those delays are reflected in the Amendment 7 revised total project cost.***
- The budget includes funds to address nonconforming construction by PLTC. MTA incorporated known defects into the contract with MTS. However, MTA must pay to address any defects unknown at the time of execution of the MTS contract. In February 2023, MTA estimated the total cost of these unknown defects to be approximately $10 million. MTA and MTS have evaluated the nonconforming PLTC work as well as several other disputes. The disputes are included in Amendment 7, and MTA reports that the execution of the amendment in March 2024 resolved all disputes. However, Amendment 7 includes a provision for additional compensation to MTS if, in the future, other defects are discovered in previous PLTC or MTA construction.
- Several disputes were to be considered at the Dispute Resolution Board (DRB) meeting scheduled for February 28, 2024. The findings of the DRB are not binding. However, given the resolution of all current outstanding disputes through the execution of Amendment 7 to the P3 Agreement, the February DRB meeting included only a general project update.

- Significant Project Activities and/or Key Milestones:
  - The COVID-19 pandemic impacted the project in different ways and at different levels. The impacts were primarily related to availability of resources and labor. MTA, the PMC, and other project staff followed recommended COVID-19 protocols. On January 30, 2023, MTA suspended COVID-19 protocols for the project.
  - The third lawsuit filed by the Friends of the Capital Crescent Trail in January 2019 against U.S. Army Corps of Engineers (USACE) was dismissed in April 2020. The plaintiff subsequently filed an appeal on May 11, 2020. The District Court denied the appeal on May 13, 2021. The decision resolved the last active lawsuit related to the project.
  - The original baseline schedule indicated design completion by late fall 2017. The progress through ***April 25, 2024***, is that 215 of the 218 total planned design packages have been issued as Released for Construction (RFC). The packages that remain in design or approval include fare collection, the fire management system at the WMATA/Silver Spring Transit Center (SSTC) combined station, and the train control system. The most significant remaining design package, train control, will not be 100 percent complete until July 2024. Developing equipment specifications and other vendor preparation for the train control package will extend RFC of the train control

package until February 2025. The PMOC observed that MTS indicates that the design portion of its contract is 99.9 percent invoiced and paid. The requirements of MTA's D-B contract with MTS include the payment of all design costs in the first 15 months of initiating the MTS contract, regardless of progress.

- As of March 2024, disputes related to the cost of design changes that were made after execution of the agreement with MTS were resolved. MTA's team estimated that the amounts required to resolve the disputes is approximately $15 million.
- WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX Corporation [CSX] ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of ***April 2024*** for the SSTC and other locations where WMATA and Purple Line stations coincide. MTA reports that the slow resolution of these issues has not impacted critical path activities.
- Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. One jack-and-bore installation remains to be completed by MTS, and as of ***April 2024,*** is still scheduled for spring of 2024. Coordination of CSX flagging has been a challenge throughout the Purple Line construction. ***In April 2024***, MTS has been able to secure a second flagger, allowing more work to occur in the railroad ROW.
- Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. MTA is supporting coordination of construction activities that will occur during a planned WMATA shutdown in the summer of 2024. The Purple Line project is taking advantage of the WMATA service outage to perform work near and above the tracks.
- MTA and Washington Suburban Sanitary Commission (WSSC) reached agreement on the relocation of the 66-inch water main that was under the Glenridge OMF. The water main has been relocated, and this part of the project is now considered fully complete.
- PLTC reached resolution on the final remaining Alternate Technical Concept (ATC) identified during the proposal process, which is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA reviewed PLTC's design package for National Environmental Policy Act (NEPA) compliance. Final documentation for the ATC is still pending as of ***April 2024, awaiting refinements of the documentation by MTS.*** MTA will schedule a review of the documentation with FTA as soon as it is complete, which is expected to be during ***May 2024***. MTA and MTS optimistically predict that the ATC will have no Section 4(f) impacts or other impacts to the project's Record of Decision (ROD).
- MTA has completed its non-P3 construction contract activities, as follows:

- Prince George's County Parks (Parks) Polk Street Maintenance Facility D-B – A substantial completion letter was issued to the contractor on March 30, 2021. Parks has taken possession of the facility, and the warranty period has expired. The only remaining action for this portion of the project is a real estate swap that will transfer the maintenance facility property to Parks in exchange for the property needed by MTA for the Purple Line project. ***The survey has been performed for this property, and as of April 2024, MTA is preparing plat documents in advance of appraisals and negotiation for the swap.***
- Offsite Wetlands Mitigation (Ken-Gar) – The Design-Bid-Build construction NTP was issued on September 5, 2019. The one-year warranty review occurred on January 9, 2022, and the project is now in quarterly monitoring and annual reporting by MTA that will continue through 2028.
- Offsite Stream Mitigation (Paint Branch) – The Design-Bid-Build construction NTP was issued on September 5, 2019, and the contractor mobilized in late November 2019. Quarterly monitoring and annual reporting by MTA will continue through 2028.

- Building construction at the Glenridge OMF is essentially complete; however, construction of items outside of the building continues, as does final commissioning of systems inside the building. MTS was scheduled to take possession of the Glenridge OMF on December 31, 2022, but that did not occur because MTA had several remaining items to complete. The official transfer of the facility did not occur until January 2024, although MTS continued work through the dispute period.
- Preparation of Traction Power Substations (TPSSs) continues. As of ***April 2024***, TPSSs Q1, Q8, Q7, and QYG are in place and being prepared for use, and installation of TPSSs ***Q03 and Q06 is scheduled to occur within the next 60 days.***
- The following is the status of LRV manufacturing as of ***April 25, 2024:***
  - All 25 of the vehicles in the FFGA project scope description and one additional vehicle are designated as "Ready for Shipment" and are in storage at CAF's facility in Elmira, New York. These vehicles are under a schedule of inspection and maintenance until delivery can occur.
  - MTA has added three vehicles by change order to CAF's contract. The additional LRVs will support better operations at the RSA date. It is important to note that these three additional LRVs are not a part of the FFGA between MTA and FTA. One of the three additional vehicles is in storage in Elmira along with the 25 FFGA LRVs. All ten railcars that make up the two remaining vehicles are in final assembly.
  - A previously identified quality issue related to the M33 bolt on the LRV trucks ***is nearly resolved.*** MTA had indicated that CAF would perform a Root Cause Analysis (RCA) for this issue. In January 2024, CAF concluded that the root

cause of the issue was a misalignment of the bolts during assembly. In January and February 2024, CAF examined 50 gear boxes that included the M33 bolt. CAF determined that an alignment issue prior to torquing the M33 bolt is the likely cause of the issue. CAF performed a sample installation of 48 bolts on 12 LRVs using a modified procedure. ***As of April 2024, all of the sample installations performed adequately; therefore, the RCA will be completed in June 2024.*** The issue will not impact delivery of the vehicles, which is scheduled for ***mid-May 2024***. The PMOC recommends that the quality process also be included in the RCA, along with design, fabrication, and assembly processes.

- Delivery of vehicles was expected to begin in spring of 2021; however, the location for their delivery was uncertain because the Glenridge OMF was not ready to accept railcars. MTA and CAF negotiated an agreement for CAF to store the completed railcars in Elmira to await delivery. The terms of the agreement became a part of MTS's agreement. ***As of April 2024,*** deliveries of LRVs to the Glenridge OMF ***are now scheduled to begin in mid-May 2024***. The PMOC continues to recommend that MTA expedite the planning and completion of readiness activities for delivery of LRVs, such as testing and certifications. ***In April 2024, MTA provided to FTA and the PMOC a preliminary LRV Delivery Plan. The plan is only partially complete, and MTS is developing the final version.***
- The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. The audit indicates that the percentage of U.S. domestic content is 66.74 percent, which meets FTA requirements.
- MTA staff visited the CAF facility in Elmira, New York, in October 2023 to observe the 26 stored vehicles and the 2 vehicles currently being assembled.

- MTA is responsible for providing offsite stormwater mitigation in Montgomery County. To date, MTA has accumulated a credit for more than 10 acres of designed, Maryland Department of the Environment (MDE)-approved, offsite stormwater management (SWM) capacity in its "bank." MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS. ***Construction of this mitigation site is planned to begin sometime in 2024.***
- ROW acquisition activities continue for the original required 464 private parcels and 137 public parcels (a total of 601 parcels). All private parcels related to the original P3 contract Exhibit 9 FFGA scope are in MTA's possession for construction. ***As of April 2024***, ***431*** of the 601 parcels have completed settlement, and ***6*** settlements are pending. ***Twenty-two condemnations remain in this ROW acquisition category.***
- MTA has identified 188 small property acquisitions that are required for utility relocations, of which 134 are private and 54 are public. As of April 25, 2023, all additional properties were in MTA's possession through Right of Entry (ROE),

through options, and/or through agreements. ***Fifteen condemnations remain in this property acquisition category.***

- To date, 177 required property relocation agreements are complete. Costs for the completed relocations continue to be processed in accordance with the applicable procedures. As of ***April 2024***, there is one relocation offer pending for a property that the former owner still occupies. One additional relocation may be required.
- As of ***April 2024,*** MTA estimates that ***approximately $24.4 million*** of exposure remains in the real estate acquisition process. This amount is included in the risk assessment and in the currently available project contingency.
- MTA estimates that the cost for extensions of Temporary Construction Easements (TCEs) has increased due to the project delays included in Amendment 7. The estimated cost for TCE extensions as of ***April 2024*** is approximately $18.1 million, which represents a $5 million increase in this cost.
- Preparation for safety certification is an ongoing process for MTA, including the development of the appropriate checklists for both design and construction. Design Criteria Conformance Checklists (DCCCs) are more than 99 percent validated. Construction Specification Conformance Checklists (CSCCs) are 18 percent validated***. As of April 2024, MTA and MTS are*** preparing plans, including operating rules for vehicle testing on the test track, in advance of vehicle delivery. Testing is scheduled to begin in late spring 2024.
- MTA adjusted staffing of management personnel to address the varying activities that MTA was managing during the OSF period. A number of key staff changes have occurred since the OSF period ended. One position that is open as of ***April 2024*** is the MTA Transit Development and Delivery (TDD) Executive Director. The TDD Executive Director will be responsible for the Purple Line project in addition to other State of Maryland transit projects. ***In April 2024, MTA announced that a candidate for another open position, Deputy Communications Director, has been hired.*** The open Construction Manager position will not be filled. The Deputy Project Director currently is serving as the Contracting Officer, and the Deputy Project Director's duties have been temporarily transferred to the Project Director. ***As of April 2024, a replacement for the Contracting Officer position has not been hired.*** The PMOC reiterates its concerns related to MTA staff continuity and will continue to monitor MTA's management capacity and capabilities.
- MTA carefully considered a request from Montgomery County to single-track the Purple Line through the Bethesda tunnel. MDOT/MTA determined that it would not be able to accommodate the request.
- MTA and PLTP coordinated to obtain a modified version of the existing TIFIA loan for the project. On April 14, 2022, the TIFIA loan closed, and all bonds were marketed. MTA was required to update the Transportation Investment Program and State Transportation Investment Program plans to reflect changes in the project.

- MTA's Equal Employment Opportunity Officer assigned to the project is Marcques Washington. He is supporting MTS in its hiring program and monitoring project adherence to hiring of specific companies and personnel. MTS is making significant progress toward achieving the project's hiring, wage, and Disadvantaged Business Enterprise (DBE) goals. MTA states that due to the D-B contracting method being utilized to deliver the project, continuous diligence is required to monitor and promote contracted DBE work in the current and upcoming work packages, making it challenging to project future values of DBE participation. ***As of April 2024***, the Equal Employment Opportunity Officer ***still needs to prepare the revised*** DBE goals that reflect the new total construction cost established by Amendment 7 to the P3 Agreement.
- MTA hired a consultant team that is analyzing alternatives for providing security and fare enforcement services for the Purple Line. MTA does not currently have existing facilities or staff that can adequately provide these services because the distance from their location to the Purple Line light rail facilities is too far. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on Memorandums of Understanding (MOUs) with other local jurisdictions, and developing a facility to house the district. ***As of April 2024,*** the PMOC continues to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget. MTA stated that this implementation plan ***will not be completed until May or June 2024. Preliminary feedback from the plan indicates that a new facility to house the Southern District will not be complete until several months after the February 2028 RSD; therefore, temporary facilities will be used until the new facility is complete.***
- MTA held several Community Advisory Team meetings in October 2023 and completed these meetings in November 2023. MTA will hold the next round of Community Advisory Team meetings on Tuesdays and Thursdays each week in May 2024.

1.3 Major Issues and/or Concerns

Table 2 discusses any major issues or concerns impacting the project's scope, schedule, cost, risks, quality, safety, etc.

Table 2 – Current Major Issues and Concerns

Issue/Concern	According to the PMP, the master project schedule should be updated monthly.
Date Identified	2022.
Status	Ongoing.

Project Sponsor Action	FTA accepted the FRP schedule in April 2023 as the new project baseline schedule. Two significant change orders, both of which are based on delays to OSF activities, have caused a substantial utilization of the schedule contingency outlined in the FRP. In March 2024, a third change order (Amendment 7 to the P3 Agreement) consumed all remaining schedule contingency and resulted in a significant increase in project cost.
PMOC Recommendation	The PMOC continues to recommend that MTA track all schedule elements according to the FRP and report status to FTA and the PMOC each month. MTA should employ additional methods of evaluating schedule progression and performance, including earned-value metrics, to identify issues as soon as possible. The PMOC recommended that MTA secure a mutually agreed-to (with MTS and PLTP) revised baseline schedule before executing any change order that commits compensation for delays. ***Although Amendment 7 to the P3 Agreement included an agreed-to RSA date, it did not include a revised baseline schedule.*** The PMOC observes that a baseline schedule acceptable to both MTA and the concessionaire has not been in place ***for at least six months. The PMOC recommends that a mutually agreed-to revised baseline schedule be developed as soon as possible.*** Although execution of Amendment 7 resolved all pending disputes at the time, the PMOC recommends additional project contingency to address completion of the project.
Issue/Concern	Changes in the project have significantly impacted the project cost as reflected in the original FFGA. The April 2023 FRP includes a revised project cost estimate and a cost contingency intended to address remaining project risks.
Date Identified	September 2020.
Status	Ongoing.
Project Sponsor Action	MTA should continue to monitor project progress against the total project cost estimate. As of July 2023, two significant change orders, both of which were based on delays to OSF activities, caused substantial utilization of the cost contingency outlined in the FRP. Additional delays have been identified, and MTA is coordinating potential schedule mitigation (which would support cost mitigation) with MTS. Disputes between MTA and MTS are impacting project contingency. Amendment 7 consumed all the remaining budget contingency and resulted in a significant increase in project cost. Although execution of Amendment 7 resolved all pending disputes at the time, additional project contingency is recommended to address completion of the project.
PMOC Recommendation	The PMOC recommends that MTA consider the results of the pending Quantitative Risk Analysis and, if necessary, adjust the cost and schedule contingencies.
Issue/Concern	MTA does not have a police force located in proximity to the Purple Line.
Date Identified	September 2022.
Status	As of May 2023, MTA had determined a preferred alternative for providing security and fare enforcement, and had identified several next steps for implementation.
Project Sponsor Action	MTA's preferred security alternative includes the creation of a new Southern District of the MTA Police Department and will require associated staff, operating procedures, and a facility. MTA indicates that it will prepare the written implementation plan for the required security services by ***May or June 2024. MTA also indicates that the facility for the new police force will not be completed before the February 2028 RSD, so a temporary facility for housing the new Southern District will be required.***

PMOC Recommendation	Although the currently forecasted RSA date is in 2027, the PMOC recommends that MTA promptly move toward implementation of the preferred security alternative. MTA should identify the parties responsible for implementing the preferred alternative and determine a detailed schedule and budget in a written plan. The PMOC ***continues to recommend*** that the SSOA be included in the review and comment process for security and fare enforcement.
Issue/Concern	The Lost Time Injury Rate and Total Case Incident Rate have increased significantly since 2022. The current rates are significantly higher than the stated project goals. The PMOC notes that there are inconsistencies in incident reporting between MTA and MTS.
Date Identified	April 2023.
Project Sponsor Action	MTA states that it has increased coordination with MTS through additional biweekly coordination meetings. MTA has acknowledged the need for safety process improvements. In November 2023, MTA stated that MTS had replaced its safety director and added safety staff. In March 2024, MTA increased the amount of safety information included in its monthly status report.
PMOC Recommendation	The PMOC recommends that MTA review MTS safety staff qualifications and that MTA and MTS review the safety procedures and the implementation of those procedures to identify opportunities for improvement. The PMOC also recommends that MTA and MTS complete the safety process review as soon as practical and that MTA prepare a written summary. The summary should include the action items and the responsible parties for each. In addition, the PMOC recommends that MTA consider dedicating additional resources to construction safety (i.e., resources dedicated to only the construction portion of the Purple Line project). MTA should also consider preparing a comprehensive monthly safety report under the direct supervision of the Project Director and confirm whether MTA's oversight practices are in compliance with the SSMP. ***In April 2024, MTA reported the March 2024 incident rate, which had increased for the month, and it remains significantly higher than the goal***. MTA has stated that safety processes are being modified. ***The PMOC requested that MTA submit the full incident tracking log each month as a part of the standard information MTA provides, and that MTA provide the results of the MTS Concessionaire Safety and Health Plan audit.*** The PMOC ***continues to recommend*** that MTA monitor safety documentation and develop safety process improvements.
Issue/Concern	Plans for testing, inspection, and certification in advance of LRV delivery are not complete. LRV delivery is scheduled to begin in mid-April 2024, and MTA has scheduled media events related to vehicle delivery for early May 2024. The PMOC is concerned that the necessary preparations may not be complete when the LRVs begin to arrive.
Project Sponsor Action	MTA indicates that plans for readiness activities for LRV delivery are not yet complete. TUNs will be required to place the vehicles on the tracks. MTA states that the responsibility for readiness activities lies with the P3 concessionaire. ***In April 2024, MTA submitted a revised SSCP that includes the TUN process. Also in April 2024, MTA provided to the PMOC a partially complete preliminary LRV Delivery Plan.***
PMOC Recommendation	The PMOC recommends that MTA expedite readiness activities for LRV delivery (inspection, testing, and certification) and that MTA engage sufficient resources to provide oversight of the related concessionaire activities. ***In addition to the LRV Delivery Plan, the PMOC recommends that MTA expedite the readiness activities for dynamic testing, which is scheduled to begin in the fall of 2024.***

1.4 Status of Key Indicators Dashboard (Post-grant)

Table 3 shows the project Key Indicators Dashboard after the FFGA was awarded.

Table 3 – Key Indicators Dashboard

Project Sponsor:				Maryland Transit Administration	
Project Name:				MTA National Capital Purple Line Light Rail Transit Project	
Date:				***April 30, 2024***	
Project Detail					
Oversight Frequency:				**Monthly**	
Element	**Status**			**Prior Status**	**Issue or Concern**
	● **G**	● **Y**	● **R**		
Project Management Plan		●		●	MTA developed an updated PMP that reflects revised project conditions, and in October 2022, MTA submitted a revised PMP to the PMOC and FTA for review. On February 1, 2023, FTA provided its review comments on the PMP, and on April 28, 2023, MTA submitted the second revision of the PMP to FTA. In May 2023, MTA announced significant changes to the Purple Line leadership staff, including departure of the staff in the TDD Executive Director, Communications Director, and Deputy Project Director positions. In late 2023, MTA filled the vacant Purple Line Deputy Project Director and Communications Director positions. In early 2024, MTA replaced the Quality Manager. ***As of April 2024,*** the project team has the following open positions: TDD Executive Director and Contracting Officer. The Deputy Project Director currently is serving as the Contracting Officer, and the Deputy Project Director's duties have been temporarily transferred to the Project Director. This concern also applies to the Management Capacity and Capability (MCC) element below.
Management Capacity and Capability		●		●	Management staff changes within MTA and within the supporting PMC have magnified the need for MTA to focus on MCC issues. Construction safety and quality processes are specific concerns to the PMOC. Also, the Deputy Project Director was reassigned to be the Acting Contracting Officer, and the Project Director has assumed the Deputy Project Director duties temporarily. In addition, the most recent Construction Manager is no longer on the project team, and MTA will not be hiring a replacement. In January 2024, MTA provided a revised management staff organizational chart to the PMOC. ***In April 2024, MTA indicated that it is developing a revised organizational chart for the quality team in response to review comments on the QAP.***
Cost*			●	●	MTA developed a revised cost estimate that reflected project conditions at the time of the FRP. Based on PMOC and FTA review comments and a revised MTA Quantitative Risk Analysis, MTA established a budget contingency that appeared appropriate for the stage of the project at the time. However, large executed change orders have required commitment of all of the contingency budget ***and a significant construction budget increase***. As of ***April 2024,*** MTA currently is preparing a Quantitative Risk Analysis, which will inform project cost and contingency decisions.
Schedule			●	●	MTA has a revised master project schedule that incorporates the current project status in place. Despite the execution of several change orders with significant contract extensions, there has not been a mutually agreed-to construction schedule since the Initial Baseline Schedule in September 2023. MTA has rejected MTS's schedule updates each month, citing technical issues. It is the

					PMOC's opinion that change orders that include adjustments to the RSA date should not be executed unless a mutually agreed-to revised baseline schedule is included with the change order.
Quality		●		●	There are a significant number of nonconforming items from the PLTC-constructed work and the work performed under MTA's management of OSF. The PMOC finds that the quality reporting related to OSF activities is inconsistent. Also, it appears that some key quality management staff have not participated in the project for some time due to contractual issues. The QAP has been modified to reflect many of the noted PMOC concerns, and MTA will incorporate the remaining concerns in the next annual QAP update. MTA has also developed a quality dashboard to improve the tracking of quality issues. In March 2024, the PMOC continued to coordinate with MTA on quality process improvements.
Safety			●	●	In April 2023, the PMOC noted to MTA that both the Lost Time Injury Rate and the Total Case Incident Rate had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in the incident rates, there continues to be inconsistent tracking and reporting of safety issues. MTA recognizes the issue and reports that it has scheduled additional safety coordination efforts. In the opinion of the PMOC, MTA's processes related to construction safety can be improved. MTA should enhance its comprehensive safety reporting under the direct supervision of the Project Director.
Risk		●		●	MTA updated the RCMP and the Risk Register to reflect the changes driven by the FRP and updates to the project management plans. In May 2023, FTA accepted the RCMP but also noted additional comments that MTA should address in future updates to the plan. In November 2023, MTA held a risk workshop and began a Quantitative Risk Analysis. MTA's Quantitative Risk Analysis is scheduled to be completed ***in May or June 2024***, and results will be shared with the FTA and PMOC at that time.

Legend	
Green	Satisfactory: No Corrective Action necessary.
Yellow	Caution: Risk/Issues exist. Corrective Action may be necessary.
Red	Elevated for immediate Corrective Action: Significant risk to the health of the project.

*Note: With regard to cost, the colors indicate the following status:
Yellow – Forecast cost exceeds the project budget by up to 3%.
Red – Forecast cost exceeds the project budget by more than 5%.

1.5 Core Accountability Items

Table 4 shows the core accountability items for the project, including the current status of the project and the major issues and how they are being addressed.

Table 4 – Core Accountability Items

		Original (Grant)	Current Forecast[3]	PMOC Assessment of Current Forecast[3]
Cost	Capital Cost Estimate	$2,407,030,289	***$5,522,020,380***	Unacceptable
Contingency	Unallocated Contingency	$90,535,748	***$80,391,611***	Unacceptable
	Allocated Contingency	$59,500,464	***$20,650,000***	Unacceptable
	Total Contingency	$150,036,212	***$101,041,611***	Unacceptable
Schedule	Revenue Service Date	12/31/2022	02/28/2028	Unacceptable

Project Progress		Amount ($)	Percent of Total
Total Expenditures	Actual cost of all eligible expenditures completed to date	***$3,435,303,117***	***62.2%***
Planned Value to Date[1]	Estimated value of work planned to date	Not Applicable (N/A)	N/A
Actual Value to Date[1]	Actual value of work completed to date	N/A	N/A
Contract Status		**Amount ($)**	**Percent of Total**
Total Contracts Awarded	Value of all contracts (design, support, construction, equipment) awarded; % of total value to be awarded	***$5,522,020,380***	***100%***
Construction Contracts Awarded	Value of construction contracts awarded; % of total construction value to be awarded	***$1,946,439,344***	***35.2%***
Physical Construction Completed	Value of physical construction (SCCs 10-50) completed; % of total construction value completed	***$1,175,893,603***	***60.4%***
Rolling Stock Vehicle Status	**Date Awarded**	**No. Ordered**	**No. Delivered**
28 total car sets[2]	First 26 LRVs: 2016 Additional 2 LRVs: January 2022	28 car sets	0
Next Quarterly Progress Review Meeting Date:	May 8, 2024		

[1]Earned value information is not available.

[2]The approved FFGA includes a total of 25 LRVs.

[3]Amendment 7 to the P3 Agreement ***has been partially incorporated*** into MTA's financial reporting ***as of April 2024.*** Amendment 7 added $405 million to the construction cost of the project. MTA currently is in the process of revising the project cost contingency and schedule contingency.

2 OBSERVATIONS AND FINDINGS

2.1 Summary of Monitoring Activities

The PMOC received an update from the Purple Line project team during ***the April 25, 2024,*** virtual monthly meeting with MTA, the PMC, and the PMOC. MTA provides supplementary information before the PMOC monthly meetings. ***On April 8 and April 23, 2024, the PMOC attended virtual project update calls with FTA and MTA. On April 29, 2024, the PMOC attended the pre-Quarterly Progress Review Meeting with FTA.*** PMOC monitoring activities include review of MTA-provided scope, schedule, risk, financial, construction, safety and security, and real estate information.

After the U.S. Court of Appeals reversed the vacation of the ROD in July 2017 (refer to the **NEPA Process and Environmental Mitigation** section, below, for details), the FFGA was executed on August 22, 2017. In September 2020, the construction (D-B) contractor, PLTC, left the project, and a new project delivery plan was developed, including replacement of the D-B contractor. During the period when the replacement D-B contractor was being solicited, MTA managed specific construction and design activities (OSF activities) in order to reduce uncertainty and support the project schedule. On November 5, 2021, MTS was selected as the replacement D-B contractor, and financial and commercial close occurred on April 14, 2022. MTA managed OSF

construction and design activities to their completion or until the activities were transferred to MTS. MTS is performing construction activities across the entire project corridor.

MTA and MTS held initial partnering activities during which they developed relationships, general project priorities for teamwork, and an understanding of key issues for different stakeholders. MTA provided partnering process information to FTA and the PMOC on March 29, 2023. As of August 2023, MTA had replaced the consultant who was leading partnering activities and is developing new processes to facilitate the coordination and relationship between MTA and the MTS/PLTP team. MTA held an internal partnering meeting on October 27, 2023, to help align MTA and PMC staff. On December 11, 2023, a partnering session was held, and MTA, MTS, PLTP, and PLTO participated. One of the main points of discussion was the schedule mitigation efforts that are currently in progress. In February 2024, MTA provided a summary of project goals developed during the December 2023 partnering session. MTA said that action items related to the partnering session goals are incorporated into many project meetings, and senior executives from MTA, PLTP, and MTS meet frequently. The next scheduled partnering session will be held in June 2024. The PMOC repeated the request that PMOC and FTA staff be invited to future partnering events.

2.2 Oversight Triggers

The oversight triggers most applicable to the project are the Oversight Procedure (OP) 25 cost and schedule triggers. The project did not have a mutually agreed-upon baseline schedule between March 2017 and September 2022. Significant schedule delays and a significant increase in project cost keep the project eligible for rigorous oversight. Project schedule delays typically impact project cost, another significant indicator of project health. MTA has developed a revised project EAC in conjunction with development of the project's schedule and FRP. Significant utilization of schedule and budget contingencies has occurred since development of the FRP. In the opinion of the PMOC, significant additional cost and schedule impacts are occurring.

2.3 Project Management Plan and Sub-plans

2.3.1 Project Management Plan

The PMOC reviewed the Purple Line PMP Version 10 in accordance with OP 20 for a PMP at the FFGA execution stage of a project. Subsequently, FTA and the PMOC reviewed Versions 11, 12, and 13. Due to significant project team changes since those versions, another update to the PMP was required. In October 2022, MTA provided an updated PMP (Version 14) to FTA and the PMOC for review, and FTA and the PMOC provided comments on PMP Version 14 to MTA. On April 27, 2023, MTA provided PMP Version 15, which FTA accepted, with comment, on June 21, 2023. In February 2024, MTA provided a summary of its forecasted dates for updating the management plans. According to best practices, the recent staff changes and fluid project conditions may warrant revisions to some or all of the management plans before the regularly scheduled updates.

2.3.2 Safety and Security Management Plan

In February 2016, the PMOC reviewed the project's SSMP Version 6, dated October 22, 2014, in accordance with OP 22 for a project at the FFGA execution stage. The PMOC review found that the SSMP was compliant with FTA content requirements for execution of the FFGA, but the PMOC requested that MTA resubmit the SSMP after execution of the FFGA and address the comments in the PMOC report with updated information from the P3 concessionaire. Subsequently, FTA and the PMOC reviewed SSMP Versions 7 through 11 over the next four years. MDOT, which is the SSOA for the project, also reviewed SSMP Versions 8 through 11. On January 13, 2022, FTA provided comments on SSMP Version 12 to MTA. MTA submitted SSMP Version 13 as well as Version 5 of the Purple Line SSCP to FTA and the PMOC for review in October 2022. FTA and the PMOC reviewed the SSCP and SSMP updates and provided their comments to MTA in February 2023. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the revised SSMP in August 2023, and the revised SSCP on December 28, 2023. The PMOC continues to recommend that MTA evaluate whether its current oversight processes are in compliance with those specified in the SSMP.

2.3.3 Quality Assurance Plan

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on QAP Version 10 to MTA. MTA then submitted a revised QAP to FTA for review in May 2023, and FTA and the PMOC provided comments to MTA in June 2023. In July 2023, MTA provided a response to each specific comment and committed to submitting a revised QAP in August 2023. On August 11, 2023, MTA resubmitted the QAP as Version 12. A technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023, after which the PMOC recommended acceptance of the plan and that MTA should incorporate the outstanding items into the next regularly scheduled plan update. On October 6, 2023, FTA accepted the QAP contingent upon MTA's acceptance of the PMOC recommendations. ***MTA plans to next update the QAP in October 2024.***

The PMOC requested that MTA provide more complete documentation for quality-related activities. In September 2023, MTA presented the PMOC with a quality process dashboard that MTA had developed to display monthly statistics on audits, Deficiency Notices, Nonconformance Reports, and quality oversight assessment reports. In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational chart for quality management and administration. ***In April 2024, MTA listed the following three quality process improvements that it is developing:***

1. ***Organizational chart update***
2. ***Document control procedure update***
3. ***Development of quality training plan and schedule for 2024 training***

MTA emphasized that these quality processes apply only to MTA's quality activities, but they are coordinated with MTS's quality processes. In April 2024, MTA stated that it has added quality oversight staff to its organization, including a Deputy Quality Manager.

MTA meets with PLTP, the PMC, and the General Engineering Consultant (GEC) monthly to review quality status. On January 25, 2024, MTA introduced the new Quality Manager, Turyalai Momand. In February 2024, MTA stated that it is developing a full schedule of quality audits to be performed in 2024. When asked about a number of very old deficiency notices and instances of non-conforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of final sign-offs by managers. MTA is deferring some other older open quality items until the related issues can be addressed without impacting the project schedule critical path.

MTS also performs significant Quality Assurance/Quality Control (QA/QC) activities and reports having more than 60 full-time quality staff assigned to the project. ***In April 2024***, those QA/QC activities by MTS included:

- Offsite inspections of structural steel girders and canopies, Overhead Contact System (OCS) poles and hardware, traffic signal poles, special trackwork, precast concrete structural elements, and other items being fabricated offsite.
- ***29*** Design Services During Construction reviews and ***29*** design submittal reviews.
- Completion of numerous quality audits of MTS and subcontractor work, testing, and quality plans.
- Approximately ***1,000*** materials tests.
- Approximately ***1,100*** materials samples.

In 2022, MTA frequently provided notes from monthly CAF and SNC-Lavalin LRV manufacturing quality meetings for PMOC review. The information provided a summary of issues and corrective actions, and upcoming quality audits. MTS is now responsible for preparing these notes from the manufacturing quality meetings. Because the LRV manufacturing process is now nearly complete, ***in April 2024,*** these meeting notes included only a few very minor issues. ***Current open items of note include several certification and compliance activities.***

The previously identified quality issue related to the M33 bolt on the LRV trucks is not fully resolved ***as of April 2024.*** Additional failures occurred in November and December 2023, and the truck manufacturer in Germany performed additional tests. MTA had indicated that CAF would perform an RCA for this issue. In January 2024, CAF concluded that the root cause of the issue was a misalignment of the bolts during assembly. In January and February 2024, CAF examined 50 gear boxes that included the M33 bolt and determined that an alignment issue prior to torquing the M33 bolt is the likely cause of the issue. CAF performed a sample installation of 48 bolts on 12 LRVs using a modified procedure. ***As of April 2024, all of the sample installations performed adequately; therefore, the RCA will be completed in June 2024.*** After the RCA is completed, maintenance manuals will be modified and needed tools provided to PLTO. CAF does not believe the issue will impact delivery of the vehicles, which is scheduled for ***mid-May*** 2024. The PMOC

recommends that the quality process also be included in the RCA, along with design, fabrication, and assembly processes.

2.3.4 Real Estate Acquisition Management Plan

The PMOC reviewed the project's Real Estate Acquisition Management Plan (RAMP) Versions 10, 11, and 12. The PMOC reviewed the plans with respect to the guidelines in OP 23 for a project in the construction phase. MTA submitted an updated RAMP Version 13 to FTA and the PMOC in October 2022. FTA provided review comments on RAMP Version 13 to MTA on February 27, 2023, and accepted RAMP Version 13 with comments.

2.3.5 Fleet Management Plans

The current version of the Bus Fleet Management Plan (BFMP) is BFMP Version 8.1, which was submitted for FTA/PMOC review on February 12, 2016. The PMOC completed its review of BFMP Version 8.1 and on March 4, 2016, issued its final OP 37 BFMP review report, concluding that the BFMP met the requirements of OP 37 for the execution of an FFGA for the Purple Line project. On January 24, 2024, MTA provided to FTA and the PMOC BFMP Version 10. This plan addresses updates for the period from 2021 through 2023 and is dated September 2023.

2.3.6 Risk and Contingency Management Plan

In early 2020, MTA commenced another update to the RCMP to incorporate the results of the latest Quantitative Risk Analysis that, in turn, incorporated the results of the replacement D-B contractor resolicitation and the revised project implementation details. MTA held a risk management workshop on January 26, 2021, that focused on the interim period.

MTA provided a comprehensive Risk Register and risk mitigation activities in conjunction with the draft FRP. In preparation for a risk analysis, MTA held risk assessment interviews with individual risk owners to review existing risk items and identify new risks. In December 2021, MTA prepared an updated Risk Register that includes over 100 risk items, including PLTP and MTS risks.

At a risk workshop held the week of May 2, 2022, the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. MTA confirmed and finalized the Risk Register and prepared the Quantitative Risk Analysis and an update of the RCMP. The PMOC developed a draft summary of the risk and contingency review results. FTA provided a risk summary to MTA on June 22, 2022, for MTA's consideration while it was updating the RCMP. MTA provided responses to FTA's comments on the risk summary on July 15, 2022, and provided further clarification on August 25, 2022. MTA submitted RCMP Version 15 to FTA and the PMOC for review in October 2022. In February 2023, FTA and the PMOC provided comments on the revised RCMP, which supported MTA's development of the project's budget and schedule contingency. MTA subsequently submitted the revised RCMP Version 16, dated April 21, 2023, and FTA accepted it on May 22, 2023.

In November 2023, MTA held a risk workshop and began a Quantitative Risk Analysis. Project risks were reassessed, and information needed to reevaluate cost and schedule contingencies was

determined. MTA expected to complete the Quantitative Risk Analysis and contingency review in January 2024. However, the efforts by MTA and MTS to re-baseline the project schedule have not been completed. The updated schedule is necessary for the assessment of schedule risk and development of contingency recommendations. When the Quantitative Risk Analysis is complete, ***which is expected in May 2024,*** MTA will share the results with FTA and the PMOC.

2.3.7 Safety and Security Certification Plan

Version 3 of the Purple Line SSCP is dated November 4, 2014. The PMOC review found that the SSCP Version 3 met the FTA requirements in support of the FFGA application. MTA submitted SSCP Version 4 on February 3, 2020, in conjunction with the updated SSMP submittal (see the **Safety and Security Management Plan** subsection, above). The SSOA completed its review of SSCP Version 4 and discussed its comments with the PMOC. MTA decided that the new emergency management working group would be a subcommittee to the Fire Life Safety and Security Committee, and this decision would be reflected in the next revisions of the SSMP and the SSCP, which were planned for after the replacement D-B contractor was in place. MTA submitted SSMP Version 13 and SSCP Version 5 to FTA and the PMOC in October 2022. In February 2023, FTA and the PMOC completed their reviews and provided comments on these plan documents to MTA. MTA provided a response to the SSCP review comments to FTA and the PMOC in May 2023. On July 12, 2023, the PMOC and MTA held a call to review and reconcile PMOC/FTA comments on the SSCP. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023 and accepted the current SSCP (Version 7) on December 28, 2023. ***In April 2024, MTA submitted a revised SSCP (Version 8) that includes the TUN process. Also in April 2024, MTA provided a partially complete preliminary LRV Delivery Plan.***

2.4 Management Capacity and Capability

MTA continues to identify and assign sufficient Management Capacity and Capability (MCC), as needed, to complete the project in compliance with applicable FTA requirements. These efforts have included bringing staff, either MTA or MDOT personnel or consultants, onto the project to manage the current needs, such as planning, P3 procurement and contracting, real estate acquisition, and construction.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. It was proposed that Roland Carroll, the Purple Line systems safety and construction safety lead, add the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to the new quality management role. The PMOC has evaluated this change as a part of the PMP review and will continue to monitor management capacity for this function and all positions through ongoing oversight activities. Specific to safety, the PMOC is concerned that there may be a lack of emphasis on safety or on management capacity or capability. Injury rates, particularly for OSF activities, are higher than the MTA goals. Also, reporting of injury and incident statistics is inconsistent. ***As of April 2024, the PMOC notes that the incident trends have***

regressed. The PMOC continues to have concerns specifically related to construction safety. See **Section 2.16**, below, for more detail.

In March 2023, MTA hired John Donovan in the role of Construction Manager and also formed a commercial project controls team. These changes were in response to: (1) the near completion of OSF and (2) the need to support the management of MTS's increasing amount of work.

On May 25, 2023, MTA communicated the departure of Executive Director Matthew Pollack, Deputy Project Director and Contracting Officer Anita Rodgers, and Communications Director David Abrams from the Purple Line project team. Project Director Ray Biggs, Jim Mitchell of the PMC, and MDOT Chief Financial Officer Jaclyn Hartman were leading the project while those vacated positions were being filled. Ken Forsythe's role changed from his role as Deputy Project Director to the interim Director of Communications role. A new Deputy Project Director, Alexa Heidrich, started with the Purple Line project team on July 26, 2023. Kathryn (Kat) Lamb joined the team in August 2023 as the Communications Director, which completed the hiring for the open senior staff positions for the Purple Line project at that time. In August 2023, MTA provided an updated Purple Line organizational chart that included those newly hired staff. In December 2023, MTA replaced PMC Project Director Jim Mitchell with Brian Freerks.

In January 2024, MTA communicated a significant number of staff changes both within MTA and within the PMC. The current status of these positions is as follows:

- Construction Manager John Donovan is no longer on the project. MTA stated that two existing project staff, Mike Gales for Civil Construction and Melvin Henderson for Systems Construction, remain with the project.
- The new MTA TDD Executive Director position ***is still open as of April 2024.*** The TDD Executive Director will be responsible for the Purple Line project in addition to other State of Maryland transit projects.
- Quality Manager Fahad Moazziz has been replaced by Turyalai Momand. ***In April 2024, Mr. Momand announced that several quality staff have been added to the team, including a Deputy Quality Manager.***
- Deputy Communications Director Gary Witherspoon left the project and will be replaced. ***As of April 2024, MTA has hired Syrina White to fill this position.***
- Deputy Project Director Alexa Heidrich is now the Acting Contracting Officer. Project Director Ray Biggs has assumed her Deputy Project Director duties temporarily. ***As of April 2024, a replacement for the Contracting Officer position has not been hired.***

The PMOC continues to express its concern regarding MTA's MCC. Open positions, a lack of continuity, and staff serving in multiple roles all pose a risk to the quality of the oversight the Project Sponsor must provide. Shortfalls in MCC may be causing some of the other issues that the PMOC has identified, such as construction safety and quality management challenges.

2.5 NEPA Process and Environmental Mitigation

2.5.1 NEPA Process

FTA issued a ROD on March 19, 2014. The National Park Service issued its ROD on July 16, 2014.

MTA has continued to submit environmental re-evaluations as required based on design advancement and other causes. To date, PLTC (before it left the project) and MTA have prepared multiple packages, primarily for minor Limits of Disturbance (LOD) cases, which were submitted to FTA for review and have received FTA concurrence. The most recent status ***(as of April 2024)*** of NEPA items is:

- MTA submitted an additional LOD case at Sligo Creek that is moving through the MDE and USACE processes. MDE granted approval on January 10, 2024. ***As of April 2024, USACE has indicated that it will issue its approval in May 2024.*** MTA will submit the necessary information to FTA when complete, however, MTA reports that FTA review is not a schedule critical task at this time.
- The ATC for the Bethesda Station jet fan has been vetted, and final documentation is being prepared for submittal to FTA for concurrence that the ATC meets project requirements. Final documentation for the ATC is still pending as of ***April 2024***. MTA will schedule a review of the documentation with FTA as soon as it is complete, which is expected to occur in ***May 2024***. MTA and MTS optimistically predict that the ATC will have no Section 4(f) impacts or other impacts to the project's ROD.
- A ten-year extension of the project's Programmatic Agreement was approved on March 14, 2024.

On August 3, 2016, in response to the lawsuit filed by the Friends of the Capital Crescent Trail against FTA, a federal judge filed his Order and accompanying Memorandum Opinion. In those documents, it was ordered that the ROD for the Purple Line project be vacated and remanded, and that a Supplemental Environmental Impact Statement (SEIS) be prepared, in accordance with the accompanying Memorandum Opinion. In a subsequent Order and Opinion filed on November 22, 2016, the judge, in part, revised the earlier Order by remanding to FTA the responsibility to determine whether an SEIS is required; however, the ROD remained vacated. On May 30, 2017, the judge issued his ruling that dismissed the lawsuit except for the reassessment of the impact of declining Washington Metro ridership in the Purple Line project's Environmental Impact Statement. The Washington Metro ridership aspect of the ruling was immediately appealed by the Maryland Attorney General. On July 19, 2017, the U.S. Court of Appeals reversed the vacation of the ROD and set an expedited schedule for the appeals process. The appeals hearing occurred on November 1, 2017. The U.S. Court of Appeals issued its ruling on December 19, 2017, in which the judges ruled in favor of FTA and the project, and ruled that the transit agencies would not have to conduct a new environmental study to examine other potential routes for the Purple Line.

The Friends of the Capital Crescent Trail filed a second lawsuit after the FFGA signing and after the groundbreaking ceremony was held on August 28, 2017. The September 19, 2017, Preliminary Hearing for this suit resulted in no temporary injunctions or restraining orders, and project construction proceeded as the case progressed through the court system. On December 5, 2017, FTA and MTA filed a Motion to Dismiss. The plaintiffs subsequently amended and significantly revised the complaint in December 2017, and on March 1, 2018, MTA and FTA filed a Motion to Dismiss. On March 29, 2018, the plaintiffs filed their response. On March 5, 2019, the judge ruled in favor of FTA.

The Friends of the Capital Crescent Trail filed a third lawsuit in January 2019, this time against USACE. The USACE legal staff and the Office of the Attorney General provided the defense. MTA filed a motion to intervene on behalf of USACE. In early May 2019, the plaintiffs filed an objection to MTA's motion, but during the week of July 15, 2019, the Court authorized MTA to intervene on behalf of USACE. In October 2019, USACE filed for a Summary Judgment to Dismiss the case, and the plaintiffs filed their response; a hearing date was set for March 23, 2020. However, in late February 2020, the assigned judge recused himself from the case, and the scheduled hearing was canceled. In mid-April 2020, the District Court ruled in favor of the USACE/MTA motion for a Summary Judgement to Dismiss, and the case was dismissed. The plaintiff subsequently filed an appeal on May 11, 2020, and the case continued in the legal process. Oral arguments related to the appeal occurred on March 11, 2021. The District Court denied the appeal on May 13, 2021. The decision resolved the last remaining lawsuit related to the project.

2.5.2 Environmental Mitigation

The project achieved the required mitigation for reforestation through the purchase of 82.5 acres of offsite credits (combined, in both Montgomery County and Prince George's County). This amount of offsite credits is expected to be more than needed, and the P3 concessionaire will monitor that this remains the case. PLTP's Forest Conservation Plan (FCP), which documented a need of 75.73 acres, was formally submitted to the Maryland Department of Natural Resources (DNR) in August 2016 for approval. The DNR concurred with the FCP on January 31, 2017, and the final approved FCP was received from DNR on July 31, 2017. As LOD cases are identified, they are also reviewed against the FCP credits to maintain an accurate accounting of the reforestation mitigation. In Maryland, need is based on land disturbance rather than only forest removal. MTA's tracking of additional disturbance due to the progress of design and construction indicated that the total need is still within the amount of available offsite credits.

The Joint Permit Application for Wetlands and Stream Mitigation was formally submitted to USACE and MDE in August 2016. In late February 2018, MDE issued its Non-Tidal Wetlands and Waterways permit in advance of the USACE permit, even though it was a joint application. However, because time had passed since the permit was drafted, MDE updated and issued the finalized permit the first week of April 2018. USACE completed its NEPA and conditions review as well as its public interface, receipt of comments, and comment resolution, and issued the Section 10 404 Permit on March 14, 2018. This timing supported MTA's planned advertisement for the Wetlands and Streams Mitigation construction contracts. In October 2018, the project submitted a request to USACE and MDE to extend the duration of the permits until December

2021 to accommodate the longer construction periods resulting from construction moratoriums for forests and streams. The project received approval from MDE during the week of December 3, 2018, and received the USACE approval letter in mid-June 2019.

The project team has been addressing the environmental mitigation for wetlands through the development of the offsite Ken-Gar location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. The construction contract was advertised on May 3, 2019, bids were received on June 10, 2019, and the bids underwent MTA Procurement Department review. BPW approval of the award was received on September 4, 2019. As of June 2021, the Ken-Gar wetlands mitigation project was complete and had completed its one-year warranty period. See the **Construction** section of this report, below, for further discussion of the status of this Ken-Gar Wetlands Mitigation construction contract.

The project team has addressed the environmental mitigation for streams through the development of the offsite Paint Branch location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. MTA advertised the Paint Branch Stream Mitigation construction contract on March 8, 2019. After the bid due date was extended several times, proposals were received on May 21, 2019, and underwent MTA review and evaluation. BPW approval of the award was received on September 4, 2019. The Paint Branch stream restoration is complete, and warranty corrections (partial replanting) occurred in December 2022. See the **Construction** section of this report, below, for further discussion of the status of this contract.

The project has plans to address stormwater mitigation, beyond what can be mitigated on the project site, through retrofitting offsite locations in both Montgomery County and Prince George's County. On November 12, 2021, MTA determined that there is a need for additional stormwater mitigation in Prince George's County. A project to construct additional stormwater mitigation is included in the scope of work for MTS. ***Construction of this mitigation site is planned to begin sometime in 2024.***

The joint MTA and University of Maryland (UMD) technical board resumed meetings in December 2021 to coordinate efforts related to the mitigation of noise, vibration, and electromagnetic interference at the UMD facilities. Following this meeting, the members of the joint technical board voted to approve the outstanding design packages. This action effectively ended the activities of the technical board until the LRT is in trial running.

The Purple Line project team submits quarterly Environmental Mitigation Monitoring Reports for the project. MTA managed the environmental mitigation and monitoring activities as the project transitioned to the replacement D-B contractor, MTS. Because MTS is now performing construction, MTA will monitor the environmental activities performed by MTS. On January 25, 2024, MTA provided the Fourth Quarter 2023 Environmental Commitment and Mitigation Monitoring Program Report. The report conveys the status of progress toward meeting commitments in the ROD that was issued in March 2014 and any pending actions required. In the report, MTA notes that "no problems, gaps, nonconformances, or NEPA issues of any sort were found during this quarterly assessment." ***The First Quarter 2024 Environmental Commitment and Mitigation Monitoring Program Report is expected in May 2024.***

The MTA Purple Line team communicated that MDE has implemented a change to the state's construction dewatering monitoring and turbidity requirements. Pumped water discharge from construction sites will need to meet specific requirements—something that Maryland lacked but is common in many states. . In September 2023, MTA and MTS participated in training for managers on the new requirements, and a future round of training for field staff is being planned. Activities on the project currently are functioning under the new MDE requirements. ***The changes related to the new requirements necessitated a change order to address additional MTS's costs to implement the more stringent standards.***

2.6 Project Delivery Method and Procurement

The majority of the capital cost of the Purple Line project has been packaged into a Design-Build-Finance-Operate-Maintain P3 contract. This delivery method fits the state's legal definition of a P3 in that it involves a long-term, performance-based agreement between MTA and a private entity (the P3 "concessionaire") in which appropriate risks and benefits are allocated in a cost-effective manner between the contractual partners. The P3 concessionaire is intended to perform some functions normally undertaken by the transit agency, but MTA remains ultimately accountable for the Purple Line project and its public function.

MTA negotiated an approximate 36-year P3 contract, including nearly 6 years of construction and 30 years of operations, and on March 2, 2016, announced that PLTP had been selected as the P3 concessionaire. Commercial close of the P3 contract occurred on April 7, 2016, and financial close occurred on June 17, 2016.

In late April 2020, PLTC notified PLTP that due to PLTC's forecasted schedule delays on the project (which did not receive agreement from MTA), PLTC intended to exercise the clause that allowed it to terminate its contract with PLTP for the design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that would include a definitive path forward. On the response due date of May 14, 2020, PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement to MTA, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice essentially refuted the validity of the PLTP delay claims and stated that if PLTP fails to perform, MTA has a number of options related to the P3 Agreement. Through July 2020, construction activities continued at the levels previously planned and were not affected by the dispute.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a Temporary Restraining Order (TRO) that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO occurred before the expiration of the TRO on September 14, 2020, and the court rescinded the TRO, allowing PLTP to leave the project.

When an agreement was not reached, the bond holder firms had the first right to take over the project. However, MTA planned an alternate path forward based on its exercise of step-in rights. To that end, MTA assumed the contracts of over 100 subcontractors, indicating MTA's intent to continue the project. MTA adjusted staffing for construction management, resident engineers, and inspectors to move forward with the project.

On November 24, 2020, MTA and the P3 concessionaire, PLTP, reached a settlement agreement to release the project's D-B contractor from the P3 consortium and continue the project with the remaining parties. The state's BPW approved the settlement agreement on December 17, 2020. Activities set out in the agreement and the IRP have proceeded with multiple modifications to milestone dates as needed.

The agreement included the following key aspects, as MTA has communicated to the PMOC:

- PLTP agreed to procure a replacement D-B contractor to complete the project and to obtain project financing. The selection of the preferred replacement D-B contractor, MTS, occurred on November 5, 2021. The TIFIA loan for the project closed on April 14, 2022, allowing financial close and commercial close on that same day. MTS is now the D-B contractor for the project.
- The settlement agreement provided a mutual release from all disputed and undisputed amounts (incurred before September 28, 2020) for PLTP, PLTC, and subcontractors. The agreement also released outstanding litigation among the parties.

2.7 Design

2.7.1 MTA Design

MTA's GEC completed the project design to approximately the 30 percent design level in fall of 2013 and provided incremental enhancements through late 2015. This design formed the basis of the Request for Proposals (RFP) for the P3 contract. See the **P3 Design** subsection, below, for a discussion of the advancement of this design by PLTC, the former PLTP partner that was responsible for the design and construction of the capital project, and continued design under MTA.

There is a dispute pending related to the cost of design changes that were made after execution of the agreement with MTS. MTA's team estimates that the disputed amount is approximately $15 million.

MTA was responsible for the design and construction contracts under a Design-Bid-Build delivery method (separate from the P3 scope) for the following projects:

- Stream mitigation – MTA completed the 100 percent design packages in June 2017 and received approval from MDE in May 2018. Construction of the stream mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.

- Wetlands mitigation – MTA completed the 100 percent design packages in June 2017. Several design adjustments were subsequently made based on MDE and Montgomery County comments. The construction contract was advertised on May 3, 2019. Construction of the original wetlands mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.
- Offsite SWM sites – MTA completed design and obtained MDE approval of more than the P3 contract-required 5 acres of offsite mitigation in Montgomery County on May 29, 2018. In late October 2019, MTA received MDE approvals for the next 5 acres to be added to the mitigation credit "bank," thus satisfying the contract requirements for 2019. MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS. ***Construction of this mitigation site is planned to begin in 2024.***
- See the **Environmental Mitigation** subsection of this report, above, for the current requirements.

MTA also completed the design to support a D-B contract for the replacement of the existing Parks Maintenance Facility with a facility on Polk Street. Construction of the facility is now complete. See the **Real Estate Acquisition and Relocation** and the **Construction** (MTA Scope) sections of this report, below, for further details.

2.7.2 P3 Design

PLTC's design progress was forecasted to achieve substantial design completion of Civil packages in August 2020, substantial design completion of Systems packages (except for Fare Collection) in September 2020, and completion of the Fare Collection design package in 2021. The original baseline schedule anticipated design completion by late fall 2017. As of August 2020, the number of planned Civil, Systems, and Utility design packages was 218.

Upon the departure of PLTC, MTA contracted with the project's engineer of record, Atkins, to continue to advance the design of limited aspects of the project.

The current progress through ***April 2024*** is that 215 of the 218 total planned design packages have been issued as RFC. The packages that remain in design or approval include fare collection, the fire management system at the WMATA/SSTC combined station, and the train control system. The most significant remaining design package, the design package for train control, is scheduled to enter final design review in July 2024. Developing additional equipment specifications and other vendor plans for the train control package will extend until February 2025***. As of April 2024, MTA reports that the fare collection requirements were previously included in the platform designs, and the remaining fare collection design is for the equipment/systems.*** The PMOC observed that MTS indicates that the design portion of its contract is billed out to 99.9 percent. The requirements of MTA's D-B contract with MTA include the payment of all design costs in the first 15 months of its contract with MTS, regardless of progress.

The State Highway Administration approved the last traffic signal package in October 2023.

An item related to design has been added to the Risk Register regarding an intelligent interface device that could impact implementation and operational costs. ***MTS made a claim related to a dispute about this item, but the dispute was resolved as a result of the execution of Amendment 7 to the P3 Agreement in March 2024.***

PLTC reached resolution on the final remaining ATC identified during the proposal process. The ATC is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA is reviewing the design package for NEPA compliance. Final documentation for the ATC is still pending as of ***April 2024***. MTA and MTS are coordinating to address the noise and aesthetic impacts of the fans, and they optimistically report that the ATC will have no Section 4(f) impacts or associated impacts to the ROD.

MTA and CSX worked to resolve issues related to the applicable design criteria and which project areas were affected until, in July 2019, a mutually agreeable path forward was defined for all areas. The following is the current status of the issues and their resolutions:

- To address CSX comments that would have disallowed passenger amenities (fare gates and ticketing kiosks) on the SSTC mezzanine connector pedestrian bridge above CSX tracks, and that would have required a 25-foot vertical clearance, MTA, PLTC, and CSX reached consensus on a design to interpret this area as a "building concourse." In May 2020, CSX indicated that the final design is acceptable. Revised documents, providing some minor clarifications related to ROW, were submitted to CSX on September 8, 2020, and ultimately CSX approved the design. The revised documents were submitted to WMATA several times in early 2021.
- WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of ***April 2024*** for the SSTC and for other locations where WMATA and Purple Line stations coincide. MTA reports that the slow resolution of these comments has not impacted critical path activities.
- An encroachment into the CSX vertical clearance was discovered upon installation of girders at the SSTC. An exception was requested from CSX to allow the ¾-inch encroachment to remain. CSX denied the exception. MTA and the designer prepared for a contractor to jack and shim the structure to create the required clearance. Construction of this work was completed in August 2021.
- Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. The Purple Line project is taking advantage of the WMATA service outage to perform work near and above the tracks.
- CSX provided review comments disallowing revised drainage networks, related to the Capital Crescent Trail work, which would connect to CSX's existing drainage culverts. The work on the Capital Crescent Trail is not part of the FFGA and is separately funded

by Montgomery County. As a result of work with Montgomery County, the connections were relocated from CSX property to Montgomery County property and therefore are no longer a CSX issue. To fully accomplish this approach, two connections required resolution. Montgomery County acquired two parcels of land from CSX (not FFGA-funded) and then accepted responsibility for one connection currently under the responsibility of CSX. Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. ***As of April 2024,*** MTS has one more jack-and-bore installation of culvert pipe yet to complete. This culvert installation is not on the project critical path and is scheduled for the summer of 2024.

- Track protection (flagging) availability has limited production work near the CSX rail lines. In March 2024, CSX made a second flagger available allowing construction activities on the railroad right-of-way to accelerate.

2.8 Real Estate Acquisition and Relocation

As of April 2024, the total number of planned property acquisitions is 601, including 464 privately owned properties and 137 public acquisitions. All of the original Exhibit 9 FFGA-scope private parcels in the P3 contract are in MTA's possession, some of which are properties that continue in condemnation under the State Highway Administration process. To date, ***431*** of the original 464 private properties have completed settlement, several additional properties (not part of the original 464 private properties) are pending settlement, and ***22*** condemnations remain to be settled.

All required public properties have been available for construction when needed. Several public property rights transfers are currently being coordinated to accommodate sidewalk changes, utility easements, and ROW exchanges.

As the project has progressed and new utility relocation needs have been identified, additional small parcel acquisitions have been added to the total as utility down-guys. In December 2017, PLTC initially submitted a list of approximately 280 such parcels related to utility relocations and subsequently added to that list. MTA resolved that it would acquire these properties, rather than execute amendments to the utility agreement that would have the utility companies perform this function. MTA's ability to perform appraisals in house for these parcels or to waive appraisals for low-value, uncomplicated parcels has been expediting the process somewhat. ***As of April 2024,*** the number of additional acquisitions totals 188 parcels, and several more acquisitions potentially may be needed for stormwater facilities. Of these parcels, 54 are public property and will be acquired by agreement, and 134 are private acquisitions. Sixty-six of the 188 properties were filed for condemnation, excluding those that were subsequently optioned or settled, and ***15*** condemnations remain to be completed. MTA estimates that approximately ***$24.4*** million of exposure remains in the acquisition process. This amount has been included in the Quantitative Risk Analysis.

The project required a total of 176 relocations, of which 57 were residential and 120 were businesses. To date, 177 of those identified relocations have been completed in accordance with the applicable procedures, and one active claim remains to be settled. Also, MTA is monitoring

terms of agreement of the property acquisitions discussed above that have not yet completed settlement, because some of them could potentially result in the need for additional relocations. ***As of April 2024,*** there is one new relocation related to commercial properties that potentially will be needed.

In August 2023, MTA indicated that the goal for completion of all real estate transactions is December 2024.

On April 25, 2023, MTA reported that BPW had approved the last of seven critical project acquisitions. These acquisitions were required to allow MTS access to construction areas that include activities on or near the critical path.

Properties that have not yet settled due to disputed compensation values have been going to trial in accordance with the ROW acquisition process. MTA is tracking actual acquisition costs versus planned expenditures, so that contingency can be effectively managed, and MTA shares this information with the PMOC. Based on actual settlement amounts and projected amounts for those not yet closed, settlement/condemnation values are 57.5 percent higher than the original 2014 SCC budget for ROW. MTA included current ROW cost projections in its development of an FRP project cost estimate (see the **Project Cost** section of this report, below).

Due to the extended project duration, some agreements will expire before the expected RSA date. MTA and MTS have started the process of identifying the end dates now needed for the agreements and will begin the process of obtaining extensions. MTA has evaluated the risks, estimated the cost of the extensions, and included those costs in a budget contingency. ***As of April 2024,*** MTA estimates that approximately $18 million of risk exposure remains due to necessary TCE extensions. To date, the project has expended $4.6 million on TCE extensions.

2.9 Third-party Agreements and Utilities

All major third-party agreements (specifically, those agreements with Washington Gas, Verizon, Potomac Electric Power Company [PEPCO], CSX, UMD, Montgomery County Parks, Prince George's County Parks, WMATA, WSSC, Montgomery County, and Prince George's County) were executed as of June 7, 2016.

After execution of its third-party agreement, Verizon required that certain lines that are currently overhead be placed underground when they cross the light rail alignment. To minimize the total cost impact of this change, MTA and Verizon reduced the number of locations where Verizon lines cross the alignment to 34. MTA is of the opinion that this reduction is a betterment, and therefore the added cost is Verizon's responsibility, but Verizon has not yet accepted that position. PLTC submitted its cost estimate for placing these 34 locations underground, and after extended cost negotiations between MTA and PLTC while the physical relocations were being implemented, a final change order value of approximately $5.5 million was agreed upon in early March 2019. MTA had planned to negotiate the cost responsibility with PLTC and Verizon after all major Verizon relocations were completed. However, since the departure of PLTC, MTA carries this cost as a betterment outside of the FFGA scope.

In early June 2018, MTA and PLTP completed the negotiation of all remaining third-party agreements with the smaller utility and telecommunications (telecom) fiber companies. According to MTA, most of the minor fiber/telecom utilities are not co-located with the electrical utilities, and, where they are, PEPCO's arrangement with the fiber/telecom utilities does not require PEPCO's relocation schedule to be driven by that of the minor fiber/telecom companies.

In addition, the need for amendments to existing executed agreements continues to be evaluated. The significant items include:

- To date, the design differences with CSX, as discussed earlier in this report, have been adequately resolved through design review and concurrences, and have not resulted in the need to amend the CSX agreement.
- WSSC proposed that the project relocate a 66-inch underground water main that runs through the Glenridge OMF site. In March 2020, MTA and WSSC agreed on a water main alignment primarily in the median of Veterans Parkway, as well as a strategy for completing the relocation. The original Purple Line project GEC performed the design; WSSC provided the material; and MTA separately contracted for the construction, thus avoiding impact to the P3 concessionaire's scope of work. On May 21, 2021, WSSC authorized work, and mobilization began August 9, 2021. Energizing of the cathodic protection was the last remaining activity, and it was completed in November 2023.
- In late July 2022, MTA and MDOT held a summit with the many utility providers that experience relocations related to transportation projects to discuss best practices and improvements to the utility relocation process. As of May 2023, some of the utility providers are experiencing staff shortages that limit construction production rates. These staff shortages present an ongoing challenge to the project.

The project has been addressing its interface with Montgomery County Schools through the third-party agreement already in place with Montgomery County. However, due to the specific concerns related to the schools and the safety and security of the children, MTA drafted a separate MOU with the Montgomery County Schools system, which was approved by the School Board and signed by the School Superintendent, Montgomery County, and MTA. A similar MOU was negotiated between MTA and the Rosemary Hills School and was approved at the School Board meeting on February 12, 2019. MTA submitted a draft second MOU to Montgomery County Schools on November 3, 2022. The Purple Line project team is developing information on the utility pole locations and retaining wall maintenance before going back to the school district for final property transfer negotiations. Work will continue under ROE agreements with these parties through 2024.

As MTS commenced construction work, coordination meetings were held to ensure that prior agreements with third parties (utility companies and others) are followed. It is MTA's position that the transfer of third-party agreements from PLTC to MTA and now to MTS should not allow for a change in the terms of the agreements.

2.10 Construction

2.10.1 MTA Scope

Although the P3 concessionaire is responsible for the majority of the project construction, MTA also has construction responsibility in the areas of the replacement Parks Maintenance Facility (which is part of the real estate effort and budget), wetlands mitigation, stream mitigation, and possibly some offsite SWM sites. MTA has accomplished forest mitigation without the need for additional construction. The following discussion presents the current status of the MTA construction contracts:

- **Prince George's County Parks Polk Street Replacement Maintenance Facility** – This D-B contract was awarded after the BPW approved the construction contract award on March 20, 2019. Forrester Construction Company completed construction, Parks has taken possession of the facility, and the warranty period has expired. The only remaining action for this portion of the project is a real estate swap that will transfer the maintenance facility property to Parks in exchange for the property needed by the Purple Line project to MTA. ***The survey has been performed for this property, and as of April 2024, MTA is preparing plat documents in advance of appraisals and negotiation for the swap.***
- **Offsite Wetlands Mitigation (Ken-Gar)** – The Wetlands Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The contractor mobilized in December 2019 and completed site surveys and the installation of Erosion and Sedimentation controls. Clearing and grubbing began in February 2020. Prince George's County took partial acceptance of the entire project on March 3, 2021. Acceptable growth of vegetation has been achieved, allowing for closure of this project. The one-year warranty review occurred on January 9, 2022, and now the project requires MTA quarterly monitoring until closeout in 2028.
- **Offsite Stream Mitigation (Paint Branch)** – The Stream Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The pre-construction meeting was conducted on October 24, 2019. The contractor mobilized in late November 2019. The one-year warranty inspection occurred on August 4, 2022, and 1,700 plants were replaced in November 2022.

2.10.2 P3 Scope

Highlights of construction activities ***through April 2024*** throughout the alignment include***:***

- General: As a result of the dispute with PLTC (see the **Project Delivery Method and Procurement** section, above), all project activities slowed in the fall of 2020. In early August 2020, contractor forces, equipment, and materials were demobilized, and work in some areas ceased. Upon legal action from MTA, partial remobilization occurred. Following the court's rescission of the TRO, demobilization and safe-up activities in the

construction area began in earnest in mid-September 2020 and continued into October 2020. Following PLTC's exit, MTA engaged a number of former PLTC subcontractors to continue select project activities. This work was progressed under MTA management with a goal of advancing critical path activities and reducing risk for the replacement D-B contractor.

- Status of P3 (OSF) construction items that MTA managed:
  - Utility installations of all types are complete or have been transferred to MTS, including construction by the electric provider (PEPCO) and the communications company (Verizon). Water, storm sewer, sanitary sewer, and gas lines are also complete or have been transferred to MTS.
  - As a part of OSF, MTA ordered rail, ties, special trackwork, and turnouts to mitigate supply chain risks. MTA also secured materials previously procured by PLTC for use by the replacement D-B contractor (MTS). As of September 2023, a dispute between MTA and MTS over the availability of MTA-supplied materials has been resolved. The materials were located along the project corridor and available for use, resolving the dispute.
  - Building construction at the Glenridge OMF is essentially complete; however, construction of civil items outside of the building continues, as does final commissioning of systems inside the building. MTS assume control of the facility in January 2024. As of March 2024, Amendment 7 to the P3 agreement settled all remaining disputes. MTS is currently installing rail and other features both inside and outside of the building. MTS will complete the tracks for storage and testing of LRVs.
  - Based on the status of construction at the time of PLTC's departure, MTA determined which items would be completed before mobilization of the replacement D-B contractor. OSF construction activities were expected to be completed before September 1, 2022, but some activities continued until November 2023. OSF utility relocations that fell behind schedule caused delays to MTS's work, and delays in OSF activities. Significant OSF delays impacted MTS's activities, ***and these additional costs are reflected in the Amendment 7 revised total project cost.***
  - MTA's Equal Employment Opportunity Officer assigned to the project is Marcques Washington, and he is supporting MTS in its hiring program. The former contractor, PLTC, left the project with a shortfall in meeting the requirements of its DBE program, and MTS is required to address this shortfall of approximately $12 million in contract value. In March 2023, MTA reported that the design portion and the nationally targeted worker program of the P3 contract had exceeded the DBE program goal, but the percentage DBE participation for general construction is below the goal. In April 2023, Mr. Washington reported that the DBE participation statistics are improving as construction continues. The PMOC continues to recommend that MTA report the projected values for these goals at the end of the project in addition to

the current achieved values to allow for a better evaluation of progress toward meeting the goals. MTA has been performing audits each month to monitor the Davis Bacon prevailing wage requirements. To date, only very minor issues have been identified during these audits. ***As of April 2024, the Equal Employment Opportunity Officer still needs to prepare the*** revised DBE goals that reflect the new total construction cost established by Amendment 7 to the P3 Agreement.

2.11 Vehicle Technology and Procurement

The LRVs are five-car vehicles consisting of 136-foot-long, articulated units. Twenty-five vehicles (22 in operation and 3 spares) will be provided under the FFGA for the opening year. PLTP executed the LRV contract with CAF on June 17, 2016, and issued NTP to CAF on July 5, 2016, for the 25 FFGA vehicles. The original NTP to CAF also included one LRV outside of the FFGA.

Later, MTA added two additional vehicles (outside of the FFGA) by change order to CAF's contract, for a total of 28 vehicles to be supplied by CAF. The two additional LRVs will support better operations. MTS has incorporated these two additional LRVs into its scope of work (in addition to the cost and terms of LRV storage in Elmira).

Vehicle carshell manufacturing activities, which are coordinated with design progress, occurred until the facility in Spain was shut down in late March 2020 due to supply chain issues and to limit the spread of COVID-19. The final assembly facility in Elmira, New York, was shut down in early April 2020 due to New York State restrictions related to COVID-19 and reopened on May 18, 2020, at 50 percent of its workforce capacity. As of early August 2020, both the Spain facility and the Elmira facility were back to 100 percent staffing levels.

The final assembly of vehicles is being performed in CAF's facility in Elmira. MTA, its PMC, and SNC-Lavalin are meeting weekly with CAF to resolve all open items for design, testing, and manufacturing activities. First Article Inspections (FAIs) for Interior and Cab were completed on March 18, 2021, and FAIs for Exterior, Roof, and Undercar were completed on April 2, 2021.

Shipment of the first vehicle to the project site was expected in late spring of 2021. The lack of available storage at the yet-to-be-completed Glenridge OMF requires use of an offsite storage facility where vehicles can be stored, occasionally powered, and occasionally "exercised" or moved on tracks. MTA and CAF negotiated an agreement for CAF to store the completed LRVs in Elmira. That storage agreement subsequently transferred to MTS, and its terms are part of MTS's agreement. Twenty-six LRVs have been designated as Ready for Shipment and have been placed into storage in Elmira. MTS's proposed construction schedule establishes when the test tracks will be available for acceptance of the railcars at the Glenridge OMF. Currently, the schedule indicates that initial deliveries of LRVs will occur in early 2024.

The status of the LRV manufacturing as of ***April 22, 2024,*** is:

- To date, 130 carshell segments have been assembled in Spain.
- All 130 carshells have been delivered to CAF's facility in Elmira, New York.

- All 25 full LRVs in the FFGA are designated as Ready for Shipment and are in storage at CAF's Elmira facility. One additional LRV (outside of the FFGA) is also Ready for Shipment and in storage.
- Two additional LRVs are under contract. These LRVs are not a part of the FFGA, but rather are an addition to the contract by MTA to support rail operations. Manufacture of the two additional vehicles (ten cars) in Spain is now complete. All ten of those cars have been delivered to Elmira for final assembly and static testing.
- As mentioned in Section 2.3.3, Quality Assurance, one manufacturing quality issue, the recurring failure of the M33 bolt in multiple vehicles, is nearly resolved. LRV manufacturer CAF performed a RCA, and in March 2024, it performed a modified assembly process on a second sample group. ***As of April 2024, all of the sample installations performed adequately; therefore, the RCA will be completed in June 2024.*** MTA does not believe the issue will impact delivery of the vehicles, which is scheduled for ***mid-May*** 2024.

2.12 Project Cost

Table 5 summarizes the project's current actual expenditures and EAC, and compares them to the project budget as reported in MTA's SCC Workbook dated June 1, 2016, which is the basis of the project's FFGA. The project's documented expenditures total ***$3,435,303,117 through March 31, 2024.*** Refer also to **Table 4 – FFGA Core Accountability Items** in the **Executive Summary** section of this report for details on the project's planned and actual expenditures. The following table shows project budgets, actual expenditures, and forecast at completion amounts through ***March 2024***, compared with the project budget as reported in MTA's SCC Workbook dated June 1, 2016, and MTA's current working budget.

Table 5 – Project Cost Versus Budget

SCC	Cost Category	Budget (June 1, 2016 Original FFGA)	Working Budget[1] (April 3, 2023 FRP)	Expenditures *(as of March 31, 2024)*[2]	Forecast at Completion[1, 2]
10	Guideway and Track	$280,620,726	$371,508,682	***$225,476,298***	***$373,362,503***
20	Stations	$114,857,016	$161,159,923	***$50,544,405***	$171,528,112
30	Maintenance Facility	$94,155,591	$93,454,387	***$87,145,105***	***$94,724,019***
40	Sitework	$521,968,990	$796,081,289	***$600,612,656***	***$788,614,003***
50	Systems	$263,887,313	$517,256,196	***$212,115,139***	***$518,210,707***
	Subtotal 10–50	$1,275,489,636	$1,939,460,477	***$1,175,893,603***	***$1,946,439,344***
60	Right-of-Way	$229,600,000	$329,126,214	***$296,924,479***	$329,126,214
70	Vehicles	$212,940,927	$292,780,600	***$160,974,875***	$292,584,921
80	Professional Services (total)	$571,658,114	$2,247,359,915	***$1,801,510,160***	***$2,873,478,290***
80.01	Project Development	$87,149,878	$85,469,312	$85,469,312	$85,469,312
80.02	Engineering[4]	$139,766,036	$196,722,013	***$280,274,945***	***$641,627,778***

SCC	Cost Category	**Budget** (June 1, 2016 Original FFGA)	**Working Budget**[1] (April 3, 2023 FRP)	**Expenditures** ***(as of March 31, 2024)***[2]	**Forecast at Completion**[1, 2]
80.03	Project Management for Design and Construction	$148,555,323	$655,185,988	***$432,700,752***	$640,985,062
80.04	Construction Administration and Management	$83,269,280	$734,209,735	***$516,106,792***	$798,834,695
80.05	Professional Liability; Other Non-construction Insurance	$34,534,796	$85,701,891	***$80,877,793***	$81,549,426
80.06	Legal; Permits; Review Fees by Other Agencies, Cities, etc.	$5,805,117	$341,013,320	***$335,333,836***	$476,160,224
80.07	Surveys, Testing, Investigation, Inspection	$15,164,346	$92,504,023	***$65,965,191***	***$92,173,558***
80.08	Startup	$57,413,338	$56,553,635	$4,781,535	$56,678,235
	Subtotal 10–80	$2,289,688,678	$4,808,727,206	***$3,435,303,117***	***$5,441,628,769***
90	Unallocated Contingency[3]	$90,535,748	$307,293,174	***$0***	***$80,391,611***
100	Finance Charges	$0	$0	$0	$0
	Total	$2,407,030,288	$5,116,020,381	***$3,435,303,117***	***$5,522,020,380***

[1]The Purple Line project Working Budget and Forecast at Completion are based on the accepted FRP, dated April 3, 2023, and subsequent change orders.

[2]Amendment 7 to the P3 Agreement has been partially incorporated into MTA's financial reporting as of April 2024. Amendment 7 added $405 million to the construction cost of the project.

[3]The unallocated contingency expenditures will be reflected in SCC 10–SCC 80 expenditures as they occur. As of ***April 2024,*** the committed unallocated contingency amount is ***$220,958,178.50. MTA is currently assessing the appropriate budget contingency in response to Amendment 7.***

[4]Additional costs associated with Amendment 7 were assigned primarily to SCC 80.02 in MTA's reported budget information. During the April 25, 2024 PMOC/MTA monthly meeting, MTA indicated that the Amendment 7 costs will be reassigned to SCC 80.04. That reassignment is not reflected in this table.

MTA developed the FRP unallocated contingency amount of $307,293,174 by utilizing a Quantitative Risk Analysis and the RCMP, dated April 21, 2023, recommended that amount for unallocated contingency.

In July 2023, the Maryland BPW approved a change order that had a total addition of $204,954,610 of cost and 207 additional days of contract time. The net budget impact to the capital construction portion of the project was $137,144,705, and the balance of the total amount was applied to the financing and lost return on investment for PLTP. The $137,144,705 will be expended over the course of construction; therefore, this amount does not immediately show up in the MTA budget reports. However, that amount, plus the amount of the earlier change order included in the FRP, represents significant utilization of the budget contingency. The PMOC recommends that MTA closely monitor these cost overruns and the potential need for additional contingency. As of March 2024, a third change order (and amendment to the P3 Agreement [Amendment 7]) was negotiated. The change order essentially utilized all of the FRP budget and schedule contingency, added $406 million to the construction budget, and added 250 more days to the schedule. As a result, MTA is currently developing revised cost and schedule contingency budgets.

The PMOC has requested that MTA clarify the breakdown of Amendment 7 to the P3 Agreement for several reasons. MTA has indicated that Amendment 7 includes schedule mitigation measures, implying that the measures are changes to the MTA scope of work and also overhead costs related to the extended project schedule. The assignment of the costs to SCC 80 does not support those implications. If the costs assigned are for some scope changes (additional Maintenance of Traffic sequences, overtime for accelerated construction work, or other items), then those costs should be assigned to SCCs 10 through 50.

The PMOC also has questioned the significant amount of SCC 80 expenditures that are recorded each month. In recent months, SCC 80 expenditures by MTA and MTS total as much as 50 percent to 100 percent of the expenditures for SCCs 10 through 50 combined, thus indicating that administration of the work costs as much as the work itself. As of April 2024, MTA has committed to providing more information to the PMOC on this issue.

2.12.1 Project Funding

The funding for the project, as reflected in Attachment 3 of the FFGA, is shown in Table 6. ***As mentioned previously, MTA has not yet fully incorporated the effects of Amendment 7 to the P3 Agreement in its financial reporting.*** MTA has reported that the additional funds (approximately $406 million) related to Amendment 7 will come from the State of Maryland/MDOT Transportation Trust Fund.

Table 6 – Baseline Cost Estimate by Source Funding

Initial New Starts Project Cost	Total FFGA Cost in Year of Expenditure (YOE) Dollars	Federal 5309 New Starts in YOE Dollars	Federal 5307 in YOE Dollars	Federal American Rescue Plan Act (ARPA) in YOE Dollars	Federal Surface Transportation Program (STP) in YOE Dollars	Local in YOE Dollars
10 Guideway & Track Elements	$371,508,681	$96,464,907	$0	$0	$0	$275,043,774
20 Stations, Stops, Terminals, Intermodal	$161,159,923	$23,557,000	$0	$0	$0	$137,602,923
30 Support Facilities, Yards, Shops, Admin. Bldgs.	$93,454,387	$29,954,000	$0	$0	$0	$63,500,387
40 Sitework & Special Conditions	$796,081,289	$222,858,301	$0	$0	$0	$573,222,988
50 Systems	$517,256,196	$60,116,405	$0	$0	$0	$457,139,791
60 ROW, Land, Existing Improvements	$329,126,214	$102,108,116	$0	$0	$0	$227,018,098
70 Vehicles	$292,780,600	$80,787,818	$0	$0	$0	$211,992,782
80 Professionals Services	$2,247,359,916	$284,153,453	$41,631,310	$106,163,371	$110,000,000	$1,705,411,782
90 Unallocated Contingency	$307,293,174	$0	$0	$0	$0	$307,293,174
100 Finance Charges	0	$0	$0	$0	$0	$0
Total Project Cost (10-100)	**$5,116,020,380**	**$900,000,000**	**$41,631,310**	**$0**	**$0**	**$3,958,225,699**

Source: Maryland Purple Line Project FRP, dated April 3, 2023. ***Note: This table does not reflect the changes related to Amendment 7 to the P3 Agreement.***

2.13 Project Schedule

The March 15, 2017 progress update of the master project schedule served as the only approved version of the schedule until September 2022. Numerous submissions of schedule updates from PLTC were not approved for various reasons, but the primary reason was the inability of MTA and the P3 concessionaire to agree on the schedule impacts of the approximately one-year delay in the execution of the FFGA. In response to a letter that FTA issued to MTA in early August 2018 expressing concerns about the amount of time that the project had advanced without an approved schedule, MTA prepared a working schedule update of the master project schedule. The working schedule update was based on the negotiations of the P3 contract schedule occurring at the time, but the update was not based on a mutually agreed-upon P3 contract schedule.

In late April 2020, PLTC notified PLTP that, based on its forecasting of schedule delays on the project (which were not mutually agreed upon), PLTC intended to exercise the clause in its P3 contract with PLTP that allows it to terminate the contract for design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that included a definitive path forward for PLTP's intended management of the P3 contract. On May 14, 2020 (the date the response to the formal request was due), PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice refuted the validity of the PLTP delay claims and stated that if PLTP failed to perform, MTA had a number of options related to the agreement. Through late July 2020, construction activities continued at the level previously planned, and construction progress was not affected.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a TRO that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO was held on September 14, 2020. The court rescinded the TRO, allowing PLTP to leave the project. Through negotiation, it was determined that PLTP would remain on the project, although PLTC would not.

MTA contracted with numerous subcontractors to continue the project. MTA developed organizational options with respect to construction management, resident engineers, inspectors, and other staff needed to move forward select project activities.

It was certain that the project schedule as reflected in the FFGA would be negatively affected, and a Recovery Plan for the project, including a revised project schedule with adequate schedule contingency to address remaining project risks, would be required. MTA submitted its draft IRP to FTA in December 2020, and FTA approved the IRP on January 12, 2021. A schedule for the period during which the D-B contractor was to be replaced was developed, and MTA monitored project progress against the schedule.

PLTP and MTA continued to coordinate during the financial process and State of Maryland approvals for the replacement D-B contractor. In addition, MTA successfully coordinated other key issues that needed to be resolved before PLTP could execute the contract with MTS.

The following is a summary of IRP milestones:

- January 6, 2021 – PLTP issued a Request for Qualifications (RFQ) for replacement D-B contractors.
- March 8, 2021 – PLTP issued an RFP to the short list of replacement D-B contractors based on the RFQ.
- October 15, 2021 – PLTP received RFP responses.
- November 5, 2021 – PLTP and MDOT/MTA selected the replacement D-B contractor firm (MTS).
- January 26, 2022 – BPW approved the replacement D-B contractor, contract amendments, schedule, cost, and financing.
- April 11, 2022 – Private activity bonds went to market.
- September 12, 2022 – MTA approved the Initial Baseline Schedule (IBS).
- October 14, 2022 – MTS was required to have commenced action on the 11 critical elements that are specified in the D-B contract. At the December 2022 PMOC meeting, MTA confirmed that MTS missed the 180-day window to commence action on 3 of the 11 critical elements.
- October 28, 2022 – MTA was required to have submitted a draft FRP to FTA and the PMOC for review and comment. On October 4, 2022, MTA submitted the draft FRP to FTA and the PMOC for review.

A milestone not specifically mentioned in the IRP is the requirement to extend the current RSD. The PMOC therefore added the following milestone to this list:

- December 31, 2022 – The RSD in the original FFGA is December 31, 2022. MTA requested an extension to the current RSD identified in the original FFGA. FTA accepted the FRP, which indicates a revised RSD of February 28, 2028.

The schedule included in the FRP was considered to be the new baseline schedule. The MTS master schedule incorporated the schedule recovery of implementing Maintenance of Traffic and construction activity resequencing, at a cost of $21,343,588, which reduced schedule delays from 218 days to 81 days. These schedule delays are a result of OSF utility adjustments that fell behind schedule. MTS has indicated that delays continued to occur as a result of the MTA-managed OSF work. The second OSF-delay-driven change order, as approved by the BPW in July 2023, added 207 days to MTS's RSA date.

This addition to the RSA date represents a significant use of schedule contingency, which is a concern considering the remaining duration of the project. In an effort to mitigate continuing OSF

delays**,** MTA resumed the Tiger Team process (in this case referred to as "Tiger Team 2") to develop schedule alternatives. OSF construction activities were expected to be completed before September 1, 2022, but schedules that MTA previously provided indicated completion of most OSF activities in mid-2023, with some activities continuing up to November 1, 2023. OSF utility relocations that were behind schedule continued to cause impacts to MTS's work, and as of July 2023, delays in OSF activities had driven two change orders. MTA and PLTP have used the Tiger Team process to develop schedule alternatives to potentially mitigate delays driven by OSF work between March 2023 and February 2024. Amendment 7 to the P3 Agreement resolved the outstanding disputes and delays related to OSF activities. The amendment added 250 days to the schedule, placing the RSA date at December 30, 2027. MTS has not yet prepared, and MTA has not yet approved, a revised baseline schedule.

2.13.1 Key Milestones

Table 7 shows the current key milestone dates for the project for the prior approved (March 15, 2017) progress update of the current master project schedule. Issuance of NTP to PLTP on April 14, 2022, triggered the contract requirement that an MTA-approved MTS IBS for the full project be in place within 120 days of financial close (by August 14, 2022). In January 2022, MTA submitted a draft version of the master schedule for FTA and PMOC review, and FTA and the PMOC transmitted their review comments to MTA in April 2022. MTS submitted its IBS, and on September 12, 2022, MTA approved it. MTS submitted the 120-day mobilization schedule, which MTA also approved.

In August 2022, MTA and the PMOC discussed the current state of the baseline schedule, particularly the inclusion of adequate float to address schedule risk. The P65 date that MTA proposed before the risk workshop held in May 2022 included approximately seven months of float and an RSA date in October 2026. After MTA performed the Quantitative Risk Analysis for the updated RCMP, MTA added additional float to address known and unknown schedule risk. The RSD proposed in the FRP is February 28, 2028. However, the recently approved Amendment 7 to the P3 Agreement sets the RSA date at December 30, 2027, essentially utilizing all of the schedule contingency. The outcomes of the current update of the Quantitative Risk Analysis will advise new recommendations regarding schedule float and contingency.

The PMOC recommends that MTA closely monitor schedule contingency and the corresponding budget contingency when evaluating the RSA date/RSD and the EAC that have been incorporated into the FRP. The information in Table 7 will be updated once the schedule reviews and approvals are complete.

Table 7 – Key Milestone Dates

Activity	Prior Approved Master Project Schedule (March 15, 2017)	MTA Master Project Schedule (March 1, 2024) (working schedule)
Locally Preferred Alternative Approval Date	08/04/2009 (A)[1]	---
FTA Approval to Enter Preliminary Engineering	10/07/2011 (A)	---
FTA ROD	03/19/2014 (A)	---
Issue Final RFP for P3 Concessionaire	07/28/2014 (A)	---
FTA Approval to Start Enter Engineering Phase	08/28/2014 (A)	---
Issue Addenda 4 through 6 to the P3 RFP	07/2015 through 11/2015 (A)	---
P3 Technical Proposals Due	11/17/2015 (A)	---
P3 Financial Proposals Due	12/08/2015 (A)	---
Evaluation and Announcement of Selected P3 Proposer	01/02/2016 through 03/02/2016 (A)	---
BPW Approval of P3	04/06/2016 (A)	---
P3 Commercial Close	04/07/2016 (A)	---
Limited NTP for P3 Engineering	04/07/2016 (A)	---
MTA Submit FFGA Application	05/24/2016 (A)	---
P3 Financial Close	06/17/2016 (A)	---
FFGA Signed	08/22/2017 (A)	---
Start of First Major Construction Activity	08/28/2017 (A)	---
All Significant ROW Acquisition and Relocation	As needed by construction	---
Commencement of Contract Work for Replacement D-B Contractor (MTS)	---	04/14/2022 (A)
Commencement of Integration Testing	---	07/28/2025
All Segments Complete Construction (with Contingency)	---	02/19/2027
RSA Date per P3 Amendment ***(Does Not Include Contingency)***	---	12/30/2027
FFGA RSD (Includes Contingency)	12/31/2022	02/28/2028

[1]A = Actual.

2.13.2 90-day Look-ahead

The critical 90-day (***May 2024 through July 2024***) look-ahead includes activities that MTA highlighted in the recent monthly meeting with the PMOC. MTA and MTS also are preparing four-week look-ahead schedules to manage interim activities. Key activities that MTA has identified for the short term are:

- Completion of the bottom-up Quantitative Risk Analysis and revised recommendations for schedule and cost contingencies.
- Completion of yard track and initial installation of OCS at the Glenridge OMF to support LRV delivery and testing.

- Preparation for the WMATA coordinated track outages at the SSTC to allow work in the summer of 2024.
- Concrete lining installation at the Bethesda Enclosed Trainway.
- Installation of TPSSs Q03 and Q06.
- Completion of installation of bridge girders for the Riverdale aerial structure.
- Initial installation of rail in Segment 1.

2.13.3 Critical Path Activities

In the MTA master schedule update dated March 1, 2024, the critical path runs through the activities in Area 3 utilities and track (see **Attachment G, Project Map**), and then trial running and systems integration/testing.

2.14 Project Risk

MTA has established a risk management organization that is defined in the RCMP and is overseen by MTA's Risk Management Committee. Two major elements of the RCMP are the periodic performance of a Quantitative Risk Analysis and the maintenance and use of the Risk Register.

During the approximately one-year period during which the ROD had been vacated by the federal judge in his decision related to the Friends of the Capital Crescent Trail lawsuit, MTA did not conduct formal Risk Management Committee meetings, conduct Quantitative Risk Analyses, or perform formal updates of the Risk Register. However, the Purple Line project management team did assess and respond to the risks associated with the unforeseen chain of events related to the lawsuit.

The project team resumed formal Risk Management Committee meetings in October 2017, including individual updates of each risk on the current Risk Register by the risk owner. An overall update of the Risk Register was completed in draft form in January 2018, and was updated further and reissued in March 2018. As an ongoing process, MTA currently is performing updates of the Risk Register periodically, though somewhat less frequently than bimonthly (the frequency established in its RCMP). The current status of the RCMP is discussed in the **Project Management Plan and Sub-plans** section of this report, above.

MTA provides copies of significant updates of the Risk Register to FTA and the PMOC. The top risks from the project's latest issued update of the Risk Register and PMOC-assessed risks are discussed at the PMOC monitoring meetings with the project team; the project's top five project risks are included as Attachment B of this report and are updated quarterly. A risk management workshop was held on January 26, 2021, at which the PMOC and FTA participated. The workshop focused on the resolicitation period for the replacement D-B contractor (January through October 2021).

Once the replacement D-B contractor was under contract, risk updates were prepared. The project held a risk workshop the week of May 2, 2022, at which the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency.

Confirmation and finalization of the Risk Register, the Quantitative Risk Analysis, and an update of the RCMP are components of the FRP. FTA provided a summary of the risk workshop to MTA on June 22, 2022, for MTA's consideration and incorporation into its management plans and contingency evaluation. MTA provided responses to FTA comments on the risk workshop summary on July 15, 2022, and clarification on August 25, 2022. In October 2022, MTA submitted RCMP Version 15 to FTA and the PMOC for review. In February 2023, FTA and the PMOC provided comments on RCMP Version 15 to support MTA's development of the project's budget contingency and schedule contingency. On April 21, 2023, MTA provided a revised RCMP to FTA and the PMOC for review, and on May 22, 2023, FTA accepted the revised RCMP with comment. In June 2023, MTA held its quarterly Risk Management Committee meeting, at which it updated the Risk Register to reflect retired and new risk items. Five of the seven new risk items are related to disputes with MTS. Two significant risks were added to the Risk Register—one related to numerous design changes that occurred during OSF but were not reflected in the amended P3 Agreement and one related to a very specific intelligent interface device.

On November 20, 2023, MTA held its quarterly Risk Management Committee meeting. During the meeting, MTA identified the top four project risks that have a risk rating of "Significant" as follows:

1. Construction – Exhibit 24 Utility Adjustments
2. Design – TCE Extensions
3. Design – Design Changes
4. Design – Intelligent Interface Device

Amendment 7 to the P3 Agreement resolved issues 1 and 4 listed above. As a follow-up to the execution of Amendment 7, MTA will complete a Quantitative Risk Analysis, re-baseline the project contingency drawdown curves, and update the RCMP. MTA will provide this information in ***May 2024.*** The significant consumption of both schedule and budget contingency is a concern to the PMOC.

2.15 Quality Assurance/Quality Control

The project's QA/QC is addressed in Section 10 of the PMP, the Quality Program Plan, and the updated MTA QAP Revision 8.0, which incorporates the quality plans prepared by PLTC. The **Project Management Plan and Sub-plans** section of this report, above, discusses the most current versions of the PMP and the QAP. MTA also submitted to FTA the package of inter-related quality plans prepared by the P3 concessionaire after the package was reviewed and approved by MTA.

MTA obtained and used PLTP's quality logs and other applicable documents and procedures during the transition to the replacement D-B contractor. Several former subcontractors were under contract with MTA and conducted QA/QC activities during the replacement D-B contractor solicitation period. The budget to address nonconforming construction by PLTC remains a concern as of July 2023. MTA incorporated known defects into the MTS contract; however, MTA has not clarified the specific budget that will be used to rectify defects found since the contract

with MTS was executed. MTA estimates that the potential magnitude of this budget impact will be no more than $10 million, and the current Risk Register carries this risk item.

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on the QAP to MTA. MTA provided a revised QAP to FTA and the PMOC in May 2023. Subsequently, FTA and the PMOC made recommendations for revisions to the QAP that MTA committed to include in the next regularly scheduled update to the QAP.

The project has continued to conduct its monthly meeting to review the QA/QC activities performed by the Purple Line project team, including those activities performed by the PMC and the GEC. MTA states that documentation from this meeting is distributed and maintained. The project's Monthly Progress Report to FTA also contains a summary of the significant current QA/QC activities and events, including quality audits and quality reviews. However, in January 2024 MTA did not submit the typical quality program monthly information, citing a change of leadership on the quality team. On January 25, 2024, MTA introduced the project's new Quality Manager, Turyalai Momand. ***In April 2024, MTA announced that a Deputy Quality Manager has been hired, along with several other quality staff.***

In February 2024, MTA stated that it is developing a full schedule of quality audits to be performed in 2024. When asked about a number of very old deficiency notices and instances of non-conforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of sign-offs by managers. MTA is deferring some other older open quality items because making corrections now will negatively impact other critical path activities.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. Roland Carroll, the Purple Line systems and construction safety lead, added the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to his new quality management role. The PMOC evaluated this change as a part of the PMP review and will continue to monitor MTA's management capacity for this function and all positions through ongoing oversight activities.

The PMOC requested that MTA provide more complete documentation for quality-related activities. MTA modified the QAP to reflect many of the noted PMOC concerns. In addition, a technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023. The PMOC then recommended acceptance of the QAP contingent upon MTA's incorporation of outstanding items into the next regularly scheduled annual update. On October 6, 2023, FTA accepted the QAP provided that MTA incorporate the PMOC recommendations. MTA has also developed a quality dashboard to improve its tracking of quality issues. In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational

chart for quality management and administration. ***In April 2024, MTA listed the following three quality process improvements that it is developing:***

1. ***Organizational chart update***
2. ***Document control procedure update***
3. ***Development of quality training plan and schedule for 2024***

MTA emphasized that these quality processes apply only to MTA's quality activities, but they are coordinated with MTS's quality processes. In April 2024, MTA stated that it has added quality oversight staff to its organization, including a Deputy Quality Director.

2.16 Safety and Security

PLTP has conducted 44 Preliminary Hazards Analysis (PHA) workshop sessions to date. These workshops were held to resolve MTA's comments on the PHAs completed to date.

To support the ultimate Safety and Security Certification of the Purple Line project, the PLTP System Safety team completed development of its first DCCC in May 2017 and submitted it to MTA for approval. MTA (assisted by the PMC) reviews the DCCCs as part of the Final Design package, according to the established submittal review process. According to PLTP, the DCCCs were being verified before the issuance of RFC packages. To date, an estimated 99 percent of the DCCCs have been verified. All previous comments on PLTP's Certified Elements List (CEL), which includes operations and maintenance and system integration testing elements, have been resolved, and CEL Revision 2 was accepted in March 2020. The Certified Items List (CIL) Revision 1 has been accepted. The next revision of the CIL is expected after MTS completes the design. MTA will provide the revised CIL to FTA and the PMOC as soon as it is completed. Approximately 18 percent of the CSCCs have been verified to date.

MTA chairs a Safety and Security Certification Committee (SSCC) that reviews, comments on, and approves any PLTP hazard management and safety and security certification issues. The first meeting of the MTA SSCC was conducted on March 20, 2018. Since July 11, 2018, the SSCC meeting has been held regularly and will continue as a monthly meeting until the level of activity requires more frequent meetings. ***As of April 2024,*** monthly SSCC meetings continue.

PLTC submitted a Threat and Vulnerability Assessment (TVA), and on July 15, 2019, MTA accepted and verified the comment responses and approved PLTC's TVA. PLTC then completed its TVA process. As of ***April 2024,*** MTS is performing a cybersecurity TVA for the project.

MTA continues to conduct bimonthly Fire/Life Safety meetings with Montgomery County and Prince George's County. The meetings provide a basis for the counties' emergency responders to understand the features of the Purple Line systems and to resolve any concerns. Topics of discussion include: Police Department MOUs; Fire Department connection and hydrant locations; access, signage, and station naming conventions; MOUs for training; the PHA at the Glenridge OMF maintenance gate; station names; and addresses/emergency phone numbers for locations along the corridor. Other topics of discussion have included closed circuit television cameras and Mobile Emergency Vehicle Response access. ***As of April 2024, MTA indicates that MOUs for***

cooperation with other local agencies has begun. MTA will develop an MOU for safety and security with WMATA first and then use that document as the template for MOUs with other agencies. It remains the opinion of the PMOC that MTA should emphasize resolving the project's outstanding Fire/Life Safety issues, because progress on the resolution of these issues is not apparent.

MTA police continue coordinating MOUs with local safety agencies and developing MOUs with police jurisdictions (such as the Maryland National Capital Park Police) along the Purple Line. These MOUs are related to training the existing police agencies on how to respond to transit situations. During August 2023, the PMOC reiterated that these processes have been ongoing for several years and that milestones for resolution of issues should be established.

During the September 2022 MTA/PMOC meeting, a larger related issue was discussed at length. The SSOA staff participated in this discussion as well. The crux of the issue is that MTA does not have a police force located in proximity to the Purple Line. MTA hired a consultant team to analyze alternatives for providing security and fare enforcement services for the Purple Line. Alternatives included: expanding MTA's enforcement services geographically, bringing on a third party to provide these services through a contract, or sharing police services with another party. On February 23, 2023, MTA submitted its prepared draft recommendation for providing security and fare enforcement to several State of Maryland departments. Representatives from MDOT, which is the SSOA, who are monitoring the Purple Line project development provided comments on the draft recommendation before MTA submitted it to MTA's upper management and the several state departments. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a new Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on MOUs with other local jurisdictions, and developing a facility to house the district. As of January 2024, the PMOC continues to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget for providing security and fare enforcement services. In February 2024, MTA stated that it would complete the implementation plan by March 31, 2024. ***However, as of April 2024, MTA now indicates that it will complete the police and security implementation plan by May or June 2024. MTA stated that the facility for the new Southern District of the police department will not be completed before the February 2028 RSD, and therefore temporary facilities will be required.***

As required by the P3 contract, PLTP is responsible for directly implementing many of the safety and security requirements for the project, including those for construction safety and the collection and maintenance of the Occupational Safety and Health Administration (OSHA) safety statistics for the project. PLTC performed this work until its departure from the project, at which time MTA assumed responsibility. Later, once the replacement D-B contractor was in place, MTS transitioned into the safety and security role that PLTC held. MTS and MTA are holding regular safety and security coordination meetings.

Safety is a PMOC concern. The rate of recordable incidents remains above project goals, and MTA appears to be having difficulties with incident documentation. For the period from ***January 1, 2024***, through ***March 31, 2024***, the OSHA statistics are:

- TCIR (Total Case Incident Rate) (Recordable Rate):
  - Actual: ***3.08*** (MTS)
  - MTS goal: 1.68
  - National average: 2.8 (for heavy civil construction)

Note: As of January 2024, the Lost Time Injury Rate (LTIR) is no longer being tracked.

MTA had assumed responsibility for safety oversight during the IRP until MTS assumed control of the project. As of December 2022, MTA reported that MTS needs coaching on expectations for the required reporting of safety statistics. In April 2023, the PMOC noted to MTA that both the LTIR and the TCIR had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in incident rates, there is an apparent lack of tracking and reporting of safety issues. The PMOC has repeatedly noted that there are inconsistencies in incident reporting between MTA and MTS.

MTA states that it recognizes the issue and reports that it has scheduled additional safety coordination efforts. In May 2023, the PMOC requested documentation on these additional efforts, and in July 2023, the PMOC questioned the effectiveness of the efforts. MTA acknowledges the need for safety process improvement. In November 2023, MTA stated that MTS has replaced its safety director and has added safety staff, although MTA did not review the qualifications of the new director or staff. The PMOC recommended that MTA review the qualifications of MTS safety staff and the safety processes and procedures being followed on the project.

The PMOC recommends that MTA and MTS complete a safety process review as soon as practical and that MTA prepare a written summary. In November 2023, MTA's safety director, Roland Carroll, provided an email and attachment that briefly summarized the safety improvement actions. The document does not indicate target dates for implementation, nor the responsible party for these actions. In January 2024, MTA stated that MTS is not following the contractually required incident reporting procedures and timelines, which include a 20-minute verbal reporting requirement and a 24-hour maximum period to submit written documentation of incidents. In February 2024, MTA provided 12 months of incident reporting information to the PMOC. The document quality requires improvement and should include identifying information, such as the date and who prepared it. The data indicates that nearly 80 percent of all safety incidents are reported late, some as much as several months. The delayed reporting has occurred for both MTA-managed incidents (under OSF) and for MTS-managed incidents under both the former and current MTS Chief of Safety.

It remains the opinion of the PMOC that MTA's processes related to construction safety can be improved. The PMOC recommends that MTA consider dedicating additional resources to construction safety (i.e., resources dedicated to only the construction portion of the Purple Line

project). MTA should also consider preparing a comprehensive monthly safety report under the direct supervision of the Project Director.

In April 2024, MTA reported its March 2024 incident rate, which showed an increase, and the rate remains significantly higher than the goal. MTA has stated that it is modifying the safety processes. ***The PMOC requested that MTA submit the full incident tracking log each month as a part of the standard information it provides, and that MTA also provide the results of the MTS Concessionaire Safety and Health Plan.*** The PMOC ***continues to recommend*** that MTA carefully monitor safety documentation and develop safety process improvements.

In late October 2022, MTA submitted updated SSMP and SSCP documents in conjunction with the updated PMP. On February 13, 2023, and March 8, 2023, FTA provided review comments to MTA on the SSMP and SSCP, respectively. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023, and accepted the SSCP on December 28, 2023. ***In April 2024, MTA submitted a revised SSCP that includes the TUN process and also provided a partially complete preliminary LRV Delivery Plan.***

See the **Project Management Plan and Sub-plans** section of this report, above, for the status of the sub-plans of the PMP related to safety and security.

2.17 Americans with Disabilities Act

The PMOC confirmed that the Design Criteria Manual applicable to the Purple Line project addresses Americans with Disabilities Act (ADA) requirements, including references to the requirements in the Maryland Accessibility Code, the ADA Accessibility Guidelines for Buildings and Facilities, and the ADA Standards for Transportation Facilities.

Accessibility and compliance with the ADA are required as part of the functional requirements for stations and guideway, and as part of the codes and standards for LRVs within the P3 contract (Book 2, Part 2) for the Purple Line project. Based on project reviews conducted by the PMOC, MTA has confirmed that it included ADA compliance in its QA oversight reviews of PLTC's design packages.

All design reviews include ADA specifically. The contract requires a full-time MTS Maintenance of Traffic construction representative for the project to monitor whether temporary pedestrian accommodations during construction continue to comply with ADA requirements. The contract also includes an incentive program for ADA compliance. The Maryland State Highway Administration also inspects temporary facilities.

MTA indicates that the project is maintaining ADA accessibility along the project corridor during construction. In addition to planning for ADA accessibility, MTA and MTS respond to public concerns due to construction activities and temporary accessibility features**.**

2.18 Buy America

MTA understands that Buy America compliance applies not only to the rail vehicles but also to the procurement of all manufactured products, including all iron and steel. MTA is also aware that

domestic manufacture of all federally funded procurements is required and should be certifiable. Compliance with Buy America regulations is contained in MTA's standard clauses for its procurements, and the P3 contract contains explicit Buy America language in its Appendix 16.

Virginkar and Associates, Inc. conducted the Buy America pre-award audit and concluded that there is reasonable certainty that CAF will satisfy the Buy America requirements as stated in 49 Code of Federal Regulations (CFR) 661. MTA's interpretation is that, because the vehicle RFP was advertised before December 4, 2015 (which is the date of passage of the Fixing America's Surface Transportation Act, also known as the FAST Act), the 49 CFR 661 Public Interest Waiver that limits domestic content to a minimum of 60 percent, as opposed to the escalating domestic content requirements of the FAST Act, applies in this case. During the week of October 2, 2017, an intermediate post-award Buy America audit was conducted of CAF's facility in Elmira, New York, for added confidence that the post-delivery audit would not identify issues. CAF targeted 65 percent domestic content in the completed LRVs.

The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to FTA. On that same day, MDOT also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.

MTS regularly audits its suppliers and subcontractors regarding the construction Buy America requirements. MTS audits its subcontractor's Buy America requirements and any issues are reported in conjunction with the project quality process.

2.19 Start-up, Commissioning, Testing

MTA has begun documentation for the "Roadmap to Revenue Operations" (see **Attachment F**), which includes both MTA and MTS information on integration, testing, and commissioning. MTA submitted an update of Attachment F to the PMOC in February 2024. MTS indicates that it is preparing a System Integration Test Plan. As of November 21, 2023, MTA has developed a process for managing testing submittals and reviews, including detailed tracking of open items. MTS will deliver its full integration and testing plan in May 2024. MTA has not yet contracted with an Independent Integration Engineer to oversee the integration and testing process.

The PMOC recommends that MTA expedite readiness activities for delivery of LRVs, such as testing and certifications. MTA indicates that plans for the activities are not yet complete, and that TUNs will be required in order to place the vehicles on the tracks. MTA states that the responsibility for readiness activities lies with the P3 concessionaire. LRV delivery is scheduled to begin in ***May 2024,*** and MTA media events related to vehicle delivery are being scheduled after delivery. The PMOC has concerns that the necessary preparations may not be complete when LRV delivery commences. ***In addition to completion of the LRV Delivery Plan, the PMOC recommends that MTA expedite the readiness for dynamic testing, which is scheduled to being in the fall of 2024.***

The PMOC continues to recommend that MTA incorporate activities and milestones for integration and testing into the master schedule.

2.20 Before-and-After Study Reporting

To be determined.

2.21 Lessons Learned

The resolicitation of a D-B contractor gave MTA the opportunity to apply several lessons learned to the new D-B contract documents and to amend the P3 agreement. After the May 2022 risk workshop with MTA and the PMOC, MTA provided an update on opportunities for improvement that MTA had identified during the resolicitation and is incorporating into the project. MTA and the PMOC will include discussion of lessons learned at future monthly meetings. MTA indicates that it has prepared an initial Lessons Learned summary but is currently revising the document to include information from the MTA-managed OSF activities. MTA will provide this summary when it is complete.

2.22 Action Items

Action Items are identified at MTA/FTA Quarterly Progress Review Meetings, at MTA/PMOC Monthly Update Meetings, and at MTA/FTA Biweekly New Starts Progress Conference Calls. Action Items in ***April 2024*** are as follows:

1. MTA will provide updates to the OSF EAC when all contracts are closed; these updates are expected in May 2024. **– *CLOSED. MTA believes that the EAC will not change due to the few pending contract closures.***
2. MTA will provide clarification of the difference in safety incident reporting between MTA and MTS. – ***CLOSED. MTA clarified the discrepancies. The PMOC has asked MTA to provide the full Form 102 Incident Log for the period of 2024 year-to-date each month.***
3. MTA will provide the M33 bolt RCA when complete. - OPEN
4. MTA will provide the expected date that the written plan, budget, and schedule for development of police and fare enforcement services will be ready; this information is expected ***in May 2024***. – OPEN
5. MTA will share the results of its internal risk review in ***May 2024***. – OPEN
6. MTA will provide the Tiger Team 2 results, the schedule and cost impacts related to OSF delays, and the Quantitative Risk Analysis, including revised cost and schedule contingencies. – ***OPEN. MTA will provide Tiger Team details, which will indicate how the Amendment 7 cost (in SCC format) was calculated, and provide the Quantitative Risk Analysis when they are complete.***
7. MTA will provide the preliminary System Integration and Testing Plan. – OPEN

8. MTA will provide an update on quality process improvements, including incorporation of previous FTA and PMOC recommendations for the QAP, including the training plan and organizational chart. – OPEN

ATTACHMENT A – LIST OF ACRONYMS

ADA	Americans with Disabilities Act
ARPA	American Rescue Plan Act
ATC	Alternate Technical Concept
BFMP	Bus Fleet Management Plan
BPW	Board of Public Works
CAF	Construcciones y Auxiliar de Ferrocarriles
CEL	Certified Elements List
CFR	Code of Federal Regulations
CIL	Certified Items List
CSCC	Construction Specification Conformance Checklist
CSX	CSX Corporation
D-B	Design-Build
DBE	Disadvantaged Business Enterprise
DCCC	Design Criteria Conformance Checklist
DNR	Maryland Department of Natural Resources
DRB	Dispute Resolution Board
EAC	Estimate at Completion
FAI	First Article Inspection
FCP	Forest Conservation Plan
FFGA	Full Funding Grant Agreement
FRP	Final Recovery Plan
FTA	Federal Transit Administration
GEC	General Engineering Consultant
IBS	Initial Baseline Schedule
IRP	Interim Recovery Plan
LOD	Limits of Disturbance
LRT	Light Rail Transit
LRV	Light Rail Vehicle
LTIR	Lost Time Injury Rate
MCC	Management Capacity and Capability
MDE	Maryland Department of the Environment
MDOT	Maryland Department of Transportation
MOU	Memorandum of Understanding
MTA	Maryland Transit Administration
MTS	Maryland Transit Solutions
N/A	Not Applicable
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
O&M	Operations and Maintenance
OCS	Overhead Contact System
OHA	Operational Hazard Analysis
OMF	Operation and Maintenance Facility
OP	Oversight Procedure
OSF	Operation Step Forward
OSHA	Occupational Safety and Health Administration
P3	Public-Private Partnership
PEPCO	Potomac Electric Power Company
PHA	Preliminary Hazards Analysis
PLTC	Purple Line Transit Constructors
PLTO	Purple Line Transit Operators
PLTP	Purple Line Transit Partners
PMC	Project Management Consultant
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QA/QC	Quality Assurance/Quality Control
QAP	Quality Assurance Plan

RAMP	Real Estate Acquisition Management Plan
RCA	Root Cause Analysis
RCMP	Risk and Contingency Management Plan
RFC	Released for Construction
RFP	Request for Proposals
RFQ	Request for Qualifications
ROD	Record of Decision
ROE	Right of Entry
ROW	Right-of-Way
RSA	Revenue Service Availability
RSD	Revenue Service Date
SCC	Standard Cost Category
SCIL	Safety Certifiable Item List
SEIS	Supplemental Environmental Impact Statement
SIT	Systems Integration Test
SOP	Standard Operating Procedure
SSCC	Safety and Security Certification Committee
SSCP	Safety and Security Certification Plan
SSCVR	Safety and Security Certification Verification Report
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSTC	Silver Spring Transit Center
STP	Surface Transportation Program
SWM	Stormwater Management
TBD	To Be Determined
TCE	Temporary Construction Easement
TCIR	Total Case Incident Rate
TDD	Transit Development and Delivery
TIFIA	Transportation Infrastructure Finance and Innovation Act
TPSS	Traction Power Substation
TRO	Temporary Restraining Order
TUN	Temporary Use Notice
TVA	Threat and Vulnerability Assessment
UMD	University of Maryland
USACE	U.S. Army Corps of Engineers
WMATA	Washington Metropolitan Area Transit Authority
WSSC	Washington Suburban Sanitary Commission
YOE	Year of Expenditure

ATTACHMENT B – TOP PROJECT RISKS

An internal risk workshop to support the Interim Recovery Plan (IRP) was held on January 26, 2021. Maryland Transit Administration (MTA) and Purple Line Transit Partners (PLTP) used information from the meeting as they solicited a replacement Design-Build (D-B) contractor.

A risk workshop was held May 3 through May 5, 2022. After the risk workshop, MTA prepared supplementary or updated documents for review, including an updated Risk Register. The Federal Transit Administration (FTA) provided a risk summary to MTA on June 22, 2022, for MTA's consideration when updating risk, contingency, and other project management plans. MTA incorporated the FTA comments in the revised Risk and Contingency Management Plan (RCMP) that is a part of the Final Recovery Plan. On May 22, 2023, FTA accepted the revised RCMP with conditions.

During the February 7, 2024 Quarterly Progress Review Meeting, MTA presented cost and schedule contingency drawdown curves that indicated significant commitment of contingency reserves. Due to this significant commitment of contingency and the recent completion of the MTA-managed Operation Step Forward (OSF) activities, MTA determined that an update to the Risk Register was warranted.

On November 20, 2023, MTA held its quarterly Risk Management Committee meeting. During the meeting, MTA identified the top four project risks that have a risk rating of "Significant." Amendment 7 to the Public-Private Partnership (P3) Agreement, which was executed in March 2024, resolved several disputes that had been listed as Significant risks.

1. Construction – Exhibit 24 Utility Adjustments – retired with the execution of Amendment 7
2. Design – Temporary Construction Easement Extensions
3. Design – Design Changes – retired with the execution of Amendment 7
4. Design – Intelligent Interface Device – retired with the execution of Amendment 7
5. Real Estate – Remaining Right-of-Way (ROW) Acquisitions

As a follow-up to the Risk Management Committee meeting, MTA will complete a Quantitative Risk Analysis, re-baseline the project's contingency drawdown curves, and update the RCMP. MTA will provide the risk update and Quantitative Risk Analysis, including contingency recommendations in May 2024.

ATTACHMENT C – AWARDED CONTRACTS

Included below is information that MTA provided for the ***May 8, 2024*** Quarterly Progress Review Meeting packet. Please note that the total shown in this table for contracts awarded does not reflect the full project value.

Major Contracts:

Company	Vendor Type	Contract No.	Baseline Amount	Change Order Totals	Current Amount	Pending Change Orders
PB/RK&K	Engineers/ Architects	MTA-1054A	$ 12,000	$ 1,850	$ 13,850	
STV/Jacobs	Engineers/ Architects	MTA-1054B	$ 8,000	$ 1,300	$ 9,300	
AECOM/ RK&K/WSP	Engineers/ Architects	MTA-1264A	$ 60,000	$ 338,500	$ 398,500	
Gannett Fleming/WRA	Engineers/ Architects	MTA-1265B	$ 80,000	$ 71,000	$ 151,000	
Purple Line Transit Partners	P3 Concession (design build portion only)	PUR16032PP	$ 1,988,816	$ 1,933,769	$ 3,922,585	
Total			**$ 2,148,816**	**$ 2,346,419**	**$ 4,495,235**	**0**

Reason for Change: *Amendment 6 to the Purple Line Transit Partners P3A was not been previously reflected. The amount shown as "Current Amount" represents that portion of the P3A Design-Build contract associated with the New Starts Program.*

ATTACHMENT D – ROLLING STOCK VEHICLE STATUS REPORT

Date: April 30, 2024

Vendor: Construcciones y Auxiliar de Ferrocarriles (CAF)

Model: Multiple-section 136-foot articulated car (total length is 142 feet coupler-to-coupler), used in a five-car consist per vehicle

Year: The first vehicle was completed in 2021, and currently 26 vehicles are designated as "Ready for Shipment." Completion of the storage and testing facilities at the Glenridge Operation and Maintenance Facility (OMF) has been delayed, so Maryland Transit Administration (MTA) and CAF negotiated terms for storage of vehicles at the CAF facility in Elmira, New York. The storage agreement has now transferred to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS).

Quantity: 25 vehicles (125 cars) were in the original contract (Full Funding Grant Agreement [FFGA]). One vehicle (5 cars) was added to the original CAF authorization by MTA, outside of the FFGA.

In July 2021, two vehicles (ten cars) were added via change order to MTS, also outside of the FFGA.

Identification: The original light rail vehicles (LRVs) will be numbered from 101 through 126. The two additional LRVs will be numbered 127 and 128, respectively.

New Technologies: None planned (all major suppliers have service-proven equipment).

Status and Significant Activities:

- As a part of the original order, twenty-six vehicles (130 cars) were assembled in Spain and delivered to CAF's facility in Elmira, New York, for final assembly and static testing. Manufacture of the additional two vehicles (ten cars) have been delivered to Elmira for final assembly and static testing.
- Delivery of finished vehicles was expected to begin in spring 2021; however, because the Glenridge OMF is not ready to accept railcars, MTA and CAF have negotiated an agreement for CAF to store the completed cars in Elmira.
- Cost risk for delivery of the finished vehicles has been transferred to MTS. If delays in construction cause a delay, then MTS is responsible to CAF for additional storage cost.
- Twenty-six LRVs have passed static testing, have been designated as Ready for Shipment, and have been placed into storage in Elmira. These include vehicle 110, which was returned to Ready for Shipment status after a second period in static testing.
- Delivery of the first of the original 26 vehicles is currently scheduled for May 2024. Approximately one vehicle per week will be delivered thereafter. The Glenridge OMF

will be able to store three or four vehicles on the yard and in the building, so track must be available for additional storage. The Overhead Contact System and Traction Power Substation (TPSS) Q7 and TPSS QYG must be completed and installed before delivery of vehicles.

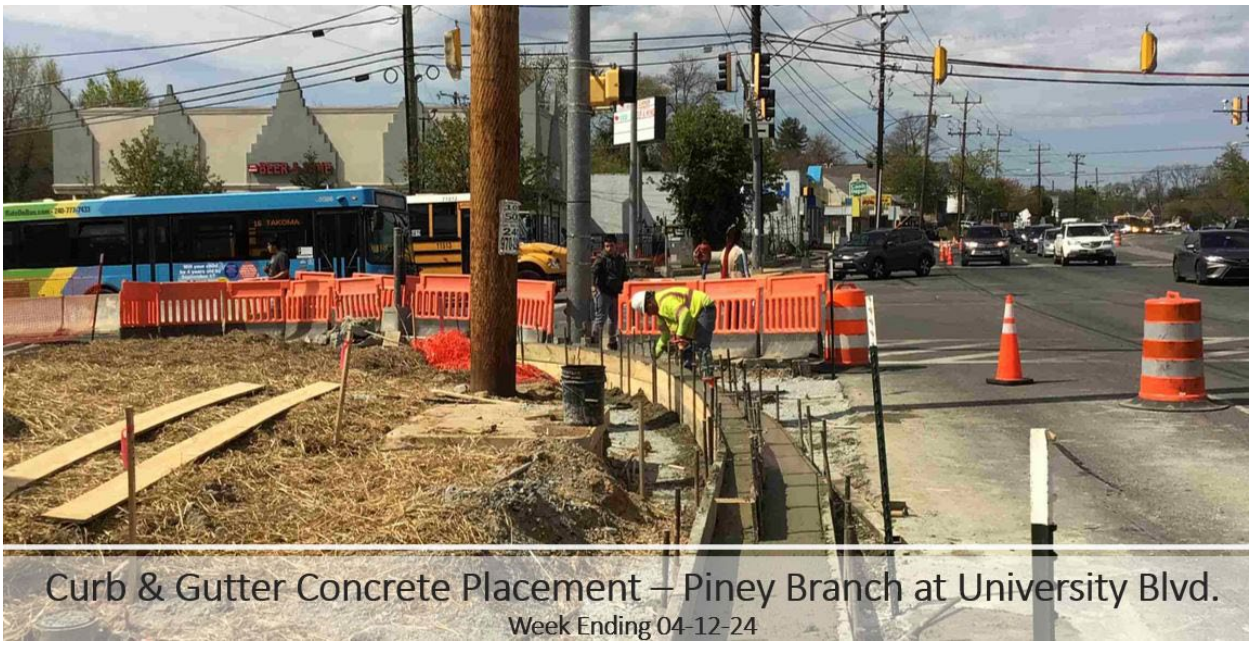
- SNC-Lavalin (now an MTS subcontractor) prepares a monthly quality report documenting safety, production, and quality items at the New York production facility.
- MTA, the Project Management Consultant, and CAF are holding weekly coordination meetings to review all outstanding testing and factory/shop activities, including onsite testing procedures for when the vehicles are delivered to Maryland.
- MTS, which has assumed the CAF contract, is preparing and submitting to MTA reports on LRV maintenance activities required during the storage period.
- The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with the evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to Federal Transit Administration (FTA). On that same day, Maryland Department of Transportation also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.
- The resolution of previously identified quality issue related to the M33 bolt on the LRV trucks is not resolved as of March 2024. Additional failures occurred in November and December 2023, and the truck manufacturer in Germany performed additional tests. MTA previously indicated that a Root Cause Analysis (RCA) is being performed for this issue. In January 2024, CAF concluded that the main/root cause of the issue was a misalignment of the bolts during assembly. In January and February 2024 CAF examined 50 gear boxes that included the M33 bolt. CAF determined that an alignment issue prior to torquing the M33 bolt is the likely cause of the issue. CAF performed a sample installation of 48 bolts on 12 LRVs using a modified procedure. As of April 2024, all of the sample installations performed adequately, so the RCA will be completed in June 2024. After the RCA is completed, maintenance manuals modified, and needed tools provided to PLTO. CAF does not believe the issue will impact delivery of the vehicles, which is scheduled for mid-May 2024.

ATTACHMENT E – PROJECT MILESTONES/KEY EVENTS

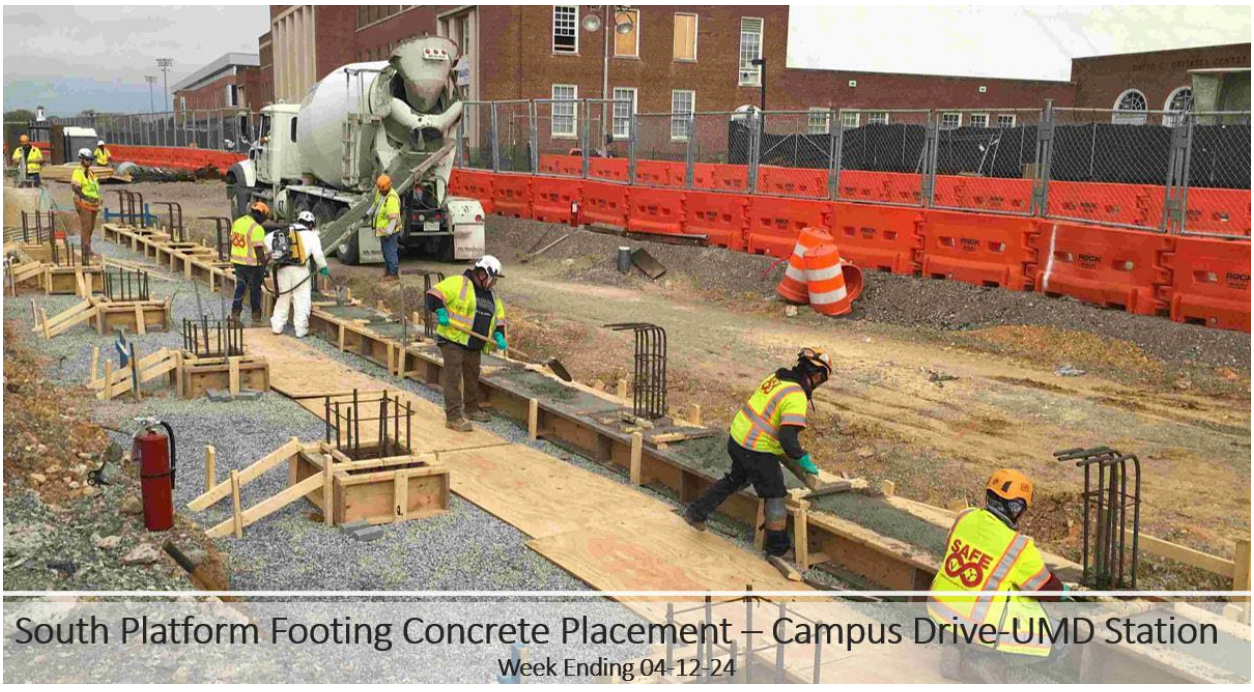
Photos courtesy of Maryland Transit Administration.



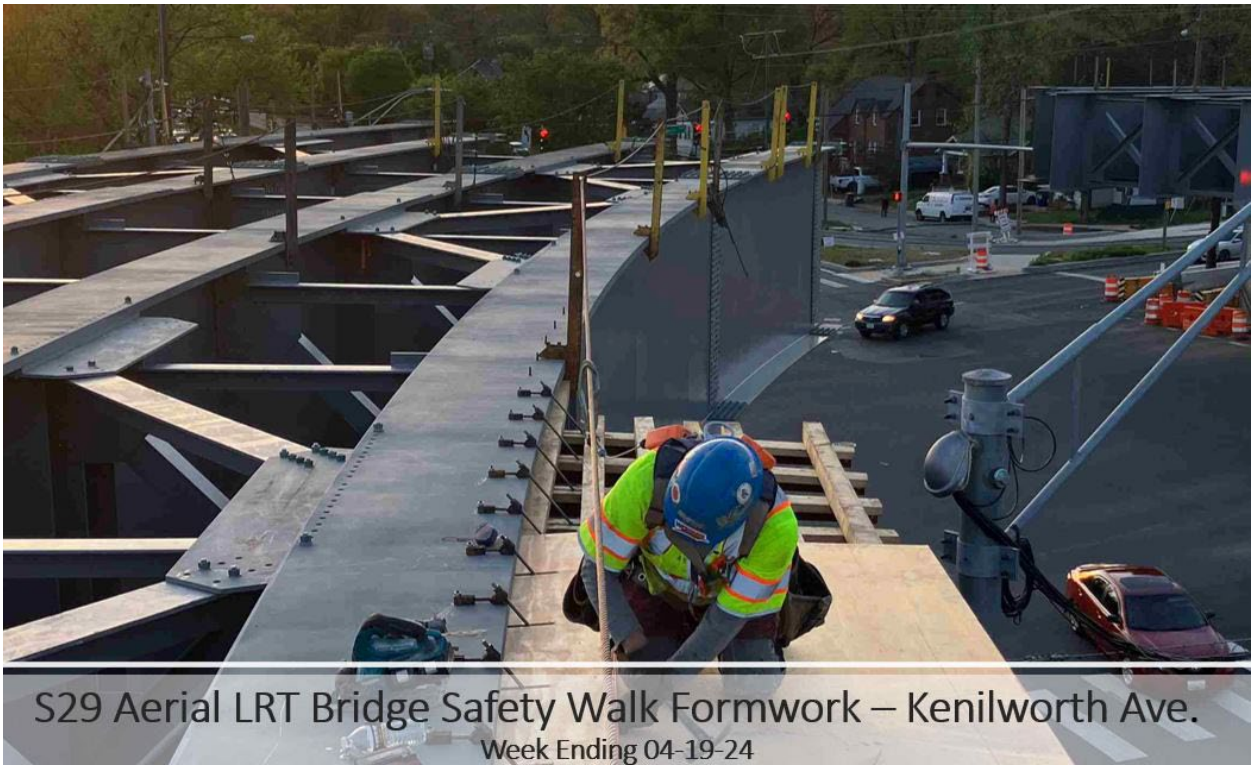




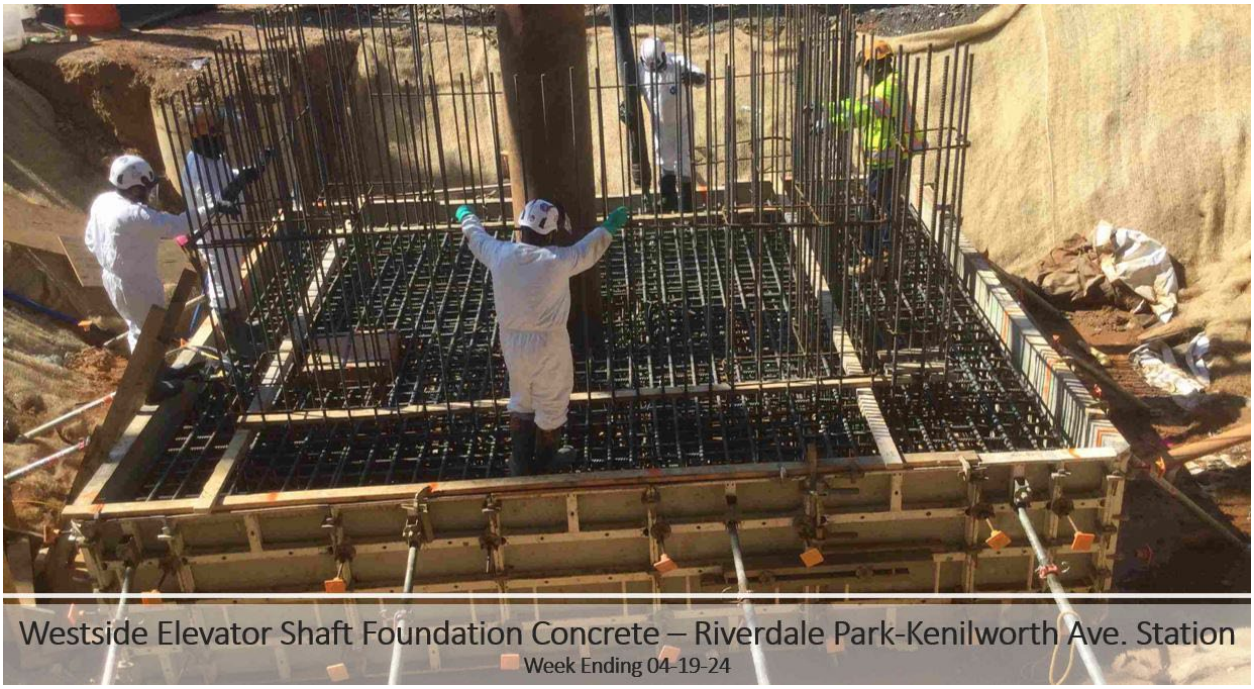
Curb & Gutter Concrete Placement – Piney Branch at University Blvd.
Week Ending 04-12-24



South Platform Footing Concrete Placement – Campus Drive-UMD Station
Week Ending 04-12-24



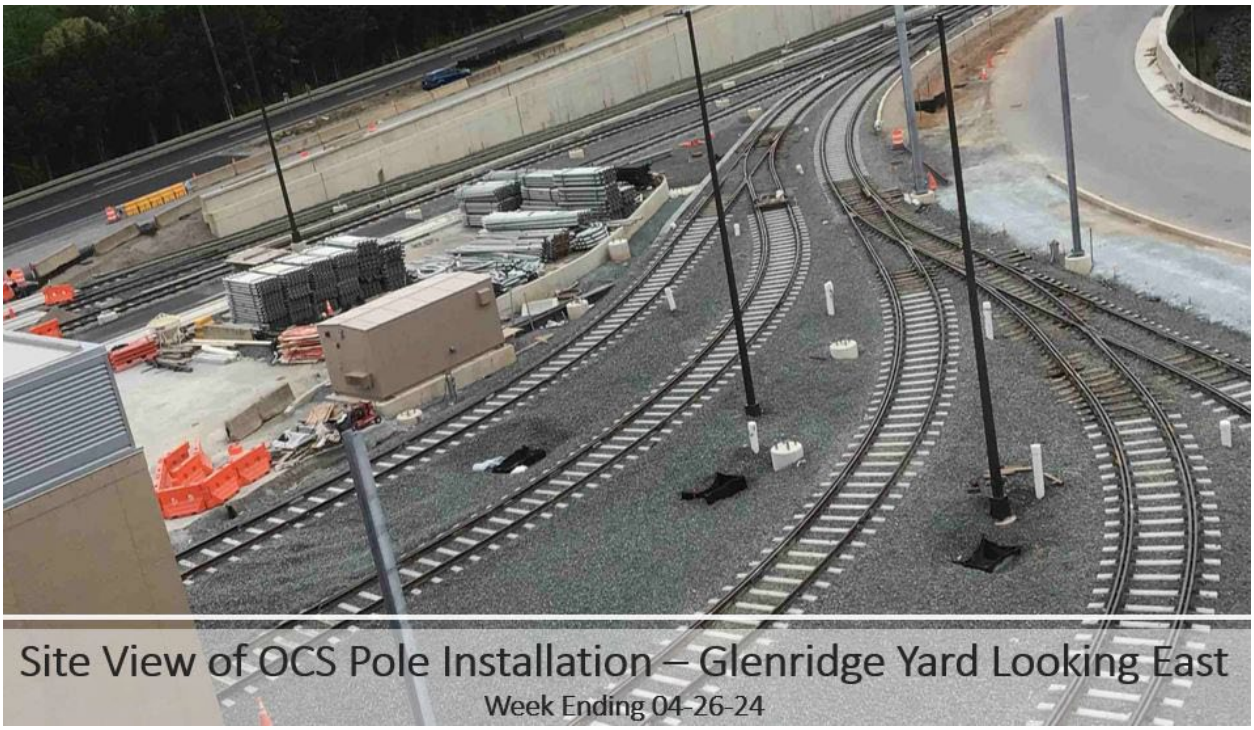
S29 Aerial LRT Bridge Safety Walk Formwork – Kenilworth Ave.
Week Ending 04-19-24



Westside Elevator Shaft Foundation Concrete – Riverdale Park-Kenilworth Ave. Station
Week Ending 04-19-24



ITS Cabinet Wiring Work – Piney Branch at University Blvd.
Week Ending 04-26-24



Site View of OCS Pole Installation – Glenridge Yard Looking East
Week Ending 04-26-24

ATTACHMENT F – ROADMAP TO REVENUE OPERATIONS

In accordance with Oversight Procedure 25, the Project Sponsor will prepare the Roadmap to Revenue Operations template based on the current master project schedule, in the general format presented below. The PMOC provided this template to the Project Sponsor as a separate electronic file for its use. The Project Sponsor is requested to provide quarterly updates for review and discussion. MTA provided this quarterly update for the roadmap on February 19, 2024. ***The next planned update for this document will occur in May 2024.***

ROADMAP TO REVENUE OPERATIONS (MTA to provide updates)

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Testing								
Finalize Comprehensive Test Plan	PLTP/MTS/ Sener	See Notes	In Progress	3/31/24		**T & C Management Plan** – Accepted **Project Test Program Plan** – Comment Resolution (5 of 41 open) **LRV Test Plan** – Accepted **TCS Test Plan – Local** – Accepted **TCS Test Plan – Integration** – Awaiting Submittal **TCS/Traffic/CMS Test Plan** – Awaiting Submittal **TPSS Test Plan** – Accepted **OCS Test Plan** – Accepted **Communications Test Plan** – Accepted **CMS Test Plan** – Accepted **Fire & Security Test Plan** – Accepted **Fare System Test Plan** – Awaiting Systems Design **Traffic** – QC with AHJs **EMI Test Plan** – Accepted **CCG Test Plan** – Accepted **Noise & Vibration** – MTS Reviewing **OMIS Test Plan** – TBD - Project Update to be provided 03/24 **Ops Simulator Test Plan** TBD- Project Update to be provided 03/24 **Trackwork** – Under Study by MTS/Sener **OMFs Test Plan** – Pending Commercial Issues **Station Electrical** – Under Study by MTS/Sener **Fire Protection, Mechanical, Plumbing** – Under Study by MTS/Sener		
Finalize / Update Systems Integration Test (SIT) Plan	PLTP/MTS/ Sener	In Preparation	In Progress	2/29/24		Awaiting update of DRC# 3644, CW-164, Systems Integration Test Plan		
Develop Testing Schedule and Monitoring Tools	PLTP/MTS	In Progress	TBD	TBD				
Develop Operating Rules for Testing	PLTP/MTS	In Preparation	In Progress	03/31/24		The development of the test operating rules, procedures and plans are progressing. Informal 1st draft of the Construction Railway Operations Rules & Procedures (CRO) has been shared with the MTA and PLTO for high level review and comments. CRO Rev 2 is being drafted. Page turn review of Rev 2 with PLTP/MTS/PLTO/MTA scheduled for 03/24.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Conduct System Integrated Testing - Prioritized Traffic Signal Systems	PLTP/MTS	In Progress	TBD	TBD				
Certificates of Occupancy / Substantial Completion	Maryland Office of the State Fire Marshal	Glenridge OMF – In progress.				As state-owned property, no certificates of occupancy are issued. The AHJ ensures building is safe through various system inspections to include fire protection systems, elevators, etc. AHJ will take no exception to occupancy if inspections pass.		
Finalize Operating Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept. 2025 Feb 2026		Projected start of Trial Running: July 2026 (based on May 2027 RSA date): Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running
Finalize / Revise Standard Operating Procedures (SOPs), manuals, and rulebook as applicable	PLTP/PLTO	See Note	TBD	Sept. 2025 Feb 2026		Included as part of the Operating Plan. Projected start of Trial Running: July 2026 (based on May 2027 RSA date): : Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running. Revisions to operating/maintenance/emergency rules/procedures may occur during the testing and commissioning period. Rules and SOPs for test operations under development by PLTP/MTS. CRO to become effective prior to commencement of regular movements of vehicles within the yard (Refer to Develop Operating Rules for Testing above)		Rulebook, SOPs and EOPs to be submitted for review and approval no later than 6 months prior to Trial Running. Preliminary submittal of Operations manuals for review and comment due no later than 18 months prior to Trial Running. Final submittal of Ops manuals for review and approval due no later than 6 months prior to Trial Running
Complete Staffing Plan	PLTP/PLTO	On-going			May, 2023	PLTO has developed a draft staffing and hiring plan that is tied to the approved project schedule. Hiring plan subject to change based on Project schedule changes.		
Obtain Required Staff	PLTP/PLTO/ MTS	See Note	Various	July 2026		Recruitment and staff hiring based on project schedule. PLTO staffing to support vehicle dynamic testing being coordinated with		

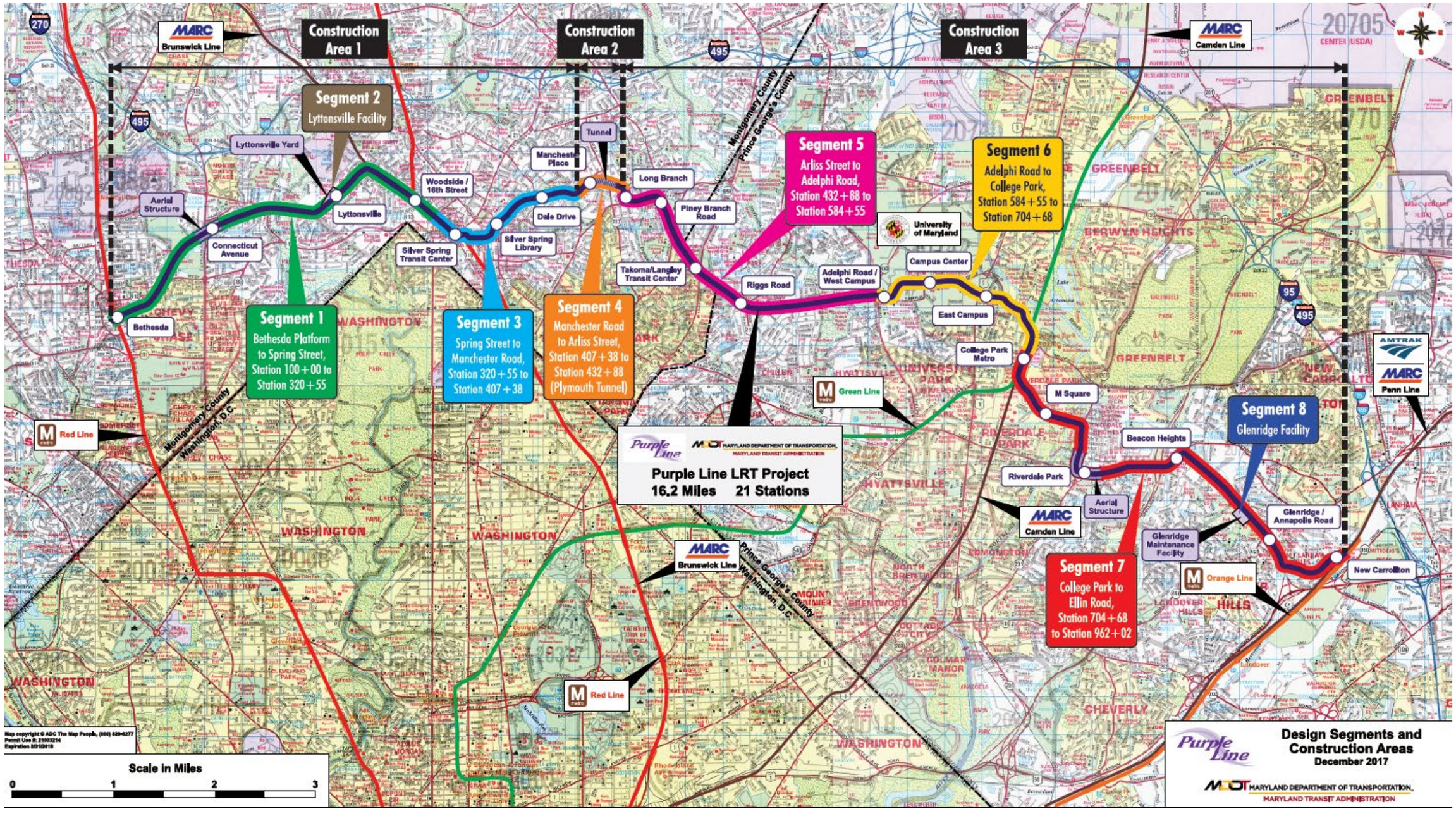
Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
T&C Support Staff	PLTO		March 2024			CAF. Onboarding of other PLTO support staff for vehicle maintenance (after acceptance) and test track maintenance to vehicle delivery dates and start of vehicle dynamic testing (Spring 2024) **PLTO Current On-site Staffing:** General Manager Dir. of Maintenance CFO/Admn Manager Facilities Maintenance Manager Systems Engineer Structural Engineer Current On-site Staff supported by various home office operations and engineering staff and consultants such as Safety & Operations, Vehicles, Systems, etc. **Near Term Hiring:** HR Manager Facilities Maintainer Vehicle Maintenance Engineer and Technician Training Instructor Track Engineer/Inspector Buyer/Procurement Specialist Train Dispatchers (2) Rail Operators (6) Building maintenance contracts being solicited for the OMF (elevator, janitorial/building cleaning, trash removal, mechanical/plumbing equipment maintenance, and etc.)		
Training of Operations and Maintenance (O&M) personnel	PLTP/PLTO/ MTS	See Note	Various	July 2026		**For Testing & Commissioning Support:** PLTO to send 6 train operators to Elmira NY to receive initial training on the PL vehicles currently scheduled for March 2024. Level of initial dispatcher training dependent upon qualifications of personnel hired. PLTP/MTS developing training plans for testing & commissioning rules, procedures, and requirements. PLTO will need to be fully staffed prior to the start of Trial Running in July 2026.		
Emergency response plan, training, and drills	PLTP/PLTO/ MTS	Various	Feb. 2024	Jan. 2027		Emergency response drills to be conducted during Trial Running.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Initial emergency responder training for Glenridge OMF, vehicles and test track area to be conducted at some point prior to the start of vehicle dynamic testing. Training class syllabus for initial emergency responder training has been developed and shared with the local emergency responders. All parties are in agreement with the content. They still need to iron out how the training will be provided. The initial quantity of Prince George's County Fire/EMS first responders to receive training will be 110.		
Finalize Revenue Operations Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept 2025 Feb. 2026		Projected start of Trial Running: July 2026 (based on May 2027 RSA date): Revenue Operations/Service Plan included as part of Operating Plan. Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		
Develop / Revise Safety and Security Certification Plan (SSCP) & Safety and Security Management Plan (SSMP)	MTA	On-going	SSMP – 2/02/2011 SSCP – 8/31/2012	TBD		SSMP is currently on revision 14 and the SSCP is on revision 7. The SSMP is updated in conjunction with the PMP as it is considered a sub-plan.		
Federal Transit Administration (FTA) Office of Safety & Security Readiness Review	FTA	See Note	TBD	TBD		No updates at this time		
PMOC OP-54 Readiness for Revenue Operations Review Report	PMOC	See Note	TBD	TBD		No updates at this time		
Conduct Operational Hazard Analysis (OHA) and resolve other hazards / vulnerabilities	PLTP	See Note	TBD	TBD		No updates at this time		
Pre-Revenue Operations	PLTP/PLTO	See Note	July 2026	April 2027		Pre-revenue Operations broken down into: Trial Running and System Demonstration Testing. Projected start of Trial Running: July 2026		
Develop Safety Outreach Plan	MTA/PLTP	Not Started	TBD	Feb. 2025		Projected start of Trial Running: July 2026 (based on May 2027 RSA date):		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Outreach Plan to be developed 18 months before Trial Running. Additional information to be included in next quarterly update.		
Provide Community Outreach	MTA/PLTP	Not Started	TBD	TBD		Outreach plan for test track OCS energization and start of vehicle dynamic testing under development.		
Public Timetables / Maps / Website Updates, etc.	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time.		
Grand Opening Plan	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time		
Update / Finalize SSMP	MTA					See previous SSMP entry.		
Finalize and/or update Safety Certifiable Item List (SCIL) and SSCP	MTA/PLTP	On-going	TBD	TBD		No updates at this time.		
Implement Safety and Security Certification Committee	MTA	On-going	April 2018	TBD		The SSCC has been ongoing since 2018.		
Implement Fire Life Safety Committee	MTA	On-going	7/27/2012 – Montgomery County 9/26/2012 – Prince George's County	TBD	TBD	MTA has implemented two FLSSCs, one for each Maryland County that Purple Line traverses. Both committees were started in 2012.		
Verify design criteria, Preliminary Hazards Analysis (PHA), Threat and Vulnerability Analysis (TVA), change orders are implemented within the project	MTA/PLTP	On-going	PHAs - 6/26/2012 TVA – 12/10/2013 Change Orders	TBD	TBD	PLTP has verified over 98% of the design criteria. Initial PHAs on the 30 % Preliminary Design started in 2012 by MTA. PLTP continued PHAs in 2016. Initial TVA completed in 2015 by MTA. PLTP continued in 2017.		
Review status of quality non-conformances		See Note				No updates and this time.		
Closeout of non-safety critical items/non-conformances		See Note				No updates at this time.		
Closeout of safety critical items/nonconformances	MTA/PLTP	Not started	TBD	TBD		No updates at this time.		
Complete Safety and Security Certification Verification Report (SSCVR)	PLTP	Not started	TBD	May 2027		This report will be due sometime in the May 2027 timeframe.		
Document Workarounds / Open Items List	PLTP	Not started	TBD	TBD				

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Verify emergency drills, tabletops, training, etc. are completed	MTA/PLTP/ PLTO		TBD	TBD		Emergency drills to be conducted during the Trial Running period. Training verification will be completed prior to Trial Running.		
SSO final certification / signature	SSO	See Note				No updates at this time		
Revenue Service								
Target Revenue Service Date (RSD)	PLTP		TBD	May 2027		Project schedule dependent.		
Public RSD	MTA/PLTP		TBD	May 2027		Project schedule dependent.		
Full Funding Grant Agreement (FFGA) RSD						No updates at this time.		

ATTACHMENT G – PROJECT MAP



COMPREHENSIVE MONITORING REPORT
February 2024–April 2024

Metro Fleet and Train Control Replacement Project
MTA Non-New Starts Capital Projects

Maryland Transit Administration
Baltimore, Maryland
Final

Draft Report Delivered to FTA on May 14, 2024
Final Report Delivered to FTA on June 25, 2024

PMOC Contract No.: 69319519D000016
Task Order No.: 69319520F300095
Project No.: 69319519D000016/69319520F300095
Requisition/Reference No.: FTA-TPM20-20-0106
OPs Referenced: 20, 22, 24, 25, 26
CLINs 0001, 0002, and 0005

David Evans and Associates, Inc.
John Susino, Task Order Manager
Voice: 610-570-6496; Email: john.susino@deainc.com
Time on Project: 05/18/2020 through 05/17/2025

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract #69319519D000016, Task Order #69319520F300095. Its purpose is to provide information and data to assist FTA as it continually monitors the management capacity and capability of the Maryland Transit Administration (MTA) (the Project Sponsor) to execute the project efficiently and effectively, and hence, whether the Project Sponsor continues to be ready to receive federal funds for further project development. This report covers the project management activities on the Metro Fleet and Train Control Replacement Project and the MTA Non-New Starts Capital Projects managed by MTA as the Project Sponsor. The cost and schedule information in this report was extracted from MTA's April 17, 2024, monthly report, except where noted. This report has been organized to comply with the requirements of updated Oversight Procedure 25 – Recurring Oversight and Related Reports dated June 2020.

THIRD-PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for FTA. This report should not be relied upon by any party, except FTA or the Project Sponsor, in accordance with the purposes as described below.

Projects funded by FTA and monitored by its Project Management Oversight Contractor (PMOC) can utilize a risk-based assessment process to review and validate a Project Sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a Project Sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a Project Sponsor may develop for project execution. Therefore, the information in the reports will change from quarter to quarter, based on relevant factors for the period and/or previous periods.

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1. EXECUTIVE SUMMARY

1.1. Project Description

The Metro Fleet and Train Control Replacement Project, as part of the Maryland Transit Administration (MTA) (Project Sponsor) Non-New Starts Capital Projects, renovates the MTA Metro System that consists of a double-tracked train-controlled signaling system that is 15 miles long and a Metro railcar fleet consisting of 100 cars that are now more than 30 years old. The MTA Metro System is located in Baltimore, Maryland. The Metro railcars were designed with a 30-year life and are now due for replacement. The Automatic Train Protection system is currently experiencing reliability problems due to its age and parts obsolescence. The Metro Fleet and Train Control Replacement Project, which is using phased construction, consists of installation of a new Communications Based Train Control (CBTC) system, 78 new railcars (based on a needs assessment), phaseout of the old fleet, and decommissioning of the old train control system. The project cost is budgeted at $476,851,000, which is unchanged from the value reported in the 2023 Quarter 3 Project Management Oversight Contractor (PMOC) comprehensive monitoring report.

1.2. Project Status

The contract was awarded to Hitachi Ansaldo Baltimore Rail Partners, LLC (HAB) (now Hitachi Baltimore Rail Partners LLC [HBR]) in July 2017. Notice to Proceed was issued on September 1, 2017. HBR is making contract submittals and conducting project training. Submissions of Train Control and Railcar Conceptual Design Reviews and Preliminary Design Reviews (PDRs) and review meetings have been completed. The PDR phase for the Train Control system was completed in February 2019, and the Railcar PDR phase was completed in March 2019 (with the exception of Lighting, which was completed in early May 2019).

Work by HBR to complete the Reliability, Availability, Maintainability, and System Safety (RAMS) documentation for the vehicles continues, and the impacts of COVID-19 have delayed completion of the Final Design Review phase from the original September 2020 due date. **As of April 17, 2024, HBR has improved its progress in moving the RAMS Railcar documentation towards completion, as well as with processing of MTA comments on the open items list and both the Design and Construction Safety Certifications. MTA Safety allowed Married Pair 1 (MP 1) back on the track to restart RAMS testing. MTA provided recommendations on updating the existing HBR plan to facilitate better testing and addressing of comments. HBR views this updated process as a positive and foresees improved progress. Hitachi executives agree with the MTA recommendations. MTA stated that HBR will need to complete both rail and system safety certifications by the end of August 2024 in order to meet the milestone for system cutover for revenue service to the Main Operations Control Center (OCC).**

- Scope: No significant changes to the scope have been initiated since MTA added axle counters in the existing Metro vehicle yard as part of the Train Control system portion of the project. **HBR has officially submitted five new change notices since the previous Quarterly Progress Review Meeting (QPRM). A credit due to scope removal of $3.7 million, which was planned to be used for Construction Management (CM)**

services, instead has been utilized in the Miscellaneous Work Allowance (MWA) to cover a shortfall. MTA now will need to ask for additional funds to use for the shortfall that has been created in CM services.

In May 2023, MTA issued HBR a cure notification regarding HBR's performance or lack thereof. HBR executives are committed to addressing the cure notification and improving HBR's performance overall. During the July 20, 2023 meeting of MTA and Hitachi executives, the discussion topics were: the current mitigations Hitachi has been providing, Hitachi's desire to vet the systems testing predominately in the lab versus in the field, and increased validation in-house with Hitachi's RAMS group. Hitachi told MTA that when HBR is settled in at the Hagerstown, Maryland facility and initial production is running smoothly, it will increase the vehicle production rate at a steady pace to minimize the impact from the loss of the 33 carshells (see Section 2.2, Oversight Triggers, for information on the scrapping of 33 carshells). At the meeting on September 26, 2023, MTA expressed concern over HBR's slow progress on safety certifications and the fact that it is not addressing the schedule slippage. MTA had a conversation with Hitachi executives regarding Hitachi's purchase of Thalis to discuss a plan to address compatibility, especially compatibility of the zone controllers for the CBTC hardware/software and the use of Thalis products and how it will affect Hitachi's support of the Train Control system portion of the project. Hitachi suggested holding a follow-up meeting specific to this topic.

- Summary of COVID-19-related Items:
    - Most COVID-19 staffing-related delays to the Train Control system ended by September 2021.
    - The final first-round training session for the Solid-state Interlocking (SSI)/Data Communication System (DCS)/Local Automatic Train Supervision was postponed and rescheduled to be completed just before startup of the first interlocking.
    - HBR's Italian carshell manufacturer (OMEP) reopened to approximately 95 percent to 100 percent of its normal capacity in June 2020; carshell production work continues.
    - Railcar First Article Inspections (FAIs) did not occur on schedule because of travel restrictions and closed facilities. Railcar FAIs began in late June 2020 and are continuing. Accommodation was made for remote FAIs when needed.
    - Maryland on-site construction and Train Control testing and commissioning were initially shut down in April 2020 and restarted in May 2020; however, these activities experienced another two-week shutdown in December 2020.
    - Factory Acceptance Tests (FATs) for SSI were postponed due to travel restrictions but are now complete.
    - SSI manufacturing was shut down but has resumed.

- The structural qualification testing required for carshell acceptance that was to be performed on Carshell X, which has a reworked roof, was moved from Italy to Germany as a result of new COVID-19 restrictions that were imposed in October 2020. The beginning of structural qualification testing was delayed from April 2021 to September 2021 due to backlogs and employee COVID-19 exposures at the testing vendor.
- MTA has not reported new issues or impacts from COVID-19 since June 2021, with the exception of the global supply chain disruptions that delayed the delivery of vehicle subsystems and materials. MTA indicated that it is able to segregate COVID-19-related impacts (i.e., labor, material supply, superchips) from other project costs. Regarding HBR's claim for the second no-cost time extension of 20 months due to COVID-19, MTA had reported that negotiations had stalled once more (10/01/2023); however, MTA imposed a deadline of October 31, 2023, and tied it to a new baseline schedule. This second request by HBR for a no-cost time extension was for issues above and beyond the previously granted extension. **As of the April 17, 2024 meeting, MTA indicated that there has been some progress in the COVID Change Notice but still moving slowly.** ***The PMOC recommends that MTA maintain records related to these schedule disruptions in case additional associated claims arise in the future.***

- Schedule:
  - MTA approved HBR's February 28, 2018, project baseline schedule (Rev. 3), which showed a project completion date of May 2024, with warranty completion and project closeout scheduled to occur in May 2026. HBR submitted its Project Schedule Update V11, with a data date of March 1, 2019, to address some of MTA's prior comments. In its April 2019 and May 2019 schedule submissions, HBR presented schedule recovery plans to MTA that attempted to recover the Full Revenue Service date (although these recovery plans did not recover the interim milestones, including the Phased Revenue Service Start date).
  - In May 2020, MTA decided to proceed with the addition of axle counters in the yard. Because of uncertainty related to testing requirements for these axle counters, HBR's Project Schedule Update V25 showed a delay of the Full Revenue Service date to February 6, 2024. MTA rejected HBR's Project Schedule Update V25.
  - After multiple submittals, rejections, and comments, MTA accepted Project Schedule Update V28 from HBR in September 2020 as the new baseline schedule. Project Schedule Update V28 showed the completion of the "Train Control" construction milestone on May 4, 2025; the "Last Vehicle Final Acceptance" milestone on March 1, 2024; and the "Revenue Service Full Project" milestone on September 15, 2024.

- Starting in April 2021 and continuing through January 2022, MTA reported that the project was delayed compared to the previously accepted September 2020 baseline schedule. As of January 12, 2022, HBR projected that the "Last Vehicle Final Acceptance" milestone was delayed by 257 days from the baseline schedule to November 13, 2024, and that the "Revenue Service Full Project" milestone was delayed by 258 days from the baseline schedule to November 12, 2024.
- In January 2022, HBR proposed a new baseline schedule to MTA, referred to as Schedule Update 41. Since January 2022, MTA and HBR had been negotiating the details of the proposed baseline schedule (Schedule Update 41) at that time in 2022.
- In December 2023, HBR proposed a new baseline schedule to MTA, referred to as Schedule Update 42. HBR requested that MTA accept Schedule Update 42 as the new baseline schedule. MTA has stated that it will not re-baseline the project schedule, because doing so would invalidate the Liquidated Damages against HBR. MTA again told HBR to go back and address the comments to Schedule Update 42 Revision 19 (42R19). MTA has indicated that once HBR addresses all comments, then MTA will concur that Schedule Update 43 will be the official working project schedule moving forward. MTA indicated that Schedule Update 42R19 provides for the COVID-19-related no-cost time extension and the completion of RAMS documentation. MTA remains in negotiations with HBR as it works through the commercial aspects of a change order to officially replace the contract's baseline schedule.
- **In March 2024, MTA provided information that the new project schedule was Schedule Update 43 and that there were still outstanding comments that HBR needed to address regarding the schedule. At the start of April 2024, MTA provided the PMOC with a draft of the new project schedule, labeled Schedule Update 47, with a data date of April 1, 2024. MTA indicated that it had provided informal comments on the schedule to HBR. MTA held a workshop on April 25, 2024, to go over the schedule and the comments. HBR committed to addressing the comments and issuing a revision to Schedule Update 47. The PMOC performed a basic review of the schedule and found apparent problems related to linkages and dates that had been missed.**
- **Schedule Update 47 shows the "Construction Complete" milestone being delayed 472 days from the date reported at the previous QPRM. Schedule Update 47 also shows that the "First Vehicle Final Acceptance" milestone and the "Last Vehicle Final Acceptance" milestone have not change, since Schedule Update 43. However, these milestones are both 30 months later than those shown in the approved baseline schedule of September 1, 2020. Schedule Update 47 shows that the "Project Closeout" milestone stayed the same (April 29, 2029), which is 4 days shy of 24 months later than represented in the current baseline schedule.**

- Cost:
    - On April 17, 2024, MTA reported that $246,297,000 of the $476,851,000 project budget had been expended through March 31, 2024. Fifty-three change requests are in various stages of development, negotiation, and authorization. MTA believes that the total cost of the change requests will remain within the $20 million MWA budget (referred to as contingency) that is included in the project budget. However, MTA mentioned that funds that had been set aside to use for CM services were needed to address a shortfall in the MWA instead. MTA now will need to add funds back into CM services. MTA indicated that it would make another request for additional funding. Approximately $6 million remains in the MWA, and the rest was used for Change Notices (CNs) and is set aside for estimated future CNs.
    - Based on the current estimate at completion (EAC), MTA has a shortfall for CM services of approximately $1.0 million through the end of the contract. MTA believes that this amount is a conservative estimate, because the EAC assumes a cost of $900,000 per month in CM services, which has been the average for the last two years, during which time MTA had its peak requirement for design reviews, test engineers, and inspectors. The Metro Fleet and Train Control Replacement Project is a force-funded project for MTA; after fiscal year 2025, MTA will request additional funds be added to the EAC. MTA stated that the HBR budget will not increase. There are no changes that will require the HBR's construction budget to increase above $400,517,000. This amount of $400,517,000 includes the $20 million MWA, the remainder of which will be used for CM services, as described above. ***The PMOC forecasts that, until there is an approved, realistic baseline schedule that incorporates mitigations to address carshell issues, safety certification, CM costs, and schedule delays, the project budget may require additional funds.***
- Significant Project Activities and/or Key Milestones:
    - Monthly meetings between Hitachi executives and MTA leadership began in January 2021 to address issues related to vehicle quality and the project schedule. **MTA mentioned that the meeting with Hitachi executives on April 18, 2024, focused on safety certification, resources, quality, and the project schedule. MTA mentioned that Hitachi executives assured MTA of their commitment to completing the project within the new schedule and building it with quality.**

      The PMOC continues to recommend that MTA continue to hold the partnering meetings with Hitachi executives to focus on resolution of key project issues, as well as continue to provide the Federal Transit Administration (FTA) and PMOC with summaries of these meetings.

- **Testing of the Automatic Train Supervision (ATS) software continues to progress. HBR continues to test defect fixes on software updates. MTA indicated that HBR is working on the final crossovers and should have completed Backup Operations Control Center (BOCC) by the end of July 2024 and the Main OCC by the end of August 2024. MTA indicated that although the physical portion of the Google Interface works, HBR is still working on the software portion of it in order to meet MTA's requirements. MTA mentioned that it expects HBR to meet the mid-May 2024 date for software readiness. MTA also stated that MTA will meet with HBR on April 19, 2024, to discuss the status of not only the software, but also the FAT procedures HBR plans to use.**
- **MTA reported that HBR was experiencing problems with incorporating Light Detection and Ranging (LiDAR) data into the CBTC software. MTA indicated that the preliminary version of the software was not affected because it runs off of Global Positioning System (GPS) information. The current version of the CBTC software is having problems in how the LiDAR data is being interpreted with the GPS data. MTA mentioned that these issues will not affect track testing, because track testing will run the preliminary version of the software. MTA is now expecting the CBTC FAT to occur in August 2024, about five months later than shown in the prior project schedule (Schedule Update 43); however, the latest project schedule (Schedule Update 47) shows the CBTC FAT on target to occur by August 25, 2024.**
- **Regarding Railcar and System Safety certification, MTA stated that HBR submitted an updated package on April 15, 2024, to close out the Open Items List. MTA indicated that HBR had managed to close a significant number of open items, thus allowing MTA Safety to give HBR approval to put MP 1 on the test tracks starting April 16, 2024. MTA indicated that it had provided a recommendation that would simplify the safety certification process for HBR. HBR is reviewing this recommendation with its senior executives, and once HBR gets concurrence from them, HBR will submit a revised plan to reflect an updated safety certification process. This simplified safety certification process and plan should help HBR with the RAMS testing and qualifications testing not only for MP 1 through MP 3, but also for all the railcars for the project. MTA mentioned that the focus for the entire project team is to resolve the remaining defects in the ATS software, so that the cutover can occur in August or September 2024 and to avoid having unresolved defects hold up certification.**
- **With respect to Railcar and System testing updates, HBR will resume Phase 4 testing during May 2024, after pausing it due to a defect in the zone controllers on a different HBR project that also is applicable to this testing.**

HBR will install a Microlok software release to address this zone controller defect. MTA is still awaiting receipt of a report from HBR that provides a detailed description of the issue. MTA stated that HBR has not responded to the Thalis letter that MTA sent in October 2023. MTA indicated that HBR may be able to have MP 1, MP 2, and MP 3 ready for Train Control testing, which must be complete on the mainline by September 2024, given that MP 1 was back on the testing track during the week of April 15, 2024, and HBR could move forward with the recommended plan for safety certification. This deadline will put pressure on HBR, because the current schedule shows mid-October 2024 for the railcars to be ready, whereas it also shows cutover for the ATS for both the Main OCC and the BOCC as complete by the end of August 2024.

- **All railcars that had been in Miami, Florida, have now been moved to the facility in Hagerstown, Maryland. HBR is continuing to fit out the facility with offices, getting the shop areas set up, training staff, developing the warehouse logistics software, working on operational plans, preparing the traffic layout for the automated ground vehicles (which will move and position the railcars for final assembly), and preparing for third rail installation in the facility. The PMOC visited Hagerstown on March 21, 2024, and witnessed these efforts. HBR does not allow photographs of the facility to be taken.**

1.3. Major Issues and/or Concerns

Table 1 discusses the major issues or concerns impacting the project's scope, schedule, cost, risks, quality, safety, etc., as well as the Project Sponsor actions and FTA and PMOC recommendations.

Table 1 – Major Issues/Concerns and Action Items

Issue/Concern	HBR's schedule updates continue to show slippage of the project baseline schedule interim milestones and the project completion dates. Project Schedule Update 28, which was submitted in September 2020, was accepted as the new baseline schedule and reflects initial COVID-19-related impacts, but the pandemic caused additional impacts that it did not reflect. This September 2020 baseline schedule does not include contingency time or "float." HBR has now proposed a new baseline schedule (Schedule Update **47**) that demonstrates the project completion date being delayed approximately **24 months** from the date in the approved baseline schedule (Schedule Update 28).
Date Identified	June 2020
Status	In progress
Project Sponsor Action	MTA is conducting monthly meetings with Hitachi executives throughout calendar year 2024. **In the most recent partnering meeting, which occurred on April 10, 2024, MTA and HBR discussed Schedule Update 47 and made a commitment to hold a schedule workshop the week of April 22, 2024. MTA indicated that the workshop went well and that HBR would provide an updated project schedule to address the comments from the workshop.**
PMOC Recommendation	MTA should continue to perform its own schedule analysis to forecast realistic key milestones **and aid HBR in managing to meet deliveries that have relatively short duration times**. This schedule analysis should include a reasonable amount of schedule contingency based on MTA's experience with HBR's performance to date and MTA's professional experience. MTA should use the results of this analysis as the basis to report

	schedule status to FTA and the PMOC. MTA should track delays closely and continue to provide monthly updates to assess how delays are being mitigated. **MTA should continue to hold the partnering meetings and focus on resolution of key project issues with Hitachi executives, as well as continue to provide FTA and the PMOC with summaries of meetings with Hitachi executives.**
Issue/Concern	Since the incident when MTA rejected Roof #1 due to significant quality issues, HBR continues to experience significant quality issues. Corrosion of carshells due to desiccant, corrosive dust, the need to rework axle counters, a cracked structural bolster beam, and roof dimpling are a few of the recent quality concerns and issues affecting the project.
Date Identified	July 2020
Status	Ongoing
Project Sponsor Action	In the May 2023 executive meeting with Hitachi, MTA issued a cure notification. HBR executives are committed to rectifying the quality issues and improving quality and performance. **HBR has improved its quality program and its production process in the OMEP plant in Italy. HBR will resume shipping of carshells to Hagerstown by May or June 2024. HBR developed a fix for the bolster beams, but the related warranty testing has not been developed.**
PMOC Recommendation	**Upon HBR's resuming carshell deliveries to the United States, MTA should have a periodic inspection program in place to validate that HBR has addressed the quality and corrosion issues. MTA also should consider informing the Hitachi executives of MTA's concern regarding the HBR team's lack of partnering to develop the seven-year warranty testing plan for the bolster beams.**
Issue/Concern	Outstanding change notifications are yet to be finalized, such as the second COVID-19-related no-cost time extension.
Date Identified	May 2022
Status	Ongoing
Project Sponsor Action	MTA reports that there are no further COVID-19-related impacts aside from those that are the basis for HBR's latest request for a no-cost time extension. **MTA stated that it has issued a deadline to resolve the remaining COVID-19-related CN, and MTA continues to work closely with HBR to resolve the remaining three CNs that are not related to COVID-19.**
PMOC Recommendation	**In the opinion of the PMOC, MTA has taken a positive management step in issuing HBR a deadline to complete the COVID-19-related no-cost time extension, as well as taking additional steps to attempt to close out the three remaining non-COVID-19-related CNs. MTA should ensure that the impact of the resulting cost or schedule delays to the project are incorporated into an approved baseline schedule and project budget.**

1.4. Status of Key Indicators Dashboard (Post-Grant)

Table 2 shows the key indicators dashboard for the project.

Table 2 – Key Indicators Dashboard

Project Sponsor:				Maryland Transit Administration	
Project Name:				Metro Fleet and Train Control Replacement Project/MTA Non-New Starts Capital Projects	
Date:				**April 17, 2024**	
Project Detail					
Oversight Frequency:				**Monthly**	
Element	**Status**			**Prior Status**	**Issue or Concern**
	●	●	●		
	G	**Y**	**R**		
Project Management Plan (PMP)		●		●	The PMP is due for another update now that MTA is getting ready to receive railcars and is entering the significant test phase.
Management Capacity and Capability		●		●	Management capacity and capability reviews are not being performed on this Non-New Starts Project.
Cost*		●		●	The recently added funds are not currently reflected; however, MTA maintains a $1 million deficit in the project budget. MTA's MWA may not be sufficient to cover change orders under negotiation or other project risks that still could occur.
Schedule			●	●	The currently proposed baseline schedule extends the project by up to 27 more months without float.
Quality		●		●	No new quality issues have been presented since the previous QPRM; a fix has been developed for the bolster beam, but the required testing is still being resolved. MTA is working to try to prevent a future quality issue regarding the CBTC system as it relates to HBR's purchase of Thalis and HBR's use of Thalis equipment and software for CBTC.
Safety	●			●	No issues.
Risk			●	●	Schedule, cost, and quality risks remain high.
Legend					
Green	*Satisfactory: No corrective action necessary.*				
Yellow	*Caution: Risk/issues exist. Corrective action may be necessary.*				
Red	*Elevated for immediate corrective action: Significant risk to the health of the project.*				

*Note: With regard to cost: Additional funds will be requested to address shortfall (force-funded project).
Yellow – Forecast cost exceeds the project budget by up to 3%.
Red – Forecast cost exceeds the project budget by more than 5%.

1.5. Core Accountability Items

Table 3 shows the core accountability items for the project, including the current status of the project and the PMOC's assessment.

Table 3 – Core Accountability Items

		Original (Grant)	Current Forecast	PMOC Assessment of Current Forecast
Cost	Capital Cost Estimate	$465,851,000	$476,851,000	This estimate does not include $10 million of additional budget from state funds for CM and administration or the $3.7 million credit from removed project scope.
Contingency	Unallocated Contingency		$0	MTA only has an MWA, which can be considered to be contingency.
	Allocated Contingency		$20,000,000	This contingency level does not appear adequate at this point in the project; schedule delays are likely to exhaust this amount before project completion.
	Total Contingency	$20,000,000	$20,000,000	MTA is approximately $1 million short for CM services through the end of the contract. This $1 million amount is a conservative estimate, because the EAC assumes a cost of $900,000 per month in CM services, which has been the average for the last two years during which MTA had peak requirements for design reviews, test engineers, and inspectors. The project is a force-funded project for MTA; therefore, after Fiscal Year 2025, based on the EAC, more funds will be requested to cover additional needs/shortfalls.
Schedule	Revenue Service Date	11/29/2022	08/21/2026	This forecasted date is **45** months later than shown in the baseline schedule agreed to by the contractor in January 2021. **HBR is working to address the remaining comments from the schedule workshop and will provide a new project schedule that incorporates the delays and related mitigation actions.**

Project Progress		**Amount**	**Percent of Total**
Total Expenditures	Actual cost of all eligible expenditures completed to date	**$246,297,000**	**51.6%**
Planned Value to Date	Estimated value of work planned to date	Not Available	Not Applicable (N/A)
Actual Value to Date	Actual value of work completed to date	Not Available	N/A

Contract Status		Amount	Percent of Total
Total Contracts Awarded	Value of all contracts (design, support, construction, equipment) awarded; % of total value to be awarded	$466,767,000*	97.9%
Construction Contracts Awarded	Value of construction contracts awarded; % of total construction value to be awarded	$449,924,000*	96.4%
Physical Construction Completed	Value of physical construction (infrastructure) completed; % of total construction value completed	**$246,297,000**	**51.6%**

Rolling Stock Vehicle Status	Date Awarded	No. Ordered	No. Delivered
300 through 377	**09/01/2017**	78	0

Next Quarterly Progress Review Meeting:	**May 8, 2024**

*** Includes change orders issued through April 12, 2024.**

2. OBSERVATIONS AND FINDINGS

2.1. Summary of Monitoring Activities

The PMOC attended monthly virtual meetings on February 28, 2024, March 20, 2024, and April 17, 2024, with MTA project staff and MTA's Project Management Consultant. The PMOC prepared a trip report for each meeting to document the discussions. As part of enhanced oversight, the PMOC has been invited to a biweekly status meeting between MTA and Hitachi management (Hitachi); the PMOC continues to attend these biweekly meetings. The next in-person meeting and site visit are planned to occur the week of June 16, 2024.

The PMOC observed the following during the April 17, 2024 virtual meeting:

- **MTA indicated that MTA Safety has approved the modified safety certification plan and mentioned that the modified safety certification process will give MP 1 access to the test tracks in a safe manner. MTA also mentioned that, as part of the modified process, HBR would be required to submit test documents in parallel with the testing, rather than waiting to the end to submit them (this former process was the partial cause of delays and of the difficulty that HBR had in rectifying the open items and addressing comments).**
- **With respect to technical capacity, HBR continues to have issues in key areas, such as engineering and safety. HBR has been adding local safety staff in Italy; however, MTA believes that the HBR safety manager in Italy is not the right person for the role. MTA believes that there should be a staff person in a safety role who is local to the project. HBR has hired a local quality manager, and MTA is monitoring his performance. HBR has not yet addressed the lack of support in engineering.**
- **MTA stated that it had approved the six weekend outages as provided in the new Schedule Update 47. The schedule shows two weekend outages in October 2024; one in December2024; and one each in February, March, and April 2025. MTA reiterated that HBR will not receive any more weekend outages than the six that have been approved.**

2.2. Oversight Triggers

The oversight triggers most applicable to the project are the Oversight Procedure (OP) 25 schedule, cost, and quality triggers. The project schedule was in one form of update or another throughout the quarter. MTA and HBR agreed upon a no-cost change order in January 2021 that extended the Project Closeout date by 12 months to May 2027. Since the September 2020 revised baseline schedule was agreed upon with the contractor in December 2020, nearly every key milestone has been delayed by more than 12 months. MTA and HBR are trying to wrap up a negotiation for another no-cost time extension (the last one associated with COVID-19). The current unapproved Schedule Update 47 projects that the "Revenue Service Full Project" milestone will be delayed to August 2026, which represents an additional **30.5 months from the approved schedule baseline.** Project schedule delays typically impact project cost, another significant indicator of project health.

Quality problems in carshell manufacturing, the first of which was noted in July 2020, reportedly have been addressed. A second issue resulted in a roof buckling after it was assembled on Carshell #002 in November 2020. MTA reported additional minor quality issues with the carshells in March, April, June, and July 2021, which HBR has addressed. HBR completed root cause analysis of the nonconforming paint inclusions on frame subassemblies on three carshells and of paint on the F-end mask assemblies. HBR determined that the causes were related to shipping and handling, and painting errors. HBR has not confirmed the associated corrective actions but has been inspecting for paint errors, so that they could be repaired before the mask assemblies arrived at the Miami, Florida facility. In November 2022, MTA reported that calcium chloride from desiccant packs had caused corrosion on the floor beams of the carshells, including small holes less than 1/4 inch in diameter in some floor beams where desiccant packs had been placed before shipment from Italy. MTA then reported in December 2022 that, upon closer inspection of the first 16 cars, HBR found the same corrosion on the floor beams on cars that were in production and FAI. As of January 18, 2023, HBR was assessing whether each car could be repaired or would need to be scrapped. At the May 2023 QPRM, MTA reported that HBR was scrapping all 33 carshells that had the corrosion. HBR found the related problem with the manufacturing process in its facility in Italy and has since corrected the manufacturing process and developed a means to clean rail carshells that have minor corrosion dust on them. MTA then reported in June 2023 that HBR has successfully cleaned the seven rail carshells that had been in Miami. HBR continues to reuse components from corroded carshells. MTA indicated that HBR would need work in 24 to 26 months into the start of railcar production at Hagerstown to mitigate the scrapping of the 33 rail carshells because of corrosion.

In July 2023, the PMOC recommended that the vehicle corrosion issue be tabled until HBR commenced the delivery of the new carshells from Italy, planned for the first quarter of 2024, at which point MTA could restart the quality monitoring efforts to determine whether HBR had addressed the manufacturing and shipping corrosion issue. **However, as of April 17, 2024, the Hagerstown facility is not ready to begin receiving carshells from Italy. MTA indicated that HBR will be expecting an initial shipment of two carshells from Italy by mid-May to late May 2024. Based on HBR's performance at the Hagerstown facility with the railcars from Miami and the initial two carshells scheduled to arrive from Italy, a determination between the HBR Plant Manager and HBR Project Director will be made about restarting full production as early as June 2024.**

2.3. Project Management Plan and Subplans

Project Management Plan (PMP) Rev. 5, dated 2022, is the latest formal version issued for this project. Due to significant schedule and budget revisions, quality issues, and project status regarding delivery and testing, MTA should consider updating the PMP. Incorporating lessons learned into MTA's daily management practices could benefit project performance moving forward.

2.4. Management Capacity and Capability

The PMOC is not performing comprehensive Management Capacity and Capability Reviews for these Non-New Starts Capital Projects.

2.5. National Environmental Policy Act Process and Environmental Mitigation

The National Environmental Policy Act process and environmental mitigation are not applicable to this task order assignment.

2.6. Project Delivery Method and Procurement

Project delivery method and procurement reviews are not being performed on this task order assignment.

2.7. Design

As of April 17, 2024, MTA expects that HBR will finalize design changes by May 31, 2024, which is three months later than previously reported.

2.7.1. Train Control, System, Certification and Testing

At the February 28, 2024 meeting with MTA and the PMOC, MTA emphasized that the ATS is essentially complete and is expected to go into revenue service at the end of July 2024. MTA and HBR decided to meet weekly to address defects and the comprehensive list, as well as to focus on the priorities for Phase 4 and anything that remains for Phase 3A. HBR has performed the FAT on the Customer Information System and has been closing out defects, writing test reports, and finalizing documentation. HBR was working on finalizing the test procedures for Google Transit Interfaces, so that the FAT on the Google Transit Interfaces could be completed in early March 2024. MTA indicated that Hitachi's ATS work is expected to be complete by summer 2024, and then the BOCC for Phase 3A will be completed in June 2024 and the Main OCC will be completed in July 2024.

MTA had reported that HBR was experiencing problems with incorporating LiDAR data into the CBTC software. MTA stated that HBR believes that the delay related to LiDAR data will not impact the project; however, HBR has not provided MTA with the revised schedule. The mainline release software will be tested on the test track first.

MTA believes that the Design Conformance Checklist (DCC) is close to completion for subsystems, and there was a related push on the Construction Conformance Checklist (CCC). MTA stated that these certifications need to be ready for revenue service integration in July 2024. MTA indicated that HBR continues to bring up a lack of resources because of the delay in getting the test reports submitted. HBR needs to obtain MTA's approval on the test reports.

HBR has paused Phase 4 testing until May 2024. MTA indicated that HBR had paused testing due to an issue that arose on a different project regarding the use of zone controllers. MTA indicated that the issue was first reported as a communication issue between Microlok and the zone controller. Hitachi owes MTA a detailed description of the issue and what is being done to resolve it. MTA stated that HBR has not responded to the Thalis letter that MTA sent in October 2023.

At the March 20, 2024 meeting, MTA reiterated that the testing of the ATS software continued to progress. HBR continues to work on software updates and fixes. The Customer Information System was completed, and MTA indicated that the physical portion of the Google Interface works. However, for the software portion of the Google Interface, access to the MTA network is necessary in order to test and prove its functionality. HBR and MTA continued to work on how to test the software portion of the Google Interface without compromising operations. As a result, the FAT of the Google Interface will be pushed back a few weeks, depending on when the connection of the MTA network to the Google Interface is resolved. The BOCC for Phase 3A still is expected to be completed in June 2024, and the Main OCC is expected to be completed in July 2024. MTA stated that the target for ATS to enter revenue service is at the end of July 2024, and the test reports submitted are a key part of meeting this milestone.

MTA mentioned that HBR continued to experience problems with incorporating LiDAR data into the CBTC software. HBR had hired a third-party contractor to convert the information and double-check the quality of the data (for example, reviewing the algorithms, GPS data, and expectations). MTA expects HBR to explain how it will incorporate the LiDAR data into the CBTC software and planned a review meeting for the week of March 25, 2024. MTA mentioned that the process of finalizing CBTC LiDAR was at 95 percent and the manual parameters were being checked. HBR had completed enough of the finalization process to allow it to continue moving forward with Interval Testing before the CBTC FAT. During March 2024, MTA expected CBTC FAT to occur in May 2024, about two months later than what MTA reported in the February 2024 meeting.

MTA provided the following information regarding safety certification for the DCC: ATS is at 86 percent, CBTC is at 94 percent, and wayside/carside and whole system are at 86 percent. MTA indicated that HBR was supposed to have the DCC complete by end of March 2024 and then move on to complete the ATS CCC. ATS issues are limited to the defects in the field.

MTA had indicated that Phase 4 testing was moved up to April 2024 from the initial May 2024 date. MTA mentioned that this date change was made to coincide with software updates and also stated that no other testing will occur until CBTC interfaces testing was ready to take place.

At the meeting on April 17, 2024, MTA mentioned that HBR continues to test defect fixes on ATS software updates. MTA indicated that HBR is working on the final crossovers and should have completed the BOCC by the end of July 2024 and the Main OCC by the end of August 2024. MTA indicated that, although the physical portion of the Google Interface works, HBR is still working to have the software portion of the Google Interface meet MTA's requirements. MTA mentioned that it expects HBR to meet the mid-May 2024 date for software readiness. On April 19, 2024, MTA met with HBR to discuss the status of not only the software, but also how HBR intends to perform the FAT and what procedures it will use.

MTA indicated that the slight delay in the arrival of the data warehouse will not delay the progress of ATS software testing. MTA mentioned that the data warehouse had arrived the week of April 15, 2024, and that HBR was installing the DCS in the remote locations.

HBR is still working on installation of the wayside radios, and MTA expects the DCS witness testing of the wayside radios to meet its scheduled date in May 2024. MTA stated that HBR

would be removing, replacing, and testing the wireless access points during the week of May 6, 2024, to address the weatherproofing issue that was uncovered in the field.

MTA mentioned that the focus for the entire project team is to resolve the remaining defects in the ATS software, so that the cutover can occur in August or September 2024 and to avoid having unresolved defects hold up certification.

As noted above, MTA indicated that, during March 2024, HBR had experienced problems with incorporating LiDAR data into the CBTC software. Based on its March meeting with HBR, MTA explained that the preliminary version of the software was not affected because it runs off of GPS information. However, the current version of the CBTC software uses LiDAR data as well and is having difficulties interpreting the LiDAR data in conjunction with the GPS data. MTA mentioned that these issues will not affect track testing, because track testing will run the preliminary version of the software. MTA is now expecting the CBTC FAT to occur in August 2024, which is about five months later than shown in the prior project schedule (Schedule Update 43) but is on target in the latest project schedule (Schedule Update 47), which shows CBTC FAT occurring by August 25, 2024.

Also at the April 17, 2024 meeting, MTA indicated that, with respect to the issue related to the zone controllers, which was discussed in the MTA/PMOC February 2024 monthly meeting report, HBR had a software fix that will allow HBR to resume Phase 4 testing during the month of May 2024: HBR will install a Microlok software release to address a zone controller defect that was found in a different project and that also is applicable for this testing. MTA is still awaiting receipt of a report from HBR that provides a detailed description of the issue. MTA also stated that HBR has not responded to the Thalis letter that MTA sent in October 2023.

2.7.2. Metro Fleet

MTA met with Hitachi executives on April 10, 2024; the meeting focused on safety certification, resources, quality, and the project schedule. MTA had stated that Hitachi executives assured MTA of their commitment to quality and safety. With regards to resources (i.e., technical capacity), Hitachi made a commitment that HBR would do everything in its power to hire more local personnel for the project in the areas of quality and safety.

At the PMOC/MTA meeting on April 17, 2024, MTA indicated that it was still reviewing the updated project schedule (Schedule Update 47) and that it had submitted informal comments to HBR. MTA indicated that, although it has some concerns about Schedule Update 47, MTA believes that HBR would meet key Milestone 18 (related to the first train pair being ready for revenue service) in July of 2025. MTA held a workshop with HBR the week of April 22, 2024, to go over the informal comments on the updated schedule.

On April 15, 2024, HBR submitted an updated package to close out the Open Items List. MTA indicated that HBR had been able to close a significant number of open items, thus allowing MTA Safety to give HBR approval to put MP 1 on the test tracks on April 16, 2024.

MTA indicated that it had provided a recommendation that would simplify the safety certification process for HBR. HBR is reviewing this recommendation with its senior executives, and once HBR gets concurrence from them, HBR will submit a revised plan to reflect this safety certification process. This simplified safety certification process and revised plan should help HBR complete the RAMS testing and qualifications testing, not only for MP 1 through MP 3, but for all of the railcars for the project.

MTA indicated that, given that MP 1 was back on the track during the week of April 15, 2024, and if HBR moves forward with the recommended plan for safety certification, HBR might be able to have MP 1, MP 2, and MP 3 ready for Train Control testing, which must be complete on the mainline by September 2024. This deadline will put pressure on HBR, because the current schedule shows mid-October 2024 for the railcars to be ready, but shows cutover for the ATS for both the Main OCC and the BOCC as complete by the end of August 2024.

As of April 17, 2024, the "Vehicle Design" milestone was projected to be complete on May 31, 2024. This date is three months later than reported in the PMOC's Comprehensive Monitoring Report for the fourth quarter of 2023, and 41 months later than shown in the current baseline schedule.

The PMOC recommends that MTA continue to monitor the progress HBR makes with new staff and replacement staff in the areas of Railcar and System safety. The PMOC also recommends that MTA continue to analyze the schedule and validate that HBR has developed and can implement recovery activities and report realistic milestone dates to FTA.

2.8. Value Engineering and Constructability Reviews

Value Engineering and constructability reviews are not applicable to this task order assignment.

2.9. Real Estate Acquisition and Relocation

Real estate acquisition and relocation reviews are not applicable to this task order assignment.

2.10. Third-party Agreements and Utilities

Third-party agreements and utilities are not applicable to this task order assignment.

2.11. Construction

2.11.1. Train Control System Construction

At the February 28, 2024 meeting, MTA reported that cable replacement work continued on the mainline, including active work at John Hopkins and at Charles Center. The cable replacement work started on February 28, 2024, at State Center. After State Center, the mainline cable replacement work would move on to Milford Mills, Portal, and Owings Mills.

MTA indicated that HBR was finalizing the ATS Operations Manual and would submit the document for MTA review the week of March 4, 2024. HBR had scheduled pilot training for ATS

with six MTA personnel in mid-April 2024 and was scheduling controller training tentatively for May 2024.

MTA then mentioned that HBR had begun shipping MPs 4, 5, 6, and half of MP 7 to Hagerstown. MTA indicated that three married pairs from the Miami facility were on-site in Hagerstown, two married pairs were in transit, and the remaining two married pairs were scheduled to start transit to Hagerstown the week of March 4, 2024. MTA indicated that the issue related to safety certifications for married pairs would not affect the delivery schedule. MTA also reaffirmed that the first replacement vehicle was still on schedule to enter revenue service between May and June of 2025. HBR shared its Transfer of Technology Plan with MTA, and progress will be tracked at the biweekly Quality Assurance/Quality Control meetings.

At the March 20, 2024 meeting, MTA reported that work on the cable replacement axle counter continued on the mainline. The first five locations were completed, and the plan through August 2024 was to complete the mainline through Owings Mills Station and Owings Mills Interlocking.

MTA indicated that ATS pilot training for six MTA personnel would occur in mid-April 2024. Axle counter training and controller training were scheduled to occur before the end of July 2024.

MTA indicated that all the railcars, starting with MP 2 through half of MP 7, were on-site in Hagerstown. HBR continued to fit out the facility with offices, getting the shop areas set up, training staff, developing the warehouse logistics software, working on operational plans, preparing the traffic layout for the automated ground vehicles (which will move and position the railcars for final assembly), and preparing for third rail installation in the facility. The PMOC visited Hagerstown on March 21, 2024, and witnessed these conditions and activities. HBR currently does not allow photography of the Hagerstown facility.

At the April 17, 2024 meeting, MTA reported that HBR was continuing to work on the cable replacement on the mainline. MTA stated that axle counter and controller training is scheduled to occur on May 13 and May 20, 2024. MTA indicated that ATS pilot training for six MTA personnel has yet to be finalized with HBR, because HBR still is resolving MTA's comments on that training program. ATS pilot training for six MTA personnel may occur during the months of June and July 2024.

As of April 2024, HBR continued fitting out the Hagerstown facility with the testing lab for traction and propulsion motors and with offices, getting the shop areas set up, training staff, developing the warehouse logistics software, working on operational plans, preparing the traffic layout for the automated ground vehicles (which will move and position the railcars for final assembly), and preparing for third rail installation in the facility.

2.11.2. Metro Fleet Fabrication and Assembly

At the February 28, 2024 meeting, MTA reported that there were no new carshell corrosion issues. The updated cleaning and passivation process that Hitachi instituted in Italy continues to function well.

With regards to structural steel issues, MTA stated that a meeting was scheduled the week of March 4, 2024, with MTA Quality Assurance representatives and HBR representatives to discuss

the plan for testing the bolster beams, because testing was scheduled to occur the week of March 18, 2024, in Italy. MTA's expectation was that HBR would be able to clarify what type of testing would occur and whether HBR would repeat the fatigue testing.

With regards to assembly status, MTA indicated that MP 2 and half of MP 3 were on-site in Hagerstown, and the other half of MP 3 was expected to arrive there the week of March 4, 2024. HBR had closed the Miami, Florida facility and had vacated that facility in full by March 31, 2024. All staff that opted for relocation had been relocated to Hagerstown. On January 25, 2024, MP 1 was pulled off the test track because HBR had not addressed the remaining comments in the related documentation that was owed to MTA Safety for approval.

At the March 20, 2024 meeting, regarding railcar corrosion, MTA reported that there were no new carshell corrosion issues. The updated cleaning and passivation process that Hitachi instituted in Italy continued to function well. The facility in Italy would have liked to send two carshells; however, the Hagerstown facility was not completely fitted out to receive more carshells than those that were sent from Miami.

With regards to structural steel issues, MTA stated that the bolster beams had cleared the port requirements and that HBR was to begin the sandblasting process the week of March 18, 2024, to prepare for testing. Delays in shipping the bolster beams pushed the meeting that was to occur the week of March 4, 2024, out to the first week in April 2024. Participants in this meeting to discuss the bolster beams were MTA project representatives, MTA Quality Assurance representatives, and HBR representatives.

With respect to assembly status, MTA indicated that all the railcars, starting with MP 2 through half of MP 7, were on-site in Hagerstown. HBR had closed the Miami, Florida facility. HBR was in the process of restoring the Miami facility back to its original warehouse condition, as agreed to in accordance with the contract and was to vacate that facility in full by March 31, 2024. At that time, HBR continued to maintain the warehouse where material was stored for use as part of the logistics and assembly process for the new MTA rail fleet. All staff who had opted for relocation had been relocated to Hagerstown. On January 25, 2024, MP 1 was pulled off the test track because HBR did not completely address the DCC, CCC, and open item comments. HBR submitted comments on March 19, 2024, and expected that MTA would put MP 1 on the test track without validating those comments. MTA indicated that MP 1 would go on the test track the moment MTA Quality Assurance confirmed that all the comments had been addressed. Preliminary work on the married pairs was scheduled to begin on April 7, 2024, pending the approval and validation of the Nonconformance Report (NCR) concerning the flooring rivets.

At the April 17, 2024 meeting, MTA reported that there were no new carshell corrosion issues. HBR told MTA that the updated cleaning and passivation process instituted in Italy functions well. The OMEP rail manufacturing plant in Italy would have liked to send two carshells to Hagerstown; however, the Hagerstown facility was not completely fitted out to receive more carshells than already had been sent from Miami. MTA indicated that HBR possibly would start shipping vehicles to Hagerstown after Hitachi holds a grand opening ceremony for the Hagerstown facility, which is tentatively scheduled for June 2024.

With regards to structural steel issues, MTA stated that HBR experienced many issues in getting the bolster beams to the facility in Italy and that delays in the shipping process had pushed the schedule back one month since the last report on this issue. MTA indicated that the bolster beams were being prepared for the sandblasting process as of the April 17, 2024, meeting. MTA mentioned that MTA project representatives, MTA quality assurance representatives, and HBR representatives planned to meet the first week in May 2024 to discuss the results of bolster beam testing. The PMOC recommends that MTA continue to partner with Hitachi to achieve a working solution for MTA's concern regarding the resolution of, and inspections related to, the bolster beam issue.

With respect to assembly status, during the PMOC's project site visit in March 2024, there was a pause in the carshell assembly process in Hagerstown caused by an NCR concerning the flooring rivets. MTA reported that HBR's fix had passed all inspections and allowed work on the railcar flooring to move forward and allowed the assembly process to restart. MTA indicated that during the week of April 1, 2024, HBR had completed the training for floor installation and that complete assembly of MPs 4, 5, and 6 is expected by the end of 2024. Completion by the end of 2024 would be 20 to 80 days ahead of the completion date in the recent Schedule Update 47.

MP 1 was allowed back on the test track on April 16, 2024, because HBR had addressed the DCC, CCC, and open item comments. MTA indicated that it had provided approval late on the evening of April 15, 2024. MTA stated that on April 16 and 17, 2024, MP 1 was moved around the yard to prepare for RAMS testing. The PMOC inquired about the traction and propulsion motors based on its March visit. MTA mentioned that testing for those motors should begin in mid-May 2024, just after the RAMS testing of MP 1 is completed. Schedule Update 47 shows qualifications testing for MPs 1, 2, and 3 to be fully completed by mid-October 2024, which appears to be in line with the project's current progress.

With respect to quality issues, MTA indicated that HBR was reviewing the FAI Guidelines and incorporating lessons learned into the FAIs. Regarding Railcar NCRs, MTA stated that it had worked out buy-backs with HBR and that progress was being made on railcar NCRs. Regarding the issue related to the engineer's cab not having proper ventilation, MTA indicated that it is still waiting for the final solution that is needed for production. MTA also mentioned that it has instituted weekly meetings with HBR to close out old issues in System NCRs.

The PMOC recommends tabling the issues related to carshell corrosion until HBR starts to send new carshells and restarts production at the Hagerstown facility, at which time MTA should revisit the issue of the condition of carshells being shipped from Italy.

The PMOC also recommends that MTA continue to require HBR to develop and demonstrate a mitigation plan to address the scrapping of the 33 carshells. This mitigation plan should include a realistic schedule, along with an EAC that includes sufficient contingency based on that mitigation plan.

The PMOC recommends that MTA continue to partner with HBR to achieve a working solution for resolution of, and inspections related to, the bolster beam issue.

2.12. Vehicle Technology and Procurement

Vendor: Hitachi Ansaldo Baltimore Rail Partners, LLC

Model: Hitachi Rail Italy (HRI)-MTA

Year: 2023 (first vehicle delivery)

Quantity: 78

Identification: 300 through 377

New Technologies: Not applicable

Significant Events:

Time Frame	Event
May 2024	**Manufacturer's Design Complete**
July 2025	**First Vehicle Final Acceptance**

Bus Vehicle Testing: Not applicable

2.13. Project Cost

2.13.1. Project Budget

MTA reported the latest project cost data (through February 28, 2024) **to the PMOC on April 17, 2024,** which shows that the project has total expenditures of $246,297,000. Table 4 shows the federal grants used for the project, and Table 5 shows the total project funding and the drawdowns on that funding through February 2024, as reported by MTA on April 17, 2024. MTA has added two future federal grants to the list, thus increasing the federal share and decreasing the state share.

The PMOC recommends that MTA continue to analyze the overall project budget, including administrative and oversight costs, in light of the ongoing schedule delays.

Table 4 – Project Federal Grants

Federal Grants	Federal Amount	Drawdown
MD-2016-006	$34,054,000	$34,054,000
MD-2016-007	$3,645,000	$3,645,000
MD-2019-014 / ZC02XX	$19,621,000	$18,435,000
MD-2019-017	$5,002,000	$5,002,000
MD-2019-018 / ZC01XX / ZC03XX	$5,785,000	$5,785,000
MD-2020-003 / ZD22XX	$16,847,000	$16,847,000
MD-2021-004 / STP-20	$13,730,000	$8,687,000
MD-2021-013 / ZD20XX	$27,946,000	$27,490,000
MD-2022-010/ **ZF08XX**	$7,578,000	$2,286,000
1401-2021-30 / ZE02XX	$9,745,000	-

Federal Grants	Federal Amount	Drawdown
1401-2021-18 / ZF20XX	$38,032,000	-
5307-22 / ZG24XX	$33,038,000	-
5307-23 / ZH02XX	$26,098,000	-
B5307-24	$24,010,000	-
B5307-25	$15,043,000	-
B5307-26	$3,331,000	-
B5307-28	**$43,904,000**	-
ZG08XX	$10,301,000	-
CMAQ-23 / ZH11XX	$29,072,000	-
B5337-22	**$666,000**	-
B5337-25	$12,163,000	-
B5337-26	$2,469,000	-
SHA-FLEX	**$20,978,000**	-
Total	**$403,058,000**	**$122,231,000**

Note: Rounding in grant values is not reflected in the totals.

Table 5 – Project Funding Summary

Funding Source	Amount	Drawdown
Federal	**$403,058,000**	$122,231,000
State/County	**$73,793,000**	**$124,066,000**
Total	$476,851,000	**$246,297,000**

MTA continues to manage change orders and change requests. The following is the status of contract changes as reported by MTA on **April 17, 2024:**

- Fifty-three change requests have been initiated to date.
- Four of the change requests were cancelled.
- MTA and HBR have negotiated **44** change orders (with a related net increase to the contract value of **$10,148,670.66**), which include two change orders funded by separate MTA projects.
- MTA indicated that CNs 46, 47, 48, and 51 are in the resolution process. MTA has updated the list of new CNs as Hitachi submits the information. The new CNs are:
    - CN 49 (Lexington Market Station Berthing).
    - CN 50 (Yard Axle Counter Reset).
    - CN 51 (Remote Workstation Data Communication System).
    - CN 52 (Reusing Fiber Optics) – HBR will not conduct this work, so MTA will use its own subcontractor, Fairfield.

- CN 53 (Incompatible Hitachi Analog Points for Supervisory Control and Data Acquisition, or SCADA) – HBR's potential fix is to hardcode the data.

MTA's initial assessment of the amount for CN 47 (Replacement of Metro Mainline Raceways) is that it appears to be overly inflated, and MTA believes that HBR is trying to recoup lost full-time costs of employees. MTA continues to report that the budget for HBR's fleet and train control work will not increase due to the delays that are reflected in the current contract baseline schedule. **Although MTA states that it has the funds to complete the project, the PMOC forecasts that additional funds may be required for schedule mitigation, safety oversight, construction management, and administration.**

2.13.2. Disadvantaged Business Enterprise Performance

The project has the following Disadvantaged Business Enterprise (DBE) goals:

- HRI DBE goal: 4.00 percent (2021)
- Ansaldo STS DBE goal: 9.72 percent

Actual performance relative to these goals is reported separately to FTA by HRI and by Ansaldo STS (the transit vehicle manufacturer) in accordance with the U.S. Department of Transportation DBE regulations.

2.14. Project Schedule

HBR submitted a preliminary project schedule that was revised to address comments that MTA provided in November 2017. MTA approved the February 28, 2018 Project Schedule (Rev. 3) as the project baseline schedule in March 2018.

After initial delays, HBR submitted the integrated Train Control and Railcar schedule recovery plan (HBR's Project Schedule Update 12) in May 2019. MTA reviewed Project Schedule Update 12 and accepted it as the schedule recovery plan. HBR's project schedule updates through March 2020 continued to show delays to interim milestones and the Full Revenue Service date. Delays due to COVID-19 then began to occur.

In May 2020, MTA decided to proceed with the addition of axle counters in the yard, which MTA understood would result in delays that would be experienced concurrently with delays already resulting from design delays and COVID-19 restrictions.

HBR submitted Project Schedule Update 28 on September 10, 2020. MTA and its consultant reviewed it and returned it to HBR for revision and resubmission. MTA and HBR then met twice to resolve the comments and concerns, and HBR resubmitted Project Schedule Update 28 in October 2020. MTA's comments on Project Schedule Update 28 related to changes to the schedule since the previous update that were not fully documented and to other scheduling practices. HBR's proposed Project Schedule Update 28 also included the past delays related to COVID-19, but the documentation to back up the COVID-19-related delays (starts and stops) of each activity was not provided.

In December 2020, MTA accepted Project Schedule Update 28 from HBR as the new baseline schedule. Comparison of the prior baseline schedule to the new baseline schedule indicated that the completion of the Train Control system construction was delayed by 343 days (just over 11 months), and the "Revenue Service Full Project" milestone was delayed by 456 days (just under 15 months). MTA reported that this baseline schedule did not include contingency time, or float.

Since MTA accepted Project Schedule Update 28 as the revised contract baseline schedule, HBR has submitted 13 updates that MTA has accepted. HBR submitted Schedule Update 42 in January 2022 and requested that MTA accept it as the new baseline schedule. As of December 20, 2023, HBR had submitted 19 schedule revisions after receiving comments from MTA. In December 2020, the latest schedule revision, that was being used for reporting, was Schedule Update 42R19, which HBR submitted on November 1, 2023. At the QPRM on February 8, 2024, MTA provided Schedule Update 43.

On April 17, 2024, MTA stated that HBR provided a new schedule dated April 1, 2024 (Schedule Update 47). MTA provided a copy of the schedule to the PMOC on April 8, 2024. MTA indicated that it is still reviewing the schedule. MTA stated that it had provided HBR with preliminary informal comments and reiterated that it will not re-baseline the project schedule. Schedule Update 47 appears to be the official project schedule, and Hitachi will be held accountable to meeting it. The PMOC performed a general review of key dates and dates where there are crossovers. Schedule Update 47 appears to the PMOC to be sound, but there are activities (such as MP 1, CBTC LiDAR, and Google Interface) for which the dates have already been exceeded due to HBR's delay in addressing issues. HBR has pushed out dates for six rail outages that it had requested and had tied to system activities (two in October 2024, one in December 2024, one in February 2025, one in March 2025, and one in April 2025). MTA has approved all six weekend outages with the following stipulations: the outages will be tied to system software releases, HBR will create a Service Impact Report, and HBR will not be granted any additional weekend outages for the remainder of the project. MTA recognizes that outages are needed to meet Milestone 18 (which puts the first train into revenue service). Meeting Milestone 18 is important to MTA because its fleet has been aging faster than expected and having the new vehicles will help reduce the stress on the existing revenue fleet. Upon achieving Milestone 18, the expectation is that two married pairs will be placed on the tracks per month, which is important to MTA. MTA reiterated that July 2025 is the first vehicle final acceptance date and is a critical milestone. MTA is pushing HBR to focus on having replacement vehicles ready, and MTA is hoping to have a full fleet by 2026.

Since MTA first accepted Schedule Update 28 as the revised contract baseline schedule in September 2020, Hitachi has submitted 15 updates that MTA has accepted. Hitachi submitted Schedule Update 47 in April 2022. MTA is still reviewing Schedule Update 47 and has not yet accepted it. However, MTA has provided informal comments on the schedule, and MTA and HBR held a meeting to discuss these comments during the week of April 22, 2024. The latest schedule revision, which is being used for reporting, is Schedule Update 47, which is dated April 1, 2024.

Schedule Update 47 shows that the "Contractor Design Completion" milestone has been delayed until May 31, 2024, 43 months later than shown in the current baseline schedule and 5 months

later than previously reported at the QPRM. In addition, Schedule Update 47 indicates that the "Manufacturer Design Complete" milestone has been delayed until May 31, 2024, 41 months later than shown in the current baseline schedule and 5 months later than previously reported at the QPRM. The "Last Vehicle Delivered" milestone will occur on July 1, 2026, 45 months later than shown in the current baseline schedule and 1.3 months later than reported at the QPRM, and Schedule Update 47 indicates that the "Integrated Testing" milestone will occur on July 21, 2024, 27 months later than shown in the current baseline schedule and 3.6 months later than reported at the QPRM. The "Revenue Service Full Project" milestone has not changed and remains August 21, 2026, 33 months later than shown in the current baseline schedule.

The PMOC received Schedule Update 47 and performed a preliminary review that involved matching contractual and key milestones and checking against current progress reported. The schedule appears to be sound on a preliminary level. The PMOC will need to continue to monitor the project and review the results of the meeting held during the week of April 22, 2024, to be able to gauge a confidence level in Schedule Update 47. Only through performing a thorough FTA OP 34 Schedule Review can the PMOC ascertain complete schedule soundness and confidence level.

FTA and the PMOC would prefer a stationary baseline schedule rather than a schedule that appears to move monthly. Upon MTA's acceptance of or concurrence on Schedule Update 47, it would benefit both MTA and Hitachi moving forward to maintain a schedule that does not consistently slip. Any further schedule slippage will demonstrate a true lack of management capacity and capability, which in turn carries the risk of heavily impacting the budget.

Based on the continued schedule slippage and the related risk, the PMOC recommends that MTA continue to require Hitachi to adhere to a recovery and mitigation plan that will meet an acceptable project schedule, using interim key project milestones and contractual milestones, and that MTA closely monitor Hitachi's progress.

Table 6 shows the project schedule, completion dates for the current approved baseline schedule and for subsequent recent schedule updates, and the change since the last quarter.

Table 6 – Project Schedule

Activity	Original Contract or Grant Date	Current Approved Baseline Completion Schedule (Update 28, 9/1/2020)	Last Quarter Completion Dates (Update 43R19, 2/8/2024)	Current Completion Date (Update 47, 4/1/2024)	Change Since Last Quarter*	Actual
MTA Design Complete	3/1/2015	3/1/2015	3/1/2015	3/1/2015	-	3/1/2015
Right-of-Way Complete	N/A	N/A	N/A	N/A	N/A	N/A
Advertisement	9/30/2015	9/30/2015	9/30/2015	9/30/2015	-	9/30/2015
Bids/Proposal Due	3/31/2016	3/31/2016	8/12/2016	8/12/2016	-	8/12/2016
Award/**Board of Public Works** Date	11/30/2016	11/30/2016	7/26/2017	7/26/2017	-	7/26/2017
Notice to Proceed	12/15/2016	12/15/2016	9/1/2017	9/1/2017	-	9/1/2017

Activity	Original Contract or Grant Date	Current Approved Baseline Completion Schedule (Update 28, 9/1/2020)	Last Quarter Completion Dates (Update 43R19, 2/8/2024)	Current Completion Date (Update 47, 4/1/2024)	Change Since Last Quarter*	Actual
Construction:						
Contractor Design Complete	2/7/2019	12/15/2020	**12/31/2023**	**5/31/2024**	**-152 Days**	
Construction Start	5/14/2018	5/14/2018	4/2/2018	4/2/2018	-	4/2/2018
Construction Complete	5/26/2024	5/4/2025	**9/19/2025**	**1/4/2027**	**-472 Days**	
Vehicles:						
Mfgr Design Complete	5/29/2019	2/23/2021	**12/31/2023**	**5/31/2024**	**-152 Days**	
First Vehicle Delivery	5/29/2020	8/23/2021	9/4/2023	9/4/2023		9/13/2023
First Vehicle Cond. Accept	6/26/2021	11/3/2022	7/20/2025	7/20/2025	-	
First Vehicle Final Accept	6/26/2021	11/4/2022	7/21/2025	7/21/2025	-	
Last Vehicle Delivery	10/25/2022	1/23/2024	**5/20/2026**	**7/1/2026**	**-42 Days**	
Last Vehicle Cond. Accept	11/28/2022	2/28/2024	8/20/2026	8/20/2026	-	
Last Vehicle Final Accept	11/29/2022	3/1/2024	8/21/2026	8/21/2026	-	
Integrated Test Start	6/26/2021	6/21/2022	**3/30/2024**	**7/21/2024**	**-113 Days**	
Revenue Service Start, if Phased	6/26/2021	11/3/2022	7/21/2025	7/21/2025	-	
Revenue Service Full Project	11/29/2022	2/28/2024	8/21/2026	8/21/2026	-	
Project Closeout	5/26/2026	5/4/2027	**4/29/2029**	**4/29/2029**	-	

***Reason for Change:** HBR updated the schedule as the new proposed baseline. The schedule includes delays due to late delivery of the first married pair to Hagerstown from testing in Miami, expected delays related to the move to Hagerstown, and delays associated with repair/replacement of corroded carshells.

2.15. Project Risk

It is recognized that the Train Control system work has been very challenging, because both the new system and the existing system need to operate simultaneously during the transition period, when both new railcars and existing railcars are in operation. **MTA has recently identified a new potential risk: HBR's purchase of Thalis and an issue HBR uncovered at another project using the same zone controller software. Bringing in a third system to be integrated is a very delicate process, and HBR needs to address future testing and warranty. Since the start of 2022, MTA has been dealing with the risk associated with HBR's inability to develop resolutions to issues with DCC, CCC, and safety certifications in order to meet HBR's own plan that was submitted to and approved by MTA. By June 2024, the HBR risk regarding DCC, CCC, and safety certifications may be resolved.**

Although the relationship between MTA and Hitachi has improved, Hitachi has failed to respond to several MTA requests. MTA submitted a letter to Hitachi in mid-April, once again requiring Hitachi to address and respond to MTA's request to provide a resolution to all outstanding requests, especially to roughly the 13 major requests identified in MTA's mid-April letter.

The impacts of a second COVID-19 no-cost time extension and the scrapping of 33 rail carshells, although it eliminated the issue regarding the rust/corrosion impacts, both still pose risks to the production schedule. HBR needs to develop a mitigation plan for these risks. MTA also must wait for the Hagerstown facility to restart production in 2024 in order to validate that HBR's mitigation for the corrosion issue has been addressed successfully. The impacts of ongoing schedule delays, primarily due to safety certifications, are significantly increasing the risk of project cost overruns.

2.16. Quality Assurance/Quality Control

MTA's contract with HBR establishes the Quality Assurance/Quality Control requirements for the project in accordance with FTA Quality Management System Guidelines. Quality problems related to carshell manufacturing, which were first noted in July 2020, reportedly have been addressed. See the discussion in Section 2.11.2, above.

MTA indicated that no new quality issues related to railcars have been reported since the May 2023 QPRM. HBR is concentrating on closing out old issues. Similarly, no new quality issues related to systems have been reported recently, and HBR is closing out old systems quality issues.

At the December 20, 2023 MTA/PMOC meeting, MTA stated that it had requested the biweekly quality meetings to resume after they had been canceled, without explanation, by Hitachi management. MTA was informed that the biweekly quality meetings would resume beginning January 10, 2024, with a combined meeting for OMEP (Italy), HRI (management), and Hagerstown. This biweekly quality meeting now replaces any monthly railcar quality meetings.

On April 17, 2024, MTA confirmed that the biweekly quality meetings with HBR continue and are reducing the quality issues.

2.17. Safety and Security

MTA's contract with HBR establishes the requirements for safety and security, including those for safety certification of the work performed on this project. Railway Worker Protection safety training is ongoing. MTA announced that HBR hired well-known industry consultants to assist with addressing the security certification issues that have been plaguing HBR. MTA has since noticed positive progress toward resolution of these issues, albeit slower progress than MTA anticipated.

2.18. Americans with Disabilities Act

The contract for this project requires compliance with the Americans with Disabilities Act regulations. One major ADA issue all railcar operators have faced and are in the process of correcting has been the gap in-between railcars. Currently the new vehicles do not have barriers to guide sight-impaired passengers from mistaking the gap between the vehicles as an entry door. It is expected that this will be corrected by the time the first railcar will be accepted in July of 2025.

2.19. Buy America

The contract for this project requires compliance with FTA's Buy America requirements. MTA reported in January 2022 that it had completed the interim Buy America audit and found that both

the train control and the railcar materials exceeded the requirements. MTA plans to conduct another audit after the first railcars are delivered and the train control materials have all been installed.

2.20. Start-Up, Commissioning, Testing

As MTA reported on April 17, 2024, regarding railcar certification, HBR submitted an updated package on April 15, 2024, to close out the Open Items List. MTA indicated that HBR had been able to close a significant number of open items, thus allowing MTA Safety to give HBR the green light to put MP 1 on the test tracks starting April 16, 2024. MTA indicated that it had provided a recommendation that would simplify the safety certification process for HBR. HBR is reviewing this recommendation with its senior executives, and once HBR gets concurrence from them, HBR will submit a revised plan to reflect this updated safety certification process. This simplified safety certification process and revised plan should help HBR with the RAMS testing and qualifications testing not only for MP 1 through MP 3, but for all of the railcars for the project. MTA indicated that, given that MP 1 was back on the track during the week of April 15, 2024, and if HBR moves forward with the recommended plan for safety certification, HBR may be able to have MP 1, MP 2, and MP 3 ready for Train Control testing, which must be complete on the mainline by September 2024. This deadline will put pressure on HBR, because the current schedule shows mid-October 2024 for the railcars to be ready, and it shows cutover for the ATS for both the Main OCC and BOCC as complete by the end of August 2024.

MTA stated that, with respect to Systems, the focus of the entire project team is to resolve the remaining defects in the ATS software, so that the cutover can occur in August or September 2024 and so that unresolved defects would not hold up certification.

HBR will be able to resume Phase 4 testing this month, because it will install a Microlok software release to address a zone controller defect found in a different project that also is applicable for this testing. MTA is still awaiting receipt of a report from HBR that provides a detailed description of the issue. MTA also stated that HBR has not responded to the Thalis letter that MTA sent in October 2023.

HBR is still working on installation of the wayside radios, and MTA expects that DCS witness testing of the wayside radios will meet the schedule of May 2024 for this testing. MTA stated that HBR will be removing, replacing, and testing the wireless access points during the week of May 6, 2024, to address the weatherproofing issue that was uncovered in the field.

The PMOC recommends that MTA maintain a general Systems Start-up, Commissioning, and Testing Plan that can be utilized on all types of projects and also issue a project-specific supplemental plan. These plans would aid both MTA's project team and HBR's team to better manage key and critical activities, and they also would provide valuable inputs to the project schedule.

2.21. Before-and-After Study Reporting

Before-and-after study reporting is not applicable to this task order.

2.22. Lessons Learned

At the PMOC's request, MTA provided four Lessons Learned documents on September 25, 2020, to illustrate the project processes that were using lessons learned from past events during the control system construction and railcar manufacturing. At the time, MTA and the PMOC reviewed and briefly discussed these documents during their monthly meeting.

The process of incorporating lessons learned involves review of those events from the last major work activity (either positive or negative) that should be agenda items for the next major work activity being prepared. There are generally one or two meetings before a major activity, including those activities that require a power outage.

After a major activity, a new Lessons Learned document is prepared. MTA staff, consultant staff, and HBR each provide a list of lessons learned and recommend future actions separately, and then these are consolidated into post-activity debriefing meeting minutes. However, the meeting minutes document does not build upon items from previous major activities; thus, the lessons learned are not documented in a cumulative fashion.

As first stated in the October 2020 PMOC Comprehensive Monitoring Report, in the opinion of the PMOC, MTA should document and track lessons learned in a cumulative fashion. MTA should then refer to this more complete document in order to integrate lessons learned into the construction process and adjust them as project conditions dictate.

2.23. Actions Items/Critical Issues Table

Table 7 lists action items or critical issues identified at the previous quarterly meetings and monthly meetings related to this project.

Table 7 – Action Items/Critical Issues

No.	Issue Description	Status	Resolution	Date
1	Final Design Review – Design checklists are needed for ATC, CBTC, and Railcar. All are nearly complete.	Open		5/31/2024
2	Safety certification is a key concern for both Railcar and Train Control. • Train Control: CCC criteria are being verified as testing is completed in the field. Progress has been made on ATS. Automatic Train Control (ATC) and CBTC will start in April 2024.	Open		6/30/2024
3	Safety certification is key concern for both Railcar and Train Control. • Railcar: Work is being done to finalize DCC criteria verification and the portion of CCC that can be done before test track and mainline testing.	***Closed***		***4/16/2024***
4	CBTC Software Development – With the development team located in France (no local team), there is a risk that software updates and testing will be prolonged. This situation will be monitored. Preliminary ATC/CBTC FAT was successful. Development work remains, and field testing will be key to proving stability of software.	Open		6/30/2024

5	Hitachi has notified MTA that it will shift production of Railcar to Hagerstown at the end of 2023. This poses significant risk associated with readiness of the facility, training of staff, competition for staff, and production space with Washington Metropolitan Area Transit Authority.	Open		6/30/2024
6	Hitachi notified MTA in February 2023 that four indications were noted with respect to the bolster beam at the conclusion of the truck fatigue test. Repairs will be needed regardless of the root cause. Trucks already produced will need to be repaired.	Open		5/31/2024

ATTACHMENT A – LIST OF ACRONYMS

ATC	Automatic Train Control
ATS	Automatic Train Supervision
BOCC	Backup Operations Control Center
BRT	Bus Rapid Transit
CBTC	Communications Based Train Control
CCC	Construction Conformance Checklist
CFR	Code of Federal Regulations
CM	Construction Management
CMGC	Construction Manager General Contractor
CN	Change Notice
CSSP	Construction Safety and Security Plan
DBE	Disadvantaged Business Enterprise
DBOM	Design, Build, Operate, and Maintain
DCC	Design Conformance Checklist
DCS	Data Communication System
DF	Designated Function
EAC	Estimate at Completion
FAI	First Article Inspection
FAT	Factory Acceptance Test
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GPS	Global Positioning System
HAB	Hitachi Ansaldo Baltimore Rail Partners, LLC
HBR	Hitachi Baltimore Rail Partners LLC
HRI	Hitachi Rail Italy
LiDAR	Light Detection and Ranging
MP	Married Pair
MTA	Maryland Transit Administration
MWA	Miscellaneous Work Allowance

N/A	Not Applicable
O&M	Operations and Maintenance
OCC	Operations Control Center
OHA	Operational Hazard Analysis
OP	Oversight Procedure
OSHA	Occupational Safety and Health Administration
PDR	Preliminary Design Review
PHA	Preliminary Hazard Analysis
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QPRM	Quarterly Progress Review Meeting
RAMS	Reliability, Availability, Maintainability, and System Safety
RAP	Rail Activation Plan
SCIL	Safety Certifiable Item List
SEPP	Security and Emergency Preparedness Plan
SIT	Systems Integration Test
SOP	Standard Operating Procedure
SSCP	Safety and Security Certification Plan
SSCVR	Safety & Security Certification Verification Report
SSI	Solid-state Interlocking
SSMP	Safety and Security Management Plan
SSO	State Safety Oversight
SSPP	System Safety Program Plan
TVA	Threat and Vulnerability Assessment

ATTACHMENT B – SAFETY AND SECURITY CHECKLIST

To be revised and populated in future reports.

Project Overview			
Project Mode (Rail, Bus, BRT, Multimode)			
Project Phase (Project Development, Engineering, Construction, Start-Up)			
Project Delivery Method (Design/Build, DBOM, CMGC, etc.)			
Project Plans	**Version**	**Review by FTA**	**Status**
Safety and Security Management Plan (SSMP)			
Safety and Security Certification Plan (SSCP)			
System Safety Program Plan (SSPP)			
System Security Plan or Security and Emergency Preparedness Plan (SEPP)			
Construction Safety and Security Plan (CSSP)			

Area of Focus	**Y/N**	**Notes/Status**
Safety and Security Authority		
Is the project sponsor subject to 49 CFR Part 659 state safety oversight requirements?		
Has the state designated an oversight agency as per Part 659.9?		
Has the oversight agency reviewed and approved the project sponsor's Security Plan or SSPP as per 49 CFR Part 659.17?		
Did the oversight agency participate in the last Quarterly Program Review Meeting?		
Has the project sponsor submitted its safety certification plan to the oversight agency?		
Has the project sponsor implemented security directives issues by the Department Homeland Security and/or Transportation Security Administration?		
SSMP Monitoring		
Is the SSMP project-specific, clearly demonstrating the scope of safety and security activities for this project?		
Does the project sponsor review the SSMP and related project plans to determine if updates are necessary?		
Does the project sponsor implement a process through which the Designated Function (DF) for Safety and DF for Security are integrated into the overall project management team? Please specify.		
Does the project sponsor maintain a regularly scheduled report on the status of safety and security activities?		
Has the project sponsor established staffing requirements, procedures, and authority for safety and security activities throughout all project phases?		
Does the project sponsor update the safety and security responsibility matrix/organizational chart as necessary?		
Has the project sponsor allocated sufficient resources to oversee or carry out safety and security activities?		
Has the project sponsor developed hazard and vulnerability analysis techniques, including specific types of analysis to be performed during different project phases?		

Does the project sponsor implement regularly scheduled meetings to track to resolution any identified hazards and/or vulnerabilities?		
Does the project sponsor monitor the progress of safety and security activities throughout all project phases? Please describe briefly.		
Does the project sponsor ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted.		
Has the project sponsor ensured the development of safety design criteria?		
Has the project sponsor ensured the development of security design criteria?		
Has the project sponsor ensured conformance with safety and security requirements in design?		
Has the project sponsor verified construction specifications conformance?		
Has the project sponsor identified safety and security critical tests to be performed prior to passenger operations?		
Has the project sponsor verified conformance with safety and security requirements during testing, inspection, and start-up phases?		
Does the project sponsor evaluate change orders, design waivers, or test variances for potential hazards and/or vulnerabilities?		
Has the project sponsor ensured the performance of safety and security analyses for proposed workarounds?		
Has the project sponsor demonstrated through meetings or other methods, the integration of safety and security in the following? • Activation Plan and Procedures • Integrated Test Plan and Procedures • Operations and Maintenance Plan • Emergency Operations Plan		
Has the project sponsor issued final safety and security certification?		
Has the project sponsor issued the final safety and security verification report?		
Construction Safety		
Does the project sponsor have a documented/implemented Contractor Safety Program with which it expects to comply?		
Does the project sponsor's contractor(s) have a documented companywide safety and security program plan?		
Does the project sponsor's contractor(s) have a site-specific safety and security program plan?		
How do the project sponsor's OSHA statistics compare to the national average for the same type of work?		
If the comparison is not favorable, what actions are being taken by the project sponsor to improve its safety record?		

Federal Railroad Administration		
If shared track, has the project sponsor submitted its waiver request application to FRA? (Please identify specific regulations for which waivers are being requested.)		
If shared corridor: has the project sponsor specified specific measures to address shared corridor safety concerns?	N/A	This is not a shared corridor.
Is the Collision Hazard Analysis underway?		
Other FRA required Hazard Analysis – Fencing, etc.?		
Does the project have Quiet Zones?		
Does FRA attend the Quarterly Review Meetings?	N	

ATTACHMENT C – TOP 5 PROJECT RISKS

Please see Section 1.3, Table 1 – Major Issues/Concerns; Section 2.15, Project Risk; and Section 2.23, Table 7 – Action Items/Critical Issues, in this report for the top project risks.

ATTACHMENT D – AWARDED CONTRACTS

As reported by MTA on **April 18, 2024**.

Company	Vendor Type	Contract Number	Baseline Amount (in thousands)	Current Amount (in thousands)	Projected Amount (in thousands)	Percent of Projected Total
RKK	Design	1354A	$800	$163	$252	0.05%
JMT	Design	1354B	$487	$452	$698	0.15%
PB	Design	1265A	$2,030	$97	$150	0.03%
HAB Rail Partners	Contractor	T-8000-1415	$400,517	$400,517	$400,517	84.01%
AECOM	Construction Services	1445A	$16,396	$16,093	$24,834	5.21%
CH2M Hill	Construction Services	1345A/ AGY-16A	$6,191	$7,025	$10,842	2.27%
HNTB	Construction Services	1445A/ AGY-16A	$7,785	$8,598	$13,269	2.78%
STV	Construction Services	1345B/ AGY-16D	$5,030	$6,118	$9,442	1.98%
OMNI	Construction Services	AGY-16B	$1,907	$1,728	$2,667	0.56%
WSP	Construction Services	1345C/ AGY-16E	$247	$1,921	$2,965	0.62%
Urban	Construction Services	15-01C	$505	$846	$1,306	0.27%
GF	Construction Services	1445C	$3,044	$73	$113	0.02%
MTA	Construction Services	Misc.	$15,973	$438	$676	0.14%
ADS	Construction Services	AE-19-04D/1399C	$5,855	$5,855	$9,036	1.90%
Contracted Total			$466,767	$449,924	$476,767	100.00%*

* Totals may vary slightly due to rounding.

ATTACHMENT E – ROLLING STOCK VEHICLE STATUS REPORT

Vendor: Hitachi Ansaldo Baltimore Rail Partners, LLC

Model: Hitachi Rail Italy (HRI)-MTA

Year: 2023 (first vehicle delivery)

Quantity Ordered: 78

Quantity Delivered to Date: 0

Identification: 300 through 377

New Technologies: Not applicable

Significant Events:

Time Frame	Event
May 2024	**Manufacturer's Design Complete**
July 2025	**First Vehicle Final Acceptance**

ATTACHMENT F – PROJECT MILESTONES/KEY EVENTS

Milestones	Actual or Currently Planned Dates
MTA Design Complete	March 2015
Notice to Proceed	September 2017
Control System	
Contractor Design Complete	**May 2024**
Construction Start	April 2018
Construction Complete	**January 2025**
Fleet	
Manufacturer's Design Complete	**May 2024**
First Vehicle Delivery	September 2023
First Vehicle Final Acceptance	**July 2025**
Last Vehicle Delivery	**July 2026**
Last Vehicle Final Acceptance	August 2026
Integrated Project	
Integrated Test Start	**July 2024**
Revenue Service, if Phased	**July 2025**
Revenue Service Full Project	August 2026
Project Closeout	April 2029

Note: Dates shown are based on Project Schedule Update 47.

ATTACHMENT G – ROADMAP TO REVENUE OPERATIONS

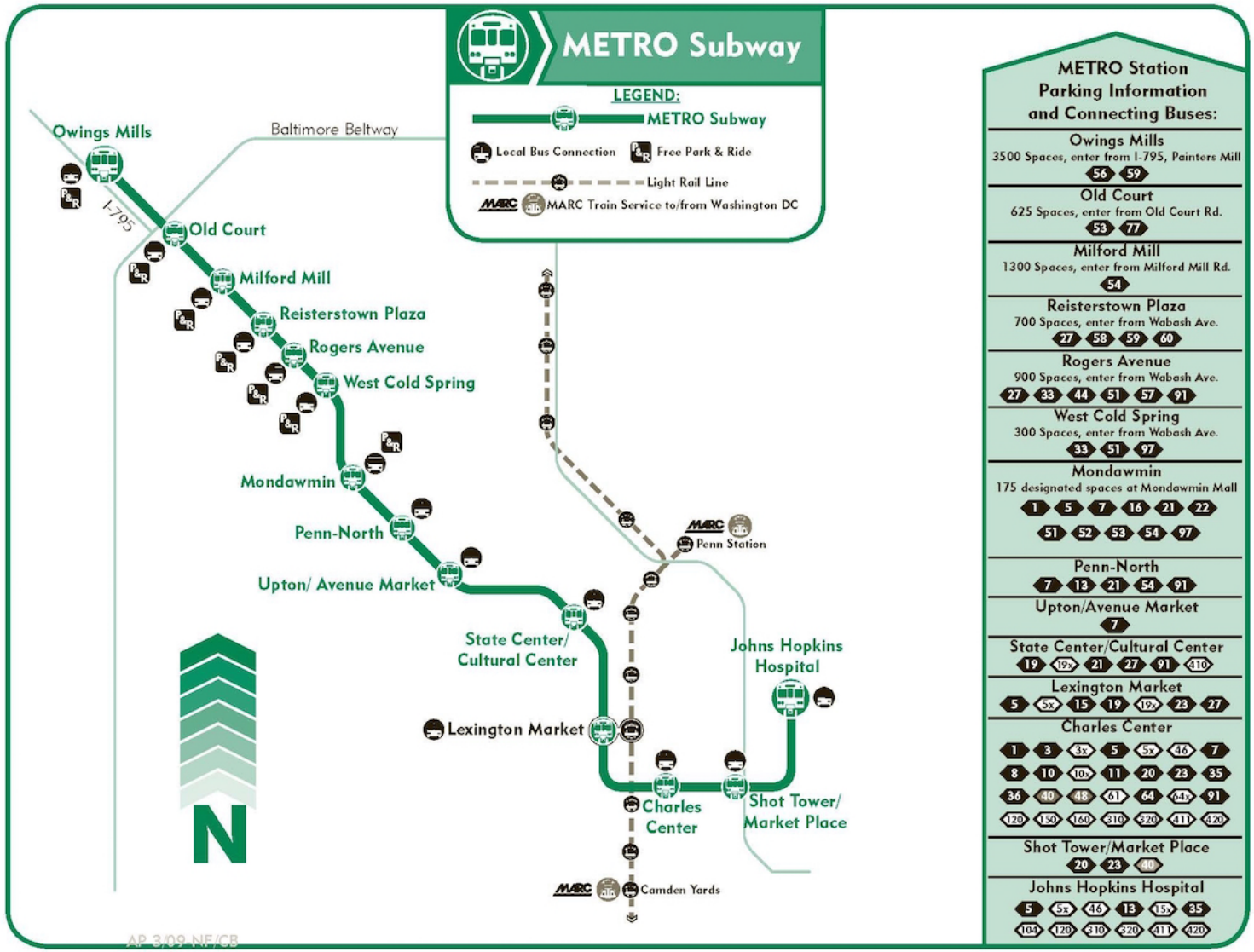
In accordance with Oversight Procedure 25, the Roadmap to Revenue Operations, prepared from the Project Sponsor's Master Schedule, is issued quarterly as a separate electronic file. It will be revised and populated in future reports.

Description	Responsible Party	Status	Estimated Start Date	Estimated Completion Date	Actual Completion Date	Notes
Testing						
Finalize Comprehensive Test Plan						
Finalize/update Systems Integration Test (SIT) Plan						
Develop Testing Schedule and Monitoring Tools						
Develop Operating Rules for Testing						
Conduct System Integrated Testing - Building Systems						
Conduct System Integrated Testing - Train Systems						
Conduct Testing and Commissioning - Train Systems						
Certificates of Occupancy/Substantial Completion						
Operating Plan, Rules						
Finalize Operating Plan						
Finalize/revise SOPs, manuals, and rulebook as applicable						
Complete Staffing Plan						
Obtain Required Staff						
Training of O&M personnel						
Emergency response plan, training, and drills						

Description	Responsible Party	Status	Estimated Start Date	Estimated Completion Date	Actual Completion Date	Notes
Maintenance and Asset Management						
Pre-Revenue Operations						
Finalize and/or update Rail Activation Plan (RAP) and/or Pre-Revenue Operations Plan						
Implement Rail Activation Committee						
Develop/revise SSPP and Security Plan (approved by State Safety Oversight (SSO))						
FTA Office of Safety and Security Readiness Review						
PMOC OP-54 Readiness for Revenue Operations Review Report, Phase I						
PMOC OP-54 Readiness for Revenue Operations Review Report, Phase II						
Conduct Operational Hazard Analysis (OHA) and resolve other hazards/ vulnerabilities						
Pre-revenue Operations						
Public Outreach						
Develop Safety Outreach Plan						
Provide Community Outreach						
Public Timetables/Maps/Website Updates, etc.						
Grand Opening Plan						
Safety, Security, and Fire-Life Safety Certifications						
Update/Finalize SSMP						

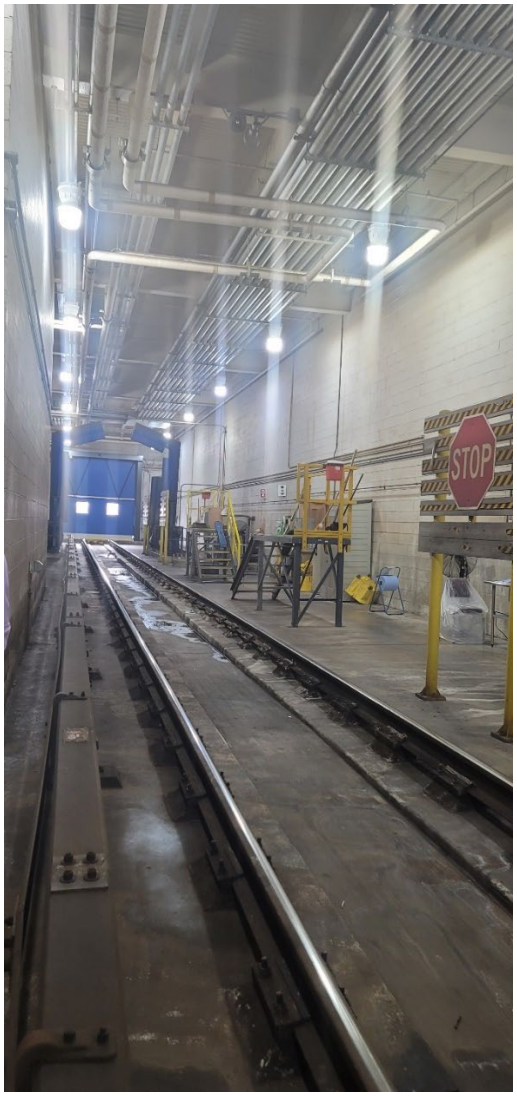
Description	Responsible Party	Status	Estimated Start Date	Estimated Completion Date	Actual Completion Date	Notes
Finalize and/or update SCIL and SSCP						
Implement Safety and Security Certification Committee						
Implement Fire Life Safety Committee						
Verify design criteria, PHA, TVA, change orders are implemented within the project						
Review status of quality nonconformances						
Close-out of non-safety critical items/ non-conformances						
Close-out of safety critical items/ nonconformances						
Complete Safety & Security Certification Verification Report (SSCVR)						
Document Workarounds/Open Items List						
Verify emergency drills, tabletops, training, etc. are completed						
SSO final certification/signature						
FRA?						
Revenue Service						
Target Revenue Service Date						
Public Revenue Service Date						
Revenue Service Date						

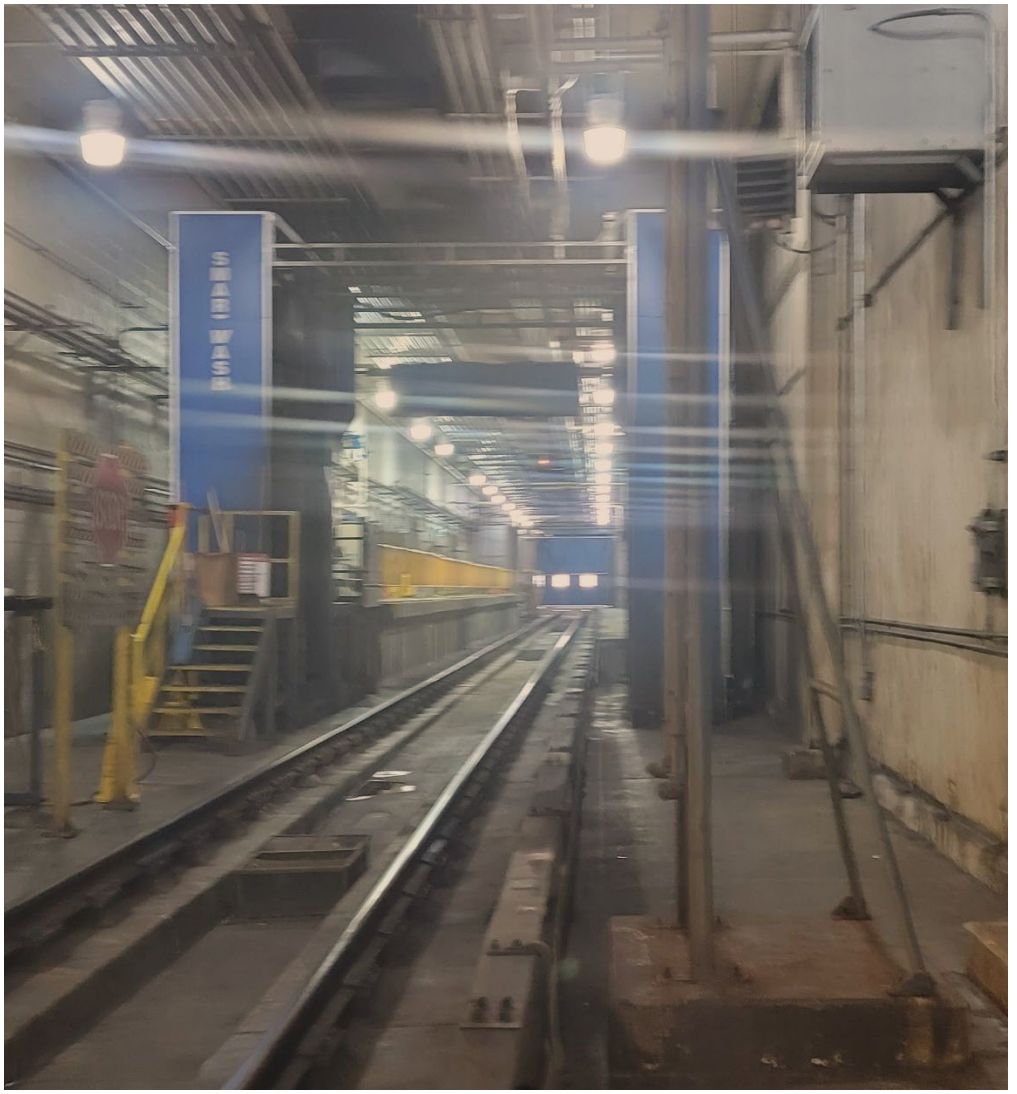
ATTACHMENT H – PROJECT MAP



ATTACHMENT I – MARCH 2024 SITE VISIT PROJECT PHOTOS

Existing Metro Wabash Train Wash to be Upgraded (Project #1795)





New Hitachi Railcar MP 2 (Project #1415) Alongside Existing Fleet Car to be Replaced Beginning in 2025



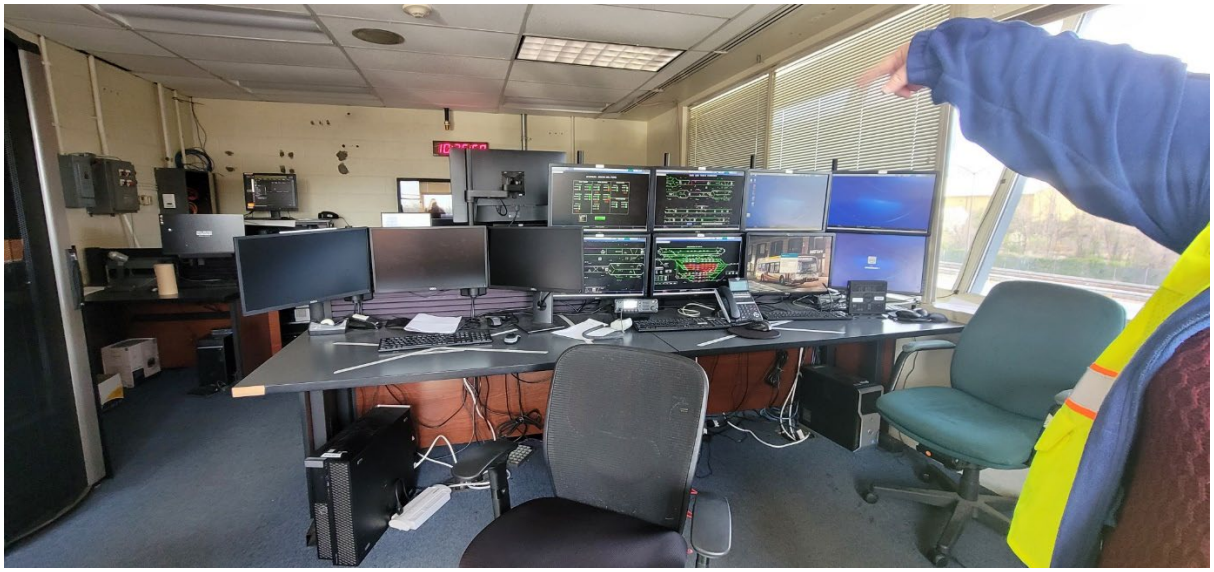
New Railcar, New Seating Design, and New Engineer's Cab



Interior of Railcar with Newly Designed Handicap Setting and Bicycle Rack



New Backup Operations Command Center



Testing Station



PMOC MONITORING REPORT
May 2024

National Capital Purple Line Light Rail Transit Project
Montgomery and Prince George's Counties, Maryland

Maryland Transit Administration
Baltimore, Maryland
FINAL

Draft Report Delivered to FTA on ***June 7, 2024***
Final Report Delivered to FTA on ***June 17, 2024***

PMOC Contract No.: 69319519D000016
Task Order No.: 69319520F300095
Project No.: 69319519D000016/69319520F300095
Requisition/Reference No.: FTA-TPM20-20-0106
OPs Referenced: 20, 22, 23, 24, 25, 26, 37, 40
CLINs 0001, 0002, and 0005

David Evans and Associates, Inc.
Pete Hankovszky, Task Order Manager
Voice –720.448.6730; Email – pzh@deainc.com
Time on Project: 05/18/2020 through 05/17/2025

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract #69319519D000016, Task Order #69319520F300095. Its purpose is to provide information and data to assist FTA as it continually monitors the management capacity and capability of the Maryland Transit Administration (MTA) (the Project Sponsor) to execute the project efficiently and effectively, and hence, whether the Project Sponsor continues to be ready to receive federal funds for further project development. This report covers the project management activities on the National Capital Purple Line Light Rail Transit Project managed by MTA as the Project Sponsor and financed by the FTA Full Funding Grant Agreement (FFGA). The cost and schedule information in this report was extracted from MTA's submitted information except where noted. The report is organized to comply with the requirements of updated Oversight Procedure 25 – Recurring Oversight and Related Reports, dated June 2020.

THIRD-PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for FTA. This report should not be relied upon by any party, except FTA or the Project Sponsor, in accordance with the purposes as described below.

For projects funded through the FTA FFGA program, FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a Project Sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a Project Sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a Project Sponsor may develop for project execution. Therefore, the information in the monthly reports will change from month to month, based on relevant factors for the month and/or previous months.

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1 EXECUTIVE SUMMARY

1.1 Project Description

The National Capital Purple Line (Purple Line) is a 16.2-mile east-west light rail transit (LRT) line extending inside the Washington, DC Beltway from Bethesda in Montgomery County, Maryland, to New Carrollton in Prince George's County, Maryland. The Purple Line will operate largely at street level in a combination of dedicated and semi-exclusive right-of-way (ROW) and includes segments on elevated structures and in tunnels. The alignment for the Purple Line will provide direct connections to Washington Metropolitan Area Transit Authority (WMATA) service at Bethesda, Silver Spring, College Park, and New Carrollton, Maryland. The project will also connect to all three Maryland Area Regional Commuter rail lines, Amtrak, and local bus routes. The project includes 21 stations, 2 operations control/vehicle storage and maintenance facilities, and 28 light rail vehicles (LRVs). Twenty-five of the LRVs are included in the Full Funding Grant Agreement (FFGA), and the remaining three vehicles are state funded. Maryland Transit Administration (MTA) is executing the project using a Public-Private Partnership (P3) method of project delivery.

As documented in the Federal Transit Administration (FTA) FFGA, the original estimated project cost was $2,407,030,289, and the scheduled Revenue Service date (RSD) was December 31, 2022. On January 26, 2022, the Maryland Board of Public Works (BPW) approved significant revisions to the project cost and the Revenue Service Availability (RSA) date. The new Transportation Infrastructure Finance and Innovation Act (TIFIA) loan closed on April 14, 2022. Financing approvals and subsequent financial close allowed Purple Line Transit Partners (PLTP), the P3 concessionaire, to issue Notice to Proceed (NTP) to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS). MTA prepared a Final Recovery Plan (FRP), which FTA accepted on April 17, 2023, and which had a revised project cost of $5,116,020,380 and a revised RSD of February 28, 2028. On March 13, 2024, MTA received approval from the BPW to increase the total construction cost to approximately $5.52 billion. This change to the construction cost, and also a change to the construction schedule, was due to project changes and delays. MTA is currently developing additional budget and schedule contingency recommendations. In conjunction with the FRP, MTA submitted multiple management plan updates for FTA and Project Management Oversight Contractor (PMOC) review and acceptance.

1.2 Project Status

The FFGA was executed on August 22, 2017. The Purple Line project is currently in the construction phase. Due to a contractual dispute, PLTP demobilized the assets/staff and subcontractors of the original D-B contractor, Purple Line Transit Constructors (PLTC), from the project in September 2020.

On November 24, 2020, MTA and PLTP reached a settlement agreement to release PLTC from the P3 consortium and continue the project with the remaining parties. The BPW approved the agreement on December 17, 2020. PLTP agreed to procure a replacement D-B contractor to complete the project and to obtain project financing.

Despite changes within the P3 consortium, MTA intends to complete the full scope of the project as envisioned in the original contract documents, with some minor exceptions such as the addition of three state-funded LRVs. After a procurement process for a replacement D-B contractor, PLTP selected MTS (a joint venture of Dragados USA and OHL USA) and executed a contract with MTS on April 14, 2022.

MTA submitted a draft Interim Recovery Plan (IRP), dated December 15, 2020, to FTA, and subsequently prepared and submitted the FRP to FTA. FTA accepted the FRP on April 17, 2023.

MTA chose to proceed with several major project elements once PLTC was released from the project. MTA's planning criteria included schedule, budget, and the reduction of risk for the replacement D-B contractor. MTA and its Project Management Consultant (PMC) added staff to support subcontractor invoicing, payment processes, and other administrative tasks.

MTA managed, in a general-contractor-type role, a significant number of construction activities during MTA's IRP period, called Operation Step Forward (OSF). During that time, several OSF activities fell behind schedule, and delays related to third-party utility relocations and other unforeseen issues caused MTA to miss milestone dates included in MTA's revised agreements with PLTP that were executed in April 2022. Through October 2023, MTA executed two change orders caused by delays in OSF activities. In early November 2023, MTA completed the OSF activities. As of March 2024, MTA and MTS reached an agreement on the budget and schedule impacts resulting from OSF delays and other disputes. This agreement resulted in an additional $406 million in construction cost and a revised RSA date of December 30, 2027. The agreement is essentially a large change order that resolves a number of disputes and contract modifications. This contract change is referred to as Amendment 7 to the P3 Agreement.

Construction continues under the management of MTS, including activities and elements such as erosion and sediment control maintenance, bridge structures, platform construction, retaining walls, the Glenridge Operation and Maintenance Facility (OMF), and utility installation. The Polk Street Maintenance Facility (for Prince George's County Parks) is complete, and the Paint Branch stream restoration and the Ken-Gar wetlands mitigation projects are complete with the exception of warranty periods.

Completion of the Glenridge OMF has been on or near the critical path and continues to be a focus. MTA completed the majority of the OMF building and utilities, but construction of track that accommodates LRV storage and testing was deferred for completion by MTS. MTS has assumed control of the facility as of March 2024, and the disputes regarding the completeness of the OMF work that PLTC and MTS had performed now have been fully resolved. MTS is installing rail, utilities, and other elements both inside and outside of the building.

Delayed completion of the OMF construction upon PLTC's departure required an alternative location to store completed LRVs. MTA reached an agreement with Construcciones y Auxiliar de Ferrocarriles (CAF) to store the LRVs at CAF's Elmira, New York facility until track is ready for delivery of the LRVs. MTS assumed the storage agreement with CAF upon finalization of the replacement D-B contract. The first LRV delivery ***occurred on May 15, 2024, and the second delivery is scheduled for mid-June 2024.*** Purple Line Transit Operators (PLTO), the entity that

PLTP has under contract to operate the light rail system, assumes storage and maintenance responsibilities of the LRVs after they are delivered.

MTA revised and submitted the Project Management Plan (PMP), Risk and Contingency Management Plan (RCMP), Quality Assurance Plan (QAP), project schedule, Safety and Security Management Plan (SSMP), and Safety and Security Certification Plan (SSCP). On December 28, 2023, FTA accepted SSCP Version 7, concluding the FTA and PMOC reviews of the management plans that MTA had revised in conjunction with the FRP. Then, in April 2024, MTA transmitted to FTA SSCP Version 8, which incorporates review comments from Maryland Department of Transportation (MDOT), the State Safety Oversight Agency (SSOA), and also incorporates the Temporary Use Notice (TUN) process. A TUN is required to begin testing of the LRVs in fall of 2024.

MTA provides FTA and the PMOC with updates on the progress of MTS construction activities, MTA oversight activities, and other monthly updates that track project progress.

- Scope: There have been no significant reductions or changes to project scope. Three LRVs were added to the project scope (non-FFGA) to support improved operations once service commences.
- Schedule:
    - PLTC never developed an approved recovery schedule to address the delayed start of construction caused by the environmental lawsuit (please see the **NEPA Process and Environmental Mitigation** section, below, for a discussion of the environmental lawsuit).
    - MTA developed a schedule for the period during which the D-B contractor, PLTC, was being replaced. The IRP included project milestones for PLTP to procure a replacement D-B contractor, obtain new financing, and execute contract amendments with MTA. The IRP period also included development of the FRP. FTA subsequently accepted the FRP, which includes a revised RSD of February 28, 2028.
    - See also the **Significant Project Activities and/or Key Milestones** subsection of this Executive Summary, below.
    - Table 1 presents MTA's key milestone dates for the project. The schedule in the FRP is currently considered the baseline schedule for the project, although a revised baseline schedule is expected in June 2024. Through the Quantitative Risk Assessment and processes described in MTA's RCMP, a schedule contingency of 16 months was deemed appropriate. However, the delays attributed to OSF activities have consumed most of the contingency in the FRP schedule. The utilization of a large portion of the schedule contingency that occurred at the early stages of MTS's contract is a very significant concern. ***To address this concern, MTA's revised master baseline schedule is expected to include up to 11 months of additional schedule contingency.***

- To clarify schedule terminology used by MTA: The RSA date is a contractual date critical to the agreement between MTA and PLTP. The RSD is the contractual date tied to FTA FFGA funding and other project approvals.
- Two executed change orders related to delays attributed to OSF activities extended the project RSA date by 207 days to May 24, 2027. Then, as of March 2024, MTA and MTS have agreed to an extension of the RSA date to December 30, 2027, which represents an addition of 250 days. MTA continues to assess schedule risk to determine sufficient project schedule contingency.

Table 1 – MTA Master Project Schedule Dates

Activity	Current MTA Master Project Schedule (March 13, 2024*)
Original FFGA	August 22, 2017
Financial Close / NTP / Amendment Agreement Effective Date for Revised PLTP Agreement	April 14, 2022
Commencement of Integration Testing	September 2, 2025
Commencement of Trial Running	May 27, 2026
Construction Complete All Segments	November 12, 2026
RSA Date	December 30, 2027
FFGA RSD (includes contingency)	February 28, 2028

*MTA has not updated the master project schedule since Amendment 7 to the P3 Agreement modified the RSA date to December 30, 2027.

- Cost:
  - The project's documented expenditures are ***$3,501,220,075 through April 30, 2024***. The Estimate at Completion (EAC) for the project (construction, management, and LRVs) is now $5,522,020,380. This revised EAC includes an additional $406,000,000 attributed to Amendment 7 of the P3 Agreement. MTA currently assigns the additional cost to Standard Cost Category (SCC) 80.06 Legal; Permits; Review Fees.
  - The accepted project cost (before approval of Amendment 7) included $307,293,174 of unallocated cost contingency. ***MTA reports in May 2024 that $94,606,670 of that amount remains. However,*** Amendment 7 to the P3 Agreement, which the BPW approved on March 13, 2024, requires determination of additional contingency needs.
  - The PMOC has questioned MTA about the significant amount of SCC 80 expenditures each month. In some months, SCC 80 expenditures by MTA and MTS are as much as 50 percent to 100 percent of the expenditures for SCCs 10 through 50 combined. ***In May 2024, MTA explained that a portion of the SCC 80 expenditures are settlement payments to MTS and PLTP and not true management and administrative costs. MTA estimates that the April 2024 management and administrative expenditures fell a percentage of total expenditures to approximately 20 percent of the total for the month.***

- Refer to **Table 4 – Core Accountability Items**, in Section 1.5 below, for additional project cost information.
- MTA prepared a summary of actual versus planned expenditures for the OSF activities. The OSF work was completed in November 2023. The final EAC for those activities is approximately $475 million, which exceeded the original OSF budget by approximately $55 million. This amount excludes significant scope and cost transferred from MTA to MTS. Significant OSF delays impacted MTS's activities, and these additional costs due to those delays are reflected in the Amendment 7 revised total project cost.
- The budget includes funds to address nonconforming construction by PLTC. MTA incorporated known defects into the contract with MTS. However, MTA must pay to address any defects unknown at the time of execution of the MTS contract. In February 2023, MTA estimated the total cost of these unknown defects to be approximately $10 million. MTA and MTS have evaluated the nonconforming PLTC work as well as several other disputes. The disputes are included in Amendment 7, and MTA reports that the execution of the amendment in March 2024 resolved all disputes. However, Amendment 7 includes a provision for additional compensation to MTS if, in the future, other defects are discovered in previous PLTC or MTA construction.
- Several disputes were to be considered at the Dispute Resolution Board (DRB) meeting scheduled for February 28, 2024. The findings of the DRB are not binding. However, given the resolution of all current outstanding disputes through the execution of Amendment 7 to the P3 Agreement, the February DRB meeting included only a general project update.

- Significant Project Activities and/or Key Milestones:
  - The COVID-19 pandemic impacted the project in different ways and at different levels. The impacts were primarily related to availability of resources and labor. MTA, the PMC, and other project staff followed recommended COVID-19 protocols. On January 30, 2023, MTA suspended COVID-19 protocols for the project.
  - The third lawsuit filed by the Friends of the Capital Crescent Trail in January 2019 against U.S. Army Corps of Engineers (USACE) was dismissed in April 2020. The plaintiff subsequently filed an appeal on May 11, 2020. The District Court denied the appeal on May 13, 2021. The decision resolved the last active lawsuit related to the project.
  - The original baseline schedule indicated design completion by late fall 2017. The progress through ***May 23, 2024***, is that 215 of the 218 total planned design packages have been issued as Released for Construction (RFC). The packages that remain in design or approval include fare collection, the fire management system at the WMATA/Silver Spring Transit Center (SSTC) combined station, and the train control system. The most significant remaining design package, train control, will not be

100 percent complete until July 2024. Developing equipment specifications and other vendor preparation for the train control package will delay the date that the train control package will be RFC until February 2025. The PMOC observed that MTS indicates that the design portion of its contract is 99.9 percent invoiced and paid. The requirements of MTA's D-B contract with MTS include the payment of all design costs in the first 15 months of initiating the MTS contract, regardless of progress.

- As of March 2024, disputes related to the cost of design changes that were made after execution of the agreement with MTS were resolved. MTA's team estimated that the amount required to resolve the disputes is approximately $15 million.
- WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX Corporation [CSX] ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of ***May 2024*** for the SSTC and other locations where WMATA and Purple Line stations coincide. MTA reports that the slow resolution of these issues has not impacted critical path activities.
- Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. One jack-and-bore installation remains to be completed by MTS, and as of ***May 2024,*** is still scheduled for spring of 2024. Coordination of CSX flagging has been a challenge throughout the Purple Line construction. In April 2024, MTS was able to secure a second flagger, allowing more work to occur in the railroad ROW. ***In May 2024, MTS stated that it needs a third flagger in order to maintain the construction schedule; however, MTA believes it is unlikely that CSX will provide the third flagger.***
- Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. MTA is supporting coordination of construction activities that will occur during a planned WMATA shutdown in the summer of 2024. The Purple Line project is taking advantage of the WMATA service outage to perform work near and above the tracks.
- MTA and Washington Suburban Sanitary Commission (WSSC) reached agreement on the relocation of the 66-inch water main that was under the Glenridge OMF. The water main has been relocated, and this part of the project is now considered fully complete.
- PLTC reached resolution on the final remaining Alternate Technical Concept (ATC) identified during the proposal process, which is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA reviewed PLTC's design package for National Environmental Policy Act (NEPA) compliance. Final documentation for the ATC is still pending as of ***May***

2024, awaiting refinements of the documentation by MTS. MTA will schedule a review of the documentation with FTA as soon as it is complete, which is expected to be during ***June 2024***. MTA and MTS optimistically predict that the ATC will have no Section 4(f) impacts or other impacts to the project's Record of Decision (ROD). ***Construction of the jet fan foundations has begun, based on MTA's assumption that the ATC will be approved.***

- MTA has completed its non-P3 construction contract activities, as follows:
  - Prince George's County Parks (Parks) Polk Street Maintenance Facility D-B – A substantial completion letter was issued to the contractor on March 30, 2021. Parks has taken possession of the facility, and the warranty period has expired. The only remaining action for this portion of the project is a real estate swap that will transfer the maintenance facility property to Parks in exchange for the property needed by MTA for the Purple Line project. ***The survey has been performed for this property, and as of May 2024, MTA is reviewing the plat*** documents needed for appraisals and negotiation for the swap.
  - Offsite Wetlands Mitigation (Ken-Gar) – The Design-Bid-Build construction NTP was issued on September 5, 2019. The one-year warranty review occurred on January 9, 2022, and the project is now in quarterly monitoring and annual reporting by MTA that will continue through 2028.
  - Offsite Stream Mitigation (Paint Branch) – The Design-Bid-Build construction NTP was issued on September 5, 2019, and the contractor mobilized in late November 2019. Quarterly monitoring and annual reporting by MTA will continue through 2028.
- Building construction at the Glenridge OMF is essentially complete; however, construction of items outside of the building continues, as does final commissioning of systems inside the building. MTS was scheduled to take possession of the Glenridge OMF on December 31, 2022, but that did not occur because MTA had several remaining items to complete. The official transfer of the facility did not occur until January 2024, although MTS continued work through the dispute period.
- Preparation of Traction Power Substations (TPSSs) continues. As of ***May 2024***, TPSSs Q1, Q8, Q7, and QYG are in place and being prepared for use, and installation of TPSSs Q03 and Q06 is scheduled to occur within the next 60 days.
- The following is the status of LRV manufacturing as of ***May 23, 2024:***
  - All 25 of the vehicles in the FFGA project scope description and one additional vehicle are designated as "Ready for Shipment" and are in storage at CAF's facility in Elmira, New York. These vehicles are under a schedule of inspection and maintenance until delivery can occur.
  - MTA has added three vehicles by change order to CAF's contract. The additional LRVs will support better operations at the RSA date. It is important to note that

these three additional LRVs are not a part of the FFGA between MTA and FTA. One of the three additional vehicles is in storage in Elmira along with the 25 FFGA LRVs. All ten railcars that make up the two remaining vehicles are in final assembly.

- A previously identified quality issue related to the M33 bolt on the LRV trucks ***is*** nearly resolved. MTA had indicated that CAF would perform a Root Cause Analysis (RCA) for this issue. In January 2024, CAF concluded that the root cause of the issue was a misalignment of the bolts during assembly. In January and February 2024, CAF examined 50 gear boxes that included the M33 bolt. CAF determined that an alignment issue prior to torquing the M33 bolt is the likely cause of the issue. CAF performed a sample installation of 48 bolts on 12 LRVs using a modified procedure. As of April 2024, all of the sample installations performed adequately; therefore, the RCA will be completed in June 2024. The issue will not impact delivery of the vehicles. The PMOC recommends that the quality process also be included in the RCA, along with design, fabrication, and assembly processes.
- Delivery of vehicles was expected to begin in spring of 2021; however, the location for their delivery was uncertain because the Glenridge OMF was not ready to accept railcars. MTA and CAF negotiated an agreement for CAF to store the completed railcars in Elmira to await delivery. The terms of the agreement became a part of MTS's agreement. ***The first LRV delivery occurred on May 15, 2024, and the second delivery is planned for June 2024***. The PMOC continues to recommend that MTA expedite the planning and completion of readiness activities for delivery of LRVs, such as testing and certifications.
- The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. The audit indicates that the percentage of U.S. domestic content is 66.74 percent, which meets FTA requirements.

- MTA is responsible for providing offsite stormwater mitigation in Montgomery County. To date, MTA has accumulated a credit for more than 10 acres of designed, Maryland Department of the Environment (MDE)-approved, offsite stormwater management (SWM) capacity in its "bank." MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS. Construction of this mitigation site is planned to begin in ***June 2024.***
- ROW acquisition activities continue for the original required 464 private parcels and 137 public parcels (a total of 601 parcels). All private parcels related to the original P3 contract Exhibit 9 FFGA scope are in MTA's possession for construction. ***As of May 2024***, ***432*** of the 601 parcels have completed settlement, and ***5*** settlements are pending. ***Twenty condemnations remain in this ROW acquisition category.***

- MTA has identified 188 small property acquisitions that are required for utility relocations, of which 134 are private and 54 are public. As of April 25, 2023, all additional properties were in MTA's possession through Right of Entry (ROE), through options, and/or through agreements. ***Thirteen condemnations remain in this property acquisition category.***
- To date, 177 required property relocation agreements are complete. Costs for the completed relocations continue to be processed in accordance with the applicable procedures. As of ***May 2024***, there is one relocation offer pending for a property that the former owner still occupies. One additional relocation may be required.
- MTA estimates that the cost for extensions of Temporary Construction Easements (TCEs) has increased due to the project delays included in Amendment 7. The estimated cost for TCE extensions as of April 2024 is approximately $18.1 million, which represents a $5 million increase in this cost.
- Preparation for safety certification is an ongoing process for MTA, including the development of the appropriate checklists for both design and construction. Design Criteria Conformance Checklists (DCCCs) are more than 99 percent validated. Construction Specification Conformance Checklists (CSCCs) are ***20 percent*** validated. ***As of May 2024, MTA and MTS are*** preparing plans, including operating rules for vehicle testing on the test track, in advance of vehicle delivery. Testing is scheduled to begin in late 2024.
- MTA adjusted staffing of management personnel to address the varying activities that MTA was managing during the OSF period. A number of key staff changes have occurred since the OSF period ended. One position that was ***filled in May 2024*** is the MTA Transit Development and Delivery (TDD) Executive Director: ***Martha Gross is the new TDD Executive Director and will oversee the Purple Line project in addition to other State of Maryland transit projects such as the Red Line. Current Purple Line Project Director Ray Biggs will report to Ms. Gross.*** In April 2024, MTA hired Syrina White to fill the open Deputy Communications Director position. The open Construction Manager position will not be filled. The Deputy Project Director currently is serving as the Contracting Officer, and the Deputy Project Director's duties have been temporarily transferred to the Project Director. As of ***May 2024,*** a replacement for the Contracting Officer position has not been hired.
- MTA carefully considered a request from Montgomery County to single-track the Purple Line through the Bethesda tunnel. In April 2021 MDOT/MTA determined that it would not be able to accommodate the request.
- MTA and PLTP coordinated to obtain a modified version of the existing TIFIA loan for the project. On April 14, 2022, the TIFIA loan closed, and all bonds were marketed. MTA was required to update the Transportation Investment Program and State Transportation Investment Program plans to reflect changes in the project.

- MTS is making significant progress toward achieving the project's hiring, wage, and Disadvantaged Business Enterprise (DBE) goals. ***In May 2024***, the Equal Employment Opportunity Officer ***revised*** DBE goals to reflect the new total construction cost established by Amendment 7 to the P3 Agreement. ***However, the goals changed very little, because the majority of Amendment 7 is not related to construction.***
- MTA hired a consultant team that analyzed alternatives for providing security and fare enforcement services for the Purple Line. MTA does not currently have existing facilities or staff that can adequately provide these services because the distance from their location to the Purple Line light rail facilities is too far. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on Memorandums of Understanding (MOUs) with other local jurisdictions, and developing a facility to house the district. ***In May 2024, MTA provided a brief high-level summary of the police force facility plan.*** Preliminary feedback from the plan indicates that a new facility to house the Southern District will not be complete until several months after the February 2028 RSD; therefore, temporary facilities will be used until the new facility is complete. ***The Purple Line team stated that development of the police force facility will be managed by another department at MTA and the Purple Line team will not report further on the status of the issue.*** The PMOC continues to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget***, and provide that plan to FTA for review. The PMOC also recommended that MTA provide the contact information of the staff member or team that is implementing the police force and the police force facility.***
- Twice annually MTA holds a series of Community Advisory Team meetings. These meetings focus on different neighborhoods along the project corridor. ***The most recent round of meetings, which were held on Tuesdays and Thursdays each week in May 2024, was just completed.***

1.3 Major Issues and/or Concerns

Table 2 discusses any major issues or concerns impacting the project's scope, schedule, cost, risks, quality, safety, etc.

Table 2 – Current Major Issues and Concerns

Issue/Concern	According to the PMP, the master project schedule should be updated monthly.
Date Identified	2022.
Status	Ongoing.
Project Sponsor Action	FTA accepted the FRP schedule in April 2023 as the new project baseline schedule. Two significant change orders, both of which are based on delays to OSF activities, have caused a substantial utilization of the schedule contingency outlined in the FRP. In March 2024, a third change order (Amendment 7 to the P3 Agreement) consumed all remaining schedule contingency and resulted in a significant increase in project cost.
PMOC Recommendation	The PMOC continues to recommend that MTA track all schedule elements according to the FRP and report status to FTA and the PMOC each month. MTA should employ additional methods of evaluating schedule progression and performance, including earned-value metrics, to identify issues as soon as possible. The PMOC recommended that MTA secure a mutually agreed-to (with MTS and PLTP) revised baseline schedule before executing any change order that commits compensation for delays. Although Amendment 7 to the P3 Agreement included an agreed-to RSA date, it did not include a revised baseline schedule. ***MTA reported in May 2024 that it has accepted a revised baseline schedule from MTS and is using the schedule to compile an updated MTA master schedule. The master schedule will incorporate additional contingency.***
Issue/Concern	Changes in the project have significantly impacted the project cost as reflected in the original FFGA. The April 2023 FRP includes a revised project cost estimate and a cost contingency intended to address remaining project risks.
Date Identified	September 2020.
Status	Ongoing.
Project Sponsor Action	MTA should continue to monitor project progress against the total project cost estimate. As of July 2023, two significant change orders, both of which were based on delays to OSF activities, caused substantial utilization of the cost contingency outlined in the FRP. Additional delays have been identified, and MTA is coordinating potential schedule mitigation (which would support cost mitigation) with MTS. Disputes between MTA and MTS are impacting project contingency. Amendment 7 consumed all the remaining budget contingency and resulted in a significant increase in project cost. Although execution of Amendment 7 resolved all pending disputes at the time, additional project contingency is recommended to address completion of the project.
PMOC Recommendation	The PMOC recommends that MTA consider the results of the pending Quantitative Risk Assessment and, if necessary, adjust the cost and schedule contingencies.
Issue/Concern	MTA does not have a police force located in proximity to the Purple Line.
Date Identified	September 2022.
Status	As of May 2023, MTA had determined a preferred alternative for providing security and fare enforcement, and had identified several next steps for implementation.
Project Sponsor Action	MTA's preferred security alternative includes the creation of a new Southern District of the MTA Police Department and will require associated staff, operating procedures, and a facility. ***In May 2024, MTA stated the Purple Line project team will not be responsible for development of the new facility; instead, a different MTA department will develop the police force facility.***

PMOC Recommendation	***The PMOC recommends that MTA provide the contact information for the department that will be responsible for development of the facility, staffing, and training for the new Southern District.*** MTA should provide a detailed schedule and budget in a written plan. The PMOC continues to recommend that the SSOA be included in the review and comment process for security and fare enforcement.
Issue/Concern	The Lost Time Injury Rate and Total Case Incident Rate have increased significantly since 2022. The current rates are significantly higher than the stated project goals. The PMOC notes that there are inconsistencies in incident reporting between MTA and MTS.
Date Identified	April 2023.
Project Sponsor Action	MTA states that it has increased coordination with MTS through additional biweekly coordination meetings. MTA has acknowledged the need for safety process improvements. In November 2023, MTA stated that MTS had replaced its safety director and added safety staff. In March 2024, MTA increased the amount of safety information included in its monthly status report. ***In May 2024, MTA added two safety staff to the project team – one who will be primarily in the field and another who will be in the office and manage safety administration. Also in May 2024, MTA reported safety statistics that are not consistent with previous months and that appear to be mathematically incorrect.***
PMOC Recommendation	***The PMOC recommends that MTA review the incident reporting and tracking process, and determine the cause for inconsistent and incorrect safety statistics/documentation. The MTS safety audit, performed in February 2024, indicated that MTS does not have verification that all subcontractors have safety plans, which is surprising considering MTS has had subcontractors onsite for two years. Based on review of the MTS safety audit, the PMOC recommends that MTA emphasize subcontractor and supplier safety plan verification, and determine a fixed date when verification will be complete.*** The PMOC continues to recommend that MTA more closely monitor safety documentation and develop safety process improvements.
Issue/Concern	***MTA states that plans for LRV delivery were complete before the first vehicle was delivered on May 15, 2024, but those plans have not been provided to the PMOC as requested. Vehicle delivery will continue for many months. The next major milestone related to vehicles is dynamic testing, which is scheduled for fall 2024. Plans for those activities need to be completed and reviewed well in advance of testing.***
Project Sponsor Action	MTA indicates that plans for readiness activities for LRV delivery are complete. Temporary Use Notices (TUN) approved by the SSOA were required to place the vehicles on the tracks. MTA states that the responsibility for readiness activities lies with the P3 concessionaire.
PMOC Recommendation	The PMOC recommends that MTA expedite readiness activities for LRV delivery (inspection, testing, and certification) and that MTA engage sufficient resources to provide oversight of the related concessionaire activities. ***In addition to the LRV Delivery Plan, the PMOC recommends that MTA expedite the readiness activities for dynamic testing, which is scheduled to begin in the fall of 2024.***

1.4 Status of Key Indicators Dashboard (Post-grant)

Table 3 shows the project Key Indicators Dashboard after the FFGA was awarded.

Table 3 – Key Indicators Dashboard

Project Sponsor:				Maryland Transit Administration	
Project Name:				MTA National Capital Purple Line Light Rail Transit Project	
Date:				***May 28, 2024***	
Project Detail					
Oversight Frequency:				**Monthly**	
Element	**Status**			**Prior Status**	**Issue or Concern**
	●	●	●		
	G	**Y**	**R**		
Project Management Plan		●		●	MTA developed an updated PMP that reflects revised project conditions, and in October 2022, MTA submitted a revised PMP to the PMOC and FTA for review. On February 1, 2023, FTA provided its review comments on the PMP, and on April 28, 2023, MTA submitted the second revision of the PMP to FTA. In 2023, the Purple Line project team had numerous changes to key staff, including TDD Executive Director, Communications Director, Construction Manager, and Deputy Project Director positions. ***As of May 2024,*** the project team has the following open position: Contracting Officer. The Deputy Project Director currently is serving as the Contracting Officer, and the Deputy Project Director's duties have been temporarily transferred to the Project Director. This concern also applies to the Management Capacity and Capability (MCC) element below.
Management Capacity and Capability		●		●	Management staff changes within MTA and within the supporting PMC have magnified the need for MTA to focus on MCC issues. Construction safety and quality processes are specific concerns to the PMOC. Also, the Deputy Project Director was reassigned to be the Acting Contracting Officer, and the Project Director has assumed the Deputy Project Director duties temporarily. In addition, the most recent Construction Manager is no longer on the project team, and MTA will not be hiring a replacement. In January 2024, MTA provided a revised management staff organizational chart to the PMOC. In April 2024, MTA indicated that it is developing a revised organizational chart for the quality team in response to review comments on the QAP.
Cost*		●		●	MTA developed a revised cost estimate that reflected project conditions at the time of the FRP. Based on PMOC and FTA review comments and a revised MTA Quantitative Risk Assessment, MTA established a budget contingency that appeared appropriate for the stage of the project at the time. However, large executed change orders have required commitment of all of the contingency budget and a significant construction budget increase. As of ***May 2024,*** MTA is preparing a Quantitative Risk Assessment ***that will identify a new budget contingency.***
Schedule		●		●	***In May 2024, MTA accepted a revised project baseline schedule from MTS. That schedule holds the previously reported construction completion date (without contingency) of December 2027. MTA is incorporating milestones from the revised baseline schedule into the MTA master project schedule, which is expected to be complete in June 2024. The master project schedule will include additional schedule contingency.***

Quality		●		●	In ***May 2024***, the PMOC continued to coordinate with MTA on quality process improvements. ***MTA is considering several of the PMOC's quality-related recommendations.***
Safety			●	●	In April 2023, the PMOC noted to MTA that both the Lost Time Injury Rate and the Total Case Incident Rate had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in the incident rates, there continues to be inconsistent tracking and reporting of safety issues. ***In May 2024, the PMOC continued to identify problems related to incident tracking and other aspects of safety reporting. The PMOC continues to recommend that MTA increase emphasis on safety.***
Risk		●		●	MTA updated the RCMP and the Risk Register to reflect the changes driven by the FRP and updates to the project management plans. In May 2023, FTA accepted the RCMP but also noted additional comments that MTA should address in future updates to the plan. In November 2023, MTA held a risk workshop and began a Quantitative Risk Assessment. MTA's Quantitative Risk Assessment is scheduled to be completed ***in June 2024***, and results will be shared with FTA and the PMOC at that time.

Legend	
Green	Satisfactory: No Corrective Action necessary.
Yellow	Caution: Risk/Issues exist. Corrective Action may be necessary.
Red	Elevated for immediate Corrective Action: Significant risk to the health of the project.

1.5 Core Accountability Items

Table 4 shows the core accountability items for the project, including the current status of the project and the major issues and how they are being addressed.

Table 4 – Core Accountability Items

		Original (Grant)	Current Forecast[3]	PMOC Assessment of Current Forecast[3]
Cost	Capital Cost Estimate	$2,407,030,289	***$5,522,020,380***	Unacceptable
Contingency	Unallocated Contingency	$90,535,748	***$94,606,670***	Unacceptable
	Allocated Contingency	$59,500,464	***$20,653,395***	Unacceptable
	Total Contingency	$150,036,212	***$115,260,065***	Unacceptable
Schedule	Revenue Service Date	12/31/2022	02/28/2028	Unacceptable

Project Progress		**Amount ($)**	**Percent of Total**
Total Expenditures	Actual cost of all eligible expenditures completed to date	***$3,501,220,075***	***63.4%***
Planned Value to Date[1]	Estimated value of work planned to date	Not Applicable (N/A)	N/A
Actual Value to Date[1]	Actual value of work completed to date	N/A	N/A

Contract Status		**Amount ($)**	**Percent of Total**
Total Contracts Awarded	Value of all contracts (design, support, construction, equipment) awarded; % of total value to be awarded	***$4,495,235,000***	***81.4%***
Construction Contracts Awarded	Value of construction contracts awarded; % of total construction value to be awarded	***$1,953,774,088***	***35.4%***

Physical Construction Completed	Value of physical construction (SCCs 10-50) completed; % of total construction value completed	***$1,220,811,370***	***62.4%***
Rolling Stock Vehicle Status	**Date Awarded**	**No. Ordered**	**No. Delivered**
28 total car sets[2]	First 26 LRVs: 2016 Additional 2 LRVs: January 2022	28 car sets	***1***
Next Quarterly Progress Review Meeting Date:	***August 14, 2024***		

[1]Earned value information is not available.
[2]The approved FFGA includes a total of 25 LRVs.
[3]Amendment 7 to the P3 Agreement ***has been partially incorporated*** into MTA's financial reporting ***as of May 2024.*** Amendment 7 added $405 million to the construction cost of the project. MTA currently is in the process of revising the project cost contingency and schedule contingency.

2 OBSERVATIONS AND FINDINGS

2.1 Summary of Monitoring Activities

The PMOC received an update from the Purple Line project team during ***the May 23, 2024,*** virtual monthly meeting with MTA, the PMC, and the PMOC. MTA provides supplementary information before the PMOC monthly meetings. ***On May 8, 2024, the PMOC attended the Quarterly Progress Review Meeting with FTA and MTA. On May 9, 2024, the PMOC attended a project corridor tour with FTA and MTA.*** PMOC monitoring activities include review of MTA-provided scope, schedule, risk, financial, construction, safety and security, and real estate information.

After the U.S. Court of Appeals reversed the vacation of the ROD in July 2017 (refer to the **NEPA Process and Environmental Mitigation** section, below, for details), the FFGA was executed on August 22, 2017. In September 2020, the construction (D-B) contractor, PLTC, left the project, and a new project delivery plan was developed, including replacement of the D-B contractor. During the period when the replacement D-B contractor was being solicited, MTA managed specific construction and design activities (OSF activities) in order to reduce uncertainty and support the project schedule. On November 5, 2021, MTS was selected as the replacement D-B contractor, and financial and commercial close occurred on April 14, 2022. MTA managed OSF construction and design activities to their completion or until the activities were transferred to MTS. MTS is performing construction activities across the entire project corridor.

MTA and MTS held initial partnering activities during which they developed relationships, general project priorities for teamwork, and an understanding of key issues for different stakeholders. MTA provided partnering process information to FTA and the PMOC on March 29, 2023. As of August 2023, MTA had replaced the consultant who was leading partnering activities and was developing new processes to facilitate the coordination and relationship between MTA and the MTS/PLTP team. MTA held an internal partnering meeting on October 27, 2023, to help align MTA and PMC staff. On December 11, 2023, a partnering session was held, and MTA, MTS, PLTP, and PLTO participated. One of the main points of discussion was the schedule mitigation efforts that led to Amendment 7 to the P3 Agreement. In February 2024, MTA provided a summary of project goals developed during the December 2023 partnering session. MTA said that action items related to the partnering session goals are incorporated into many project meetings,

and senior executives from MTA, PLTP, and MTS meet frequently. ***The next scheduled partnering session will be held in June 2024.*** The PMOC has repeated the request that PMOC and FTA staff be invited to partnering events.

2.2 Oversight Triggers

The oversight triggers most applicable to the project are the Oversight Procedure (OP) 25 cost and schedule triggers. The project did not have a mutually agreed-upon baseline schedule between March 2017 and September 2022. Significant schedule delays and a significant increase in project cost keep the project eligible for rigorous oversight. Project schedule delays typically impact project cost, another significant indicator of project health. MTA has developed a revised project EAC in conjunction with development of the project's schedule and FRP. Significant utilization of schedule and budget contingencies has occurred since development of the FRP. In the opinion of the PMOC, significant additional cost and schedule impacts are continuing to occur.

2.3 Project Management Plan and Sub-plans

2.3.1 Project Management Plan

The PMOC reviewed the Purple Line PMP Version 10 in accordance with OP 20 for a PMP at the FFGA execution stage of a project. Subsequently, FTA and the PMOC reviewed Versions 11, 12, and 13. Due to significant project team changes since those versions, another update to the PMP was required. In October 2022, MTA provided an updated PMP (Version 14) to FTA and the PMOC for review, and FTA and the PMOC provided comments on PMP Version 14 to MTA. On April 27, 2023, MTA provided PMP Version 15, which FTA accepted, with comment, on June 21, 2023. In February 2024, MTA provided a summary of its forecasted dates for updating the management plans. According to best practices, the recent staff changes and fluid project conditions may warrant revisions to some or all of the management plans before the regularly scheduled updates.

2.3.2 Safety and Security Management Plan

In February 2016, the PMOC reviewed the project's SSMP Version 6, dated October 22, 2014, in accordance with OP 22 for a project at the FFGA execution stage. The PMOC review found that the SSMP was compliant with FTA content requirements for execution of the FFGA, but the PMOC requested that MTA resubmit the SSMP after execution of the FFGA and address the comments in the PMOC report with updated information from the P3 concessionaire. Subsequently, FTA and the PMOC reviewed SSMP Versions 7 through 11 over the next four years. MDOT, which is the SSOA for the project, also reviewed SSMP Versions 8 through 11. On January 13, 2022, FTA provided comments on SSMP Version 12 to MTA. MTA submitted SSMP Version 13 as well as Version 5 of the Purple Line SSCP to FTA and the PMOC for review in October 2022. FTA and the PMOC reviewed the SSCP and SSMP updates and provided their comments to MTA in February 2023. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the revised SSMP in August 2023, and the revised SSCP on December 28, 2023. The PMOC continues to recommend that

MTA evaluate whether its current oversight processes are in compliance with those specified in the SSMP.

2.3.3 Quality Assurance Plan

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on QAP Version 10 to MTA. MTA then submitted a revised QAP to FTA for review in May 2023, and FTA and the PMOC provided comments to MTA in June 2023. In July 2023, MTA provided a response to each specific comment and committed to submitting a revised QAP in August 2023. On August 11, 2023, MTA resubmitted the QAP as Version 12. A technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023, after which the PMOC recommended acceptance of the plan and that MTA should incorporate the outstanding items into the next regularly scheduled plan update. On October 6, 2023, FTA accepted the QAP contingent upon MTA's acceptance of the PMOC recommendations. ***MTA plans to next update the QAP in October 2024.***

The PMOC requested that MTA provide more complete documentation for quality-related activities. In September 2023, MTA presented the PMOC with a quality process dashboard that MTA had developed to display monthly statistics on audits, Deficiency Notices, Nonconformance Reports, and quality oversight assessment reports. In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational chart for quality management and administration. In April 2024, MTA listed the following three quality process improvements that it is developing:

1. Organizational chart update
2. Document control procedure update
3. Development of quality training plan and schedule for 2024 training

MTA emphasized that these quality processes apply only to MTA's quality activities, but they are coordinated with MTS's quality processes. Also in April 2024, MTA stated that it has added quality oversight staff to its organization, including a Deputy Quality Manager.

MTA meets with PLTP, the PMC, and the General Engineering Consultant (GEC) monthly to review quality status. On January 25, 2024, MTA introduced the new Quality Manager, Turyalai Momand. In February 2024, MTA stated that it was developing a full schedule of quality audits to be performed in 2024***, although as of May 2024, MTA has not yet shared this schedule with the PMOC.*** When asked about a number of very old deficiency notices and instances of non-conforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of final sign-offs by managers. MTA is deferring some other older open quality items until the related issues can be addressed without impacting the project schedule critical path.

MTS also performs significant Quality Assurance/Quality Control (QA/QC) activities and reports having more than 60 full-time quality staff assigned to the project. ***Through May 1, 2024***, those QA/QC activities by MTS included:

- Offsite inspections of structural steel girders and canopies, Overhead Contact System (OCS) poles and hardware, traffic signal poles, special trackwork, precast concrete structural elements, and other items being fabricated offsite.
- ***40*** Design Services During Construction reviews and ***40*** design submittal reviews.
- ***No*** quality audits of MTS and subcontractor work, testing, and quality plans ***were reported in May 2024***.
- Approximately ***900*** materials tests.
- Approximately ***1,200*** materials samples.

In 2022, MTA frequently provided notes from monthly CAF and SNC-Lavalin LRV manufacturing quality meetings for PMOC review. The information provided a summary of issues and corrective actions, and upcoming quality audits. MTS is now responsible for preparing these notes from the manufacturing quality meetings. Because the LRV manufacturing process is now nearly complete, ***in May 2024,*** these meeting notes included only a few very minor issues. Current open items of note include several certification and compliance activities.

The previously identified quality issue related to the M33 bolt on the LRV trucks is not fully resolved ***as of April 2024.*** Additional failures occurred in November and December 2023, and the truck manufacturer in Germany performed additional tests. MTA had indicated that CAF would perform an RCA for this issue. In January 2024, CAF concluded that the root cause of the issue was a misalignment of the bolts during assembly. In January and February 2024, CAF examined 50 gear boxes that included the M33 bolt and determined that an alignment issue prior to torquing the M33 bolt is the likely cause of the issue. CAF performed a sample installation of 48 bolts on 12 LRVs using a modified procedure. As of April 2024, all of the sample installations performed adequately; therefore, the RCA will be completed in June 2024. After the RCA is completed, maintenance manuals will be modified and needed tools provided to PLTO. The PMOC recommends that the quality process also be included in the RCA, along with design, fabrication, and assembly processes.

2.3.4 Real Estate Acquisition Management Plan

The PMOC reviewed the project's Real Estate Acquisition Management Plan (RAMP) Versions 10, 11, and 12. The PMOC reviewed the plans with respect to the guidelines in OP 23 for a project in the construction phase. MTA submitted an updated RAMP Version 13 to FTA and the PMOC in October 2022. FTA provided review comments on RAMP Version 13 to MTA on February 27, 2023, and accepted RAMP Version 13 with comments.

2.3.5 Fleet Management Plans

The current version of the Bus Fleet Management Plan (BFMP) is BFMP Version 8.1, which was submitted for FTA/PMOC review on February 12, 2016. The PMOC completed its review of BFMP Version 8.1 and on March 4, 2016, issued its final OP 37 BFMP review report, concluding that the BFMP met the requirements of OP 37 for the execution of an FFGA for the Purple Line project. On January 24, 2024, MTA provided to FTA and the PMOC BFMP Version 10. This plan addresses updates for the period from 2021 through 2023 and is dated September 2023.

2.3.6 Risk and Contingency Management Plan

In early 2020, MTA commenced another update to the RCMP to incorporate the results of the latest Quantitative Risk Assessment that, in turn, incorporated the results of the replacement D-B contractor resolicitation and the revised project implementation details. MTA held a risk management workshop on January 26, 2021, that focused on the interim period.

MTA provided a comprehensive Risk Register and risk mitigation activities in conjunction with the draft FRP. In preparation for a risk analysis, MTA held risk assessment interviews with individual risk owners to review existing risk items and identify new risks. In December 2021, MTA prepared an updated Risk Register that includes over 100 risk items, including PLTP and MTS risks.

At a risk workshop held the week of May 2, 2022, the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. MTA confirmed and finalized the Risk Register and prepared the Quantitative Risk Assessment and an update of the RCMP. The PMOC developed a draft summary of the risk and contingency review results. FTA provided a risk summary to MTA on June 22, 2022, for MTA's consideration while it was updating the RCMP. MTA provided responses to FTA's comments on the risk summary on July 15, 2022, and provided further clarification on August 25, 2022. MTA submitted RCMP Version 15 to FTA and the PMOC for review in October 2022. In February 2023, FTA and the PMOC provided comments on the revised RCMP, which supported MTA's development of the project's budget and schedule contingency. MTA subsequently submitted the revised RCMP Version 16, dated April 21, 2023, and FTA accepted it on May 22, 2023.

In November 2023, MTA held a risk workshop and began a Quantitative Risk Assessment. Project risks were reassessed, and information needed to reevaluate cost and schedule contingencies was determined. MTA expected to complete the Quantitative Risk Assessment and contingency review in January 2024. However, the efforts by MTA and MTS to re-baseline the project schedule have not been completed. The updated schedule is necessary for the assessment of schedule risk and development of contingency recommendations. When the revised project schedule and subsequently the Quantitative Risk Assessment are complete, ***which is now expected in June 2024,*** MTA will share the results of the Quantitative Risk Assessment with FTA and the PMOC.

2.3.7 Safety and Security Certification Plan

Version 3 of the Purple Line SSCP is dated November 4, 2014. The PMOC review found that the SSCP Version 3 met the FTA requirements in support of the FFGA application. MTA submitted

SSCP Version 4 on February 3, 2020, in conjunction with the updated SSMP submittal (see the **Safety and Security Management Plan** subsection, above). The SSOA completed its review of SSCP Version 4 and discussed its comments with the PMOC. MTA decided that the new emergency management working group would be a subcommittee to the Fire Life Safety and Security Committee, and this decision would be reflected in the next revisions of the SSMP and the SSCP, which were planned for after the replacement D-B contractor was in place. MTA submitted SSMP Version 13 and SSCP Version 5 to FTA and the PMOC in October 2022. In February 2023, FTA and the PMOC completed their reviews and provided comments on these plan documents to MTA. MTA provided a response to the SSCP review comments to FTA and the PMOC in May 2023. On July 12, 2023, the PMOC and MTA held a call to review and reconcile PMOC/FTA comments on the SSCP. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023 and accepted the current SSCP (Version 7) on December 28, 2023. In April 2024, MTA submitted a revised SSCP (Version 8) that includes the TUN process. Also in April 2024, MTA provided a partially complete preliminary LRV Delivery Plan. ***In May 2024, the PMOC again requested that MTA provide the fully complete LRV Delivery Plan.***

2.4 Management Capacity and Capability

MTA continues to identify and assign sufficient Management Capacity and Capability (MCC), as needed, to complete the project in compliance with applicable FTA requirements. These efforts have included bringing staff, either MTA or MDOT personnel or consultants, onto the project to manage the current needs, such as planning, P3 procurement and contracting, real estate acquisition, and construction.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. It was proposed that Roland Carroll, the Purple Line systems safety and construction safety lead, add the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to the new quality management role. The PMOC evaluated this change as a part of the PMP review and will continue to monitor management capacity for this function and all positions through ongoing oversight activities. Specific to safety, the PMOC is concerned that there may be a lack of emphasis on safety or on management capacity or capability. Injury rates, particularly for OSF activities, have been higher than the MTA goals. Also, reporting of injury and incident statistics is inconsistent. ***In May 2024, the 2024 year-to-date and project inception-to-date (for MTS) incident rates decreased significantly. It appears mathematically impossible for the decrease that MTA reported, and the PMOC recommended that MTA investigate the issue.*** The PMOC continues to have concerns specifically related to construction safety. See **Section 2.16**, below, for more detail.

In March 2023, MTA hired John Donovan in the role of Construction Manager and also formed a commercial project controls team. These changes were in response to: (1) the near completion of OSF and (2) the need to support the management of MTS's increasing amount of work.

On May 25, 2023, MTA communicated the departure of Executive Director Matthew Pollack, Deputy Project Director and Contracting Officer Anita Rodgers, and Communications Director David Abrams from the Purple Line project team. Project Director Ray Biggs, Jim Mitchell of the PMC, and MDOT Chief Financial Officer Jaclyn Hartman were leading the project while those vacated positions were being filled. Ken Forsythe's role changed from his role as Deputy Project Director to the interim Director of Communications role. A new Deputy Project Director, Alexa Heidrich, started with the Purple Line project team on July 26, 2023. Kathryn (Kat) Lamb joined the team in August 2023 as the Communications Director, which completed the hiring for the open senior staff positions for the Purple Line project at that time. In August 2023, MTA provided an updated Purple Line organizational chart that included those newly hired staff. In December 2023, MTA replaced PMC Project Director Jim Mitchell with Brian Freerks.

In January 2024, MTA communicated a significant number of staff changes both within MTA and within the PMC. The current status of these positions is as follows:

- Construction Manager John Donovan is no longer on the project, and the position will not be filled. MTA stated that two existing project staff, Mike Gales for Civil Construction and Melvin Henderson for Systems Construction, remain with the project.
- The MTA TDD Executive Director position ***was filled in May 2024. MTA announced that Martha Gross is the new TDD Executive Director, and she will oversee the Purple Line project in addition to other State of Maryland transit projects such as the Red Line. Current Purple Line Project Director Ray Biggs will report to Ms. Gross.***
- Quality Manager Fahad Moazziz has been replaced by Turyalai Momand. In April 2024, Mr. Momand announced that several quality staff have been added to the team, including a Deputy Quality Manager.
- Deputy Communications Director Gary Witherspoon left the project, and as of April 2024, MTA has hired Syrina White to fill this position.
- Deputy Project Director Alexa Heidrich is now the Acting Contracting Officer. Project Director Ray Biggs has assumed her Deputy Project Director duties temporarily. ***As of May 2024,*** a replacement for the Contracting Officer position has not been hired.
- ***In May 2024, MTA added two safety staff to the project team—one who will be primarily in the field and another who will be in the office and will manage safety administration.***

The PMOC continues to express its concern regarding MTA's MCC. Open positions, a lack of continuity, and staff serving in multiple roles all pose a risk to the quality of the oversight the Project Sponsor must provide. Shortfalls in MCC may be causing some of the other issues that the PMOC has identified, such as construction safety and quality management challenges.

2.5 NEPA Process and Environmental Mitigation

2.5.1 NEPA Process

FTA issued a ROD on March 19, 2014. The National Park Service issued its ROD on July 16, 2014.

MTA has continued to submit environmental re-evaluations as required based on design advancement and other causes. To date, PLTC (before it left the project) and MTA have prepared multiple packages, primarily for minor Limits of Disturbance (LOD) cases, which were submitted to FTA for review and have received FTA concurrence. The most recent status ***(as of May 2024)*** of NEPA items is:

- MTA submitted an additional LOD case at Sligo Creek that is moving through the MDE and USACE processes. MDE granted approval on January 10, 2024. As of April 2024, USACE has indicated that it will issue its approval in May 2024. MTA will submit the necessary information to FTA when complete, however, MTA reports that FTA review is not a schedule critical task at this time.
- The ATC for the Bethesda Station jet fan has been vetted, and final documentation is being prepared for submittal to FTA for concurrence that the ATC meets project requirements. Final documentation for the ATC was still pending as of ***May 2024***. MTA will schedule a review of the documentation with FTA as soon as it is complete, ***which is now expected to occur in June 2024***. ***Construction of the jet fan foundations has begun based on MTA's assumption that the ATC will be approved.*** MTA and MTS optimistically predict that the ATC will have no Section 4(f) impacts or other impacts to the project's ROD.
- A ten-year extension of the project's Programmatic Agreement was approved on March 14, 2024.

On August 3, 2016, in response to the lawsuit filed by the Friends of the Capital Crescent Trail against FTA, a federal judge filed his Order and accompanying Memorandum Opinion. In those documents, it was ordered that the ROD for the Purple Line project be vacated and remanded, and that a Supplemental Environmental Impact Statement (SEIS) be prepared, in accordance with the accompanying Memorandum Opinion. In a subsequent Order and Opinion filed on November 22, 2016, the judge, in part, revised the earlier Order by remanding to FTA the responsibility to determine whether an SEIS is required; however, the ROD remained vacated. On May 30, 2017, the judge issued his ruling that dismissed the lawsuit except for the reassessment of the impact of declining Washington Metro ridership in the Purple Line project's Environmental Impact Statement. The Washington Metro ridership aspect of the ruling was immediately appealed by the Maryland Attorney General. On July 19, 2017, the U.S. Court of Appeals reversed the vacation of the ROD and set an expedited schedule for the appeals process. The appeals hearing occurred on November 1, 2017. The U.S. Court of Appeals issued its ruling on December 19, 2017, in which the judges ruled in favor of FTA and the project, and ruled that the transit agencies would

not have to conduct a new environmental study to examine other potential routes for the Purple Line.

The Friends of the Capital Crescent Trail filed a second lawsuit after the FFGA signing and after the groundbreaking ceremony was held on August 28, 2017. The September 19, 2017, Preliminary Hearing for this suit resulted in no temporary injunctions or restraining orders, and project construction proceeded as the case progressed through the court system. On December 5, 2017, FTA and MTA filed a Motion to Dismiss. The plaintiffs subsequently amended and significantly revised the complaint in December 2017, and on March 1, 2018, MTA and FTA filed a Motion to Dismiss. On March 29, 2018, the plaintiffs filed their response. On March 5, 2019, the judge ruled in favor of FTA.

The Friends of the Capital Crescent Trail filed a third lawsuit in January 2019, this time against USACE. The USACE legal staff and the Office of the Attorney General provided the defense. MTA filed a motion to intervene on behalf of USACE. In early May 2019, the plaintiffs filed an objection to MTA's motion, but during the week of July 15, 2019, the Court authorized MTA to intervene on behalf of USACE. In October 2019, USACE filed for a Summary Judgment to Dismiss the case, and the plaintiffs filed their response; a hearing date was set for March 23, 2020. However, in late February 2020, the assigned judge recused himself from the case, and the scheduled hearing was canceled. In mid-April 2020, the District Court ruled in favor of the USACE/MTA motion for a Summary Judgement to Dismiss, and the case was dismissed. The plaintiff subsequently filed an appeal on May 11, 2020, and the case continued in the legal process. Oral arguments related to the appeal occurred on March 11, 2021. The District Court denied the appeal on May 13, 2021. The decision resolved the last remaining lawsuit related to the project.

2.5.2 Environmental Mitigation

The project achieved the required mitigation for reforestation through the purchase of 82.5 acres of offsite credits (combined, in both Montgomery County and Prince George's County). This amount of offsite credits is expected to be more than needed, and the P3 concessionaire will monitor that this remains the case. PLTP's Forest Conservation Plan (FCP), which documented a need of 75.73 acres, was formally submitted to the Maryland Department of Natural Resources (DNR) in August 2016 for approval. The DNR concurred with the FCP on January 31, 2017, and the final approved FCP was received from DNR on July 31, 2017. As LOD cases are identified, they are also reviewed against the FCP credits to maintain an accurate accounting of the reforestation mitigation. In Maryland, need is based on land disturbance rather than only forest removal. MTA's tracking of additional disturbance due to the progress of design and construction indicated that the total need is still within the amount of available offsite credits.

The Joint Permit Application for Wetlands and Stream Mitigation was formally submitted to USACE and MDE in August 2016. In late February 2018, MDE issued its Non-Tidal Wetlands and Waterways permit in advance of the USACE permit, even though it was a joint application. However, because time had passed since the permit was drafted, MDE updated and issued the finalized permit the first week of April 2018. USACE completed its NEPA and conditions review as well as its public interface, receipt of comments, and comment resolution, and issued the

Section 10 404 Permit on March 14, 2018. This timing supported MTA's planned advertisement for the Wetlands and Streams Mitigation construction contracts. In October 2018, the project submitted a request to USACE and MDE to extend the duration of the permits until December 2021 to accommodate the longer construction periods resulting from construction moratoriums for forests and streams. The project received approval from MDE during the week of December 3, 2018, and received the USACE approval letter in mid-June 2019.

The project team has addressed the environmental mitigation for wetlands through the development of the offsite Ken-Gar location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. The construction contract was advertised on May 3, 2019, bids were received on June 10, 2019, and the bids underwent MTA Procurement Department review. BPW approval of the award was received on September 4, 2019. As of June 2021, the Ken-Gar wetlands mitigation project was complete and had completed its one-year warranty period. See the **Construction** section of this report, below, for further discussion of the status of this Ken-Gar Wetlands Mitigation construction contract.

The project team has addressed the environmental mitigation for streams through the development of the offsite Paint Branch location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. MTA advertised the Paint Branch Stream Mitigation construction contract on March 8, 2019. After the bid due date was extended several times, proposals were received on May 21, 2019, and underwent MTA review and evaluation. BPW approval of the award was received on September 4, 2019. The Paint Branch stream restoration is complete, and warranty corrections (partial replanting) occurred in December 2022. See the **Construction** section of this report, below, for further discussion of the status of this contract.

The project has plans to address stormwater mitigation, beyond what can be mitigated on the project site, through retrofitting offsite locations in both Montgomery County and Prince George's County. On November 12, 2021, MTA determined that there is a need for additional stormwater mitigation in Prince George's County. A project to construct additional stormwater mitigation is included in the scope of work for MTS. Construction of this mitigation site is planned to begin ***in June or July 2024.***

The joint MTA and University of Maryland (UMD) technical board resumed meetings in December 2021 to coordinate efforts related to the mitigation of noise, vibration, and electromagnetic interference at the UMD facilities. Following this meeting, the members of the joint technical board voted to approve the outstanding design packages. This action effectively ended the activities of the technical board until the LRT is in trial running.

The Purple Line project team submits quarterly Environmental Mitigation Monitoring Reports for the project. MTA managed the environmental mitigation and monitoring activities as the project transitioned to the replacement D-B contractor, MTS. Because MTS is now performing construction, MTA will monitor the environmental activities performed by MTS. On January 25, 2024, MTA provided the Fourth Quarter 2023 Environmental Commitment and Mitigation Monitoring Program Report. The report conveys the status of progress toward meeting commitments in the ROD that was issued in March 2014 and any pending actions required. In the

report, MTA notes that "no problems, gaps, nonconformances, or NEPA issues of any sort were found during this quarterly assessment." The First Quarter 2024 Environmental Commitment and Mitigation Monitoring Program Report is expected ***in June 2024.***

The MTA Purple Line team communicated that MDE has implemented a change to the state's construction dewatering monitoring and turbidity requirements. Pumped water discharge from construction sites will need to meet specific requirements—something that Maryland lacked but is common in many states. In September 2023, MTA and MTS participated in training for managers on the new requirements, and a future round of training for field staff is being planned. Activities on the project currently are functioning under the new MDE requirements. The changes related to the new requirements necessitated a change order to address additional MTS's costs to implement the more stringent standards.

2.6 Project Delivery Method and Procurement

The majority of the capital cost of the Purple Line project has been packaged into a Design-Build-Finance-Operate-Maintain P3 contract. This delivery method fits the state's legal definition of a P3 in that it involves a long-term, performance-based agreement between MTA and a private entity (the P3 "concessionaire") in which appropriate risks and benefits are allocated in a cost-effective manner between the contractual partners. The P3 concessionaire is intended to perform some functions normally undertaken by the transit agency, but MTA remains ultimately accountable for the Purple Line project and its public function.

MTA negotiated an approximate 36-year P3 contract, including nearly 6 years of construction and 30 years of operations, and on March 2, 2016, announced that PLTP had been selected as the P3 concessionaire. Commercial close of the P3 contract occurred on April 7, 2016, and financial close occurred on June 17, 2016.

In late April 2020, PLTC notified PLTP that due to PLTC's forecasted schedule delays on the project (which did not receive agreement from MTA), PLTC intended to exercise the clause that allowed it to terminate its contract with PLTP for the design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that would include a definitive path forward. On the response due date of May 14, 2020, PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement to MTA, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice essentially refuted the validity of the PLTP delay claims and stated that if PLTP fails to perform, MTA has a number of options related to the P3 Agreement. Through July 2020, construction activities continued at the levels previously planned and were not affected by the dispute.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a Temporary Restraining Order (TRO) that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many

construction activities. A hearing to uphold or rescind the TRO occurred before the expiration of the TRO on September 14, 2020, and the court rescinded the TRO, allowing PLTP to leave the project.

When an agreement was not reached, the bond holder firms had the first right to take over the project. However, MTA planned an alternate path forward based on its exercise of step-in rights. To that end, MTA assumed the contracts of over 100 subcontractors, indicating MTA's intent to continue the project. MTA adjusted staffing for construction management, resident engineers, and inspectors to move forward with the project.

On November 24, 2020, MTA and the P3 concessionaire, PLTP, reached a settlement agreement to release the project's D-B contractor from the P3 consortium and continue the project with the remaining parties. The state's BPW approved the settlement agreement on December 17, 2020. Activities set out in the agreement and the IRP have proceeded with multiple modifications to milestone dates as needed.

The agreement included the following key aspects, as MTA has communicated to the PMOC:

- PLTP agreed to procure a replacement D-B contractor to complete the project and to obtain project financing. The selection of the preferred replacement D-B contractor, MTS, occurred on November 5, 2021. The TIFIA loan for the project closed on April 14, 2022, allowing financial close and commercial close on that same day. MTS is now the D-B contractor for the project.
- The settlement agreement provided a mutual release from all disputed and undisputed amounts (incurred before September 28, 2020) for PLTP, PLTC, and subcontractors. The agreement also released outstanding litigation among the parties.

2.7 Design

2.7.1 MTA Design

MTA's GEC completed the project design to approximately the 30 percent design level in fall of 2013 and provided incremental enhancements through late 2015. This design formed the basis of the Request for Proposals (RFP) for the P3 contract. See the **P3 Design** subsection, below, for a discussion of the advancement of this design by PLTC, the former PLTP partner that was responsible for the design and construction of the capital project, and continued design under MTA.

The dispute pending related to the cost of design changes that were made after execution of the agreement with MTS ***has been resolved by Amendment 7.*** MTA's team estimated that the disputed amount is approximately $15 million.

MTA was responsible for the design and construction contracts under a Design-Bid-Build delivery method (separate from the P3 scope) for the following projects:

- Stream mitigation – MTA completed the 100 percent design packages in June 2017 and received approval from MDE in May 2018. Construction of the stream mitigation is now

complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.

- Wetlands mitigation – MTA completed the 100 percent design packages in June 2017. Several design adjustments were subsequently made based on MDE and Montgomery County comments. The construction contract was advertised on May 3, 2019. Construction of the original wetlands mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.
- Offsite SWM sites – MTA completed design and obtained MDE approval of more than the P3 contract-required 5 acres of offsite mitigation in Montgomery County on May 29, 2018. In late October 2019, MTA received MDE approvals for the next 5 acres to be added to the mitigation credit "bank," thus satisfying the contract requirements for 2019. MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS. ***Construction of this mitigation site is planned to begin in summer of 2024.***
- See the **Environmental Mitigation** subsection of this report, above, for the current requirements.

MTA also completed the design to support a D-B contract for the replacement of the existing Parks Maintenance Facility with a facility on Polk Street. Construction of the facility is now complete. See the **Real Estate Acquisition and Relocation** and the **Construction** (MTA Scope) sections of this report, below, for further details.

2.7.2 P3 Design

PLTC's design progress was forecasted to achieve substantial design completion of Civil packages in August 2020, substantial design completion of Systems packages (except for Fare Collection) in September 2020, and completion of the Fare Collection design package in 2021. The original baseline schedule anticipated design completion by late fall 2017. As of August 2020, the number of planned Civil, Systems, and Utility design packages was 218.

Upon the departure of PLTC, MTA contracted with the project's engineer of record, Atkins, to continue to advance the design of limited aspects of the project.

The current progress through ***May 2024*** is that 215 of the 218 total planned design packages have been issued as RFC. The packages that remain in design or approval include fare collection, the fire management system at the WMATA/SSTC combined station, and the train control system. The most significant remaining design package, the design package for train control, is scheduled to enter final design review in July 2024. Developing additional equipment specifications and other vendor plans for the train control package will extend until February 2025. As of April 2024, MTA reported that the fare collection requirements were previously included in the platform designs, and the remaining fare collection design is for the equipment/systems. The PMOC observed that MTS indicates that the design portion of its contract is billed out to 99.9 percent. The requirements of MTA's D-B contract with MTA include the payment of all design costs in

the first 15 months of its contract with MTS (April 2022- June 2023), regardless of actual design progress.

The State Highway Administration approved the last traffic signal package in October 2023.

An item related to design was added to the Risk Register regarding an intelligent interface device that could impact implementation and operational costs. MTS made a claim related to a dispute about this item, but the dispute was resolved as a result of the execution of Amendment 7 to the P3 Agreement in March 2024.

PLTC reached resolution on the final remaining ATC identified during the proposal process. The ATC is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA is reviewing the design package for NEPA compliance. Final documentation for the ATC is still pending as of ***May 2024***. MTA and MTS are coordinating to address the noise and aesthetic impacts of the fans, and they optimistically report that the ATC will have no Section 4(f) impacts or associated impacts to the ROD.

MTA and CSX worked to resolve issues related to the applicable design criteria and which project areas were affected until, in July 2019, a mutually agreeable path forward was defined for all areas. The following is the current status of the issues and their resolutions:

- To address CSX comments that would have disallowed passenger amenities (fare gates and ticketing kiosks) on the SSTC mezzanine connector pedestrian bridge above CSX tracks, and that would have required a 25-foot vertical clearance, MTA, PLTC, and CSX reached consensus on a design to interpret this area as a "building concourse." In May 2020, CSX indicated that the final design is acceptable. Revised documents, providing some minor clarifications related to ROW, were submitted to CSX on September 8, 2020, and ultimately CSX approved the design. The revised documents were submitted to WMATA several times in early 2021.
- WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of ***May 2024*** for the SSTC and for other locations where WMATA and Purple Line stations coincide. MTA reports that the slow resolution of these comments has not impacted critical path activities.
- An encroachment into the CSX vertical clearance was discovered upon installation of girders at the SSTC. An exception was requested from CSX to allow the ¾-inch encroachment to remain. CSX denied the exception. MTA and the designer prepared for a contractor to jack and shim the structure to create the required clearance. Construction of this work was completed in August 2021.
- Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. The Purple Line project is taking advantage of the WMATA service outage to perform work near and above the tracks.

- CSX provided review comments disallowing revised drainage networks, related to the Capital Crescent Trail work, which would connect to CSX's existing drainage culverts. The work on the Capital Crescent Trail is not part of the FFGA and is separately funded by Montgomery County. As a result of work with Montgomery County, the connections were relocated from CSX property to Montgomery County property and therefore are no longer a CSX issue. To fully accomplish this approach, two connections required resolution. Montgomery County acquired two parcels of land from CSX (not FFGA-funded) and then accepted responsibility for one connection currently under the responsibility of CSX. Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. ***As of May 2024,*** MTS has one more jack-and-bore installation of culvert pipe yet to complete. This culvert installation is not on the project critical path and is scheduled for the summer of 2024.
- Track protection (flagging) availability has limited production work near the CSX rail lines. In March 2024, CSX made a second flagger available, allowing construction activities on the railroad ROW to accelerate. ***In May 2024, MTS stated that it needs a third flagger in order to maintain the construction schedule; however, MTA believes it is unlikely that CSX will provide the third flagger.***

2.8 Real Estate Acquisition and Relocation

As of May 2024, the total number of planned property acquisitions is 601, including 464 privately owned properties and 137 public acquisitions. All of the original Exhibit 9 FFGA-scope private parcels in the P3 contract are in MTA's possession, some of which are properties that continue in condemnation under the State Highway Administration process. To date, ***432*** of the original 464 private properties have completed settlement, several additional properties (not part of the original 464 private properties) are pending settlement, and ***20*** condemnations remain to be settled.

All required public properties have been available for construction when needed. Several public property rights transfers are currently being coordinated to accommodate sidewalk changes, utility easements, and ROW exchanges.

As the project has progressed and new utility relocation needs have been identified, additional small parcel acquisitions have been added to the total as utility down-guys. In December 2017, PLTC initially submitted a list of approximately 280 such parcels related to utility relocations and subsequently added to that list. MTA resolved that it would acquire these properties, rather than execute amendments to the utility agreement that would have the utility companies perform this function. MTA's ability to perform appraisals in house for these parcels or to waive appraisals for low-value, uncomplicated parcels has been expediting the process somewhat. ***As of May 2024,*** the number of additional acquisitions totals 188 parcels, and several more acquisitions potentially may be needed for stormwater facilities. Of these parcels, 54 are public property and will be acquired by agreement, and 134 are private acquisitions. Sixty-six of the 188 properties were filed for condemnation, excluding those that were subsequently optioned or settled, and ***13*** condemnations ***and 102 settlements*** remain to be completed. MTA estimates that approximately

$24.4 million of exposure remains in the acquisition process. This amount has been included in the Quantitative Risk Assessment.

The project required a total of 176 relocations, of which 57 were residential and 120 were businesses. To date, 177 of those identified relocations have been completed in accordance with the applicable procedures, and one active claim remains to be settled. Also, MTA is monitoring terms of agreement of the property acquisitions discussed above that have not yet completed settlement, because some of them could potentially result in the need for additional relocations. As of May 2024, there is one new relocation related to commercial properties that potentially will be needed.

In August 2023, MTA indicated that the goal for completion of all real estate transactions is December 2024.

On April 25, 2023, MTA reported that BPW had approved the last of seven critical project acquisitions. These acquisitions were required to allow MTS access to construction areas that include activities on or near the critical path.

Properties that have not yet settled due to disputed compensation values have been going to trial in accordance with the ROW acquisition process. MTA is tracking actual acquisition costs versus planned expenditures, so that contingency can be effectively managed, and MTA shares this information with the PMOC. Based on actual settlement amounts and projected amounts for those not yet closed, settlement/condemnation values are 57.5 percent higher than the original 2014 SCC budget for ROW. MTA included current ROW cost projections in its development of an FRP project cost estimate (see the **Project Cost** section of this report, below).

Due to the extended project duration, some agreements will expire before the expected RSA date. MTA and MTS have started the process of identifying the end dates now needed for the agreements and will begin the process of obtaining extensions. MTA has evaluated the risks, estimated the cost of the extensions, and included those costs in a budget contingency. ***As of May 2024,*** MTA estimates that approximately $18 million of risk exposure remains due to necessary TCE extensions. To date, the project has expended $4.6 million on TCE extensions.

2.9 Third-party Agreements and Utilities

All major third-party agreements (specifically, those agreements with Washington Gas, Verizon, Potomac Electric Power Company [PEPCO], CSX, UMD, Montgomery County Parks, Prince George's County Parks, WMATA, WSSC, Montgomery County, and Prince George's County) were executed as of June 7, 2016.

After execution of its third-party agreement, Verizon required that certain lines that are currently overhead be placed underground when they cross the light rail alignment. To minimize the total cost impact of this change, MTA and Verizon reduced the number of locations where Verizon lines cross the alignment to 34. MTA is of the opinion that this reduction is a betterment, and therefore the added cost is Verizon's responsibility, but Verizon has not yet accepted that position. PLTC submitted its cost estimate for placing these 34 locations underground, and after extended cost negotiations between MTA and PLTC while the physical relocations were being implemented,

a final change order value of approximately $5.5 million was agreed upon in early March 2019. MTA had planned to negotiate the cost responsibility with PLTC and Verizon after all major Verizon relocations were completed. However, since the departure of PLTC, MTA carries this cost as a betterment outside of the FFGA scope.

In early June 2018, MTA and PLTP completed the negotiation of all remaining third-party agreements with the smaller utility and telecommunications (telecom) fiber companies. According to MTA, most of the minor fiber/telecom utilities are not co-located with the electrical utilities, and, where they are, PEPCO's arrangement with the fiber/telecom utilities does not require PEPCO's relocation schedule to be driven by that of the minor fiber/telecom companies.

In addition, the need for amendments to existing executed agreements continues to be evaluated. The significant items include:

- To date, the design differences with CSX, as discussed earlier in this report, have been adequately resolved through design review and concurrences, and have not resulted in the need to amend the CSX agreement.
- WSSC proposed that the project relocate a 66-inch underground water main that runs through the Glenridge OMF site. In March 2020, MTA and WSSC agreed on a water main alignment primarily in the median of Veterans Parkway, as well as a strategy for completing the relocation. The original Purple Line project GEC performed the design; WSSC provided the material; and MTA separately contracted for the construction, thus avoiding impact to the P3 concessionaire's scope of work. On May 21, 2021, WSSC authorized work, and mobilization began August 9, 2021. Energizing of the cathodic protection was the last remaining activity, and it was completed in November 2023.
- In late July 2022, MTA and MDOT held a summit with the many utility providers that experience relocations related to transportation projects to discuss best practices and improvements to the utility relocation process. As of May 2023, some of the utility providers are experiencing staff shortages that limit construction production rates. These staff shortages present an ongoing challenge to the project.

The project has been addressing its interface with Montgomery County Schools through the third-party agreement already in place with Montgomery County. However, due to the specific concerns related to the schools and the safety and security of the children, MTA drafted a separate MOU with the Montgomery County Schools system, which was approved by the School Board and signed by the School Superintendent, Montgomery County, and MTA. A similar MOU was negotiated between MTA and the Rosemary Hills School and was approved at the School Board meeting on February 12, 2019. MTA submitted a draft second MOU to Montgomery County Schools on November 3, 2022. The Purple Line project team is developing information on the utility pole locations and retaining wall maintenance before going back to the school district for final property transfer negotiations. Work will continue under ROE agreements with these parties through 2024.

As MTS commenced construction work, coordination meetings were held to ensure that prior agreements with third parties (utility companies and others) are followed. It is MTA's position that the transfer of third-party agreements from PLTC to MTA and now to MTS should not allow for a change in the terms of the agreements.

2.10 Construction

2.10.1 MTA Scope

Although the P3 concessionaire is responsible for the majority of the project construction, MTA also has construction responsibility in the areas of the replacement Parks Maintenance Facility (which is part of the real estate effort and budget), wetlands mitigation, stream mitigation, and possibly some offsite SWM sites. MTA has accomplished forest mitigation without the need for additional construction. The following discussion presents the current status of the MTA construction contracts:

- **Prince George's County Parks Polk Street Replacement Maintenance Facility** – This D-B contract was awarded after the BPW approved the construction contract award on March 20, 2019. Forrester Construction Company completed construction, Parks has taken possession of the facility, and the warranty period has expired. The only remaining action for this portion of the project is a real estate swap that will transfer the maintenance facility property to Parks in exchange for the property needed by the Purple Line project to MTA. ***The survey has been performed for this property, and as of May 2024, MTA is reviewing the plat*** documents needed for appraisals and negotiation for the swap.
- **Offsite Wetlands Mitigation (Ken-Gar)** – The Wetlands Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The contractor mobilized in December 2019 and completed site surveys and the installation of Erosion and Sedimentation controls. Clearing and grubbing began in February 2020. Prince George's County took partial acceptance of the entire project on March 3, 2021. Acceptable growth of vegetation has been achieved, allowing for closure of this project. The one-year warranty review occurred on January 9, 2022, and now the project requires MTA quarterly monitoring until closeout in 2028.
- **Offsite Stream Mitigation (Paint Branch)** – The Stream Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The pre-construction meeting was conducted on October 24, 2019. The contractor mobilized in late November 2019. The one-year warranty inspection occurred on August 4, 2022, and 1,700 plants were replaced in November 2022.

2.10.2 P3 Scope

Highlights of construction activities ***through May 2024*** throughout the alignment include***:***

- General: As a result of the dispute with PLTC (see the **Project Delivery Method and Procurement** section, above), all project activities slowed in the fall of 2020. In early August 2020, contractor forces, equipment, and materials were demobilized, and work in some areas ceased. Upon legal action from MTA, partial remobilization occurred. Following the court's rescission of the TRO, demobilization and safe-up activities in the construction area began in earnest in mid-September 2020 and continued into October 2020. Following PLTC's exit, MTA engaged a number of former PLTC subcontractors to continue select project activities. This work was progressed under MTA management with a goal of advancing critical path activities and reducing risk for the replacement D-B contractor.
- Status of P3 (OSF) construction items that MTA managed:
  - Utility installations of all types are complete or have been transferred to MTS, including construction by the electric provider (PEPCO) and the communications company (Verizon). Water, storm sewer, sanitary sewer, and gas lines are also complete or have been transferred to MTS.
  - As a part of OSF, MTA ordered rail, ties, special trackwork, and turnouts to mitigate supply chain risks. MTA also secured materials previously procured by PLTC for use by the replacement D-B contractor (MTS). As of September 2023, a dispute between MTA and MTS over the availability of MTA-supplied materials has been resolved. The materials were located along the project corridor and available for use, resolving the dispute.
  - Building construction at the Glenridge OMF is essentially complete; however, construction of civil items outside of the building continues, as does final commissioning of systems inside the building. MTS assumed control of the facility in January 2024. As of March 2024, Amendment 7 to the P3 Agreement settled all remaining disputes. MTS is currently installing rail and other features both inside and outside of the building. MTS will complete the tracks for storage and testing of LRVs.
  - Based on the status of construction at the time of PLTC's departure, MTA determined which items would be completed before mobilization of the replacement D-B contractor. OSF construction activities were expected to be completed before September 1, 2022, but some activities continued until November 2023. OSF utility relocations that fell behind schedule caused delays to MTS's work, and delays in OSF activities. Significant OSF delays impacted MTS's activities, and these additional costs are reflected in the Amendment 7 revised total project cost.
  - MTA's Equal Employment Opportunity Officer assigned to the project is Marcques Washington, and he is supporting MTS in its hiring program. The former contractor,

PLTC, left the project with a shortfall in meeting the requirements of its DBE program, and MTS is required to address this shortfall of approximately $12 million in contract value. In March 2023, MTA reported that the design portion and the nationally targeted worker program of the P3 contract had exceeded the DBE program goal, but the percentage DBE participation for general construction is below the goal. In April 2023, Mr. Washington reported that the DBE participation statistics are improving as construction continues. The PMOC continues to recommend that MTA report the projected values for these goals at the end of the project in addition to the current achieved values to allow for a better evaluation of progress toward meeting the goals. MTA has been performing audits each month to monitor the Davis Bacon prevailing wage requirements. To date, only very minor issues have been identified during these audits. ***In May 2024***, the Equal Employment Opportunity Officer ***has revised the*** DBE goals to reflect the new total construction cost established by Amendment 7 to the P3 Agreement. ***However, the DBE goals changed very little because the majority of Amendment 7 is not related to construction.***

2.11 Vehicle Technology and Procurement

The LRVs are five-car vehicles consisting of 136-foot-long, articulated units. Twenty-five vehicles (22 in operation and 3 spares) will be provided under the FFGA for the opening year. PLTP executed the LRV contract with CAF on June 17, 2016, and issued NTP to CAF on July 5, 2016, for the 25 FFGA vehicles. The original NTP to CAF also included one LRV outside of the FFGA.

Later, MTA added two additional vehicles (outside of the FFGA) by change order to CAF's contract, for a total of 28 vehicles to be supplied by CAF. The two additional LRVs will support better operations. MTS has incorporated these two additional LRVs into its scope of work (in addition to the cost and terms of LRV storage in Elmira).

Vehicle carshell manufacturing activities, which are coordinated with design progress, occurred until the facility in Spain was shut down in late March 2020 due to supply chain issues and to limit the spread of COVID-19. The final assembly facility in Elmira, New York, was shut down in early April 2020 due to New York State restrictions related to COVID-19 and reopened on May 18, 2020, at 50 percent of its workforce capacity. As of early August 2020, both the Spain facility and the Elmira facility were back to 100 percent staffing levels.

The final assembly of vehicles is being performed in CAF's facility in Elmira. MTA, its PMC, and SNC-Lavalin are meeting weekly with CAF to resolve all open items for design, testing, and manufacturing activities. First Article Inspections (FAIs) for Interior and Cab were completed on March 18, 2021, and FAIs for Exterior, Roof, and Undercar were completed on April 2, 2021.

Shipment of the first vehicle to the project site was expected in late spring of 2021. The lack of available storage at the yet-to-be-completed Glenridge OMF requires use of an offsite storage facility where vehicles can be stored, occasionally powered, and occasionally "exercised" or moved on tracks. MTA and CAF negotiated an agreement for CAF to store the completed LRVs

in Elmira. That storage agreement subsequently transferred to MTS, and its terms are part of MTS's agreement. Twenty-six LRVs have been designated as Ready for Shipment and have been placed into storage in Elmira. MTS's proposed construction schedule establishes when the test tracks will be available for acceptance of the railcars at the Glenridge OMF. ***The initial vehicle delivery occurred on May 15, 2024, with the second scheduled for mid-June 2024.***

The status of the LRV manufacturing as of ***May 2024*** is:

- To date, 130 carshell segments have been assembled in Spain.
- All 130 carshells have been delivered to CAF's facility in Elmira, New York.
- All 25 full LRVs in the FFGA are designated as Ready for Shipment and are in storage at CAF's Elmira facility. One additional LRV (outside of the FFGA) is also Ready for Shipment and in storage.
- Two additional LRVs are under contract. These LRVs are not a part of the FFGA, but rather are an addition to the contract by MTA to support rail operations. Manufacture of the two additional vehicles (ten cars) in Spain is now complete. All ten of those cars have been delivered to Elmira for final assembly and static testing.
- As mentioned in Section 2.3.3, Quality Assurance, one manufacturing quality issue, the recurring failure of the M33 bolt in multiple vehicles, is nearly resolved. LRV manufacturer CAF performed an RCA, and in March 2024, it performed a modified assembly process on a second sample group. ***As of April 2024, all of the sample installations performed adequately; therefore, the RCA will be completed in June 2024.***
- ***The first LRV was successfully delivered on May 15, 2024. The next scheduled delivery will occur in mid-June 2024.***

2.12 Project Cost

Table 5 summarizes the project's current actual expenditures and EAC, and compares them to the project budget as reported in MTA's SCC Workbook dated June 1, 2016, which is the basis of the project's FFGA. The project's documented expenditures total ***$3,501,220,075 through April 30, 2024.*** Refer also to **Table 4 – FFGA Core Accountability Items** in the **Executive Summary** section of this report for details on the project's planned and actual expenditures. The following table shows project budgets, actual expenditures, and forecast at completion amounts through ***April 2024***, compared with the project budget as reported in MTA's SCC Workbook dated June 1, 2016, and MTA's current working budget.

Table 5 – Project Cost Versus Budget

SCC	Cost Category	Budget (June 1, 2016 Original FFGA)	Working Budget[1] (April 3, 2023 FRP)	Expenditures *(as of April 30, 2024)*[2]	Forecast at Completion[1, 2]
10	Guideway and Track	$280,620,726	$371,508,682	***$228,216,050***	***$369,336,815***
20	Stations	$114,857,016	$161,159,923	***$61,039,365***	***$171,778,112***

SCC	Cost Category	**Budget** (June 1, 2016 Original FFGA)	**Working Budget**[1] (April 3, 2023 FRP)	**Expenditures** ***(as of April 30, 2024)***[2]	**Forecast at Completion**[1, 2]
30	Maintenance Facility	$94,155,591	$93,454,387	***$87,642,970***	***$94,776,064***
40	Sitework	$521,968,990	$796,081,289	***$610,870,291***	***$793,199,629***
50	Systems	$263,887,313	$517,256,196	***$233,042,695***	***$524,683,468***
	Subtotal 10–50	$1,275,489,636	$1,939,460,477	***$1,220,811,370***	***$1,953,774,088***
60	Right-of-Way	$229,600,000	$329,126,214	***$299,799,541***	$329,126,214
70	Vehicles	$212,940,927	$292,780,600	***$160,974,875***	$292,584,921
80	Professional Services (total)	$571,658,114	$2,247,359,915	***$1,819,634,288***	***$2,851,928,486***
80.01	Project Development	$87,149,878	$85,469,312	$85,469,312	$85,469,312
80.02	Engineering[3]	$139,766,036	$196,722,013	***$218,195,852***	***$235,519,823***
80.03	Project Management for Design and Construction	$148,555,323	$655,185,988	***$445,527,026***	***$631,431,448***
80.04	Construction Administration and Management	$83,269,280	$734,209,735	***$517,949,660***	***$790,043,316***
80.05	Professional Liability; Other Non-construction Insurance	$34,534,796	$85,701,891	***$77,930,322***	$78,860,971
80.06	Legal; Permits; Review Fees by Other Agencies, Cities, etc.	$5,805,117	$341,013,320	***$401,023,525***	***$881,915,881***
80.07	Surveys, Testing, Investigation, Inspection	$15,164,346	$92,504,023	***$68,757,057***	***$92,009,500***
80.08	Startup	$57,413,338	$56,553,635	$4,781,535	$56,678,235
	Subtotal 10–80	$2,289,688,678	$4,808,727,206	***$3,501,220,075***	***$5,427,413,710***
90	Unallocated Contingency[4]	$90,535,748	$307,293,174	***$0***	***$94,606,670***
100	Finance Charges	$0	$0	$0	$0
	Total	$2,407,030,288	$5,116,020,381	***$3,501,220,075***	***$5,522,020,380***

[1]The Purple Line project Working Budget and Forecast at Completion are based on the accepted FRP, dated April 3, 2023, and subsequent change orders.

[2]Amendment 7 to the P3 Agreement has been partially incorporated into MTA's financial reporting as of May 2024. Amendment 7 added $405 million to the construction cost of the project. ***The PMOC has requested the breakdown of these costs.***

[3]Additional costs associated with Amendment 7 were assigned primarily to SCC 80.02 in MTA's original reported budget information. During the April 25, 2024 PMOC/MTA monthly meeting, MTA indicated that the Amendment 7 costs will be reassigned to SCC 80.04. ***This reassignment appears to have occurred in May 2024.***

[4]The unallocated contingency expenditures will be reflected in SCC 10 through SCC 80 expenditures as they occur. As of ***May 2024***, the committed unallocated contingency amount is ***$212,686,504***. MTA is currently assessing the appropriate budget contingency in response to Amendment 7.

MTA developed the FRP unallocated contingency amount of $307,293,174 by utilizing a Quantitative Risk Assessment and the RCMP, dated April 21, 2023, recommended that amount for unallocated contingency.

In July 2023, the Maryland BPW approved a change order that had a total addition of $204,954,610 of cost and 207 additional days of contract time. The net budget impact to the capital construction portion of the project was $137,144,705, and the balance of the total amount was applied to the

financing and lost return on investment for PLTP. The $137,144,705 will be expended over the course of construction; therefore, this amount does not immediately show up in the MTA budget reports. However, that amount, plus the amount of the earlier change order included in the FRP, represents significant utilization of the budget contingency. The PMOC recommends that MTA closely monitor these cost overruns and the potential need for additional contingency. As of March 2024, a third change order (and amendment to the P3 Agreement [Amendment 7]) was negotiated. The change order essentially utilized all of the FRP budget and schedule contingency, added $406 million to the construction budget, and added 250 more days to the schedule. As a result, MTA is currently developing revised cost and schedule contingency budgets.

The PMOC has requested that MTA clarify the breakdown of Amendment 7 to the P3 Agreement for several reasons. MTA has indicated that Amendment 7 includes schedule mitigation measures, implying that the measures are changes to the MTA scope of work and also overhead costs related to the extended project schedule. The assignment of the costs to SCC 80 does not support those implications. If the costs assigned are for some scope changes (additional Maintenance of Traffic sequences, overtime for accelerated construction work, or other items), then those costs should be assigned to SCCs 10 through 50. ***Given that MTA has reported that the amount committed to DBE expenditures has increased by less than $1 million, it does not appear that Amendment 7 (or the $140 million change order executed in mid-2023) is assigned to actual construction.***

The PMOC also has questioned the significant amount of SCC 80 expenditures that are recorded each month. In recent months, SCC 80 expenditures by MTA and MTS total as much as 50 percent to 100 percent of the expenditures for SCCs 10 through 50 combined. ***In May 2024, MTA explained that a portion of the SCC 80 expenditures are settlement payments to MTS and PLTP and not true management and administrative costs. MTA estimates that the April 2024 management and administrative expenditures will fall as a percentage of total expenditures to approximately 20 percent of the total for the month.***

2.12.1 Project Funding

The funding for the project, as reflected in Attachment 3 of the FFGA, is shown in Table 6. As mentioned previously, MTA has not yet fully incorporated the effects of Amendment 7 to the P3 Agreement in its financial reporting. MTA has reported that the additional funds (approximately $406 million) related to Amendment 7 will come from the State of Maryland/MDOT Transportation Trust Fund.

Table 6 – Baseline Cost Estimate by Source Funding

Initial New Starts Project Cost (in SCC format)	Total FFGA Cost in Year of Expenditure (YOE) Dollars	Federal 5309 New Starts in YOE Dollars	Federal 5307 in YOE Dollars	Federal American Rescue Plan Act (ARPA) in YOE Dollars	Federal Surface Transportation Program (STP) in YOE Dollars	Local in YOE Dollars
10 Guideway & Track Elements	$371,508,681	$96,464,907	$0	$0	$0	$275,043,774
20 Stations, Stops, Terminals, Intermodal	$161,159,923	$23,557,000	$0	$0	$0	$137,602,923

Initial New Starts Project Cost (in SCC format)	Total FFGA Cost in Year of Expenditure (YOE) Dollars	Federal 5309 New Starts in YOE Dollars	Federal 5307 in YOE Dollars	Federal American Rescue Plan Act (ARPA) in YOE Dollars	Federal Surface Transportation Program (STP) in YOE Dollars	Local in YOE Dollars
30 Support Facilities, Yards, Shops, Admin. Bldgs.	$93,454,387	$29,954,000	$0	$0	$0	$63,500,387
40 Sitework & Special Conditions	$796,081,289	$222,858,301	$0	$0	$0	$573,222,988
50 Systems	$517,256,196	$60,116,405	$0	$0	$0	$457,139,791
60 ROW, Land, Existing Improvements	$329,126,214	$102,108,116	$0	$0	$0	$227,018,098
70 Vehicles	$292,780,600	$80,787,818	$0	$0	$0	$211,992,782
80 Professionals Services	$2,247,359,916	$284,153,453	$41,631,310	$106,163,371	$110,000,000	$1,705,411,782
90 Unallocated Contingency	$307,293,174	$0	$0	$0	$0	$307,293,174
100 Finance Charges	0	$0	$0	$0	$0	$0
Total Project Cost (SCCs 10-100)	**$5,116,020,380**	**$900,000,000**	**$41,631,310**	**$0**	**$0**	**$3,958,225,699**

Source: Maryland Purple Line Project FRP, dated April 3, 2023. Note: This table does not reflect the changes related to Amendment 7 to the P3 Agreement.

2.13 Project Schedule

The March 15, 2017 progress update of the master project schedule served as the only approved version of the schedule until September 2022. Numerous submissions of schedule updates from PLTC were not approved for various reasons, but the primary reason was the inability of MTA and the P3 concessionaire to agree on the schedule impacts of the approximately one-year delay in the execution of the FFGA. In response to a letter that FTA issued to MTA in early August 2018 expressing concerns about the amount of time that the project had advanced without an approved schedule, MTA prepared a working schedule update of the master project schedule. The working schedule update was based on the negotiations of the P3 contract schedule occurring at the time, but the update was not based on a mutually agreed-upon P3 contract schedule.

In late April 2020, PLTC notified PLTP that, based on its forecasting of schedule delays on the project (which were not mutually agreed upon), PLTC intended to exercise the clause in its P3 contract with PLTP that allows it to terminate the contract for design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that included a definitive path forward for PLTP's intended management of the P3 contract. On May 14, 2020 (the date the response to the formal request was due), PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice refuted the validity of the PLTP delay claims and stated that if PLTP failed to perform, MTA had a number of options related to the agreement. Through late July 2020, construction activities continued at the level previously planned, and construction progress was not affected.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a TRO that prevented PLTP from

abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO was held on September 14, 2020. The court rescinded the TRO, allowing PLTP to leave the project. Through negotiation, it was determined that PLTP would remain on the project, although PLTC would not.

MTA contracted with numerous subcontractors to continue the project. MTA developed organizational options with respect to construction management, resident engineers, inspectors, and other staff needed to move forward select project activities.

It was certain that the project schedule as reflected in the FFGA would be negatively affected, and a Recovery Plan for the project, including a revised project schedule with adequate schedule contingency to address remaining project risks, would be required. MTA submitted its draft IRP to FTA in December 2020, and FTA approved the IRP on January 12, 2021. A schedule for the period during which the D-B contractor was to be replaced was developed, and MTA monitored project progress against the schedule.

PLTP and MTA continued to coordinate during the financial process and State of Maryland approvals for the replacement D-B contractor. In addition, MTA successfully coordinated other key issues that needed to be resolved before PLTP could execute the contract with MTS.

The following is a summary of IRP milestones:

- January 6, 2021 – PLTP issued a Request for Qualifications (RFQ) for replacement D-B contractors.
- March 8, 2021 – PLTP issued an RFP to the short list of replacement D-B contractors based on the RFQ.
- October 15, 2021 – PLTP received RFP responses.
- November 5, 2021 – PLTP and MDOT/MTA selected the replacement D-B contractor firm (MTS).
- January 26, 2022 – BPW approved the replacement D-B contractor, contract amendments, schedule, cost, and financing.
- April 11, 2022 – Private activity bonds went to market.
- September 12, 2022 – MTA approved the Initial Baseline Schedule (IBS).
- October 14, 2022 – MTS was required to have commenced action on the 11 critical elements that are specified in the D-B contract. At the December 2022 PMOC meeting, MTA confirmed that MTS missed the 180-day window to commence action on 3 of the 11 critical elements.
- October 28, 2022 – MTA was required to have submitted a draft FRP to FTA and the PMOC for review and comment. On October 4, 2022, MTA submitted the draft FRP to FTA and the PMOC for review.

A milestone not specifically mentioned in the IRP is the requirement to extend the current RSD. The PMOC therefore added the following milestone to this list:

- December 31, 2022 – The RSD in the original FFGA was December 31, 2022. MTA requested an extension to the current RSD identified in the original FFGA. FTA accepted the FRP, which indicates a revised RSD of February 28, 2028.

The schedule included in the FRP was considered to be the new baseline schedule. The MTS master schedule incorporated the schedule recovery of implementing Maintenance of Traffic and construction activity resequencing, at a cost of $21,343,588, which reduced schedule delays from 218 days to 81 days. These schedule delays are a result of OSF utility adjustments that fell behind schedule. MTS has indicated that delays continued to occur as a result of the MTA-managed OSF work. The second OSF-delay-driven change order, as approved by the BPW in July 2023, added 207 days to MTS's RSA date.

This addition to the RSA date represents a significant use of schedule contingency, which is a concern considering the remaining duration of the project. In an effort to mitigate continuing OSF delays**,** MTA resumed the Tiger Team process (in this case referred to as "Tiger Team 2") to develop schedule alternatives. OSF construction activities were expected to be completed before September 1, 2022, but schedules that MTA previously provided indicated completion of most OSF activities in mid-2023, with some activities continuing up to November 1, 2023. OSF utility relocations that were behind schedule continued to cause impacts to MTS's work, and as of July 2023, delays in OSF activities had driven two change orders. MTA and PLTP have used the Tiger Team process to develop schedule alternatives to potentially mitigate delays driven by OSF work between March 2023 and February 2024. Amendment 7 to the P3 Agreement resolved the outstanding disputes and delays related to OSF activities. The amendment added 250 days to the schedule, placing the RSA date at December 30, 2027. MTA has ***accepted MTS's revised baseline schedule, and is preparing a revised master schedule based on the MTS information.***

2.13.1 Key Milestones

Table 7 shows the current key milestone dates for the project for the prior approved (March 15, 2017) progress update of the current master project schedule. Issuance of NTP to PLTP on April 14, 2022, triggered the contract requirement that an MTA-approved MTS IBS for the full project be in place within 120 days of financial close (by August 14, 2022). In January 2022, MTA submitted a draft version of the master schedule for FTA and PMOC review, and FTA and the PMOC transmitted their review comments to MTA in April 2022. MTS submitted its IBS, and on September 12, 2022, MTA approved it. MTS submitted the 120-day mobilization schedule, which MTA also approved.

In August 2022, MTA and the PMOC discussed the current state of the baseline schedule, particularly the inclusion of adequate float to address schedule risk. The P65 date that MTA proposed before the risk workshop held in May 2022 included approximately seven months of float and an RSA date in October 2026. After MTA performed the Quantitative Risk Assessment for the updated RCMP, MTA added additional float to address known and unknown schedule risk. The RSD proposed in the FRP is February 28, 2028. However, the recently approved Amendment

7 to the P3 Agreement sets the RSA date at December 30, 2027, essentially utilizing all of the schedule contingency. The outcomes of the current update of the Quantitative Risk Assessment will advise new recommendations regarding schedule float and contingency.

In May 2024, MTA reported that it has accepted a revised baseline schedule from MTS and is using the schedule to compile an updated MTA master schedule. The master schedule will incorporate additional contingency.

The PMOC recommends that MTA closely monitor schedule contingency and the corresponding budget contingency when evaluating the RSA date/RSD and the EAC that have been incorporated into the FRP. The information in Table 7 will be updated once the schedule reviews and approvals are complete.

Table 7 – Key Milestone Dates

Activity	Prior Approved Master Project Schedule (March 15, 2017)	MTA Master Project Schedule (March 1, 2024) (working schedule)
Locally Preferred Alternative Approval Date	08/04/2009 (A)[1]	---
FTA Approval to Enter Preliminary Engineering	10/07/2011 (A)	---
FTA ROD	03/19/2014 (A)	---
Issue Final RFP for P3 Concessionaire	07/28/2014 (A)	---
FTA Approval to Start Enter Engineering Phase	08/28/2014 (A)	---
Issue Addenda 4 through 6 to the P3 RFP	07/2015 through 11/2015 (A)	---
P3 Technical Proposals Due	11/17/2015 (A)	---
P3 Financial Proposals Due	12/08/2015 (A)	---
Evaluation and Announcement of Selected P3 Proposer	01/02/2016 through 03/02/2016 (A)	---
BPW Approval of P3	04/06/2016 (A)	---
P3 Commercial Close	04/07/2016 (A)	---
Limited NTP for P3 Engineering	04/07/2016 (A)	---
MTA Submit FFGA Application	05/24/2016 (A)	---
P3 Financial Close	06/17/2016 (A)	---
FFGA Signed	08/22/2017 (A)	---
Start of First Major Construction Activity	08/28/2017 (A)	---
All Significant ROW Acquisition and Relocation	As needed by construction	---
Commencement of Contract Work for Replacement D-B Contractor (MTS)	---	04/14/2022 (A)
Commencement of Integration Testing	---	07/28/2025
All Segments Complete Construction (with Contingency)	---	02/19/2027
RSA Date per P3 Amendment (Does Not Include Contingency)	---	12/30/2027
FFGA RSD (Includes Contingency)	12/31/2022	02/28/2028

[1]A = Actual.

2.13.2 90-day Look-ahead

The critical 90-day (***June 2024 through August 2024***) look-ahead includes activities that MTA highlighted in the recent monthly meeting with the PMOC. MTA and MTS also are preparing four-week look-ahead schedules to manage interim activities. Key activities that MTA has identified for the short term are:

- Completion of the bottom-up Quantitative Risk Assessment and revised recommendations for schedule and cost contingencies.
- Completion of yard track and initial installation of OCS at the Glenridge OMF to support LRV delivery and testing.
- ***Delivery of the second LRV to the Glenridge OMF.***
- Preparation for the WMATA coordinated track outages at the SSTC to allow work in the summer of 2024.
- Concrete lining installation at the Bethesda Enclosed Trainway.
- Installation of TPSSs Q03 and Q06.
- ***Continued installation of rail in all segments***.

2.13.3 Critical Path Activities

In the MTA master schedule update dated March 1, 2024, the critical path runs through the activities in Area 3 utilities and track (see **Attachment G, Project Map**), and then trial running and systems integration/testing.

2.14 Project Risk

MTA has established a risk management organization that is defined in the RCMP and is overseen by MTA's Risk Management Committee. Two major elements of the RCMP are the periodic performance of a Quantitative Risk Assessment and the maintenance and use of the Risk Register.

During the approximately one-year period during which the ROD had been vacated by the federal judge in his decision related to the Friends of the Capital Crescent Trail lawsuit, MTA did not conduct formal Risk Management Committee meetings, conduct Quantitative Risk Analyses, or perform formal updates of the Risk Register. However, the Purple Line project management team did assess and respond to the risks associated with the unforeseen chain of events related to the lawsuit.

The project team resumed formal Risk Management Committee meetings in October 2017, including individual updates of each risk on the current Risk Register by the risk owner. An overall update of the Risk Register was completed in draft form in January 2018, and was updated further and reissued in March 2018. As an ongoing process, MTA currently is performing updates of the Risk Register periodically, though somewhat less frequently than bimonthly (the frequency established in its RCMP). The current status of the RCMP is discussed in the **Project Management Plan and Sub-plans** section of this report, above.

MTA provides copies of significant updates of the Risk Register to FTA and the PMOC. The top risks from the project's latest issued update of the Risk Register and PMOC-assessed risks are discussed at the PMOC monitoring meetings with the project team; the project's top five project risks are included as Attachment B of this report and are updated quarterly. A risk management workshop was held on January 26, 2021, at which the PMOC and FTA participated. The workshop focused on the resolicitation period for the replacement D-B contractor (January through October 2021).

Once the replacement D-B contractor was under contract, risk updates were prepared. The project held a risk workshop the week of May 2, 2022, at which the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. Confirmation and finalization of the Risk Register, the Quantitative Risk Assessment, and an update of the RCMP are components of the FRP. FTA provided a summary of the risk workshop to MTA on June 22, 2022, for MTA's consideration and incorporation into its management plans and contingency evaluation. MTA provided responses to FTA comments on the risk workshop summary on July 15, 2022, and clarification on August 25, 2022. In October 2022, MTA submitted RCMP Version 15 to FTA and the PMOC for review. In February 2023, FTA and the PMOC provided comments on RCMP Version 15 to support MTA's development of the project's budget contingency and schedule contingency. On April 21, 2023, MTA provided a revised RCMP to FTA and the PMOC for review, and on May 22, 2023, FTA accepted the revised RCMP with comment.

After the execution of Amendment 7 to the P3 Agreement, the following two significant risks remained:

1. ***Construction – Exhibit 24 Utility Adjustments – retired with the execution of Amendment 7***
2. ***Real Estate – Remaining ROW Acquisitions***

As a follow-up to the Risk Management Committee meeting, MTA will complete a Quantitative Risk Assessment, re-baseline the project's contingency drawdown curves, and update the RCMP. ***In addition, a new Risk Register and a risk update, including contingency recommendations, is expected along with the revised Quantitative Risk Assessment*** in ***June 2024.***

2.15 Quality Assurance/Quality Control

The project's QA/QC is addressed in Section 10 of the PMP, the Quality Program Plan, and the updated MTA QAP Revision 8.0, which incorporates the quality plans prepared by PLTC. The **Project Management Plan and Sub-plans** section of this report, above, discusses the most current versions of the PMP and the QAP. MTA also submitted to FTA the package of inter-related quality plans prepared by the P3 concessionaire after the package was reviewed and approved by MTA.

MTA obtained and used PLTP's quality logs and other applicable documents and procedures during the transition to the replacement D-B contractor. Several former subcontractors were under contract with MTA and conducted QA/QC activities during the replacement D-B contractor

solicitation period. The budget to address nonconforming construction by PLTC remains a concern as of July 2023. MTA incorporated known defects into the MTS contract; however, MTA has not clarified the specific budget that will be used to rectify defects found since the contract with MTS was executed. MTA estimates that the potential magnitude of this budget impact will be no more than $10 million, and the current Risk Register carries this risk item.

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on the QAP to MTA. MTA provided a revised QAP to FTA and the PMOC in May 2023. Subsequently, FTA and the PMOC made recommendations for revisions to the QAP that MTA committed to include in the next regularly scheduled update to the QAP.

The project has continued to conduct its monthly meeting to review the QA/QC activities performed by the Purple Line project team, including those activities performed by the PMC and the GEC. MTA states that documentation from this meeting is distributed and maintained. The project's Monthly Progress Report to FTA also contains a summary of the significant current QA/QC activities and events, including quality audits and quality reviews. However, in January 2024 MTA did not submit the typical quality program monthly information, citing a change of leadership on the quality team. On January 25, 2024, MTA introduced the project's new Quality Manager, Turyalai Momand. ***In April 2024, MTA announced that it had hired a Deputy Quality Manager, along with several other quality staff.***

In February 2024, MTA stated that it is developing a full schedule of quality audits to be performed in 2024. When asked about a number of very old deficiency notices and instances of non-conforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of sign-offs by managers. MTA is deferring some other older open quality items because making corrections now will negatively impact other critical path activities.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. Roland Carroll, the Purple Line systems and construction safety lead, added the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to his new quality management role. The PMOC evaluated this change as a part of the PMP review and will continue to monitor MTA's management capacity for this function and all positions through ongoing oversight activities.

The PMOC requested that MTA provide more complete documentation for quality-related activities. MTA modified the QAP to reflect many of the noted PMOC concerns. In addition, a technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023. The PMOC then recommended acceptance of the QAP contingent upon MTA's incorporation of outstanding items into the next regularly scheduled annual update. On October 6, 2023, FTA accepted the QAP provided that MTA incorporate the PMOC recommendations. MTA has also developed a quality dashboard to improve its tracking of quality issues. In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments

provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational chart for quality management and administration. In April 2024, MTA listed the following three quality process improvements that it is developing:

1. Organizational chart update
2. Document control procedure update
3. Development of quality training plan and schedule for 2024

MTA emphasized that these quality processes apply only to MTA's quality activities, but they are coordinated with MTS's quality processes. In April 2024, MTA stated that it has added quality oversight staff to its organization, including a Deputy Quality Director.

2.16 Safety and Security

PLTP has conducted 44 Preliminary Hazards Analysis (PHA) workshop sessions to date. These workshops were held to resolve MTA's comments on the PHAs completed to date.

To support the ultimate Safety and Security Certification of the Purple Line project, the PLTP System Safety team completed development of its first DCCC in May 2017 and submitted it to MTA for approval. MTA (assisted by the PMC) reviews the DCCCs as part of the Final Design package, according to the established submittal review process. According to PLTP, the DCCCs were being verified before the issuance of RFC packages. To date, an estimated 99 percent of the DCCCs have been verified. All previous comments on PLTP's Certified Elements List (CEL), which includes operations and maintenance and system integration testing elements, have been resolved, and CEL Revision 2 was accepted in March 2020. The Certified Items List (CIL) Revision 1 has been accepted. The next revision of the CIL is expected after MTS completes the design. MTA will provide the revised CIL to FTA and the PMOC as soon as it is completed. Approximately ***20 percent*** of the CSCCs have been verified to date.

MTA chairs a Safety and Security Certification Committee (SSCC) that reviews, comments on, and approves any PLTP hazard management and safety and security certification issues. The first meeting of the MTA SSCC was conducted on March 20, 2018. Since July 11, 2018, the SSCC meeting has been held regularly and will continue as a monthly meeting until the level of activity requires more frequent meetings. ***As of May 2024,*** monthly SSCC meetings continue.

PLTC submitted a Threat and Vulnerability Assessment (TVA), and on July 15, 2019, MTA accepted and verified the comment responses and approved PLTC's TVA. PLTC then completed its TVA process. As of ***May 2024,*** MTS is performing a cybersecurity TVA for the project.

MTA continues to conduct bimonthly Fire/Life Safety meetings with Montgomery County and Prince George's County. The meetings provide a basis for the counties' emergency responders to understand the features of the Purple Line systems and to resolve any concerns. Topics of discussion include: Police Department MOUs; Fire Department connection and hydrant locations; access, signage, and station naming conventions; MOUs for training; the PHA at the Glenridge OMF maintenance gate; station names; and addresses/emergency phone numbers for locations

along the corridor. Other topics of discussion have included closed circuit television cameras and Mobile Emergency Vehicle Response access. As of April 2024, MTA indicates that work on establishing MOUs for cooperation with other local agencies has begun. MTA will develop an MOU for safety and security with WMATA first and then use that document as the template for MOUs with other agencies. It remains the opinion of the PMOC that MTA should emphasize resolving the project's outstanding Fire/Life Safety issues, because progress on the resolution of these issues is not apparent ***and has been ongoing for several years.***

MTA police continue coordinating MOUs with local safety agencies and developing MOUs with police jurisdictions (such as the Maryland National Capital Park Police) along the Purple Line. These MOUs are related to training the existing police agencies on how to respond to transit situations. During August 2023, the PMOC reiterated that these processes have been ongoing for several years and that milestones for resolution of issues should be established.

During the September 2022 MTA/PMOC meeting, a larger related issue was discussed at length. The SSOA staff participated in this discussion as well. The crux of the issue is that MTA does not have a police force located in proximity to the Purple Line. MTA hired a consultant team to analyze alternatives for providing security and fare enforcement services for the Purple Line. Alternatives included: expanding MTA's enforcement services geographically, bringing on a third party to provide these services through a contract, or sharing police services with another party. On February 23, 2023, MTA submitted its prepared draft recommendation for providing security and fare enforcement to several State of Maryland departments. Representatives from MDOT, which is the SSOA, who are monitoring the Purple Line project development provided comments on the draft recommendation before MTA submitted it to MTA's upper management and the several state departments. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a new Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on MOUs with other local jurisdictions, and developing a facility to house the district. As of January 2024, the PMOC continues to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget for providing security and fare enforcement services. In February 2024, MTA stated that it would complete the implementation plan by March 31, 2024. However, as of April 2024, MTA indicated that it would complete the police and security implementation plan by May or June 2024. MTA stated that the facility for the new Southern District of the police department will not be completed before the February 2028 RSD, and therefore temporary facilities will be required. ***In May 2024, MTA stated that the Purple Line project team will not be responsible for development of the new police force facility, but rather a different MTA department will manage its development. The PMOC recommends that MTA provide the contact information for the group that will be responsible for development of the facility and for staffing and training for the new Southern District.***

As required by the P3 contract, PLTP is responsible for directly implementing many of the safety and security requirements for the project, including those for construction safety and the collection and maintenance of the Occupational Safety and Health Administration (OSHA) safety statistics

for the project. PLTC performed this work until its departure from the project, at which time MTA assumed responsibility. Later, once the replacement D-B contractor was in place, MTS transitioned into the safety and security role that PLTC held. MTS and MTA are holding regular safety and security coordination meetings.

Safety is a PMOC concern. The rate of recordable incidents remains above project goals, and MTA appears to be having difficulties with incident documentation. For the period from ***January 1, 2024***, through ***April 30, 2024***, the OSHA statistics are:

- TCIR (Total Case Incident Rate) (Recordable Rate):
  - Actual: ***0.93*** (MTS)
  - MTS goal: 1.68
  - National average: 2.8 (for heavy civil construction)

Note: As of January 2024, the Lost Time Injury Rate (LTIR) is no longer being tracked.

In May 2024, the 2024 year-to-date and project inception-to-date (for MTS) incident rates decreased significantly. The decreases that MTA reported appear to be mathematically impossible, and therefore the PMOC recommends that MTA investigate the issue.

MTA had assumed responsibility for safety oversight during the IRP until MTS assumed control of the project. As of December 2022, MTA reported that MTS needs coaching on expectations for the required reporting of safety statistics. In April 2023, the PMOC noted to MTA that both the LTIR and the TCIR had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in incident rates, there is an apparent lack of tracking and reporting of safety issues. The PMOC has repeatedly noted that there are inconsistencies in incident reporting between MTA and MTS.

MTA states that it recognizes the issue and reports that it has scheduled additional safety coordination efforts. In May 2023, the PMOC requested documentation on these additional efforts, and in July 2023, the PMOC questioned the effectiveness of the efforts. MTA acknowledges the need for safety process improvement. In November 2023, MTA stated that MTS has replaced its safety director and has added safety staff, although MTA did not review the qualifications of the new director or staff. The PMOC recommended that MTA review the qualifications of MTS safety staff and the safety processes and procedures being followed on the project.

The PMOC recommends that MTA and MTS complete a safety process review as soon as practical and that MTA prepare a written summary. In November 2023, MTA's safety director, Roland Carroll, provided an email and attachment that briefly summarized the safety improvement actions. The document does not indicate target dates for implementation, nor the responsible party for these actions. In January 2024, MTA stated that MTS is not following the contractually required incident reporting procedures and timelines, which include a 20-minute verbal reporting requirement and a 24-hour maximum period to submit written documentation of incidents. In February 2024, MTA provided 12 months of incident reporting information to the PMOC. The

document quality requires improvement and should include identifying information, such as the date and who prepared it. The data indicates that nearly 80 percent of all safety incidents are reported late, some as much as several months. The delayed reporting has occurred for both MTA-managed incidents (under OSF) and for MTS-managed incidents under both the former and current MTS Chief of Safety.

It remains the opinion of the PMOC that MTA's processes related to construction safety can be improved. The PMOC recommends that MTA consider dedicating additional resources to construction safety (i.e., resources dedicated to only the construction portion of the Purple Line project). MTA should also consider preparing a comprehensive monthly safety report under the direct supervision of the Project Director.

In April 2024, MTA reported its March 2024 incident rate, which showed an increase, and the rate remains significantly higher than the goal. MTA has stated that it is modifying the safety processes. The PMOC requested that MTA submit the full incident tracking log each month as a part of the standard information it provides, and that MTA also provide the results of the April 2024 audit of the MTS Concessionaire Safety and Health Plan.

The PMOC also reviewed the Concessionaire Safety and Health Plan audit results and makes the following observation and related recommendation:

Audit Item 4 – MTS does not have written verification of its subcontractors' and suppliers' health and safety plans. MTA recommended that MTS collect written verification from the subcontractors and suppliers that they are utilizing their health and safety plan or have adopted the MTS health and safety plan. Considering that MTS has had subcontractors onsite for two years, the PMOC finds this lack of verification a significant concern. The PMOC recommends that MTA require MTS provide a firm target date for verification and track progress toward completion.

The PMOC ***continues to recommend*** that MTA carefully monitor safety documentation and develop safety process improvements.

In late October 2022, MTA submitted to FTA updated SSMP and SSCP documents in conjunction with the updated PMP. On February 13, 2023, and March 8, 2023, FTA provided review comments to MTA on the SSMP and SSCP, respectively. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023, and accepted the SSCP on December 28, 2023. In April 2024, MTA submitted a revised SSCP that includes the TUN process and also provided a partially complete preliminary LRV Delivery Plan. ***FTA/the PMOC has requested from MTA a fully complete LRV Delivery Plan, with appendices.***

See the **Project Management Plan and Sub-plans** section of this report, above, for the status of the sub-plans of the PMP related to safety and security.

2.17 Americans with Disabilities Act

The PMOC confirmed that the Design Criteria Manual applicable to the Purple Line project addresses Americans with Disabilities Act (ADA) requirements, including references to the

requirements in the Maryland Accessibility Code, the ADA Accessibility Guidelines for Buildings and Facilities, and the ADA Standards for Transportation Facilities.

Accessibility and compliance with the ADA are required as part of the functional requirements for stations and guideway, and as part of the codes and standards for LRVs within the P3 contract (Book 2, Part 2) for the Purple Line project. Based on project reviews conducted by the PMOC, MTA has confirmed that it included ADA compliance in its QA oversight reviews of PLTC's design packages.

All design reviews include ADA specifically. The contract requires a full-time MTS Maintenance of Traffic construction representative for the project to monitor whether temporary pedestrian accommodations during construction continue to comply with ADA requirements. The contract also includes an incentive program for ADA compliance. The Maryland State Highway Administration also inspects temporary facilities.

MTA indicates that the project is maintaining ADA accessibility along the project corridor during construction. In addition to planning for ADA accessibility, MTA and MTS respond to public concerns due to construction activities and temporary accessibility features.

2.18 Buy America

MTA understands that Buy America compliance applies not only to the rail vehicles but also to the procurement of all manufactured products, including all iron and steel. MTA is also aware that domestic manufacture of all federally funded procurements is required and should be certifiable. Compliance with Buy America regulations is contained in MTA's standard clauses for its procurements, and the P3 contract contains explicit Buy America language in its Appendix 16.

Virginkar and Associates, Inc. conducted the Buy America pre-award audit and concluded that there is reasonable certainty that CAF will satisfy the Buy America requirements as stated in 49 Code of Federal Regulations (CFR) 661. MTA's interpretation is that, because the vehicle RFP was advertised before December 4, 2015 (which is the date of passage of the Fixing America's Surface Transportation Act, also known as the FAST Act), the 49 CFR 661 Public Interest Waiver that limits domestic content to a minimum of 60 percent, as opposed to the escalating domestic content requirements of the FAST Act, applies in this case. During the week of October 2, 2017, an intermediate post-award Buy America audit was conducted of CAF's facility in Elmira, New York, for added confidence that the post-delivery audit would not identify issues. CAF targeted 65 percent domestic content in the completed LRVs.

The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to FTA. On that same day, MDOT also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.

MTS regularly audits its suppliers and subcontractors regarding the construction Buy America requirements. MTS audits its subcontractor's Buy America requirements and any issues are reported in conjunction with the project quality process.

2.19 Start-up, Commissioning, Testing

MTA has begun documentation for the "Roadmap to Revenue Operations" (see **Attachment F**), which includes both MTA and MTS information on integration, testing, and commissioning. MTA submitted an update of Attachment F to the PMOC ***in May 2024***. ***MTA will provide the preliminary Integration Test Program Plan and other documentation indicated in the Roadmap to Revenue Operations appendix when those documents are complete.*** As of November 21, 2023, MTA had developed a process for managing testing submittals and reviews, including detailed tracking of open items. MTA has not yet contracted with an Independent Integration Engineer to oversee the integration and testing process.

The PMOC recommended that MTA expedite readiness activities for testing of LRVs. ***MTA stated that plans for the activities were complete prior to delivery.*** MTA states that the responsibility for readiness activities lies with the P3 concessionaire. LRV delivery ***began in May 2024,*** and MTA media events related to vehicle delivery ***and a second delivery*** are scheduled for ***June 2024. The PMOC recommends that MTA expedite the readiness plans for dynamic testing, which is scheduled to begin in the fall of 2024.***

The PMOC continues to recommend that MTA incorporate activities and milestones for integration and testing into the master schedule.

2.20 Before-and-After Study Reporting

To be determined.

2.21 Lessons Learned

The resolicitation of a D-B contractor gave MTA the opportunity to apply several lessons learned to the new D-B contract documents and to amend the P3 Agreement. After the May 2022 risk workshop with MTA and the PMOC, MTA provided an update on opportunities for improvement that MTA had identified during the resolicitation and is incorporating into the project. ***MTA provided an initial Lessons Learned summary that addressed the period of OSF construction and replacement of the D-B contractor. The PMOC recommends that MTA continue the process of recording lessons learned by reviewing and documenting the issues that led to the change order (of more than $600 million and 12 months) that included Amendment 7 to the P3 Agreement.***

2.22 Action Items

Action Items are identified at MTA/FTA Quarterly Progress Review Meetings, at MTA/PMOC Monthly Update Meetings, and at MTA/FTA Biweekly New Starts Progress Conference Calls. Action Items in ***May 2024*** are as follows:

1. ***MTA will provide explanation of the inaccurate safety incident statistics. – OPEN***

2. ***MTA will provide the complete LRV Delivery Plan, including appendices. – OPEN***
3. MTA will provide the M33 bolt RCA when complete. – OPEN
4. ***MTA will provide the master schedule update by June 3, 2024. – OPEN***
5. ***MTA will provide the appropriate contact information to allow FTA to request the written plan, budget, and schedule for development of the police and fare enforcement services. – OPEN***
6. MTA will provide the Tiger Team 2 results, the schedule and cost impacts related to OSF delays, and the Quantitative Risk Assessment, including revised cost and schedule contingencies. MTA will provide Tiger Team details, which will indicate how the Amendment 7 cost (in SCC format) was calculated. – OPEN. MTA will provide Tiger Team details, which will indicate how the Amendment 7 cost (in SCC format) was calculated.
7. ***MTA will provide the Quantitative Risk Assessment on or before June 12, 2024.***
8. ***MTA will provide the preliminary Integration Test Program Plan and other documentation indicated in the Roadmap to Revenue Operations appendix in this report. – OPEN***
9. MTA will provide an update on quality process improvements, including incorporation of previous FTA and PMOC recommendations for the QAP, including the training plan and organizational chart. – OPEN

ATTACHMENT A – LIST OF ACRONYMS

ADA	Americans with Disabilities Act
ARPA	American Rescue Plan Act
ATC	Alternate Technical Concept
BFMP	Bus Fleet Management Plan
BPW	Board of Public Works
CAF	Construcciones y Auxiliar de Ferrocarriles
CEL	Certified Elements List
CFR	Code of Federal Regulations
CIL	Certified Items List
CSCC	Construction Specification Conformance Checklist
CSX	CSX Corporation
D-B	Design-Build
DBE	Disadvantaged Business Enterprise
DCCC	Design Criteria Conformance Checklist
DNR	Maryland Department of Natural Resources
DRB	Dispute Resolution Board
EAC	Estimate at Completion
FAI	First Article Inspection
FCP	Forest Conservation Plan
FFGA	Full Funding Grant Agreement
FRP	Final Recovery Plan
FTA	Federal Transit Administration
GEC	General Engineering Consultant
IBS	Initial Baseline Schedule
IRP	Interim Recovery Plan
LOD	Limits of Disturbance
LRT	Light Rail Transit
LRV	Light Rail Vehicle
LTIR	Lost Time Injury Rate
MCC	Management Capacity and Capability
MDE	Maryland Department of the Environment
MDOT	Maryland Department of Transportation
MOU	Memorandum of Understanding
MTA	Maryland Transit Administration
MTS	Maryland Transit Solutions
N/A	Not Applicable
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
O&M	Operations and Maintenance
OCS	Overhead Contact System
OHA	Operational Hazard Analysis
OMF	Operation and Maintenance Facility
OP	Oversight Procedure
OSF	Operation Step Forward
OSHA	Occupational Safety and Health Administration
P3	Public-Private Partnership
PEPCO	Potomac Electric Power Company
PHA	Preliminary Hazards Analysis
PLTC	Purple Line Transit Constructors
PLTO	Purple Line Transit Operators
PLTP	Purple Line Transit Partners
PMC	Project Management Consultant
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QA/QC	Quality Assurance/Quality Control
QAP	Quality Assurance Plan

QRA	Quantitative Risk Assessment
RAMP	Real Estate Acquisition Management Plan
RCA	Root Cause Analysis
RCMP	Risk and Contingency Management Plan
RFC	Released for Construction
RFP	Request for Proposals
RFQ	Request for Qualifications
ROD	Record of Decision
ROE	Right of Entry
ROW	Right-of-Way
RSA	Revenue Service Availability
RSD	Revenue Service Date
SCC	Standard Cost Category
SCIL	Safety Certifiable Item List
SEIS	Supplemental Environmental Impact Statement
SIT	Systems Integration Test
SOP	Standard Operating Procedure
SSCC	Safety and Security Certification Committee
SSCP	Safety and Security Certification Plan
SSCVR	Safety and Security Certification Verification Report
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSTC	Silver Spring Transit Center
STP	Surface Transportation Program
SWM	Stormwater Management
TBD	To Be Determined
TCE	Temporary Construction Easement
TCIR	Total Case Incident Rate
TDD	Transit Development and Delivery
TIFIA	Transportation Infrastructure Finance and Innovation Act
TPSS	Traction Power Substation
TRO	Temporary Restraining Order
TUN	Temporary Use Notice
TVA	Threat and Vulnerability Assessment
UMD	University of Maryland
USACE	U.S. Army Corps of Engineers
WMATA	Washington Metropolitan Area Transit Authority
WSSC	Washington Suburban Sanitary Commission
YOE	Year of Expenditure

ATTACHMENT B – TOP PROJECT RISKS

An internal risk workshop to support the Interim Recovery Plan (IRP) was held on January 26, 2021. Maryland Transit Administration (MTA) and Purple Line Transit Partners (PLTP) used information from the meeting as they solicited a replacement Design-Build (D-B) contractor.

A risk workshop was held May 3 through May 5, 2022. After the risk workshop, MTA prepared supplementary or updated documents for review, including an updated Risk Register. The Federal Transit Administration (FTA) provided a risk summary to MTA on June 22, 2022, for MTA's consideration when updating risk, contingency, and other project management plans. MTA incorporated the FTA comments in the revised Risk and Contingency Management Plan (RCMP) that is a part of the Final Recovery Plan. On May 22, 2023, FTA accepted the revised RCMP with conditions.

During the February 7, 2024 Quarterly Progress Review Meeting, MTA presented cost and schedule contingency drawdown curves that indicated significant commitment of contingency reserves. Due to this significant commitment of contingency and the recent completion of the MTA-managed Operation Step Forward (OSF) activities, MTA determined that an update to the Risk Register was warranted.

On November 20, 2023, MTA held its quarterly Risk Management Committee meeting. During the meeting, MTA identified the top four project risks that have a risk rating of "Significant." Amendment 7 to the Public-Private Partnership (P3) Agreement, which was executed in March 2024, resolved several disputes that had been listed as Significant risks. After Amendment 7, the following two significant risks remained. A new risk register is expected with the revised Quantitative Risk Assessment (QRA).

3. Construction – Exhibit 24 Utility Adjustments – retired with the execution of Amendment 7
4. Real Estate – Remaining Right-of-Way (ROW) Acquisitions

As a follow-up to the Risk Management Committee meeting, MTA will complete a Quantitative Risk Assessment, re-baseline the project's contingency drawdown curves, and update the RCMP. MTA will provide the risk update and QRA, including contingency recommendations in June 2024.

ATTACHMENT C – AWARDED CONTRACTS

Included below is information that MTA provided for the May 8, 2024 Quarterly Progress Review Meeting packet. Please note that the total shown in this table for contracts awarded does not reflect the full project value.

Major Contracts:

Company	Vendor Type	Contract No.	Baseline Amount	Change Order Totals	Current Amount	Pending Change Orders
PB/RK&K	Engineers/ Architects	MTA-1054A	$ 12,000	$ 1,850	$ 13,850	
STV/Jacobs	Engineers/ Architects	MTA-1054B	$ 8,000	$ 1,300	$ 9,300	
AECOM/ RK&K/WSP	Engineers/ Architects	MTA-1264A	$ 60,000	$ 338,500	$ 398,500	
Gannett Fleming/WRA	Engineers/ Architects	MTA-1265B	$ 80,000	$ 71,000	$ 151,000	
Purple Line Transit Partners	P3 Concession (design build portion only)	PUR16032PP	$ 1,988,816	$ 1,933,769	$ 3,922,585	
Total			**$ 2,148,816**	**$ 2,346,419**	**$ 4,495,235**	**0**

Reason for Change: *Amendment 6 to the Purple Line Transit Partners P3A was not been previously reflected. The amount shown as "Current Amount" represents that portion of the P3A Design-Build contract associated with the New Starts Program.*

ATTACHMENT D – ROLLING STOCK VEHICLE STATUS REPORT

Date: May 28, 2024

Vendor: Construcciones y Auxiliar de Ferrocarriles (CAF)

Model: Multiple-section 136-foot articulated car (total length is 142 feet coupler-to-coupler), used in a five-car consist per vehicle

Year: The first vehicle was completed in 2021, and currently 26 vehicles are designated as "Ready for Shipment." Completion of the storage and testing facilities at the Glenridge Operation and Maintenance Facility (OMF) has been delayed, so Maryland Transit Administration (MTA) and CAF negotiated terms for storage of vehicles at the CAF facility in Elmira, New York. The storage agreement has now transferred to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS).

Quantity: 25 vehicles (125 cars) were in the original contract (Full Funding Grant Agreement [FFGA]). One vehicle (5 cars) was added to the original CAF authorization by MTA, outside of the FFGA.

In July 2021, two vehicles (ten cars) were added via change order to MTS, also outside of the FFGA.

Identification: The original light rail vehicles (LRVs) will be numbered from 101 through 126. The two additional LRVs will be numbered 127 and 128, respectively.

New Technologies: None planned (all major suppliers have service-proven equipment).

Status and Significant Activities:

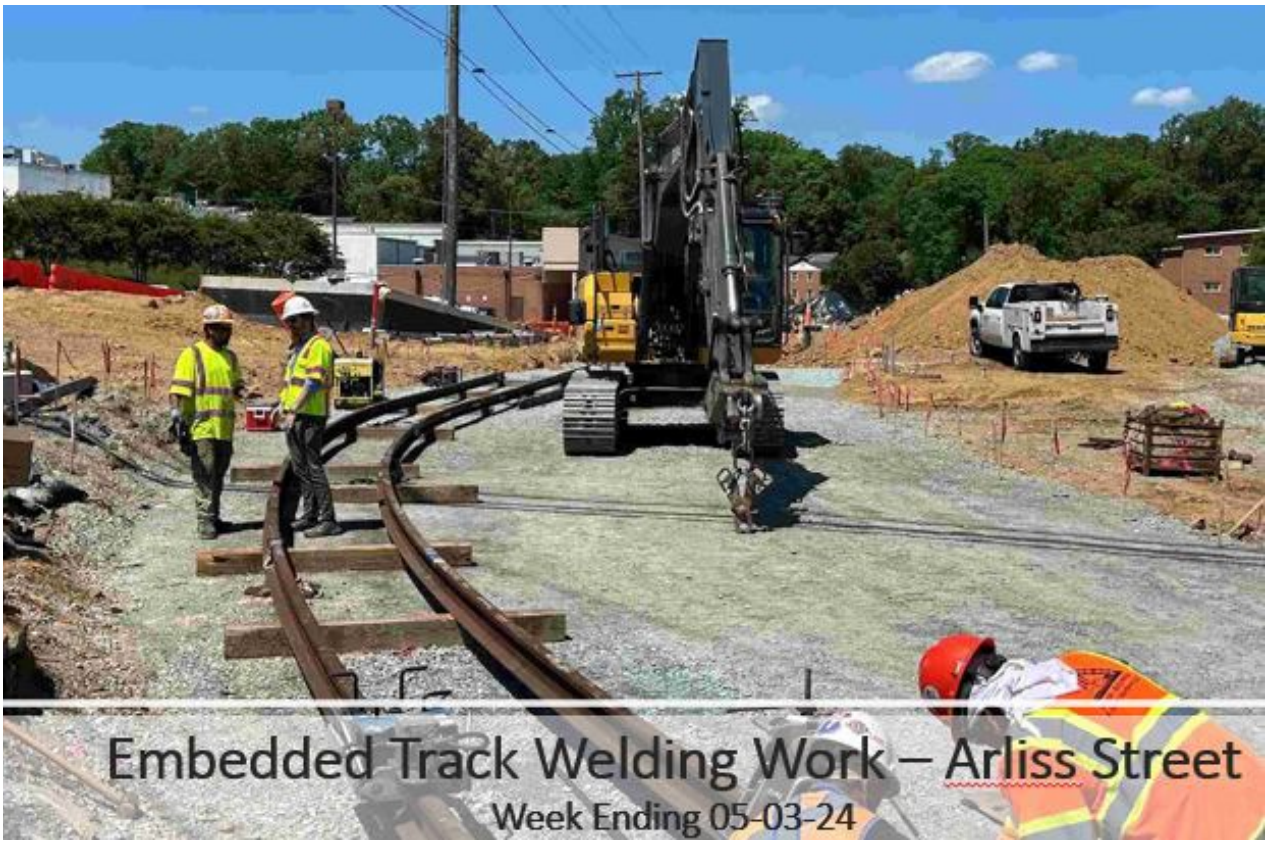
- As a part of the original order, twenty-six vehicles (130 cars) were assembled in Spain and delivered to CAF's facility in Elmira, New York, for final assembly and static testing. Manufacture of the additional two vehicles (ten cars) have been delivered to Elmira for final assembly and static testing.
- Delivery of finished vehicles was expected to begin in spring 2021; however, because the Glenridge OMF was not ready to accept railcars, MTA and CAF have negotiated an agreement for CAF to store the completed cars in Elmira.
- Cost risk for delivery of the finished vehicles has been transferred to MTS. If delays in construction cause a delay, then MTS is responsible to CAF for additional storage cost.
- The first LRV was delivered to the Glenridge OMF on May 15, 2024. The second vehicle is scheduled for delivery in mid-June 2024.
- Twenty-five LRVs have passed static testing, have been designated as Ready for Shipment, and are in storage in Elmira. These include vehicle 110, which was returned to Ready for Shipment status after a second period in static testing.

- The Glenridge OMF will be able to store three or four vehicles in the building, so additional track must be available for additional storage. The Overhead Contact System and Traction Power Substation (TPSS) Q7 and TPSS QYG must be completed and installed before operation of the vehicles.
- SNC-Lavalin (now an MTS subcontractor) prepares a monthly quality report documenting safety, production, and quality items at the New York production facility.
- MTA, the Project Management Consultant, and CAF are holding weekly coordination meetings to review all outstanding testing and factory/shop activities, including onsite testing procedures for when the vehicles are delivered to Maryland.
- MTS, which has assumed the CAF contract, is preparing and submitting to MTA reports on LRV maintenance activities required during the storage period.
- The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with the evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to Federal Transit Administration (FTA). On that same day, Maryland Department of Transportation also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.
- The resolution of previously identified quality issue related to the M33 bolt on the LRV trucks is not resolved as of ***May 2024***. Additional failures occurred in November and December 2023, and the truck manufacturer in Germany performed additional tests. MTA previously indicated that a Root Cause Analysis (RCA) is being performed for this issue. In January 2024, CAF concluded that the main/root cause of the issue was a misalignment of the bolts during assembly. In January and February 2024 CAF examined 50 gear boxes that included the M33 bolt. CAF determined that an alignment issue prior to torquing the M33 bolt is the likely cause of the issue. CAF performed a sample installation of 48 bolts on 12 LRVs using a modified procedure. As of April 2024, all of the sample installations performed adequately, so the RCA will be completed in June 2024. After the RCA is completed, maintenance manuals will be modified, and needed tools will be provided to PLTO. CAF does not believe the issue will impact delivery of the vehicles, which is scheduled for June 2024.

ATTACHMENT E – PROJECT MILESTONES/KEY EVENTS

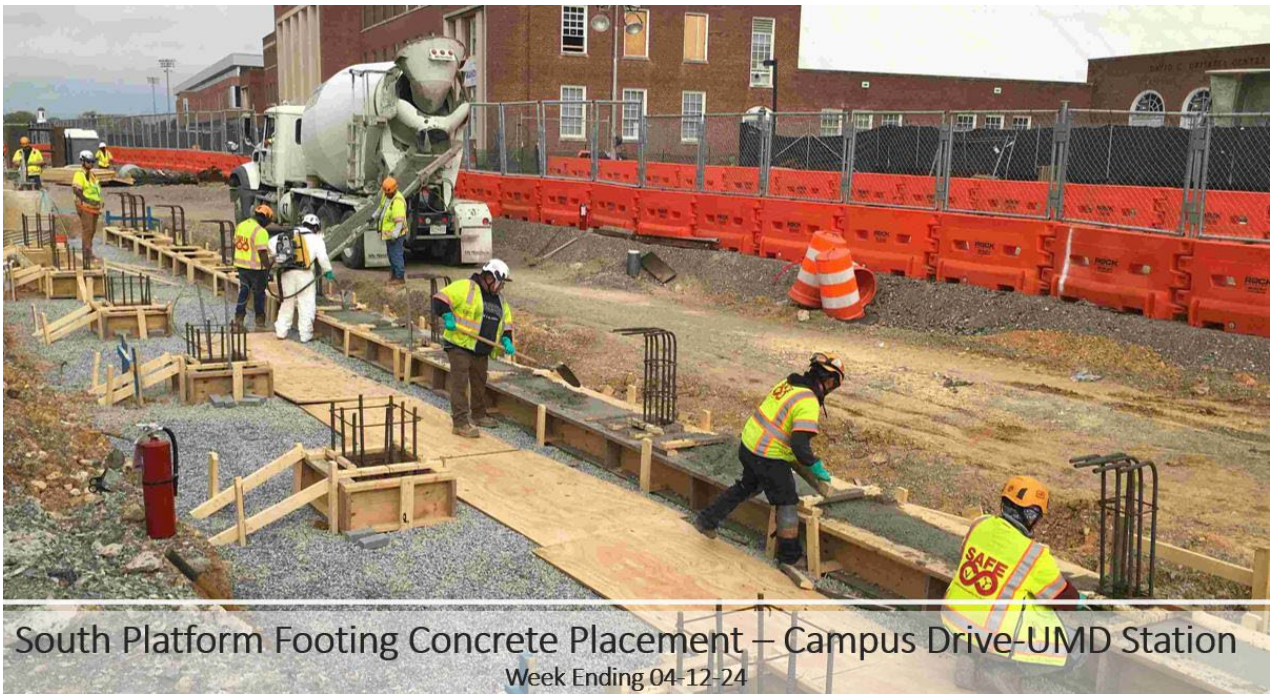
Photos courtesy of Maryland Transit Administration.







Sligo Creek Stream Diversion Work – Wayne Ave
Week Ending 05-10-24



South Platform Footing Concrete Placement – Campus Drive-UMD Station
Week Ending 04-12-24



Precast Egress Stair Installation – Connecticut Ave. Station
Week Ending 05-17-24



South Platform Slab Concrete Placement – Riverdale Park-Kenilworth Station
Week Ending 05-17-24


18-Inch CPP Installation at Manhole MH56-02 – Wayne Avenue
Week Ending 05-24-24


Site View of Platform Drainage Pipe Installation Work – Long Branch Station
Week Ending 05-24-24



Site View Abutment B Slope Stabilization Work Progress – Rock Creek
Week Ending 05-31-24



TPSS-Q4 Pepco FRE Conduit Installation – Piney Branch at Seek Ln
Week Ending 05-31-24

ATTACHMENT F – ROADMAP TO REVENUE OPERATIONS

In accordance with Oversight Procedure 25, the Project Sponsor will prepare the Roadmap to Revenue Operations template based on the current master project schedule, in the general format presented below. The PMOC provided this template to the Project Sponsor as a separate electronic file for its use. The Project Sponsor is requested to provide quarterly updates for review and discussion. MTA provided this quarterly update for the roadmap ***in May 2024.***

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Testing								
Finalize Comprehensive Test Plan	PLTP/MTS/ Sener	See Notes	In Progress	5/31/24		**T & C Management Plan** – Accepted **Project Test Program Plan** – Accepted **LRV Test Plan** – Accepted. All factory and site test procedures Accepted. **TCS Test Plan – Local** – Accepted. All factory test procedures submitted, 10 of 11 Accepted. 18 of 37 site test procedures submitted, 12 Accepted **TCS Test Plan – Integration** – Awaiting Submittal **TCS/Traffic/CMS Test Plan** – Awaiting Submittal **TPSS Test Plan** – Accepted. All factory test procedures submitted and Accepted. 20 of 24 site test procedures submitted and Accepted. **OCS Test Plan** – Accepted. Factory test procedures prepared by previous contractor and reviewed by PLTC/Atkins. 3 of 14 now submitted to MTA and Accepted. 3 of 13 site test procedures submitted, 2 Accepted. **Communications Test Plan** – Accepted. 20 of 25 factory test procedures submitted and Accepted. 2 of 51 site test procedures submitted and Accepted. **CMS Test Plan** – Accepted. 57 of 59 factory test procedures submitted, 51 Accepted. 0 of 53 site test procedures submitted. **Fire & Security Test Plan** – Accepted. 19 of 19 factory test procedures submitted and Accepted. 5 of 31 site test procedures submitted and Accepted. **Fare System Test Plan** – Awaiting Systems Design **Traffic** – QC with AHJs **EMI Test Plan** – Accepted **CCG Test Plan** – Accepted **Noise & Vibration** – MTS Reviewing **OMIS Test Plan** –CMS Integration added to CMS TPP. OMIS functionality TBD after completion of design.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Ops Simulator Test Plan TPP is pending completion of design. **Trackwork** – Unofficial draft received and comments returned. Awaiting official submittal. **OMFs Test Plan** –Responses received to previous Glenridge submittal – in resolution. Plan for Lyttonsville will be submitted as a separate document. **Station Electrical** – Under Study by MTS/Sener **Fire Protection, Mechanical, Plumbing** – Under Study by MTS/Sener		
Finalize / Update Systems Integration Test (SIT) Plan	PLTP/MTS/ Sener	In Preparation	In Progress	May 2024		Awaiting update of DRC# 3644, CW-164, Systems Integration Test Plan Revised document received – DRC #1066. Currently in review.		
Develop Testing Schedule and Monitoring Tools	PLTP/MTS	In Progress	TBD	TBD				
Develop Operating Rules for Testing	PLTP/MTS	In Preparation	In Progress	July 2024		Construction Railway Operations Rules & Procedures (CRO) is largely complete. Final edits to the CRO being made by MTS's new Yard Master. Final CRO due by end of May/early June. Training on CRO scheduled to begin in Jul 2024.		
Conduct System Integrated Testing - Prioritized Traffic Signal Systems	PLTP/MTS	In Progress	TBD	TBD				
Certificates of Occupancy / Substantial Completion	Maryland Office of the State Fire Marshal	Glenridge OMF – In progress.				As state-owned property, no certificates of occupancy are issued. The AHJ ensures building is safe through various system inspections to include fire protection systems, elevators, etc. AHJ will take no exception to occupancy if inspections pass.		
Finalize Operating Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept. 2025 Sept 2026		Projected start of Trial Running: March 2027 (based on May 2024 Project Schedule Update): Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running
Finalize / Revise Standard Operating Procedures (SOPs),	PLTP/PLTO	See Note	TBD			Included as part of the Operating Plan.		Rulebook, SOPs and EOPs to be submitted for review and

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
manuals, and rulebook as applicable				Sept. 2025 Sept 2026		Projected start of Trial Running: March 2027 (based on May 2024 Project Schedule Update): : Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running. Revisions to operating/maintenance/emergency rules/procedures may occur during the testing and commissioning period. CRO undergoing final edits. CRO to become effective prior to commencement of regular movements of vehicles within the yard (Refer to Develop Operating Rules for Testing above)		approval no later than 6 months prior to Trial Running. Preliminary submittal of Operations manuals for review and comment due no later than 18 months prior to Trial Running. Final submittal of Ops manuals for review and approval due no later than 6 months prior to Trial Running
Complete Staffing Plan	PLTP/PLTO	On-going				PLTO has developed a draft staffing and hiring plan that is tied to the approved project schedule. Hiring plan subject to change based on project schedule changes.		
Obtain Required Staff T&C Support Staff	PLTP/PLTO/ MTS PLTO	On-going	Various March 2024	March 27 Fall 2024		Recruitment and staff hiring based on project schedule. PLTO staffing (operators and dispatchers/controllers) to support vehicle dynamic testing has been coordinated with CAF. Onboarding of other PLTO support staff for vehicle maintenance (after vehicle acceptance) and test track maintenance tied to vehicle delivery dates and start of vehicle dynamic testing (Fall 2024) **PLTO Current On-site Staffing:** General Manager Dir. of Maintenance CFO/Admn Manager Facilities Maintenance Manager Systems Engineer Structural Engineer HR Manager Buyer/Procurement Specialist **(pending job offer acceptance)** Warehouse Supv Dep Director of Ops **(accepted job offer)** Vehicle Maintenance Superintendent Rail Operators (6 - for T&C Support).		

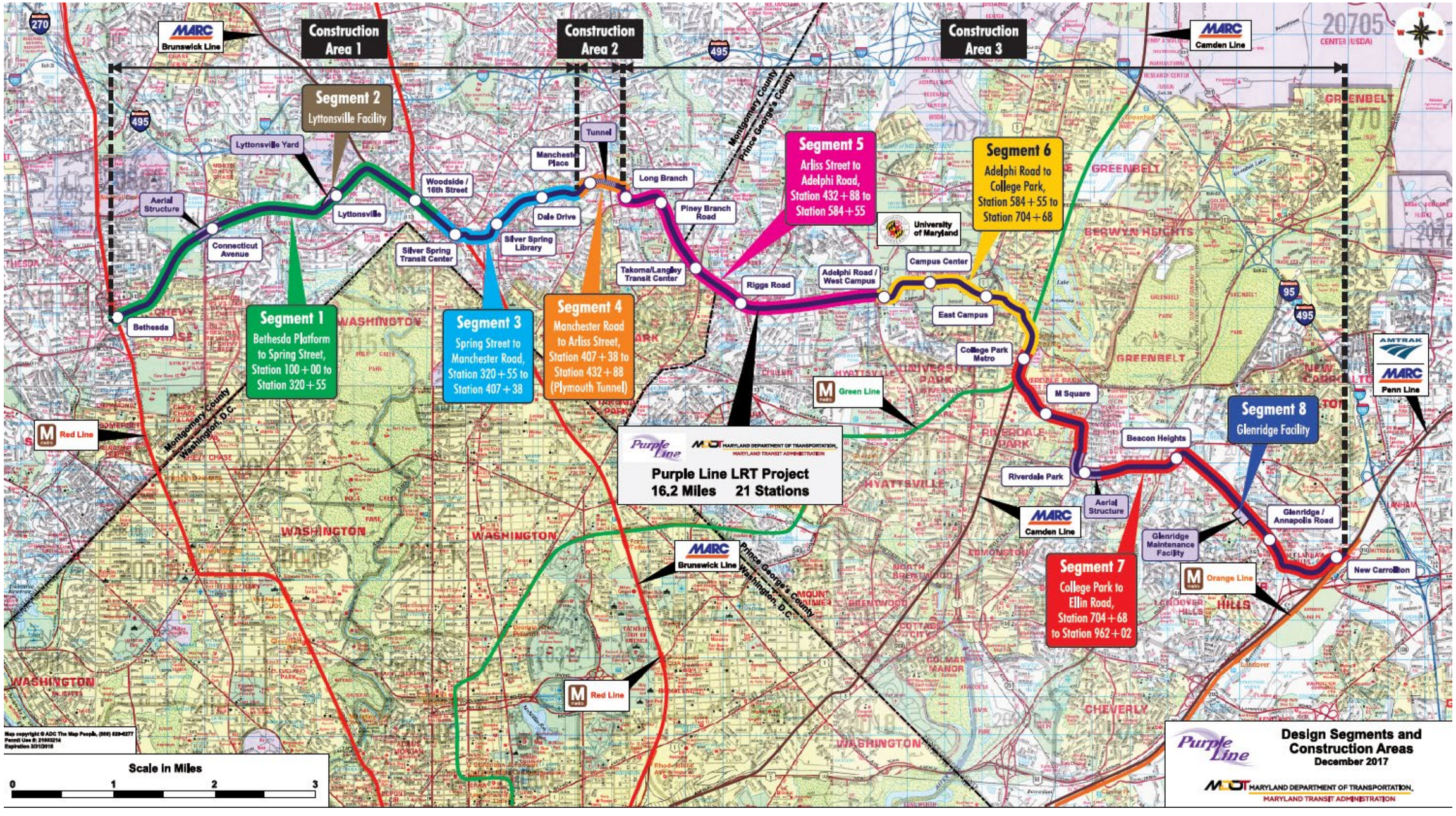
Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Current On-site Staff supported by various home office operations and engineering staff and consultants such as Safety & Operations, Vehicles, Systems, etc. **Near Term Hiring:** Facilities Maintainer Vehicle Maintenance Technician **(interviews being conducted (1 initially)** Training Instructor – **Interviews completed Candidate selected. Job offer pending** Sr Track Maintenance/Inspector Train Dispatchers (2) Accountant All OMF building maintenance contracts have been executed with the exception of contracts for the cranes, turntables, hoist which are still under MTS responsibility. Anticipate turnover of equipment to PLTO in the near future		
Training of Operations and Maintenance (O&M) personnel	PLTP/PLTO/ MTS	On-going	Various	March 2027		**For Testing & Commissioning Support:** Six (6) LRV Operators have received initial familiarization training on the vehicles in Elmira. Those operators will be used to support vehicle dynamic testing and training of full-time operators in the future training at Elmira completed. PLTP/MTS developing training plans for testing & commissioning rules, procedures, and requirements. PLTO will need to be fully staffed prior to the start of Trial Running in March 2027.		
Emergency response plan, training, and drills Initial Training for OMF/Test Track and Vehicles	PLTP/PLTO/ MTS	Various Ongoing	Feb. 2024 July 2024	Jan. 2027 Aug. 2024		Emergency response drills to be conducted during Trial Running. Initial Training for up to 150 first responders will be initiated between PLTP, PLTO, and Prince George's County in Summer 2024. Training schedule being coordinated with the First Responders Training program developed. Undergoing final review by PLTO		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Finalize Revenue Operations Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept 2025 Sept. 2026		Projected start of Trial Running: March 2027 (based on May 2024 Project Schedule Update): Revenue Operations/Service Plan included as part of Operating Plan. Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		
Develop / Revise Safety and Security Certification Plan (SSCP) & Safety and Security Management Plan (SSMP)	MTA	On-going	SSMP – 2/02/2011 SSCP – 8/31/2012	TBD		SSMP is currently on revision 14 and the SSCP is on revision 8. The SSMP is updated in conjunction with the PMP as it is considered a sub-plan.		
Federal Transit Administration (FTA) Office of Safety & Security Readiness Review	FTA	See Note	TBD	TBD		No updates at this time		
PMOC OP-54 Readiness for Revenue Operations Review Report	PMOC	See Note	TBD	TBD		No updates at this time		
Conduct Operational Hazard Analysis (OHA) and resolve other hazards / vulnerabilities	PLTP	See Note	TBD	TBD		No updates at this time		
Pre-Revenue Operations	PLTP/PLTO	See Note	March 2027	Dec. 2027		Pre-revenue Operations broken down into: Trial Running and System Demonstration Testing. Projected start of Trial Running: March 2027 (Based on May 2024 Project Schedule Update)		
Develop Safety Outreach Plan	MTA/PLTP	Not Started	TBD	Sept. 2025 Fall 2024		Projected start of Trial Running: March 2027 (Based on May 2024 Project Schedule Update): Outreach Plan to be developed 18 months before Trial Running. Outreach plan for test track OCS energization and start of vehicle dynamic testing under development. To be		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						completed and rolled out prior to energizing the test track		
Provide Community Outreach	MTA/PLTP	Not Started	TBD	Fall 2024		Outreach plan for test track OCS energization and start of vehicle dynamic testing under development.		
Public Timetables / Maps / Website Updates, etc.	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time.		
Grand Opening Plan	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time		
Update / Finalize SSMP	MTA					See previous SSMP entry.		
Finalize and/or update Safety Certifiable Item List (SCIL) and SSCP	MTA/PLTP	On-going	TBD	TBD		No updates at this time.		
Implement Safety and Security Certification Committee	MTA	On-going	April 2018	TBD		The SSCC has been ongoing since 2018.		
Implement Fire Life Safety Committee	MTA	On-going	7/27/2012 – Montgomery County 9/26/2012 – Prince George's County	TBD	TBD	MTA has implemented two FLSSCs, one for each Maryland County that Purple Line traverses. Both committees were started in 2012.		
Verify design criteria, Preliminary Hazards Analysis (PHA), Threat and Vulnerability Analysis (TVA), change orders are implemented within the project	MTA/PLTP	On-going	PHAs - 6/26/2012 TVA – 12/10/2013 Change Orders	TBD	TBD	PLTP has verified over 98% of the design criteria. Initial PHAs on the 30 % Preliminary Design started in 2012 by MTA. PLTP continued PHAs in 2016. Initial TVA completed in 2015 by MTA. PLTP continued in 2017. MTS has initiated a cybersecurity TVA.		
Review status of quality non-conformances		See Note				No updates at this time.		
Closeout of non-safety critical items/non-conformances		See Note				No updates at this time.		
Closeout of safety critical items/nonconformances	MTA/PLTP	Not started	TBD	TBD		No updates at this time.		
Complete Safety and Security Certification Verification Report (SSCVR)	PLTP	Not started	TBD	May 2027		This report will be due sometime in the May 2027 timeframe.		
Document Workarounds / Open Items List	PLTP	Not started	TBD	TBD				
Verify emergency drills, tabletops, training, etc. are completed	MTA/PLTP/ PLTO		TBD	TBD		Emergency drills to be conducted during the Trial Running period. Training verification will be completed prior to Trial Running.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
SSO final certification / signature	SSO					No updates at this time		
Revenue Service								
Target Revenue Service Date (RSD)	PLTP		TBD	Dec. 2027		Project schedule dependent.		
Public RSD	MTA/PLTP		TBD	Dec. 2027		Project schedule dependent.		
Full Funding Grant Agreement (FFGA) RSD						No updates at this time.		

ATTACHMENT G – PROJECT MAP



PMOC MONITORING REPORT
June 2024

National Capital Purple Line Light Rail Transit Project
Montgomery and Prince George's Counties, Maryland

Maryland Transit Administration
Baltimore, Maryland
Final

Draft Report Delivered to FTA on ***July 10, 2024***
Final Report Delivered to FTA on ***August 6, 2024***

PMOC Contract No.: 69319519D000016
Task Order No.: 69319520F300095
Project No.: 69319519D000016/69319520F300095
Requisition/Reference No.: FTA-TPM20-20-0106
OPs Referenced: 20, 22, 23, 24, 25, 26, 37, 40
CLINs 0001, 0002, and 0005

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Voice –720.448.6730; Email – pzh@deainc.com
Time on Project: 05/18/2020 through 05/17/2025

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract #69319519D000016, Task Order #69319520F300095. Its purpose is to provide information and data to assist FTA as it continually monitors the management capacity and capability of the Maryland Transit Administration (MTA) (the Project Sponsor) to execute the project efficiently and effectively, and hence, whether the Project Sponsor continues to be ready to receive federal funds for further project development. This report covers the project management activities on the National Capital Purple Line Light Rail Transit Project managed by MTA as the Project Sponsor and financed by the FTA Full Funding Grant Agreement (FFGA). The cost and schedule information in this report was extracted from MTA's submitted information except where noted. The report is organized to comply with the requirements of updated Oversight Procedure 25 – Recurring Oversight and Related Reports, dated June 2020.

THIRD-PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for FTA. This report should not be relied upon by any party, except FTA or the Project Sponsor, in accordance with the purposes as described below.

For projects funded through the FTA FFGA program, FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a Project Sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a Project Sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a Project Sponsor may develop for project execution. Therefore, the information in the monthly reports will change from month to month, based on relevant factors for the month and/or previous months.

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1 EXECUTIVE SUMMARY

1.1 Project Description

The National Capital Purple Line (Purple Line) is a 16.2-mile east-west light rail transit (LRT) line extending inside the Washington, DC Beltway from Bethesda in Montgomery County, Maryland, to New Carrollton in Prince George's County, Maryland. The Purple Line will operate largely at street level in a combination of dedicated and semi-exclusive right-of-way (ROW) and includes segments on elevated structures and in tunnels. The alignment for the Purple Line will provide direct connections to Washington Metropolitan Area Transit Authority (WMATA) service at Bethesda, Silver Spring, College Park, and New Carrollton, Maryland. The project will also connect to all three Maryland Area Regional Commuter rail lines, Amtrak, and local bus routes. The project includes 21 stations, 2 operations control/vehicle storage and maintenance facilities, and 28 light rail vehicles (LRVs). Twenty-five of the LRVs are included in the Full Funding Grant Agreement (FFGA), and the remaining three vehicles are state funded. Maryland Transit Administration (MTA) is executing the project using a Public-Private Partnership (P3) method of project delivery.

As documented in the Federal Transit Administration (FTA) FFGA, the original estimated project cost was $2,407,030,289, and the scheduled Revenue Service date (RSD) was December 31, 2022. On January 26, 2022, the Maryland Board of Public Works (BPW) approved significant revisions to the project cost and the Revenue Service Availability (RSA) date. The new Transportation Infrastructure Finance and Innovation Act (TIFIA) loan closed on April 14, 2022. Financing approvals and subsequent financial close allowed Purple Line Transit Partners (PLTP), the P3 concessionaire, to issue Notice to Proceed (NTP) to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS). MTA prepared a Final Recovery Plan (FRP), which FTA accepted on April 17, 2023, and which had a revised project cost of $5,116,020,380 and a revised RSD of February 28, 2028. In conjunction with the FRP, MTA submitted multiple management plan updates for FTA and Project Management Oversight Contractor (PMOC) review and acceptance. On March 13, 2024, MTA received approval from the BPW to increase the total construction cost to approximately $5.52 billion. This change to the construction cost, and also a change to the construction schedule, was due to project changes and delays. MTA is currently developing additional budget and schedule contingency recommendations. ***Preliminary recommendations of cost contingency and schedule contingency, based on a Quantitative Risk Assessment (QRA), are $179.5 million and 11 months, respectively.***

1.2 Project Status

The FFGA was executed on August 22, 2017. The Purple Line project is currently in the construction phase. Due to a contractual dispute, PLTP demobilized the assets/staff and subcontractors of the original D-B contractor, Purple Line Transit Constructors (PLTC), from the project in September 2020.

After a procurement process for a replacement D-B contractor, PLTP selected MTS (a joint venture of Dragados USA and OHL USA) and executed a contract with MTS on April 14, 2022.

MTA chose to proceed with several major project elements once PLTC was released from the project. MTA's planning criteria included schedule, budget, and the reduction of risk for the replacement D-B contractor. MTA and its Project Management Consultant (PMC) added staff to support subcontractor invoicing, payment processes, and other administrative tasks.

MTA managed, in a general-contractor-type role, a significant number of construction activities during MTA's Interim Recovery Plan (IRP) period, called Operation Step Forward (OSF). During that time, several OSF activities fell behind schedule, and delays related to third-party utility relocations and other unforeseen issues caused MTA to miss milestone dates included in MTA's revised agreements with PLTP that were executed in April 2022. Through October 2023, MTA executed two change orders caused by delays in OSF activities. In early November 2023, MTA completed the OSF activities. As of March 2024, MTA and MTS reached an agreement on the budget and schedule impacts resulting from OSF delays and other disputes. This agreement resulted in an additional $406 million in construction cost and a revised RSA date of December 30, 2027. The agreement is essentially a large change order that resolves a number of disputes and contract modifications. This contract change is referred to as Amendment 7 to the P3 Agreement.

Construction continues under the management of MTS, including activities and elements such as erosion and sediment control maintenance, bridge structures, platform construction, retaining walls, the Glenridge Operation and Maintenance Facility (OMF), and utility installation. The Polk Street Maintenance Facility (for Prince George's County Parks) is complete, and the Paint Branch stream restoration and the Ken-Gar wetlands mitigation projects are complete with the exception of warranty periods.

Completion of the Glenridge OMF has been on or near the critical path and continues to be a focus. MTS assumed control of the facility as of March 2024, and the disputes regarding the completeness of the OMF work that PLTC and MTS had performed now have been fully resolved. MTS is installing rail, utilities, and other elements both inside and outside of the building.

Delayed completion of the OMF construction upon PLTC's departure required an alternative location to store completed LRVs. MTA reached an agreement with Construcciones y Auxiliar de Ferrocarriles (CAF) to store the LRVs at CAF's Elmira, New York facility until track is ready for delivery of the LRVs. MTS assumed the storage agreement with CAF upon finalization of the replacement D-B contract. The first LRV delivery occurred on May 15, 2024, and the second delivery ***occurred mid-June 2024.*** Purple Line Transit Operators (PLTO), the entity that PLTP has under contract to operate the light rail system, assumes storage and maintenance responsibilities of the LRVs as they are delivered.

MTA revised and submitted the Project Management Plan (PMP), Risk and Contingency Management Plan (RCMP), Quality Assurance Plan (QAP), project schedule, Safety and Security Management Plan (SSMP), and Safety and Security Certification Plan (SSCP). On December 28, 2023, FTA accepted SSCP Version 7, concluding the FTA and PMOC reviews of the management plans that MTA had revised in conjunction with the FRP. Then, in April 2024, MTA transmitted to FTA SSCP Version 8, which incorporates review comments from Maryland Department of Transportation (MDOT), the State Safety Oversight Agency (SSOA) for the project, and also

incorporates the Temporary Use Notice (TUN) process. A TUN is required to allow for the start of testing of the LRVs in fall of 2024.

MTA provides FTA and the PMOC with updates on the progress of MTS construction activities, MTA oversight activities, and other monthly updates that track project progress.

- Scope: There have been no significant reductions or changes to project scope. Three LRVs were added to the project scope (non-FFGA) to support improved operations once service commences.
- Schedule:
  - PLTC never developed an approved recovery schedule to address the delayed start of construction caused by the environmental lawsuit (please see the **NEPA Process and Environmental Mitigation** section, below, for a discussion of the environmental lawsuit).
  - MTA developed an IRP schedule for the period during which the initial D-B contractor, PLTC, was being replaced. The subsequent FRP includes a revised RSD of February 28, 2028.
  - See also the **Significant Project Activities and/or Key Milestones** subsection of this Executive Summary, below.
  - Table 1 presents MTA's key milestone dates for the project. The schedule in the FRP is currently considered the baseline schedule for the project, although a revised baseline schedule ***was provided*** in June 2024. Through the previous QRA and processes described in MTA's RCMP, a schedule contingency of 16 months was deemed appropriate. However, the delays attributed to OSF activities have consumed most of the contingency in the FRP schedule. The utilization of a large portion of the schedule contingency that occurred at the early stages of MTS's contract is a very significant concern. To address this concern, MTA's revised master baseline schedule ***includes 11 months*** of additional schedule contingency.
  - To clarify schedule terminology used by MTA: The RSA date is a contractual date critical to the agreement between MTA and PLTP. The RSD is the contractual date tied to FTA FFGA funding and other project approvals.
  - Two executed change orders related to delays attributed to OSF activities extended the project RSA date by 207 days to May 24, 2027. Then, as of March 2024, MTA and MTS have agreed to an extension of the RSA date to December 30, 2027, adding another 250 days. MTA continues to assess schedule risk to determine whether there is sufficient project schedule contingency***, and in June 2024, MTA submitted a QRA to FTA and the PMOC for review.***

Table 1 – MTA Master Project Schedule Dates

Activity	Current MTA Master Project Schedule (*June 18, 2024*)
Original FFGA	August 22, 2017
Financial Close / NTP / Amendment Agreement Effective Date for Revised PLTP Agreement	April 14, 2022
Commencement of Integration Testing	September 2, 2025
Commencement of Trial Running	May 27, 2026
Construction Complete All Segments	November 12, 2026
RSA Date	December 30, 2027
FFGA RSD	February 28, 2028
June 2024 RSD, Including Contingency*	***December 29, 2028***

Note: MTA has not yet formally requested this revised RSD, and FTA has not yet accepted it.

- Cost:
  - The project's documented expenditures are ***$3,557,559,505 through May 31, 2024***. The Estimate at Completion (EAC) for the project (construction, management, and LRVs) is now ***$5,507,020,380***. This revised EAC includes $406,000,000 attributed to Amendment 7 of the P3 Agreement. MTA currently assigns the additional cost to Standard Cost Category (SCC) 80.06 Legal; Permits; Review Fees.
  - The accepted project cost (before approval of Amendment 7) included $307,293,174 of unallocated cost contingency. ***MTA reports in June 2024 that $95,203,782 of that amount remains. The preliminary June 2024 QRA recommends an unallocated contingency of $179.5 million.***
  - In some months, SCC 80 expenditures by MTA and MTS are as much as 50 percent to 100 percent of the expenditures for SCCs 10 through 50 combined. The PMOC has questioned MTA about this significant amount of SCC 80 expenditures each month. In May 2024, MTA explained that a portion of the SCC 80 expenditures are settlement payments to MTS and PLTP and not true management and administrative costs. ***As of June 2024, it remains unclear to the PMOC why the large Amendment 7 reimbursements to MTS are included in SCC 80. The PMOC is requesting clarification in conjunction with review of the MTA QRA. MTA estimates that the May 2024 management and administrative expenditures as a percentage of total expenditures are approximately 23 percent.***
  - Refer to **Table 4 – Core Accountability Items**, in Section 1.5 below, for additional project cost information.
  - The budget includes funds to address nonconforming construction by PLTC. MTA incorporated known defects into the contract with MTS. However, MTA must pay to address any defects unknown at the time of execution of the MTS contract. In February 2023, MTA estimated the total cost of these unknown defects to be approximately $10 million. MTA and MTS have evaluated the nonconforming PLTC

work as well as several other disputes. The disputes are included in Amendment 7, and MTA reports that the execution of the amendment in March 2024 resolved all disputes. However, Amendment 7 includes a provision for additional compensation to MTS if, in the future, other defects are discovered in previous PLTC or MTA construction.

- Significant Project Activities and/or Key Milestones:
  - The COVID-19 pandemic impacted the project in different ways and at different levels. The impacts were primarily related to availability of resources and labor. MTA, the PMC, and other project staff followed recommended COVID-19 protocols. On January 30, 2023, MTA suspended COVID-19 protocols for the project.
  - The third lawsuit filed by the Friends of the Capital Crescent Trail in January 2019 against U.S. Army Corps of Engineers (USACE) was dismissed in April 2020. The plaintiff subsequently filed an appeal on May 11, 2020. The District Court denied the appeal on May 13, 2021. The decision resolved the last active lawsuit related to the project.
  - The original baseline schedule indicated design completion by late fall 2017. The progress through ***June 24, 2024***, is that 215 of the 218 total planned design packages have been issued as Released for Construction (RFC). The packages that remain in design or approval include fare collection, the fire management system at the WMATA/Silver Spring Transit Center (SSTC) combined station, and the train control system. The most significant remaining design package, train control, will not be 100 percent complete until July 2024. Developing equipment specifications and other vendor preparation for the train control package will delay the date that the train control package will be RFC until February 2025. The PMOC observed that MTS indicates that the design portion of its contract is 99.9 percent invoiced and paid. The requirements of MTA's D-B contract with MTS include the payment of all design costs in the first 15 months of initiating the MTS contract, regardless of progress.
  - As of March 2024, disputes related to the cost of design changes that were made after execution of the original agreement with MTS were resolved by Amendment 7 to the P3 Agreement. MTA's team estimated that the amount required to resolve the disputes is approximately $15 million.
  - WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX Corporation [CSX] ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of ***June 2024*** for the SSTC and other locations where WMATA and Purple Line stations coincide. MTA reports that the slow resolution of these issues has not impacted critical path activities.
  - Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. One jack-and-bore installation remains to be completed by MTS, and as of ***June***

2024, is still scheduled for 2024. Coordination of CSX flagging has been a challenge throughout the Purple Line construction. In April 2024, MTS was able to secure a second flagger, allowing more work to occur in the railroad ROW. ***In June 2024, MTA reported that there have been some gaps in flagger availability, although in recent weeks interruptions to flagger service have been few.***

- Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. MTA is supporting coordination of construction activities that are occurring during the current summer 2024 WMATA shutdown. The Purple Line project is taking advantage of the WMATA service outage to perform work near and above the tracks. ***As of June 2024, a significant number of project activities are in progress during this service outage.***
- PLTC reached resolution on the final remaining Alternate Technical Concept (ATC) identified during the proposal process, which is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA reviewed PLTC's design package for National Environmental Policy Act (NEPA) compliance. ***In June 2024, MTA held a meeting to review with FTA the documentation related to the ATC, and the initial assessment of the information presented at the meeting is*** that the ATC will have no Section 4(f) impacts or other impacts to the project's Record of Decision (ROD). ***This issue is expected to be resolved in July 2024.***
- MTA has completed all non-P3 construction contract activities.
- Building construction at the Glenridge OMF is essentially complete; however, ***as of June 2024,*** construction of items outside of the building continues, as does final commissioning of systems inside the building.
- Preparation of Traction Power Substations (TPSSs) continues. As of ***June 2024***, preparations for TPSSs ***QYL, Q3, Q4, and Q6*** are in progress.
- The following is the status of LRV manufacturing as of ***June 24, 2024:***
  - All ***23*** of the vehicles in the FFGA project scope description and one additional vehicle are designated as "Ready for Shipment" and are in storage at CAF's facility in Elmira, New York. These vehicles are under a schedule of inspection and maintenance until delivery can occur.
  - MTA has added three vehicles by change order to CAF's contract. The additional LRVs will support better operations at the RSA date. It is important to note that these three additional LRVs are not a part of the FFGA between MTA and FTA. One of the three additional vehicles is in storage in Elmira along with the ***23*** original FFGA LRVs. All ten railcars that make up last two remaining vehicles are in final assembly.

- A previously identified quality issue related to the M33 bolt on the LRV trucks ***is*** nearly resolved. ***CAF is in the process of performing a Root Cause Analysis (RCA) for this issue, and the RCA is expected to be completed in July 2024***. The issue will not impact delivery of the vehicles. The PMOC recommends that the quality process also be included in the RCA, along with design, fabrication, and assembly processes.
- Delivery of vehicles was expected to begin in spring of 2021; however, the location for their delivery was uncertain because the Glenridge OMF was not ready to accept railcars. MTA and CAF negotiated an agreement for CAF to store the completed railcars in Elmira to await delivery. The terms of the agreement became a part of MTS's agreement. The first LRV delivery occurred on May 15, 2024, and the second delivery ***occurred in*** June 2024. ***CAF will continue with one LRV delivery each month but has plans to increase that frequency when possible.*** The PMOC continues to recommend that MTA expedite the planning and completion of readiness activities for delivery of LRVs, such as testing and certifications.
- The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. The audit indicates that the percentage of U.S. domestic content is 66.74 percent, which meets FTA requirements.

- MTA is responsible for providing offsite stormwater mitigation in Montgomery County. To date, MTA has accumulated a credit for more than 10 acres of designed, Maryland Department of the Environment (MDE)-approved, offsite stormwater management (SWM) capacity in its "bank." MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS. Construction of this mitigation site is planned to begin in ***July 2024.***
- ROW acquisition activities continue for the original required 464 private parcels and 137 public parcels (a total of 601 parcels). All private parcels related to the original P3 contract Exhibit 9 FFGA scope are in MTA's possession for construction. ***As of June 2024***, ***434*** of the 601 parcels have completed settlement, and ***5*** settlements are pending. Twenty condemnations remain in this ROW acquisition category. ***The project's Risk Committee rates the cost of ROW acquisitions as a "Significant" risk due to the potential for higher than estimated acquisition costs.***
- MTA has identified 188 small property acquisitions that are required for utility relocations, of which 134 are private and 54 are public. As of April 25, 2023, all additional properties were in MTA's possession through Right of Entry (ROE), through options, and/or through agreements. ***As of June 2024,*** 13 condemnations remain in this property acquisition category.
- To date, 177 required property relocation agreements are complete. Costs for the completed relocations continue to be processed in accordance with the applicable

procedures. As of ***June 2024***, there is one relocation offer pending for a property that the former owner still occupies. One additional relocation may be required.

- MTA estimates that the cost for extensions of Temporary Construction Easements (TCEs) has increased due to the project delays included in Amendment 7. ***These time extensions are one of three risks currently rated as Significant by the project Risk Committee due to the potential need to extend these TCEs, thus increasing their related cost.***
- Preparation for safety certification is an ongoing process for MTA, including the development of the appropriate checklists for both design and construction. Design Criteria Conformance Checklists (DCCCs) are more than 99 percent validated. Construction Specification Conformance Checklists (CSCCs) are ***20 percent*** validated. ***As of June 2024, MTS is preparing the Track Certification Plan, which will include the inspection and testing procedures.*** Testing is scheduled to begin in late 2024.
- MTA adjusted staffing of management personnel to address the varying activities that MTA was managing during the OSF period. A number of key staff changes have occurred since the OSF period ended and MTA transitioned back to more of an oversight role. In May 2024, Martha Gross was appointed the MTA Transit Development and Delivery (TDD) Executive Director and will oversee the Purple Line project in addition to other State of Maryland transit projects such as the Red Line. Current Purple Line Project Director Ray Biggs will report to Ms. Gross. ***In June 2024, MTA hired Katina Conn to fill the open Contracting Officer position for the Purple Line project.***
- MTA carefully considered a request from Montgomery County to single-track the Purple Line through the Bethesda tunnel. In April 2021 MDOT/MTA determined that it would not be able to accommodate the request.
- MTA and PLTP coordinated to obtain a modified version of the existing TIFIA loan for the project. On April 14, 2022, the TIFIA loan closed, and all bonds were marketed. MTA was required to update the Transportation Investment Program and State Transportation Investment Program plans to reflect changes in the project.
- MTS is making significant progress toward achieving the project's hiring, wage, and Disadvantaged Business Enterprise (DBE) goals. In May 2024, the Equal Employment Opportunity Officer increased DBE goals by approximately $87 million to reflect the new total construction cost established by Amendment 7 to the P3 Agreement.
- MTA hired a consultant team that analyzed alternatives for providing security and fare enforcement services for the Purple Line. MTA does not currently have existing facilities or staff that can adequately provide these services because the distance from their location to the Purple Line light rail facilities is too far. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that

the preferred alternative is the development of a Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on Memorandums of Understanding (MOUs) with other local jurisdictions, and developing a facility to house the district. In May 2024, MTA provided a brief high-level summary of the police force facility plan. Preliminary feedback from the plan indicates that a new facility to house the Southern District will not be complete until several months after the February 2028 RSD; therefore, temporary facilities will be used until the new facility is complete. The Purple Line team stated that development of the police force facility will be managed by another department at MTA and the Purple Line team will not report further on the status of the issue. The PMOC continues to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget, and provide that plan to FTA for review.

- Twice annually MTA holds a series of Community Advisory Team meetings. These meetings focus on different neighborhoods along the project corridor. The most recent round of meetings were held on Tuesdays and Thursdays of each week in May 2024.

1.3 Major Issues and/or Concerns

Table 2 discusses any major issues or concerns impacting the project's scope, schedule, cost, risks, quality, safety, etc.

Table 2 – Current Major Issues and Concerns

Issue/Concern	According to the PMP, the master project schedule should be updated monthly.
Date Identified	2022.
Status	Ongoing.
Project Sponsor Action	FTA accepted the FRP schedule in April 2023 as the new project baseline schedule. Two significant change orders, both of which are based on delays to OSF activities, have caused a substantial utilization of the schedule contingency outlined in the FRP. In March 2024, a third change order (Amendment 7 to the P3 Agreement) consumed all remaining schedule contingency and resulted in a significant increase in project cost.
PMOC Recommendation	The PMOC continues to recommend that MTA track all schedule elements according to the FRP and report status to FTA and the PMOC each month. MTA should employ additional methods of evaluating schedule progression and performance, including earned-value metrics, to identify issues as soon as possible. The PMOC recommended that MTA secure a mutually agreed-to (with MTS and PLTP) revised baseline schedule before executing any change order that commits compensation for delays. Although Amendment 7 to the P3 Agreement included an agreed-to RSA date, it did not include a revised baseline schedule. ***MTA reported in June 2024 that it has accepted a revised baseline schedule from MTS and has utilized it to develop an updated MTA master schedule. This revised master schedule incorporates 11 months of contingency, indicating a preliminary (to be evaluated by FTA and the PMOC) RSD of December 29, 2028.***

Issue/Concern	Changes in the project have significantly impacted the project cost as reflected in the original FFGA. The April 2023 FRP included a revised project cost estimate and a cost contingency intended to address remaining project risks. ***The March 2024 Amendment 7 to the P3 Agreement included a $406 million increase to the project cost, and preliminary results from the June 2024 MTA QRA recommend $179.5 million of project contingency.***
Date Identified	September 2020.
Status	Ongoing.
Project Sponsor Action	MTA should continue to monitor project progress against the total project cost estimate. Although execution of Amendment 7 resolved all pending disputes at the time, ***diligent management of the project cost is still needed considering the quantity of remaining project work and remaining project duration. Although the QRA-recommended contingency is significant, it is less than half of the amount of recently executed Amendment 7.***
PMOC Recommendation	The PMOC recommends that MTA carefully consider the results of the preliminary QRA ***to determine whether the recommended cost and schedule contingencies are adequate.***
Issue/Concern	MTA does not have a police force located in proximity to the Purple Line.
Date Identified	September 2022.
Status	As of May 2023, MTA had determined a preferred alternative for providing security and fare enforcement, and had identified several next steps for implementation.
Project Sponsor Action	MTA's preferred security alternative includes the creation of a new Southern District of the MTA Police Department and will require associated staff, operating procedures, and a facility. In May 2024, MTA stated the Purple Line project team will not be responsible for development of the new facility; instead, a different MTA department will develop the police force facility. In June 2024, MTA committed to provide the PMOC with schedule milestones to implement the facility.
PMOC Recommendation	The PMOC recommended that MTA provide a milestone schedule and budget in a written plan. The PMOC continues to recommend that the SSOA be included in the review and comment process for security and fare enforcement.
Issue/Concern	The Lost Time Injury Rate and Total Case Incident Rate have increased significantly since 2022. The current rates are significantly higher than the stated project goals. The PMOC notes that there are inconsistencies in incident reporting between MTA and MTS.
Date Identified	April 2023.
Project Sponsor Action	MTA states that it has increased coordination with MTS on safety through additional biweekly coordination meetings. MTA has acknowledged the need for safety process improvements. In November 2023, MTA stated that MTS had replaced its safety director and added safety staff. In March 2024, MTA increased the amount of safety information included in its monthly status report to FTA. ***In June 2024, MTS removed the subcontractors' safety incidents from its own statistics. MTA questioned this step and is coordinating with MTS to determine the appropriate safety reporting and safety goal for the project.***
PMOC Recommendation	The MTS safety audit, performed in February 2024, indicated that MTS does not have verification that all subcontractors have safety plans, which is surprising considering MTS has had subcontractors onsite for two years. Based on review of the MTS safety audit, the PMOC recommends that MTA emphasize subcontractor and supplier safety plan verification, and determine a fixed date when verification will be complete. The PMOC continues to recommend that MTA more closely monitor safety documentation and develop safety process improvements.
Issue/Concern	***As of June 2024,*** LRV delivery will continue for many months. The next major milestone related to vehicles is dynamic testing, which is scheduled for fall 2024. Plans for those activities need to be completed and reviewed well in advance of testing.

Project Sponsor Action	MTA indicates that plans for readiness activities for LRV delivery are complete. TUNs approved by the SSOA were required to place the vehicles on the tracks. MTA states that the responsibility for readiness activities lies with the P3 concessionaire (i.e., PLTP).
PMOC Recommendation	The PMOC recommends that MTA expedite readiness activities for LRV delivery (inspection, testing, and certification) and that MTA engage sufficient resources to provide oversight of the related P3 concessionaire activities. ***The PMOC also recommends that MTA expedite the readiness activities for dynamic testing, which is scheduled to begin in the fall of 2024.***

1.4 Status of Key Indicators Dashboard (Post-grant)

Table 3 shows the project Key Indicators Dashboard after the FFGA was awarded.

Table 3 – Key Indicators Dashboard

Project Sponsor:				Maryland Transit Administration	
Project Name:				MTA National Capital Purple Line Light Rail Transit Project	
Date:				***June 24, 2024***	
Project Detail					
Oversight Frequency:				**Monthly**	
Element	**Status**			**Prior Status**	**Issue or Concern**
	●	●	●		
	G	**Y**	**R**		
Project Management Plan		●		●	MTA developed an updated PMP that reflects revised project conditions, and in October 2022, MTA submitted a revised PMP to the PMOC and FTA for review. On February 1, 2023, FTA provided its review comments on the PMP, and on April 28, 2023, MTA submitted the second revision of the PMP to FTA. In 2023, the Purple Line project team had numerous changes to key staff, including TDD Executive Director, Communications Director, Construction Manager, and Deputy Project Director positions. ***As of June 2024,*** the project team has filled the remaining significant position of Contracting Officer.
Management Capacity and Capability		●		●	Management staff changes within MTA and within the supporting PMC have magnified the need for MTA to focus on Management Capacity and Capability issues. Construction safety and quality processes are specific concerns to the PMOC. In April 2024, MTA indicated that it is developing a revised organizational chart for the quality team in response to PMOC review comments on the QAP.
Cost*		●		●	MTA developed a revised cost estimate that reflected project conditions at the time of the FRP. Based on PMOC and FTA review comments and a revised MTA QRA, MTA established a budget contingency that appeared appropriate for the stage of the project at the time. However, large executed change orders have required commitment of all of the contingency budget and a significant construction budget increase. As of ***June 2024,*** MTA's preliminary QRA ***identified the need for $179.5 million of budget contingency, $82.1 million more than the amount remaining in the current project budget.***
Schedule		●		●	In May 2024, MTA accepted a revised project baseline schedule from MTS. That schedule holds the previously reported construction completion date (without contingency) of December 2027. ***In June 2024,*** MTA incorporated milestones from the revised baseline schedule into the MTA master project schedule. ***The master project schedule also includes the preliminary QRA***

					recommended additional schedule contingency of approximately 11 months.
Quality		●		●	In ***June 2024***, the PMOC continued to coordinate with MTA on quality process improvements. MTA is considering several of the PMOC's quality-related recommendations.
Safety			●	●	In April 2023, the PMOC noted to MTA that both the Lost Time Injury Rate and the Total Case Incident Rate had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in the incident rates, there continues to be inconsistent tracking and reporting of safety issues. ***In June 2024,*** MTA continues to identify problems related to incident tracking and safety reporting. ***The number of safety incidents also continues to exceed project goals.*** The PMOC continues to recommend that MTA increase the emphasis on safety.
Risk		●		●	MTA updated the RCMP and the Risk Register to reflect the changes driven by the FRP and updates to the project management plans. In May 2023, FTA accepted the RCMP but also noted additional comments that MTA should address in future updates to the plan. In November 2023, MTA held a risk workshop and began work on a QRA. ***MTA provided a preliminary QRA in June 2024***, and MTA will present the results to FTA and the PMOC in ***July 2024***.
Legend					
Green	Satisfactory: No Corrective Action necessary.				
Yellow	Caution: Risk/Issues exist. Corrective Action may be necessary.				
Red	Elevated for immediate Corrective Action: Significant risk to the health of the project.				

1.5 Core Accountability Items

Table 4 shows the core accountability items for the project, including the current status of the project and the major issues and how they are being addressed.

Table 4 – Core Accountability Items

		Original (Grant)	Current Forecast[3]	PMOC Assessment of Current Forecast[3]
Cost	Capital Cost Estimate	$2,407,030,289	***$5,507,020,380***	Unacceptable
Contingency	Unallocated Contingency	$90,535,748	***$95,203,782***	Unacceptable
	Allocated Contingency	$59,500,464	***$20,653,395***	Unacceptable
	Total Contingency	$150,036,212	***$115,857,177***	Unacceptable
Schedule	Revenue Service Date	12/31/2022	02/28/2028	Unacceptable

Project Progress		Amount ($)	Percent of Total
Total Expenditures	Actual cost of all eligible expenditures completed to date	***$3,557,559,505***	***64.6%***
Planned Value to Date[1]	Estimated value of work planned to date	Not Applicable (N/A)	N/A
Actual Value to Date[1]	Actual value of work completed to date	N/A	N/A

Contract Status		Amount ($)	Percent of Total
Total Contracts Awarded	Value of all contracts (design, support, construction, equipment) awarded; % of total value to be awarded	$4,495,235,000	81.4%
Construction Contracts Awarded	Value of construction contracts awarded; % of total construction value to be awarded	$1,953,774,088	35.4%
Physical Construction Completed	Value of physical construction (SCCs 10-50) completed; % of total construction value completed	***$1,220,811,370***	***64.3%***
Rolling Stock Vehicle Status	**Date Awarded**	**No. Ordered**	**No. Delivered**
28 total car sets[2]	First 26 LRVs: 2016 Additional 2 LRVs: January 2022	28 car sets	***2***
Next Quarterly Progress Review Meeting Date:	***August 14, 2024***		

[1]Earned value information is not available.
[2]The approved FFGA includes a total of 25 LRVs.
[3]Amendment 7 to the P3 Agreement has been partially incorporated into MTA's financial reporting ***as of June 2024.*** Amendment 7 added $406 million to the construction cost of the project. MTA currently is in the process of revising the project cost contingency and schedule contingency.

2 OBSERVATIONS AND FINDINGS

2.1 Summary of Monitoring Activities

The PMOC received an update from the Purple Line project team during the ***June 24, 2024***, virtual monthly meeting with MTA, the PMC, and the PMOC. MTA provides supplementary information before the PMOC monthly meetings. ***On June 11, 2024, the PMOC participated in the biweekly project status call with FTA and MTA.*** PMOC monitoring activities include review of MTA-provided scope, schedule, risk, financial, construction, safety and security, and real estate information.

After the U.S. Court of Appeals reversed the vacation of the ROD in July 2017 (refer to the **NEPA Process and Environmental Mitigation** section, below, for details), the FFGA was executed on August 22, 2017. In September 2020, the construction (D-B) contractor, PLTC, left the project, and a new project delivery plan was developed, including replacement of the D-B contractor. During the period when the replacement D-B contractor was being solicited, MTA managed specific construction and design activities (OSF activities) in order to reduce uncertainty and support the project schedule. On November 5, 2021, MTS was selected as the replacement D-B contractor, and financial and commercial close occurred on April 14, 2022. MTA managed OSF construction and design activities to their completion or until the activities were transferred to MTS. MTS is performing construction activities across the entire project corridor.

MTA and MTS held initial partnering activities during which they developed relationships, general project priorities for teamwork, and an understanding of key issues for different stakeholders. MTA provided partnering process information to FTA and the PMOC on March 29, 2023. As of August 2023, MTA had replaced the consultant who was leading partnering activities and was developing new processes to facilitate the coordination and relationship between MTA and the

MTS/PLTP team. MTA held an internal partnering meeting on October 27, 2023, to help align MTA and PMC staff. On December 11, 2023, a partnering session was held, and MTA, MTS, PLTP, and PLTO participated. One of the main points of discussion was the schedule mitigation efforts that led to Amendment 7 to the P3 Agreement. In February 2024, MTA provided a summary of project goals developed during the December 2023 partnering session. MTA said that action items related to the partnering session goals are incorporated into many project meetings, and senior executives from MTA, PLTP, and MTS meet frequently. ***As of June 2024, there are currently no planned partnering events for MTA, PLTP, or other project participants.*** The PMOC has repeated its request that PMOC and FTA staff be invited to partnering events, ***but MTA has indicated that these events will be limited to MTA and the contractors.***

2.2 Oversight Triggers

The oversight triggers most applicable to the project are the Oversight Procedure (OP) 25 cost and schedule triggers. The project did not have a mutually agreed-upon baseline schedule between March 2017 and September 2022. Significant schedule delays and a significant increase in project cost keep the project eligible for rigorous oversight. Project schedule delays typically impact project cost, another significant indicator of project health. MTA has developed a revised project EAC in conjunction with development of the project's schedule and FRP. Significant utilization of schedule and budget contingencies has occurred since development of the FRP. In the opinion of the PMOC, significant additional cost and schedule impacts are continuing to occur.

2.3 Project Management Plan and Sub-plans

2.3.1 Project Management Plan

The PMOC reviewed the Purple Line PMP Version 10 in accordance with OP 20 for a PMP at the FFGA execution stage of a project. Subsequently, FTA and the PMOC reviewed Versions 11, 12, and 13. Due to significant project team changes since those versions, another update to the PMP was required. In October 2022, MTA provided an updated PMP (Version 14) to FTA and the PMOC for review, and FTA and the PMOC provided comments on PMP Version 14 to MTA. On April 27, 2023, MTA provided PMP Version 15, which FTA accepted, with comment, on June 21, 2023. In February 2024, MTA provided a summary of its forecasted dates for updating the management plans. According to best practices, the recent staff changes and fluid project conditions may warrant revisions to some or all of the management plans before the regularly scheduled updates.

2.3.2 Safety and Security Management Plan

In February 2016, the PMOC reviewed the project's SSMP Version 6, dated October 22, 2014, in accordance with OP 22 for a project at the FFGA execution stage. The PMOC review found that the SSMP was compliant with FTA content requirements for execution of the FFGA, but the PMOC requested that MTA resubmit the SSMP after execution of the FFGA and address the comments in the PMOC report with updated information from the P3 concessionaire. Subsequently, FTA and the PMOC reviewed SSMP Versions 7 through 11 over the next four years. MDOT, which is the SSOA for the project, also reviewed SSMP Versions 8 through 11.

On January 13, 2022, FTA provided comments on SSMP Version 12 to MTA. MTA submitted SSMP Version 13 as well as Version 5 of the Purple Line SSCP to FTA and the PMOC for review in October 2022. FTA and the PMOC reviewed the SSCP and SSMP updates and provided their comments to MTA in February 2023. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the revised SSMP in August 2023, and the revised SSCP on December 28, 2023. The PMOC continues to recommend that MTA evaluate whether its current oversight processes are in compliance with those specified in the SSMP.

2.3.3 Quality Assurance Plan

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on QAP Version 10 to MTA. MTA then submitted a revised QAP to FTA for review in May 2023, and FTA and the PMOC provided comments to MTA in June 2023. In July 2023, MTA provided a response to each specific comment and committed to submitting a revised QAP in August 2023. On August 11, 2023, MTA resubmitted the QAP as Version 12. A technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023, after which the PMOC recommended acceptance of the plan and that MTA should incorporate the outstanding items into the next regularly scheduled plan update. On October 6, 2023, FTA accepted the QAP contingent upon MTA's acceptance of the PMOC recommendations. MTA plans to next update the QAP in October 2024.

The PMOC requested that MTA provide more complete documentation for quality-related activities. In September 2023, MTA presented the PMOC with a quality process dashboard that MTA had developed to display monthly statistics on audits, Deficiency Notices, Nonconformance Reports, and quality oversight assessment reports. In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational chart for quality management and administration. In April 2024, MTA listed the following three quality process improvements that it is developing:

1. Organizational chart update
2. Document control procedure update
3. Development of quality training plan and schedule for 2024 training

MTA emphasized that these quality processes apply only to MTA's quality activities, but they are coordinated with MTS's quality processes. Also in April 2024, MTA stated that it has added quality oversight staff to its organization, including a Deputy Quality Manager.

MTA meets with PLTP, the PMC, and the General Engineering Consultant (GEC) monthly to review quality status. On January 25, 2024, MTA introduced the new Quality Manager, Turyalai Momand. ***In June 2024, MTA provided the following schedule of 2024 audits:***

1. ***Stormwater Management – January 18, 2024 – complete***

2. ***Safety – April 9, 2024 – complete***
3. ***Post Design Audit – May 8, 2024 – complete***
4. ***Quality – August 2024 – scheduled***
5. ***Internal (MTA) Quality Assessment – July 2024 – scheduled***
6. ***Internal (MTA) Quality Assessment – December 2024 – scheduled***

When asked about a number of very old deficiency notices and instances of nonconforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of final sign-offs by managers. MTA is deferring some other older open quality items until the related issues can be addressed to avoid impact the project schedule critical path.

MTS also performs significant Quality Assurance/Quality Control (QA/QC) activities and reports having more than 60 full-time quality staff assigned to the project. ***Through June 1, 2024***, those QA/QC activities by MTS included:

- Offsite inspections of structural steel girders and canopies, Overhead Contact System (OCS) poles and hardware, traffic signal poles, special trackwork, precast concrete structural elements, and other items being fabricated offsite.
- ***34*** Design Services During Construction reviews and ***35*** design submittal reviews.
- ***One*** quality process audit of MTS and subcontractor work, testing, and quality plans was reported in ***June 2024***.
- Approximately ***800*** materials tests.
- Approximately ***900*** materials samples.

In 2022, MTA frequently provided notes from monthly CAF and SNC-Lavalin LRV manufacturing quality meetings for PMOC review. The information provided a summary of issues and corrective actions, and upcoming quality audits. MTS is now responsible for preparing these notes from the manufacturing quality meetings. Because the LRV manufacturing process is now nearly complete, ***in June 2024,*** these meeting notes included only a few very minor issues. Current open items of note include several certification and compliance activities.

The previously identified quality issue related to the M33 bolt on the LRV trucks is considered resolved. Additional failures occurred in November and December 2023, and the truck manufacturer in Germany performed additional tests. MTA had indicated that CAF would perform an RCA for this issue. In January 2024, CAF concluded that the root cause of the issue was a misalignment of the bolts during assembly. In January and February 2024, CAF examined 50 gear boxes that included the M33 bolt and determined that an alignment issue prior to torquing the M33 bolt is the likely cause of the issue. CAF performed a sample installation of 48 bolts on 12 LRVs using a modified procedure. As of April 2024, all of the sample installations performed adequately; therefore, CAF is completing the RCA, ***although it has not been provided to the PMOC as of June 2024.*** After the RCA is completed, maintenance manuals will be modified and

needed tools provided to PLTO. The PMOC recommends that the quality process also be included in the RCA, along with design, fabrication, and assembly processes.

2.3.4 Real Estate Acquisition Management Plan

The PMOC reviewed the project's Real Estate Acquisition Management Plan (RAMP) Versions 10, 11, and 12. The PMOC reviewed the plans with respect to the guidelines in OP 23 for a project in the construction phase. MTA submitted an updated RAMP Version 13 to FTA and the PMOC in October 2022. FTA provided review comments on RAMP Version 13 to MTA on February 27, 2023, and accepted RAMP Version 13 with comments.

2.3.5 Fleet Management Plans

The current version of the Bus Fleet Management Plan (BFMP) is BFMP Version 8.1, which was submitted for FTA/PMOC review on February 12, 2016. The PMOC completed its review of BFMP Version 8.1 and on March 4, 2016, issued its final OP 37 BFMP review report, concluding that the BFMP met the requirements of OP 37 for the execution of an FFGA for the Purple Line project. On January 24, 2024, MTA provided to FTA and the PMOC BFMP Version 10. This plan addresses updates for the period from 2021 through 2023 and is dated September 2023.

2.3.6 Risk and Contingency Management Plan

In early 2020, MTA commenced another update to the RCMP to incorporate the results of the latest QRA that, in turn, incorporated the results of the replacement D-B contractor resolicitation and the revised project implementation details. MTA held a risk management workshop on January 26, 2021, that focused on the interim period.

MTA provided a comprehensive Risk Register and risk mitigation activities in conjunction with the draft FRP. In preparation for a risk analysis, MTA held risk assessment interviews with individual risk owners to review existing risk items and identify new risks. In December 2021, MTA prepared an updated Risk Register that includes over 100 risk items, including PLTP and MTS risks.

At a risk workshop held the week of May 2, 2022, the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. MTA confirmed and finalized the Risk Register and prepared the QRA and an update of the RCMP. The PMOC developed a draft summary of the risk and contingency review results. FTA provided a risk summary to MTA on June 22, 2022, for MTA's consideration while it was updating the RCMP. MTA provided responses to FTA's comments on the risk summary on July 15, 2022, and provided further clarification on August 25, 2022. MTA submitted RCMP Version 15 to FTA and the PMOC for review in October 2022. In February 2023, FTA and the PMOC provided comments on the revised RCMP, which supported MTA's development of the project's budget and schedule contingency. MTA subsequently submitted the revised RCMP Version 16, dated April 21, 2023, and FTA accepted it on May 22, 2023.

In November 2023, MTA held a risk workshop and began a QRA. Project risks were reassessed, and information needed to reevaluate cost and schedule contingencies was determined. MTA

expected to complete the QRA and contingency review in January 2024. The updated schedule is necessary for the assessment of schedule risk and development of contingency recommendations. ***As of June 2024,*** the revised project schedule and subsequently the QRA are now complete, ***and*** MTA ***provided*** the results of the QRA to FTA and the PMOC. ***A meeting for MTA to present the results of the QRA is scheduled for July 9, 2024.***

2.3.7 Safety and Security Certification Plan

Version 3 of the Purple Line SSCP is dated November 4, 2014. The PMOC review found that the SSCP Version 3 met the FTA requirements in support of the FFGA application. MTA submitted SSCP Version 4 on February 3, 2020, in conjunction with the updated SSMP submittal (see the **Safety and Security Management Plan** subsection, above). The SSOA completed its review of SSCP Version 4 and discussed its comments with the PMOC. MTA decided that the new emergency management working group would be a subcommittee to the Fire Life Safety and Security Committee, and this decision would be reflected in the next revisions of the SSMP and the SSCP, which were planned for after the replacement D-B contractor was in place. MTA submitted SSMP Version 13 and SSCP Version 5 to FTA and the PMOC in October 2022. In February 2023, FTA and the PMOC completed their reviews and provided comments on these plan documents to MTA. MTA provided a response to the SSCP review comments to FTA and the PMOC in May 2023. On July 12, 2023, the PMOC and MTA held a call to review and reconcile PMOC/FTA comments on the SSCP. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023 and accepted the current SSCP (Version 7) on December 28, 2023. In April 2024, MTA submitted a revised SSCP (Version 8) that includes the TUN process, as well as a partially complete preliminary LRV Delivery Plan. ***SSCP Version 8 review for FTA approval continues. In June 2024, MTA provided the completed LRV Delivery Plan to FTA and the PMOC.***

2.4 Management Capacity and Capability

MTA continues to identify and assign sufficient Management Capacity and Capability (MCC), as needed, to complete the project in compliance with applicable FTA requirements. These efforts have included bringing staff, either MTA or MDOT personnel or consultants, onto the project to manage the current needs, such as planning, P3 procurement and contracting, real estate acquisition, and construction.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. It was proposed that Roland Carroll, the Purple Line systems safety and construction safety lead, add the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to the new quality management role. The PMOC evaluated this change as a part of the PMP review and will continue to monitor management capacity for this function and all positions through ongoing oversight activities. Specific to safety, the PMOC is concerned that there is a lack of emphasis on safety or on management capacity or capability. Injury rates, particularly for OSF activities, have been higher than the MTA goals. Also, reporting of injury

and incident statistics is inconsistent. ***In June 2024, MTA reported an incident rate that is twice the project goal. Refer to Section 2.16, Safety and Security, for more information.***

In March 2023, MTA hired John Donovan in the role of Construction Manager and also formed a commercial project controls team. These changes were in response to: (1) the near completion of OSF and (2) the need to support the management of MTS's increasing amount of work. However, in November 2023 MTA eliminated the Construction Manager position. MTA stated that two construction managers, Mike Gales for Civil Construction and Melvin Henderson for Systems Construction, remain with the project.

On May 25, 2023, MTA communicated the departure of Executive Director Matthew Pollack, Deputy Project Director and Contracting Officer Anita Rodgers, and Communications Director David Abrams from the Purple Line project team. Project Director Ray Biggs, Jim Mitchell of the PMC, and MDOT Chief Financial Officer Jaclyn Hartman were leading the project while those vacated positions were being filled. Ken Forsythe's role changed from his role as Deputy Project Director to the interim Director of Communications role. A new Deputy Project Director, Alexa Heidrich, started with the Purple Line project team on July 26, 2023. Kathryn (Kat) Lamb joined the team in August 2023 as the Communications Director, which completed the hiring for the open senior staff positions for the Purple Line project at that time. In August 2023, MTA provided an updated Purple Line organizational chart that included those newly hired staff. In December 2023, MTA replaced PMC Project Director Jim Mitchell with Brian Freerks.

In January 2024, MTA communicated a significant number of staff changes both within MTA and within the PMC. The current status of these positions is as follows:

- The MTA TDD Executive Director position was filled in May 2024. MTA announced that Martha Gross is the new TDD Executive Director, and she will oversee the Purple Line project in addition to other State of Maryland transit projects such as the Red Line. Current Purple Line Project Director Ray Biggs will report to Ms. Gross.
- Quality Manager Fahad Moazziz has been replaced by Turyalai Momand. In April 2024, Mr. Momand announced that several quality staff have been added to the team, including a Deputy Quality Manager.
- Deputy Communications Director Gary Witherspoon left the project, and as of April 2024, MTA has hired Syrina White to fill this position.
- In May 2024, MTA added two safety staff to the project team—one who will be primarily in the field and another who will be in the office and will manage safety administration.
- ***In June 2024, Katina Conn was added to fill the Contracting Officer role.***

The PMOC continues to express its concern regarding MTA's MCC. Open positions, a lack of continuity, and staff serving in multiple roles all pose a risk to the quality of the oversight the Project Sponsor must provide. Shortfalls in MCC may be causing some of the other issues that the PMOC has identified, such as construction safety and quality management challenges.

2.5 NEPA Process and Environmental Mitigation

2.5.1 NEPA Process

FTA issued a ROD on March 19, 2014. The National Park Service issued its ROD on July 16, 2014.

MTA has continued to submit environmental re-evaluations as required based on design advancement and other causes. To date, PLTC (before it left the project) and MTA have prepared multiple packages, primarily for minor Limits of Disturbance (LOD) cases, which were submitted to FTA for review and have received FTA concurrence. The most recent status ***(as of June 2024)*** of NEPA items is:

- MTA submitted an additional LOD case at Sligo Creek that is moving through the MDE and USACE processes. MDE granted approval on January 10, 2024. ***As of June 2024, USACE has indicated that it will issue no objection to the case. MTA is now coordinating with the Maryland-National Capital Park and Planning Commission and Maryland Historical Trust.*** MTA will submit the necessary information to FTA when it is complete; however, MTA reports that FTA's review is not a schedule-critical task at this time.
- The ATC for the Bethesda Station jet fan has been vetted, and final documentation is being prepared for submittal to FTA for concurrence that the ATC meets project requirements. MTA reviewed the ATC documentation with FTA ***in June 2024***. Construction of the jet fan foundations has begun based on MTA's assumption that the ATC will be approved. MTA and MTS optimistically predict that the ATC will have no Section 4(f) impacts or other impacts to the project's ROD.
- A ten-year extension of the project's Programmatic Agreement was approved on March 14, 2024.

On August 3, 2016, in response to the lawsuit filed by the Friends of the Capital Crescent Trail against FTA, a federal judge filed his Order and accompanying Memorandum Opinion. In those documents, it was ordered that the ROD for the Purple Line project be vacated and remanded, and that a Supplemental Environmental Impact Statement (SEIS) be prepared, in accordance with the accompanying Memorandum Opinion. In a subsequent Order and Opinion filed on November 22, 2016, the judge, in part, revised the earlier Order by remanding to FTA the responsibility to determine whether an SEIS is required; however, the ROD remained vacated. On May 30, 2017, the judge issued his ruling that dismissed the lawsuit except for the reassessment of the impact of declining Washington Metro ridership in the Purple Line project's Environmental Impact Statement. The Washington Metro ridership aspect of the ruling was immediately appealed by the Maryland Attorney General. On July 19, 2017, the U.S. Court of Appeals reversed the vacation of the ROD and set an expedited schedule for the appeals process. The appeals hearing occurred on November 1, 2017. The U.S. Court of Appeals issued its ruling on December 19, 2017, in which the judges ruled in favor of FTA and the project, and ruled that the transit agencies would

not have to conduct a new environmental study to examine other potential routes for the Purple Line.

The Friends of the Capital Crescent Trail filed a second lawsuit after the FFGA signing and after the groundbreaking ceremony was held on August 28, 2017. The September 19, 2017, Preliminary Hearing for this suit resulted in no temporary injunctions or restraining orders, and project construction proceeded as the case progressed through the court system. On December 5, 2017, FTA and MTA filed a Motion to Dismiss. The plaintiffs subsequently amended and significantly revised the complaint in December 2017, and on March 1, 2018, MTA and FTA filed a Motion to Dismiss. On March 29, 2018, the plaintiffs filed their response. On March 5, 2019, the judge ruled in favor of FTA.

The Friends of the Capital Crescent Trail filed a third lawsuit in January 2019, this time against USACE. The USACE legal staff and the Office of the Attorney General provided the defense. MTA filed a motion to intervene on behalf of USACE. In early May 2019, the plaintiffs filed an objection to MTA's motion, but during the week of July 15, 2019, the Court authorized MTA to intervene on behalf of USACE. In October 2019, USACE filed for a Summary Judgment to Dismiss the case, and the plaintiffs filed their response; a hearing date was set for March 23, 2020. However, in late February 2020, the assigned judge recused himself from the case, and the scheduled hearing was canceled. In mid-April 2020, the District Court ruled in favor of the USACE/MTA motion for a Summary Judgement to Dismiss, and the case was dismissed. The plaintiff subsequently filed an appeal on May 11, 2020, and the case continued in the legal process. Oral arguments related to the appeal occurred on March 11, 2021. The District Court denied the appeal on May 13, 2021. The decision resolved the last remaining lawsuit related to the project.

2.5.2 Environmental Mitigation

The project achieved the required mitigation for reforestation through the purchase of 82.5 acres of offsite credits (combined, in both Montgomery County and Prince George's County). This amount of offsite credits is expected to be more than needed, and the P3 concessionaire will monitor that this remains the case. PLTP's Forest Conservation Plan (FCP), which documented a need of 75.73 acres, was formally submitted to the Maryland Department of Natural Resources (DNR) in August 2016 for approval. The DNR concurred with the FCP on January 31, 2017, and the final approved FCP was received from DNR on July 31, 2017. As LOD cases are identified, they are also reviewed against the FCP credits to maintain an accurate accounting of the reforestation mitigation. In Maryland, need is based on land disturbance rather than only forest removal. MTA's tracking of additional disturbance due to the progress of design and construction indicated that the total need is still within the amount of available offsite credits.

The Joint Permit Application for Wetlands and Stream Mitigation was formally submitted to USACE and MDE in August 2016. In late February 2018, MDE issued its Non-Tidal Wetlands and Waterways permit in advance of the USACE permit, even though it was a joint application. However, because time had passed since the permit was drafted, MDE updated and issued the finalized permit the first week of April 2018. USACE completed its NEPA and conditions review as well as its public interface, receipt of comments, and comment resolution, and issued the

Section 10 404 Permit on March 14, 2018. This timing supported MTA's planned advertisement for the Wetlands and Streams Mitigation construction contracts. In October 2018, the project submitted a request to USACE and MDE to extend the duration of the permits until December 2021 to accommodate the longer construction periods resulting from construction moratoriums for forests and streams. The project received approval from MDE during the week of December 3, 2018, and received the USACE approval letter in mid-June 2019.

The project team has addressed the environmental mitigation for wetlands through the development of the offsite Ken-Gar location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. The construction contract was advertised on May 3, 2019, bids were received on June 10, 2019, and the bids underwent MTA Procurement Department review. BPW approval of the award was received on September 4, 2019. As of June 2021, the Ken-Gar wetlands mitigation project was complete and had completed its one-year warranty period. See the **Construction** section of this report, below, for further discussion of the status of this Ken-Gar Wetlands Mitigation construction contract.

The project team has addressed the environmental mitigation for streams through the development of the offsite Paint Branch location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. MTA advertised the Paint Branch Stream Mitigation construction contract on March 8, 2019. After the bid due date was extended several times, proposals were received on May 21, 2019, and underwent MTA review and evaluation. BPW approval of the award was received on September 4, 2019. The Paint Branch stream restoration is complete, and warranty corrections (partial replanting) occurred in December 2022. See the **Construction** section of this report, below, for further discussion of the status of this contract.

The project has plans to address stormwater mitigation, beyond what can be mitigated on the project site, through retrofitting offsite locations in both Montgomery County and Prince George's County. On November 12, 2021, MTA determined that there is a need for additional stormwater mitigation in Prince George's County. A project to construct additional stormwater mitigation is included in the scope of work for MTS. Construction of this mitigation site is planned to begin ***in July 2024.***

The joint MTA and University of Maryland (UMD) technical board resumed meetings in December 2021 to coordinate efforts related to the mitigation of noise, vibration, and electromagnetic interference at the UMD facilities. Following this meeting, the members of the joint technical board voted to approve the outstanding design packages. This action effectively ended the activities of the technical board until the LRT is in trial running.

The Purple Line project team submits quarterly Environmental Mitigation Monitoring Reports for the project. MTA managed the environmental mitigation and monitoring activities as the project transitioned to the replacement D-B contractor, MTS. Because MTS is now performing construction, MTA will monitor the environmental activities performed by MTS. On January 25, 2024, MTA provided the Fourth Quarter 2023 Environmental Commitment and Mitigation Monitoring Program Report. The report conveys the status of progress toward meeting commitments in the ROD that was issued in March 2014 and any pending actions required. In the

report, MTA notes that "no problems, gaps, nonconformances, or NEPA issues of any sort were found during this quarterly assessment." MTA provided the First Quarter 2024 Environmental Commitment and Mitigation Monitoring Program Report ***in June 2024.***

The MTA Purple Line team communicated that MDE has implemented a change to the state's construction dewatering monitoring and turbidity requirements. Pumped water discharge from construction sites will need to meet specific requirements—something that Maryland lacked but is common in many states. In September 2023, MTA and MTS participated in training for managers on the new requirements, and a future round of training for field staff is being planned. Activities on the project currently are functioning under the new MDE requirements. The changes related to the new requirements necessitated a change order to address additional MTS's costs to implement the more stringent standards.

2.6 Project Delivery Method and Procurement

The majority of the capital cost of the Purple Line project has been packaged into a Design-Build-Finance-Operate-Maintain P3 contract. This delivery method fits the state's legal definition of a P3 in that it involves a long-term, performance-based agreement between MTA and a private entity (the P3 "concessionaire") in which appropriate risks and benefits are allocated in a cost-effective manner between the contractual partners. The P3 concessionaire is intended to perform some functions normally undertaken by the transit agency, but MTA remains ultimately accountable for the Purple Line project and its public function.

MTA negotiated an approximate 36-year P3 contract, including nearly 6 years of construction and 30 years of operations, and on March 2, 2016, announced that PLTP had been selected as the P3 concessionaire. Commercial close of the P3 contract occurred on April 7, 2016, and financial close occurred on June 17, 2016.

In late April 2020, PLTC notified PLTP that due to PLTC's forecasted schedule delays on the project (which did not receive agreement from MTA), PLTC intended to exercise the clause that allowed it to terminate its contract with PLTP for the design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that would include a definitive path forward. On the response due date of May 14, 2020, PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement to MTA, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice essentially refuted the validity of the PLTP delay claims and stated that if PLTP fails to perform, MTA has a number of options related to the P3 Agreement. Through July 2020, construction activities continued at the levels previously planned and were not affected by the dispute.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a Temporary Restraining Order (TRO) that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many

construction activities. A hearing to uphold or rescind the TRO occurred before the expiration of the TRO on September 14, 2020, and the court rescinded the TRO, allowing PLTP to leave the project.

When an agreement was not reached, the bond holder firms had the first right to take over the project. However, MTA planned an alternate path forward based on its exercise of step-in rights. To that end, MTA assumed the contracts of over 100 subcontractors, indicating MTA's intent to continue the project. MTA adjusted staffing for construction management, resident engineers, and inspectors to move forward with the project.

On November 24, 2020, MTA and the P3 concessionaire, PLTP, reached a settlement agreement to release the project's D-B contractor from the P3 consortium and continue the project with the remaining parties. The state's BPW approved the settlement agreement on December 17, 2020. Activities set out in the agreement and the IRP have proceeded with multiple modifications to milestone dates as needed.

The agreement included the following key aspects, as MTA has communicated to the PMOC:

- PLTP agreed to procure a replacement D-B contractor to complete the project and to obtain project financing. The selection of the preferred replacement D-B contractor, MTS, occurred on November 5, 2021. The TIFIA loan for the project closed on April 14, 2022, allowing financial close and commercial close on that same day. MTS is now the D-B contractor for the project.
- The settlement agreement provided a mutual release from all disputed and undisputed amounts (incurred before September 28, 2020) for PLTP, PLTC, and subcontractors. The agreement also released outstanding litigation among the parties.

2.7 Design

2.7.1 MTA Design

MTA's GEC completed the project design to approximately the 30 percent design level in fall of 2013 and provided incremental enhancements through late 2015. This design formed the basis of the Request for Proposals (RFP) for the P3 contract. See the **P3 Design** subsection, below, for a discussion of the advancement of this design by PLTC, the former PLTP partner that was responsible for the design and construction of the capital project, and continued design under MTA.

Disputes related to the cost of design changes that were made between execution of the agreement and March 2024 were resolved by Amendment 7. MTA's team estimated that the disputed amount was approximately $15 million.

MTA was responsible for the design and construction contracts under a Design-Bid-Build delivery method (separate from the P3 scope) for the following projects:

- Stream mitigation – MTA completed the 100 percent design packages in June 2017 and received approval from MDE in May 2018. Construction of the stream mitigation is now

complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.

- Wetlands mitigation – MTA completed the 100 percent design packages in June 2017. Several design adjustments were subsequently made based on MDE and Montgomery County comments. The construction contract was advertised on May 3, 2019. Construction of the original wetlands mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.
- Offsite SWM sites – MTA completed design and obtained MDE approval of more than the P3 contract-required 5 acres of offsite mitigation in Montgomery County on May 29, 2018. In late October 2019, MTA received MDE approvals for the next 5 acres to be added to the mitigation credit "bank," thus satisfying the contract requirements for 2019. MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS. Construction of this mitigation site is planned to begin in ***July 2024***.
- See the **Environmental Mitigation** subsection of this report, above, for the current requirements.

MTA also completed the design to support a D-B contract for the replacement of the existing Parks Maintenance Facility with a facility on Polk Street. Construction of the facility is now complete. See the **Real Estate Acquisition and Relocation** and the **Construction** (MTA Scope) sections of this report, below, for further details.

2.7.2 P3 Design

PLTC's design progress was forecasted to achieve substantial design completion of Civil packages in August 2020, substantial design completion of Systems packages (except for Fare Collection) in September 2020, and completion of the Fare Collection design package in 2021. The original baseline schedule anticipated design completion by late fall 2017. As of August 2020, the number of planned Civil, Systems, and Utility design packages was 218.

Upon the departure of PLTC, MTA contracted with the project's engineer of record, Atkins, to continue to advance the design of limited aspects of the project.

The current progress through ***June 2024*** is that 215 of the 218 total planned design packages have been issued as RFC. The packages that remain in design or approval include fare collection, the fire management system at the WMATA/SSTC combined station, and the train control system. The most significant remaining design package, the design package for train control, is scheduled to enter final design review in July 2024. Developing additional equipment specifications and other vendor plans for the train control package will extend until February 2025. As of April 2024, MTA reported that the fare collection requirements were previously included in the platform designs, and the remaining fare collection design is for the equipment/systems. The PMOC observed that MTS indicates that the design portion of its contract is billed out to 99.9 percent. The requirements of MTA's D-B contract with MTA include the payment of all design costs in

the first 15 months of its contract with MTS (i.e., from April 2022 through June 2023), regardless of actual design progress.

The State Highway Administration approved the last traffic signal package in October 2023.

An item related to design was added to the Risk Register regarding an intelligent interface device that could impact implementation and operational costs. MTS made a claim related to a dispute about this item, but the dispute was resolved as a result of the execution of Amendment 7 to the P3 Agreement in March 2024.

PLTC reached resolution on the final remaining ATC identified during the proposal process. The ATC is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA is reviewing the design package for NEPA compliance. Final documentation for the ATC is still pending as of ***June 2024***. MTA and MTS are coordinating to address the noise and aesthetic impacts of the fans, and they optimistically report that the ATC will have no Section 4(f) impacts or associated impacts to the ROD.

MTA and CSX worked to resolve issues related to the applicable design criteria and which project areas were affected until, in July 2019, a mutually agreeable path forward was defined for all areas. The following is the current status of the issues and their resolutions:

- To address CSX comments that would have disallowed passenger amenities (fare gates and ticketing kiosks) on the SSTC mezzanine connector pedestrian bridge above CSX tracks, and that would have required a 25-foot vertical clearance, MTA, PLTC, and CSX reached consensus on a design to interpret this area as a "building concourse." In May 2020, CSX indicated that the final design is acceptable. Revised documents, providing some minor clarifications related to ROW, were submitted to CSX on September 8, 2020, and ultimately CSX approved the design. The revised documents were submitted to WMATA several times in early 2021.
- WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of ***June 2024*** for the SSTC and for other locations where WMATA and Purple Line stations coincide. MTA reports that the slow resolution of these comments has not impacted critical path activities.
- An encroachment into the CSX vertical clearance was discovered upon installation of girders at the SSTC. An exception was requested from CSX to allow the ¾-inch encroachment to remain. CSX denied the exception. MTA and the designer prepared for a contractor to jack and shim the structure to create the required clearance. Construction of this work was completed in August 2021.
- Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. The Purple Line project is taking advantage of the WMATA service outage to perform work near and above the tracks.

- CSX provided review comments disallowing revised drainage networks, related to the Capital Crescent Trail work, which would connect to CSX's existing drainage culverts. The work on the Capital Crescent Trail is not part of the FFGA and is separately funded by Montgomery County. As a result of work with Montgomery County, the connections were relocated from CSX property to Montgomery County property and therefore are no longer a CSX issue. To fully accomplish this approach, two connections required resolution. Montgomery County acquired two parcels of land from CSX (not FFGA-funded) and then accepted responsibility for one connection currently under the responsibility of CSX. Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. ***As of June 2024,*** MTS has one more jack-and-bore installation of culvert pipe yet to complete. This culvert installation is not on the project critical path and is scheduled for the summer of 2024.
- Track protection (flagging) availability has limited production work near the CSX rail lines. In March 2024, CSX made a second flagger available, allowing construction activities on the railroad ROW to accelerate. In May 2024, MTS stated that it needs a third flagger in order to maintain the construction schedule; however, MTA believes it is unlikely that CSX will provide the third flagger. ***In addition, as of June 2024, CSX has been unable to provide two flaggers at all times, which may lead MTA to claim delays.***

2.8 Real Estate Acquisition and Relocation

As of June 2024, the total number of planned property acquisitions is 601, including 464 privately owned properties and 137 public acquisitions. All of the original Exhibit 9 FFGA-scope private parcels in the P3 contract are in MTA's possession, some of which are properties that continue in condemnation under the State Highway Administration process. To date, ***434*** of the original 464 private properties have completed settlement, several additional properties (not part of the original 464 private properties) are pending settlement, and 20 condemnations remain to be settled.

All required public properties have been available for construction when needed. Several public property rights transfers are currently being coordinated to accommodate sidewalk changes, utility easements, and ROW exchanges.

As the project has progressed and new utility relocation needs have been identified, additional small parcel acquisitions have been added to the total as utility down-guys. In December 2017, PLTC initially submitted a list of approximately 280 such parcels related to utility relocations and subsequently added to that list. MTA resolved that it would acquire these properties, rather than execute amendments to the utility agreement that would have the utility companies perform this function. MTA's ability to perform appraisals in house for these parcels or to waive appraisals for low-value, uncomplicated parcels has been expediting the process somewhat. ***As of June 2024,*** the number of additional acquisitions totals 188 parcels, and several more acquisitions potentially may be needed for stormwater facilities. Of these parcels, 54 are public property and will be acquired by agreement, and 134 are private acquisitions. Of the total 188 properties, 66 were filed for condemnation, excluding those that were subsequently optioned or settled, and 13

condemnations and 102 settlements remain to be completed. MTA estimates that approximately ***$32.9 million*** of risk exposure remains in the acquisition process. This amount has been included in the QRA.

The project required a total of 176 relocations, of which 57 were residential and 120 were businesses. To date, 177 of those identified relocations have been completed in accordance with the applicable procedures, and one active claim remains to be settled. Also, MTA is monitoring terms of agreement of the property acquisitions discussed above that have not yet completed settlement, because some of them could potentially result in the need for additional relocations. As of May 2024, there is one new relocation related to commercial properties that potentially will be needed.

In August 2023, MTA indicated that the goal for completion of all real estate transactions is December 2024.

On April 25, 2023, MTA reported that BPW had approved the last of seven critical project acquisitions. These acquisitions were required to allow MTS access to construction areas that include activities on or near the critical path.

Properties that have not yet settled due to disputed compensation values have been going to trial in accordance with the ROW acquisition process. MTA is tracking actual acquisition costs versus planned expenditures, so that contingency can be effectively managed, and MTA shares this information with the PMOC. Based on actual settlement amounts and projected amounts for those not yet closed, settlement/condemnation values are 57.5 percent higher than the original 2014 SCC budget for ROW. MTA included current ROW cost projections in its development of an FRP project cost estimate (see the **Project Cost** section of this report, below).

Due to the extended project duration, some agreements will expire before the expected RSA date. MTA and MTS have started the process of identifying the end dates now needed for the agreements and will begin the process of obtaining extensions. MTA has evaluated the risks, estimated the cost of the extensions, and included those costs in a budget contingency. As of May 2024, MTA estimates that approximately $18 million of risk exposure remains due to necessary TCE extensions. To date, the project has expended $4.6 million on TCE extensions.

2.9 Third-party Agreements and Utilities

All major third-party agreements (specifically, those agreements with Washington Gas, Verizon, Potomac Electric Power Company [PEPCO], CSX, UMD, Montgomery County Parks, Prince George's County Parks, WMATA, Washington Suburban Sanitary Commission [WSSC], Montgomery County, and Prince George's County) were executed as of June 7, 2016.

After execution of its third-party agreement, Verizon required that certain lines that are currently overhead be placed underground when they cross the light rail alignment. To minimize the total cost impact of this change, MTA and Verizon reduced the number of locations where Verizon lines cross the alignment to 34. MTA is of the opinion that this reduction is a betterment, and therefore the added cost is Verizon's responsibility, but Verizon has not yet accepted that position. PLTC submitted its cost estimate for placing these 34 locations underground, and after extended

cost negotiations between MTA and PLTC while the physical relocations were being implemented, a final change order value of approximately $5.5 million was agreed upon in early March 2019. MTA had planned to negotiate the cost responsibility with PLTC and Verizon after all major Verizon relocations were completed. However, since the departure of PLTC, MTA carries this cost as a betterment outside of the FFGA scope.

In early June 2018, MTA and PLTP completed the negotiation of all remaining third-party agreements with the smaller utility and telecommunications (telecom) fiber companies. According to MTA, most of the minor fiber/telecom utilities are not co-located with the electrical utilities, and, where they are, PEPCO's arrangement with the fiber/telecom utilities does not require PEPCO's relocation schedule to be driven by that of the minor fiber/telecom companies.

In addition, the need for amendments to existing executed agreements continues to be evaluated. The significant items include:

- To date, the design differences with CSX, as discussed earlier in this report, have been adequately resolved through design review and concurrences, and have not resulted in the need to amend the CSX agreement.
- WSSC proposed that the project relocate a 66-inch underground water main that runs through the Glenridge OMF site. In March 2020, MTA and WSSC agreed on a water main alignment primarily in the median of Veterans Parkway, as well as a strategy for completing the relocation. The original Purple Line project GEC performed the design; WSSC provided the material; and MTA separately contracted for the construction, thus avoiding impact to the P3 concessionaire's scope of work. On May 21, 2021, WSSC authorized work, and mobilization began August 9, 2021. Energizing of the cathodic protection was the last remaining activity, and it was completed in November 2023.
- In late July 2022, MTA and MDOT held a summit with the many utility providers that experience relocations related to transportation projects to discuss best practices and improvements to the utility relocation process. As of May 2023, some of the utility providers are experiencing staff shortages that limit construction production rates. These staff shortages present an ongoing challenge to the project.

The project has been addressing its interface with Montgomery County Schools through the third-party agreement already in place with Montgomery County. However, due to the specific concerns related to the schools and the safety and security of the children, MTA drafted a separate MOU with the Montgomery County Schools system, which was approved by the School Board and signed by the School Superintendent, Montgomery County, and MTA. A similar MOU was negotiated between MTA and the Rosemary Hills School and was approved at the School Board meeting on February 12, 2019. MTA submitted a draft second MOU to Montgomery County Schools on November 3, 2022. The Purple Line project team is developing information on the utility pole locations and retaining wall maintenance before going back to the school district for final property transfer negotiations. Work will continue under ROE agreements with these parties through 2024.

As MTS commenced construction work, coordination meetings were held to ensure that prior agreements with third parties (utility companies and others) are followed. It is MTA's position that the transfer of third-party agreements from PLTC to MTA and now to MTS should not allow for a change in the terms of the agreements.

In June 2024, MTA reported that risk from the third-party agreements with PEPCO, the electrical service provider, is an increasing risk to the project schedule. MTA is actively trying to mitigate this risk through proactive communications with PEPCO.

2.10 Construction

2.10.1 MTA Scope

Although the P3 concessionaire is responsible for the majority of the project construction, MTA also has construction responsibility in the areas of the replacement Parks Maintenance Facility (which is part of the real estate effort and budget), wetlands mitigation, stream mitigation, and possibly some offsite SWM sites. MTA has accomplished forest mitigation without the need for additional construction. The following discussion presents the current status of the MTA construction contracts:

- **Prince George's County Parks Polk Street Replacement Maintenance Facility** – This D-B contract was awarded after the BPW approved the construction contract award on March 20, 2019. Forrester Construction Company completed construction, Parks has taken possession of the facility, and the warranty period has expired. The only remaining action for this portion of the project is a real estate swap that will transfer the maintenance facility property to Parks in exchange for the property needed by the Purple Line project. ***The survey has been performed for the swap parcels, and as of June 2024, the plat documents needed for appraisals and negotiation for the swap are complete.***

- **Offsite Wetlands Mitigation (Ken-Gar)** – The Wetlands Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The contractor mobilized in December 2019 and completed site surveys and the installation of Erosion and Sedimentation controls. Clearing and grubbing began in February 2020. Prince George's County took partial acceptance of the entire project on March 3, 2021. Acceptable growth of vegetation has been achieved, allowing for closure of this project. The one-year warranty review occurred on January 9, 2022, and now the project requires MTA quarterly monitoring until closeout in 2028.

- **Offsite Stream Mitigation (Paint Branch)** – The Stream Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The pre-construction meeting was conducted on October 24, 2019. The contractor mobilized in late November 2019. The one-year warranty inspection occurred on August 4, 2022, and 1,700 plants were replaced in November 2022.

2.10.2 P3 Scope

Highlights of construction activities ***through June 2024*** throughout the alignment include***:***

- General: As a result of the dispute with PLTC (see the **Project Delivery Method and Procurement** section, above), all project activities slowed in the fall of 2020. In early August 2020, contractor forces, equipment, and materials were demobilized, and work in some areas ceased. Upon legal action from MTA, partial remobilization occurred. Following the court's rescission of the TRO, demobilization and safe-up activities in the construction area began in earnest in mid-September 2020 and continued into October 2020. Following PLTC's exit, MTA engaged a number of former PLTC subcontractors to continue select project activities. This work was progressed under MTA management with a goal of advancing critical path activities and reducing risk for the replacement D-B contractor.
- OSF construction items that MTA managed:
  - Utility installations of all types are complete or have been transferred to MTS, including construction by the electric provider (PEPCO) and the communications company (Verizon). Water, storm sewer, sanitary sewer, and gas lines are also complete or have been transferred to MTS.
  - As a part of OSF, MTA ordered rail, ties, special trackwork, and turnouts to mitigate supply chain risks. MTA also secured materials previously procured by PLTC for use by the replacement D-B contractor (MTS). As of September 2023, a dispute between MTA and MTS over the availability of MTA-supplied materials has been resolved. The materials were located along the project corridor and available for use, resolving the dispute.
  - Building construction at the Glenridge OMF is essentially complete; however, construction of civil items outside of the building continues, as does final commissioning of systems inside the building. MTS assumed control of the facility in January 2024. As of March 2024, Amendment 7 to the P3 Agreement settled all remaining disputes. MTS is currently installing rail and other features both inside and outside of the building. MTS will complete the tracks for storage and testing of LRVs.
  - Based on the status of construction at the time of PLTC's departure, MTA determined which items would be completed before mobilization of the replacement D-B contractor. OSF construction activities were expected to be completed before September 1, 2022, but some activities continued until November 2023. OSF utility relocations that fell behind schedule caused delays to MTS's work, and delays in OSF activities. Significant OSF delays impacted MTS's activities, and these additional costs are reflected in the Amendment 7 revised total project cost.
  - MTA's Equal Employment Opportunity Officer assigned to the project is Marcques Washington, and he is supporting MTS in its hiring program. The former contractor,

PLTC, left the project with a shortfall in meeting the requirements of its DBE program, and MTS is required to address this shortfall of approximately $12 million in contract value. In March 2023, MTA reported that the design portion and the nationally targeted worker program of the P3 contract had exceeded the DBE program goal, but the percentage DBE participation for general construction is below the goal. In April 2023, Mr. Washington reported that the DBE participation statistics are improving as construction continues. The PMOC continues to recommend that MTA report the projected values for these goals at the end of the project in addition to the current achieved values to allow for a better evaluation of progress toward meeting the goals. MTA has been performing audits each month to monitor the Davis Bacon prevailing wage requirements. To date, only very minor issues have been identified during these audits**.** In May 2024, the Equal Employment Opportunity Officer increased DBE goals by approximately $87 million to reflect the new total construction cost established by Amendment 7 to the P3 Agreement.

2.11 Vehicle Technology and Procurement

The LRVs are five-car vehicles consisting of 136-foot-long, articulated units. Under the FFGA, 25 vehicles (22 in operation and 3 spares) will be provided for the opening year. PLTP executed the LRV contract with CAF on June 17, 2016, and issued NTP to CAF on July 5, 2016, for the 25 FFGA vehicles. The original NTP to CAF also included one LRV outside of the FFGA.

Later, MTA added 2 additional vehicles (outside of the FFGA) by change order to CAF's contract, for a total of 28 vehicles to be supplied by CAF. The two additional LRVs will support better operations. MTS has incorporated these two additional LRVs into its scope of work (in addition to the cost and terms of LRV storage in Elmira).

Vehicle carshell manufacturing activities, which are coordinated with design progress, occurred until the facility in Spain was shut down in late March 2020 due to supply chain issues and to limit the spread of COVID-19. The final assembly facility in Elmira, New York, was shut down in early April 2020 due to New York State restrictions related to COVID-19 and reopened on May 18, 2020, at 50 percent of its workforce capacity. As of early August 2020, both the Spain facility and the Elmira facility were back to 100 percent staffing levels.

The final assembly of vehicles is being performed in CAF's facility in Elmira. MTA, its PMC, and SNC-Lavalin are meeting weekly with CAF to resolve all open items for design, testing, and manufacturing activities. First Article Inspections (FAIs) for Interior and Cab were completed on March 18, 2021, and FAIs for Exterior, Roof, and Undercar were completed on April 2, 2021.

Shipment of the first vehicle to the project site was expected in late spring of 2021. The lack of available storage at the yet-to-be-completed Glenridge OMF requires use of an offsite storage facility where vehicles can be stored, occasionally powered, and occasionally "exercised" or moved on tracks. MTA and CAF negotiated an agreement for CAF to store the completed LRVs in Elmira. That storage agreement subsequently transferred to MTS, and its terms are part of MTS's agreement. Twenty-six LRVs have been designated as Ready for Shipment and have been placed into storage in Elmira. MTS's proposed construction schedule establishes when the test

tracks will be available for acceptance of the railcars at the Glenridge OMF. The first LRV delivery occurred on May 15, 2024, and the second delivery ***occurred in*** June 2024. ***CAF will continue with a frequency of one LRV delivery each month but has plans to increase that frequency when possible. Plans are being prepared for dynamic testing, which will occur in fall of 2024 on the test track section near the Glenridge OMF.***

The status of the LRV manufacturing as of ***June 2024*** is:

- To date, 130 carshell segments have been assembled in Spain.
- All 130 carshells have been delivered to CAF's facility in Elmira, New York.
- 23 of the 25 LRVs in the FFGA are designated as Ready for Shipment and are in storage at CAF's Elmira facility. One additional LRV (outside of the FFGA) is also Ready for Shipment and in storage.
- Two additional LRVs are under contract. These LRVs are not a part of the FFGA, but rather are an addition to the contract by MTA to support rail operations. Manufacture of the two additional vehicles (ten cars) in Spain is now complete. All ten of those cars have been delivered to Elmira for final assembly and static testing.
- As mentioned in Section 2.3.3, Quality Assurance, one manufacturing quality issue, the recurring failure of the M33 bolt in multiple vehicles, is nearly resolved. LRV manufacturer CAF performed an RCA, and in March 2024, it performed a modified assembly process on a second sample group. As of April 2024, all of the sample installations performed adequately; therefore, the RCA will be completed in ***July 2024.***
- ***The first LRV was successfully delivered on May 15, 2024, and the second was delivered in mid-June 2024.***

2.12 Project Cost

Table 5 summarizes the project's current actual expenditures and EAC, and compares them to the project budget as reported in MTA's SCC Workbook dated June 1, 2016, which is the basis of the project's FFGA. The project's documented expenditures total ***$3,557,559,505 through May 31, 2024.*** Refer also to **Table 4 – FFGA Core Accountability Items** in the **Executive Summary** section of this report for details on the project's planned and actual expenditures. The following table shows project budgets, actual expenditures, and forecast at completion amounts through ***May 31, 2024***, compared with the project budget as reported in MTA's SCC Workbook dated June 1, 2016, and MTA's current working budget.

Table 5 – Project Cost Versus Budget

SCC	Cost Category	Budget (June 1, 2016 Original FFGA)	Working Budget[1] (April 3, 2023 FRP)	Expenditures *(as of May 31, 2024)*[2]	Forecast at Completion[1, 2]
10	Guideway and Track	$280,620,726	$371,508,682	***$234,146,834***	***$372,476,815***
20	Stations	$114,857,016	$161,159,923	***$66,330,459***	***$172,082,570***

SCC	Cost Category	Budget (June 1, 2016 Original FFGA)	Working Budget[1] (April 3, 2023 FRP)	Expenditures *(as of May 31, 2024)*[2]	Forecast at Completion[1, 2]
30	Maintenance Facility	$94,155,591	$93,454,387	***$87,225,538***	***$94,417,797***
40	Sitework	$521,968,990	$796,081,289	***$617,188,896***	***$789,929,629***
50	Systems	$263,887,313	$517,256,196	***$251,709,908***	***$525,305,831***
	Subtotal 10–50	$1,275,489,636	$1,939,460,477	***$1,256,601,634***	***$1,954,212,642***
60	Right-of-Way	$229,600,000	$329,126,214	***$301,940,875***	$329,126,214
70	Vehicles	$212,940,927	$292,780,600	***$168,724,158***	$292,584,921
80	Professional Services (total)	$571,658,114	$2,247,359,915	***$1,830,292,838***	***$2,835,892,821***
80.01	Project Development	$87,149,878	$85,469,312	$85,469,312	$85,469,312
80.02	Engineering[3]	$139,766,036	$196,722,013	***$218,116,911***	***$234,534,157***
80.03	Project Management for Design and Construction	$148,555,323	$655,185,988	***$451,894,309***	$631,431,448
80.04	Construction Administration and Management	$83,269,280	$734,209,735	***$521,933,706***	***$***790,043,316
80.05	Professional Liability; Other Non-construction Insurance	$34,534,796	$85,701,891	***$76,008,332***	$78,860,971
80.06	Legal; Permits; Review Fees by Other Agencies, Cities, etc.	$5,805,117	$341,013,320	***$401,750,447***	***$866,915,881***
80.07	Surveys, Testing, Investigation, Inspection	$15,164,346	$92,504,023	***$70,213,687***	***$91,959,500***
80.08	Startup	$57,413,338	$56,553,635	$4,906,135	$56,678,235
	Subtotal 10–80	$2,289,688,678	$4,808,727,206	***$3,557,559,505***	***$5,411,816,598***
90	Unallocated Contingency[4]	$90,535,748	$307,293,174	***$0***	***$95,203,782***
100	Finance Charges	$0	$0	$0	$0
	Total	$2,407,030,288	$5,116,020,381	***$3,557,559,505***	***$5,507,020,380***

[1]The Purple Line project Working Budget and Forecast at Completion are based on the accepted FRP, dated April 3, 2023, and subsequent change orders.

[2]Amendment 7 to the P3 Agreement has been partially incorporated into MTA's financial reporting as of ***June 2024***. Amendment 7 added $406 million to the construction cost of the project. The PMOC has requested the breakdown of these costs.

[3]Additional costs associated with Amendment 7 were assigned primarily to SCC 80.02 in MTA's originally reported budget information. During the April 25, 2024 PMOC/MTA monthly meeting, MTA indicated that it will reassign the Amendment 7 costs to SCC 80.04. ***This reassignment appears to have occurred in May 2024.***

[4]The unallocated contingency expenditures will be reflected in SCC 10 through SCC 80 expenditures as they occur. As of ***June 2024***, the committed unallocated contingency amount is ***$212,089,392***. MTA is currently assessing the appropriate budget contingency in response to Amendment 7.

MTA developed the FRP unallocated contingency amount of $307,293,174 by utilizing a QRA, and the RCMP, dated April 21, 2023, recommended that same amount for unallocated contingency. ***The June 2024 preliminary QRA recommends an unallocated cost contingency of $179.5 million.***

In July 2023, the Maryland BPW approved a change order that had a total addition of $204,954,610 of cost and 207 additional days of contract time. The net budget impact to the capital construction

portion of the project was $137,144,705, and the balance of the total amount was applied to the financing and lost return on investment for PLTP. The $137,144,705 will be expended over the course of construction; therefore, this amount does not immediately show up in the MTA budget reports. However, that amount, plus the amount of the earlier change order included in the FRP, represents significant utilization of the budget contingency. The PMOC recommends that MTA closely monitor these cost overruns and the potential need for additional contingency. As of March 2024, a third change order (and amendment to the P3 Agreement [Amendment 7]) was negotiated. The change order essentially utilized all of the FRP budget and schedule contingency, added $406 million to the construction budget, and added 250 more days to the schedule. As a result, MTA is currently developing revised cost and schedule contingency budgets.

The PMOC has requested that MTA clarify the breakdown of Amendment 7 to the P3 Agreement for several reasons. MTA has indicated that Amendment 7 includes schedule mitigation measures, implying that the measures are changes to the MTA scope of work and also overhead costs related to the extended project schedule. The assignment of the costs to SCC 80 does not support those implications. If the costs assigned are for some scope changes (additional Maintenance of Traffic sequences, overtime for accelerated construction work, or other items), then those costs should be assigned to SCCs 10 through 50.

In recent months, SCC 80 expenditures by MTA and MTS have totaled as much as 50 percent to 100 percent of the expenditures for SCCs 10 through 50 combined. The PMOC therefore has questioned the significant amount of these SCC 80 expenditures that MTA records for the project each month. ***In May 2024, MTA explained that a portion of the SCC 80 expenditures are settlement payments to MTS and PLTP and not true management and administrative costs. In June 2024, the management and administrative expenditures were approximately 30 percent of the total expenditures for SCC 10 through SCC 50 for the month.***

2.12.1 Project Funding

The funding for the project, as reflected in Attachment 3 of the FFGA, is shown in Table 6. As mentioned previously, MTA has not yet fully incorporated the effects of Amendment 7 to the P3 Agreement in its financial reporting. MTA has reported that the additional funds (approximately $406 million) related to Amendment 7 will come from the State of Maryland/MDOT Transportation Trust Fund.

Table 6 – Baseline Cost Estimate by Source Funding

Initial New Starts Project Cost (in SCC format)	Total FFGA Cost in Year of Expenditure (YOE) Dollars	Federal 5309 New Starts in YOE Dollars	Federal 5307 in YOE Dollars	Federal American Rescue Plan Act (ARPA) in YOE Dollars	Federal Surface Transportation Program (STP) in YOE Dollars	Local in YOE Dollars
10 Guideway & Track Elements	$371,508,681	$96,464,907	$0	$0	$0	$275,043,774
20 Stations, Stops, Terminals, Intermodal	$161,159,923	$23,557,000	$0	$0	$0	$137,602,923
30 Support Facilities, Yards, Shops, Admin. Bldgs.	$93,454,387	$29,954,000	$0	$0	$0	$63,500,387

Initial New Starts Project Cost (in SCC format)	Total FFGA Cost in Year of Expenditure (YOE) Dollars	Federal 5309 New Starts in YOE Dollars	Federal 5307 in YOE Dollars	Federal American Rescue Plan Act (ARPA) in YOE Dollars	Federal Surface Transportation Program (STP) in YOE Dollars	Local in YOE Dollars
40 Sitework & Special Conditions	$796,081,289	$222,858,301	$0	$0	$0	$573,222,988
50 Systems	$517,256,196	$60,116,405	$0	$0	$0	$457,139,791
60 ROW, Land, Existing Improvements	$329,126,214	$102,108,116	$0	$0	$0	$227,018,098
70 Vehicles	$292,780,600	$80,787,818	$0	$0	$0	$211,992,782
80 Professionals Services	***$2,638,359,916***	$284,153,453	$41,631,310	$106,163,371	$110,000,000	***$2,096,411,782***
90 Unallocated Contingency	$307,293,174	$0	$0	$0	$0	$307,293,174
100 Finance Charges	0	$0	$0	$0	$0	$0
Total Project Cost (SCCs 10–100)	***$5,507,020,380***	**$900,000,000**	**$41,631,310**	**$0**	**$0**	***$4,349,225,699***

Source: ***MTA, dated June 2024***. ***Red text indicates updates to incorporate Amendment 7 to the P3 Agreement into this table. Contingency amounts continue to be adjusted as Amendment 7 is reconciled with closed change orders.***

2.13 Project Schedule

The March 15, 2017 progress update of the master project schedule served as the only approved version of the schedule until September 2022. Numerous submissions of schedule updates from PLTC were not approved for various reasons, but the primary reason was the inability of MTA and the P3 concessionaire to agree on the schedule impacts of the approximately one-year delay in the execution of the FFGA. In response to a letter that FTA issued to MTA in early August 2018 expressing concerns about the amount of time that the project had advanced without an approved schedule, MTA prepared a working schedule update of the master project schedule. The working schedule update was based on the negotiations of the P3 contract schedule occurring at the time, but the update was not based on a mutually agreed-upon P3 contract schedule.

In late April 2020, PLTC notified PLTP that, based on its forecasting of schedule delays on the project (which were not mutually agreed upon), PLTC intended to exercise the clause in its P3 contract with PLTP that allows it to terminate the contract for design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that included a definitive path forward for PLTP's intended management of the P3 contract. On May 14, 2020 (the date the response to the formal request was due), PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice refuted the validity of the PLTP delay claims and stated that if PLTP failed to perform, MTA had a number of options related to the agreement. Through late July 2020, construction activities continued at the level previously planned, and construction progress was not affected.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a TRO that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing

to uphold or rescind the TRO was held on September 14, 2020. The court rescinded the TRO, allowing PLTP to leave the project. Through negotiation, it was determined that PLTP would remain on the project, although PLTC would not.

MTA contracted with numerous subcontractors to continue the project. MTA developed organizational options with respect to construction management, resident engineers, inspectors, and other staff needed to move forward select project activities.

It was certain that the project schedule as reflected in the FFGA would be negatively affected, and a Recovery Plan for the project, including a revised project schedule with adequate schedule contingency to address remaining project risks, would be required. MTA submitted its draft IRP to FTA in December 2020, and FTA approved the IRP on January 12, 2021. A schedule for the period during which the D-B contractor was to be replaced was developed, and MTA monitored project progress against the schedule.

PLTP and MTA continued to coordinate during the financial process and State of Maryland approvals for the replacement D-B contractor. In addition, MTA successfully coordinated other key issues that needed to be resolved before PLTP could execute the contract with MTS. IRP/re-procurement process spanned from January 6, 2021 to April 14, 2022.

A milestone not specifically mentioned in the IRP was the requirement to extend the current RSD. The RSD in the original FFGA was December 31, 2022. MTA requested an extension to the current RSD based on the MTS schedule. FTA accepted the FRP, which indicates a revised RSD of February 28, 2028.

The schedule included in the FRP was considered to be the new baseline schedule. The MTS master schedule incorporated the schedule recovery of implementing Maintenance of Traffic and construction activity resequencing, at a cost of $21,343,588, which reduced schedule delays from 218 days to 81 days. These schedule delays are a result of OSF utility adjustments that fell behind schedule. MTS has indicated that delays continued to occur as a result of the MTA-managed OSF work. The second OSF-delay-driven change order, as approved by the BPW in July 2023, added 207 days to MTS's RSA date.

This addition to the RSA date represents a significant use of schedule contingency, which is a concern considering the remaining duration of the project. In an effort to mitigate continuing OSF delays**,** MTA resumed the Tiger Team process (in this case referred to as "Tiger Team 2") to develop schedule alternatives. OSF construction activities were expected to be completed before September 1, 2022, but schedules that MTA previously provided indicated completion of most OSF activities in mid-2023, with some activities continuing up to November 1, 2023. OSF utility relocations that were behind schedule continued to cause impacts to MTS's work, and as of July 2023, delays in OSF activities had driven two change orders. MTA and PLTP have used the Tiger Team process to develop schedule alternatives to potentially mitigate delays driven by OSF work between March 2023 and February 2024. Amendment 7 to the P3 Agreement resolved the outstanding disputes and delays related to OSF activities. The amendment added 250 days to the schedule, placing the RSA date at December 30, 2027. MTA has accepted MTS's revised baseline schedule, ***and in June 2024 prepared a revised master schedule based on the information that***

MTS provided, including the recommended schedule contingency that is used in the June 2024 QRA.

2.13.1 Key Milestones

Table 7 shows the current key milestone dates for the project for the prior approved (March 15, 2017) progress update of the current master project schedule. Issuance of NTP to PLTP on April 14, 2022, triggered the contract requirement that an MTA-approved MTS Initial Baseline Schedule (IBS) for the full project be in place within 120 days of financial close (by August 14, 2022). In January 2022, MTA submitted a draft version of the master schedule for FTA and PMOC review, and FTA and the PMOC transmitted their review comments to MTA in April 2022. MTS submitted its IBS, and on September 12, 2022, MTA approved it. MTS submitted the 120-day mobilization schedule, which MTA also approved.

In August 2022, MTA and the PMOC discussed the current state of the baseline schedule, particularly the inclusion of adequate float to address schedule risk. The P65 date that MTA proposed before the risk workshop held in May 2022 included approximately seven months of float and an RSA date in October 2026. After MTA performed the QRA for the updated RCMP, MTA added additional float to address known and unknown schedule risk. The RSD proposed in the FRP is February 28, 2028. However, the recently approved Amendment 7 to the P3 Agreement sets the RSA date at December 30, 2027, essentially utilizing all of the schedule contingency. The outcomes of the current update of the QRA will advise new recommendations regarding schedule float and contingency.

The PMOC recommends that MTA closely monitor schedule contingency and the corresponding budget contingency when evaluating the RSA date/RSD and the EAC that have been incorporated into the FRP. The information in Table 7 will be updated once the schedule reviews and approvals are complete.

Table 7 – Key Milestone Dates

Activity	Prior Approved Master Project Schedule (March 15, 2017)	MTA Master Project Schedule (June 18, 2024) (working schedule)
Locally Preferred Alternative Approval Date	08/04/2009 (A)[1]	---
FTA Approval to Enter Preliminary Engineering	10/07/2011 (A)	---
FTA ROD	03/19/2014 (A)	---
Issue Final RFP for P3 Concessionaire	07/28/2014 (A)	---
FTA Approval to Start Enter Engineering Phase	08/28/2014 (A)	---
Issue Addenda 4 through 6 to the P3 RFP	07/2015 through 11/2015 (A)	---
P3 Technical Proposals Due	11/17/2015 (A)	---
P3 Financial Proposals Due	12/08/2015 (A)	---
Evaluation and Announcement of Selected P3 Proposer	01/02/2016 through 03/02/2016 (A)	---
BPW Approval of P3	04/06/2016 (A)	---

Activity	Prior Approved Master Project Schedule (March 15, 2017)	MTA Master Project Schedule (June 18, 2024) (working schedule)
P3 Commercial Close	04/07/2016 (A)	---
Limited NTP for P3 Engineering	04/07/2016 (A)	---
MTA Submit FFGA Application	05/24/2016 (A)	---
P3 Financial Close	06/17/2016 (A)	---
FFGA Signed	08/22/2017 (A)	---
Start of First Major Construction Activity	08/28/2017 (A)	---
All Significant ROW Acquisition and Relocation	As needed by construction	---
Commencement of Contract Work for Replacement D-B Contractor (MTS)	---	04/14/2022 (A)
Commencement of Integration Testing	---	07/28/2025
All Segments Complete Construction (with Contingency)	---	02/19/2027
RSA Date per P3 Amendment (Does Not Include Contingency)	---	12/30/2027
Preliminary RSD, Including Contingency (not accepted by FTA as of June 2024)		***12/29/2028***
FFGA RSD (Includes Contingency)	12/31/2022	02/28/2028

[1]A = Actual.

2.13.2 90-day Look-ahead

The critical 90-day (***July 2024 through September 2024***) look-ahead includes activities that MTA highlighted in the recent monthly meeting with the PMOC. MTA and MTS also are preparing four-week look-ahead schedules to manage interim activities. Key activities that MTA has identified for the short term are:

- ***Acceptance of the revised recommendations for schedule and cost contingencies based on the QRA.***
- Completion of yard track and initial installation of OCS at the Glenridge OMF to support LRV delivery and testing.
- ***Delivery of the third LRV to the Glenridge OMF and the media event celebrating LRV arrivals.***
- ***Completion of activities associated with the seven roadway or track outages that are occurring to expedite construction progress in the summer of 2024.***
- Concrete lining installation at the Bethesda Enclosed Trainway.
- ***Installation of TPSSs Q03, Q04, Q06, and QYL, and energizing the OCS to facilitate dynamic testing.***
- ***Continued installation of rail in all segments***.

2.13.3 Critical Path Activities

In the MTA master schedule update dated ***June 18, 2024***, the critical path runs through the activities in Segment 3 utilities and track (see **Attachment G, Project Map**), and then through trial running and systems integration/testing.

2.14 Project Risk

MTA has established a risk management organization that is defined in the RCMP and is overseen by MTA's Risk Management Committee. Two major elements of the RCMP are the periodic performance of a QRA and the maintenance and use of the Risk Register.

During the approximately one-year period during which the ROD had been vacated by the federal judge in his decision related to the Friends of the Capital Crescent Trail lawsuit, MTA did not conduct formal Risk Management Committee meetings, conduct Quantitative Risk Analyses, or perform formal updates of the Risk Register. However, the Purple Line project management team did assess and respond to the risks associated with the unforeseen chain of events related to the lawsuit.

The project team resumed formal Risk Management Committee meetings in October 2017, including individual updates of each risk on the current Risk Register by the risk owner. An overall update of the Risk Register was completed in draft form in January 2018, and was updated further and reissued in March 2018. As an ongoing process, MTA currently is performing updates of the Risk Register periodically, though somewhat less frequently than bimonthly (the frequency established in its RCMP). The current status of the RCMP is discussed in the **Project Management Plan and Sub-plans** section of this report, above.

MTA provides copies of significant updates of the Risk Register to FTA and the PMOC. The top risks from the project's latest issued update of the Risk Register and PMOC-assessed risks are discussed at the PMOC monitoring meetings with the project team; the project's top four project risks are included as Attachment B of this report and are updated quarterly. A risk management workshop was held on January 26, 2021, at which the PMOC and FTA participated. The workshop focused on the resolicitation period for the replacement D-B contractor (January through October 2021).

Once the replacement D-B contractor was under contract, risk updates were prepared. The project held a risk workshop the week of May 2, 2022, at which the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. Confirmation and finalization of the Risk Register, the QRA, and an update of the RCMP are components of the FRP. FTA provided a summary of the risk workshop to MTA on June 22, 2022, for MTA's consideration and incorporation into its management plans and contingency evaluation. MTA provided responses to FTA comments on the risk workshop summary on July 15, 2022, and clarification on August 25, 2022. In October 2022, MTA submitted RCMP Version 15 to FTA and the PMOC for review. In February 2023, FTA and the PMOC provided comments on RCMP Version 15 to support MTA's development of the project's budget contingency and schedule

contingency. On April 21, 2023, MTA provided a revised RCMP to FTA and the PMOC for review, and on May 22, 2023, FTA accepted the revised RCMP with comment.

As a follow-up to the Risk Management Committee meeting, MTA completed a QRA to re-baseline the project's contingency drawdown curves and update the RCMP. ***The QRA that MTA*** provided in ***June 2024 included preliminary recommendations for cost contingency and schedule contingency of $179.5 million and 11 months, respectively.***

In June 2024, MTA identified the following top risks:

Cost Risks:

1. ***Unknown Unknowns***
2. ***Remaining ROW Negotiations***
3. ***TCE Extensions***
4. ***Disputes***

Schedule Risks:

1. ***Signal Cabinet Testing***
2. ***Permit Compliance***
3. ***Unknown Unknowns***
4. ***Performance Due to Nonconforming Work***

Also in June 2024, MTA reported that risk related to the third-party agreements with PEPCO, the electrical service provider, is an increasing risk to the project schedule. MTA is actively trying to mitigate the risk through proactive communications with PEPCO.

2.15 Quality Assurance/Quality Control

The project's QA/QC is addressed in Section 10 of the PMP, the Quality Program Plan, and the updated MTA QAP Revision 8.0, which incorporates the quality plans prepared by PLTC. The **Project Management Plan and Sub-plans** section of this report, above, discusses the most current versions of the PMP and the QAP. MTA also submitted to FTA the package of inter-related quality plans prepared by the P3 concessionaire after the package was reviewed and approved by MTA.

MTA obtained and used PLTP's quality logs and other applicable documents and procedures during the transition to the replacement D-B contractor. Several former subcontractors were under contract with MTA and conducted QA/QC activities during the replacement D-B contractor solicitation period. The budget to address nonconforming construction by PLTC remains a concern as of July 2023. MTA incorporated known defects into the MTS contract; however, MTA has not clarified the specific budget that will be used to rectify defects found since the contract with MTS was executed. MTA estimates that the potential magnitude of this budget impact will be no more than $10 million, and the current Risk Register carries this risk item.

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on the QAP to MTA. MTA provided a revised QAP to FTA and the PMOC in May 2023. Subsequently, FTA and the PMOC made

recommendations for revisions to the QAP that MTA committed to include in the next regularly scheduled update to the QAP.

The project has continued to conduct its monthly meeting to review the QA/QC activities performed by the Purple Line project team, including those activities performed by the PMC and the GEC. MTA states that documentation from this meeting is distributed and maintained. The project's Monthly Progress Report to FTA also contains a summary of the significant current QA/QC activities and events, including quality audits and quality reviews. However, in January 2024 MTA did not submit the typical quality program monthly information, citing a change of leadership on the quality team. On January 25, 2024, MTA introduced the project's new Quality Manager, Turyalai Momand. In April 2024, MTA announced that it had hired a Deputy Quality Manager, along with several other quality staff.

In February 2024, MTA stated that it is developing a full schedule of quality audits to be performed in 2024. When asked about a number of very old deficiency notices and instances of non-conforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of sign-offs by managers. MTA is deferring some other older open quality items because making corrections now will negatively impact other critical path activities.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. Roland Carroll, the Purple Line systems and construction safety lead, added the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to his new quality management role. The PMOC evaluated this change as a part of the PMP review and will continue to monitor MTA's management capacity for this function and all positions through ongoing oversight activities.

The PMOC requested that MTA provide more complete documentation for quality-related activities. MTA modified the QAP to reflect many of the noted PMOC concerns. In addition, a technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023. The PMOC then recommended acceptance of the QAP contingent upon MTA's incorporation of outstanding items into the next regularly scheduled annual update. On October 6, 2023, FTA accepted the QAP provided that MTA incorporate the PMOC recommendations. MTA has also developed a quality dashboard to improve its tracking of quality issues. In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational chart for quality management and administration. In April 2024, MTA listed the following three quality process improvements that it is developing:

1. Organizational chart update
2. Document control procedure update
3. Development of quality training plan and schedule for 2024

MTA emphasized that these quality processes apply only to MTA's quality activities, but they are coordinated with MTS's quality processes. In April 2024, MTA stated that it has added quality oversight staff to its organization, including a Deputy Quality Director.

2.16 Safety and Security

PLTP has conducted 44 Preliminary Hazards Analysis (PHA) workshop sessions to date. These workshops were held to resolve MTA's comments on the PHAs completed to date.

To support the ultimate Safety and Security Certification of the Purple Line project, the PLTP System Safety team completed development of its first DCCC in May 2017 and submitted it to MTA for approval. MTA (assisted by the PMC) reviews the DCCCs as part of the Final Design package, according to the established submittal review process. According to PLTP, the DCCCs were being verified before the issuance of RFC packages. To date, an estimated 99 percent of the DCCCs have been verified. All previous comments on PLTP's Certified Elements List (CEL), which includes operations and maintenance and system integration testing elements, have been resolved, and CEL Revision 2 was accepted in March 2020. The Certified Items List (CIL) Revision 1 has been accepted. The next revision of the CIL is expected after MTS completes the design. MTA will provide the revised CIL to FTA and the PMOC as soon as it is completed. Approximately ***20 percent*** of the CSCCs have been verified to date.

MTA chairs a Safety and Security Certification Committee (SSCC) that reviews, comments on, and approves any PLTP hazard management and safety and security certification issues. The first meeting of the MTA SSCC was conducted on March 20, 2018. Since July 11, 2018, the SSCC meeting has been held regularly and will continue as a monthly meeting until the level of activity requires more frequent meetings. ***As of June 2024,*** monthly SSCC meetings continue.

PLTC submitted a Threat and Vulnerability Assessment (TVA), and on July 15, 2019, MTA accepted and verified the comment responses and approved PLTC's TVA. PLTC then completed its TVA process. As of ***June 2024,*** MTS is performing a cybersecurity TVA for the project.

MTA continues to conduct bimonthly Fire/Life Safety meetings with Montgomery County and Prince George's County. The meetings provide a basis for the counties' emergency responders to understand the features of the Purple Line systems and to resolve any concerns. Topics of discussion include: Police Department MOUs; Fire Department connection and hydrant locations; access, signage, and station naming conventions; MOUs for training; the PHA at the Glenridge OMF maintenance gate; station names; and addresses/emergency phone numbers for locations along the corridor. Other topics of discussion have included closed circuit television cameras and Mobile Emergency Vehicle Response access. As of April 2024, MTA indicates that work on establishing MOUs for cooperation with other local agencies has begun. MTA will develop an MOU for safety and security with WMATA first and then use that document as the template for MOUs with other agencies. It remains the opinion of the PMOC that MTA should emphasize resolving the project's outstanding Fire/Life Safety issues, because progress on the resolution of these issues is not apparent and has been ongoing for several years.

MTA police continue coordinating MOUs with local safety agencies and developing MOUs with police jurisdictions (such as the Maryland National Capital Park Police) along the Purple Line. These MOUs are related to training the existing police agencies on how to respond to transit situations. During August 2023, the PMOC reiterated that these processes have been ongoing for several years and that milestones for resolution of issues should be established.

During the September 2022 MTA/PMOC meeting, a larger related issue was discussed at length. The SSOA staff participated in this discussion as well. The crux of the issue is that MTA does not have a police force located in proximity to the Purple Line. MTA hired a consultant team to analyze alternatives for providing security and fare enforcement services for the Purple Line. Alternatives included: expanding MTA's enforcement services geographically, bringing on a third party to provide these services through a contract, or sharing police services with another party. On February 23, 2023, MTA submitted its prepared draft recommendation for providing security and fare enforcement to several State of Maryland departments. Representatives from MDOT, which is the SSOA, who are monitoring the Purple Line project development provided comments on the draft recommendation before MTA submitted it to MTA's upper management and the several state departments. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a new Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on MOUs with other local jurisdictions, and developing a facility to house the district. As of January 2024, the PMOC was continuing to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget for providing security and fare enforcement services. In February 2024, MTA stated that it would complete the implementation plan by March 31, 2024. However, as of April 2024, MTA indicated that it would complete the police and security implementation plan by May or June 2024. MTA stated that the facility for the new Southern District of the police department will not be completed before the February 2028 RSD, and therefore temporary facilities will be required. In May 2024, MTA stated that the Purple Line project team will not be responsible for development of the new police force facility, but rather a different MTA department will manage its development. ***The PMOC recommends that MTA provide the key schedule milestones for development of the police and fare enforcement services, including for the development of the new police force facility and for the staffing and training for the new Southern District.***

As required by the P3 contract, PLTP is responsible for directly implementing many of the safety and security requirements for the project, including those for construction safety and the collection and maintenance of the Occupational Safety and Health Administration (OSHA) safety statistics for the project. PLTC performed this work until its departure from the project, at which time MTA assumed responsibility. Later, once the replacement D-B contractor was in place, MTS transitioned into the safety and security role that PLTC held. MTS and MTA are holding regular safety and security coordination meetings.

Safety is a PMOC concern. The rate of recordable incidents remains above project goals, and MTA appears to be having difficulties with incident documentation. ***As reported in June 2024***, the OSHA statistics reported by MTA are:

- TCIR (Total Case Incident Rate) (Recordable Rate):
  - Actual: ***1.47 (2024 Year-to-Date (YTD)) and 3.53 (May 2024)***
  - MTS goal: 1.68
  - National average: 2.8 (for heavy civil construction)

Note: As of January 2024, the Lost Time Injury Rate (LTIR) is no longer being tracked.

In May 2024, the 2024 YTD and project inception-to-date (for MTS) incident rates decreased significantly. ***In June 2024 MTA reported that MTS modified the incident statistics to exclude incidents related to subcontractors and suppliers. MTA is discussing the appropriateness of this change with MTS. The May 2024 TCIR that included all contractors is approximately double the goal. It appears mathematically impossible for the decrease in 2024 YTD and project inception-to-date (for MTS) incident rates that MTA reported in May 2024 to have occurred, and the PMOC has recommended that MTA investigate this issue.*** The PMOC continues to have concerns specifically related to construction safety. See **Section 2.16**, below, for more detail.

MTA had assumed responsibility for safety oversight during the IRP until MTS assumed control of the project. As of December 2022, MTA reported that MTS needs coaching on expectations for the required reporting of safety statistics. In April 2023, the PMOC noted to MTA that both the LTIR and the TCIR had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in incident rates, there is an apparent lack of tracking and reporting of safety issues. The PMOC has repeatedly noted that there are inconsistencies in incident reporting between MTA and MTS.

MTA states that it recognizes the issue and reports that it has scheduled additional safety coordination efforts. In May 2023, the PMOC requested documentation on these additional efforts, and in July 2023, the PMOC questioned the effectiveness of the efforts. MTA acknowledges the need for safety process improvement. In November 2023, MTA stated that MTS has replaced its safety director and has added safety staff, although MTA did not review the qualifications of the new director or staff. The PMOC recommended that MTA review the qualifications of MTS safety staff and the safety processes and procedures being followed on the project.

The PMOC recommends that MTA and MTS complete a safety process review as soon as practical and that MTA prepare a written summary. In November 2023, MTA's safety director, Roland Carroll, provided an email and attachment that briefly summarized the safety improvement actions. The document does not indicate target dates for implementation, nor the responsible party for these actions. In January 2024, MTA stated that MTS is not following the contractually required incident reporting procedures and timelines, which include a 20-minute verbal reporting requirement and a 24-hour maximum period to submit written documentation of incidents. In February 2024, MTA provided 12 months of incident reporting information to the PMOC. The

document quality requires improvement and should include identifying information, such as the date and who prepared it. The data indicates that nearly 80 percent of all safety incidents are reported late, some as much as several months. The delayed reporting has occurred for both MTA-managed incidents (under OSF) and for MTS-managed incidents under both the former and current MTS Chief of Safety.

It remains the opinion of the PMOC that MTA's processes related to construction safety can be improved. The PMOC recommends that MTA consider dedicating additional resources to construction safety (i.e., resources dedicated to only the construction portion of the Purple Line project). MTA should also consider preparing a comprehensive monthly safety report under the direct supervision of the Project Director.

In April 2024, MTA reported its March 2024 incident rate, which showed an increase, and the rate remains significantly higher than the goal. MTA has stated that it is modifying the safety processes. The PMOC requested that MTA submit the full incident tracking log each month as a part of the standard information it provides, and that MTA also provide the results of the April 2024 audit of the MTS Concessionaire Safety and Health Plan.

The PMOC also reviewed the Concessionaire Safety and Health Plan audit results (from the May 2024 MTA audit) and makes the following observation and related recommendation:

Audit Item 4 – MTS does not have written verification of its subcontractors' and suppliers' health and safety plans. MTA recommended that MTS collect written verification from the subcontractors and suppliers that they are utilizing their health and safety plan or have adopted the MTS health and safety plan. Considering that MTS has had subcontractors onsite for since April 2022, the PMOC finds this lack of verification a significant concern. The PMOC recommends that MTA require MTS provide a firm target date for verification and track progress toward completion.

The PMOC continues to recommend that MTA carefully monitor safety documentation and develop safety process improvements.

In late October 2022, MTA submitted to FTA updated SSMP and SSCP documents in conjunction with the updated PMP. On February 13, 2023, and March 8, 2023, FTA provided review comments to MTA on the SSMP and SSCP, respectively. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023, and accepted the SSCP on December 28, 2023. In April 2024, MTA submitted a revised SSCP that includes the TUN process and also provided a partially complete preliminary LRV Delivery Plan.

See the **Project Management Plan and Sub-plans** section of this report, above, for the status of the sub-plans of the PMP related to safety and security.

2.17 Americans with Disabilities Act

The PMOC confirmed that the Design Criteria Manual applicable to the Purple Line project addresses Americans with Disabilities Act (ADA) requirements, including references to the

requirements in the Maryland Accessibility Code, the ADA Accessibility Guidelines for Buildings and Facilities, and the ADA Standards for Transportation Facilities.

Accessibility and compliance with the ADA are required as part of the functional requirements for stations and guideway, and as part of the codes and standards for LRVs within the P3 contract (Book 2, Part 2) for the Purple Line project. Based on project reviews conducted by the PMOC, MTA has confirmed that it included ADA compliance in its QA oversight reviews of PLTC's design packages.

All design reviews include ADA specifically. The contract requires a full-time MTS Maintenance of Traffic construction representative for the project to monitor whether temporary pedestrian accommodations during construction continue to comply with ADA requirements. The contract also includes an incentive program for ADA compliance. The Maryland State Highway Administration also inspects temporary facilities.

MTA indicates that the project is maintaining ADA accessibility along the project corridor during construction. In addition to planning for ADA accessibility, MTA and MTS respond to public concerns due to construction activities and temporary accessibility features.

2.18 Buy America

MTA understands that Buy America compliance applies not only to the rail vehicles but also to the procurement of all manufactured products, including all iron and steel. MTA is also aware that domestic manufacture of all federally funded procurements is required and should be certifiable. Compliance with Buy America regulations is contained in MTA's standard clauses for its procurements, and the P3 contract contains explicit Buy America language in its Appendix 16.

Virginkar and Associates, Inc. conducted the Buy America pre-award audit and concluded that there is reasonable certainty that CAF will satisfy the Buy America requirements as stated in 49 Code of Federal Regulations (CFR) 661. MTA's interpretation is that, because the vehicle RFP was advertised before December 4, 2015 (which is the date of passage of the Fixing America's Surface Transportation Act, also known as the FAST Act), the 49 CFR 661 Public Interest Waiver that limits domestic content to a minimum of 60 percent, as opposed to the escalating domestic content requirements of the FAST Act, applies in this case. During the week of October 2, 2017, an intermediate post-award Buy America audit was conducted of CAF's facility in Elmira, New York, for added confidence that the post-delivery audit would not identify issues. CAF targeted 65 percent domestic content in the completed LRVs.

The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to FTA. On that same day, MDOT also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.

MTS regularly audits its suppliers and subcontractors regarding the construction Buy America requirements. MTS audits its subcontractor's Buy America requirements and any issues are reported in conjunction with the project quality process.

2.19 Start-up, Commissioning, Testing

MTA has begun documentation for the "Roadmap to Revenue Operations" (see **Attachment F**), which includes both MTA and MTS information on integration, testing, and commissioning. MTA submitted an update of Attachment F to the PMOC in May 2024. MTA will provide the preliminary Integration Test Program Plan and other documentation indicated in the Roadmap to Revenue Operations appendix when those documents are complete. As of November 21, 2023, MTA had developed a process for managing testing submittals and reviews, including detailed tracking of open items. MTA has not yet contracted with an Independent Integration Engineer to oversee the integration and testing process.

The PMOC recommended that MTA expedite readiness activities for testing of LRVs. MTA states that the responsibility for readiness activities lies with the P3 concessionaire. LRV delivery ***began in May 2024,*** and MTA media events related to vehicle delivery are scheduled for ***July 2024. The PMOC recommends that MTA expedite the readiness plans for dynamic testing, which is scheduled to begin in the fall of 2024.***

2.20 Before-and-After Study Reporting

To be determined.

2.21 Lessons Learned

The resolicitation of a D-B contractor gave MTA the opportunity to apply several lessons learned to the new D-B contract documents and to amend the P3 Agreement. After the May 2022 risk workshop with MTA and the PMOC, MTA provided an update on opportunities for improvement that MTA had identified during the resolicitation and is incorporating into the project. MTA provided an initial Lessons Learned summary that addressed the period of OSF construction and replacement of the D-B contractor. The PMOC recommends that MTA continue the process of recording lessons learned by reviewing and documenting the issues that led to the change order (of more than $600 million and 12 months) that included Amendment 7 to the P3 Agreement.

2.22 Action Items

Action Items are identified at MTA/FTA Quarterly Progress Review Meetings, at MTA/PMOC Monthly Update Meetings, and at MTA/FTA Biweekly New Starts Progress Conference Calls. Action Items in ***June 2024*** are as follows:

1. MTA will provide the M33 bolt RCA when complete. – OPEN
2. ***MTA will provide the key schedule milestones for development of the police and fare enforcement services. – OPEN***

3. MTA will provide Tiger Team details in (SCC format), which will indicate how the Amendment 7 cost and the large July 2023 change order were calculated. – OPEN.
4. MTA will provide the preliminary Integration Test Program Plan and other documentation indicated in the Roadmap to Revenue Operations attachment in this report. – OPEN
5. MTA will provide an update on quality process improvements, including incorporation of previous FTA and PMOC recommendations for the QAP, including the training plan and organizational chart. – OPEN

ATTACHMENT A – LIST OF ACRONYMS

ADA	Americans with Disabilities Act
ARPA	American Rescue Plan Act
ATC	Alternate Technical Concept
BFMP	Bus Fleet Management Plan
BPW	Board of Public Works
CAF	Construcciones y Auxiliar de Ferrocarriles
CEL	Certified Elements List
CFR	Code of Federal Regulations
CIL	Certified Items List
CSCC	Construction Specification Conformance Checklist
CSX	CSX Corporation
D-B	Design-Build
DBE	Disadvantaged Business Enterprise
DCCC	Design Criteria Conformance Checklist
DNR	Maryland Department of Natural Resources
EAC	Estimate at Completion
FAI	First Article Inspection
FCP	Forest Conservation Plan
FFGA	Full Funding Grant Agreement
FRP	Final Recovery Plan
FTA	Federal Transit Administration
GEC	General Engineering Consultant
IBS	Initial Baseline Schedule
IRP	Interim Recovery Plan
LOD	Limits of Disturbance
LRT	Light Rail Transit
LRV	Light Rail Vehicle
LTIR	Lost Time Injury Rate
MCC	Management Capacity and Capability
MDE	Maryland Department of the Environment
MDOT	Maryland Department of Transportation
MOU	Memorandum of Understanding
MTA	Maryland Transit Administration
MTS	Maryland Transit Solutions
N/A	Not Applicable
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
O&M	Operations and Maintenance
OCS	Overhead Contact System
OHA	Operational Hazard Analysis
OMF	Operation and Maintenance Facility
OP	Oversight Procedure
OSF	Operation Step Forward
OSHA	Occupational Safety and Health Administration
P3	Public-Private Partnership
PEPCO	Potomac Electric Power Company
PHA	Preliminary Hazards Analysis
PLTC	Purple Line Transit Constructors
PLTO	Purple Line Transit Operators
PLTP	Purple Line Transit Partners
PMC	Project Management Consultant
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QA/QC	Quality Assurance/Quality Control
QAP	Quality Assurance Plan

QRA	Quantitative Risk Assessment
RAMP	Real Estate Acquisition Management Plan
RCA	Root Cause Analysis
RCMP	Risk and Contingency Management Plan
RFC	Released for Construction
RFP	Request for Proposals
ROD	Record of Decision
ROE	Right of Entry
ROW	Right-of-Way
RSA	Revenue Service Availability
RSD	Revenue Service Date
SCC	Standard Cost Category
SCIL	Safety Certifiable Item List
SEIS	Supplemental Environmental Impact Statement
SIT	Systems Integration Test
SOP	Standard Operating Procedure
SSCC	Safety and Security Certification Committee
SSCP	Safety and Security Certification Plan
SSCVR	Safety and Security Certification Verification Report
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSTC	Silver Spring Transit Center
STP	Surface Transportation Program
SWM	Stormwater Management
TBD	To Be Determined
TCE	Temporary Construction Easement
TCIR	Total Case Incident Rate
TDD	Transit Development and Delivery
TIFIA	Transportation Infrastructure Finance and Innovation Act
TPSS	Traction Power Substation
TRO	Temporary Restraining Order
TUN	Temporary Use Notice
TVA	Threat and Vulnerability Assessment
UMD	University of Maryland
USACE	U.S. Army Corps of Engineers
WMATA	Washington Metropolitan Area Transit Authority
WSSC	Washington Suburban Sanitary Commission
YOE	Year of Expenditure
YTD	Year-to-Date

ATTACHMENT B – TOP PROJECT RISKS

An internal risk workshop to support the Interim Recovery Plan was held on January 26, 2021. Maryland Transit Administration (MTA) and Purple Line Transit Partners used information from the meeting as they solicited a replacement Design-Build contractor.

A risk workshop was held May 3 through May 5, 2022. After the risk workshop, MTA prepared supplementary or updated documents for review, including an updated Risk Register. The Federal Transit Administration (FTA) provided a risk summary to MTA on June 22, 2022, for MTA's consideration when updating risk, contingency, and other project management plans. MTA incorporated the FTA comments in the revised Risk and Contingency Management Plan (RCMP) that is a part of the Final Recovery Plan. On May 22, 2023, FTA accepted the revised RCMP with conditions.

During the February 7, 2024 Quarterly Progress Review Meeting, MTA presented cost and schedule contingency drawdown curves that indicated significant commitment of contingency reserves. Due to this significant commitment of contingency and the fall 2023 completion of the MTA-managed Operation Step Forward activities, MTA determined that an update to the Risk Register was warranted.

In June 2024, MTA identified the following top risks:

Cost Risks:

1. ***Unknown Unknowns***
2. ***Remaining Right-of-Way Negotiations***
3. ***Temporary Construction Easement Extensions***
4. ***Disputes***

Schedule Risks:

1. ***Signal Cabinet Testing***
2. ***Permit Compliance***
3. ***Unknown Unknowns***
4. ***Performance Due to Nonconforming Work***

As a follow-up to the Risk Management Committee meeting ***and the significant changes to the project budget and schedule associated with Amendment 7 to the P3 agreement***. MTA ***prepared*** a Quantitative Risk Assessment (QRA). The results of the QRA will be used to re-baseline the project's contingency drawdown curves and update the RCMP. MTA provided a preliminary risk update and QRA, including contingency recommendations, in June 2024. ***Preliminary recommendations for cost contingency and schedule contingency are $179.5 million and 11 months, respectively.***

ATTACHMENT C – AWARDED CONTRACTS

Included below is information that MTA provided for the May 8, 2024 Quarterly Progress Review Meeting packet. Please note that the total shown in this table for contracts awarded does not reflect the full project value.

Major Contracts:

Company	Vendor Type	Contract No.	Baseline Amount	Change Order Totals	Current Amount	Pending Change Orders
PB/RK&K	Engineers/ Architects	MTA-1054A	$ 12,000	$ 1,850	$ 13,850	
STV/Jacobs	Engineers/ Architects	MTA-1054B	$ 8,000	$ 1,300	$ 9,300	
AECOM/ RK&K/WSP	Engineers/ Architects	MTA-1264A	$ 60,000	$ 338,500	$ 398,500	
Gannett Fleming/WRA	Engineers/ Architects	MTA-1265B	$ 80,000	$ 71,000	$ 151,000	
Purple Line Transit Partners	P3 Concession (design build portion only)	PUR16032PP	$ 1,988,816	$ 1,933,769	$ 3,922,585	
Total			**$ 2,148,816**	**$ 2,346,419**	**$ 4,495,235**	**0**

Reason for Change: *Amendment 6 to the Purple Line Transit Partners P3A was not been previously reflected. The amount shown as "Current Amount" represents that portion of the P3A Design-Build contract associated with the New Starts Program.*

ATTACHMENT D – ROLLING STOCK VEHICLE STATUS REPORT

Date: June 29, 2024

Vendor: Construcciones y Auxiliar de Ferrocarriles (CAF)

Model: Multiple-section 136-foot articulated car (total length is 142 feet coupler-to-coupler), used in a five-car consist per vehicle

Year: The first vehicle was completed in 2021, and currently 26 vehicles are designated as "Ready for Shipment." Completion of the storage and testing facilities at the Glenridge Operation and Maintenance Facility (OMF) has been delayed, so Maryland Transit Administration (MTA) and CAF negotiated terms for storage of vehicles at the CAF facility in Elmira, New York. The storage agreement has now transferred to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS).

Quantity: 25 vehicles (125 cars) were in the original contract (Full Funding Grant Agreement [FFGA]). One vehicle (five cars) was added to the original CAF authorization by MTA, outside of the FFGA.

In July 2021, two vehicles (ten cars) were added via change order to MTS, also outside of the FFGA.

Identification: The original light rail vehicles (LRVs) will be numbered from 101 through 126. The two additional LRVs will be numbered 127 and 128, respectively.

New Technologies: None planned (all major suppliers have service-proven equipment).

Status and Significant Activities:

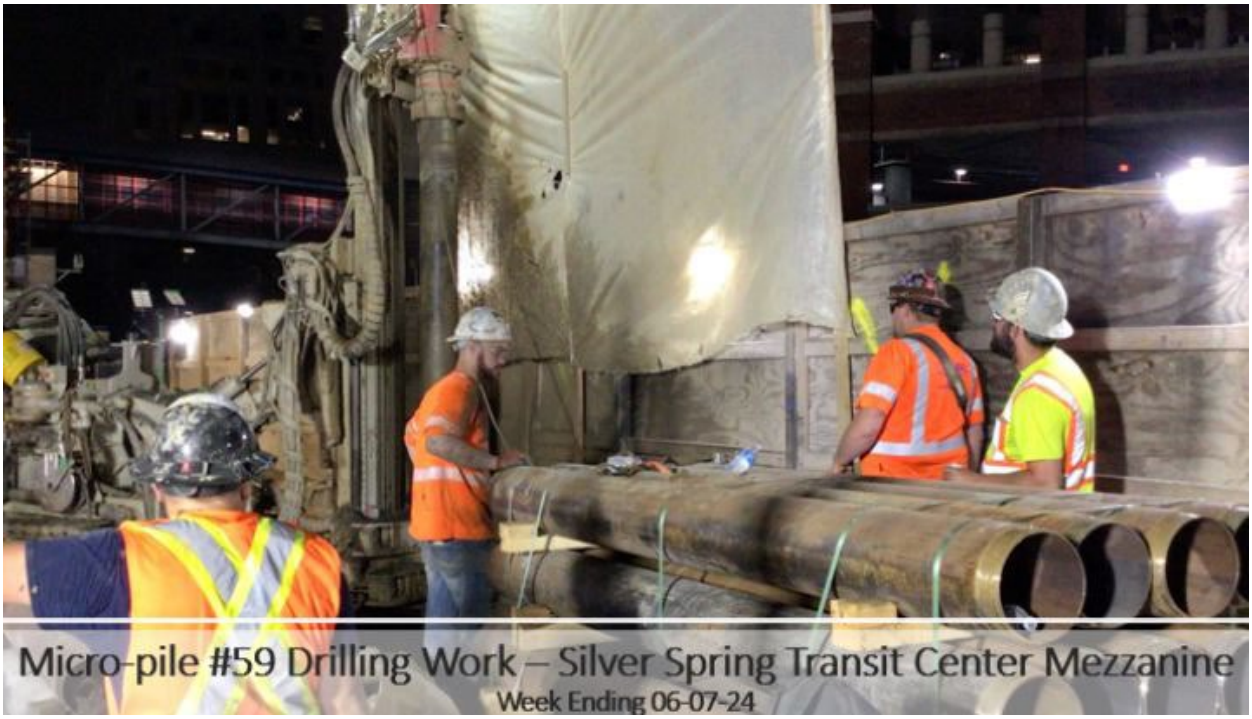
- As a part of the original order, 26 vehicles (130 cars) were assembled in Spain and delivered to CAF's facility in Elmira, New York, for final assembly and static testing. The additional two vehicles (ten cars) have been delivered to Elmira for final assembly and static testing.
- Delivery of finished vehicles was expected to begin in spring 2021; however, because the Glenridge OMF was not ready to accept railcars, MTA and CAF negotiated an agreement for CAF to store the completed cars in Elmira.
- Cost risk for delivery of the finished vehicles has been transferred to MTS. If delays in construction cause a delay, then MTS is responsible to CAF for additional storage cost.
- The first LRV was delivered to the Glenridge OMF on May 15, 2024. The second vehicle delivery occurred in mid-June 2024. CAF intends to have one vehicle per month delivered until such time as that frequency can be increased.

- Twenty-five LRVs have passed static testing, have been designated as Ready for Shipment, and are in storage in Elmira. These include vehicle 110, which was returned to Ready for Shipment status after a second period in static testing.
- The Glenridge OMF will be able to store three or four vehicles in the building, so additional track must be available for additional storage. The Overhead Contact System and Traction Power Substation (TPSS) Q7 and TPSS QYG must be completed and installed before operation of the vehicles.
- SNC-Lavalin (now an MTS subcontractor) prepares a monthly quality report documenting safety, production, and quality items at the New York production facility.
- MTA, the Project Management Consultant, and CAF are holding weekly coordination meetings to review all outstanding testing and factory/shop activities, including onsite testing procedures that are used when the vehicles are delivered to Maryland.
- MTS, which has assumed the CAF contract, is preparing and submitting to MTA reports on LRV maintenance activities required during the storage period.
- The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with the evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to Federal Transit Administration (FTA). On that same day, Maryland Department of Transportation also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.
- The resolution of previously identified quality issue related to the M33 bolt on the LRV trucks is not fully closed as of June 2024. Additional failures occurred in November and December 2023, and the truck manufacturer in Germany performed additional tests. MTA previously indicated that CAF was performing a Root Cause Analysis (RCA) for this issue. In January 2024, CAF concluded that the main/root cause of the issue was a misalignment of the bolts during assembly. In January and February 2024, CAF examined 50 gear boxes that included the M33 bolt and determined that an alignment issue prior to torquing the M33 bolt is the likely cause of the issue. CAF performed a sample installation of 48 bolts on 12 LRVs using a modified procedure. As of April 2024, all of the sample installations performed adequately, so the RCA will be completed in July 2024. After the RCA is completed, maintenance manuals will be modified, and needed tools will be provided to PLTO. CAF does not believe the issue will impact delivery of the vehicles, which is scheduled for July or August 2024.

ATTACHMENT E – PROJECT MILESTONES/KEY EVENTS

Photos courtesy of Maryland Transit Administration.







Site View Elevator Pit Excavation Work – Lyttonsville Station
Week Ending 06-14-24



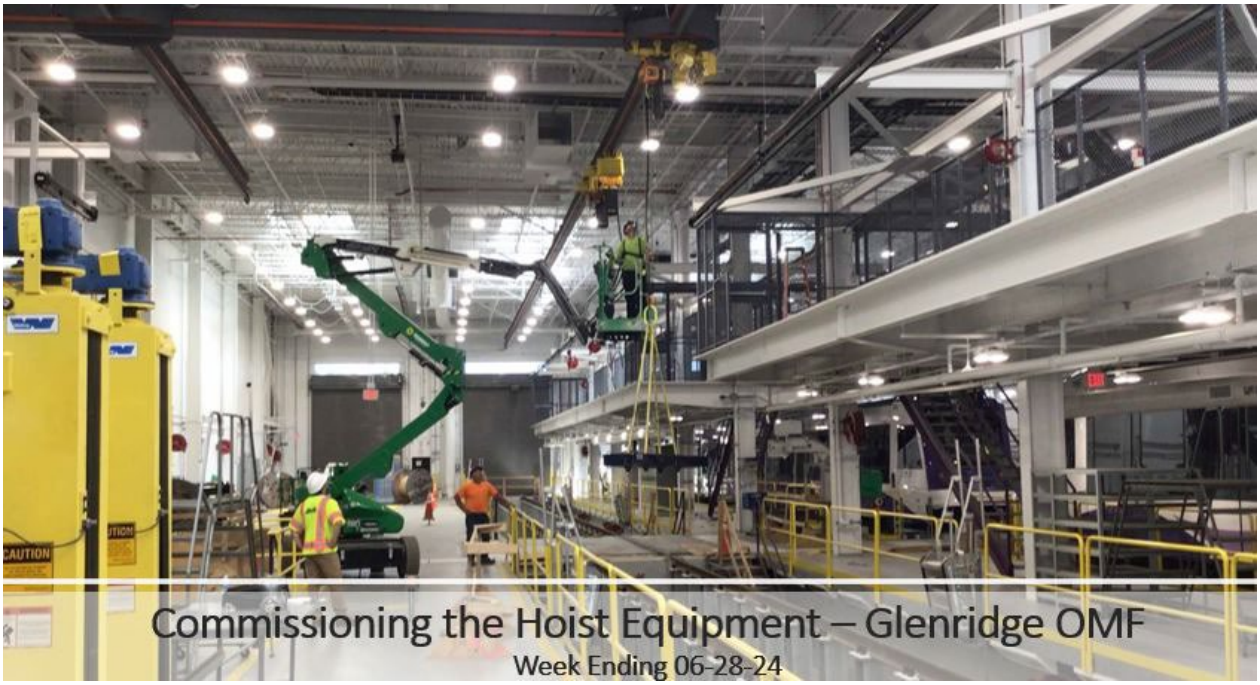
Stair Column Installation Work – Silver Spring Transit Center
Week Ending 06-14-24


Embedded Track #2 Concrete Placement – Campus Drive-UMD
Week Ending 06-21-24


Platform Slab Prep for Concrete – College Park-UMD Station
Week Ending 06-21-24



Site View Looking North Yard Work Progress – OMF Glenridge
Week Ending 06-28-24



Commissioning the Hoist Equipment – Glenridge OMF
Week Ending 06-28-24

ATTACHMENT F – ROADMAP TO REVENUE OPERATIONS

In accordance with Oversight Procedure 25, the Project Sponsor will prepare the Roadmap to Revenue Operations template based on the current master project schedule, in the general format presented below. The PMOC provided this template to the Project Sponsor as a separate electronic file for its use. The Project Sponsor is requested to provide quarterly updates for review and discussion. MTA provided the quarterly update for the roadmap, shown below, ***in May 2024.***

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Testing								
Finalize Comprehensive Test Plan	PLTP/MTS/ Sener	See Notes	In Progress	5/31/24		**T & C Management Plan** – Accepted **Project Test Program Plan** – Accepted **LRV Test Plan** – Accepted. All factory and site test procedures Accepted. **TCS Test Plan – Local** – Accepted. All factory test procedures submitted, 10 of 11 Accepted. 18 of 37 site test procedures submitted, 12 Accepted **TCS Test Plan – Integration** – Awaiting Submittal **TCS/Traffic/CMS Test Plan** – Awaiting Submittal **TPSS Test Plan** – Accepted. All factory test procedures submitted and Accepted. 20 of 24 site test procedures submitted and Accepted. **OCS Test Plan** – Accepted. Factory test procedures prepared by previous contractor and reviewed by PLTC/Atkins. 3 of 14 now submitted to MTA and Accepted. 3 of 13 site test procedures submitted, 2 Accepted. **Communications Test Plan** – Accepted. 20 of 25 factory test procedures submitted and Accepted. 2 of 51 site test procedures submitted and Accepted. **CMS Test Plan** – Accepted. 57 of 59 factory test procedures submitted, 51 Accepted. 0 of 53 site test procedures submitted. **Fire & Security Test Plan** – Accepted. 19 of 19 factory test procedures submitted and Accepted. 5 of 31 site test procedures submitted and Accepted. **Fare System Test Plan** – Awaiting Systems Design **Traffic** – QC with AHJs **EMI Test Plan** – Accepted **CCG Test Plan** – Accepted **Noise & Vibration** – MTS Reviewing **OMIS Test Plan** –CMS Integration added to CMS TPP. OMIS functionality TBD after completion of design.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Ops Simulator Test Plan TPP is pending completion of design. **Trackwork** – Unofficial draft received and comments returned. Awaiting official submittal. **OMFs Test Plan** –Responses received to previous Glenridge submittal – in resolution. Plan for Lyttonsville will be submitted as a separate document. **Station Electrical** – Under Study by MTS/Sener **Fire Protection, Mechanical, Plumbing** – Under Study by MTS/Sener		
Finalize / Update Systems Integration Test (SIT) Plan	PLTP/MTS/ Sener	In Preparation	In Progress	May 2024		Awaiting update of DRC# 3644, CW-164, Systems Integration Test Plan Revised document received – DRC #1066. Currently in review.		
Develop Testing Schedule and Monitoring Tools	PLTP/MTS	In Progress	TBD	TBD				
Develop Operating Rules for Testing	PLTP/MTS	In Preparation	In Progress	July 2024		Construction Railway Operations Rules & Procedures (CRO) is largely complete. Final edits to the CRO being made by MTS's new Yard Master. Final CRO due by end of May/early June. Training on CRO scheduled to begin in Jul 2024.		
Conduct System Integrated Testing - Prioritized Traffic Signal Systems	PLTP/MTS	In Progress	TBD	TBD				
Certificates of Occupancy / Substantial Completion	Maryland Office of the State Fire Marshal	Glenridge OMF – In progress.				As state-owned property, no certificates of occupancy are issued. The AHJ ensures building is safe through various system inspections to include fire protection systems, elevators, etc. AHJ will take no exception to occupancy if inspections pass.		
Finalize Operating Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept. 2025 Sept 2026		Projected start of Trial Running: March 2027 (based on May 2024 Project Schedule Update): Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running
Finalize / Revise Standard Operating Procedures (SOPs),	PLTP/PLTO	See Note	TBD			Included as part of the Operating Plan.		Rulebook, SOPs and EOPs to be submitted for review and

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
manuals, and rulebook as applicable				Sept. 2025 Sept 2026		Projected start of Trial Running: March 2027 (based on May 2024 Project Schedule Update): : Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running. Revisions to operating/maintenance/emergency rules/procedures may occur during the testing and commissioning period. CRO undergoing final edits. CRO to become effective prior to commencement of regular movements of vehicles within the yard (Refer to Develop Operating Rules for Testing above)		approval no later than 6 months prior to Trial Running. Preliminary submittal of Operations manuals for review and comment due no later than 18 months prior to Trial Running. Final submittal of Ops manuals for review and approval due no later than 6 months prior to Trial Running
Complete Staffing Plan	PLTP/PLTO	On-going				PLTO has developed a draft staffing and hiring plan that is tied to the approved project schedule. Hiring plan subject to change based on project schedule changes.		
Obtain Required Staff T&C Support Staff	PLTP/PLTO/ MTS PLTO	On-going	Various March 2024	March 27 Fall 2024		Recruitment and staff hiring based on project schedule. PLTO staffing (operators and dispatchers/controllers) to support vehicle dynamic testing has been coordinated with CAF. Onboarding of other PLTO support staff for vehicle maintenance (after vehicle acceptance) and test track maintenance tied to vehicle delivery dates and start of vehicle dynamic testing (Fall 2024) **PLTO Current On-site Staffing:** General Manager Dir. of Maintenance CFO/Admn Manager Facilities Maintenance Manager Systems Engineer Structural Engineer HR Manager Buyer/Procurement Specialist **(pending job offer acceptance)** Warehouse Supv Dep Director of Ops **(accepted job offer)** Vehicle Maintenance Superintendent Rail Operators (6 - for T&C Support).		

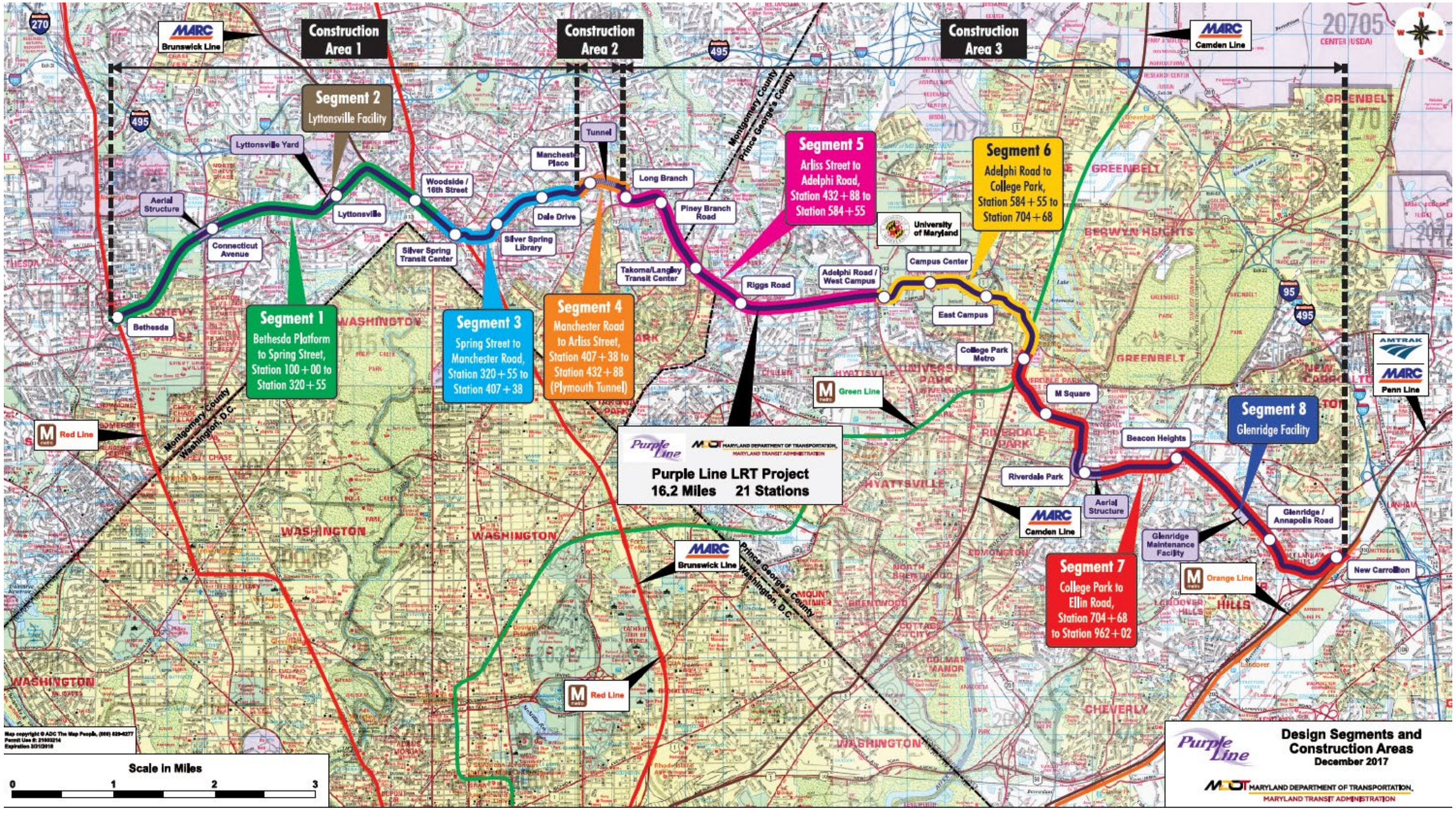
Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Current On-site Staff supported by various home office operations and engineering staff and consultants such as Safety & Operations, Vehicles, Systems, etc. **Near Term Hiring:** Facilities Maintainer Vehicle Maintenance Technician **(interviews being conducted (1 initially)** Training Instructor – **Interviews completed Candidate selected. Job offer pending** Sr Track Maintenance/Inspector Train Dispatchers (2) Accountant All OMF building maintenance contracts have been executed with the exception of contracts for the cranes, turntables, hoist which are still under MTS responsibility. Anticipate turnover of equipment to PLTO in the near future		
Training of Operations and Maintenance (O&M) personnel	PLTP/PLTO/ MTS	On-going	Various	March 2027		**For Testing & Commissioning Support:** Six (6) LRV Operators have received initial familiarization training on the vehicles in Elmira. Those operators will be used to support vehicle dynamic testing and training of full-time operators in the future training at Elmira completed. PLTP/MTS developing training plans for testing & commissioning rules, procedures, and requirements. PLTO will need to be fully staffed prior to the start of Trial Running in March 2027.		
Emergency response plan, training, and drills Initial Training for OMF/Test Track and Vehicles	PLTP/PLTO/ MTS	Various Ongoing	Feb. 2024 July 2024	Jan. 2027 Aug. 2024		Emergency response drills to be conducted during Trial Running. Initial Training for up to 150 first responders will be initiated between PLTP, PLTO, and Prince George's County in Summer 2024. Training schedule being coordinated with the First Responders Training program developed. Undergoing final review by PLTO		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Finalize Revenue Operations Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept 2025 Sept. 2026		Projected start of Trial Running: March 2027 (based on May 2024 Project Schedule Update): Revenue Operations/Service Plan included as part of Operating Plan. Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		
Develop / Revise Safety and Security Certification Plan (SSCP) & Safety and Security Management Plan (SSMP)	MTA	On-going	SSMP – 2/02/2011 SSCP – 8/31/2012	TBD		SSMP is currently on revision 14 and the SSCP is on revision 8. The SSMP is updated in conjunction with the PMP as it is considered a sub-plan.		
Federal Transit Administration (FTA) Office of Safety & Security Readiness Review	FTA	See Note	TBD	TBD		No updates at this time		
PMOC OP-54 Readiness for Revenue Operations Review Report	PMOC	See Note	TBD	TBD		No updates at this time		
Conduct Operational Hazard Analysis (OHA) and resolve other hazards / vulnerabilities	PLTP	See Note	TBD	TBD		No updates at this time		
Pre-Revenue Operations	PLTP/PLTO	See Note	March 2027	Dec. 2027		Pre-revenue Operations broken down into: Trial Running and System Demonstration Testing. Projected start of Trial Running: March 2027 (Based on May 2024 Project Schedule Update)		
Develop Safety Outreach Plan	MTA/PLTP	Not Started	TBD	Sept. 2025 Fall 2024		Projected start of Trial Running: March 2027 (Based on May 2024 Project Schedule Update): Outreach Plan to be developed 18 months before Trial Running. Outreach plan for test track OCS energization and start of vehicle dynamic testing under development. To be		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						completed and rolled out prior to energizing the test track		
Provide Community Outreach	MTA/PLTP	Not Started	TBD	Fall 2024		Outreach plan for test track OCS energization and start of vehicle dynamic testing under development.		
Public Timetables / Maps / Website Updates, etc.	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time.		
Grand Opening Plan	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time		
Update / Finalize SSMP	MTA					See previous SSMP entry.		
Finalize and/or update Safety Certifiable Item List (SCIL) and SSCP	MTA/PLTP	On-going	TBD	TBD		No updates at this time.		
Implement Safety and Security Certification Committee	MTA	On-going	April 2018	TBD		The SSCC has been ongoing since 2018.		
Implement Fire Life Safety Committee	MTA	On-going	7/27/2012 – Montgomery County 9/26/2012 – Prince George's County	TBD	TBD	MTA has implemented two FLSSCs, one for each Maryland County that Purple Line traverses. Both committees were started in 2012.		
Verify design criteria, Preliminary Hazards Analysis (PHA), Threat and Vulnerability Analysis (TVA), change orders are implemented within the project	MTA/PLTP	On-going	PHAs - 6/26/2012 TVA – 12/10/2013 Change Orders	TBD	TBD	PLTP has verified over 98% of the design criteria. Initial PHAs on the 30 % Preliminary Design started in 2012 by MTA. PLTP continued PHAs in 2016. Initial TVA completed in 2015 by MTA. PLTP continued in 2017. MTS has initiated a cybersecurity TVA.		
Review status of quality non-conformances		See Note				No updates at this time.		
Closeout of non-safety critical items/non-conformances		See Note				No updates at this time.		
Closeout of safety critical items/nonconformances	MTA/PLTP	Not started	TBD	TBD		No updates at this time.		
Complete Safety and Security Certification Verification Report (SSCVR)	PLTP	Not started	TBD	May 2027		This report will be due sometime in the May 2027 timeframe.		
Document Workarounds / Open Items List	PLTP	Not started	TBD	TBD				
Verify emergency drills, tabletops, training, etc. are completed	MTA/PLTP/ PLTO		TBD	TBD		Emergency drills to be conducted during the Trial Running period. Training verification will be completed prior to Trial Running.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
SSO final certification / signature	SSO					No updates at this time		
Revenue Service								
Target Revenue Service Date (RSD)	PLTP		TBD	Dec. 2027		Project schedule dependent.		
Public RSD	MTA/PLTP		TBD	Dec. 2027		Project schedule dependent.		
Full Funding Grant Agreement (FFGA) RSD						No updates at this time.		

ATTACHMENT G – PROJECT MAP



PMOC MONITORING REPORT
July 2024

National Capital Purple Line Light Rail Transit Project
Montgomery and Prince George's Counties, Maryland

Maryland Transit Administration
Baltimore, Maryland
FINAL

Draft Report Delivered to FTA on ***August 12, 2024***
Final Report Delivered to FTA on ***August 23, 2024***

PMOC Contract No.: 69319519D000016
Task Order No.: 69319520F300095
Project No.: 69319519D000016/69319520F300095
Requisition/Reference No.: FTA-TPM20-20-0106
OPs Referenced: 20, 22, 23, 24, 25, 26, 37, 40
CLINs 0001, 0002, and 0005

David Evans and Associates, Inc.
Pete Hankovszky, Task Order Manager
Voice –720.448.6730; Email – pzh@deainc.com
Time on Project: 05/18/2020 through 05/17/2025

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract #69319519D000016, Task Order #69319520F300095. Its purpose is to provide information and data to assist FTA as it continually monitors the management capacity and capability of the Maryland Transit Administration (MTA) (the Project Sponsor) to execute the project efficiently and effectively, and hence, whether the Project Sponsor continues to be ready to receive federal funds for further project development. This report covers the project management activities on the National Capital Purple Line Light Rail Transit Project managed by MTA as the Project Sponsor and financed by the FTA Full Funding Grant Agreement (FFGA). The cost and schedule information in this report was extracted from MTA's submitted information except where noted. The report is organized to comply with the requirements of updated Oversight Procedure 25 – Recurring Oversight and Related Reports, dated June 2020.

THIRD-PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for FTA. This report should not be relied upon by any party, except FTA or the Project Sponsor, in accordance with the purposes as described below.

For projects funded through the FTA FFGA program, FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a Project Sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a Project Sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a Project Sponsor may develop for project execution. Therefore, the information in the monthly reports will change from month to month, based on relevant factors for the month and/or previous months.

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1 EXECUTIVE SUMMARY

1.1 Project Description

The National Capital Purple Line (Purple Line) is a 16.2-mile east-west light rail transit (LRT) line extending inside the Washington, DC Beltway from Bethesda in Montgomery County, Maryland, to New Carrollton in Prince George's County, Maryland. The Purple Line will operate largely at street level in a combination of dedicated and semi-exclusive right-of-way (ROW) and includes segments on elevated structures and in tunnels. The alignment for the Purple Line will provide direct connections to Washington Metropolitan Area Transit Authority (WMATA) service at Bethesda, Silver Spring, College Park, and New Carrollton, Maryland. The project will also connect to all three Maryland Area Regional Commuter rail lines, Amtrak, and local bus routes. The project includes 21 stations, 2 operations control/vehicle storage and maintenance facilities, and 28 light rail vehicles (LRVs). Twenty-five of the LRVs are included in the Full Funding Grant Agreement (FFGA), and the remaining three vehicles are state funded. Maryland Transit Administration (MTA) is executing the project using a Public-Private Partnership (P3) method of project delivery.

As documented in the Federal Transit Administration (FTA) FFGA, the original estimated project cost was $2,407,030,289, and the scheduled Revenue Service date (RSD) was December 31, 2022. On January 26, 2022, the Maryland Board of Public Works (BPW) approved significant revisions to the project cost and the Revenue Service Availability (RSA) date. The new Transportation Infrastructure Finance and Innovation Act (TIFIA) loan closed on April 14, 2022. Financing approvals and subsequent financial close allowed Purple Line Transit Partners (PLTP), the P3 concessionaire, to issue Notice to Proceed (NTP) to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS). MTA prepared a Final Recovery Plan (FRP), which FTA accepted on April 17, 2023, and which had a revised project cost of $5,116,020,380 and a revised RSD of February 28, 2028. In conjunction with the FRP, MTA submitted multiple management plan updates for FTA and Project Management Oversight Contractor (PMOC) review and acceptance. On March 13, 2024, MTA received approval from the BPW to increase the total construction cost to approximately $5.51 billion. This change to the construction cost, and also a change to the construction schedule, was due to project changes and delays. MTA is currently developing additional budget and schedule contingency recommendations. Preliminary recommendations for revised cost contingency and schedule contingency, based on a July 2024 Quantitative Risk Assessment (QRA), are $179.58 million and 11 months, respectively. ***The PMOC is in the process of validating the results of MTA's QRA and draft recommendations will be provided to FTA in August 2024.***

1.2 Project Status

The FFGA was executed on August 22, 2017. The Purple Line project is currently in the construction phase. Due to a contractual dispute, PLTP demobilized the assets/staff and subcontractors of the original D-B contractor, Purple Line Transit Constructors (PLTC), from the project in September 2020.

After a procurement process for a replacement D-B contractor, PLTP selected MTS (a joint venture of Dragados USA and OHL USA) and executed a contract with MTS on April 14, 2022.

MTA chose to proceed with several major project elements once PLTC was released from the project. MTA's planning criteria included schedule, budget, and the reduction of risk for the replacement D-B contractor. MTA and its Project Management Consultant (PMC) added staff to support subcontractor invoicing, payment processes, and other administrative tasks.

MTA managed, in a general-contractor-type role, a significant number of construction activities during MTA's Interim Recovery Plan (IRP) period, called Operation Step Forward (OSF). During that time, several OSF activities fell behind schedule, and delays related to third-party utility relocations and other unforeseen issues caused MTA to miss milestone dates included in MTA's revised agreements with PLTP that were executed in April 2022. Through October 2023, MTA executed two change orders caused by delays in OSF activities. In early November 2023, MTA completed the OSF activities. As of March 2024, MTA and MTS reached an agreement on the budget and schedule impacts resulting from OSF delays and other disputes. This agreement resulted in an additional ***$577.46 million*** in construction cost and a revised RSA date of December 30, 2027. The agreement is essentially a large change order that resolves several disputes and contract modifications. This contract change is referred to as Amendment 7 to the P3 Agreement.

Construction continues under the management of MTS, including activities and elements such as erosion and sediment control maintenance, bridge structures, platform construction, retaining walls, the Glenridge Operation and Maintenance Facility (OMF), and utility installation. The Polk Street Maintenance Facility (for Prince George's County Parks) is complete, and the Paint Branch stream restoration and the Ken-Gar wetlands mitigation projects are complete except for warranty periods.

Completion of the Glenridge OMF has been on or near the critical path and continues to be a focus. MTS assumed control of the facility as of March 2024, and the disputes regarding the completeness of the OMF work that PLTC and MTS had performed now have been fully resolved. MTS is installing rail, utilities, and other elements both inside and outside of the building.

Delayed completion of the OMF construction upon PLTC's departure required an alternative location to store completed LRVs. MTA reached an agreement with Construcciones y Auxiliar de Ferrocarriles (CAF) to store the LRVs at CAF's Elmira, New York facility until track is ready for delivery of the LRVs. MTS assumed the storage agreement with CAF upon finalization of the replacement D-B contract. The first LRV delivery occurred on May 15, 2024, and as of ***July 2024, three LRVs have been unloaded and stored at the Glenridge OMF.*** Purple Line Transit Operators (PLTO), the entity that PLTP has under contract to operate the light rail system, assumes storage and maintenance responsibilities of the LRVs as they are delivered.

MTA revised and submitted the Project Management Plan (PMP), Risk and Contingency Management Plan (RCMP), Quality Assurance Plan (QAP), project schedule, Safety and Security Management Plan (SSMP), and Safety and Security Certification Plan (SSCP). On December 28, 2023, FTA accepted SSCP Version 7, concluding the FTA and PMOC reviews of the management

plans that MTA had revised in conjunction with the FRP. Then, in April 2024, MTA transmitted to FTA SSCP Version 8, which incorporates review comments from Maryland Department of Transportation (MDOT), the State Safety Oversight Agency (SSOA) for the project, and incorporates the Temporary Use Notice (TUN) process. A TUN is required to allow for the start of testing of the LRVs in fall of 2024. ***FTA accepted SSCP Version 8 on July 9, 2024.***

MTA provides FTA and the PMOC with updates on the progress of MTS construction activities, MTA oversight activities, and other monthly updates that track project progress.

- Scope: There have been no significant reductions or changes to project scope. Three LRVs were added to the project scope (non-FFGA) to support improved operations once service commences.
- Schedule:
    - PLTC never developed an approved recovery schedule to address the delayed start of construction caused by the environmental lawsuit (please see the **NEPA Process and Environmental Mitigation** section, below, for a discussion of the environmental lawsuit).
    - MTA developed an IRP schedule for the period during which the initial D-B contractor, PLTC, was being replaced. The subsequent FRP included a revised RSD of February 28, 2028.
    - See also the **Significant Project Activities and/or Key Milestones** subsection of this Executive Summary, below.
    - Table 1 presents MTA's key milestone dates for the project. The schedule in the FRP incorporated the results of the previous (2022) QRA and processes described in MTA's RCMP. The FRP schedule included a contingency of 16 months. However, the delays attributed to OSF activities consumed most of the contingency in the FRP schedule. The utilization of a large portion of the schedule contingency in the early stages of MTS's contract is a very significant concern. To address this concern, MTA's revised master baseline schedule (July 2024) includes 11 months of additional schedule contingency, as recommended in the MTA-prepared June 2024 QRA.
    - To clarify schedule terminology used by MTA: The RSA date is a contractual date critical to the agreement between MTA and PLTP. The RSD is the contractual date tied to FTA FFGA funding and other project approvals.
    - Two executed change orders related to delays attributed to OSF activities extended the project RSA date by 207 days to May 24, 2027. Then, as of March 2024, MTA and MTS have agreed to an extension of the RSA date to December 30, 2027, adding another 250 days. MTA has assessed schedule risk to determine whether there is sufficient project schedule contingency, and in June 2024, MTA submitted a QRA to FTA and the PMOC for review.

Table 1 – MTA Master Project Schedule Dates

Activity	Current MTA Master Project Schedule (*July 23, 2024*)
Original FFGA	August 22, 2017
Financial Close / NTP / Amendment Agreement Effective Date for Revised PLTP Agreement	April 14, 2022
Commencement of Integration Testing	September 2, 2025
Commencement of Trial Running	May 27, 2026
Construction Complete All Segments	November 12, 2026
RSA Date	December 30, 2027
FFGA RSD	February 28, 2028
July 2024 RSD, Including Contingency*	December 29, 2028

*Note: MTA has not yet formally requested this revised RSD, and FTA has not yet accepted it.

- Cost:
  - The project's documented expenditures are ***$3,619,664,375 through June 30, 2024***. The Estimate at Completion (EAC) for the project (construction, management, and LRVs) is now $5,507,020,380. This recently revised EAC includes ***$577,459,709 of additional cost*** attributed to Amendment 7 of the P3 Agreement. MTA currently assigns the additional cost to Standard Cost Category (SCC) 80.06 Legal; Permits; Review Fees.
  - The accepted project cost (before approval of Amendment 7) included $307,293,174 of unallocated cost contingency. ***MTA reported in June 2024 that $95,203,782 of that amount remained. The MTA June 2024 QRA recommends an unallocated contingency of $179.58 million, and MTA indicates that reallocation of unused contingency and additional funding will be utilized to provide that recommended amount of unallocated contingency. The PMOC continues its efforts to validate project contingency.***
  - In some months, SCC 80 expenditures by MTA and MTS are as much as 50 percent to 100 percent of the expenditures for SCCs 10 through 50 combined. The PMOC has questioned MTA about this significant amount of SCC 80 expenditures each month. In May 2024, MTA explained that a portion of the SCC 80 expenditures are settlement payments to MTS and PLTP and not true management and administrative costs. ***As of July 2024,*** it remains unclear to the PMOC why the large Amendment 7 reimbursements to MTS are included in SCC 80. The PMOC has requested clarification in conjunction with review of the MTA QRA. MTA estimates that the ***July 2024*** management and administrative expenditures as a percentage of total expenditures are ***approximately 16 percent.***
  - Refer to **Table 4 – Core Accountability Items**, in Section 1.5 below, for additional project cost information.

- The budget includes funds to address nonconforming construction by PLTC. MTA incorporated known defects into the contract with MTS. However, MTA must pay to address any defects unknown at the time of execution of the MTS contract. In February 2023, MTA estimated the total cost of these unknown defects to be approximately $10 million. MTA and MTS have evaluated the nonconforming PLTC work as well as several other disputes. The disputes are included in Amendment 7, and MTA reports that the execution of the amendment in March 2024 resolved all disputes. However, Amendment 7 includes a provision for additional compensation to MTS if, in the future, other defects are discovered in previous PLTC or MTA construction.

- Significant Project Activities and/or Key Milestones:
  - The COVID-19 pandemic impacted the project in different ways and at different levels. The impacts were primarily related to availability of resources and labor. MTA, the PMC, and other project staff followed recommended COVID-19 protocols. On January 30, 2023, MTA suspended COVID-19 protocols for the project.
  - The third lawsuit filed by the Friends of the Capital Crescent Trail in January 2019 against U.S. Army Corps of Engineers (USACE) was dismissed in April 2020. The plaintiff subsequently filed an appeal on May 11, 2020. The District Court denied the appeal on May 13, 2021. The decision resolved the last active lawsuit related to the project.
  - The original baseline schedule indicated design completion by late fall 2017. The progress through ***July 29, 2024***, is that 215 of the 218 total planned design packages have been issued as Released for Construction (RFC). The packages that remain in design or approval include fare collection, the fire management system at the WMATA/Silver Spring Transit Center (SSTC) combined station, and the train control system. The most significant remaining design package, train control, will not be 100 percent complete until July 2025. Developing equipment specifications and other vendor preparation for the train control package will delay the date that the train control package will be RFC until February 2025. The PMOC observed that MTS indicates that the design portion of its contract is 99.9 percent invoiced and paid. The requirements of MTA's D-B contract with MTS included the payment of all design costs in the first 15 months of initiating the MTS contract, regardless of progress.
  - As of March 2024, disputes related to the cost of design changes that were made after execution of the original agreement with MTS were resolved by Amendment 7 to the P3 Agreement. MTA's team estimated that the amount required to resolve the disputes is approximately $15 million.
  - WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX Corporation [CSX] ROW) will result in what MTA deems are betterments. ***Resolution of WMATA comments for the SSTC is nearly complete as of July 2024. The negotiations related to issues at the Bethesda Station are***

primarily between WMATA and Montgomery County, and MTA reports that the resolution of issues at that location will not impact the critical path.

- Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. One jack-and-bore installation remains to be completed by MTS, and as of ***July 2024,*** is still scheduled for 2024. Coordination of CSX flagging has been a challenge throughout the Purple Line construction. In April 2024, MTS was able to secure a second flagger, allowing more work to occur in the railroad ROW. ***In July 2024, MTA reported that there are occasional gaps in the availability of the second shift flagger.***
- Proposed construction near the SSTC requires significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. MTA is supporting coordination of construction activities that are occurring during the current summer 2024 WMATA shutdown. The Purple Line project is taking advantage of the WMATA service outage to perform work near and above the tracks. ***As of July 2024, a significant number of project activities are in progress during this service outage, and MTA reports that work at the SSTC area is on schedule.***
- PLTC reached resolution on the final remaining Alternate Technical Concept (ATC) identified during the proposal process, which is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA reviewed PLTC's design package for National Environmental Policy Act (NEPA) compliance. ***In July 2024, MTA received approval from FTA for the ATC, indicating*** that the ATC will have no Section 4(f) impacts or other impacts to the project's Record of Decision (ROD).
- MTA has completed all non-P3 construction contract activities.
- Building construction at the Glenridge OMF is essentially complete; however, ***as of July 2024,*** construction of items outside of the building continues, as does final commissioning of systems inside the building.
- Preparation of Traction Power Substations (TPSSs) continues. As of ***July 2024***, preparations for several TPSS deliveries including TPSS Q4 are in progress, ***and TPSS QYL has been delivered***.
- The following is the status of LRV manufacturing as of ***July 29, 2024:***
  - Twenty-five vehicles were in the original FFGA project scope description. One additional vehicle was included in the initial P3 agreement but outside of the FFGA. MTA later added two more vehicles by change order and again outside of the FFGA. The additional LRVs will support better operations at the RSA date. A total of 28 LRVs are included in the P3 scope of work.

- Delivery of vehicles was expected to begin in spring of 2021; however, the Glenridge OMF was not ready to accept railcars. MTA and CAF negotiated an agreement for CAF to store the completed railcars in Elmira to await delivery. The terms of the agreement became a part of MTS's agreement.
- The first LRV delivery occurred on May 15, 2024; the second delivery occurred in June 2024, ***and the third delivery occurred on July 14, 2024***. CAF will continue with one LRV delivery each month but has plans to increase that frequency when possible. The PMOC continues to recommend that MTA expedite the planning and completion of readiness activities for testing and certification of the LRVs.
- The resolution of a previously identified quality issue related to the M33 bolt on the LRV trucks was closed in May 2024. ***In July 2024, MTA provided a confidential report on resolution of the issue. CAF performed a Root Cause Analysis (RCA), identifying a primary root cause, and secondary contributing causes. Validation of the corrective actions was conducted, and the issue is now closed.***
- The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. The audit indicates that the percentage of U.S. domestic content is 66.74 percent, which meets FTA requirements.

- MTA is responsible for providing offsite stormwater mitigation in Montgomery County. To date, MTA has accumulated a credit for more than 10 acres of designed, Maryland Department of the Environment (MDE)-approved, offsite stormwater management (SWM) capacity in its "bank." MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS. Construction of this mitigation site ***began in July 2024.***
- ROW acquisition activities continue for the original required 464 private parcels and 137 public parcels (a total of 601 parcels). All private parcels related to the original P3 contract Exhibit 9 FFGA scope are in MTA's possession for construction. ***As of July 2024***, ***436*** of the 601 parcels have completed settlement, and *7* settlements are pending. Twenty condemnations remain in this ROW acquisition category. The project's Risk Committee rates the cost of ROW acquisitions as a "Significant" risk due to the potential for higher than estimated acquisition costs.
- MTA has identified 188 small property acquisitions that are required for utility relocations, of which 134 are private and 54 are public. As of April 25, 2023, all additional properties were in MTA's possession through Right of Entry (ROE), through options, and/or through agreements. ***As of July 2024,*** 13 condemnations remain in this property acquisition category***, and 5 settlements are pending.***

- To date, 177 required property relocation agreements are complete. Costs for the completed relocations continue to be processed in accordance with the applicable procedures. As of ***July 2024***, there is one relocation offer pending for a property that the former owner still occupies. One additional relocation may be required.
- MTA estimates that the cost for extensions of Temporary Construction Easements (TCEs) has increased due to the project delays included in Amendment 7. These time extensions are one of three risks currently rated as Significant by the project Risk Committee due to the potential need to extend these TCEs, thus increasing their related cost.
- Preparation for safety certification is an ongoing process for MTA, including the development of the appropriate checklists for both design and construction. Design Criteria Conformance Checklists (DCCCs) are more than 99 percent validated. Construction Specification Conformance Checklists (CSCCs) are 20 percent validated. As of July 2024, ***MTS is preparing the Track Certification Plan***, which will include the inspection and testing procedures. Testing is scheduled to begin in late 2024.
- MTA adjusted staffing of management personnel to address the varying activities that MTA was managing during the OSF period. A number of key staff changes have occurred since the OSF period ended and MTA transitioned back to more of an oversight role. In May 2024, Martha Gross was appointed the MTA Transit Development and Delivery (TDD) Executive Director and will oversee the Purple Line project in addition to other State of Maryland transit projects such as the Red Line. Current Purple Line Project Director Ray Biggs will report to Ms. Gross. In June 2024, MTA hired Katina Conn to fill the open Contracting Officer position for the Purple Line project. ***MTA has committed to submitting an updated organizational chart for the project in early August 2024.***
- MTA carefully considered a request from Montgomery County to single-track the Purple Line through the Bethesda tunnel. In April 2021 MDOT/MTA determined that it would not be able to accommodate the request.
- MTA and PLTP coordinated to obtain a modified version of the existing TIFIA loan for the project. On April 14, 2022, the TIFIA loan closed, and all bonds were marketed. MTA was required to update the Transportation Investment Program and State Transportation Investment Program plans to reflect changes in the project.
- MTS is making significant progress toward achieving the project's hiring, wage, and Disadvantaged Business Enterprise (DBE) goals. In May 2024, the Equal Employment Opportunity Officer increased DBE goals by approximately $87 million to reflect the new total construction cost established by Amendment 7 to the P3 Agreement.
- MTA hired a consultant team that analyzed alternatives for providing security and fare enforcement services for the Purple Line. MTA does not currently have existing

facilities or staff that can adequately provide these services because the distance from their location to the Purple Line light rail facilities is too far. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on Memorandums of Understanding (MOUs) with other local jurisdictions, and developing a facility to house the district. In May 2024, MTA provided a brief high-level summary of the police force facility plan. Preliminary feedback from the plan indicates that a new facility to house the Southern District will not be complete until several months after the February 2028 RSD; therefore, temporary facilities will be used until the new facility is complete. The Purple Line team stated that development of the police force facility will be managed by another department at MTA, and the Purple Line team will not report further on the status of the issue. The PMOC continues to recommend that MTA develop a written implementation plan that includes schedule milestones and budget, and provide that plan to FTA and the PMOC for review. ***MTA has committed to submitting to FTA and the PMOC a current summary of key activities and dates related to staffing and training of the police force.***

- Twice annually MTA holds a series of Community Advisory Team (CAT) meetings. These meetings focus on different neighborhoods along the project corridor. The most recent meetings were held on Tuesdays and Thursdays of each week in May 2024. ***MTA has started preparations for the fall 2024 round of CAT meetings, which will be held in October 2024.***

1.3 Major Issues and/or Concerns

Table 2 discusses any major issues or concerns impacting the project's scope, schedule, cost, risks, quality, safety, etc.

Table 2 – Current Major Issues and Concerns

Issue/Concern	According to the PMP, the master project schedule should be updated monthly.
Date Identified	2022.
Status	Ongoing.
Project Sponsor Action	FTA accepted the FRP schedule in April 2023 as the new project baseline schedule. Two significant change orders, both of which are based on delays to OSF activities, have caused a substantial utilization of the schedule contingency outlined in the FRP. In March 2024, a third change order (Amendment 7 to the P3 Agreement) consumed all remaining schedule contingency and resulted in a significant increase in project cost.

PMOC Recommendation	The PMOC continues to recommend that MTA track all schedule elements according to the FRP and report status to FTA and the PMOC each month. MTA should employ additional methods of evaluating schedule progression and performance, including earned-value metrics, to identify issues as soon as possible. The PMOC recommended that MTA secure a mutually agreed-to (with MTS and PLTP) revised baseline schedule before executing any change order that commits compensation for delays. Although Amendment 7 to the P3 Agreement included an agreed-to RSA date, it did not include a revised baseline schedule. MTA reported in June 2024 that it has accepted a revised baseline schedule from MTS and has utilized it to develop an updated MTA master schedule. This revised master schedule incorporates 11 months of contingency, indicating a preliminary RSD of December 29, 2028. Evaluation of the schedule contingency is part of the ongoing PMOC validation of the QRA.
Issue/Concern	Changes in the project have significantly impacted the project cost as reflected in the original FFGA. The April 2023 FRP included a revised project cost estimate and cost contingency intended to address remaining project risks. The March 2024 Amendment 7 to the P3 Agreement included a $577.46 million increase to the project cost and utilized most of the available contingency. Preliminary recommendations in the June 2024 MTA QRA include $179.58 million of project contingency.
Date Identified	September 2020.
Status	Ongoing.
Project Sponsor Action	MTA should continue to monitor project progress against the total project cost estimate. Although execution of Amendment 7 resolved all pending disputes at the time, diligent management of the project cost is still needed considering the quantity of remaining project work and remaining project duration. Although the QRA-recommended contingency is significant, it is less than half of the amount of recently executed Amendment 7.
PMOC Recommendation	The PMOC recommends that MTA carefully consider the results of the preliminary QRA to determine whether the recommended cost and schedule contingencies are adequate.
Issue/Concern	MTA does not have a police force located in proximity to the Purple Line.
Date Identified	September 2022.
Status	As of May 2023, MTA had determined a preferred alternative for providing security and fare enforcement, and had identified several next steps for implementation.
Project Sponsor Action	MTA's preferred security alternative includes the creation of a new Southern District of the MTA Police Department and will require associated staff, operating procedures, and a facility. In May 2024, MTA stated that the Purple Line project team will not be responsible for development of the new facility; instead, a different MTA department will develop the police force facility. MTA committed to provide to the PMOC, by early August 2024, the schedule milestones for ***the staffing and training of the police force.***
PMOC Recommendation	The PMOC recommended that MTA provide a milestone schedule and budget in a written plan. The PMOC continues to recommend that the SSOA be included in the review and comment process for security and fare enforcement.
Issue/Concern	The Lost Time Injury Rate and Total Case Incident Rate have increased significantly since 2022. The current rates are significantly higher than the stated project goals. The PMOC notes that there are inconsistencies in incident reporting between MTA and MTS.
Date Identified	April 2023.

Project Sponsor Action	MTA states that it has increased coordination with MTS on safety through additional biweekly coordination meetings. MTA has acknowledged the need for safety process improvements. In November 2023, MTA stated that MTS had replaced its safety director and added safety staff. In March 2024, MTA increased the amount of safety information included in its monthly status report to FTA. In June 2024, MTS removed the subcontractors' safety incidents from its own statistics. MTA questioned this step and is coordinating with MTS to determine the appropriate safety reporting and safety goal for the project. ***In July 2024, MTA stressed that subcontractors are a critical part of project safety because they make up more than half of the personnel on the project.***
PMOC Recommendation	The MTS safety audit, performed in February 2024, indicated that MTS does not have verification that all subcontractors have safety plans, which is surprising considering MTS has had subcontractors onsite for two years. Based on review of the MTS safety audit, the PMOC recommends that MTA emphasize subcontractor and supplier safety plan verification, and determine a fixed date when verification will be complete. ***Although limited progress has being observed,*** the PMOC continues to recommend that MTA closely monitor safety documentation and develop safety process improvements.
Issue/Concern	***As of July 2024,*** LRV delivery will continue for many months. The next major milestone related to vehicles is dynamic testing, which is scheduled for fall 2024. Plans for those activities need to be completed and reviewed well in advance of testing.
Project Sponsor Action	MTA indicates that plans for readiness activities for LRV delivery are complete. TUNs approved by the SSOA were required to place the vehicles on the tracks. MTA states that the responsibility for readiness activities lies with the P3 concessionaire (i.e., PLTP).
PMOC Recommendation	The PMOC recommends that MTA expedite readiness activities for LRV delivery (inspection, testing, and certification) and that MTA engage sufficient resources to provide oversight of the related P3 concessionaire activities. The PMOC also recommends that MTA expedite the readiness activities for dynamic testing, which is scheduled to begin in the fall of 2024.

1.4 Status of Key Indicators Dashboard (Post-grant)

Table 3 shows the project Key Indicators Dashboard after the FFGA was awarded.

Table 3 – Key Indicators Dashboard

Project Sponsor:				Maryland Transit Administration	
Project Name:				MTA National Capital Purple Line Light Rail Transit Project	
Date:				***July 29, 2024***	
Project Detail					
Oversight Frequency:				**Monthly**	
Element	**Status**			**Prior Status**	**Issue or Concern**
	●	●	●		
	G	**Y**	**R**		
Project Management Plan		●		●	MTA developed an updated PMP that reflects revised project conditions, and in October 2022, MTA submitted a revised PMP to the PMOC and FTA for review. On February 1, 2023, FTA provided its review comments on the PMP, and on April 28, 2023, MTA submitted the second revision of the PMP to FTA. Since 2023, the Purple Line project team has had numerous changes to key staff, including TDD Executive Director, Communications Director, Construction Manager, and Deputy Project Director positions. In June 2024, the project team filled the last remaining

					open significant position of Contracting Officer. ***As of July 2024, MTA is preparing an organizational chart update for submittal to FTA and the PMOC in August 2024.***
Management Capacity and Capability		●		●	Management staff changes within MTA and within the supporting PMC have magnified the need for MTA to focus on Management Capacity and Capability issues. Construction safety and quality processes are specific concerns to the PMOC. In April 2024, MTA indicated that it is developing a revised organizational chart for the quality team in response to PMOC review comments on the QAP. ***As of July 2024, the PMOC has not received this organizational chart.***
Cost*		●		●	MTA developed a revised cost estimate that reflected project conditions at the time of the FRP. Based on PMOC and FTA review comments and a revised MTA QRA, MTA established a budget contingency that appeared appropriate for the stage of the project at the time. However, large executed change orders have required commitment of all budget contingency and a significant construction budget increase. As of June 2024, MTA's preliminary QRA identified the need for $179.58 million of budget contingency, $82.1 million more than the amount remaining in the current project budget.
Schedule		●		●	In May 2024, MTA accepted a revised project baseline schedule from MTS. That schedule holds the previously reported construction completion date (without contingency) of December 2027. In June 2024, MTA incorporated milestones from the revised baseline schedule into the MTA master project schedule. The master project schedule also includes the MTA QRA recommended additional schedule contingency of approximately 11 months.
Quality		●		●	***As of July 2024***, MTA is considering several of the PMOC's quality-related recommendations on quality process improvements.
Safety			●	●	In April 2023, the PMOC noted to MTA that both the Lost Time Injury Rate and the Total Case Incident Rate had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in the incident rates, there continues to be inconsistent tracking and reporting of safety issues. ***In July 2024,*** MTA continues to identify issues related to incident tracking and safety reporting, ***and the project continues to have an incident rate that exceeds project goals.*** The PMOC continues to recommend that MTA increase the emphasis on safety.
Risk		●		●	MTA updated the RCMP and the Risk Register to reflect the changes driven by the FRP and updates to the project management plans. In May 2023, FTA accepted the RCMP but also noted additional comments that MTA should address in future updates to the plan. In November 2023, MTA held a risk workshop and began work on a QRA. MTA provided a QRA in June 2024, and presented the results to FTA and the PMOC in a virtual meeting in July 2024.

Legend	
Green	Satisfactory: No Corrective Action necessary.
Yellow	Caution: Risk/Issues exist. Corrective Action may be necessary.
Red	Elevated for immediate Corrective Action: Significant risk to the health of the project.

1.5 Core Accountability Items

Table 4 shows the core accountability items for the project, including the current status of the project and the major issues and how they are being addressed.

Table 4 – Core Accountability Items

		Original (Grant)	Current Forecast[3]	PMOC Assessment of Current Forecast[3]
Cost	Capital Cost Estimate	$2,407,030,289	***$5,507,020,380***	Unacceptable
Contingency	Unallocated Contingency	$90,535,748	***$166,793,895***	Unacceptable
	Allocated Contingency	$59,500,464	To Be Determined[4]	Unacceptable
	Total Contingency	$150,036,212	***$166,793,895***	Unacceptable
Schedule	Revenue Service Date	12/31/2022	02/28/2028	Unacceptable

Project Progress		**Amount ($)**	**Percent of Total**
Total Expenditures	Actual cost of all eligible expenditures completed to date	***$3,619,664,375***	***65.7%***
Planned Value to Date[1]	Estimated value of work planned to date	Not Applicable (N/A)	N/A
Actual Value to Date[1]	Actual value of work completed to date	N/A	N/A

Contract Status		**Amount ($)**	**Percent of Total**
Total Contracts Awarded	Value of all contracts (design, support, construction, equipment) awarded; % of total value to be awarded	$4,495,235,000	81.4%
Construction Contracts Awarded	Value of construction contracts awarded; % of total construction value to be awarded	$1,953,774,088	35.4%
Physical Construction Completed	Value of physical construction (SCCs 10-50) completed; % of total construction value completed	***$1,301,477,004***	***66.0%***

Rolling Stock Vehicle Status	**Date Awarded**	**No. Ordered**	**No. Delivered**
28 total car sets[2]	First 26 LRVs: 2016 Additional 2 LRVs: January 2022	28 car sets	***3***

Next Quarterly Progress Review Meeting Date:	August 14, 2024

[1]Earned value information is not available.
[2]The approved FFGA includes a total of 25 LRVs.
[3]Amendment 7 to the P3 Agreement has been partially incorporated into MTA's financial reporting ***as of July 2024.*** Amendment 7 added ***$577 million*** to the construction cost of the project. MTA currently is in the process of revising the project cost contingency and schedule contingency. ***As of July 2024, FTA has not accepted the revised EAC.***
[4] MTA has not provided an updated value for allocated contingency after execution of Amendment 7.

2 OBSERVATIONS AND FINDINGS

2.1 Summary of Monitoring Activities

The PMOC received an update from the Purple Line project team during the ***July 29, 2024***, virtual monthly meeting with MTA, the PMC, and the PMOC. MTA provides supplementary information before the PMOC monthly meetings. ***On July 2 and July 30, 2024, the PMOC participated in biweekly project status calls with FTA and MTA. On July 9, 2024, MTA, FTA, and the PMOC participated in a call during which MTA described the methodologies used for, and the results of, their June 2024 QRA.*** The PMOC's monitoring activities also include review of MTA-

provided scope, schedule, risk, financial, construction, safety and security, and real estate information.

After the U.S. Court of Appeals reversed the vacation of the ROD in July 2017 (refer to the **NEPA Process and Environmental Mitigation** section, below, for details), the FFGA was executed on August 22, 2017. In September 2020, the construction (D-B) contractor, PLTC, left the project, and a new project delivery plan was developed, including replacement of the D-B contractor. During the period when the replacement D-B contractor was being solicited, MTA managed specific construction and design activities (OSF activities) in order to reduce uncertainty and support the project schedule. On November 5, 2021, MTS was selected as the replacement D-B contractor, and financial and commercial close occurred on April 14, 2022. MTA managed OSF construction and design activities to their completion or until the activities were transferred to MTS. MTS is performing construction activities across the entire project corridor.

MTA and MTS held initial partnering activities during which they developed relationships, general project priorities for teamwork, and an understanding of key issues for different stakeholders. MTA provided partnering process information to FTA and the PMOC on March 29, 2023. As of August 2023, MTA had replaced the consultant who was leading partnering activities and was developing new processes to facilitate the coordination and relationship between MTA and the MTS/PLTP team. MTA held an internal partnering meeting on October 27, 2023, to help align MTA and PMC staff. On December 11, 2023, a partnering session was held, and MTA, MTS, PLTP, and PLTO participated. One of the main points of discussion was the schedule mitigation efforts that led to Amendment 7 to the P3 Agreement. In February 2024, MTA provided a summary of project goals developed during the December 2023 partnering session. MTA said that action items related to the partnering session goals are incorporated into many project meetings, and senior executives from MTA, PLTP, and MTS meet frequently. ***As of July 2024, a partnering event for MTA, PLTP, and other project participants was scheduled for August 1, 2024. MTA indicates that it holds quarterly check-ins with PLTP to discuss lessons learned. A partnering poll also is held regularly to determine project trends.*** The PMOC has repeated its request that PMOC and FTA staff be invited to partnering events, but MTA has indicated that these events will be limited to MTA and the contractors. ***In lieu of participating, the PMOC requested that MTA provide FTA and the PMOC with meeting materials and poll results.***

2.2 Oversight Triggers

The oversight triggers most applicable to the project are the Oversight Procedure (OP) 25 cost and schedule triggers. The project did not have a mutually agreed-upon baseline schedule between March 2017 and September 2022. Significant schedule delays and a significant increase in project cost keep the project eligible for rigorous oversight. Project schedule delays typically impact project cost, another significant indicator of project health. MTA has developed a revised project EAC in conjunction with development of the project's schedule and FRP. Significant utilization of schedule and budget contingencies has occurred since development of the FRP. In the opinion of the PMOC, significant additional cost and schedule impacts are continuing to occur.

2.3 Project Management Plan and Sub-plans

2.3.1 Project Management Plan

The PMOC reviewed the Purple Line PMP Version 10 in accordance with OP 20 for a PMP at the FFGA execution stage of a project. Subsequently, FTA and the PMOC reviewed Versions 11, 12, and 13. Due to significant project team changes since those versions, another update to the PMP was required. In October 2022, MTA provided an updated PMP (Version 14) to FTA and the PMOC for review, and FTA and the PMOC provided comments on PMP Version 14 to MTA. On April 27, 2023, MTA provided PMP Version 15, which FTA accepted, with comment, on June 21, 2023. In February 2024, MTA provided a summary of its forecasted dates for updating the management plans. According to best practices, the recent staff changes and fluid project conditions may warrant revisions to some or all of the management plans before the regularly scheduled updates.

2.3.2 Safety and Security Management Plan

In February 2016, the PMOC reviewed the project's SSMP Version 6, dated October 22, 2014, in accordance with OP 22 for a project at the FFGA execution stage. The PMOC review found that the SSMP was compliant with FTA content requirements for execution of the FFGA, but the PMOC requested that MTA resubmit the SSMP after execution of the FFGA and address the comments in the PMOC report with updated information from the P3 concessionaire. Subsequently, FTA and the PMOC reviewed SSMP Versions 7 through 11 over the next four years. MDOT, which is the SSOA for the project, also reviewed SSMP Versions 8 through 11. On January 13, 2022, FTA provided comments on SSMP Version 12 to MTA. MTA submitted SSMP Version 13 as well as Version 5 of the Purple Line SSCP to FTA and the PMOC for review in October 2022. FTA and the PMOC reviewed the SSCP and SSMP updates and provided their comments to MTA in February 2023. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the revised SSMP in August 2023, and the revised SSCP on December 28, 2023. ***FTA accepted the most recent version of the SSCP, SSCP Version 8, on July 9, 2024.*** The PMOC continues to recommend that MTA evaluate whether its current oversight processes are in compliance with those specified in the SSMP.

2.3.3 Quality Assurance Plan

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on QAP Version 10 to MTA. MTA then submitted a revised QAP to FTA for review in May 2023, and FTA and the PMOC provided comments to MTA in June 2023. In July 2023, MTA provided a response to each specific comment and committed to submitting a revised QAP in August 2023. On August 11, 2023, MTA resubmitted the QAP as Version 12. A technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023, after which the PMOC recommended acceptance of the plan and that MTA should incorporate the outstanding items into the next regularly scheduled plan update. On October 6, 2023, FTA accepted the QAP contingent

upon MTA's acceptance of the PMOC recommendations. MTA plans to next update the QAP in October 2024.

The PMOC requested that MTA provide more complete documentation for quality-related activities. In September 2023, MTA presented the PMOC with a quality process dashboard that MTA had developed to display monthly statistics on audits, Deficiency Notices, Nonconformance Reports, and quality oversight assessment reports. In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational chart for quality management and administration. In April 2024, MTA listed the following three quality process improvements that it is developing:

1. Organizational chart update.
2. Document control procedure update.
3. Development of quality training plan and schedule for 2024 training.

MTA emphasized that these quality processes apply only to MTA's quality activities, but they are coordinated with MTS's quality processes. Also in April 2024, MTA stated that it has added quality oversight staff to its organization, including a Deputy Quality Manager.

MTA meets with PLTP, the PMC, and the General Engineering Consultant (GEC) monthly to review quality status. On January 25, 2024, MTA introduced the new Quality Manager, Turyalai Momand. In June 2024, MTA provided the following schedule of 2024 audits:

1. Stormwater Management – January 18, 2024 – complete.
2. Safety – April 9, 2024 – complete.
3. Post Design Audit – May 8, 2024 – complete.
4. Quality – August 2024 – scheduled.
5. Internal (MTA) Quality Assessment – July 2024 – scheduled.
6. Internal (MTA) Quality Assessment – December 2024 – scheduled.

When asked about a number of very old deficiency notices and instances of nonconforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of final sign-offs by managers. MTA is deferring some other older open quality items until the related issues can be addressed to avoid impact the project schedule critical path.

MTS also performs significant Quality Assurance/Quality Control (QA/QC) activities and reports having more than 60 full-time quality staff assigned to the project. ***Through July 1, 2024***, those QA/QC activities by MTS included:

- Offsite inspections of structural steel girders and canopies, Overhead Contact System (OCS) poles and hardware, traffic signal poles, special trackwork, precast concrete structural elements, and other items being fabricated offsite.

- ***37*** Design Services During Construction reviews and ***38*** design submittal reviews.
- ***No*** quality process audits of MTS and subcontractor work, testing, and quality plans were reported in ***July 2024***.
- Approximately ***900*** materials tests.
- Approximately ***1,000*** materials samples.

In 2022, MTA frequently provided notes from monthly CAF and SNC-Lavalin LRV manufacturing quality meetings for PMOC review. The information provided a summary of issues and corrective actions, and upcoming quality audits. MTS is now responsible for preparing these notes from the manufacturing quality meetings. ***The PMOC did not receive these notes in July 2024.*** Because the LRV manufacturing process is now nearly complete, the June 2024 meeting notes included only a few very minor issues. Open items of note in June 2024 include several certification and compliance activities.

The resolution of a previously identified quality issue related to the M33 bolt on the LRV trucks was closed in May 2024. ***In July 2024, MTA provided a confidential report on resolution of the issue. CAF performed a Root Cause Analysis (RCA), identifying a primary root cause, and secondary contributing causes. Validation of the corrective actions was conducted and the issue is now closed.***

2.3.4 Real Estate Acquisition Management Plan

The PMOC reviewed the project's Real Estate Acquisition Management Plan (RAMP) Versions 10, 11, and 12. The PMOC reviewed the plans with respect to the guidelines in OP 23 for a project in the construction phase. MTA submitted an updated RAMP Version 13 to FTA and the PMOC in October 2022. FTA provided review comments on RAMP Version 13 to MTA on February 27, 2023, and accepted RAMP Version 13 with comments.

2.3.5 Fleet Management Plans

The current version of the Bus Fleet Management Plan (BFMP) is BFMP Version 8.1, which was submitted for FTA/PMOC review on February 12, 2016. The PMOC completed its review of BFMP Version 8.1 and on March 4, 2016, issued its final OP 37 BFMP review report, concluding that the BFMP met the requirements of OP 37 for the execution of an FFGA for the Purple Line project. On January 24, 2024, MTA provided to FTA and the PMOC BFMP Version 10. This plan addresses updates for the period from 2021 through 2023 and is dated September 2023.

2.3.6 Risk and Contingency Management Plan

In early 2020, MTA commenced another update to the RCMP to incorporate the results of their latest QRA that, in turn, incorporated the results of the replacement D-B contractor resolicitation and the revised project implementation details. MTA held a risk management workshop on January 26, 2021, that focused on the interim period.

MTA provided a comprehensive Risk Register and risk mitigation activities in conjunction with the draft FRP. In preparation for a risk analysis, MTA held risk assessment interviews with

individual risk owners to review existing risk items and identify new risks. In December 2021, MTA prepared an updated Risk Register that includes over 100 risk items, including PLTP and MTS risks.

At a risk workshop held the week of May 2, 2022, the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. MTA confirmed and finalized the Risk Register and prepared the QRA and an update of the RCMP. The PMOC developed a draft summary of the risk and contingency review results. FTA provided a risk summary to MTA on June 22, 2022, for MTA's consideration while it was updating the RCMP. MTA provided responses to FTA's comments on the risk summary on July 15, 2022, and provided further clarification on August 25, 2022. MTA submitted RCMP Version 15 to FTA and the PMOC for review in October 2022. In February 2023, FTA and the PMOC provided comments on the revised RCMP, which supported MTA's development of the project's budget and schedule contingency. MTA subsequently submitted the revised RCMP Version 16, dated April 21, 2023, and FTA accepted it on May 22, 2023.

In November 2023, MTA held a risk workshop and began a QRA. Project risks were reassessed, and information needed to reevaluate cost and schedule contingencies was determined. MTA expected to complete the QRA and contingency review in January 2024. The updated schedule is necessary for the assessment of schedule risk and development of contingency recommendations. The revised project schedule and subsequently the QRA are now complete, and MTA provided the results of their QRA to FTA and the PMOC. ***On July 9, 2024,*** MTA held a meeting at which it presented the results of the QRA.

2.3.7 Safety and Security Certification Plan

Version 3 of the Purple Line SSCP is dated November 4, 2014. The PMOC review found that the SSCP Version 3 met the FTA requirements in support of the FFGA application. MTA submitted SSCP Version 4 on February 3, 2020, in conjunction with the updated SSMP submittal (see the **Safety and Security Management Plan** subsection, above). The SSOA completed its review of SSCP Version 4 and discussed its comments with the PMOC. MTA decided that the new emergency management working group would be a subcommittee to the Fire Life Safety and Security Committee, and this decision would be reflected in the next revisions of the SSMP and the SSCP, which were planned for after the replacement D-B contractor was in place. MTA submitted SSMP Version 13 and SSCP Version 5 to FTA and the PMOC in October 2022. In February 2023, FTA and the PMOC completed their reviews and provided comments on these plan documents to MTA. MTA provided a response to the SSCP review comments to FTA and the PMOC in May 2023. On July 12, 2023, the PMOC and MTA held a call to review and reconcile PMOC/FTA comments on the SSCP. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023 and accepted the current SSCP (Version 7) on December 28, 2023. In April 2024, MTA submitted a revised SSCP (Version 8) that includes the TUN process, as well as a partially complete preliminary LRV Delivery Plan. In June 2024, MTA provided the completed LRV Delivery Plan to FTA and the PMOC. ***FTA accepted SSCP Version 8 on July 9, 2024.***

2.4 Management Capacity and Capability

MTA continues to identify and assign sufficient Management Capacity and Capability (MCC), as needed, to complete the project in compliance with applicable FTA requirements. These efforts have included bringing staff, either MTA or MDOT personnel or consultants, onto the project to manage the current needs, such as planning, P3 procurement and contracting, real estate acquisition, and construction.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. It was proposed that Roland Carroll, the Purple Line systems safety and construction safety lead, add the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to the new quality management role. The PMOC evaluated this change as a part of the PMP review and will continue to monitor management capacity for this function and all positions through ongoing oversight activities. Specific to safety, the PMOC is concerned that there is a lack of emphasis on safety or on management capacity or capability. Injury rates, particularly for OSF activities, have been higher than the MTA goals. Also, reporting of injury and incident statistics is inconsistent. In June 2024, MTA reported an incident rate that is twice the project goal. Refer to Section 2.16, Safety and Security, for more information.

In March 2023, MTA hired John Donovan in the role of Construction Manager and also formed a commercial project controls team. These changes were in response to: (1) the near completion of OSF and (2) the need to support the management of MTS's increasing amount of work. However, in November 2023 MTA eliminated the Construction Manager position. MTA stated that two construction managers, Mike Gales for Civil Construction and Melvin Henderson for Systems Construction, remain with the project.

On May 25, 2023, MTA communicated the departure of Executive Director Matthew Pollack, Deputy Project Director and Contracting Officer Anita Rodgers, and Communications Director David Abrams from the Purple Line project team. Project Director Ray Biggs, Jim Mitchell of the PMC, and MDOT Chief Financial Officer Jaclyn Hartman were leading the project while those vacated positions were being filled. Ken Forsythe's role changed from his role as Deputy Project Director to the interim Director of Communications role. A new Deputy Project Director, Alexa Heidrich, started with the Purple Line project team on July 26, 2023. Kathryn (Kat) Lamb joined the team in August 2023 as the Communications Director, which completed the hiring for the open senior staff positions for the Purple Line project at that time. In August 2023, MTA provided an updated Purple Line organizational chart that included those newly hired staff. In December 2023, MTA replaced PMC Project Director Jim Mitchell with Brian Freerks.

In January 2024, MTA communicated a significant number of staff changes both within MTA and within the PMC. The current status of these positions is as follows:

- The MTA TDD Executive Director position was filled in May 2024. MTA announced that Martha Gross is the new TDD Executive Director, and she will oversee the Purple Line project in addition to other State of Maryland transit projects such as the Red Line. Current Purple Line Project Director Ray Biggs will report to Ms. Gross.

- Quality Manager Fahad Moazziz has been replaced by Turyalai Momand. In April 2024, Mr. Momand announced that several quality staff have been added to the team, including a Deputy Quality Manager.
- Deputy Communications Director Gary Witherspoon left the project, and as of April 2024, MTA has hired Syrina White to fill this position.
- In May 2024, MTA added two safety staff to the project team—one who will be primarily in the field and another who will be in the office and will manage safety administration.
- In June 2024, Katina Conn was added to fill the Contracting Officer role.

The PMOC continues to express its concern regarding MTA's MCC. A lack of continuity and staff serving in multiple roles all pose a risk to the quality of the oversight the Project Sponsor must provide. Shortfalls in MCC may be causing some of the other issues that the PMOC has identified, such as construction safety and quality management challenges.

2.5 NEPA Process and Environmental Mitigation

2.5.1 NEPA Process

FTA issued a ROD on March 19, 2014. The National Park Service issued its ROD on July 16, 2014.

MTA has continued to submit environmental re-evaluations as required based on design advancement and other causes. To date, PLTC (before it left the project) and MTA have prepared multiple packages, primarily for minor Limits of Disturbance (LOD) cases, which were submitted to FTA for review and have received FTA concurrence. The most recent status ***(as of June 2024)*** of NEPA items is:

- MTA submitted an additional LOD case at Sligo Creek that is moving through the MDE and USACE processes. MDE granted approval on January 10, 2024. ***As of July 2024, the LOD was approved by USACE.***
- The ATC for the Bethesda Station jet fan has been vetted, and final documentation is being prepared for submittal to FTA for concurrence that the ATC meets project requirements. MTA reviewed the ATC documentation with FTA in June 2024***, and FTA approved the ATC in July 2024.***
- A ten-year extension of the project's Programmatic Agreement was approved on March 14, 2024.

On August 3, 2016, in response to the lawsuit filed by the Friends of the Capital Crescent Trail against FTA, a federal judge filed his Order and accompanying Memorandum Opinion. In those documents, it was ordered that the ROD for the Purple Line project be vacated and remanded, and that a Supplemental Environmental Impact Statement (SEIS) be prepared, in accordance with the accompanying Memorandum Opinion. In a subsequent Order and Opinion filed on November 22, 2016, the judge, in part, revised the earlier Order by remanding to FTA the responsibility to

determine whether an SEIS is required; however, the ROD remained vacated. On May 30, 2017, the judge issued his ruling that dismissed the lawsuit except for the reassessment of the impact of declining Washington Metro ridership in the Purple Line project's Environmental Impact Statement. The Washington Metro ridership aspect of the ruling was immediately appealed by the Maryland Attorney General. On July 19, 2017, the U.S. Court of Appeals reversed the vacation of the ROD and set an expedited schedule for the appeals process. The appeals hearing occurred on November 1, 2017. The U.S. Court of Appeals issued its ruling on December 19, 2017, in which the judges ruled in favor of FTA and the project, and ruled that the transit agencies would not have to conduct a new environmental study to examine other potential routes for the Purple Line.

The Friends of the Capital Crescent Trail filed a second lawsuit after the FFGA signing and after the groundbreaking ceremony was held on August 28, 2017. The September 19, 2017, Preliminary Hearing for this suit resulted in no temporary injunctions or restraining orders, and project construction proceeded as the case progressed through the court system. On December 5, 2017, FTA and MTA filed a Motion to Dismiss. The plaintiffs subsequently amended and significantly revised the complaint in December 2017, and on March 1, 2018, MTA and FTA filed a Motion to Dismiss. On March 29, 2018, the plaintiffs filed their response. On March 5, 2019, the judge ruled in favor of FTA.

The Friends of the Capital Crescent Trail filed a third lawsuit in January 2019, this time against USACE. The USACE legal staff and the Office of the Attorney General provided the defense. MTA filed a motion to intervene on behalf of USACE. In early May 2019, the plaintiffs filed an objection to MTA's motion, but during the week of July 15, 2019, the Court authorized MTA to intervene on behalf of USACE. In October 2019, USACE filed for a Summary Judgment to Dismiss the case, and the plaintiffs filed their response; a hearing date was set for March 23, 2020. However, in late February 2020, the assigned judge recused himself from the case, and the scheduled hearing was canceled. In mid-April 2020, the District Court ruled in favor of the USACE/MTA motion for a Summary Judgement to Dismiss, and the case was dismissed. The plaintiff subsequently filed an appeal on May 11, 2020, and the case continued in the legal process. Oral arguments related to the appeal occurred on March 11, 2021. The District Court denied the appeal on May 13, 2021. The decision resolved the last remaining lawsuit related to the project.

2.5.2 Environmental Mitigation

The project achieved the required mitigation for reforestation through the purchase of 82.5 acres of offsite credits (combined, in both Montgomery County and Prince George's County). This amount of offsite credits is expected to be more than needed, and the P3 concessionaire will monitor that this remains the case. PLTP's Forest Conservation Plan (FCP), which documented a need of 75.73 acres, was formally submitted to the Maryland Department of Natural Resources (DNR) in August 2016 for approval. The DNR concurred with the FCP on January 31, 2017, and the final approved FCP was received from DNR on July 31, 2017. As LOD cases are identified, they are also reviewed against the FCP credits to maintain an accurate accounting of the reforestation mitigation. In Maryland, need is based on land disturbance rather than only forest

removal. MTA's tracking of additional disturbance due to the progress of design and construction indicated that the total need is still within the amount of available offsite credits.

The Joint Permit Application for Wetlands and Stream Mitigation was formally submitted to USACE and MDE in August 2016. In late February 2018, MDE issued its Non-Tidal Wetlands and Waterways permit in advance of the USACE permit, even though it was a joint application. However, because time had passed since the permit was drafted, MDE updated and issued the finalized permit the first week of April 2018. USACE completed its NEPA and conditions review as well as its public interface, receipt of comments, and comment resolution, and issued the Section 10 404 Permit on March 14, 2018. This timing supported MTA's planned advertisement for the Wetlands and Streams Mitigation construction contracts. In October 2018, the project submitted a request to USACE and MDE to extend the duration of the permits until December 2021 to accommodate the longer construction periods resulting from construction moratoriums for forests and streams. The project received approval from MDE during the week of December 3, 2018, and received the USACE approval letter in mid-June 2019.

The project team has addressed the environmental mitigation for wetlands through the development of the offsite Ken-Gar location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. The construction contract was advertised on May 3, 2019, bids were received on June 10, 2019, and the bids underwent MTA Procurement Department review. BPW approval of the award was received on September 4, 2019. As of June 2021, the Ken-Gar wetlands mitigation project was complete and had completed its one-year warranty period. See the **Construction** section of this report, below, for further discussion of the status of this Ken-Gar Wetlands Mitigation construction contract.

The project team has addressed the environmental mitigation for streams through the development of the offsite Paint Branch location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. MTA advertised the Paint Branch Stream Mitigation construction contract on March 8, 2019. After the bid due date was extended several times, proposals were received on May 21, 2019, and underwent MTA review and evaluation. BPW approval of the award was received on September 4, 2019. The Paint Branch stream restoration is complete, and warranty corrections (partial replanting) occurred in December 2022. See the **Construction** section of this report, below, for further discussion of the status of this contract.

The project has plans to address stormwater mitigation, beyond what can be mitigated on the project site, through retrofitting offsite locations in both Montgomery County and Prince George's County. On November 12, 2021, MTA determined that there is a need for additional stormwater mitigation in Prince George's County. A project to construct additional stormwater mitigation is included in the scope of work for MTS. Construction of this stormwater mitigation site ***began in July 2024.***

The joint MTA and University of Maryland (UMD) technical board resumed meetings in December 2021 to coordinate efforts related to the mitigation of noise, vibration, and electromagnetic interference at the UMD facilities. Following this meeting, the members of the

joint technical board voted to approve the outstanding design packages. This action effectively ended the activities of the technical board until the LRT is in trial running.

The Purple Line project team submits quarterly Environmental Mitigation Monitoring Reports for the project. MTA managed the environmental mitigation and monitoring activities as the project transitioned to the replacement D-B contractor, MTS. Because MTS is now performing construction, MTA will monitor the environmental activities performed by MTS. On January 25, 2024, MTA provided the Fourth Quarter 2023 Environmental Commitment and Mitigation Monitoring Program Report. The report conveys the status of progress toward meeting commitments in the ROD that was issued in March 2014 and any pending actions required. In the report, MTA notes that "no problems, gaps, nonconformances, or NEPA issues of any sort were found during this quarterly assessment." MTA submitted the First Quarter 2024 Environmental Commitment and Mitigation Monitoring Program ***Report in June 2024. The Second Quarter report is under review by MTA and will be transmitted to the PMOC in August 2024.***

The MTA Purple Line team communicated that MDe has implemented a change to the state's construction dewatering monitoring and turbidity requirements. Pumped water discharge from construction sites will need to meet specific requirements—something that Maryland lacked but is common in many states. In September 2023, MTA and MTS participated in training for managers on the new requirements, and a future round of training for field staff is being planned. Activities on the project are currently functioning under the new MDE requirements. The changes related to the new requirements necessitated a change order to address additional MTS's costs to implement the more stringent standards.

2.6 Project Delivery Method and Procurement

The majority of the capital cost of the Purple Line project has been packaged into a Design-Build-Finance-Operate-Maintain P3 contract. This delivery method fits the state's legal definition of a P3 in that it involves a long-term, performance-based agreement between MTA and a private entity (the P3 "concessionaire") in which appropriate risks and benefits are allocated in a cost-effective manner between the contractual partners. The P3 concessionaire is intended to perform some functions normally undertaken by the transit agency, but MTA remains ultimately accountable for the Purple Line project and its public function.

MTA negotiated an approximate 36-year P3 contract, including nearly 6 years of construction and 30 years of operations, and on March 2, 2016, announced that PLTP had been selected as the P3 concessionaire. Commercial close of the P3 contract occurred on April 7, 2016, and financial close occurred on June 17, 2016.

In late April 2020, PLTC notified PLTP that due to PLTC's forecasted schedule delays on the project (which did not receive agreement from MTA), PLTC intended to exercise the clause that allowed it to terminate its contract with PLTP for the design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that would include a definitive path forward. On the response due date of May 14, 2020, PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice

of Unconditional Election to Terminate the P3 Agreement to MTA, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice essentially refuted the validity of the PLTP delay claims and stated that if PLTP fails to perform, MTA has a number of options related to the P3 Agreement. Through July 2020, construction activities continued at the levels previously planned and were not affected by the dispute.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a Temporary Restraining Order (TRO) that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO occurred before the expiration of the TRO on September 14, 2020, and the court rescinded the TRO, allowing PLTP to leave the project.

When an agreement was not reached, the bond holder firms had the first right to take over the project. However, MTA planned an alternate path forward based on its exercise of step-in rights. To that end, MTA assumed the contracts of over 100 subcontractors, indicating MTA's intent to continue the project. MTA adjusted staffing for construction management, resident engineers, and inspectors to move forward with the project.

On November 24, 2020, MTA and the P3 concessionaire, PLTP, reached a settlement agreement to release the project's D-B contractor from the P3 consortium and continue the project with the remaining parties. The state's BPW approved the settlement agreement on December 17, 2020. Activities set out in the agreement and the IRP have proceeded with multiple modifications to milestone dates as needed.

The agreement included the following key aspects, as MTA has communicated to the PMOC:

- PLTP agreed to procure a replacement D-B contractor to complete the project and to obtain project financing. The selection of the preferred replacement D-B contractor, MTS, occurred on November 5, 2021. The TIFIA loan for the project closed on April 14, 2022, allowing financial close and commercial close on that same day. MTS is now the D-B contractor for the project.
- The settlement agreement provided a mutual release from all disputed and undisputed amounts (incurred before September 28, 2020) for PLTP, PLTC, and subcontractors. The agreement also released outstanding litigation among the parties.

2.7 Design

2.7.1 MTA Design

MTA's GEC completed the project design to approximately the 30 percent design level in fall of 2013 and provided incremental enhancements through late 2015. This design formed the basis of the Request for Proposals (RFP) for the P3 contract. See the **P3 Design** subsection, below, for a discussion of the advancement of this design by PLTC, the former PLTP partner that was

responsible for the design and construction of the capital project, and continued design under MTA.

Disputes related to the cost of design changes that were made between execution of the agreement and March 2024 were resolved by Amendment 7. MTA's team estimated that the disputed amount was approximately $15 million.

MTA was responsible for the design and construction contracts under a Design-Bid-Build delivery method (separate from the P3 scope) for the following projects:

- Stream mitigation – MTA completed the 100 percent design packages in June 2017 and received approval from MDE in May 2018. Construction of the stream mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.
- Wetlands mitigation – MTA completed the 100 percent design packages in June 2017. Several design adjustments were subsequently made based on MDE and Montgomery County comments. The construction contract was advertised on May 3, 2019. Construction of the original wetlands mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.
- Offsite SWM sites – MTA completed design and obtained MDE approval of more than the P3 contract-required 5 acres of offsite mitigation in Montgomery County on May 29, 2018. In late October 2019, MTA received MDE approvals for the next 5 acres to be added to the mitigation credit "bank," thus satisfying the contract requirements for 2019. MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS. Construction of this mitigation site ***began in July 2024***.
- See the **Environmental Mitigation** subsection of this report, above, for the current requirements.

MTA also completed the design to support a D-B contract for the replacement of the existing Parks Maintenance Facility with a facility on Polk Street. Construction of the facility is now complete. See the **Real Estate Acquisition and Relocation** and the **Construction** (MTA Scope) sections of this report, below, for further details.

2.7.2 P3 Design

PLTC's design progress was forecasted to achieve substantial design completion of Civil packages in August 2020, substantial design completion of Systems packages (except for Fare Collection) in September 2020, and completion of the Fare Collection design package in 2021. The original baseline schedule anticipated design completion by late fall 2017. As of August 2020, the number of planned Civil, Systems, and Utility design packages was 218.

Upon the departure of PLTC, MTA contracted with the project's engineer of record, Atkins, to continue to advance the design of limited aspects of the project.

The current progress through ***July 2024*** is that 215 of the 218 total planned design packages have been issued as RFC. The packages that remain in design or approval include fare collection, the fire management system at the WMATA/SSTC combined station, and the train control system. The most significant remaining design package, the design package for train control, is scheduled to enter final design review in July 2024. Developing additional equipment specifications and other vendor plans for the train control package will extend until February 2025. As of April 2024, MTA reported that the fare collection requirements were previously included in the platform designs, and the remaining fare collection design is for the equipment/systems. The PMOC observed that MTS indicates that the design portion of its contract is billed out to 99.9 percent. The requirements of MTA's D-B contract with MTA include the payment of all design costs in the first 15 months of its contract with MTS (i.e., from April 2022 through June 2023), regardless of actual design progress.

The State Highway Administration approved the last traffic signal package in October 2023.

An item related to design was added to the Risk Register regarding an intelligent interface device that could impact implementation and operational costs. MTS made a claim related to a dispute about this item, but the dispute was resolved as a result of the execution of Amendment 7 to the P3 Agreement in March 2024.

PLTC reached resolution on the final remaining ATC identified during the proposal process. The ATC is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA reviewed the design package for NEPA compliance. ***FTA granted final approval of the ATC in July 2024, and concurred that the ATC will have no Section 4(f) impacts or associated impacts to the ROD.***

MTA and CSX worked to resolve issues related to the applicable design criteria and which project areas were affected until, in July 2019, a mutually agreeable path forward was defined for all areas. The following is the current status of the issues and their resolutions:

- To address CSX comments that would have disallowed passenger amenities (fare gates and ticketing kiosks) on the SSTC mezzanine connector pedestrian bridge above CSX tracks, and that would have required a 25-foot vertical clearance, MTA, PLTC, and CSX reached consensus on a design to interpret this area as a "building concourse." In May 2020, CSX indicated that the final design is acceptable. Revised documents, providing some minor clarifications related to ROW, were submitted to CSX on September 8, 2020, and ultimately CSX approved the design. The revised documents were submitted to WMATA several times in early 2021.
- WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of ***2024*** for the SSTC and for other locations where WMATA and Purple Line stations coincide. MTA reports that the slow resolution of these comments has not impacted critical path activities.

- An encroachment into the CSX vertical clearance was discovered upon installation of girders at the SSTC. An exception was requested from CSX to allow the ¾-inch encroachment to remain. CSX denied the exception. MTA and the designer prepared for a contractor to jack and shim the structure to create the required clearance. Construction of this work was completed in August 2021.
- Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. The Purple Line project is taking advantage of the WMATA service outage to perform work near and above the tracks.
- CSX provided review comments disallowing revised drainage networks, related to the Capital Crescent Trail work, which would connect to CSX's existing drainage culverts. The work on the Capital Crescent Trail is not part of the FFGA and is separately funded by Montgomery County. As a result of work with Montgomery County, the connections were relocated from CSX property to Montgomery County property and therefore are no longer a CSX issue. To fully accomplish this approach, two connections required resolution. Montgomery County acquired two parcels of land from CSX (not FFGA-funded) and then accepted responsibility for one connection currently under the responsibility of CSX. Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. ***As of July 2024,*** MTS has one more jack-and-bore installation of culvert pipe yet to complete. This culvert installation is not on the project critical path and is scheduled for the summer of 2024.
- Track protection (flagging) availability has limited production work near the CSX rail lines. In March 2024, CSX made a second flagger available, allowing construction activities on the railroad ROW to accelerate. In May 2024, MTS stated that it needs a third flagger in order to maintain the construction schedule; however, MTA believed at that time that it was unlikely that CSX would provide the third flagger. ***In July 2024, CSX was unable to provide two flaggers at all times, preventing work in the railroad right-of-way for several night shifts.***

2.8 Real Estate Acquisition and Relocation

As of July 2024, the total number of planned property acquisitions is 601, including 464 privately owned properties and 137 public acquisitions. All of the original Exhibit 9 FFGA-scope private parcels in the P3 contract are in MTA's possession, some of which are properties that continue in condemnation under the State Highway Administration process. To date, ***436*** of the original 464 private properties have completed settlement, several additional properties (not part of the original 464 private properties) are pending settlement, and 20 condemnations remain to be settled.

All required public properties have been available for construction when needed. Several public property rights transfers are currently being coordinated to accommodate sidewalk changes, utility easements, and ROW exchanges.

As the project has progressed and new utility relocation needs have been identified, additional small parcel acquisitions have been added to the total as utility down-guys. In December 2017, PLTC initially submitted a list of approximately 280 such parcels related to utility relocations and subsequently added to that list. MTA resolved that it would acquire these properties, rather than execute amendments to the utility agreement that would have the utility companies perform this function. MTA's ability to perform appraisals in house for these parcels or to waive appraisals for low-value, uncomplicated parcels has been expediting the process somewhat. ***As of July 2024,*** the number of additional acquisitions totals 188 parcels, and several more acquisitions potentially may be needed for stormwater facilities. Of these parcels, 54 are public property and will be acquired by agreement, and 134 are private acquisitions. Of the total 188 properties, 66 were filed for condemnation, excluding those that were subsequently optioned or settled, and 13 condemnations and 102 settlements remain to be completed. MTA estimates that approximately ***$21.0 million*** of risk exposure remains in the acquisition process. This amount has been included in the MTA QRA.

The project required a total of 176 relocations, of which 57 were residential and 120 were businesses. To date, 177 of those identified relocations have been completed in accordance with the applicable procedures, and one active claim remains to be settled. Also, MTA is monitoring terms of agreement of the property acquisitions discussed above that have not yet completed settlement, because some of them could potentially result in the need for additional relocations. As of May 2024, there is one new relocation related to commercial properties that potentially will be needed.

In August 2023, MTA indicated that the goal for completion of all real estate transactions is December 2024.

On April 25, 2023, MTA reported that BPW had approved the last of seven critical project acquisitions. These acquisitions were required to allow MTS access to construction areas that include activities on or near the critical path.

Properties that have not yet settled due to disputed compensation values have been going to trial in accordance with the ROW acquisition process. MTA is tracking actual acquisition costs versus planned expenditures, so that contingency can be effectively managed, and MTA shares this information with the PMOC. Based on actual settlement amounts and projected amounts for those not yet closed, settlement/condemnation values are 57.5 percent higher than the original 2014 SCC budget for ROW. MTA included current ROW cost projections in its development of an FRP project cost estimate (see the **Project Cost** section of this report, below).

Due to the extended project duration, some agreements will expire before the expected RSA date. MTA and MTS have started the process of identifying the end dates now needed for the agreements and will begin the process of obtaining extensions. MTA has evaluated the risks, estimated the cost of the extensions, and included those costs in a budget contingency. As of ***July 2024***, MTA

estimates that approximately $18 million of risk exposure remains due to necessary TCE extensions. ***As of July 2024, the project has expended $6.2 million on TCE extensions***.

2.9 Third-party Agreements and Utilities

All major third-party agreements (specifically, those agreements with Washington Gas, Verizon, Potomac Electric Power Company [PEPCO], CSX, UMD, Montgomery County Parks, Prince George's County Parks, WMATA, Washington Suburban Sanitary Commission [WSSC], Montgomery County, and Prince George's County) were executed as of June 7, 2016.

In early June 2018, MTA and PLTP completed the negotiation of all remaining third-party agreements with the smaller utility and telecommunications (telecom) fiber companies. According to MTA, most of the minor fiber/telecom utilities are not co-located with the electrical utilities, and, where they are, PEPCO's arrangement with the fiber/telecom utilities does not require PEPCO's relocation schedule to be driven by that of the minor fiber/telecom companies.

In addition, the need for amendments to existing executed agreements continues to be evaluated. The significant items include:

- To date, the design differences with CSX, as discussed earlier in this report, have been adequately resolved through design review and concurrences, and have not resulted in the need to amend the CSX agreement.
- WSSC proposed that the project relocate a 66-inch underground water main that runs through the Glenridge OMF site. In March 2020, MTA and WSSC agreed on a water main alignment primarily in the median of Veterans Parkway, as well as a strategy for completing the relocation. The original Purple Line project GEC performed the design; WSSC provided the material; and MTA separately contracted for the construction, thus avoiding impact to the P3 concessionaire's scope of work. On May 21, 2021, WSSC authorized work, and mobilization began August 9, 2021. Energizing of the cathodic protection was the last remaining activity, and it was completed in November 2023.
- In late July 2022, MTA and MDOT held a summit with the many utility providers that experience relocations related to transportation projects to discuss best practices and improvements to the utility relocation process. As of May 2023, some of the utility providers are experiencing staff shortages that limit construction production rates. These staff shortages present an ongoing challenge to the project.

The project has been addressing its interface with Montgomery County Schools through the third-party agreement already in place with Montgomery County. However, due to the specific concerns related to the schools and the safety and security of the children, MTA drafted a separate MOU with the Montgomery County Schools system, which was approved by the School Board and signed by the School Superintendent, Montgomery County, and MTA. A similar MOU was negotiated between MTA and the Rosemary Hills School and was approved at the School Board meeting on February 12, 2019. MTA submitted a draft second MOU to Montgomery County Schools on November 3, 2022. The Purple Line project team is developing information on the utility pole locations and retaining wall maintenance before going back to the school district for

final property transfer negotiations. Work will continue under ROE agreements with these parties through 2024.

As MTS commenced construction work, coordination meetings were held to ensure that prior agreements with third parties (utility companies and others) are followed. It is MTA's position that the transfer of third-party agreements from PLTC to MTA and now to MTS should not allow for a change in the terms of the agreements.

In June 2024, MTA reported that risk from the third-party agreements with PEPCO, the electrical service provider, is an increasing risk to the project schedule. MTA is actively trying to mitigate this risk through proactive communications with PEPCO.

2.10 Construction

2.10.1 MTA Scope

Although the P3 concessionaire is responsible for the majority of the project construction, MTA also has construction responsibility in the areas of the replacement Parks Maintenance Facility (which is part of the real estate effort and budget), wetlands mitigation, stream mitigation, and possibly some offsite SWM sites. MTA has accomplished forest mitigation without the need for additional construction. The following discussion presents the current status of the MTA construction contracts:

- **Prince George's County Parks Polk Street Replacement Maintenance Facility** – This D-B contract was awarded after the BPW approved the construction contract award on March 20, 2019. Forrester Construction Company completed construction, Parks has taken possession of the facility, and the warranty period has expired. The only remaining action for this portion of the project is a real estate swap that will transfer the maintenance facility property to Parks in exchange for the property needed by the Purple Line project. ***The survey for the swap of the parcels has been performed, and as of June 2024, the plat documents needed for appraisals and negotiation for the swap are complete.***
- **Offsite Wetlands Mitigation (Ken-Gar)** – The Wetlands Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The contractor mobilized in December 2019 and completed site surveys and the installation of Erosion and Sedimentation controls. Clearing and grubbing began in February 2020. Prince George's County took partial acceptance of the entire project on March 3, 2021. Acceptable growth of vegetation has been achieved, allowing for closure of this project. The one-year warranty review occurred on January 9, 2022, and now the project requires MTA quarterly monitoring until closeout in 2028.
- **Offsite Stream Mitigation (Paint Branch)** – The Stream Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The pre-construction meeting was conducted on October 24, 2019. The contractor mobilized in

late November 2019. The one-year warranty inspection occurred on August 4, 2022, and 1,700 plants were replaced in November 2022.

2.10.2 P3 Scope

Highlights of construction activities ***through July 2024*** throughout the alignment include***:***

- General: As a result of the dispute with PLTC (see the **Project Delivery Method and Procurement** section, above), all project activities slowed in the fall of 2020. In early August 2020, contractor forces, equipment, and materials were demobilized, and work in some areas ceased. Upon legal action from MTA, partial remobilization occurred. Following the court's rescission of the TRO, demobilization and safe-up activities in the construction area began in earnest in mid-September 2020 and continued into October 2020. Following PLTC's exit, MTA engaged a number of former PLTC subcontractors to continue select project activities. This work was progressed under MTA management with a goal of advancing critical path activities and reducing risk for the replacement D-B contractor.
- OSF construction items that MTA managed:
  - Utility installations of all types are complete or have been transferred to MTS, including construction by the electric provider (PEPCO) and the communications company (Verizon). Water, storm sewer, sanitary sewer, and gas lines are also complete or have been transferred to MTS.
  - As a part of OSF, MTA ordered rail, ties, special trackwork, and turnouts to mitigate supply chain risks. MTA also secured materials previously procured by PLTC for use by the replacement D-B contractor (MTS). As of September 2023, a dispute between MTA and MTS over the availability of MTA-supplied materials has been resolved. The materials were located along the project corridor and available for use, resolving the dispute.
  - Building construction at the Glenridge OMF is essentially complete; however, construction of civil items outside of the building continues, as does final commissioning of systems inside the building. MTS assumed control of the facility in January 2024. As of March 2024, Amendment 7 to the P3 Agreement settled all remaining disputes. MTS is currently installing rail and other features both inside and outside of the building. MTS will complete the tracks for storage and testing of LRVs.
  - Based on the status of construction at the time of PLTC's departure, MTA determined which items would be completed before mobilization of the replacement D-B contractor. OSF construction activities were expected to be completed before September 1, 2022, but some activities continued until November 2023. OSF utility relocations that fell behind schedule caused delays to MTS's work, and delays in OSF activities. Significant OSF delays impacted MTS's activities, and these additional costs are reflected in the Amendment 7 revised total project cost.

- MTA's Equal Employment Opportunity Officer assigned to the project is Marcques Washington, and he is supporting MTS in its hiring program. The former contractor, PLTC, left the project with a shortfall in meeting the requirements of its DBE program, and MTS is required to address this shortfall of approximately $12 million in contract value. In March 2023, MTA reported that the design portion and the nationally targeted worker program of the P3 contract had exceeded the DBE program goal, but the percentage DBE participation for general construction is below the goal. In April 2023, Mr. Washington reported that the DBE participation statistics are improving as construction continues. The PMOC continues to recommend that MTA report the projected values for these goals at the end of the project in addition to the current achieved values to allow for a better evaluation of progress toward meeting the goals. MTA has been performing audits each month to monitor the Davis Bacon prevailing wage requirements. To date, only very minor issues have been identified during these audits**.** In May 2024, the Equal Employment Opportunity Officer increased DBE goals by approximately $87 million to reflect the new total construction cost established by Amendment 7 to the P3 Agreement.

2.11 Vehicle Technology and Procurement

The LRVs are five-car vehicles consisting of 136-foot-long, articulated units. Under the FFGA, 25 vehicles (22 in operation and 3 spares) will be provided for the opening year. PLTP executed the LRV contract with CAF on June 17, 2016, and issued NTP to CAF on July 5, 2016, for the 25 FFGA vehicles. The original NTP to CAF also included one additional LRV outside of the FFGA.

Later, MTA added 2 additional vehicles (outside of the FFGA) by change order to, for a total of 28 vehicles to be supplied by CAF. The two additional LRVs will support better operations. MTS has incorporated these two additional LRVs into its scope of work (in addition to the cost and terms of LRV storage in Elmira).

Vehicle carshell manufacturing activities, which are coordinated with design progress, occurred until the facility in Spain was shut down in late March 2020 due to supply chain issues and to limit the spread of COVID-19. The final assembly facility in Elmira, New York, was shut down in early April 2020 due to New York State restrictions related to COVID-19 and reopened on May 18, 2020, at 50 percent of its workforce capacity. As of early August 2020, both the Spain facility and the Elmira facility were back to 100 percent staffing levels.

The final assembly of vehicles is being performed in CAF's facility in Elmira. MTA, its PMC, and SNC-Lavalin meet weekly with CAF to resolve all open items for design, testing, and manufacturing activities. First Article Inspections (FAIs) for Interior and Cab were completed on March 18, 2021, and FAIs for Exterior, Roof, and Undercar were completed on April 2, 2021.

Shipment of the first vehicle to the project site was expected in late spring of 2021. The lack of available storage at the yet-to-be-completed Glenridge OMF requires use of an offsite storage facility where vehicles can be stored, occasionally powered, and occasionally "exercised" or moved on tracks. MTA and CAF negotiated an agreement for CAF to store the completed LRVs in Elmira. That storage agreement subsequently transferred to MTS, and its terms are part of

MTS's agreement. Twenty-six LRVs have been completed, with twenty-three of those designated as Ready for Shipment and in storage in Elmira. The first LRV delivery occurred on May 15, 2024, the second delivery ***occurred in*** June 2024***, and the third delivery occurred in July 2024. One of the last two LRVs to be ordered (added to the P# contract outside of the FFGA) is in final assembly and the other is in static testing in Elmira, NY.***

CAF will continue delivering LRVs at a frequency of one each month but has plans to increase that frequency when possible. Plans are being prepared for dynamic testing, which is scheduled to occur in fall of 2024 on the test track section near the Glenridge OMF.

2.12 Project Cost

Table 5 summarizes the project's current actual expenditures and EAC, and compares them to the project budget as reported in MTA's SCC Workbook dated June 1, 2016, which is the basis of the project's FFGA. The project's documented expenditures total ***$3,557,559,505 through June 30, 2024.*** Refer also to **Table 4 – FFGA Core Accountability Items** in the **Executive Summary** section of this report for details on the project's planned and actual expenditures. The following table shows project budgets, actual expenditures, and forecast at completion amounts through ***June 30, 2024***, compared with the project budget as reported in MTA's SCC Workbook dated June 1, 2016, and MTA's current working budget.

Table 5 – Project Cost Versus Budget

SCC	Cost Category	Budget (June 1, 2016 Original FFGA)	Working Budget[1] (April 3, 2023 FRP)	Expenditures *(as of June 30, 2024)*[2]	Forecast at Completion[1, 2]
10	Guideway and Track	$280,620,726	$371,508,682	***$240,738,098***	$372,476,815
20	Stations	$114,857,016	$161,159,923	***$76,084,929***	***$***172,082,570
30	Maintenance Facility	$94,155,591	$93,454,387	$87,225,538	***$94,365,752***
40	Sitework	$521,968,990	$796,081,289	***$635,510,665***	***$806,848,645***
50	Systems	$263,887,313	$517,256,196	***$261,917,774***	***$***525,305,831
	Subtotal 10–50	$1,275,489,636	$1,939,460,477	***$1,301,477,004***	***$1,971,079,314***
60	Right-of-Way	$229,600,000	$329,126,214	***$303,972,549***	***$333,246,523***
70	Vehicles	$212,940,927	$292,780,600	***$173,968,269***	$292,584,921
80	Professional Services (total)	$571,658,114	$2,247,359,915	***$1,840,246,553***	$2,743,315,727
80.01	Project Development	$87,149,878	$85,469,312	$85,469,312	$85,469,312
80.02	Engineering[3]	$139,766,036	$196,722,013	***$218,117,086***	***$219,534,157***
80.03	Project Management for Design and Construction	$148,555,323	$655,185,988	***$455,487,613***	***$685,724,396***
80.04	Construction Administration and Management	$83,269,280	$734,209,735	***$525,917,752***	***$621,153,774***
80.05	Professional Liability; Other Non-construction Insurance	$34,534,796	$85,701,891	***$76,098,332***	***$93,860,971***

SCC	Cost Category	**Budget** (June 1, 2016 Original FFGA)	**Working Budget**[1] (April 3, 2023 FRP)	**Expenditures** ***(as of June 30, 2024)***[2]	**Forecast at Completion**[1, 2]
80.06	Legal; Permits; Review Fees by Other Agencies, Cities, etc.	$5,805,117	$341,013,320	***$402,576,460***	***$890,935,383***
80.07	Surveys, Testing, Investigation, Inspection	$15,164,346	$92,504,023	***$71,673,864***	***$89,959,500***
80.08	Startup	$57,413,338	$56,553,635	$4,906,135	$56,678,235
	Subtotal 10–80	$2,289,688,678	$4,808,727,206	***$3,619,664,375***	***$5,340,226,485***
90	Unallocated Contingency[4]	$90,535,748	$307,293,174	***$0***	***$166,793,895***
100	Finance Charges	$0	$0	$0	$0
	Total	$2,407,030,288	$5,116,020,381	***$3,619,664,375***	***$5,507,020,380***

[1]The Purple Line project Working Budget and Forecast at Completion are based on the accepted FRP, dated April 3, 2023, and subsequent change orders.

[2]Amendment 7 to the P3 Agreement has been partially incorporated into MTA's financial reporting as of ***July 2024***. Amendment 7 added ***$577 million*** to the cost of the project. The PMOC has requested the breakdown of these costs.

[3]Additional costs associated with Amendment 7 were assigned primarily to SCC 80.02 in MTA's originally reported budget information. MTA reassigned the Amendment 7 costs to SCC 80.04 in May 2024.

[4]The unallocated contingency expenditures will be reflected in SCC 10 through SCC 80 expenditures as they occur. As of June 2024, the committed unallocated contingency amount was $212,089,392. MTA is currently assessing the appropriate budget contingency in response to Amendment 7.

MTA developed the FRP unallocated contingency amount of $307,293,174 by utilizing an internal QRA, and the RCMP, dated April 21, 2023, recommended that same amount for unallocated contingency. The June 2024 preliminary QRA recommends an unallocated cost contingency of $179.58 million.

In July 2023, the Maryland BPW approved a change order that had a total addition of $204,954,610 of cost and 207 additional days of contract time. The net budget impact to the capital construction portion of the project was $137,144,705, and the balance of the total amount was applied to the financing and lost return on investment for PLTP. The $137,144,705 will be expended over the course of construction; therefore, this amount does not immediately show up in the MTA budget reports. However, that amount, plus the amount of the earlier change order included in the FRP, represents significant utilization of the budget contingency. The PMOC recommends that MTA closely monitor all cost overruns and the potential need for additional contingency. As of March 2024, a third change order (an amendment to the P3 Agreement [Amendment 7]) was negotiated. The change order essentially utilized all of the FRP budget and schedule contingency, added $406 million to the construction budget, and added 250 more days to the schedule. As a result, MTA is currently developing revised cost and schedule contingency budgets. ***In July 2024, MTA committed to provide to FTA/PMOC the basis for the large contract budget and schedule changes that have been approved, including efforts to mitigate schedule impacts.***

The PMOC has requested that MTA clarify the breakdown of Amendment 7 to the P3 Agreement for several reasons. MTA has indicated that Amendment 7 includes schedule mitigation measures, implying that the measures are changes to the MTA scope of work and overhead costs related to the extended project schedule. The assignment of the costs to SCC 80 does not support those

implications. If the costs assigned are for some scope changes (additional Maintenance of Traffic sequences, overtime for accelerated construction work, or other items), then those costs should be assigned to SCCs 10 through 50.

In recent months, SCC 80 expenditures by MTA and MTS have totaled as much as 50 percent to 100 percent of the expenditures for SCCs 10 through 50 combined. The PMOC therefore has questioned the significant amount of these SCC 80 expenditures that MTA records for the project each month. In May 2024, MTA explained that a portion of the SCC 80 expenditures are settlement payments to MTS and PLTP and not true management and administrative costs.

2.12.1 Project Funding

The funding for the project, as reflected in Attachment 3 of the FFGA, is shown in Table 6. As mentioned previously, MTA has not yet fully incorporated the effects of Amendment 7 to the P3 Agreement in its financial reporting. MTA has reported that the additional funds (approximately $406 million) related to Amendment 7 will come from the State of Maryland/MDOT Transportation Trust Fund.

Table 6 – Baseline Cost Estimate by Source Funding

Initial New Starts Project Cost (in SCC format)	Total FFGA Cost in Year of Expenditure (YOE) Dollars	Federal 5309 New Starts in YOE Dollars	Federal 5307 in YOE Dollars	Federal American Rescue Plan Act (ARPA) in YOE Dollars	Federal Surface Transportation Program (STP) in YOE Dollars	Local in YOE Dollars
10 Guideway & Track Elements	$371,508,681	$96,464,907	$0	$0	$0	$275,043,774
20 Stations, Stops, Terminals, Intermodal	$161,159,923	$23,557,000	$0	$0	$0	$137,602,923
30 Support Facilities, Yards, Shops, Admin. Bldgs.	$93,454,387	$29,954,000	$0	$0	$0	$63,500,387
40 Sitework & Special Conditions	$796,081,289	$222,858,301	$0	$0	$0	$573,222,988
50 Systems	$517,256,196	$60,116,405	$0	$0	$0	$457,139,791
60 ROW, Land, Existing Improvements	$329,126,214	$102,108,116	$0	$0	$0	$227,018,098
70 Vehicles	$292,780,600	$80,787,818	$0	$0	$0	$211,992,782
80 Professionals Services	$2,638,359,916	$284,153,453	$41,631,310	$106,163,371	$110,000,000	$2,096,411,782
90 Unallocated Contingency	$307,293,174	$0	$0	$0	$0	$307,293,174
100 Finance Charges	0	$0	$0	$0	$0	$0
Total Project Cost (SCCs 10–100)	$5,507,020,380	$900,000,000	$41,631,310	$0	$0	$4,349,225,699

Source: MTA, dated June 2024.

2.13 Project Schedule

The March 15, 2017 progress update of the master project schedule served as the only approved version of the schedule until September 2022. Numerous submissions of schedule updates from PLTC were not approved for various reasons, but the primary reason was the inability of MTA and the P3 concessionaire to agree on the schedule impacts of the approximately one-year delay in the execution of the FFGA. In response to a letter that FTA issued to MTA in early August 2018 expressing concerns about the amount of time that the project had advanced without an

approved schedule, MTA prepared a working schedule update of the master project schedule. The working schedule update was based on the negotiations of the P3 contract schedule occurring at the time, but the update was not based on a mutually agreed-upon P3 contract schedule.

In late April 2020, PLTC notified PLTP that, based on its forecasting of schedule delays on the project (which were not mutually agreed upon), PLTC intended to exercise the clause in its P3 contract with PLTP that allows it to terminate the contract for design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that included a definitive path forward for PLTP's intended management of the P3 contract. On May 14, 2020 (the date the response to the formal request was due), PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice refuted the validity of the PLTP delay claims and stated that if PLTP failed to perform, MTA had a number of options related to the agreement. Through late July 2020, construction activities continued at the level previously planned, and construction progress was not affected.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a TRO that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO was held on September 14, 2020. The court rescinded the TRO, allowing PLTP to leave the project. Through negotiation, it was determined that PLTP would remain on the project, although PLTC would not.

MTA contracted with numerous subcontractors to continue the project. MTA developed organizational options with respect to construction management, resident engineers, inspectors, and other staff needed to move forward select project activities.

It was certain that the project schedule as reflected in the FFGA would be negatively affected, and a Recovery Plan for the project, including a revised project schedule with adequate schedule contingency to address remaining project risks, would be required. MTA submitted its draft IRP to FTA in December 2020, and FTA approved the IRP on January 12, 2021. A schedule for the period during which the D-B contractor was to be replaced was developed, and MTA monitored project progress against the schedule.

PLTP and MTA continued to coordinate during the financial process and State of Maryland approvals for the replacement D-B contractor. In addition, MTA successfully coordinated other key issues that needed to be resolved before PLTP could execute the contract with MTS. IRP/re-procurement process spanned from January 6, 2021 to April 14, 2022.

A milestone not specifically mentioned in the IRP was the requirement to extend the current RSD. The RSD in the original FFGA was December 31, 2022. MTA requested an extension to the current RSD based on the MTS schedule. FTA accepted the FRP, which indicates a revised RSD of February 28, 2028.

The schedule included in the FRP was considered to be the new baseline schedule. The MTS master schedule incorporated the schedule recovery of implementing Maintenance of Traffic and construction activity resequencing, at a cost of $21,343,588, which reduced schedule delays from 218 days to 81 days. These schedule delays are a result of OSF utility adjustments that fell behind schedule. MTS has indicated that delays continued to occur as a result of the MTA-managed OSF work. The second OSF-delay-driven change order, as approved by the BPW in July 2023, added 207 days to MTS's RSA date.

This addition to the RSA date represents a significant use of schedule contingency, which is a concern considering the remaining duration of the project. In an effort to mitigate continuing OSF delays**,** MTA resumed the Tiger Team process (in this case referred to as "Tiger Team 2") to develop schedule alternatives. OSF construction activities were expected to be completed before September 1, 2022, but schedules that MTA previously provided indicated completion of most OSF activities in mid-2023, with some activities continuing up to November 1, 2023. OSF utility relocations that were behind schedule continued to cause impacts to MTS's work, and as of July 2023, delays in OSF activities had driven two change orders. MTA and PLTP have used the Tiger Team process to develop schedule alternatives to potentially mitigate delays driven by OSF work between March 2023 and February 2024. Amendment 7 to the P3 Agreement resolved the outstanding disputes and delays related to OSF activities. The amendment added 250 days to the schedule, placing the RSA date at December 30, 2027. MTA has accepted MTS's revised baseline schedule, and in June 2024 prepared a revised master schedule based on the information that MTS provided, including the recommended schedule contingency that is used in the June 2024 MTA QRA.

2.13.1 Key Milestones

Table 7 shows the current key milestone dates for the project for the prior approved (March 15, 2017) progress update of the current master project schedule. Issuance of NTP to PLTP on April 14, 2022, triggered the contract requirement that an MTA-approved MTS Initial Baseline Schedule (IBS) for the full project be in place within 120 days of financial close (by August 14, 2022). In January 2022, MTA submitted a draft version of the master schedule for FTA and PMOC review, and FTA and the PMOC transmitted their review comments to MTA in April 2022. MTS submitted its IBS, and on September 12, 2022, MTA approved it. MTS submitted the 120-day mobilization schedule, which MTA also approved.

In August 2022, MTA and the PMOC discussed the current state of the baseline schedule, particularly the inclusion of adequate float to address schedule risk. The P65 date that MTA proposed before the risk workshop held in May 2022 included approximately seven months of float and an RSA date in October 2026. After MTA performed the QRA for the updated RCMP, MTA added additional float to address known and unknown schedule risk. The RSD proposed in the FRP is February 28, 2028. However, the recently approved Amendment 7 to the P3 Agreement sets the RSA date at December 30, 2027, essentially utilizing all of the schedule contingency. The outcomes of the current MTA QRA will advise new recommendations regarding schedule float and contingency.

The PMOC recommends that MTA closely monitor schedule contingency and the corresponding budget contingency when evaluating the RSA date/RSD and the EAC that will be incorporated into the FRP. The information in Table 7 will be updated once the schedule reviews and approvals are complete.

Table 7 – Key Milestone Dates

Activity	Prior Approved Master Project Schedule (March 15, 2017)	MTA Master Project Schedule (*July 23, 2024*) (working schedule)
Locally Preferred Alternative Approval Date	08/04/2009 (A)[1]	---
FTA Approval to Enter Preliminary Engineering	10/07/2011 (A)	---
FTA ROD	03/19/2014 (A)	---
Issue Final RFP for P3 Concessionaire	07/28/2014 (A)	---
FTA Approval to Start Enter Engineering Phase	08/28/2014 (A)	---
Issue Addenda 4 through 6 to the P3 RFP	07/2015 through 11/2015 (A)	---
P3 Technical Proposals Due	11/17/2015 (A)	---
P3 Financial Proposals Due	12/08/2015 (A)	---
Evaluation and Announcement of Selected P3 Proposer	01/02/2016 through 03/02/2016 (A)	---
BPW Approval of P3	04/06/2016 (A)	---
P3 Commercial Close	04/07/2016 (A)	---
Limited NTP for P3 Engineering	04/07/2016 (A)	---
MTA Submit FFGA Application	05/24/2016 (A)	---
P3 Financial Close	06/17/2016 (A)	---
FFGA Signed	08/22/2017 (A)	---
Start of First Major Construction Activity	08/28/2017 (A)	---
All Significant ROW Acquisition and Relocation	As needed by construction	---
Commencement of Contract Work for Replacement D-B Contractor (MTS)	---	04/14/2022 (A)
Commencement of Integration Testing	---	07/28/2025
All Segments Complete Construction (with Contingency)	---	02/19/2027
RSA Date per P3 Amendment (Does Not Include Contingency)	---	***12/27/2027***
Preliminary RSD, Including Contingency (not accepted by FTA as of July 2024)		***12/29/2028***
FFGA RSD (Includes Contingency)	12/31/2022	02/28/2028

[1]A = Actual.

2.13.2 90-day Look-ahead

The critical 90-day (***August 2024 through October 2024***) look-ahead includes activities that MTA highlighted in the recent monthly meeting with the PMOC. MTA and MTS also are preparing

four-week look-ahead schedules to manage interim activities. Key activities that MTA has identified for the short term are:

- Acceptance of the revised recommendations for schedule and cost contingencies based on the QRA.
- Completion of yard track and initial installation of OCS at the Glenridge OMF to support LRV delivery and testing.
- ***Delivery of the fourth LRV to the Glenridge OMF.***
- Completion of activities associated with the seven roadway or track outages that are occurring to expedite construction progress in the summer of 2024.
- Concrete lining installation at the Bethesda Enclosed Trainway.
- ***Completion of*** TPSSs Q03, Q04, Q06, and QYL, and energizing the OCS to facilitate dynamic testing.
- Continued installation of rail in all segments.

2.13.3 Critical Path Activities

In the MTA master schedule update dated ***July 23, 2024***, the critical path runs through the activities in Segment 3 utilities and track (see **Attachment G, Project Map**), and then through trial running and systems integration/testing.

2.14 Project Risk

MTA has established a risk management organization that is defined in the RCMP and is overseen by MTA's Risk Management Committee. Two major elements of the RCMP are the periodic performance of a QRA and the maintenance and use of the Risk Register.

During the approximately one-year period during which the ROD had been vacated by the federal judge in his decision related to the Friends of the Capital Crescent Trail lawsuit, MTA did not conduct formal Risk Management Committee meetings, conduct Quantitative Risk Analyses, or perform formal updates of the Risk Register. However, the Purple Line project management team did assess and respond to the risks associated with the unforeseen chain of events related to the lawsuit.

The project team resumed formal Risk Management Committee meetings in October 2017, including individual updates of each risk on the current Risk Register by the risk owner. An overall update of the Risk Register was completed in draft form in January 2018, and was updated further and reissued in March 2018. As an ongoing process, MTA currently is performing updates of the Risk Register periodically, though somewhat less frequently than bimonthly (the frequency established in its RCMP). The current status of the RCMP is discussed in the **Project Management Plan and Sub-plans** section of this report, above.

MTA provides copies of significant updates of the Risk Register to FTA and the PMOC. The top risks from the project's latest issued update of the Risk Register and PMOC-assessed risks are

discussed at the PMOC monitoring meetings with the project team; the project's top four project risks are included as Attachment B of this report and are updated quarterly. A risk management workshop was held on January 26, 2021, at which the PMOC and FTA participated. The workshop focused on the resolicitation period for the replacement D-B contractor (January through October 2021).

Once the replacement D-B contractor was under contract, risk updates were prepared. The project held a risk workshop the week of May 2, 2022, at which the PMOC and FTA sponsored an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. Confirmation and finalization of the Risk Register, the QRA, and an update of the RCMP are components of the FRP. FTA provided a summary of the risk workshop to MTA on June 22, 2022, for MTA's consideration and incorporation into its management plans and contingency evaluation. MTA provided responses to FTA comments on the risk workshop summary on July 15, 2022, and clarification on August 25, 2022. In October 2022, MTA submitted RCMP Version 15 to FTA and the PMOC for review. In February 2023, FTA and the PMOC provided comments on RCMP Version 15 to support MTA's development of the project's budget contingency and schedule contingency. On April 21, 2023, MTA provided a revised RCMP to FTA and the PMOC for review, and on May 22, 2023, FTA accepted the revised RCMP with comment.

As a follow-up to the Risk Management Committee meeting, MTA completed a QRA to re-baseline the project's contingency drawdown curves and update the RCMP. The QRA that MTA provided in June 2024 included preliminary recommendations for cost contingency and schedule contingency of $179.58 million and 11 months, respectively.

In June 2024, MTA identified the following top risks:

Cost Risks:

1. Unknown Unknowns
2. Remaining ROW Negotiations
3. TCE Extensions
4. Disputes

Schedule Risks:

1. Signal Cabinet Testing
2. Permit Compliance
3. Unknown Unknowns
4. Performance Due to Nonconforming Work

Also in June 2024, MTA reported that risk related to the third-party agreements with PEPCO, the electrical service provider, is an increasing risk to the project schedule. MTA is actively trying to mitigate the risk through proactive communications with PEPCO.

2.15 Quality Assurance/Quality Control

The project's QA/QC is addressed in Section 10 of the PMP, the Quality Program Plan, and the updated MTA QAP Revision 8.0, which incorporates the quality plans prepared by PLTC. The **Project Management Plan and Sub-plans** section of this report, above, discusses the most

current versions of the PMP and the QAP. MTA also submitted to FTA the package of inter-related quality plans prepared by the P3 concessionaire after the package was reviewed and approved by MTA.

MTA obtained and used PLTP's quality logs and other applicable documents and procedures during the transition to the replacement D-B contractor. Several former subcontractors were under contract with MTA and conducted QA/QC activities during the replacement D-B contractor solicitation period. The budget to address nonconforming construction by PLTC remains a concern as of July 2023. MTA incorporated known defects into the MTS contract; however, MTA has not clarified the specific budget that will be used to rectify defects found since the contract with MTS was executed. MTA estimates that the potential magnitude of this budget impact will be no more than $10 million, and the current Risk Register carries this risk item.

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on the QAP to MTA. MTA provided a revised QAP to FTA and the PMOC in May 2023. Subsequently, FTA and the PMOC made recommendations for revisions to the QAP that MTA committed to include in the next regularly scheduled update to the QAP.

The project has continued to conduct its monthly meeting to review the QA/QC activities performed by the Purple Line project team, including those activities performed by the PMC and the GEC. MTA states that documentation from this meeting is distributed and maintained. The project's Monthly Progress Report to FTA also contains a summary of the significant current QA/QC activities and events, including quality audits and quality reviews. However, in January 2024 MTA did not submit the typical quality program monthly information, citing a change of leadership on the quality team. On January 25, 2024, MTA introduced the project's new Quality Manager, Turyalai Momand. In April 2024, MTA announced that it had hired a Deputy Quality Manager, along with several other quality staff.

In February 2024, MTA stated that it is developing a full schedule of quality audits to be performed in 2024. When asked about a number of very old deficiency notices and instances of non-conforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of sign-offs by managers. MTA is deferring some other older open quality items because making corrections now will negatively impact other critical path activities.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. Roland Carroll, the Purple Line systems and construction safety lead, added the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to his new quality management role. The PMOC evaluated this change as a part of the PMP review and will continue to monitor MTA's management capacity for this function and all positions through ongoing oversight activities.

The PMOC requested that MTA provide more complete documentation for quality-related activities. MTA modified the QAP to reflect many of the noted PMOC concerns. In addition, a

technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023. The PMOC then recommended acceptance of the QAP contingent upon MTA's incorporation of outstanding items into the next regularly scheduled annual update. On October 6, 2023, FTA accepted the QAP provided that MTA incorporate the PMOC recommendations. MTA has also developed a quality dashboard to improve its tracking of quality issues. In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational chart for quality management and administration. In April 2024, MTA listed the following three quality process improvements that it is developing:

1. Organizational chart update.
2. Document control procedure update.
3. Development of quality training plan and schedule for 2024.

MTA emphasized that these quality processes apply only to MTA's quality activities, but they are coordinated with MTS's quality processes. In April 2024, MTA stated that it has added quality oversight staff to its organization, including a Deputy Quality Director.

2.16 Safety and Security

To support the ultimate Safety and Security Certification of the Purple Line project, the PLTP System Safety team completed development of its first DCCC in May 2017 and submitted it to MTA for approval. MTA (assisted by the PMC) reviews the DCCCs as part of the Final Design package, according to the established submittal review process. According to PLTP, the DCCCs were being verified before the issuance of RFC packages. To date, an estimated 99 percent of the DCCCs have been verified. All previous comments on PLTP's Certified Elements List (CEL), which includes operations and maintenance and system integration testing elements, have been resolved, and CEL Revision 2 was accepted in March 2020. The Certified Items List (CIL) Revision 1 has been accepted. The next revision of the CIL is expected after MTS completes the design. MTA will provide the revised CIL to FTA and the PMOC as soon as it is completed. Approximately 20 percent of the CSCCs have been verified to date.

MTA chairs a Safety and Security Certification Committee (SSCC) that reviews, comments on, and approves any PLTP hazard management and safety and security certification issues. The first meeting of the MTA SSCC was conducted on March 20, 2018. Since July 11, 2018, the SSCC meeting has been held regularly and will continue as a monthly meeting until the level of activity requires more frequent meetings. ***As of July 2024,*** monthly SSCC meetings continue.

PLTC submitted a Threat and Vulnerability Assessment (TVA), and on July 15, 2019, MTA accepted and verified the comment responses and approved PLTC's TVA. PLTC then completed its TVA process. As of ***July 2024,*** MTS is still performing a cybersecurity TVA for the project.

MTA continues to conduct bimonthly Fire/Life Safety meetings with Montgomery County and Prince George's County. The meetings provide a basis for the counties' emergency responders to understand the features of the Purple Line systems and to resolve any concerns. Topics of

discussion include: Police Department MOUs; Fire Department connection and hydrant locations; access, signage, and station naming conventions; MOUs for training; the Preliminary Hazards Analysis at the Glenridge OMF maintenance gate; station names; and addresses/emergency phone numbers for locations along the corridor. Other topics of discussion have included closed circuit television cameras and Mobile Emergency Vehicle Response access. As of ***July 2024***, MTA indicates that work on establishing MOUs for cooperation with other local agencies continues. MTA will develop an MOU for safety and security with WMATA first and then use that document as the template for MOUs with other agencies. It remains the opinion of the PMOC that MTA should emphasize resolving the project's outstanding Fire/Life Safety issues, because progress on the resolution of these issues is not apparent and has been ongoing for several years.

MTA police continue coordinating MOUs with local safety agencies and developing MOUs with police jurisdictions (such as the Maryland National Capital Park Police) along the Purple Line. These MOUs are related to training the existing police agencies on how to respond to transit situations. During August 2023, the PMOC reiterated that these processes have been ongoing for several years and that milestones for resolution of issues should be established.

During the September 2022 MTA/PMOC meeting, a larger related issue was discussed at length. The SSOA staff participated in this discussion as well. The crux of the issue is that MTA does not have a police force located in proximity to the Purple Line. MTA hired a consultant team to analyze alternatives for providing security and fare enforcement services for the Purple Line. Alternatives included: expanding MTA's enforcement services geographically, bringing on a third party to provide these services through a contract, or sharing police services with another party. On February 23, 2023, MTA submitted its prepared draft recommendation for providing security and fare enforcement to several State of Maryland departments. Representatives from MDOT, which is the SSOA, who are monitoring the Purple Line project development provided comments on the draft recommendation before MTA submitted it to MTA's upper management and the several state departments. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a new Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on MOUs with other local jurisdictions, and developing a facility to house the district. As of January 2024, the PMOC was continuing to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget for providing security and fare enforcement services. In February 2024, MTA stated that it would complete the implementation plan by March 31, 2024. However, as of April 2024, MTA indicated that it would complete the police and security implementation plan by May or June 2024. MTA stated that the facility for the new Southern District of the police department will not be completed before the February 2028 RSD, and therefore temporary facilities will be required. In May 2024, MTA stated that the Purple Line project team will not be responsible for development of the new police force facility, but rather a different MTA department will manage its development. The PMOC recommends that MTA provide the key schedule milestones for development of the police and fare enforcement services, including for the development of the new police force facility and for the staffing and training for the new Southern District.

As required by the P3 contract, PLTP is responsible for directly implementing many of the safety and security requirements for the project, including those for construction safety and the collection and maintenance of the Occupational Safety and Health Administration (OSHA) safety statistics for the project. PLTC performed this work until its departure from the project, at which time MTA assumed responsibility. Later, once the replacement D-B contractor was in place, MTS transitioned into the safety and security role that PLTC held. MTS and MTA are holding regular safety and security coordination meetings.

Safety is a PMOC concern. The rate of recordable incidents remains above project goals, and MTA appears to be having difficulties with incident documentation. ***As MTA reported in July 2024***, the OSHA statistics for the project are:

- TCIR (Total Case Incident Rate) (Recordable Rate):
  - Actual: ***1.40 (2024 Year-to-Date [YTD]) and 2.80 (June 2024)***
  - MTS goal: 1.68
  - National average: 2.8 (for heavy civil construction)

Note: As of January 2024, the Lost Time Injury Rate (LTIR) is no longer being tracked.

In May 2024, the 2024 YTD and project inception-to-date (for MTS) incident rates decreased significantly. In June 2024 MTA reported that MTS had modified the incident statistics to exclude incidents related to subcontractors and suppliers. MTA is discussing the appropriateness of this change with MTS. The May 2024 TCIR that included all contractors is approximately double the goal. ***In July 2024, MTA stressed that subcontractors are a critical part of project safety given that they make up more than half of the personnel on the project. Although limited progress is being made, t***he PMOC continues to have concerns specifically related to construction safety. See **Section 2.16**, below, for more detail.

MTA had assumed responsibility for safety oversight during the IRP until MTS assumed control of the project. As of December 2022, MTA reported that MTS needs coaching on expectations for the required reporting of safety statistics. In April 2023, the PMOC noted to MTA that both the LTIR and the TCIR had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in incident rates, there is an apparent lack of tracking and reporting of safety issues. The PMOC has repeatedly noted that there are inconsistencies in incident reporting between MTA and MTS.

MTA states that it recognizes the issue and reports that it has scheduled additional safety coordination efforts. In May 2023, the PMOC requested documentation on these additional efforts, and in July 2023, the PMOC questioned the effectiveness of the efforts. MTA acknowledges the need for safety process improvement. In November 2023, MTA stated that MTS has replaced its safety director and has added safety staff, although MTA did not review the qualifications of the new director or staff. The PMOC recommended that MTA review the qualifications of MTS safety staff and the safety processes and procedures being followed on the project.

The PMOC recommended that MTA and MTS complete a safety process review as soon as practical and that MTA prepare a written summary. In November 2023, MTA's safety director, Roland Carroll, provided an email and attachment that briefly summarized the safety improvement actions. The document does not indicate target dates for implementation, nor the responsible party for these actions. In January 2024, MTA stated that MTS is not following the contractually required incident reporting procedures and timelines, which include a 20-minute verbal reporting requirement and a 24-hour maximum period to submit written documentation of incidents. In February 2024, MTA provided 12 months of incident reporting information to the PMOC. The document quality requires improvement and should include identifying information, such as the date and who prepared it. The data indicates that nearly 80 percent of all safety incidents are reported late, some as much as several months. The delayed reporting has occurred for both MTA-managed incidents (under OSF) and for MTS-managed incidents under both the former and current MTS Chief of Safety.

It remains the opinion of the PMOC that MTA's processes related to construction safety can be improved. The PMOC recommends that MTA consider dedicating additional resources to construction safety (i.e., resources dedicated to only the construction portion of the Purple Line project). MTA should also consider preparing a comprehensive monthly safety report under the direct supervision of the Project Director.

In April 2024, MTA reported its March 2024 incident rate, which showed an increase, and the rate remains significantly higher than the goal. MTA has stated that it is modifying the safety processes. The PMOC requested that MTA submit the full incident tracking log each month as a part of the standard information it provides, and that MTA also provide the results of the April 2024 audit of the MTS Concessionaire Safety and Health Plan.

The PMOC also reviewed the Concessionaire Safety and Health Plan audit results (from the May 2024 MTA audit) and makes the following observation and related recommendation:

- Audit Item 4 – MTS does not have written verification of its subcontractors' and suppliers' health and safety plans. MTA recommended that MTS collect written verification from the subcontractors and suppliers that they are utilizing their health and safety plan or have adopted the MTS health and safety plan. Considering that MTS has had subcontractors onsite for since April 2022, the PMOC finds this lack of verification a significant concern. The PMOC recommends that MTA require MTS provide a firm target date for verification and track progress toward completion.
- The PMOC continues to recommend that MTA carefully monitor safety documentation and develop safety process improvements.

In late October 2022, MTA submitted to FTA updated SSMP and SSCP documents in conjunction with the updated PMP. On February 13, 2023, and March 8, 2023, FTA provided review comments to MTA on the SSMP and SSCP, respectively. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023, and accepted the SSCP on December 28, 2023. In April 2024, MTA submitted a

revised SSCP that includes the TUN process and also provided a partially complete preliminary LRV Delivery Plan. ***FTA accepted SSCP Version 8 on July 9, 2024.***

See the **Project Management Plan and Sub-plans** section of this report, above, for the status of the sub-plans of the PMP related to safety and security.

2.17 Americans with Disabilities Act

The PMOC confirmed that the Design Criteria Manual applicable to the Purple Line project addresses Americans with Disabilities Act (ADA) requirements, including references to the requirements in the Maryland Accessibility Code, the ADA Accessibility Guidelines for Buildings and Facilities, and the ADA Standards for Transportation Facilities.

Accessibility and compliance with the ADA are required as part of the functional requirements for stations and guideway, and as part of the codes and standards for LRVs within the P3 contract (Book 2, Part 2) for the Purple Line project. Based on project reviews conducted by the PMOC, MTA has confirmed that it included ADA compliance in its QA oversight reviews of PLTC's design packages.

All design reviews include ADA specifically. The contract requires a full-time MTS Maintenance of Traffic construction representative for the project to monitor whether temporary pedestrian accommodations during construction continue to comply with ADA requirements. The contract also includes an incentive program for ADA compliance. The Maryland State Highway Administration also inspects temporary facilities.

MTA indicates that the project is maintaining ADA accessibility along the project corridor during construction. In addition to planning for ADA accessibility, MTA and MTS respond to public concerns due to construction activities and temporary accessibility features. ***As of July 2024, the project corridor has experienced an increase in constituent access and mobility concerns due to the intensity of summer construction activities. MTA is coordinating with MTS to address these concerns as quickly as possible.***

2.18 Buy America

MTA understands that Buy America compliance applies not only to the rail vehicles but also to the procurement of all manufactured products, including all iron and steel. MTA is also aware that domestic manufacture of all federally funded procurements is required and should be certifiable. Compliance with Buy America regulations is contained in MTA's standard clauses for its procurements, and the P3 contract contains explicit Buy America language in its Appendix 16.

Virginkar and Associates, Inc. conducted the Buy America pre-award audit and concluded that there is reasonable certainty that CAF will satisfy the Buy America requirements as stated in 49 Code of Federal Regulations (CFR) 661. MTA's interpretation is that, because the vehicle RFP was advertised before December 4, 2015 (which is the date of passage of the Fixing America's Surface Transportation Act, also known as the FAST Act), the 49 CFR 661 Public Interest Waiver that limits domestic content to a minimum of 60 percent, as opposed to the escalating domestic content requirements of the FAST Act, applies in this case. During the week of October 2, 2017,

an intermediate post-award Buy America audit was conducted of CAF's facility in Elmira, New York, for added confidence that the post-delivery audit would not identify issues. CAF targeted 65 percent domestic content in the completed LRVs.

The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to FTA. On that same day, MDOT also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.

MTS regularly audits its suppliers and subcontractors regarding the construction Buy America requirements. MTS audits its subcontractor's Buy America requirements and any issues are reported in conjunction with the project quality process.

2.19 Start-up, Commissioning, Testing

MTA has begun documentation for the "Roadmap to Revenue Operations" (see **Attachment F**), which includes both MTA and MTS information on integration, testing, and commissioning. MTA submitted an update of Attachment F to the PMOC in May 2024. ***In July 2024, MTA provided to the PMOC the Integration Test Program Plan and other documentation prepared by PLTP and PLTP's contractor, SENER.*** As of November 21, 2023, MTA had developed a process for managing testing submittals and reviews, including detailed tracking of open items.

The PMOC recommended that MTA expedite readiness activities for testing of LRVs. MTA states that the responsibility for readiness activities lies with the P3 concessionaire. LRV delivery began in May 2024, and MTA media events related to vehicle delivery are scheduled for July 2024. The PMOC recommends that MTA expedite the readiness plans for dynamic testing, which is scheduled to begin in the fall of 2024.

2.20 Before-and-After Study Reporting

To be determined.

2.21 Lessons Learned

The resolicitation of a D-B contractor gave MTA the opportunity to apply several lessons learned to the new D-B contract documents and to amend the P3 Agreement. After the May 2022 risk workshop with MTA and the PMOC, MTA provided an update on opportunities for improvement that MTA had identified during the resolicitation and is incorporating into the project. MTA provided an initial Lessons Learned summary that addressed the period of OSF construction and replacement of the D-B contractor. The PMOC recommends that MTA continue the process of recording lessons learned by reviewing and documenting the issues that led to the change order (of more than $600 million and 12 months) that included Amendment 7 to the P3 Agreement.

2.22 Action Items

Action Items are identified at MTA/FTA Quarterly Progress Review Meetings, at MTA/PMOC Monthly Update Meetings, and at MTA/FTA Biweekly New Starts Progress Conference Calls. Action Items in ***July 2024*** are as follows:

1. MTA will provide the M33 bolt RCA when complete. – ***CLOSED***
2. MTA will provide the key schedule milestones for development of the police and fare enforcement services. – OPEN***, planned completion August 2024***
3. MTA will provide Tiger Team details in (SCC format), which will indicate how the Amendment 7 cost ***and schedule changes were determined***. – OPEN***, planned completion August 2024***
4. MTA will provide the preliminary Integration Test Program Plan and other documentation indicated in the Roadmap to Revenue Operations attachment (Attachment F) in this report. – CLOSED
5. MTA will provide an update on quality process improvements, including incorporation of previous FTA and PMOC recommendations for the QAP, including the training plan and organizational chart. – OPEN***, planned completion August 2024***
6. ***MTA will provide an updated organizational chart that includes recent key hires to the project team. – OPEN, planned completion August 2024***

ATTACHMENT A – LIST OF ACRONYMS

ADA	Americans with Disabilities Act
ARPA	American Rescue Plan Act
ATC	Alternate Technical Concept
BFMP	Bus Fleet Management Plan
BPW	Board of Public Works
CAF	Construcciones y Auxiliar de Ferrocarriles
CAT	Community Advisory Team
CEL	Certified Elements List
CFR	Code of Federal Regulations
CIL	Certified Items List
CSCC	Construction Specification Conformance Checklist
CSX	CSX Corporation
D-B	Design-Build
DBE	Disadvantaged Business Enterprise
DCCC	Design Criteria Conformance Checklist
DNR	Maryland Department of Natural Resources
EAC	Estimate at Completion
FAI	First Article Inspection
FCP	Forest Conservation Plan
FFGA	Full Funding Grant Agreement
FRP	Final Recovery Plan
FTA	Federal Transit Administration
GEC	General Engineering Consultant
IBS	Initial Baseline Schedule
IRP	Interim Recovery Plan
LOD	Limits of Disturbance
LRT	Light Rail Transit
LRV	Light Rail Vehicle
LTIR	Lost Time Injury Rate
MCC	Management Capacity and Capability
MDE	Maryland Department of the Environment
MDOT	Maryland Department of Transportation
MOU	Memorandum of Understanding
MTA	Maryland Transit Administration
MTS	Maryland Transit Solutions
N/A	Not Applicable
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
O&M	Operations and Maintenance
OCS	Overhead Contact System
OHA	Operational Hazard Analysis
OMF	Operation and Maintenance Facility
OP	Oversight Procedure
OSF	Operation Step Forward
OSHA	Occupational Safety and Health Administration
P3	Public-Private Partnership
PEPCO	Potomac Electric Power Company
PHA	Preliminary Hazards Analysis
PLTC	Purple Line Transit Constructors
PLTO	Purple Line Transit Operators
PLTP	Purple Line Transit Partners
PMC	Project Management Consultant
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QA/QC	Quality Assurance/Quality Control
QAP	Quality Assurance Plan

QRA	Quantitative Risk Assessment
RAMP	Real Estate Acquisition Management Plan
RCA	Root Cause Analysis
RCMP	Risk and Contingency Management Plan
RFC	Released for Construction
RFP	Request for Proposals
ROD	Record of Decision
ROE	Right of Entry
ROW	Right-of-Way
RSA	Revenue Service Availability
RSD	Revenue Service Date
SCC	Standard Cost Category
SCIL	Safety Certifiable Item List
SEIS	Supplemental Environmental Impact Statement
SIT	Systems Integration Test
SOP	Standard Operating Procedure
SSCC	Safety and Security Certification Committee
SSCP	Safety and Security Certification Plan
SSCVR	Safety and Security Certification Verification Report
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSTC	Silver Spring Transit Center
STP	Surface Transportation Program
SWM	Stormwater Management
TBD	To Be Determined
TCE	Temporary Construction Easement
TCIR	Total Case Incident Rate
TDD	Transit Development and Delivery
TIFIA	Transportation Infrastructure Finance and Innovation Act
TPSS	Traction Power Substation
TRO	Temporary Restraining Order
TUN	Temporary Use Notice
TVA	Threat and Vulnerability Assessment
UMD	University of Maryland
USACE	U.S. Army Corps of Engineers
WMATA	Washington Metropolitan Area Transit Authority
WSSC	Washington Suburban Sanitary Commission
YOE	Year of Expenditure
YTD	Year-to-Date

ATTACHMENT B – TOP PROJECT RISKS

An internal risk workshop to support the Interim Recovery Plan was held on January 26, 2021. Maryland Transit Administration (MTA) and Purple Line Transit Partners used information from the meeting as they solicited a replacement Design-Build contractor.

A risk workshop was held May 3 through May 5, 2022. After the risk workshop, MTA prepared supplementary or updated documents for review, including an updated Risk Register. The Federal Transit Administration (FTA) provided a risk summary to MTA on June 22, 2022, for MTA's consideration when updating risk, contingency, and other project management plans. MTA incorporated the FTA comments in the revised Risk and Contingency Management Plan (RCMP) that is a part of the Final Recovery Plan. On May 22, 2023, FTA accepted the revised RCMP with conditions.

During the February 7, 2024 Quarterly Progress Review Meeting, MTA presented cost and schedule contingency drawdown curves that indicated significant commitment of contingency reserves. Due to this significant commitment of contingency and the fall 2023 completion of the MTA-managed Operation Step Forward (OSF) activities, MTA determined that an update to the Risk Register was warranted.

In March 2024, MTA executed Amendment 7 to the P3 Agreement to address the OSF delays, nonconforming work by the previous D-B contractor (PLTC), owner-driven changes to the design, and several other disputes with PLTP and/or MTS. Amendment 7 raised PLTP/MTS compensation by $577,459,709 and added 11 months to the project schedule, representing considerably more than the available cost contingency and nearly all of the available schedule contingency, respectively. In response, MTA ***prepared*** a Quantitative Risk Assessment (QRA) to re-baseline the project's contingency drawdown curves and update the RCMP. MTA provided a preliminary risk update and QRA, including contingency recommendations, in June 2024. Preliminary recommendations for cost contingency and schedule contingency are $179.58 million and 11 months, respectively.

In June 2024, MTA identified the following top risks:

Cost Risks:

1. Unknown Unknowns
2. Remaining Right-of-Way Negotiations
3. Temporary Construction Easement Extensions
4. Disputes

Schedule Risks:

1. Signal Cabinet Testing
2. Permit Compliance
3. Unknown Unknowns
4. Performance Due to Nonconforming Work

In July 2024, the PMOC reviewed the MTA QRA and requested that MTA provide information that describes the basis for the Amendment 7 cost and schedule values, as well as several other

questions to help clarify the QRA procedures. After MTA provides this additional information, the PMOC will continue its efforts to validate the project cost, schedule and contingency, and offer recommendations to FTA.

ATTACHMENT C – AWARDED CONTRACTS

Included below is information that MTA provided for the May 8, 2024 Quarterly Progress Review Meeting packet. Please note that the total shown in this table for contracts awarded does not reflect the full project value.

Major Contracts:

Company	Vendor Type	Contract No.	Baseline Amount	Change Order Totals	Current Amount	Pending Change Orders
PB/RK&K	Engineers/ Architects	MTA-1054A	$ 12,000	$ 1,850	$ 13,850	
STV/Jacobs	Engineers/ Architects	MTA-1054B	$ 8,000	$ 1,300	$ 9,300	
AECOM/ RK&K/WSP	Engineers/ Architects	MTA-1264A	$ 60,000	$ 338,500	$ 398,500	
Gannett Fleming/WRA	Engineers/ Architects	MTA-1265B	$ 80,000	$ 71,000	$ 151,000	
Purple Line Transit Partners	P3 Concession (design build portion only)	PUR16032PP	$ 1,988,816	$ 1,933,769	$ 3,922,585	
Total			**$ 2,148,816**	**$ 2,346,419**	**$ 4,495,235**	**0**

Reason for Change: *Amendment 6 to the Purple Line Transit Partners P3A was not been previously reflected. The amount shown as "Current Amount" represents that portion of the P3A Design-Build contract associated with the New Starts Program.*

ATTACHMENT D – ROLLING STOCK VEHICLE STATUS REPORT

Date: July 29, 2024

Vendor: Construcciones y Auxiliar de Ferrocarriles (CAF)

Model: Multiple-section 136-foot articulated car (total length is 142 feet coupler-to-coupler), used in a five-car consist per vehicle

Year: The first vehicle was completed in 2021, and currently 26 vehicles are designated as "Ready for Shipment" or have been delivered. Completion of the storage and testing facilities at the Glenridge Operation and Maintenance Facility (OMF) has been delayed, so Maryland Transit Administration (MTA) and CAF negotiated terms for storage of vehicles at the CAF facility in Elmira, New York. The storage agreement has now transferred to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS).

Quantity: 25 vehicles (125 cars) were in the original contract (Full Funding Grant Agreement [FFGA]). One vehicle (five cars) was added to the original CAF authorization by MTA, outside of the FFGA.

In July 2021, two vehicles (ten cars) were added via change order to MTS, also outside of the FFGA.

Identification: The original light rail vehicles (LRVs) will be numbered from 101 through 126. The two additional LRVs will be numbered 127 and 128, respectively.

New Technologies: None planned (all major suppliers have service-proven equipment).

Status and Significant Activities:

- As a part of the original order, 26 vehicles (130 cars) were assembled in Spain and delivered to CAF's facility in Elmira, New York, for final assembly and static testing. The additional two vehicles (ten cars) have been delivered to Elmira for final assembly and static testing.
- Delivery of finished vehicles was expected to begin in spring 2021; however, because the Glenridge OMF was not ready to accept railcars, MTA and CAF negotiated an agreement for CAF to store the completed cars in Elmira.
- The first LRV was delivered to the Glenridge OMF on May 15, 2024. The second vehicle delivery occurred in mid-June 2024, and the third delivery in mid-July 2024. CAF intends to have one vehicle per month delivered until such time as that frequency can be increased.
- Twenty-three LRVs have passed static testing, have been designated as Ready for Shipment, and are in storage in Elmira.

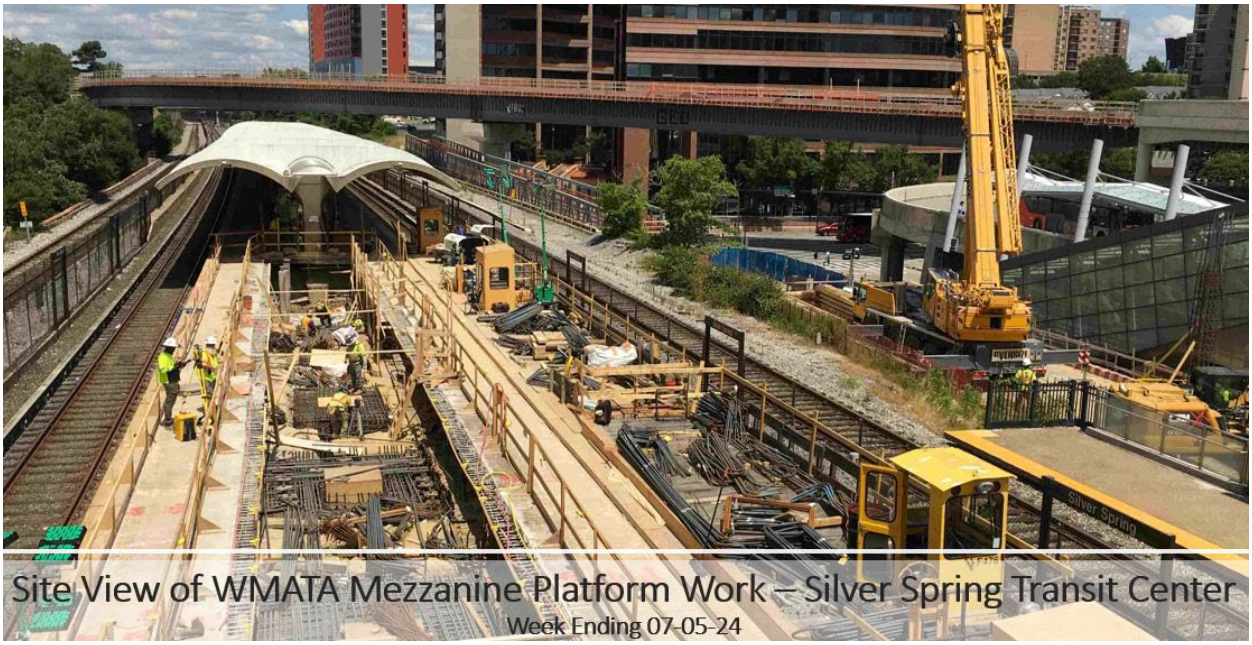
- The Glenridge OMF will be able to store three or four vehicles in the building, so additional track must be available for additional storage. The Overhead Contact System and Traction Power Substation (TPSS) Q7 and TPSS QYG must be completed and installed before operation of the vehicles.
- SNC-Lavalin (now an MTS subcontractor) prepares a monthly quality report documenting safety, production, and quality items at the New York production facility.
- MTA, the Project Management Consultant, and CAF are holding weekly coordination meetings to review all outstanding testing and factory/shop activities, including onsite testing procedures that are used when the vehicles are delivered to Maryland.
- MTS, which has assumed the CAF contract, is preparing and submitting to MTA reports on LRV maintenance activities required during the storage period.
- The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with the evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to Federal Transit Administration (FTA). On that same day, Maryland Department of Transportation also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicated that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.
- The resolution of a previously identified quality issue related to the M33 bolt on the LRV trucks was closed in May 2024. In July 2024, MTA provided a confidential report on resolution of the issue. CAF performed a Root Cause Analysis (RCA), identifying a primary root cause, and secondary contributing causes. Validation of the corrective actions was conducted and the issue is now closed.

ATTACHMENT E – PROJECT MILESTONES/KEY EVENTS

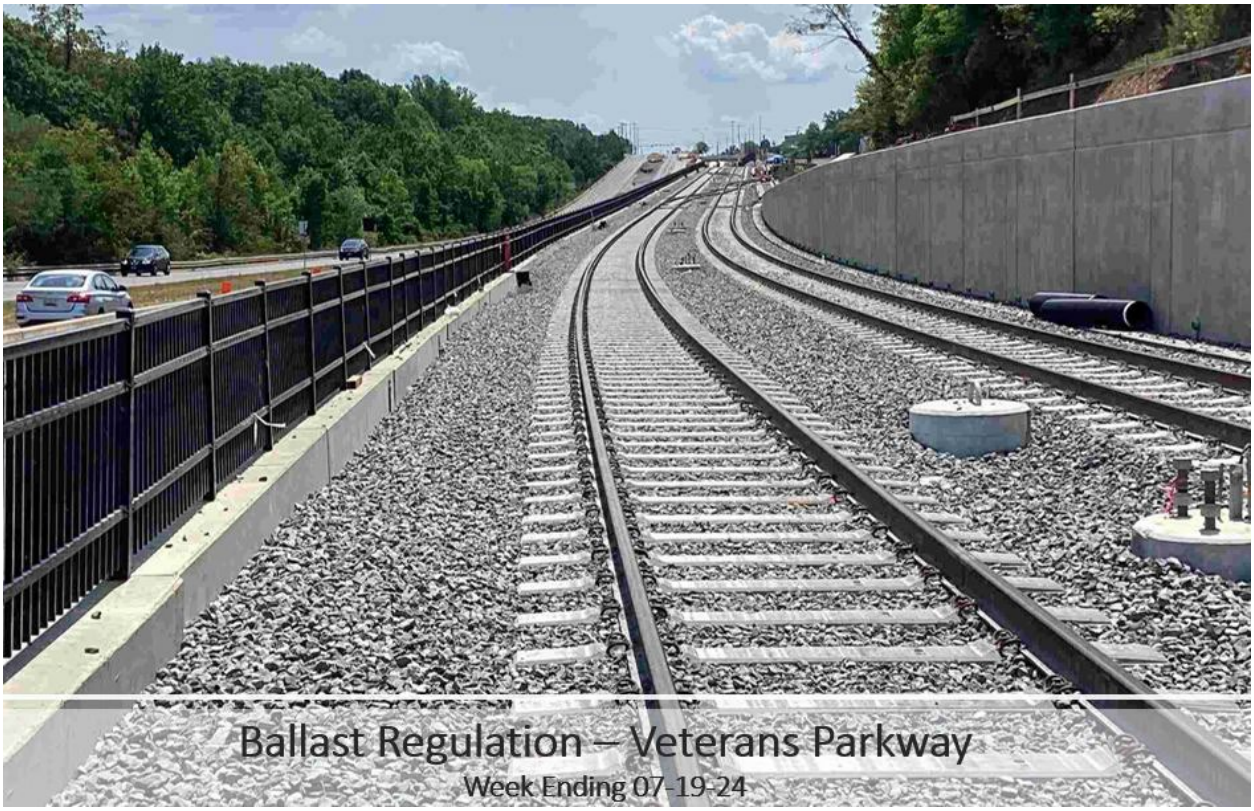
Photos courtesy of Maryland Transit Administration.





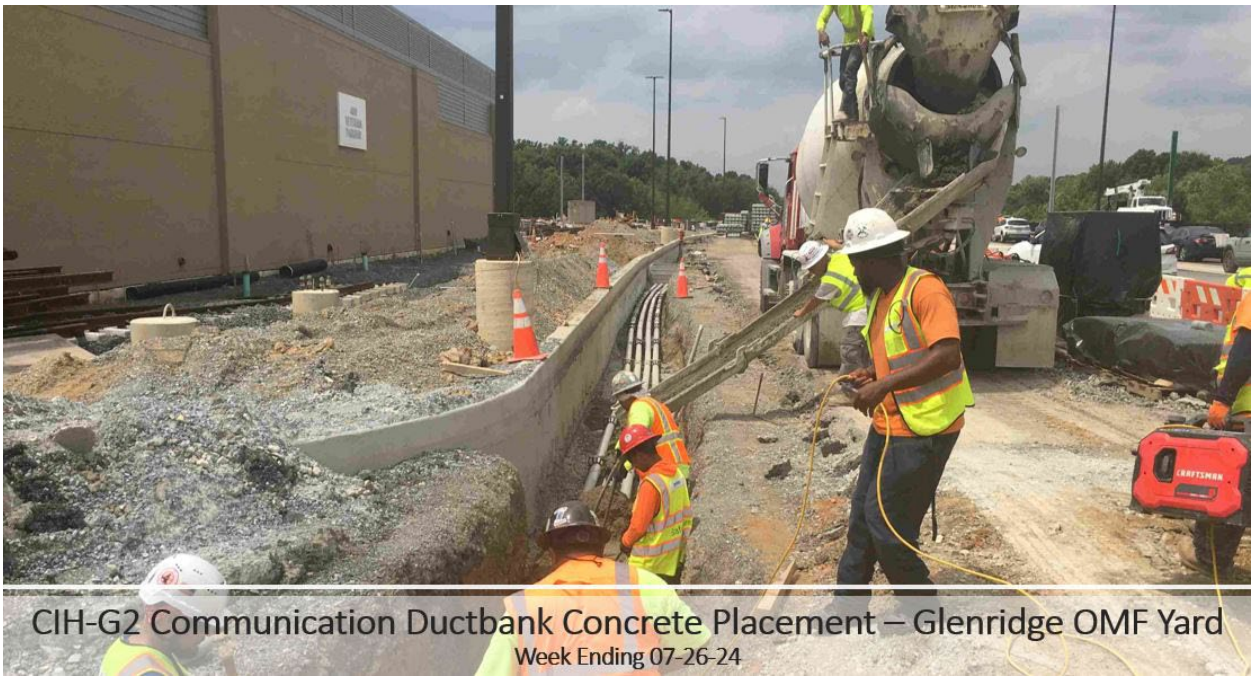

Site View of WMATA Mezzanine Platform Work – Silver Spring Transit Center
Week Ending 07-05-24


Site View of Platform Foundation Walls Formwork – Adelphi Road-UGMC-UMD Station
Week Ending 07-12-24


Ballast Regulation – Veterans Parkway
Week Ending 07-19-24


Embedded Track Rail Concrete Placement- Campus Drive
Week Ending 07-19-24


OCS Poles Mast Arm Installation Work – Veterans Parkway
Week Ending 07-26-24


CIH-G2 Communication Ductbank Concrete Placement – Glenridge OMF Yard
Week Ending 07-26-24

ATTACHMENT F – ROADMAP TO REVENUE OPERATIONS

In accordance with Oversight Procedure 25, the Project Sponsor will prepare the Roadmap to Revenue Operations template based on the current master project schedule, in the general format presented below. The PMOC provided this template to the Project Sponsor as a separate electronic file for its use. The Project Sponsor is requested to provide quarterly updates for review and discussion. MTA provided the quarterly update for the roadmap, shown below, in May 2024.

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Testing								
Finalize Comprehensive Test Plan	PLTP/MTS/ Sener	See Notes	In Progress	5/31/24		**T & C Management Plan** – Accepted **Project Test Program Plan** – Accepted **LRV Test Plan** – Accepted. All factory and site test procedures Accepted. **TCS Test Plan – Local** – Accepted. All factory test procedures submitted, 10 of 11 Accepted. 18 of 37 site test procedures submitted, 12 Accepted **TCS Test Plan – Integration** – Awaiting Submittal **TCS/Traffic/CMS Test Plan** – Awaiting Submittal **TPSS Test Plan** – Accepted. All factory test procedures submitted and Accepted. 20 of 24 site test procedures submitted and Accepted. **OCS Test Plan** – Accepted. Factory test procedures prepared by previous contractor and reviewed by PLTC/Atkins. 3 of 14 now submitted to MTA and Accepted. 3 of 13 site test procedures submitted, 2 Accepted. **Communications Test Plan** – Accepted. 20 of 25 factory test procedures submitted and Accepted. 2 of 51 site test procedures submitted and Accepted. **CMS Test Plan** – Accepted. 57 of 59 factory test procedures submitted, 51 Accepted. 0 of 53 site test procedures submitted. **Fire & Security Test Plan** – Accepted. 19 of 19 factory test procedures submitted and Accepted. 5 of 31 site test procedures submitted and Accepted. **Fare System Test Plan** – Awaiting Systems Design **Traffic** – QC with AHJs **EMI Test Plan** – Accepted **CCG Test Plan** – Accepted **Noise & Vibration** – MTS Reviewing **OMIS Test Plan** –CMS Integration added to CMS TPP. OMIS functionality TBD after completion of design.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Ops Simulator Test Plan TPP is pending completion of design. **Trackwork** – Unofficial draft received and comments returned. Awaiting official submittal. **OMFs Test Plan** –Responses received to previous Glenridge submittal – in resolution. Plan for Lyttonsville will be submitted as a separate document. **Station Electrical** – Under Study by MTS/Sener **Fire Protection, Mechanical, Plumbing** – Under Study by MTS/Sener		
Finalize / Update Systems Integration Test (SIT) Plan	PLTP/MTS/ Sener	In Preparation	In Progress	May 2024		Awaiting update of DRC# 3644, CW-164, Systems Integration Test Plan Revised document received – DRC #1066. Currently in review.		
Develop Testing Schedule and Monitoring Tools	PLTP/MTS	In Progress	TBD	TBD				
Develop Operating Rules for Testing	PLTP/MTS	In Preparation	In Progress	July 2024		Construction Railway Operations Rules & Procedures (CRO) is largely complete. Final edits to the CRO being made by MTS's new Yard Master. Final CRO due by end of May/early June. Training on CRO scheduled to begin in Jul 2024.		
Conduct System Integrated Testing - Prioritized Traffic Signal Systems	PLTP/MTS	In Progress	TBD	TBD				
Certificates of Occupancy / Substantial Completion	Maryland Office of the State Fire Marshal	Glenridge OMF – In progress.				As state-owned property, no certificates of occupancy are issued. The AHJ ensures building is safe through various system inspections to include fire protection systems, elevators, etc. AHJ will take no exception to occupancy if inspections pass.		
Finalize Operating Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept. 2025 Sept 2026		Projected start of Trial Running: March 2027 (based on May 2024 Project Schedule Update): Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running
Finalize / Revise Standard Operating Procedures (SOPs),	PLTP/PLTO	See Note	TBD			Included as part of the Operating Plan.		Rulebook, SOPs and EOPs to be submitted for review and

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
manuals, and rulebook as applicable				Sept. 2025 Sept 2026		Projected start of Trial Running: March 2027 (based on May 2024 Project Schedule Update): : Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running. Revisions to operating/maintenance/emergency rules/procedures may occur during the testing and commissioning period. CRO undergoing final edits. CRO to become effective prior to commencement of regular movements of vehicles within the yard (Refer to Develop Operating Rules for Testing above)		approval no later than 6 months prior to Trial Running. Preliminary submittal of Operations manuals for review and comment due no later than 18 months prior to Trial Running. Final submittal of Ops manuals for review and approval due no later than 6 months prior to Trial Running
Complete Staffing Plan	PLTP/PLTO	On-going				PLTO has developed a draft staffing and hiring plan that is tied to the approved project schedule. Hiring plan subject to change based on project schedule changes.		
Obtain Required Staff T&C Support Staff	PLTP/PLTO/ MTS PLTO	On-going	Various March 2024	March 27 Fall 2024		Recruitment and staff hiring based on project schedule. PLTO staffing (operators and dispatchers/controllers) to support vehicle dynamic testing has been coordinated with CAF. Onboarding of other PLTO support staff for vehicle maintenance (after vehicle acceptance) and test track maintenance tied to vehicle delivery dates and start of vehicle dynamic testing (Fall 2024) **PLTO Current On-site Staffing:** General Manager Dir. of Maintenance CFO/Admn Manager Facilities Maintenance Manager Systems Engineer Structural Engineer HR Manager Buyer/Procurement Specialist **(pending job offer acceptance)** Warehouse Supv Dep Director of Ops **(accepted job offer)** Vehicle Maintenance Superintendent Rail Operators (6 - for T&C Support).		

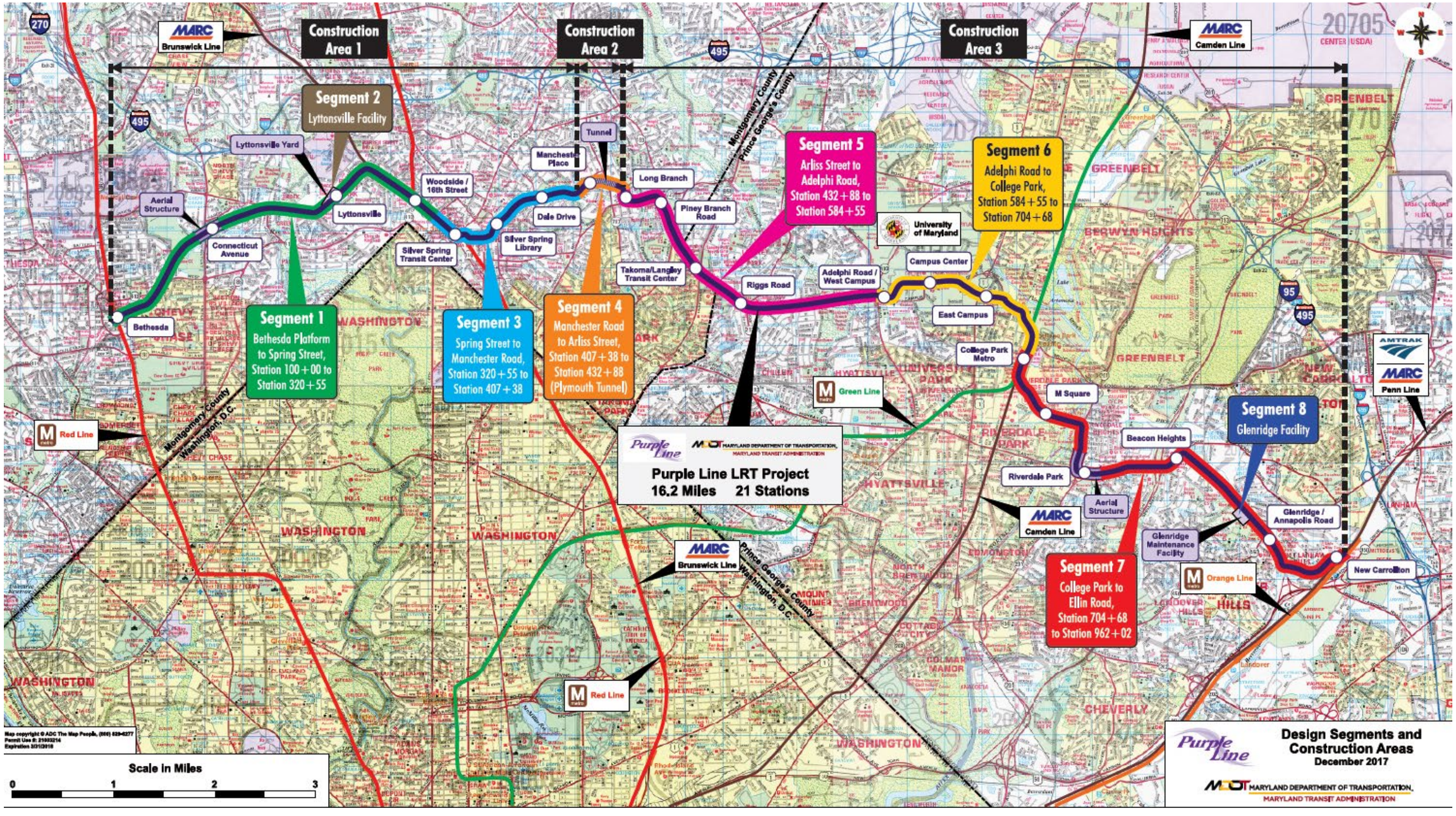
Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Current On-site Staff supported by various home office operations and engineering staff and consultants such as Safety & Operations, Vehicles, Systems, etc. **Near Term Hiring:** Facilities Maintainer Vehicle Maintenance Technician **(interviews being conducted (1 initially)** Training Instructor – **Interviews completed Candidate selected. Job offer pending** Sr Track Maintenance/Inspector Train Dispatchers (2) Accountant All OMF building maintenance contracts have been executed with the exception of contracts for the cranes, turntables, hoist which are still under MTS responsibility. Anticipate turnover of equipment to PLTO in the near future		
Training of Operations and Maintenance (O&M) personnel	PLTP/PLTO/ MTS	On-going	Various	March 2027		**For Testing & Commissioning Support:** Six (6) LRV Operators have received initial familiarization training on the vehicles in Elmira. Those operators will be used to support vehicle dynamic testing and training of full-time operators in the future training at Elmira completed. PLTP/MTS developing training plans for testing & commissioning rules, procedures, and requirements. PLTO will need to be fully staffed prior to the start of Trial Running in March 2027.		
Emergency response plan, training, and drills Initial Training for OMF/Test Track and Vehicles	PLTP/PLTO/ MTS	Various Ongoing	Feb. 2024 July 2024	Jan. 2027 Aug. 2024		Emergency response drills to be conducted during Trial Running. Initial Training for up to 150 first responders will be initiated between PLTP, PLTO, and Prince George's County in Summer 2024. Training schedule being coordinated with the First Responders Training program developed. Undergoing final review by PLTO		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Finalize Revenue Operations Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept 2025 Sept. 2026		Projected start of Trial Running: March 2027 (based on May 2024 Project Schedule Update): Revenue Operations/Service Plan included as part of Operating Plan. Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		
Develop / Revise Safety and Security Certification Plan (SSCP) & Safety and Security Management Plan (SSMP)	MTA	On-going	SSMP – 2/02/2011 SSCP – 8/31/2012	TBD		SSMP is currently on revision 14 and the SSCP is on revision 8. The SSMP is updated in conjunction with the PMP as it is considered a sub-plan.		
Federal Transit Administration (FTA) Office of Safety & Security Readiness Review	FTA	See Note	TBD	TBD		No updates at this time		
PMOC OP-54 Readiness for Revenue Operations Review Report	PMOC	See Note	TBD	TBD		No updates at this time		
Conduct Operational Hazard Analysis (OHA) and resolve other hazards / vulnerabilities	PLTP	See Note	TBD	TBD		No updates at this time		
Pre-Revenue Operations	PLTP/PLTO	See Note	March 2027	Dec. 2027		Pre-revenue Operations broken down into: Trial Running and System Demonstration Testing. Projected start of Trial Running: March 2027 (Based on May 2024 Project Schedule Update)		
Develop Safety Outreach Plan	MTA/PLTP	Not Started	TBD	Sept. 2025 Fall 2024		Projected start of Trial Running: March 2027 (Based on May 2024 Project Schedule Update): Outreach Plan to be developed 18 months before Trial Running. Outreach plan for test track OCS energization and start of vehicle dynamic testing under development. To be		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						completed and rolled out prior to energizing the test track		
Provide Community Outreach	MTA/PLTP	Not Started	TBD	Fall 2024		Outreach plan for test track OCS energization and start of vehicle dynamic testing under development.		
Public Timetables / Maps / Website Updates, etc.	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time.		
Grand Opening Plan	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time		
Update / Finalize SSMP	MTA					See previous SSMP entry.		
Finalize and/or update Safety Certifiable Item List (SCIL) and SSCP	MTA/PLTP	On-going	TBD	TBD		No updates at this time.		
Implement Safety and Security Certification Committee	MTA	On-going	April 2018	TBD		The SSCC has been ongoing since 2018.		
Implement Fire Life Safety Committee	MTA	On-going	7/27/2012 – Montgomery County 9/26/2012 – Prince George's County	TBD	TBD	MTA has implemented two FLSSCs, one for each Maryland County that Purple Line traverses. Both committees were started in 2012.		
Verify design criteria, Preliminary Hazards Analysis (PHA), Threat and Vulnerability Analysis (TVA), change orders are implemented within the project	MTA/PLTP	On-going	PHAs - 6/26/2012 TVA – 12/10/2013 Change Orders	TBD	TBD	PLTP has verified over 98% of the design criteria. Initial PHAs on the 30 % Preliminary Design started in 2012 by MTA. PLTP continued PHAs in 2016. Initial TVA completed in 2015 by MTA. PLTP continued in 2017. MTS has initiated a cybersecurity TVA.		
Review status of quality non-conformances		See Note				No updates at this time.		
Closeout of non-safety critical items/non-conformances		See Note				No updates at this time.		
Closeout of safety critical items/nonconformances	MTA/PLTP	Not started	TBD	TBD		No updates at this time.		
Complete Safety and Security Certification Verification Report (SSCVR)	PLTP	Not started	TBD	May 2027		This report will be due sometime in the May 2027 timeframe.		
Document Workarounds / Open Items List	PLTP	Not started	TBD	TBD				
Verify emergency drills, tabletops, training, etc. are completed	MTA/PLTP/ PLTO		TBD	TBD		Emergency drills to be conducted during the Trial Running period. Training verification will be completed prior to Trial Running.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
SSO final certification / signature	SSO					No updates at this time		
Revenue Service								
Target Revenue Service Date (RSD)	PLTP		TBD	Dec. 2027		Project schedule dependent.		
Public RSD	MTA/PLTP		TBD	Dec. 2027		Project schedule dependent.		
Full Funding Grant Agreement (FFGA) RSD						No updates at this time.		

ATTACHMENT G – PROJECT MAP



COMPREHENSIVE MONITORING REPORT
May 2024–July 2024

Metro Fleet and Train Control Replacement Project
MTA Non-New Starts Capital Projects

Maryland Transit Administration
Baltimore, Maryland
Final

Draft Report Delivered to FTA on August 20, 2024
Final Report Delivered to FTA on August 30, 2024

PMOC Contract No.: 69319519D000016
Task Order No.: 69319520F300095
Project No.: 69319519D000016/69319520F300095
Requisition/Reference No.: FTA-TPM20-20-0106
OPs Referenced: 20, 22, 24, 25, 26
CLINs 0001, 0002, and 0005

David Evans and Associates, Inc.
John Susino, Task Order Manager
Voice: 610-570-6496; Email: john.susino@deainc.com
Time on Project: 05/18/2020 through 05/17/2025

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract #69319519D000016, Task Order #69319520F300095. Its purpose is to provide information and data to assist FTA as it continually monitors the management capacity and capability of the Maryland Transit Administration (MTA) (the Project Sponsor) to execute the project efficiently and effectively, and hence, whether the Project Sponsor continues to be ready to receive federal funds for further project development. This report covers the project management activities on the Metro Fleet and Train Control Replacement Project and the MTA Non-New Starts Capital Projects managed by MTA as the Project Sponsor. The cost and schedule information in this report was extracted from MTA's July 17, 2024, monthly report, except where noted. This report has been organized to comply with the requirements of updated Oversight Procedure 25 – Recurring Oversight and Related Reports dated June 2020.

THIRD-PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for FTA. This report should not be relied upon by any party, except FTA or the Project Sponsor, in accordance with the purposes as described below.

Projects funded by FTA and monitored by its Project Management Oversight Contractor (PMOC) can utilize a risk-based assessment process to review and validate a Project Sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a Project Sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a Project Sponsor may develop for project execution. Therefore, the information in the reports will change from quarter to quarter, based on relevant factors for the period and/or previous periods.

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1. EXECUTIVE SUMMARY

1.1. Project Description

The Metro Fleet and Train Control Replacement Project, as part of the Maryland Transit Administration (MTA) (Project Sponsor) Non-New Starts Capital Projects, renovates the MTA Metro System that consists of a double-tracked train-controlled signaling system that is 15 miles long and a Metro railcar fleet consisting of 100 cars that are now more than 30 years old. The MTA Metro System is located in Baltimore, Maryland. The Metro railcars were designed with a 30-year life and are now due for replacement. The Automatic Train Protection system is currently experiencing reliability problems due to its age and parts obsolescence. The Metro Fleet and Train Control Replacement Project, which is using phased construction, consists of installation of a new Communications Based Train Control (CBTC) system, 78 new railcars (based on a needs assessment), phaseout of the old fleet, and decommissioning of the old train control system. The project cost is budgeted at $486,851,000, which has changed from the value reported in the 2021 Quarter 1 Project Management Oversight Contractor (PMOC) comprehensive monitoring report.

1.2. Project Status

The contract was awarded to Hitachi Ansaldo Baltimore Rail Partners, LLC (HAB) (now Hitachi Baltimore Rail Partners LLC [HBR]) in July 2017. Notice to Proceed was issued on September 1, 2017. HBR is making contract submittals and conducting project training. Submissions of Train Control and Railcar Conceptual Design Reviews and Preliminary Design Reviews (PDRs) and review meetings have been completed. The PDR phase for the Train Control system was completed in February 2019, and the Railcar PDR phase was completed in March 2019 (with the exception of Lighting, which was completed in early May 2019).

Work by HBR to complete the Reliability, Availability, Maintainability, and System Safety (RAMS) documentation for the vehicles continues, and the impacts of COVID-19 have delayed completion of the Final Design Review (FDR) phase from the original September 2020 due date. **As of July 17, 2024, HBR continues to progress towards completing the RAMS Railcar documentation and addressing MTA's remaining comments on the open items list and both the Design and Construction Safety Certifications. MTA Safety allowed Married Pair 2 (MP 2) on the mainline for pull testing. MTA reenforced with HBR the need to complete both rail and system safety certifications by the end of August 2024 in order to meet the milestone for system cutover to the Main Operations Control Center (OCC) for revenue service.**

- Scope:
    - No significant changes to the scope have been initiated since MTA added axle counters in the existing Metro vehicle yard as part of the Train Control system portion of the project. HBR has officially submitted five new Change Notices (CNs) since the previous Quarterly Progress Review Meeting (QPRM). A credit due to scope removal of $3.7 million, which was planned to be used for

Construction Management (CM) services, instead has been utilized in the Miscellaneous Work Allowance (MWA) to cover a shortfall. MTA now will need to ask for additional funds to use for the shortfall that has been created in CM services.

- In May 2023, MTA issued HBR a cure notification regarding HBR's performance or lack thereof. HBR executives are committed to addressing the cure notification and improving HBR's performance overall. During the July 20, 2023 meeting of MTA and Hitachi executives, the discussion topics were the current mitigations Hitachi has been providing, Hitachi's desire to vet the systems testing predominately in the lab versus in the field, and increased validation in-house with Hitachi's RAMS group. Hitachi told MTA that when HBR is settled in at the Hagerstown, Maryland facility and initial production is running smoothly, it will increase the vehicle production rate at a steady pace to minimize the impact from the loss of the 33 carshells (see Section 2.2, Oversight Triggers, for information on the scrapping of 33 carshells). At the September 26, 2023 meeting of MTA and Hitachi executives, MTA expressed concern over HBR's slow progress on safety certifications and the fact that HBR is not addressing the schedule slippage. MTA had a conversation with Hitachi executives regarding Hitachi's purchase of Thalis to discuss a plan to address compatibility, especially compatibility of the zone controllers for the CBTC hardware/software and the use of Thalis products and how it will affect Hitachi's support of the Train Control system portion of the project. Hitachi suggested holding a follow-up meeting specific to this topic.

- Summary of COVID-19-related Items:
  - Most COVID-19 staffing-related delays to the Train Control system ended by September 2021.
  - The final first-round training session for the Solid-state Interlocking (SSI)/Data Communication System (DCS)/Local Automatic Train Supervision (ATS) was postponed and rescheduled to be completed just before startup of the first interlocking.
  - HBR's Italian carshell manufacturer (OMEP) reopened to approximately 95 percent to 100 percent of its normal capacity in June 2020; carshell production work continues.
  - Railcar First Article Inspections (FAIs) did not occur on schedule because of travel restrictions and closed facilities. Railcar FAIs began in late June 2020 and are continuing. Accommodation was made for remote FAIs when needed.
  - Maryland on-site construction and Train Control testing and commissioning were initially shut down in April 2020 and restarted in May 2020; however, these activities experienced another two-week shutdown in December 2020.

- Factory Acceptance Tests (FATs) for SSI were postponed due to travel restrictions but are now complete.
- SSI manufacturing was shut down but has resumed.
- The structural qualification testing required for carshell acceptance that was to be performed on Carshell X, which has a reworked roof, was moved from Italy to Germany as a result of new COVID-19 restrictions that were imposed in October 2020. The beginning of structural qualification testing was delayed from April 2021 to September 2021 due to backlogs and employee COVID-19 exposures at the testing vendor.
- MTA has not reported new issues or impacts from COVID-19 since June 2021, with the exception of the global supply chain disruptions that delayed the delivery of vehicle subsystems and materials. MTA indicated that it is able to segregate COVID-19-related impacts (i.e., labor, material supply, superchips) from other project costs. Regarding HBR's claim for the second no-cost time extension of 20 months due to COVID-19, MTA had reported that negotiations had stalled once more as of October 1, 2023; however, MTA imposed a deadline of October 31, 2023, to resolve the claim and tied it to a new baseline schedule. This second request by HBR for a no-cost time extension was for issues above and beyond the previously granted extension. **As of the July 17, 2024 PMOC meeting, MTA has developed a plan to deal with all the outstanding CNs.** ***The PMOC recommends that MTA address all CNs in a timely manner to prevent additional claims or potential litigation that can cause the project to incur undue additional costs.***

- Schedule:
  - MTA approved HBR's February 28, 2018, project baseline schedule (Rev. 3), which showed a project completion date of May 2024, with warranty completion and project closeout scheduled to occur in May 2026. HBR submitted its Project Schedule Update V11, with a data date of March 1, 2019, to address some of MTA's prior comments. In its April 2019 and May 2019 schedule submissions, HBR presented schedule recovery plans to MTA that attempted to recover the Full Revenue Service date (although these recovery plans did not recover the interim milestones, including the Phased Revenue Service Start date).
  - In May 2020, MTA decided to proceed with the addition of axle counters in the yard. Because of uncertainty related to testing requirements for these axle counters, HBR's Project Schedule Update V25 showed a delay of the Full Revenue Service date to February 6, 2024. MTA rejected HBR's Project Schedule Update V25.
  - After multiple submittals, rejections, and comments, MTA accepted Project Schedule Update V28 from HBR in September 2020 as the new baseline schedule. Project Schedule Update V28 showed the completion of the "Train

Control" construction milestone on May 4, 2025; the "Last Vehicle Final Acceptance" milestone on March 1, 2024; and the "Revenue Service Full Project" milestone on September 15, 2024.

- Starting in April 2021 and continuing through January 2022, MTA reported that the project was delayed compared to the previously accepted September 2020 baseline schedule. As of January 12, 2022, HBR projected that the "Last Vehicle Final Acceptance" milestone was delayed by 257 days from the baseline schedule to November 13, 2024, and that the "Revenue Service Full Project" milestone was delayed by 258 days from the baseline schedule to November 12, 2024.
- In January 2022, HBR proposed a new baseline schedule to MTA, referred to as Schedule Update 41
- In December 2023, HBR proposed a new baseline schedule to MTA, referred to as Schedule Update 42. HBR requested that MTA accept Schedule Update 42 as the new baseline schedule. MTA has stated that it will not re-baseline the project schedule, because doing so would invalidate the Liquidated Damages against HBR. MTA again told HBR to go back and address the comments to Schedule Update 42 Revision 19 (42R19). MTA has indicated that once HBR addresses all comments, then MTA will concur that Schedule Update 43 will be the official working project schedule moving forward. MTA indicated that Schedule Update 42R19 provides for the COVID-19-related no-cost time extension and the completion of RAMS documentation. MTA remains in negotiations with HBR as it works through the commercial aspects of a change order to officially replace the contract's baseline schedule.
- In March 2024, MTA provided information that the new project schedule was Schedule Update 43 and that there were still outstanding comments that HBR needed to address regarding the schedule. At the start of April 2024, MTA provided the PMOC with a draft of the new project schedule, labeled Schedule Update 47, with a data date of April 1, 2024. MTA indicated that it had provided informal comments on the schedule to HBR. MTA held a workshop on April 25, 2024, to go over the schedule and the comments. HBR committed to addressing the comments and issuing a revision to Schedule Update 47. The PMOC performed a basic review of the schedule and found apparent problems related to linkages and dates that had been missed.
- **At the July 17, 2024 PMOC meeting, the PMOC discussed Schedule Update 48, which was to incorporate MTA's comments on Update 47, with MTA. Schedule Update 48 shows the "Construction Complete" milestone being delayed 472 days from the date reported at the previous QPRM. Schedule Update 48 also shows that both the "First Vehicle Final Acceptance" milestone and the "Last Vehicle Final Acceptance" milestone have not changed since Schedule Update 43. However, these milestones are both 30**

months later than those shown in the approved baseline schedule of September 1, 2020. Schedule Update 48 shows that the "Project Closeout" milestone remained the same (April 29, 2029), which is 4 days shy of 24 months later than represented in the current baseline schedule.

- Cost:
    - **On July 17, 2024, MTA reported that $246,297,000 of the $486,851,000 project budget had been expended through June 30, 2024.** Fifty-three change requests are in various stages of development, negotiation, and authorization. MTA believes that the total cost of the change requests will remain within the $20 million MWA budget (referred to as contingency) that is included in the project budget. However, MTA mentioned that funds that had been set aside to use for CM services were needed to address a shortfall in the MWA instead. MTA now will need to add funds back into CM services. MTA indicated that it would make another request for additional funding.
    - Based on the current estimate at completion (EAC), MTA has a shortfall for CM services of approximately $1.0 million through the end of the contract. MTA believes that this amount is a conservative estimate, because the EAC assumes a cost of $900,000 per month in CM services, which has been the average for the last two years, during which time MTA had its peak requirement for design reviews, test engineers, and inspectors. The Metro Fleet and Train Control Replacement Project is a force-funded project for MTA; after fiscal year 2025, MTA will request additional funds be added to the EAC. MTA stated that the HBR budget will not increase. There are no changes that will require the HBR's construction budget to increase above $400,517,000. This amount of $400,517,000 includes the $20 million MWA, the remainder of which will be used for CM services, as described above. ***The PMOC forecasts that, until there is an approved, realistic baseline schedule that incorporates mitigations to address carshell issues, safety certification, CM costs, and schedule delays, the project budget may require additional funds.***
- Significant Project Activities and/or Key Milestones:
    - Monthly meetings between Hitachi executives and MTA leadership began in January 2021 to address issues related to vehicle quality and the project schedule. **At the June 2024 meeting, MTA mentioned that the meeting with Hitachi executives on April 18, 2024, was the last meeting based on the current level of project progress and quantity of project management meetings. MTA stated that the Hitachi senior executives meeting will occur only if the situation and need arise.** MTA mentioned that Hitachi executives assured MTA of their commitment to completing the project within the new schedule and building it with quality.

The PMOC continues to recommend that MTA maintain partnering with Hitachi to address the resolution of key project issues, as well as continue to provide the Federal Transit Administration (FTA) and the PMOC with summaries of any key management meetings.

- **HBR continues to make software revisions and address MTA's comments regarding the ATS system. MTA stipulated that HBR must complete the four remaining items necessary for ATS revenue service, still scheduled to occur in mid-August 2024. Of the four remaining open items, MTA said that two are related to graphics that MTA does not absolutely require; however, the other two open items are key to system operations. One open item is related to key elements of the Google Transit system: The trip ID cannot be located. MTA Administration will need to decide whether to: (a) inform the public that revenue service will be delayed for three or more months once the new system is active or (b) delay the project by one month to allow HBR time to fix the issue. The second open item is safety critical and is related to the "Red Signal Overrun Alarm." MTA noted that HBR did not plan to have this alarm working for this phase of the project, but rather to have it ready for the next phase. MTA stated that it had informed HBR that the problem with the Red Signal Overrun Alarm needs to be corrected before or by mid-August, in time for the cutover to revenue service. MTA explained to HBR how this open item is safety critical and how the problem is magnified by the current numerous occurrences of false alarms, which themselves are becoming a safety issue.**
- **At the June 2024 meeting, MTA reported that HBR had skipped a key contractual requirement (i.e., to develop a software testing lab); skipping this requirement has added a delay to the schedule for CBTC integration. In the July 2024 PMOC meeting, MTA indicated that HBR managed to complete the software testing lab and began testing for CBTC integration using the lab. MTA also stated that HBR developed and ran a release to the CBTC software that mitigated the delay, allowing HBR to get back on schedule for CBTC integration. This software release also fixed the Light Detection and Ranging (LiDAR) data issue, and it will be ready for crossover testing at the end of August 2024.**

  MTA indicated that the vehicle pairing issue has not been resolved. MTA continues to coordinate with HBR to resolve the issue regarding the vehicle number pairing. MTA is awaiting HBR's response to MTA's outstanding request on this issue. MTA needs HBR to provide an analysis of how the CBTC system will react if a situation arises that requires MTA to use mixed-pair vehicles, as well as an analysis of how the system will function during live operations.

- **Regarding Railcar and System Safety certification, MTA reported that Railcar certification continued during the week of July 4, 2024, except for the holiday itself. MTA provided HBR with temporary authorization on July 10, 2024, to start progressing some CBTC testing for MP 2. MTA stated that MP 1 will be used for rail-specific testing, while the other married pairs will be tested in other certification areas. MTA indicated that HBR is working on documents needed to complete the remaining Railcar testing and also is documenting what remaining items are not safety critical and therefore would not prevent MP 2 from accessing the test track or mainline.**
- **With respect to Railcar and System testing updates, MTA indicated that MP 2 is currently undergoing clearance testing on the mainline, towed by MTA work cars. MTA expects that MP 1 will perform self-powered mainline testing around July 24 through July 26, 2024, during which MP 1 will be able to go up to 40 miles per hour. MP 1 is scheduled for full mainline testing on July 31, 2024. The MTA train operators also will be present for training at that time. MTA noted that, to move forward, MP 1 must pass a safety gate, which requires completing three steps. The first step is for HBR to complete the test and data sheets (test witness signatures are the remaining item for completion). The second step is the completion of shunt testing (MP 2 was left at Johns Hopkins Station overnight with successful shunt, and MP 2 will be formally tested on July 22, 2024). The third step for MP 1 to pass the safety gate is a clearance test in the yard and on the mainline while MP 2 is being towed and tested on the mainline, and if MP 2 passes the clearance during this pull testing, then MTA Safety will consider all the married pairs to have passed the safety gates. MTA believes that there is good progress on Railcar testing, with only minor remaining testing issues that do not prevent HBR from moving forward. HBR must make some minor railcar software modifications based on the jerk test results. MP 1 passed the slip test.**
- **On June 20, 2024, the PMOC observed two new carshells from Italy at the Hagerstown plant. No corrosion was visibly apparent on these vehicles, and MP 4, MP 5, and MP 6 were in the process of being outfitted. At the July 2024 PMOC meeting, MTA stated that HBR is actively working on assembling MP 4, MP 5, and MP 6. MTA noted that HBR was performing continuity cable testing on MP 4 and had hired additional staff to work on the next three married pairs, which had arrived from Italy and will be known as MP 8, MP 9, and MP 10. The second half of MP 7 remains in Italy, and MTA is awaiting its shipment. Earlier in July, another two railcars arrived from Italy, making a total of three railcars that have arrived since the shipment in June 2024.**

1.3. Major Issues and/or Concerns

Table 1 discusses the major issues or concerns impacting the project's scope, schedule, cost, risks, quality, safety, etc., as well as the Project Sponsor actions and FTA and PMOC recommendations.

Table 1 – Major Issues/Concerns and Action Items

Issue/Concern	HBR's schedule updates continue to show slippage of the project baseline schedule interim milestones and the project completion dates. Project Schedule Update 28, which was submitted in September 2020, was accepted as the new baseline schedule and reflects initial COVID-19-related impacts, but the pandemic caused additional impacts that it did not reflect. This September 2020 baseline schedule does not include contingency time or "float." HBR has now proposed a new baseline schedule (Schedule Update **48**) that demonstrates the project completion date being delayed approximately **24 months** from the date in the approved baseline schedule (Schedule Update 28).
Date Identified	June 2020
Status	Ongoing
Project Sponsor Action	MTA was conducting monthly meetings with Hitachi executives throughout calendar year 2024. In the most recent partnering meeting, which occurred on April 18, 2024, MTA and HBR discussed Schedule Update 47 and made a commitment to hold a schedule workshop the week of April 22, 2024. MTA indicated that the workshop went well and that HBR would provide an updated project schedule to address the comments from the workshop**. Based on that MTA and Hitachi have elected to paused the Executive meeting until there was a need to resume the Executive Meetings. Senior Project Management meetings still occur on a monthly basis as well as, weekly schedule meetings.**
PMOC Recommendation	MTA should continue to perform its own schedule analysis to forecast realistic key milestones and aid HBR in managing to meet deliveries that have relatively short duration times. This schedule analysis should include a reasonable amount of schedule contingency based on MTA's experience with HBR's performance to date and MTA's professional experience. MTA should use the results of this analysis as the basis to report schedule status to FTA and the PMOC. MTA should track delays closely and continue to provide monthly updates to assess how delays are being mitigated.
Issue/Concern	Since the incident when MTA rejected Roof #1 due to significant quality issues, HBR continues to experience significant quality issues. Corrosion of carshells due to desiccant, corrosive dust, the need to rework axle counters, a cracked structural bolster beam, and roof dimpling are a few of the recent quality concerns and issues affecting the project.
Date Identified	July 2020
Status	Ongoing
Project Sponsor Action	In the May 2023 executive meeting with Hitachi, MTA issued a cure notification. HBR executives are committed to rectifying the quality issues and improving quality and performance. HBR has improved its quality program and its production process in the OMEP plant in Italy. **HBR began shipping carshells to Hagerstown as of June 2024. HBR developed a fix for the bolster beams and a testing means to uncover the manufacturing issue. MTA will send an inspector to the Hitachi plant in Italy once or twice per month to witness bolster beams currently being built and to witness the Ultrasonic Testing (UT) inspection, and to review and document this process.**
PMOC Recommendation	Upon HBR's resuming carshell deliveries to the United States, MTA should have a periodic inspection program in place to validate that HBR has addressed the quality and corrosion issues.
Issue/Concern	Outstanding change notifications are yet to be finalized, such as the second COVID-19-related no-cost time extension.
Date Identified	May 2022
Status	Ongoing
Project Sponsor Action	MTA reports that there are no further COVID-19-related impacts aside from those that are the basis for HBR's latest request for a no-cost time extension. **MTA stated that it had developed planned "Options" to address not just the COVID-19 CN but all outstanding CNs.**
PMOC Recommendation	**In the opinion of the PMOC, MTA has taken a positive management step by developing planned "Options" related to all outstanding CNs. MTA should also develop a deadline to close out the CNs and reach agreement with HBR.** MTA should ensure that the impact of the

	resulting cost or schedule delays to the project are incorporated into an approved baseline schedule and project budget.

1.4. Status of Key Indicators Dashboard (Post-Grant)

Table 2 shows the key indicators dashboard for the project.

Table 2 – Key Indicators Dashboard

Project Sponsor:				Maryland Transit Administration	
Project Name:				Metro Fleet and Train Control Replacement Project/MTA Non-New Starts Capital Projects	
Date:				**July 17, 2024**	
Project Detail					
Oversight Frequency:				**Monthly**	
Element	**Status**			**Prior Status**	**Issue or Concern**
	●	●	●		
	G	**Y**	**R**		
Project Management Plan (PMP)		●		●	The PMP is due for another update now that MTA is receiving railcars and entering the test phase.
Management Capacity and Capability		●		●	Management capacity and capability reviews are not being performed on this Non-New Starts Project.
Cost*		●		●	**MTA recently added the $10 million in funds previously not reflected. MTA maintains a $1 million deficit in the project budget. MTA's MWA is being supplemented by the construction work allowance which needs to be replenished and MTA.**
Schedule			●	●	The currently proposed baseline schedule extends the project by up to 33 more months without float.
Quality		●		●	No new quality issues have been presented since the previous QPRM; a fix has been developed for the bolster beam, but the required testing is still being resolved. MTA is working to try to prevent a future quality issue regarding the CBTC system as it relates to HBR's purchase of Thalis and HBR's use of Thalis equipment and software for CBTC.
Safety	●			●	No issues.
Risk			●	●	Schedule, cost, and quality risks remain high.
Legend					
Green	*Satisfactory: No corrective action necessary.*				
Yellow	*Caution: Risk/issues exist. Corrective action may be necessary.*				
Red	*Elevated for immediate corrective action: Significant risk to the health of the project.*				

*Note: With regard to cost: Additional funds will be requested to address shortfall (force-funded project).
Yellow – Forecast cost exceeds the project budget by up to 3%.
Red – Forecast cost exceeds the project budget by more than 5%.

1.5. Core Accountability Items

Table 3 shows the core accountability items for the project, including the current status of the project and the PMOC's assessment.

Table 3 – Core Accountability Items

		Original (Grant)	Current Forecast	PMOC Assessment of Current Forecast
Cost	Capital Cost Estimate	$465,851,000	$486,851,000	This estimate does not include $10 million of additional budget from state funds for CM and administration or the $3.7 million credit from removed project scope.
Contingency	Unallocated Contingency		$0	MTA only has an MWA, which can be considered to be contingency.
	Allocated Contingency		$20,000,000	This contingency level does not appear adequate at this point in the project; schedule delays are likely to exhaust this amount before project completion.
	Total Contingency	$20,000,000	$20,000,000	MTA is approximately $1 million short for CM services through the end of the contract. This $1 million amount is a conservative estimate, because the EAC assumes a cost of $900,000 per month in CM services, which has been the average for the last two years during which MTA had peak requirements for design reviews, test engineers, and inspectors. The project is a force-funded project for MTA; therefore, after Fiscal Year 2025, based on the EAC, more funds will be requested to cover additional needs/shortfalls.
Schedule	Revenue Service Date	11/29/2022	08/21/2026	This forecasted date is **45** months later than shown in the baseline schedule agreed to by the contractor in January 2021. **HBR provided Schedule Update 48 after the May 2024 QPRM; Schedule Update 48 addresses comments from MTA that incorporate the delays and related mitigation actions.**

Project Progress		**Amount**	**Percent of Total**
Total Expenditures	Actual cost of all eligible expenditures completed to date	**$246,297,000**	**51.6%**
Planned Value to Date	Estimated value of work planned to date	Not Available	Not Applicable (N/A)
Actual Value to Date	Actual value of work completed to date	Not Available	N/A

Contract Status		Amount	Percent of Total
Total Contracts Awarded	Value of all contracts (design, support, construction, equipment) awarded; % of total value to be awarded	$466,767,000*	97.9%
Construction Contracts Awarded	Value of construction contracts awarded; % of total construction value to be awarded	$449,924,000*	96.4%
Physical Construction Completed	Value of physical construction (infrastructure) completed; % of total construction value completed	**$246,297,000**	**51.6%**

Rolling Stock Vehicle Status	Date Awarded	No. Ordered	No. Delivered
300 through 377	**09/01/2017**	78	0

Next Quarterly Progress Review Meeting:	**August 14, 2024**

*** Includes change orders issued through June 30, 2024.**

2. OBSERVATIONS AND FINDINGS

2.1. Summary of Monitoring Activities

The PMOC attended monthly PMOC virtual meetings on May 7, 2024, and July 17, 2024, with MTA project staff and MTA's Project Management Consultant (PMC). During the week of June 19, 2024, the PMOC visited the project and attended various meetings with MTA and its PMC. The PMOC prepared a trip report for each meeting to document the discussions. As part of enhanced oversight, the PMOC has attended biweekly status meeting between MTA and Hitachi senior management (Hitachi); these biweekly meetings have been put on hold until the Hitachi summer holiday is over. They are expected to reconvene in September.

The PMOC observed the following during the July 17, 2024 monthly virtual meeting:

- **MTA reported that Railcar certification continued during the week of July 4, 2024, except for the holiday itself. MTA provided HBR with temporary authorization on July 10, 2024, to start progressing some CBTC testing for MP 2. MTA stated that MP 1 will be used for rail-specific testing, while the other married pairs will be tested in other certification areas. MTA indicated that HBR is working on documents needed to complete the remaining Railcar testing and also is documenting what remaining items are not safety critical and therefore would not prevent MP 2 from accessing the test track or mainline.**
- **With respect to technical capacity, MTA stated that HBR has improved engineering and safety and added additional resources to address issues in key areas of the project. MTA plans to send inspectors to Italy to validate the fix and UT of the bolster beans. HBR also is planning to send an inspector to the additional warehouse in Hagerstown that is storing parts from Miami in order to validate that all the project material from Miami is accounted for.**
- **MTA stated that HBR has been provided a warning regarding the schedule and the weekend outages in October 2024, December 2024, and February 2025. MTA reiterated that HBR needs to have a plan and be ready to work on those weekend outages, because MTA will be also working along the same alignment, and the work that HBR must perform is critical to the schedule and to meeting Milestone 18.**

2.2. Oversight Triggers

The oversight triggers most applicable to the project are the Oversight Procedure (OP) 25 schedule, cost, and quality triggers. The project schedule was in one form of update or another throughout the quarter. MTA and HBR agreed upon a no-cost change order in January 2021 that extended the Project Closeout date by 12 months to May 2027. Since the September 2020 revised baseline schedule was agreed upon with the contractor in December 2020, nearly every key milestone has been delayed by more than 12 months. MTA and HBR are trying to wrap up a negotiation for another no-cost time extension (the last one associated with COVID-19). The current unapproved Schedule Update 47 projects that the "Revenue Service Full Project" milestone will be delayed to

August 2026, which represents an additional **30.5 months compared to the approved schedule baseline.** Project schedule delays typically impact project cost, another significant indicator of project health.

Quality problems in carshell manufacturing, the first of which was noted in July 2020, reportedly have been addressed. A second issue resulted in a roof buckling after it was assembled on Carshell #002 in November 2020. MTA reported additional minor quality issues with the carshells in March, April, June, and July 2021, which HBR has addressed. HBR completed root cause analysis of the nonconforming paint inclusions on frame subassemblies on three carshells and of paint on the F-end mask assemblies. HBR determined that the causes were related to shipping and handling, and painting errors. HBR did not confirm the associated corrective actions but has been inspecting for paint errors, so that they could be repaired before the mask assemblies arrived at the Miami, Florida facility. In November 2022, MTA reported that calcium chloride from desiccant packs had caused corrosion on the floor beams of the carshells, including small holes less than 1/4 inch in diameter in some floor beams where desiccant packs had been placed before shipment from Italy. MTA then reported in December 2022 that, upon closer inspection of the first 16 cars, HBR found the same corrosion on the floor beams on cars that were in production and FAI. As of January 18, 2023, HBR was assessing whether each car could be repaired or would need to be scrapped. At the May 2023 QPRM, MTA reported that HBR was scrapping all 33 carshells that had the corrosion. HBR found the related problem with the manufacturing process in its facility in Italy and has since corrected the manufacturing process and developed a means to clean rail carshells that have minor corrosion dust on them. MTA then reported in June 2023 that HBR has successfully cleaned the seven rail carshells that had been in Miami. HBR continues to reuse components from corroded carshells. MTA indicated that HBR would need work 24 to 26 months into the start of railcar production at Hagerstown to mitigate the scrapping of the 33 rail carshells because of corrosion.

In July 2023, the PMOC recommended that the vehicle corrosion issue be tabled until HBR commenced the delivery of the new carshells from Italy, planned for the first quarter of 2024, at which point MTA could restart the quality monitoring efforts to determine whether HBR had addressed the manufacturing and shipping corrosion issue. **On June 18, 2024, HBR received a carshell at the Hagerstown facility from Italy. MTA indicated that inspection of the carshell demonstrated that no corrosion was present. HBR then received an additional two carshells from Italy in July 2024, and they also demonstrated no corrosion issue. Based on HBR's new preservation process for shipping carshells, MTA believes the corrosion issue has been addressed. The HBR plant manager at Hagerstown is working on a production schedule.**

2.3. Project Management Plan and Subplans

Project Management Plan (PMP) Rev. 5, dated 2022, is the latest formal version issued for this project. Due to significant schedule and budget revisions, quality issues, and project status regarding delivery and testing, MTA should consider updating the PMP. Incorporating lessons learned into MTA's daily management practices could benefit project performance moving forward.

2.4. Management Capacity and Capability

The PMOC is not performing comprehensive Management Capacity and Capability Reviews for these Non-New Starts Capital Projects.

2.5. National Environmental Policy Act Process and Environmental Mitigation

The National Environmental Policy Act process and environmental mitigation are not applicable to this task order assignment.

2.6. Project Delivery Method and Procurement

Project delivery method and procurement reviews are not being performed on this task order assignment.

2.7. Design

As of July 17, 2024, Schedule Update 48 shows that the manufacturer is to finalize design by August 31, 2024, which is three months later than previously reported.

2.7.1. Train Control System Certification and Testing

At the May 7, 2024 meeting, MTA mentioned that HBR continued to test defect fixes on ATS software updates. MTA indicated that HBR is working on the final crossovers and should have completed the Backup Operations Control Center (BOCC) by the end of July 2024 and the Main OCC by the end of August 2024. MTA indicated that, although the physical portion of the Google Interface works, HBR is still working to have the software portion of the Google Interface meet MTA's requirements. MTA mentioned that it expected HBR to meet the mid-May 2024 date for software readiness.

HBR was still working on installation of the wayside radios, and MTA expected the DCS witness testing of the wayside radios in mid-May 2024. MTA stated that HBR would be removing, replacing, and testing the wireless access points during the week of May 6, 2024, to address the weatherproofing issue that was uncovered in the field.

MTA mentioned that the focus for the entire project team is to resolve the remaining defects in the ATS software, so that the cutover can occur in August or September 2024 and to avoid having unresolved defects hold up certification.

During March 2024, HBR had experienced problems with incorporating LiDAR data into the CBTC software. Based on its March meeting with HBR, MTA explained that the preliminary version of the software was not affected because it runs off of Global Positioning System (GPS) information. However, the current version of the CBTC software uses LiDAR data as well and is having difficulties interpreting the LiDAR data in conjunction with the GPS data. MTA mentioned that these issues will not affect track testing, because track testing will run the preliminary version of the software. Since March 2024, HBR has fixed the LiDAR data integration issue. MTA stated that the CBTC FAT will occur in August 2024, which is about five months later than shown in the prior project schedule (Schedule Update 43) but is on target in the latest project schedule (Schedule Update 47), which shows CBTC FAT occurring by August 25, 2024.

During the in-person PMOC meeting on June 20, 2024, MTA told HBR that MTA requires a plan depicting the timeline of when HBR will be ready for the ATS cutover. MTA reminded HBR that this timeline must be ready by the end of July 2024 in order to be ready for cutovers to occur at the end of August 2024. MTA also indicated that HBR has completed the Construction Conformance Checklist (CCC) but still needs to complete the Design Conformance Checklist (DCC). MTA shared that HBR is entering a paralysis in HBR's decision making process regarding changes that need to be done to the system and seems to be pushing the schedule out. One example is the two servers that are located right next to each another, although they should be in separate rooms; HBR is avoiding the issue, and MTA is pushing for the answer. ATS failover testing continues to reveal problems with items such as communication pickup being dropped or intermittency and inconsistency when a system collapse occurs.

HBR continues to work on the software portion of the Google Interface to meet MTA's requirements. MTA provided comments to HBR regarding the Data Accuracy Test Procedure and stated that the procedure must be updated. MTA noted that HBR has a weeklong window of opportunity to fix and retest the Google Transit software in between Phase 3A and Phase 3B. MTA mentioned that Phases 3A and 3B will be the proposed test case and can be utilized during the cutover. MTA also said that HBR should be able to perform some of this testing on the simulator. MTA is collaborating with HBR to try to schedule the final CBTC/Automatic Train Control (ATC) FAT at the end of August 2024. MTA indicated that CN-16, Train Control Specifications Change, has become a critical CN to resolve. MTA and HBR agreed to meet to discuss the resolution of CN 16 because it will have an impact on the final FAT for ATC.

During the month of June 2024, MTA uncovered that HBR skipped a key contractual requirement that has added a delay to the schedule for CBTC integration. MTA indicated that HBR was to have developed a testing laboratory at the Hitachi systems facility in Pittsburgh, Pennsylvania. However, MTA indicated during the July 2024 PMOC meeting that HBR managed to complete the software testing lab and began testing for CBTC integration using the lab. MTA also stated that HBR developed and ran a release to the CBTC software that mitigated the delay, allowing HBR to get back on schedule for CBTC integration.

MTA reported a simple issue that HBR feels adamant about not addressing until after FAT. MTA expressed its concern to HBR during the June 2024 PMOC/MTA monthly meeting and mentioned the example of the Nonconformance Report on railcars 204/205. This Nonconformance Report documented that MTA needed to swap in railcar 206, so that the railcar pair would be 206/205; however, the CBTC software did not accept the mixed (or interchanged) railcars. MTA mentioned that it had asked HBR to explain how HBR will address this issue and that it is important to MTA Operations that the vehicles can be interchanged as needed.

MTA indicated that the FRONTAM issues are ready to be closed, but MTA is awaiting HBR's response to the RAMS update from the field impact testing so that the FRONTAM system architecture can be accepted. The FRONTAM is in charge of collecting CBTC subsystem maintenance information and serves as the interface between the ATS and the CBTC subsystem.

At the July 17, 2024 PMOC meeting, MTA indicated that it is working closely with HBR to complete the four remaining items necessary for ATS revenue service, which is still scheduled to occur in mid-August 2024. Of the four remaining open items, MTA said that two are related to graphics that MTA does not absolutely require; however, the other two open items are key to system operations. One open item is related to key elements of the Google Transit system: The trip ID cannot be located. MTA Administration will need to decide whether to: (a) inform the public that revenue service will be delayed for three or more months once the new system is active or (b) delay the project by one month to allow HBR time to fix the issue. The second open item is safety critical and is related to the Red Signal Overrun Alarm. MTA mentioned that HBR does not plan to have this alarm working during this ATS revenue service phase of the project, but rather to have it ready for the next phase. MTA stated that it had informed HBR that the problem with the Red Signal Overrun Alarm needs to be corrected before or by mid-August 2024, in time for the cutover to ATS revenue service. MTA explained to HBR how this open item is safety critical and how the problem is magnified by the current numerous occurrences of false alarms, which themselves are becoming a safety issue.

MTA stated that HBR has submitted a timeline plan that addresses the activities HBR must complete to be ready for cutover to ATS revenue service. MTA said that HBR's timeline plan is a functional tool for the weekly meetings to help generate items related to testing that are still open.

MTA indicated that HBR managed to complete the software testing lab and is performing integration testing in the lab. MTA also stated that HBR developed and ran a release to the CBTC software that mitigated the delay, allowing HBR to get back on schedule for CBTC integration for end of August 2024. The LiDAR data fix has been incorporated and will be ready for final FAT at the end of August 2024.

MTA indicated that the vehicle pairing issue has not been resolved. MTA continues trying to coordinate with HBR to resolve the issue regarding the vehicle number pairing. MTA is awaiting HBR's response to MTA's outstanding request on this issue. MTA needs HBR to provide an analysis of how the CBTC system will react if a situation arises that requires MTA to use mixed-pair vehicles, as well as an analysis of how the system will function during live operations.

MTA noted that only a few open items remain for the DCC for CBTC and that there is one open item for CBTC integration. HBR is focused on trying to resolve the failover defects of the ATS software so that the cutover can occur in September or October 2024.

MTA stated that SSI Phase 4 testing is progressing as time permits. The testing for SSI is being pushed to the weekends because MTA and HBR deem this testing activity as lower in priority, and it is needed later in the testing process. MTA still is awaiting receipt of a report from HBR that provides a detailed description of the Microlok-related issue. In addition, MTA stated that HBR has not yet responded to the Thalis letter that MTA sent to HBR in October 2023.

MTA stated that HBR is still in the process of replacing the cable and wireless access point boxes with a weatherproof solution (these boxes failed during testing, and water was found in both the boxes and the cabling).

MTA noted that the issues related to FRONTAM system architecture have been closed, and MTA is in the process of sending a letter to HBR. The FRONTAM system collects CBTC subsystem maintenance information and serves as the interface between the ATS and the CBTC subsystem.

MTA stated that HBR provided a draft Coordinated Test Track Test Plan, and MTA returned the draft plan to HBR with its comments for improvements. MTA indicated that it found the Coordinated Test Track Test Plan document to be unclear, but that, internally to HBR, the plan appears to be clear and well communicated.

2.7.2. Metro Fleet

At the June 20, 2024 PMOC meeting, MTA mentioned that, after the April 18, 2024 meeting, the Hitachi senior executives meeting will occur only if the situation and need arise.

During the senior project management meeting on June 10, 2024, which the PMOC attended, Hitachi Baltimore Rail Partners LLC (HBR) project-level personnel acknowledged that they still have issues related to lack of resources, and those issues were causing the last-minute cancellation of work. MTA reiterated that last-minute cancellations cannot occur and are not the agreed-upon process. MTA explained that when HBR cancels work, as HBR has done, the project incurs heavy fees from MTA Operations. HBR senior management appeared surprised with the lack of resources and requested answers from their staff. MTA stressed that, at this point in the project, HBR must keep to the schedule and not cancel work unless it is an emergency, because slots for outages, even temporary ones, are becoming coveted due to other MTA work. MTA stressed to HBR that, for the key weekend work outages from October 2024 through February 2025 that HBR requested, MTA requires a work plan, and HBR must show up to work. If HBR misses any of the three initial weekend outages requested, then the project will be seriously delayed. MTA reminded Hitachi senior management that from June 2024 until February 2025, MTA has maintenance and other projects programmed that will require outages that the project is sharing or may not be able to get. MTA echoed this sentiment during the PMOC's meeting at Hagerstown, Maryland, with the HBR project team.

The PMOC visited multiple project locations from June 19 through June 21, 2024, and witnessed improvement in various areas. However, the PMOC still observed areas of internal communication breakdown within HBR. MTA agreed that, although HBR's internal communications have improved in certain areas, there still seems to be a disconnect in the collaboration between the railcar side of HBR and the train control side of HBR. During a meeting at Hagerstown, on June 20, 2024, HBR's representatives seemed uncomfortable and tense when asked to address the lack of coordination and collaboration internally between the two business units, especially at this sensitive stage of integration testing. MTA provided HBR with examples of the issues that MTA is experiencing related to this lack of

communication internally within HBR. HBR tried to explain the process, but the explanation generated more questions and, towards the end of the conversation, HBR heatedly reinforced that both railcar and train control are talking or will be talking to one another to facilitate integration testing.

At the July 17, 2024 PMOC meeting, MTA discussion how in January 2024, HBR hired Giulio Caione as a replacement for Matteo Ruggeri as the HBR Railcar Manager. Mr. Caione took a little longer than MTA expected to get up to speed with MTA requirements; the PMOC witnessed this situation during its project visit in June 2024. MTA indicated that Mr. Caione now seems to have a working familiarity with the requirements, with the help of HBR's local project manager, Thomas Morris. HBR has hired a new engineer to assist with safety certifications. MTA mentioned that recent staff additions and improvements have increased resource availability, the lack of which was previously a concern. This issue has been resolved for the moment. MTA stated that communication between MTA and HBR still seems to be an issue; however, MTA and HBR have been increasing communication and coordination through weekly meetings and the use of four-week look-ahead schedules. William Martin, MTA project team member, was recognized in particular as helping to work on and improve joint communications between HBR and MTA.

MTA mentioned that HBR has been slow in sending the ten additional bolster beams for testing in Italy. However, HBR has moved ahead with the Ultrasonic Testing (UT). MTA will send an inspector to the Hitachi plant in Italy once or twice per month to witness bolster beams currently being built and witness the UT inspection, to review and document this process.

The PMOC recommends that MTA continue to monitor the progress HBR makes with new staff and replacement staff in the areas of Railcar and System safety. The PMOC also recommends that MTA continue to analyze the schedule and validate that HBR has developed and can implement recovery activities and report realistic milestone dates to FTA.

2.8. Value Engineering and Constructability Reviews

Value Engineering and constructability reviews are not applicable to this task order assignment.

2.9. Real Estate Acquisition and Relocation

Real estate acquisition and relocation reviews are not applicable to this task order assignment.

2.10. Third-party Agreements and Utilities

Third-party agreements and utilities are not applicable to this task order assignment.

2.11. Construction

2.11.1. Train Control System Construction

At the June 20, 2024 PMOC meeting, MTA reported that HBR continues to work on the cable replacement on the mainline and had started work at Owings Mills Station, which is on track to be

complete in August 2024. HBR has completed the cable replacement work at Owings Mills Interlocking, Johns Hopkins, Charles Center, State Center, Reisterstown Plaza East, Old Court, and Milford Mills. MTA mentioned that axle counter training occurred as planned in May 2024. MTA also stated that the pilot ATS training course was held June 3 through June 6, 2024, and this training course received considerable positive feedback.

MTA mentioned that HBR has been using the new Railcar certification process on remaining items for MP 1 and to complete certifications for MP 2 and MP 3. MTA stated that for MP 1 there are still items remaining on the original open items list, because HBR has been focused on completing the certifications for MP 2 and MP 3. MP 2's Railcar certifications were close to being complete based on the new process, but HBR still had to complete outstanding closeout comments for MP 2 to be ready for mainline testing in July 2024. MP 2 completed test track testing during the first week of June 2024. MTA mentioned that MP 3 has not progressed to the test track because HBR has been focusing most of its attention on MP 2 closeout of certifications and testing.

The PMOC was present on June 19, 2024, for a portion of the acceleration and braking testing of MP 1 that occurred at the Wabash Maintenance Facility. HBR testing engineers were divided into two groups. Both groups gathered data, but only one of the groups provided direction regarding how much to accelerate, coast, and brake. HBR used an interesting system that involved spraying the tracks with soapy water to simulate conditions that would cause the wheels to slip and to evaluate how those conditions affected braking. MP 2 met the requirements at the testing track, and the sooner HBR addresses the remaining railcar certification comments, the quicker MTA will allow MP 2 on the mainline for testing. During the meeting in Hagerstown on June 20, 2024, MTA raised a flag regarding network integration testing that must occur with the railcars. Hitachi (the vehicle side) still has not provided an outline and matrix for the testing as the system side has done. MTA mentioned that CBTC integration testing is now pushed back to September 2024 because HBR skipped over a critical contractual requirement.

At the July 17, 2024 PMOC meeting, MTA reported that HBR ran into a delay with cable replacement at the Owings Mills Station but will complete the Owings Mills Station by the end of July 2024. MTA noted that the length of the cable run between Owings Mills Station was longer than expected. MTA said that HBR has started to pull cable at the Reisterstown Plaza West Station and has received some material at the Portal site. The delay in cable replacement at Owings Mills Station is pushing the overall project construction to October 2024, but MTA said that this schedule delay will not affect the project's advancement or the critical path. HBR is taking advantage of the Thursday and Friday night single-tracking to help minimize the delay.

MTA mentioned that the controller ATS training started the week of July 15, 2024, and will progress one week on, one week off going forward, in order to address the availability of the MTA controllers.

MTA reported that Railcar certification continued during the week of July 4, 2024, except for the holiday itself. MTA provided HBR with temporary authorization on July 10, 2024, to start progressing some CBTC testing for MP 2. MTA stated that MP 1 will be used for rail-

specific testing, while the other married pairs will be tested in other certification areas. MTA indicated that HBR is working on documents needed to complete the remaining Railcar testing and also is documenting what remaining items are not safety critical and therefore would not prevent MP 2 from accessing the test track or mainline.

MTA indicated that MP 2 is currently undergoing clearance testing on the mainline, towed by MTA work cars. MTA expects that MP 2 will perform self-powered mainline testing around July 24 through July 26, 2024, during which MP 2 will be able to go up to 40 miles per hour. MP 2 is scheduled for full mainline testing on July 31, 2024. The MTA train operators also will be present for training at that time. MTA mentioned that, to move forward, MP 1 must pass a safety gate, which requires completing three steps. The first step is for HBR to complete the test and data sheets (test witness signatures are the remaining item for completion). The second step is the completion of shunt testing (MP 1 was left at Johns Hopkins Station overnight with successful shunt, and MP 2 was formally tested on July 22, 2024). The third step for MP 1 to pass the safety gate is a clearance test in the yard and on the mainline while MP 2 is being towed and tested on the mainline. If MP 2 happens to pass the clearance during this pull testing, then MTA Safety will consider all the married pairs to have passed the safety gates. MTA believes that there is good progress on rail testing, with only minor remaining testing issues that do not prevent HBR from moving forward. HBR must make some minor railcar software modifications based on the jerk test results. MP 1 passed the slip test.

2.11.2. Metro Fleet Fabrication and Assembly

At the June 20, 2024 PMOC meeting, regarding railcar corrosion, MTA reported that two new carshells arrived at Hagerstown on June 18, 2024, and after the initial inspection, there were no apparent corrosion issues. HBR will continue to ship new carshells based on the production schedule at Hagerstown.

MTA stated that during the testing that occurred in May 2024, HBR uncovered issues related to the manufacturing process of the bolster beams in Italy. MTA indicated that HBR had performed UT and Magnetic Resonance Testing, and that the results from both tests were similar. HBR will now test ten more bolster beams. Moving forward, HBR will perform 100 percent UT on the bolster beam production line.

During the PMOC's project site visit to the Hagerstown plant on June 20, 2024, the PMOC observed the two new carshells shipped from Italy. No corrosion was visibly apparent, and MP 4, MP 5, and MP 6 were in the process of being outfitted. At the Wabash Maintenance Facility, MP 1 was undergoing the process of vehicle testing and initial systems testing. MP 2 has been on the test track and has the potential to start mainline testing in July 2024. MP 3 certifications are in the review process because HBR has been focusing on completing MP 1 testing and preparing MP 2 for mainline testing. MTA mentioned that it had uncovered a minor issue with placement of the railcar lifting pads. Based on a check of the distances and HBR's drawings, it appears that HBR made a design error regarding the measurements of the location where the railcar stops when the

vehicle needs to be lifted at the Wabash Maintenance Facility. MTA is reviewing the distances to determine their acceptability and how much of a credit is owed to MTA as a result of this error.

The PMOC noticed a number of changes to the Hagerstown facility during its project site visit. On the exterior, solar panels were added to the roof and canopy areas were added in the front parking lot. HBR explained the carbon neutral and zero emissions initiative that Hitachi has instituted corporate-wide in all facilities. This initiative covers all facility components, including wastewater and trash. The second floor offices and conference rooms at the facility have been completed. HBR has installed the rail fencing in the rail truck area and has assembled approximately 28 rail trucks and lined them up for installation. The rail wash appeared to have been completed. The main railcar assembly area is still a work in progress, as is the warehouse section and smaller assembly areas (such as the conduits). The PMOC witnessed personnel who had relocated from the former Miami plant, working on assembly of MP 4, MP 5, MP 6, and half of MP 7; these former Miami personnel made up about 60 percent to 70 percent of the personnel working on assembly of these married pairs. The Hagerstown facility plant manager continues to work on the production schedule and regularly shares that information with MTA.

During the project site visit, the Hagerstown facility plant manager demonstrated an Artificial Intelligence (AI) dog robot manufactured by Boston Dynamics, which is a leader in the robotic and AI world. HBR indicated that Hitachi is moving forward with acquiring a number of robots to assist in the manufacturing process across the spectrum of its projects. Hitachi's intent at Hagerstown is to have a fully automated facility that meets the requirements of the zero emissions and carbon neutral initiative. The initial plan for the robots is to assist with warehousing and performing vehicle inspections. HBR indicated that the inspections would occur in the evening when the plant is shut down, and the data would be provided for review in the morning. The plant manager indicated that it takes time to teach the robot to perform routines and provided an example of the robot going up and down the movable warehouse ladders, which took two weeks for the robot to learn.

At the July 17, 2024 PMOC meeting, MTA reported that four new carshells arrived at the Hagerstown, Maryland facility in July 2024, for a total of six new carshells. The initial inspection of these new carshells revealed no apparent corrosion issues. MTA indicated, however, that the new carshells do have the lift pad defect that was identified in June 2024; MTA and HBR are working on a resolution for this defect.

MTA mentioned that HBR has been slow in sending the ten additional bolster beams for testing in Italy. However, HBR has moved ahead with UT. MTA will send an inspector to the Hitachi plant in Italy once or twice per month to witness bolster beams currently being built and witness the UT inspection, in order to review and document this process.

MTA stated that HBR is actively working on assembling MP 4, MP 5, and MP 6. MTA noted that HBR was performing continuity cable testing on MP 4 and had hired additional staff to work on the next three married pairs that have arrived from Italy; these three married pairs will be known as MP 8, MP 9, and MP 10. The second half of MP 7 remains in Italy, and

MTA is awaiting its shipment. Earlier in July, another two railcars arrived from Italy, making a total of three railcars delivered since the shipment in June 2024.

MTA stated that it will send an inspector to the off-site warehouse near Hagerstown to validate the parts that were sent there from the Miami warehouse for storage. MTA mentioned that the robot inspector is still in training mode and has not been activated to perform inspections at this time.

The PMOC recommends that MTA continue to inspect the condition of carshells being shipped from Italy and, if the shipments continue to pass inspection, then MTA should provide a report at the QPRM in August 2024, so that FTA can determine whether the corrosion issue can be closed or needs to be monitored for another quarter.

The PMOC also recommends that MTA continue to require HBR to develop and demonstrate a mitigation plan to address the scrapping of the 33 carshells. This mitigation plan should align with a realistic schedule, along with an EAC that includes sufficient contingency based on that mitigation plan.

2.12. Vehicle Technology and Procurement

Vendor: Hitachi Ansaldo Baltimore Rail Partners, LLC

Model: Hitachi Rail Italy (HRI)-MTA

Year: 2023 (first vehicle delivery)

Quantity: 78

Identification: 300 through 377

New Technologies: Not applicable

Significant Events:

Time Frame	Event
August 2024	**Manufacturer's Design Complete**
July 2025	**First Vehicle Final Acceptance**

Bus Vehicle Testing: Not applicable

2.13. Project Cost

2.13.1. Project Budget

MTA reported the latest project cost data (through June 30, 2024) **to the PMOC on July 17, 2024,** which shows that the project has total expenditures of $246,297,000. Table 4 shows the federal grants used for the project, and Table 5 shows the total project funding and the drawdowns on that funding through June 2024, as reported by MTA on July 17, 2024. MTA has added two future federal grants to the list, thus increasing the federal share and decreasing the state share.

The PMOC recommends that MTA continue to analyze the overall project budget, including administrative and oversight costs, in light of the ongoing schedule delays.

Table 4 – Project Federal Grants

Federal Grants	Federal Amount	Drawdown
MD-2016-006	$34,054,000	$34,054,000
MD-2016-007	$3,645,000	$3,645,000
MD-2019-014 / ZC02XX	$19,621,000	$18,488,000
MD-2019-017	$5,002,000	$5,002,000
MD-2019-018 / ZC01XX / ZC03XX	$5,785,000	$5,785,000
MD-2020-003 / ZD22XX	$16,847,000	$16,847,000
MD-2021-004 / STP-20	$13,730,000	$8,687,000
MD-2021-013 / ZD20XX	$27,946,000	$27,490,000
MD-2022-010/ **ZF08XX**	$7,578,000	$2,287,000
1401-2021-30 / ZE02XX	$9,745,000	-
1401-2021-18 / ZF20XX	$38,032,000	-
5307-22 / ZG24XX	$33,038,000	-
5307-23 / ZH02XX	$26,098,000	-
B5307-24/ZI11XX	**$23,048,000**	-
B5307-25	$15,043,000	-
B5307-26	$3,331,000	-
B5307-28	**$43,904,000**	-
ZG08XX	$10,301,000	-
CMAQ-23 / ZH11XX	$29,072,000	-
B5337-22	**$666,000**	-
B5337-25	$12,163,000	-
B5337-26	$2,469,000	-
B5337-26	$8,000,000	
SHA-FLEX	**$20,978,000**	-
Total	**$410,096,000**	**$122,285,000**

Note: Rounding in grant values is not reflected in the totals.

Table 5 – Project Funding Summary

Funding Source	Amount	Drawdown
Federal	**$410,096,000**	**$122,285,000**
State/County	**$76,754,000**	**$124,012,000**
Total	**$486,850,000**	**$246,297,000**

MTA continues to manage change orders and change requests. The following is the status of contract changes as reported by MTA on **July 17, 2024:**

- Fifty-three change requests have been initiated to date, with a total projected amount of **$10,148,670.66**.

- Four of the change requests were cancelled.
- MTA and HBR have negotiated 44 change orders (with a related net increase to the contract value of **$8,139,318.21**), which include two change orders funded by separate MTA projects.
- MTA indicated that CNs 46, 47, 48, and 51 are in the resolution process. MTA has updated the list of new CNs as Hitachi submits the information. The new CNs are:
    - CN 49 (Lexington Market Station Berthing).
    - CN 50 (Yard Axle Counter Reset).
    - CN 51 (Remote Workstation Data Communication System).
    - CN 52 (Reusing Fiber Optics) – HBR will not conduct this work, so MTA will use its own subcontractor, Fairfield.
    - CN 53 (Incompatible Hitachi Analog Points for Supervisory Control and Data Acquisition, or SCADA) – HBR's potential fix is to hardcode the data.

  MTA's initial assessment of the amount for CN 47 (Replacement of Metro Mainline Raceways) is that it appears to be overly inflated, and MTA believes that HBR is trying to recoup lost full-time costs of employees. MTA continues to report that the budget for HBR's fleet and train control work will not increase due to the delays that are reflected in the current contract baseline schedule. **Although MTA states that it has the funds to complete the project, the PMOC forecasts that additional funds may be required for schedule mitigation, safety oversight, construction management, and administration.**

2.13.2. Disadvantaged Business Enterprise Performance

The project has the following Disadvantaged Business Enterprise (DBE) goals:

- HRI DBE goal: 4.00 percent (2021)
- Ansaldo STS DBE goal: 9.72 percent

Actual performance relative to these goals is reported separately to FTA by HRI and by Ansaldo STS (the transit vehicle manufacturer) in accordance with the U.S. Department of Transportation DBE regulations.

2.14. Project Schedule

HBR submitted a preliminary project schedule that was revised to address comments that MTA provided in November 2017. MTA approved the February 28, 2018 Project Schedule (Rev. 3) as the project baseline schedule in March 2018.

After initial delays, HBR submitted the integrated Train Control and Railcar schedule recovery plan (HBR's Project Schedule Update 12) in May 2019. MTA reviewed Project Schedule Update 12 and accepted it as the schedule recovery plan. HBR's project schedule updates through March

2020 continued to show delays to interim milestones and the Full Revenue Service date. Delays due to COVID-19 then began to occur.

In May 2020, MTA decided to proceed with the addition of axle counters in the yard, which MTA understood would result in delays that would be experienced concurrently with delays already resulting from design delays and COVID-19 restrictions.

HBR submitted Project Schedule Update 28 on September 10, 2020. MTA and its consultant reviewed it and returned it to HBR for revision and resubmission. MTA and HBR then met twice to resolve the comments and concerns, and HBR resubmitted Project Schedule Update 28 in October 2020. MTA's comments on Project Schedule Update 28 related to changes to the schedule since the previous update that were not fully documented and to other scheduling practices. HBR's proposed Project Schedule Update 28 also included the past delays related to COVID-19, but the documentation to back up the COVID-19-related delays (starts and stops) of each activity was not provided.

In December 2020, MTA accepted Project Schedule Update 28 from HBR as the new baseline schedule. Comparison of the prior baseline schedule to the new baseline schedule indicated that the completion of the Train Control system construction was delayed by 343 days (just over 11 months), and the "Revenue Service Full Project" milestone was delayed by 456 days (just under 15 months). MTA reported that this baseline schedule did not include contingency time, or float.

Since MTA accepted Project Schedule Update 28 as the revised contract baseline schedule, HBR has submitted 13 updates that MTA has accepted. HBR submitted Schedule Update 42 in January 2022 and requested that MTA accept it as the new baseline schedule. As of December 20, 2023, HBR had submitted 19 schedule revisions after receiving comments from MTA. At the QPRM on February 8, 2024, MTA provided Schedule Update 43.

On April 17, 2024, MTA stated that HBR provided a new schedule dated April 1, 2024 (Schedule Update 47). MTA provided a copy of the schedule to the PMOC on April 8, 2024. MTA had indicated that it was reviewing the schedule in April 2024. MTA stated that it had provided HBR with preliminary informal comments and reiterated that it will not re-baseline the project schedule. Schedule Update 47 appears to be the official project schedule, and HBR will be held accountable to meeting it. The PMOC performed a general review of key dates and dates where there are crossovers in Schedule Update 47. Schedule Update 47 appears to the PMOC to be sound, but there are activities (such as MP 1, CBTC LiDAR, and Google Interface) for which the dates have already been exceeded due to HBR's delay in addressing issues. HBR has pushed out dates for six rail outages that it had requested and had tied to system activities (two in October 2024, one in December 2024, one in February 2025, one in March 2025, and one in April 2025). MTA had approved all six weekend outages with the following stipulations: the outages will be tied to system software releases, HBR will create a Service Impact Report, and HBR will not be granted any additional weekend outages for the remainder of the project. MTA recognizes that outages are needed to meet Milestone 18 (which puts the first train into revenue service). Meeting Milestone 18 is important to MTA because its fleet has been aging faster than expected and having the new vehicles will help reduce the stress on the existing revenue fleet. Upon achieving Milestone 18,

the expectation is that two married pairs will be placed on the tracks per month, which is important to MTA. MTA reiterated that July 2025 is the first vehicle final acceptance date and is a critical milestone. MTA is pushing HBR to focus on having replacement vehicles ready, and MTA is hoping to have a full fleet by 2026.

As stated above, the PMOC received Schedule Update 47 and performed a preliminary review that involved matching contractual and key milestones and checking against current progress reported. The schedule appears to be sound on a preliminary level. The PMOC will need to continue to monitor the project and review the results of the meeting held during the week of April 22, 2024, to be able to gauge a confidence level in Schedule Update 47. Only through performing a thorough FTA OP 34 Schedule Review can the PMOC ascertain complete schedule soundness and confidence level.

At the June 20, 2024 PMOC meeting, HBR provided a new schedule revision dated May 1, 2024, (Schedule Update 48). MTA stated that the only milestone date that has officially slipped between Schedule Update 47 and Schedule Update 48 is the Manufacturer's Design. During the meeting on June 20, 2024, a few minutes were spent to discuss holding a separate meeting about the schedule to resolve the issues preventing HBR from completing the Manufacturer's Design. MTA confirmed that HBR still has not presented a mitigation plan or strategy to address delays and other issues that are impacting the project schedule.

MTA was very stern in warning HBR to provide a plan for, and to be ready to work on, the requested weekend outages for October 2024, December 2024, and February 2025. MTA reiterated the fact that rail time is very limited and is in high demand due to the work that both MTA Capital and MTA Operations must do during that period. If HBR misses one or all of those outages, the project will be gravely impacted. Meeting Milestone 18 is important to MTA because its fleet has been aging faster than expected and having the new vehicles will help reduce the stress on the existing revenue fleet. Upon achieving Milestone 18, the expectation is that two married pairs will be placed on the tracks per month, which is important to MTA. MTA reiterated that July 2025 is the first Revenue Service date and is a critical milestone. MTA is pushing HBR to focus on having replacement vehicles ready, and MTA is hoping to have a full fleet by 2026.

Since MTA first accepted Schedule Update 28 as the revised contract baseline schedule in September 2020, Hitachi has submitted 19 updates that MTA has accepted. Hitachi submitted Schedule Update 48 (dated May 1, 2024) in May 2024. MTA has not yet accepted Schedule Update 48 and is reviewing it. Schedule Update 48 supposedly incorporated comments from MTA's review of Schedule Update 47, but MTA stated that Schedule Update 47 does not contain mitigations to capture recent delays. MTA and HBR were discussing the schedule in various meetings during the months of May, June, and July 2024.

At the July 17, 2024 meeting, MTA stated that it is waiting for HBR to address MTA comments regarding Schedule Update 48. MTA also stated that HBR has performed some mitigation actions by adding hours and doubling up on shifts on the test track, to keep Schedule Update 48 whole for now. The schedule for the "Manufacturer's Design Complete" milestone continues to slip, and MTA has pushed HBR to close out the comments from the final design documents. MTA stated

that only five documents remain for HBR to correct, and MTA will not close out Final Design Review (FDR) until HBR addresses the five documents. MTA stated that Project Director, Mr. Noureddine Benkaza, has requested MTA to close out FDR because the required documentation is at 98 percent complete, which is essentially 100 percent completion. However, MTA's contract and policies for this documentation are specific and require 100 percent completion.

As recorded in the June 2024 PMOC Meeting, MTA was very stern in warning HBR to provide a plan for, and to be ready to work on, the requested weekend outages for October 2024, December 2024, and February 2025. MTA continues to reiterate that warning at key meetings with HBR. If HBR misses one or all of those outages, the project will be gravely impacted. Meeting Milestone 18 is important to MTA because its fleet has been aging faster than expected and having the new vehicles will help reduce the stress on the existing revenue fleet. Upon achieving Milestone 18, the expectation is that two married pairs will be placed on the tracks per month, which is important to MTA. MTA reiterated that the First Vehicle Revenue Service date is scheduled for July 2025 and is a critical milestone. MTA is pushing HBR to focus on having replacement vehicles ready, and MTA is hoping to have a full fleet by 2026.

Schedule Update 48 shows two delays since Schedule Update 47 is the "Manufacturer's Design Complete" milestone, which has been delayed until August 31, 2024, 42 months later than shown in the baseline schedule and 3 months later than previously reported at the QPRM. The "Last Vehicle Delivered" milestone will occur on July 1, 2026, 45 months later than shown in the current baseline schedule, which has not changed since the last QPRM. Schedule Update 48 indicates that the "Integrated Testing" milestone will occur on August 12, 2024, 26 months later than shown in the current baseline schedule and 75 months later than reported at the QPRM. The "Revenue Service Full Project" milestone has not changed and remains August 21, 2026, 33 months later than shown in the current baseline schedule.

The PMOC continues to monitor the project and review the results of the schedule to be able to gauge a confidence level in Schedule Update 48. HBR's lack of schedule management demonstrates continued risk to this project. MTA has been trying various strategies to help HBR keep the project on schedule. Only through performing a thorough FTA OP 34 Schedule Review can the PMOC ascertain complete schedule soundness and confidence level.

FTA and the PMOC would prefer a stationary baseline schedule rather than a schedule that appears to move monthly. Upon MTA's acceptance of or concurrence on Schedule Update 48, it would benefit both MTA and Hitachi moving forward to maintain a schedule that does not consistently slip. Any further schedule slippage will demonstrate a true lack of management capacity and capability, which in turn carries the risk of heavily impacting the budget.

Based on the continued schedule slippage and the related risk, the PMOC recommends that MTA continue to require Hitachi to adhere to a recovery and mitigation plan that will meet an acceptable project schedule, using interim key project milestones and contractual milestones, and that MTA closely monitor Hitachi's progress.

Table 6 shows the project schedule, completion dates for the current approved baseline schedule and for subsequent recent schedule updates, and the change since the last quarter.

Table 6 – Project Schedule

Activity	Original Contract or Grant Date	Current Approved Baseline Completion Schedule (Update 28, 9/1/2020)	Last Quarter Completion Dates (Update 47, 4/1/2024)	Current Completion Date (Update 48, 5/1/2024)	Change Since Last Quarter*	Actual
MTA Design Complete	3/1/2015	3/1/2015	3/1/2015	3/1/2015	-	3/1/2015
Right-of-Way Complete	N/A	N/A	N/A	N/A	N/A	N/A
Advertisement	9/30/2015	9/30/2015	9/30/2015	9/30/2015	-	9/30/2015
Bids/Proposal Due	3/31/2016	3/31/2016	8/12/2016	8/12/2016	-	8/12/2016
Award/**Board of Public Works** Date	11/30/2016	11/30/2016	7/26/2017	7/26/2017	-	7/26/2017
Notice to Proceed	12/15/2016	12/15/2016	9/1/2017	9/1/2017	-	9/1/2017
Construction:						
Contractor Design Complete	2/7/2019	12/15/2020	**12/31/2023**	**5/31/2024**	**-150 Days**	**5/31/2024**
Construction Start	5/14/2018	5/14/2018	4/2/2018	4/2/2018	-	4/2/2018
Construction Complete	5/26/2024	5/4/2025	**1/4/2027**	**1/4/2027**	-	
Vehicles:						
Mfgr Design Complete	5/29/2019	2/23/2021	**5/31/2024**	**8/31/2024**	**-90 Days**	
First Vehicle Delivery	5/29/2020	8/23/2021	9/4/2023	9/4/2023		9/13/2023
First Vehicle Cond. Accept	6/26/2021	11/3/2022	7/20/2025	7/20/2025	-	
First Vehicle Final Accept	6/26/2021	11/4/2022	7/21/2025	7/21/2025	-	
Last Vehicle Delivery	10/25/2022	1/23/2024	**7/1/2026**	**7/1/2026**	-	
Last Vehicle Cond. Accept	11/28/2022	2/28/2024	8/20/2026	8/20/2026	-	
Last Vehicle Final Accept	11/29/2022	3/1/2024	8/21/2026	8/21/2026	-	
Integrated Test Start	6/26/2021	6/21/2022	**7/21/2024**	**8/12/2024**	**-21 Days**	
Revenue Service Start, if Phased	6/26/2021	11/3/2022	7/21/2025	7/21/2025	-	
Revenue Service Full Project	11/29/2022	2/28/2024	8/21/2026	8/21/2026	-	
Project Closeout	5/26/2026	5/4/2027	**4/29/2029**	**4/29/2029**	-	

***Reason for Change:** HBR updated the schedule as the new proposed baseline. The schedule includes delays due to late delivery of the first married pair to Hagerstown from testing in Miami, expected delays related to the move to Hagerstown, and delays associated with repair/replacement of corroded carshells.

2.15. Project Risk

It is recognized that the Train Control system work has been very challenging, because both the new system and the existing system need to operate simultaneously during the transition period, when both new railcars and existing railcars are in operation. The risk of HBR's purchase of Thalis remains, given that HBR has not addressed MTA's concerns or related letter. Bringing in a third system to be integrated is a very delicate process, and HBR needs to address future testing and warranty. **MTA raised a concern relating to the warranty of the Fluidmesh System that might pose a post-project risk. This concern is discussed below under Section 2.20, Start-up, Commissioning, Warranty.**

Although the relationship between MTA and Hitachi has improved, Hitachi continues to provide at its- leisure responses or respond slowly or not at all to MTA's requests, including not yet responding to the letter MTA submitted to Hitachi in mid-April 2024, once again requiring Hitachi to address and respond to MTA's request to provide a resolution to all outstanding requests. As of the July 2024 PMOC meeting, MTA has received roughly 2 out of 13 required responses.

The impacts of a second COVID-19 no-cost time extension and the scrapping of 33 rail carshells, although it eliminated the issue regarding the rust/corrosion impacts, both still pose risks to the production schedule. HBR needs to develop a mitigation plan for these risks. MTA has verified that HBR's current pacification process being used for shipping has been successful in preventing the corrosion from forming on the new carshells recent received in June and July 2024. MTA is closing the corrosion issue but will still monitor new shipments of carshells.. The impacts of ongoing schedule delays, primarily due to safety certifications, are significantly increasing the risk of project cost overruns.

2.16. Quality Assurance/Quality Control

MTA's contract with HBR establishes the Quality Assurance/Quality Control requirements for the project in accordance with FTA Quality Management System Guidelines. Quality problems related to carshell manufacturing, which were first noted in July 2020, reportedly have been addressed. See the discussion in Section 2.11.2, above.

On April 17, 2024, MTA confirmed that the biweekly quality meetings with HBR continue and that these meetings are helping reduce number of quality issues.

At the July 17, 2024 PMOC meeting, MTA indicated that an old manufacturing issue (the waviness of the railcar roof and related dimpling of the roof), which was thought to have been addressed by HBR, has reappeared. MTA has questioned HBR about the status of the manufacturing process fix that had been implemented to address this issue, but HBR has not provided a response to MTA. MTA indicated that the initial fix was a calibration procedure, but that initial fix did not successfully address the problem. The official fix was to add cross member sections to help support the roof and stop the dimpling and waviness issue from occurring.

MTA stated that it was trying to schedule a workshop with HBR to address this manufacturing issue. MTA noted that it will inform HBR at this workshop that MTA will stop shipment of carshells from Italy until HBR addresses and fixes the dimpling issue. HBR has tentatively scheduled this workshop for some time near the end of July 2024; however, MTA is pushing to have the initial meeting the week of July 22, 2024, and a more detailed meeting the week of July 29, 2024, because HBR senior management is out for the entire month of August for the summer holiday.

2.17. Safety and Security

MTA's contract with HBR establishes the requirements for safety and security, including those for safety certification of the work performed on this project. Railway Worker Protection safety training is ongoing. MTA announced that HBR hired well-known industry consultants to assist

with addressing the security certification issues that have been plaguing HBR. MTA has since noticed positive progress toward resolution of these issues, albeit slower progress than MTA anticipated.

2.18. Americans with Disabilities Act

The contract for this project requires compliance with the Americans with Disabilities Act (ADA) regulations. One major ADA issue all railcar operators have faced and are in the process of correcting has been the gap in between railcars. Currently the new vehicles do not have barriers to guide sight-impaired passengers from mistaking the gap between the vehicles as an entry door. It is expected that this will be corrected by the time the first railcar is accepted in July of 2025.

2.19. Buy America

The contract for this project requires compliance with FTA's Buy America requirements. MTA reported in January 2022 that it had completed the interim Buy America audit and found that both the train control and the railcar materials exceeded the requirements. MTA plans to conduct another audit after the first railcars are delivered and the train control materials have all been installed.

2.20. Start-Up, Commissioning, Warranty

As MTA reported on July 17, 2024, MTA raised a current concern related to the "wireless network," for which HBR is responsible for a 30-year service life. MTA stated that Cisco has purchased Fluidmesh, the wireless radio supplier, and has updated MTA on two impacts to the project and to the MTA operations network overall. The first impact is to the radio controllers located at the BOCC and Main OCC. The radio controllers are model number FM10000, which is being discontinued by CISCO and for which there is no quantity available for purchase. Hitachi is working with its wireless network design team for a long-term solution. It is possible that a lower bandwidth FM1000 radio will work (and because the FM1000 is not being discontinued, it will be available). However, Hitachi planned to use the higher bandwidth FM10000 to accommodate the addition of real-time CCTV to the stream from the trains.

The second impact is on the train and wayside radios, which are model number FM4200M. Cisco is discontinuing the FM4200M but has a large quantity of FM4200Fs, which are compatible with the FM4200M. This quantity of FM4200Fs is available for final sale on July 17, 2024. Hitachi has agreed to provide to MTA the cost of the FM4200Fs and a recommended quantity for 30-year spare capacity. Regardless of the outcomes, these two impacts raise a signal system longevity issue, given that HBR has guaranteed a 30-year life, which, with the current gateway server issue, may not be possible.

MTA also reported that it received information from another Hitachi project regarding a U.S. Environmental Protection Agency (EPA) prohibition. MTA was informed that the EPA prohibition is on phenol, isopropylated phosphate (3:1), which is a flame retardant, a plasticizer, and an anti-compressibility and anti-wear additive. MTA believes that this

material is in the capacitors used in the railcar vehicles and is awaiting HBR's review determining whether it is in the vehicles or not. EPA has imposed a cutoff date of January 2025 to remove this material from use.

The PMOC recommends that MTA maintain a general Systems Start-up, Commissioning, and Testing Plan that can be utilized on all types of projects and also issue a related project-specific supplemental plan. These plans would aid both MTA's project team and HBR's team to better manage key and critical activities, and they also would provide valuable inputs to the project schedule.

2.21. Before-and-After Study Reporting

Before-and-after study reporting is not applicable to this task order.

2.22. Lessons Learned

At the PMOC's request, MTA provided four Lessons Learned documents on September 25, 2020, to illustrate the project processes that were using lessons learned from past events during the control system construction and railcar manufacturing. At the time, MTA and the PMOC reviewed and briefly discussed these documents during their monthly meeting.

The process of incorporating lessons learned involves review of those events from the last major work activity (either positive or negative) that should be agenda items for the next major work activity being prepared. There are generally one or two meetings before a major activity, including those activities that require a power outage.

After a major activity, a new Lessons Learned document is prepared. MTA staff, consultant staff, and HBR each provide a list of lessons learned and recommend future actions separately, and then these are consolidated into post-activity debriefing meeting minutes. However, the meeting minutes document does not build upon items from previous major activities; thus, the lessons learned are not documented in a cumulative fashion.

As first stated in the October 2020 PMOC Comprehensive Monitoring Report, in the opinion of the PMOC, MTA should document, and track lessons learned in a cumulative fashion. MTA should then refer to this more complete document in order to integrate lessons learned into the construction process and adjust them as project conditions dictate.

2.23. Actions Items/Critical Issues Table

Table 7 lists action items or critical issues identified at the previous quarterly meetings and monthly meetings related to this project.

Table 7 – Action Items/Critical Issues

No.	Issue Description	Status	Resolution	Date
1	Final Design Review – Design checklists are needed for ATC, CBTC, and Railcar. All are nearly complete.	Open		8/31/2024
2	Safety certification is a key concern for both Railcar and Train Control. • Train Control: CCC criteria are being verified as testing is completed in the field. Progress has been made on ATS. Automatic Train Control (ATC) and CBTC will start in April 2024.	Open		8/31/2024
3	CBTC Software Development – With the development team located in France (no local team), there is a risk that software updates and testing will be prolonged. This situation will be monitored. Preliminary ATC/CBTC FAT was successful. Development work remains, and field testing will be key to proving stability of software.	Open		8/31/2024
6	Hitachi notified MTA in February 2023 that four indications were noted with respect to the bolster beam at the conclusion of the truck fatigue test. Repairs will be needed regardless of the root cause. Trucks already produced will need to be repaired.	Open		8/31/2024

ATTACHMENT A – LIST OF ACRONYMS

ADA	Americans with Disabilities Act
AI	Artificial Intelligence
ATC	Automatic Train Control
ATS	Automatic Train Supervision
BOCC	Backup Operations Control Center
BRT	Bus Rapid Transit
CBTC	Communications Based Train Control
CCC	Construction Conformance Checklist
CFR	Code of Federal Regulations
CM	Construction Management
CMGC	Construction Manager General Contractor
CN	Change Notice
CSSP	Construction Safety and Security Plan
DBE	Disadvantaged Business Enterprise
DBOM	Design, Build, Operate, and Maintain
DCC	Design Conformance Checklist
DCS	Data Communication System
DF	Designated Function
EAC	Estimate at Completion
EPA	Environmental Protection Agency
FAI	First Article Inspection
FAT	Factory Acceptance Test
FDR	Final Design Review
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GPS	Global Positioning System
HAB	Hitachi Ansaldo Baltimore Rail Partners, LLC
HBR	Hitachi Baltimore Rail Partners LLC
HRI	Hitachi Rail Italy

LiDAR	Light Detection and Ranging
MP	Married Pair
MTA	Maryland Transit Administration
MWA	Miscellaneous Work Allowance
N/A	Not Applicable
O&M	Operations and Maintenance
OCC	Operations Control Center
OHA	Operational Hazard Analysis
OP	Oversight Procedure
OSHA	Occupational Safety and Health Administration
PDR	Preliminary Design Review
PHA	Preliminary Hazard Analysis
PMC	Project Management Consultant
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QPRM	Quarterly Progress Review Meeting
RAMS	Reliability, Availability, Maintainability, and System Safety
RAP	Rail Activation Plan
SCIL	Safety Certifiable Item List
SEPP	Security and Emergency Preparedness Plan
SIT	Systems Integration Test
SOP	Standard Operating Procedure
SSCP	Safety and Security Certification Plan
SSCVR	Safety & Security Certification Verification Report
SSI	Solid-state Interlocking
SSMP	Safety and Security Management Plan
SSO	State Safety Oversight
SSPP	System Safety Program Plan
TVA	Threat and Vulnerability Assessment
UT	Ultrasonic Testing

ATTACHMENT B – SAFETY AND SECURITY CHECKLIST

To be revised and populated in future reports.

Project Overview			
Project Mode (Rail, Bus, BRT, Multimode)			
Project Phase (Project Development, Engineering, Construction, Start-Up)			
Project Delivery Method (Design/Build, DBOM, CMGC, etc.)			
Project Plans	**Version**	**Review by FTA**	**Status**
Safety and Security Management Plan (SSMP)			
Safety and Security Certification Plan (SSCP)			
System Safety Program Plan (SSPP)			
System Security Plan or Security and Emergency Preparedness Plan (SEPP)			
Construction Safety and Security Plan (CSSP)			

Area of Focus	**Y/N**	**Notes/Status**
Safety and Security Authority		
Is the project sponsor subject to 49 CFR Part 659 state safety oversight requirements?		
Has the state designated an oversight agency as per Part 659.9?		
Has the oversight agency reviewed and approved the project sponsor's Security Plan or SSPP as per 49 CFR Part 659.17?		
Did the oversight agency participate in the last Quarterly Program Review Meeting?		
Has the project sponsor submitted its safety certification plan to the oversight agency?		
Has the project sponsor implemented security directives issues by the Department Homeland Security and/or Transportation Security Administration?		
SSMP Monitoring		
Is the SSMP project-specific, clearly demonstrating the scope of safety and security activities for this project?		
Does the project sponsor review the SSMP and related project plans to determine if updates are necessary?		
Does the project sponsor implement a process through which the Designated Function (DF) for Safety and DF for Security are integrated into the overall project management team? Please specify.		
Does the project sponsor maintain a regularly scheduled report on the status of safety and security activities?		
Has the project sponsor established staffing requirements, procedures, and authority for safety and security activities throughout all project phases?		
Does the project sponsor update the safety and security responsibility matrix/organizational chart as necessary?		
Has the project sponsor allocated sufficient resources to oversee or carry out safety and security activities?		
Has the project sponsor developed hazard and vulnerability analysis techniques, including specific types of analysis to be performed during different project phases?		

Does the project sponsor implement regularly scheduled meetings to track to resolution any identified hazards and/or vulnerabilities?		
Does the project sponsor monitor the progress of safety and security activities throughout all project phases? Please describe briefly.		
Does the project sponsor ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted.		
Has the project sponsor ensured the development of safety design criteria?		
Has the project sponsor ensured the development of security design criteria?		
Has the project sponsor ensured conformance with safety and security requirements in design?		
Has the project sponsor verified construction specifications conformance?		
Has the project sponsor identified safety and security critical tests to be performed prior to passenger operations?		
Has the project sponsor verified conformance with safety and security requirements during testing, inspection, and start-up phases?		
Does the project sponsor evaluate change orders, design waivers, or test variances for potential hazards and/or vulnerabilities?		
Has the project sponsor ensured the performance of safety and security analyses for proposed workarounds?		
Has the project sponsor demonstrated through meetings or other methods, the integration of safety and security in the following? • Activation Plan and Procedures • Integrated Test Plan and Procedures • Operations and Maintenance Plan • Emergency Operations Plan		
Has the project sponsor issued final safety and security certification?		
Has the project sponsor issued the final safety and security verification report?		
Construction Safety		
Does the project sponsor have a documented/implemented Contractor Safety Program with which it expects to comply?		
Does the project sponsor's contractor(s) have a documented companywide safety and security program plan?		
Does the project sponsor's contractor(s) have a site-specific safety and security program plan?		
How do the project sponsor's OSHA statistics compare to the national average for the same type of work?		
If the comparison is not favorable, what actions are being taken by the project sponsor to improve its safety record?		

Federal Railroad Administration		
If shared track, has the project sponsor submitted its waiver request application to FRA? (Please identify specific regulations for which waivers are being requested.)		
If shared corridor: has the project sponsor specified specific measures to address shared corridor safety concerns?	N/A	This is not a shared corridor.
Is the Collision Hazard Analysis underway?		
Other FRA required Hazard Analysis – Fencing, etc.?		
Does the project have Quiet Zones?		
Does FRA attend the Quarterly Review Meetings?	N	

ATTACHMENT C – TOP 5 PROJECT RISKS

Please see Section 1.3, Table 1 – Major Issues/Concerns; Section 2.15, Project Risk; and Section 2.23, Table 7 – Action Items/Critical Issues, in this report for the top project risks.

ATTACHMENT D – AWARDED CONTRACTS

As reported by MTA on **April 18, 2024**.

Company	Vendor Type	Contract Number	Baseline Amount (in thousands)	Current Amount (in thousands)	Projected Amount (in thousands)	Percent of Projected Total
RKK	Design	1354A	$800	$163	$252	0.05%
JMT	Design	1354B	$487	$452	$698	0.15%
PB	Design	1265A	$2,030	$97	$150	0.03%
HAB Rail Partners	Contractor	T-8000-1415	$400,517	$400,517	$400,517	84.01%
AECOM	Construction Services	1445A	$16,396	$16,093	$24,834	5.21%
CH2M Hill	Construction Services	1345A/ AGY-16A	$6,191	$7,025	$10,842	2.27%
HNTB	Construction Services	1445A/ AGY-16A	$7,785	$8,598	$13,269	2.78%
STV	Construction Services	1345B/ AGY-16D	$5,030	$6,118	$9,442	1.98%
OMNI	Construction Services	AGY-16B	$1,907	$1,728	$2,667	0.56%
WSP	Construction Services	1345C/ AGY-16E	$247	$1,921	$2,965	0.62%
Urban	Construction Services	15-01C	$505	$846	$1,306	0.27%
GF	Construction Services	1445C	$3,044	$73	$113	0.02%
MTA	Construction Services	Misc.	$15,973	$438	$676	0.14%
ADS	Construction Services	AE-19-04D/1399C	$5,855	$5,855	$9,036	1.90%
Contracted Total			$466,767	$449,924	$476,767	100.00%*

* Totals may vary slightly due to rounding.

ATTACHMENT E – ROLLING STOCK VEHICLE STATUS REPORT

Vendor: Hitachi Ansaldo Baltimore Rail Partners, LLC

Model: Hitachi Rail Italy (HRI)-MTA

Year: 2023 (first vehicle delivery)

Quantity Ordered: 78

Quantity Delivered to Date: 0

Identification: 300 through 377

New Technologies: Not applicable

Significant Events:

Time Frame	Event
August 2024	**Manufacturer's Design Complete**
July 2025	**First Vehicle Final Acceptance**

ATTACHMENT F – PROJECT MILESTONES/KEY EVENTS

Milestones	Actual or Currently Planned Dates
MTA Design Complete	March 2015
Notice to Proceed	September 2017
Control System	
Contractor Design Complete	**May 2024**
Construction Start	April 2018
Construction Complete	**January 2025**
Fleet	
Manufacturer's Design Complete	**July 2024**
First Vehicle Delivery	September 2023
First Vehicle Final Acceptance	**July 2025**
Last Vehicle Delivery	**July 2026**
Last Vehicle Final Acceptance	August 2026
Integrated Project	
Integrated Test Start	**July 2024**
Revenue Service, if Phased	**July 2025**
Revenue Service Full Project	August 2026
Project Closeout	April 2029

Note: Dates shown are based on Project Schedule Update 48.

ATTACHMENT G – ROADMAP TO REVENUE OPERATIONS

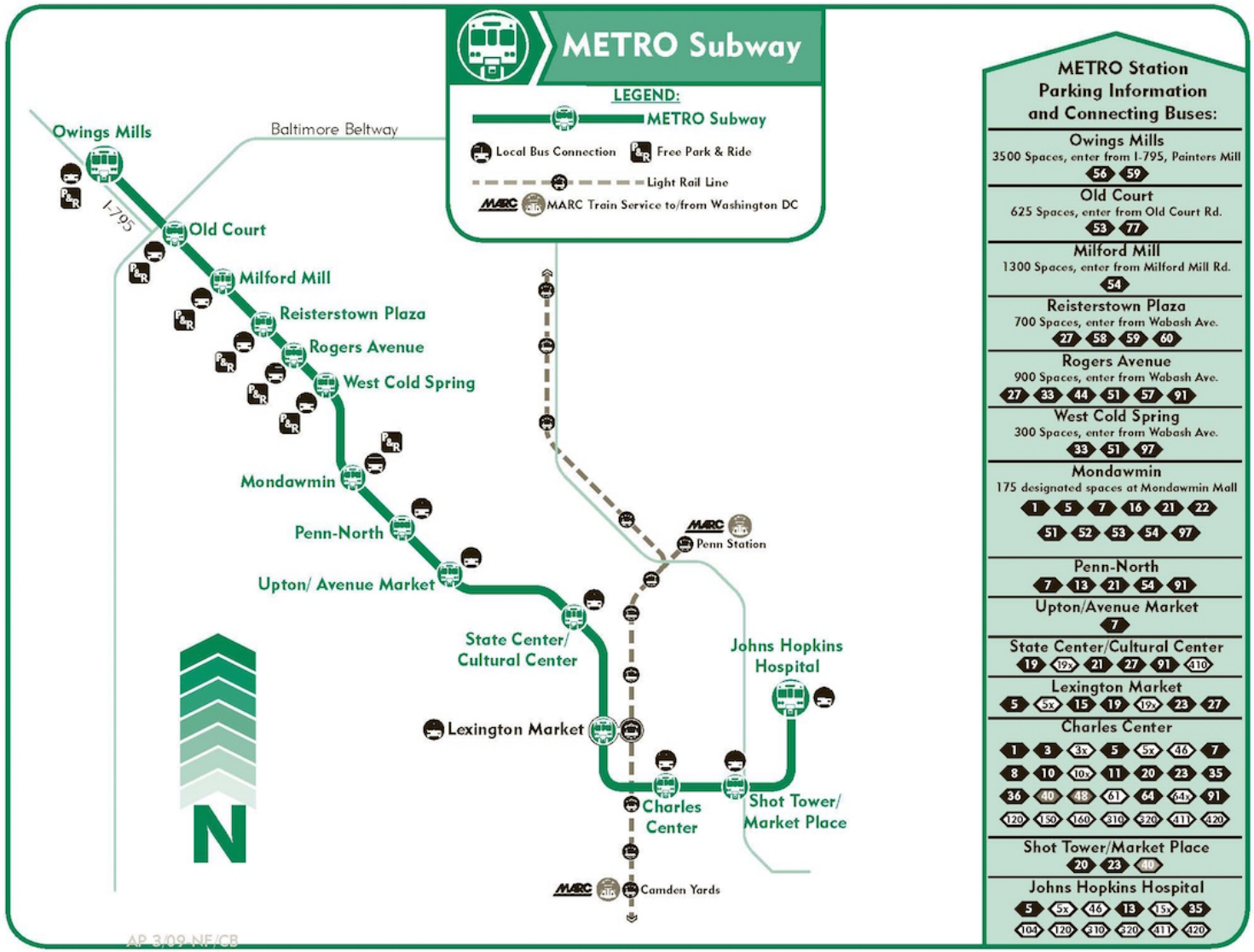
In accordance with Oversight Procedure 25, the Roadmap to Revenue Operations, prepared from the Project Sponsor's Master Schedule, is issued quarterly as a separate electronic file. It will be revised and populated in future reports.

Description	Responsible Party	Status	Estimated Start Date	Estimated Completion Date	Actual Completion Date	Notes
Testing						
Finalize Comprehensive Test Plan						
Finalize/update Systems Integration Test (SIT) Plan						
Develop Testing Schedule and Monitoring Tools						
Develop Operating Rules for Testing						
Conduct System Integrated Testing - Building Systems						
Conduct System Integrated Testing - Train Systems						
Conduct Testing and Commissioning - Train Systems						
Certificates of Occupancy/Substantial Completion						
Operating Plan, Rules						
Finalize Operating Plan						
Finalize/revise SOPs, manuals, and rulebook as applicable						
Complete Staffing Plan						
Obtain Required Staff						
Training of O&M personnel						
Emergency response plan, training, and drills						

Description	Responsible Party	Status	Estimated Start Date	Estimated Completion Date	Actual Completion Date	Notes
Maintenance and Asset Management						
Pre-Revenue Operations						
Finalize and/or update Rail Activation Plan (RAP) and/or Pre-Revenue Operations Plan						
Implement Rail Activation Committee						
Develop/revise SSPP and Security Plan (approved by State Safety Oversight (SSO))						
FTA Office of Safety and Security Readiness Review						
PMOC OP-54 Readiness for Revenue Operations Review Report, Phase I						
PMOC OP-54 Readiness for Revenue Operations Review Report, Phase II						
Conduct Operational Hazard Analysis (OHA) and resolve other hazards/ vulnerabilities						
Pre-revenue Operations						
Public Outreach						
Develop Safety Outreach Plan						
Provide Community Outreach						
Public Timetables/Maps/Website Updates, etc.						
Grand Opening Plan						
Safety, Security, and Fire-Life Safety Certifications						
Update/Finalize SSMP						

Description	Responsible Party	Status	Estimated Start Date	Estimated Completion Date	Actual Completion Date	Notes
Finalize and/or update SCIL and SSCP						
Implement Safety and Security Certification Committee						
Implement Fire Life Safety Committee						
Verify design criteria, PHA, TVA, change orders are implemented within the project						
Review status of quality nonconformances						
Close-out of non-safety critical items/ non-conformances						
Close-out of safety critical items/ nonconformances						
Complete Safety & Security Certification Verification Report (SSCVR)						
Document Workarounds/Open Items List						
Verify emergency drills, tabletops, training, etc. are completed						
SSO final certification/signature						
FRA?						
Revenue Service						
Target Revenue Service Date						
Public Revenue Service Date						
Revenue Service Date						

ATTACHMENT H – PROJECT MAP



ATTACHMENT I – JUNE 2024 SITE VISIT PROJECT PHOTOS

At the Wabash Maintenance facility – Married Pair 1: acceleration and slip testing

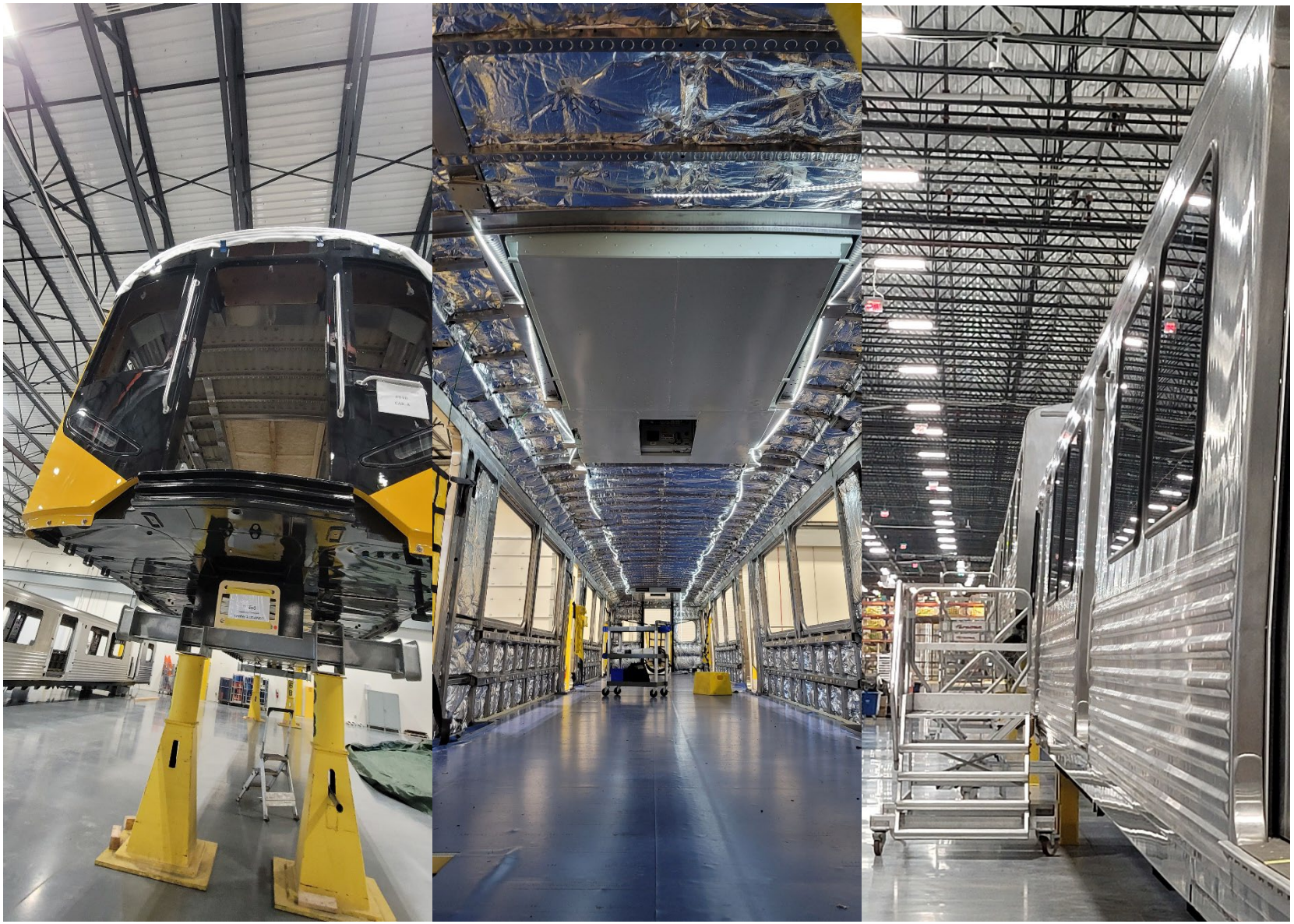




At the Hagerstown facility – New Hitachi carshells arrived from Italy



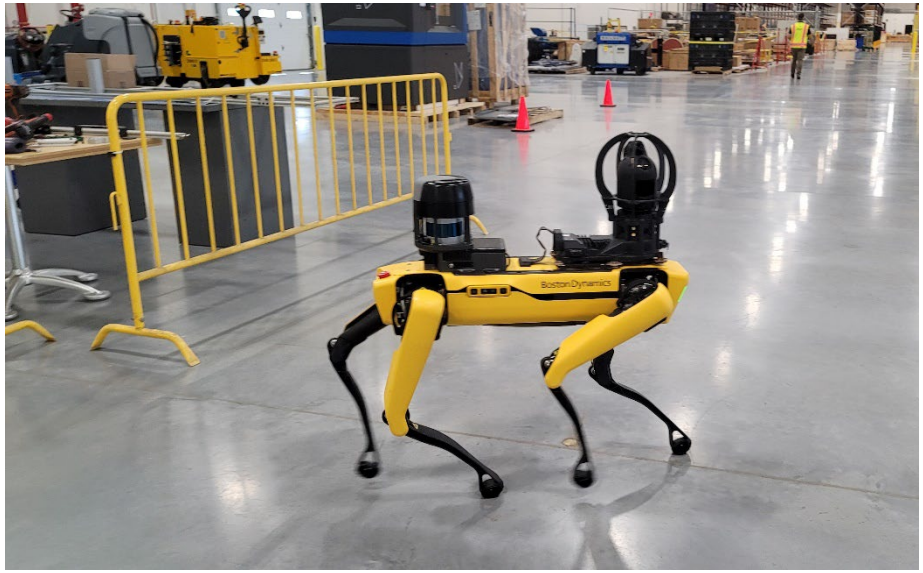
At the Hagerstown facility – New carshell from Italy, assembly process continues with MPs 4, 5, and 6

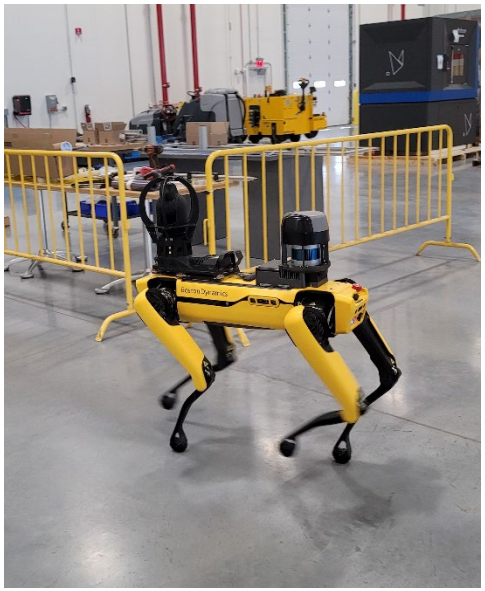


At the Hagerstown facility – Assembly line with the railcar trucks waiting to be installed



At the Hagerstown facility – Hitachi demonstrating the AI robot





At the Hagerstown facility – The secret Washington Metropolitan Area Transit Authority railcar mockup



PMOC MONITORING REPORT
August 2024

National Capital Purple Line Light Rail Transit Project
Montgomery and Prince George's Counties, Maryland

Maryland Transit Administration
Baltimore, Maryland

Draft Report Delivered to FTA on ***September 6, 2024***
Final Report Delivered to FTA on ***September 30, 2024***

PMOC Contract No.: 69319519D000016
Task Order No.: 69319520F300095
Project No.: 69319519D000016/69319520F300095
Requisition/Reference No.: FTA-TPM20-20-0106
OPs Referenced: 20, 22, 23, 24, 25, 26, 37, 40
CLINs 0001, 0002, and 0005

David Evans and Associates, Inc.
Pete Hankovszky, Task Order Manager
Voice –720.448.6730; Email – pzh@deainc.com
Time on Project: 05/18/2020 through 05/17/2025

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract #69319519D000016, Task Order #69319520F300095. Its purpose is to provide information and data to assist FTA as it continually monitors the management capacity and capability of the Maryland Transit Administration (MTA) (the Project Sponsor) to execute the project efficiently and effectively, and hence, whether the Project Sponsor continues to be ready to receive federal funds for further project development. This report covers the project management activities on the National Capital Purple Line Light Rail Transit Project managed by MTA as the Project Sponsor and financed by the FTA Full Funding Grant Agreement (FFGA). The cost and schedule information in this report was extracted from MTA's submitted information except where noted. The report is organized to comply with the requirements of updated Oversight Procedure 25 – Recurring Oversight and Related Reports, dated June 2020.

THIRD-PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for FTA. This report should not be relied upon by any party, except FTA or the Project Sponsor, in accordance with the purposes as described below.

For projects funded through the FTA FFGA program, FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a Project Sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a Project Sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a Project Sponsor may develop for project execution. Therefore, the information in the monthly reports will change from month to month, based on relevant factors for the month and/or previous months.

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1 EXECUTIVE SUMMARY

1.1 Project Description

The National Capital Purple Line (Purple Line) is a 16.2-mile east-west light rail transit (LRT) line inside the Washington, DC Beltway, extending from Bethesda in Montgomery County, Maryland, to New Carrollton in Prince George's County, Maryland. The Purple Line will operate largely at street level in a combination of dedicated and semi-exclusive right-of-way (ROW) and includes segments on elevated structures and in tunnels. The alignment for the Purple Line will provide direct connections to Washington Metropolitan Area Transit Authority (WMATA) service at Bethesda, Silver Spring, College Park, and New Carrollton, Maryland. The project will also connect to all three Maryland Area Regional Commuter rail lines, Amtrak, and local bus routes. The project includes 21 stations, 2 operations control/vehicle storage and maintenance facilities, and 28 light rail vehicles (LRVs). Twenty-five of the LRVs are included in the Full Funding Grant Agreement (FFGA), and the remaining three vehicles are state funded. Maryland Transit Administration (MTA) is executing the project using a Public-Private Partnership (P3) method of project delivery.

As documented in the Federal Transit Administration (FTA) FFGA, the original estimated project cost was $2,407,030,289, and the scheduled Revenue Service date (RSD) was December 31, 2022. On January 26, 2022, the Maryland Board of Public Works (BPW) approved significant revisions to the project cost and the Revenue Service Availability (RSA) date. The new Transportation Infrastructure Finance and Innovation Act (TIFIA) loan closed on April 14, 2022. Financing approvals and subsequent financial close allowed Purple Line Transit Partners (PLTP), the P3 concessionaire, to issue Notice to Proceed (NTP) to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS). MTA prepared a Final Recovery Plan (FRP), which FTA accepted on April 17, 2023, and which had a revised project cost of $5,116,020,380 and a revised RSD of February 28, 2028. In conjunction with the FRP, MTA submitted multiple management plan updates for FTA and Project Management Oversight Contractor (PMOC) review and acceptance. On March 13, 2024, MTA received approval from the BPW to increase the total construction cost to approximately $5.51 billion. This change to the construction cost, and also a change to the construction schedule, was due to project changes and delays. MTA is currently developing additional budget and schedule contingency recommendations. Preliminary recommendations for revised cost contingency and schedule contingency, based on MTA's July 2024 Quantitative Risk Assessment (QRA), are $179.58 million and 11 months, respectively**.** ***The PMOC completed its initial review of the QRA in early August 2024. FTA requested additional information that was provided to FTA by MTA in late August 2024. Upon review of this additional information, the PMOC will finalize its review of MTA's QRA and provide final recommendations for FTA's consideration in September 2024.***

1.2 Project Status

The FFGA was executed on August 22, 2017. The Purple Line project is currently in the construction phase. Due to a contractual dispute, PLTP demobilized the assets/staff and

subcontractors of the original D-B contractor, Purple Line Transit Constructors (PLTC), from the project in September 2020.

After a procurement process for a replacement D-B contractor, PLTP selected MTS (a joint venture of Dragados USA and OHL USA) and executed a contract with MTS on April 14, 2022.

MTA chose to proceed with several major project elements once PLTC was released from the project. MTA's planning criteria included schedule, budget, and the reduction of risk for the replacement D-B contractor. MTA and its Project Management Consultant (PMC) added staff to support subcontractor invoicing, payment processes, and other administrative tasks.

MTA managed, in a general-contractor-type role, a significant number of construction activities during MTA's Interim Recovery Plan (IRP) period, called Operation Step Forward (OSF). During that time, several OSF activities fell behind schedule, and delays related to third-party utility relocations and other unforeseen issues caused MTA to miss milestone dates included in MTA's revised agreements with PLTP that were executed in April 2022. Through October 2023, MTA executed two change orders caused by delays in OSF activities. In early November 2023, MTA completed the OSF activities. As of March 2024, MTA and MTS reached an agreement on the budget and schedule impacts resulting from OSF delays and other disputes. This agreement resulted in an additional $577.46 million in construction cost and a revised RSA date of December 30, 2027. The agreement is essentially a large change order that resolves several disputes and contract modifications. This contract change is referred to as Amendment 7 to the P3 Agreement.

Construction continues under the management of MTS, including activities and elements such as erosion and sediment control maintenance, bridge structures, platform construction, retaining walls, the Glenridge Operation and Maintenance Facility (OMF), and utility installation. The Polk Street Maintenance Facility (for Prince George's County Parks) is complete, and the Paint Branch stream restoration and the Ken-Gar wetlands mitigation projects are complete except for warranty periods.

Completion of the Glenridge OMF has been on or near the critical path for most of the project duration. MTS assumed control of the facility as of March 2024, and the disputes regarding the completeness of the OMF work that PLTC and MTS had performed now have been fully resolved. MTS is installing rail, utilities, and other elements both inside and outside of the building.

Delayed completion of the OMF construction upon PLTC's departure required an alternative location to store completed LRVs. MTA reached an agreement with Construcciones y Auxiliar de Ferrocarriles (CAF) to store the LRVs at CAF's Elmira, New York facility until track was ready for delivery of the LRVs. MTS assumed the storage agreement with CAF upon finalization of the replacement D-B contract. The first LRV delivery occurred on May 15, 2024, and as of ***August 2024, four LRVs have been unloaded and stored at the Glenridge OMF.*** Purple Line Transit Operators (PLTO), the entity that PLTP has under contract to operate the light rail system, assumes storage and maintenance responsibilities of the LRVs as they are delivered.

MTA revised and submitted the Project Management Plan (PMP), Risk and Contingency Management Plan (RCMP), Quality Assurance Plan (QAP), project schedule, Safety and Security

Management Plan (SSMP), and Safety and Security Certification Plan (SSCP). On December 28, 2023, FTA accepted SSCP Version 7, concluding the FTA and PMOC reviews of the management plans that MTA had revised in conjunction with the FRP. Then, in April 2024, MTA transmitted to FTA SSCP Version 8, which incorporates review comments from Maryland Department of Transportation (MDOT), the State Safety Oversight Agency (SSOA) for the project, and incorporates the Temporary Use Notice (TUN) process. A TUN is required to allow for the start of testing of the LRVs in fall of 2024. FTA accepted SSCP Version 8 on July 9, 2024**.**

MTA provides FTA and the PMOC with updates on the progress of MTS construction activities, MTA oversight activities, and other monthly updates that track project progress.

- Scope: There have been no significant reductions or changes to project scope. Three LRVs were added to the project scope (non-FFGA) to support improved operations once service commences.
- Schedule:
  - PLTC never developed an approved recovery schedule to address the delayed start of construction caused by the environmental lawsuit (please see the **NEPA Process and Environmental Mitigation** section, below, for a discussion of the environmental lawsuit).
  - MTA developed an IRP schedule for the period during which the initial D-B contractor, PLTC, was being replaced. The subsequent FRP included a revised RSD of February 28, 2028.
  - See also the **Significant Project Activities and/or Key Milestones** subsection of this Executive Summary, below.
  - Table 1 presents MTA's key milestone dates for the project. The schedule in the FRP incorporated the results of the previous (2022) QRA and processes described in MTA's RCMP. The FRP schedule included a contingency of 16 months. However, the delays attributed to OSF activities consumed most of the contingency in the FRP schedule. The utilization of a large portion of the schedule contingency in the early stages of MTS's contract is a very significant concern. To address this concern, MTA's revised master baseline schedule ***(August 2024)*** includes 11 months of additional schedule contingency, as recommended in the MTA-prepared June 2024 QRA.
  - To clarify schedule terminology used by MTA: The RSA date is a contractual date critical to the agreement between MTA and PLTP. The RSD is the contractual date tied to FTA FFGA funding and other project approvals.
  - Two executed change orders related to delays attributed to OSF activities extended the project RSA date by 207 days to May 24, 2027. Then, as of March 2024, MTA and MTS have agreed to an extension of the RSA date to December 30, 2027, adding another 250 days. MTA has assessed schedule risk to determine whether there is

sufficient project schedule contingency, and in June 2024, MTA submitted a QRA to FTA and the PMOC for review.

Table 1 – MTA Master Project Schedule Dates

Activity	Current MTA Master Project Schedule (*August 20, 2024*)
Original FFGA	August 22, 2017
Financial Close / NTP / Amendment Agreement Effective Date for Revised PLTP Agreement	April 14, 2022
Commencement of Integration Testing	***March 17, 2026***
Commencement of Demonstration Testing	***February 17, 2027***
Construction Complete All Segments	***December 7, 2026***
RSA Date	***December 14, 2027***
FFGA RSD	February 28, 2028
August 2024 Proposed RSD, Including 11 months of Contingency*	***December 13, 2028***

*Note: MTA has not yet formally requested this revised RSD, and FTA has not yet accepted it.

- Cost:
  - The project's documented expenditures are ***$3,712,602,222 through July 31, 2024***. ***The expenditure for the month of July 2024 was $92,937,847, which includes $33,433,000 of construction-related costs and $40,726,922 in Amendment 7 compensation. Amendment 7 includes terms for compensation to PLTP at specific project milestones.***
  - The Estimate at Completion (EAC) for the project (construction, management, and LRVs) is currently $5,507,020,380. This recently revised EAC includes $577,459,709 of additional cost attributed to Amendment 7 of the P3 Agreement. MTA currently assigns the additional cost to Standard Cost Category (SCC) 80.06 Legal; Permits; Review Fees.
  - The accepted project cost (before approval of Amendment 7) included $307,293,174 of unallocated cost contingency. The MTA June 2024 QRA recommends an unallocated contingency of $179.58 million, and MTA indicates that reallocation of unused contingency and additional funding will be utilized to provide that recommended amount of unallocated contingency. The PMOC continues its efforts to validate project contingency.
  - In some months, SCC 80 expenditures by MTA and MTS are more than 50 percent of the expenditures for SCCs 10 through 50 combined. The PMOC has questioned MTA about this significant amount of SCC 80 expenditures each month. In May 2024, MTA explained that a portion of the SCC 80 expenditures are settlement payments to MTS and PLTP and not true management and administrative costs. ***As of August 2024,*** it remains unclear to the PMOC why MTA includes the large Amendment 7 reimbursements to MTS/PLTP in SCC 80. Excluding Amendment 7

reimbursements, MTA estimates that the ***August 2024*** management and administrative expenditures as a percentage of total expenditures are ***approximately 37 percent of the SCC 10 through SCC 50 expenditures for the month. In the opinion of the PMOC, this percentage remains higher than would be expected.***

- Refer to **Table 4 – Core Accountability Items**, in Section 1.5 below, for additional project cost information.
- The budget includes funds to address nonconforming construction by PLTC. MTA incorporated known defects into the contract with MTS. However, MTA must pay to address any defects unknown at the time of execution of the MTS contract. In February 2023, MTA estimated the total cost of these unknown defects to be approximately $10 million. MTA and MTS have evaluated the nonconforming PLTC work as well as several other disputes. The disputes were included in Amendment 7, and MTA reports that the execution of the amendment in March 2024 resolved all disputes ***as of that date***. However, Amendment 7 includes a provision for additional compensation to MTS if, in the future, other defects are discovered in previous PLTC or MTA construction.

- Significant Project Activities and/or Key Milestones:
  - The COVID-19 pandemic impacted the project in different ways and at different levels. The impacts were primarily related to availability of resources and labor. MTA, the PMC, and other project staff followed recommended COVID-19 protocols. On January 30, 2023, MTA suspended COVID-19 protocols for the project.
  - The third lawsuit filed by the Friends of the Capital Crescent Trail in January 2019 against U.S. Army Corps of Engineers (USACE) was dismissed in April 2020. The plaintiff subsequently filed an appeal on May 11, 2020. The District Court denied the appeal on May 13, 2021. The decision resolved the last active lawsuit related to the project.
  - The original baseline schedule indicated design completion by late fall 2017. The progress through ***August 22, 2024***, is that 215 of the 218 total planned design packages have been issued as Released for Construction (RFC). The packages that remain in design or approval include fare collection, the fire management system at the WMATA/Silver Spring Transit Center (SSTC) combined station, and the train control system. ***The most significant remaining design package, train control, will not be 100 percent complete until July 2025. The need to develop equipment specifications and vendor preparation of other items for the train control package will delay RFC until February 2025. MTA now estimates that the design of the fare collection package will not be complete until August 2025.*** The PMOC observed that MTS indicates that the design portion of its contract is 99.9 percent invoiced and paid. The requirements of MTA's D-B contract with MTS included the payment of all design costs in the first 15 months of initiating the MTS contract, regardless of progress.

- As of March 2024, disputes related to the cost of design changes that were made after execution of the original agreement with MTS were resolved by Amendment 7 to the P3 Agreement. MTA's team estimated that the amount required to resolve the disputes was approximately $15 million.
- WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX Corporation [CSX] ROW) will result in what MTA deems are betterments. Resolution of WMATA comments for the SSTC is nearly complete as of ***August 2024***. The negotiations related to issues at the Bethesda Station are primarily between WMATA and Montgomery County ***and relate to improvements adjacent to the station on the Woodmont Avenue Park property. MTA reports that the resolution of these issues will not impact the critical path.***
- Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. One jack-and-bore installation remains to be completed by MTS, and as of ***August 2024,*** is still scheduled for ***November 2024***. Coordination of CSX flagging has been a challenge throughout the Purple Line construction. In April 2024, MTS was able to secure a second flagger, allowing more work to occur in the railroad ROW. ***In August 2024, MTA indicated that negotiations are underway to obtain 24-hour flagging for the final jack-and-bore construction.***
- Proposed construction near the SSTC requires significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. MTA is supporting coordination of construction activities that are occurring during the current summer 2024 WMATA shutdown. The Purple Line project is taking advantage of the WMATA service outage to perform work near and above the tracks. ***As of August 2024,*** many project activities ***are nearly complete***, and MTA reports that work at the SSTC area is on schedule.
- PLTC reached resolution on the final remaining Alternate Technical Concept (ATC) identified during the proposal process, which is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA reviewed PLTC's design package for National Environmental Policy Act (NEPA) compliance. In July 2024, MTA received approval from FTA for the ATC, indicating that the ATC will have no Section 4(f) impacts or other impacts to the project's Record of Decision (ROD).
- MTA has completed all non-P3 construction contract activities.
- Building construction at the Glenridge OMF is essentially complete; however, ***as of August 2024,*** construction of items outside of the building continues, as does final commissioning of systems inside the building.
- Preparation of Traction Power Substations (TPSSs) continues. As of ***August 2024***, ***TPSS QYL was delivered, and TPSS Q5 will be delivered in September 2024. MTA***

expects that nine of the ten total TPSSs will have been delivered to the project site by November 1, 2024.

- The following is the status of LRV manufacturing as of ***August 22, 2024:***
  - Twenty-five vehicles were in the original FFGA project scope description. One additional vehicle was included in the initial P3 agreement but outside of the FFGA. MTA later added two more vehicles by change order and again outside of the FFGA. The additional LRVs will support better operations at the RSA date. A total of 28 LRVs are included in the P3 scope of work.
  - Delivery of vehicles was expected to begin in spring of 2021; however, the Glenridge OMF was not ready to accept railcars. MTA and CAF negotiated an agreement for CAF to store the completed railcars in Elmira to await delivery. The terms of the agreement became a part of MTS's agreement.
  - The first LRV delivery occurred on May 15, 2024; and one delivery has occurred each month since. ***The fourth delivery occurred on August 14, 2024.*** CAF will continue with one LRV delivery each month but has plans to increase that frequency when possible. The PMOC continues to recommend that MTA expedite the planning and completion of readiness activities for testing and certification of the LRVs.
  - The resolution of a previously identified quality issue related to the M33 bolt on the LRV trucks was closed in May 2024. In July 2024, MTA provided a confidential report on resolution of the issue. CAF performed a Root Cause Analysis (RCA), identifying a primary root cause, and secondary contributing causes. Validation of the corrective actions was conducted, and the issue is now closed.
  - The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. The audit indicates that the percentage of U.S. domestic content is 66.74 percent, which meets FTA requirements.
- MTA is responsible for providing offsite stormwater mitigation in Montgomery County. To date, MTA has accumulated a credit for more than 10 acres of designed, Maryland Department of the Environment (MDE)-approved, offsite stormwater management (SWM) capacity in its "bank." MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS. Construction of this mitigation site began in July 2024.
- ROW acquisition activities continue for the original required 464 private parcels and 137 public parcels (a total of 601 parcels). All private parcels related to the original P3 contract Exhibit 9 FFGA scope are in MTA's possession for construction. ***As of August 2024***, ***437*** of the 601 parcels have completed settlement, ***14*** condemnations remain in this property acquisition category, and ***3*** settlements are pending. ***As of***

August 2024, the project's Risk Committee continues to rate the cost of ROW acquisitions as a "Significant" risk due to the potential for higher than estimated acquisition costs.

- MTA has identified 188 small property acquisitions that are required for utility relocations, of which 134 are private and 54 are public. As of April 25, 2023, all additional properties were in MTA's possession through Right of Entry (ROE), through options, and/or through agreements. ***As of August 2024, ten*** condemnations remain in this property acquisition category***, and three settlements are pending.***
- To date, 177 required property relocation agreements are complete. Costs for the completed relocations continue to be processed in accordance with the applicable procedures. As of ***August 2024***, there is one relocation offer pending for a property that the former owner still occupies. One additional relocation may be required.
- ***MTA intends to submit four administrative settlement requests to FTA before the end of 2024 for FTA concurrence.***
- MTA estimates that the cost for extensions of Temporary Construction Easements (TCEs) has increased due to the project delays included in Amendment 7. These time extensions are one of two risks currently rated as Significant by the project Risk Committee due to the potential need to extend these TCEs, thus increasing their related cost.
- Preparation for safety certification is an ongoing process for MTA, including the development of the appropriate checklists for both design and construction. Design Criteria Conformance Checklists (DCCCs) are more than 99 percent validated. Construction Specification Conformance Checklists (CSCCs) are 20 percent validated. As of ***August 2024***, MTS is preparing the Track Certification Plan, which will include the inspection and testing procedures. Testing is scheduled to begin in late 2024.
- MTA adjusted staffing of management personnel to address the varying activities that MTA was managing during the OSF period. A number of key staff changes have occurred since the OSF period ended and MTA transitioned back to more of an oversight role. In May 2024, Martha Gross was appointed the MTA Transit Development and Delivery (TDD) Executive Director and will oversee the Purple Line project in addition to other State of Maryland transit projects such as the Red Line. Current Purple Line Project Director Ray Biggs will report to Ms. Gross. In June 2024, MTA hired Katina Conn to fill the open Contracting Officer position for the Purple Line project. ***In August 2024, MTA provided an updated organizational chart to FTA and the PMOC for review.***
- MTA carefully considered a request from Montgomery County to single-track the Purple Line through the Bethesda tunnel. In April 2021 MDOT/MTA determined that it would not be able to accommodate the request.

- MTA and PLTP coordinated to obtain a modified version of the existing TIFIA loan for the project. On April 14, 2022, the TIFIA loan closed, and all bonds were marketed. MTA was required to update the Transportation Investment Program and State Transportation Investment Program plans to reflect changes in the project.
- MTS is making significant progress toward achieving the project's hiring, wage, and Disadvantaged Business Enterprise (DBE) goals. In May 2024, the Equal Employment Opportunity Officer increased DBE goals by approximately $87 million to reflect the new total construction cost established by Amendment 7 to the P3 Agreement. ***MTA and MTS continuously assess the status of the project goals and coordinate approaches to increase DBE participation through small business workshops.***
- MTA hired a consultant team that analyzed alternatives for providing security and fare enforcement services for the Purple Line. MTA does not currently have existing facilities or staff that can adequately provide these services because the distance from their location to the Purple Line light rail facilities is too far. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on Memorandums of Understanding (MOUs) with other local jurisdictions, and developing a facility to house the district. In May 2024, MTA provided a brief high-level summary of the police force facility plan. Preliminary feedback from the plan indicates that a new facility to house the Southern District will not be complete until several months after the February 2028 RSD; therefore, temporary facilities will be used until the new facility is complete. The Purple Line team stated that development of the police force facility will be managed by another department at MTA, and the Purple Line team will not report further on the status of the issue. The PMOC continues to recommend that MTA develop a written implementation plan that includes schedule milestones and budget, and provide that plan to FTA and the PMOC for review. ***In August 2024, MTA recommitted to*** submitting to FTA and the PMOC a current summary of key activities and dates related to staffing and training of the police force.
- Twice annually MTA holds a series of Community Advisory Team (CAT) meetings. These meetings focus on different neighborhoods along the project corridor. The most recent meetings were held on Tuesdays and Thursdays of each week in May 2024. ***In August 2024, MTA started*** preparations for the fall 2024 round of CAT meetings, which will be held in October 2024.

1.3 Major Issues and/or Concerns

Table 2 discusses any major issues or concerns impacting the project's scope, schedule, cost, risks, quality, safety, etc.

Table 2 – Current Major Issues and Concerns

Issue/Concern	According to the PMP, the master project schedule should be updated monthly.
Date Identified	2022.
Status	Ongoing.
Project Sponsor Action	FTA accepted the FRP schedule in April 2023 as the new project baseline schedule. Two significant change orders, both of which are based on delays to OSF activities, have caused a substantial utilization of the schedule contingency outlined in the FRP. In March 2024, a third change order (Amendment 7 to the P3 Agreement) consumed most remaining schedule contingency and resulted in a significant increase in project cost.
PMOC Recommendation	The PMOC continues to recommend that MTA track all schedule elements and report status to FTA and the PMOC each month. MTA should employ additional methods of evaluating schedule progression and performance, including earned-value metrics, to identify issues as soon as possible. The PMOC recommended that MTA secure a mutually agreed-to (with MTS and PLTP) revised baseline schedule before executing any change order that commits compensation for delays. MTA reported in June 2024 that it has accepted a revised baseline schedule from MTS and has utilized it to develop an updated MTA master schedule. This revised master schedule incorporates 11 months of contingency, indicating a preliminary RSD of December 29, 2028. Evaluation of the schedule contingency is part of the ongoing PMOC validation of the QRA.
Issue/Concern	Changes in the project have significantly impacted the project cost as reflected in the original FFGA. The April 2023 FRP included a revised project cost estimate and cost contingency intended to address remaining project risks. The March 2024 Amendment 7 to the P3 Agreement included a $577.46 million increase to the project cost and utilized most of the available contingency. Preliminary recommendations in the June 2024 MTA QRA include $179.58 million of project contingency. ***The PMOC completed its initial review of the MTA QRA in August 2024 and received additional information from MTA. The PMOC will provide final recommendations for FTA consideration in September 2024.***
Date Identified	September 2020.
Status	Ongoing.
Project Sponsor Action	MTA should continue to monitor project progress against the total project cost estimate. Although execution of Amendment 7 resolved all pending disputes at the time, diligent management of the project cost is still needed considering the quantity of remaining project work and remaining project duration. Although the QRA-recommended contingency is significant, it is less than half of the amount of recently executed Amendment 7.
PMOC Recommendation	The PMOC recommends that MTA carefully consider the results of the preliminary QRA to determine whether the recommended cost and schedule contingencies are adequate.
Issue/Concern	MTA does not have a police force located in proximity to the Purple Line.
Date Identified	September 2022.
Status	As of May 2023, MTA had determined a preferred alternative for providing security and fare enforcement, and had identified several next steps for implementation.
Project Sponsor Action	MTA's preferred security alternative includes the creation of a new Southern District of the MTA Police Department and will require associated staff, operating procedures, and a facility. In May 2024, MTA stated that the Purple Line project team will not be responsible for development of the new facility; instead, a different MTA department will develop the police force facility. MTA committed to provide to the PMOC, ***by the end of September 2024***, the schedule milestones for the staffing and training of the police force.

PMOC Recommendation	The PMOC recommended that MTA provide a milestone schedule and budget in a written plan. The PMOC continues to recommend that the SSOA be included in the review and comment process for security and fare enforcement.
Issue/Concern	The Lost Time Injury Rate and Total Case Incident Rate have increased significantly since 2022. The current rates are significantly higher than the stated project goals. The PMOC notes that there are inconsistencies in incident reporting between MTA and MTS.
Date Identified	April 2023.
Project Sponsor Action	MTA states that it has increased coordination with MTS on safety through additional biweekly coordination meetings. MTA has acknowledged the need for safety process improvements. In November 2023, MTA stated that MTS had replaced its safety director and added safety staff. In March 2024, MTA increased the amount of safety information included in its monthly status report to FTA. In June 2024, MTS removed the subcontractors' safety incidents from its own statistics. MTA questioned this step and is coordinating with MTS to determine the appropriate safety reporting and safety goal for the project. In July 2024, MTA stressed that subcontractors are a critical part of project safety because they make up more than half of the personnel on the project. ***In August 2024, the PMOC requested that MTA provide the injury rate statistic calculations to afford the PMOC an opportunity to review the validity of this significant decrease in the project-to-date rate between January 2024 and July 2024.***
PMOC Recommendation	The MTS safety audit, performed in February 2024, indicated that MTS does not have verification that all subcontractors have safety plans, which is surprising considering MTS has had subcontractors onsite for two years. Based on review of the MTS safety audit, the PMOC recommends that MTA emphasize subcontractor and supplier safety plan verification, and determine a fixed date when verification will be complete. Although limited progress on safety has been observed, ***there also have been months in 2024 when incident rates have increased.*** The PMOC continues to recommend that MTA closely monitor safety documentation and develop safety process improvements.
Issue/Concern	***As of August 2024,*** LRV delivery will continue for many months. The next major milestone related to vehicles is dynamic testing, which is scheduled ***to begin in November 2024***. Plans for those activities need to be completed and reviewed well in advance of testing.
Project Sponsor Action	Plans for LRV delivery are complete. TUNs approved by the SSOA were required to place the vehicles on the tracks. MTA states that the responsibility for readiness activities lies with the P3 concessionaire (i.e., PLTP). ***As of August 2024, dynamic testing plans are still being developed by the concessionaire.***
PMOC Recommendation	The PMOC recommends that MTA expedite the readiness activities for dynamic testing, which is scheduled to begin in the fall of 2024. The PMOC also recommends that MTA engage sufficient resources to provide oversight of the related P3 concessionaire activities.

1.4 Status of Key Indicators Dashboard (Post-grant)

Table 3 shows the project Key Indicators Dashboard after the FFGA was awarded.

Table 3 – Key Indicators Dashboard

Project Sponsor:				Maryland Transit Administration	
Project Name:				MTA National Capital Purple Line Light Rail Transit Project	
Date:				***August 22, 2024***	
Project Detail					
Oversight Frequency:				**Monthly**	
Element	**Status**			**Prior Status**	**Issue or Concern**
	● **G**	● **Y**	● **R**		
Project Management Plan	●			●	MTA developed an updated PMP that reflects revised project conditions, and in October 2022, MTA submitted a revised PMP to the PMOC and FTA for review. On February 1, 2023, FTA provided its review comments on the PMP, and on April 28, 2023, MTA submitted the second revision of the PMP to FTA. ***MTA will begin preparation of project plan updates in the fall of 2024; completion of the required updates will occur in the spring of 2025.***
Management Capacity and Capability	●			●	Since 2023, the Purple Line project team has had numerous changes to key staff, including TDD Executive Director, Communications Director, Construction Manager, and Deputy Project Director positions. In June 2024, the project team filled the last remaining open significant position of Contracting Officer. ***In August 2024, MTA provided an organizational chart update for FTA and PMOC review.***
Cost*		●		●	MTA developed a revised cost estimate that reflected project conditions at the time of the FRP. Based on PMOC and FTA review comments and a revised MTA QRA, MTA established a budget contingency that appeared appropriate for the stage of the project at the time. However, large executed change orders have required commitment of all budget contingency and a significant construction budget increase. As of June 2024, MTA's QRA identified the need for $179.58 million of budget contingency, $82.1 million more than the amount remaining in the current project budget. ***The MTA QRA remains under FTA and PMOC review.***
Schedule		●		●	In May 2024, MTA accepted a revised project baseline schedule from MTS. That schedule holds the previously reported construction completion date (without contingency) of December 2027. In June 2024, MTA incorporated milestones from the revised baseline schedule into the MTA master project schedule. The master project schedule also includes the MTA QRA recommended additional schedule contingency of approximately 11 months.
Quality		●		●	***In August 2024, the PMOC raised concerns about the quality of various MTA project documents, citing inconsistencies in format and content.***

Safety			●	●	In April 2023, the PMOC noted to MTA that both the Lost Time Injury Rate and the Total Case Incident Rate had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in the incident rates, there continues to be inconsistent tracking and reporting of safety issues. ***As of August 2024, the PMOC*** continues to identify issues related to incident tracking and safety reporting, ***and the project continues to have an incident rate that exceeds project goals.*** The PMOC continues to recommend that MTA increase the emphasis on safety.
Risk		●		●	MTA updated the RCMP and the Risk Register to reflect the changes driven by the FRP and updates to the project management plans. In May 2023, FTA accepted the RCMP but also noted additional comments that MTA should address in future updates to the plan. In November 2023, MTA held a risk workshop and began work on an internal QRA. MTA provided a QRA in June 2024 and presented the results to FTA and the PMOC in a virtual meeting in July 2024. ***In August 2024, FTA and the PMOC completed an initial review of the MTA QRA. FTA requested additional information, which MTA provided at the end of August 2024. The PMOC will provide final recommendations for FTA consideration in September 2024.***

Legend	
Green	Satisfactory: No Corrective Action necessary.
Yellow	Caution: Risk/Issues exist. Corrective Action may be necessary.
Red	Elevated for immediate Corrective Action: Significant risk to the health of the project.

1.5 Core Accountability Items

Table 4 shows the core accountability items for the project, including the current status of the project and the major issues and how they are being addressed.

Table 4 – Core Accountability Items

		Original (Grant)	Current Forecast[3]	PMOC Assessment of Current Forecast[3]
Cost	Capital Cost Estimate	$2,407,030,289	$5,507,020,380	Unacceptable
Contingency	Unallocated Contingency	$90,535,748	***$166,598,612***	Unacceptable
	Allocated Contingency	$59,500,464	To Be Determined[4]	Unacceptable
	Total Contingency	$150,036,212	***$166,598,612***	Unacceptable
Schedule	Revenue Service Date	12/31/2022	02/28/2028	Unacceptable

Project Progress		**Amount ($)**	**Percent of Total**
Total Expenditures	Actual cost of all eligible expenditures completed to date	***$3,712,602,222***	***67.4%***
Planned Value to Date[1]	Estimated value of work planned to date	Not Applicable (N/A)	N/A
Actual Value to Date[1]	Actual value of work completed to date	N/A	N/A

Contract Status		**Amount ($)**	**Percent of Total**
Total Contracts Awarded[5]	Value of all contracts (design, support, construction, equipment) awarded; % of total value to be awarded	$4,483,105,000	81.4%
Construction Contracts[5] Awarded	Value of construction contracts awarded; % of total construction value to be awarded	***$3,910,455,000***	***71.1%***

Physical Construction Completed	Value of physical construction (SCCs 10-50) completed; % of total construction value completed	***$1,301,477,004***	***67.8%***
Rolling Stock Vehicle Status	**Date Awarded**	**No. Ordered**	**No. Delivered**
28 total car sets[2]	First 26 LRVs: 2016 Additional 2 LRVs: January 2022	28 car sets	***3***
Next Quarterly Progress Review Meeting Date:	***November 21, 2024***		

[1]Earned value information is not available.
[2]The approved FFGA includes a total of 25 LRVs.
[3]Amendment 7 to the P3 Agreement has been partially incorporated into MTA's financial reporting ***as of August 2024.*** Amendment 7 added $577 million to the construction cost of the project. MTA currently is in the process of revising the project cost contingency and schedule contingency. ***As of August 2024,*** FTA has not accepted the revised EAC.
[4] MTA to finalize the value for allocated contingency as a result of the execution of Amendment 7.
[5] Due to the work constructed during OSF, the value of total construction contracts awarded is unclear.

2 OBSERVATIONS AND FINDINGS

2.1 Summary of Monitoring Activities

The PMOC received an update from the Purple Line project team during the ***August 22, 2024***, virtual monthly meeting with MTA, the PMC, and the PMOC. Before the meeting, the PMOC prepared a draft agenda and MTA provided project information. ***The PMOC prepared a review memorandum on the July 2024 MTA QRA, and conducted a phone call to discuss the memorandum with FTA on August 12, 2024. The PMOC prepared agendas for the Quarterly Project Review Meeting that was held on August 14, 2024. Also on August 14, 2024, the PMOC visited the Purple Line project construction site with MTA. The PMOC/MTA Purple Line monthly call was held on August 22, 2024. On August 27, 2024, the PMOC participated in the project update call with FTA and MTA, and subsequently prepared meeting notes.*** The PMOC's monitoring activities also include review of MTA-provided scope, schedule, risk, financial, construction, safety and security, and real estate information.

After the U.S. Court of Appeals reversed the vacation of the ROD in July 2017 (refer to the **NEPA Process and Environmental Mitigation** section, below, for details), the FFGA was executed on August 22, 2017. In September 2020, the construction (D-B) contractor, PLTC, left the project, and a new project delivery plan was developed, including replacement of the D-B contractor. During the period when the replacement D-B contractor was being solicited, MTA managed specific construction and design activities (OSF activities) in order to reduce uncertainty and support the project schedule. On November 5, 2021, MTS was selected as the replacement D-B contractor, and financial and commercial close occurred on April 14, 2022. MTA managed OSF construction and design activities to their completion or until the activities were transferred to MTS. MTS is performing construction activities across the entire project corridor.

MTA and MTS held initial partnering activities during which they developed relationships, general project priorities for teamwork, and an understanding of key issues for different stakeholders. MTA provided partnering process information to FTA and the PMOC on March 29, 2023. As of

August 2023, MTA had replaced the consultant who was leading partnering activities and was developing new processes to facilitate the coordination and relationship between MTA and the MTS/PLTP team. MTA held an internal partnering meeting on October 27, 2023, to help align MTA and PMC staff. On December 11, 2023, a partnering session was held, and MTA, MTS, PLTP, and PLTO participated. One of the main points of discussion was the schedule mitigation efforts that led to Amendment 7 to the P3 Agreement. In February 2024, MTA provided a summary of project goals developed during the December 2023 partnering session. MTA said that action items related to the partnering session goals are incorporated into many project meetings, and senior executives from MTA, PLTP, and MTS meet frequently. ***On August 1, 2024, a partnering event for MTA, PLTP, and other project participants was held. MTA committed to providing the agenda, meeting notes, and the monthly project poll related to partnering activities to the PMOC.*** The PMOC has repeated its request that PMOC and FTA staff be invited to partnering events, but MTA has indicated that these events will be limited to MTA and the contractors.

2.2 Oversight Triggers

The oversight triggers most applicable to the project are the Oversight Procedure (OP) 25 cost and schedule triggers. The project did not have a mutually agreed-upon baseline schedule between March 2017 and September 2022. Significant schedule delays and a significant increase in project cost keep the project eligible for rigorous oversight. Project schedule delays typically impact project cost, another significant indicator of project health. MTA has developed a revised project EAC in conjunction with development of the project's schedule and FRP. Significant utilization of schedule and budget contingencies has occurred since the development of the FRP. In the opinion of the PMOC, significant risk for additional cost and schedule impacts ***may still be realized.***

2.3 Project Management Plan and Sub-plans

2.3.1 Project Management Plan

The PMOC reviewed the Purple Line PMP Version 10 in accordance with OP 20 for a PMP at the FFGA execution stage of a project. Subsequently, FTA and the PMOC reviewed Versions 11, 12, and 13. Due to significant project team changes since those versions, another update to the PMP was required. In October 2022, MTA provided an updated PMP (Version 14) to FTA and the PMOC for review, and FTA and the PMOC provided comments on PMP Version 14 to MTA. On April 27, 2023, MTA provided PMP Version 15, which FTA accepted, with comment, on June 21, 2023. In February 2024, MTA provided a summary of its forecasted dates for updating the management plans. ***MTA will begin preparation of project plan updates in the fall of 2024, and the completion of required updates is expected in the spring of 2025. According to best practices, staff changes, fluid project conditions, and FTA direction may necessitate revision updates to MTA management plans in addition to those that are regularly scheduled to occur.***

2.3.2 Safety and Security Management Plan

In February 2016, the PMOC reviewed the project's SSMP Version 6, dated October 22, 2014, in accordance with OP 22 for a project at the FFGA execution stage. The PMOC review found that the SSMP was compliant with FTA content requirements for execution of the FFGA, but the PMOC requested that MTA resubmit the SSMP after execution of the FFGA and address the comments in the PMOC report with updated information from the P3 concessionaire. Subsequently, FTA and the PMOC reviewed SSMP Versions 7 through 11 over the next four years. MDOT, which is the SSOA for the project, also reviewed SSMP Versions 8 through 11. On January 13, 2022, FTA provided comments on SSMP Version 12 to MTA. MTA submitted SSMP Version 13 as well as Version 5 of the Purple Line SSCP to FTA and the PMOC for review in October 2022. FTA and the PMOC reviewed the SSCP and SSMP updates and provided their comments to MTA in February 2023. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the revised SSMP in August 2023, and the revised SSCP on December 28, 2023. FTA accepted the most recent version of the SSCP, SSCP Version 8, on July 9, 2024. The PMOC continues to recommend that MTA evaluate whether its current oversight processes remain in compliance with those specified in the SSMP.

2.3.3 Quality Assurance Plan

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on QAP Version 10 to MTA. MTA then submitted a revised QAP to FTA for review in May 2023, and FTA and the PMOC provided comments to MTA in June 2023. In July 2023, MTA provided a response to each specific comment and committed to submitting a revised QAP in August 2023. On August 11, 2023, MTA resubmitted the QAP as Version 12. A technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023, after which the PMOC recommended acceptance of the plan and that MTA should incorporate the outstanding items into the next regularly scheduled plan update. On October 6, 2023, FTA accepted the QAP contingent upon MTA's acceptance of the PMOC recommendations. MTA plans to next update the QAP in October 2024.

The PMOC requested that MTA provide more complete documentation for quality-related activities. In September 2023, MTA presented the PMOC with a quality process dashboard that MTA had developed to display monthly statistics on audits, Deficiency Notices, Nonconformance Reports, and quality oversight assessment reports. In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational chart for quality management and administration. In April 2024, MTA listed the following three quality process improvements that it is developing:

1. Organizational chart update.
2. Document control procedure update.
3. Development of quality training plan and schedule for 2024 training.

MTA emphasized that these quality processes apply only to MTA's quality activities, but they are coordinated with MTS's quality processes. Also in April 2024, MTA stated that it has added quality oversight staff to its organization, including a Deputy Quality Manager.

MTA meets with PLTP, the PMC, and the General Engineering Consultant (GEC) monthly to review quality status. On January 25, 2024, MTA introduced the new Quality Manager, Turyalai Momand. In June 2024, MTA provided the following schedule of 2024 audits:

1. Stormwater Management – January 18, 2024 – complete.
2. Safety – April 9, 2024 – complete.
3. Post Design Audit – May 8, 2024 – complete.
4. Quality – August 2024 – complete.
5. Internal (MTA) Quality Assessment – July 2024 – complete.
6. Internal (MTA) Quality Assessment – December 2024 – scheduled.

When asked about a number of very old deficiency notices and instances of nonconforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of final sign-offs by managers. MTA is deferring some other older open quality items until the related issues can be addressed in order to avoid impacting the project schedule critical path. ***In August 2024, the PMOC again questioned MTA regarding nonconforming concrete work, which will be disruptive to the repair efforts now that additional work has also been constructed in the proximity. MTA stated that the schedule allows for future corrective actions that will not affect the critical path and that MTS is responsible for addressing these issues.***

MTS also performs significant Quality Assurance/Quality Control (QA/QC) activities and reports having more than 60 full-time quality staff assigned to the project. ***Through July 31, 2024***, those QA/QC activities by MTS included:

- Offsite inspections of structural steel girders and canopies, Overhead Contact System (OCS) poles and hardware, traffic signal poles, special trackwork, precast concrete structural elements, and other items being fabricated offsite.
- ***44*** Design Services During Construction reviews and ***44*** design submittal reviews.
- ***One internal*** quality process audit of MTS and subcontractor work, testing, and quality plans was conducted in ***July 2024***.
- Approximately ***1,000*** materials tests.
- Approximately ***1,200*** materials samples.

In 2022, MTA frequently provided notes from monthly CAF and SNC-Lavalin LRV manufacturing quality meetings for PMOC review. The information provided a summary of issues and corrective actions, and upcoming quality audits. MTS is now responsible for preparing these notes from the manufacturing quality meetings. Because the LRV manufacturing process is

now nearly complete, the June 2024 meeting notes included only a few very minor issues. Open items of note in June 2024 include several certification and compliance activities. The PMOC did not receive these notes in July ***or August 2024. The PMOC requested that MTA provide the report on these notes in September 2024. MTA questioned its ability to provide the report now that CAF is under contract with MTS, rather than under contract with MTA, as it was during OSF. MTA will review this issue and inform the PMOC whether MTA will provide the report in the future.***

The resolution of a previously identified quality issue related to the M33 bolt on the LRV trucks was closed in May 2024. ***In July 2024, MTA provided a confidential report on resolution of the quality issue. CAF performed an RCA, identifying a primary root cause and secondary contributing causes. The associated corrective actions have been validated, and the issue is now closed.***

2.3.4 Real Estate Acquisition Management Plan

The PMOC reviewed the project's Real Estate Acquisition Management Plan (RAMP) Versions 10, 11, and 12. The PMOC reviewed the plans with respect to the guidelines in OP 23 for a project in the construction phase. MTA submitted an updated RAMP Version 13 to FTA and the PMOC in October 2022. FTA provided review comments on RAMP Version 13 to MTA on February 27, 2023, and accepted RAMP Version 13 with comments.

2.3.5 Fleet Management Plans

The current version of the Bus Fleet Management Plan (BFMP) is BFMP Version 8.1, which was submitted for FTA/PMOC review on February 12, 2016. The PMOC completed its review of BFMP Version 8.1 and on March 4, 2016, issued its final OP 37 BFMP review report, concluding that the BFMP met the requirements of OP 37 for the execution of an FFGA for the Purple Line project. On January 24, 2024, MTA provided to FTA and the PMOC BFMP Version 10. This plan addresses updates for the period from 2021 through 2023 and is dated September 2023.

2.3.6 Risk and Contingency Management Plan

In early 2020, MTA commenced another update to the RCMP to incorporate the results of their latest QRA that, in turn, incorporated the results of the replacement D-B contractor resolicitation and the revised project implementation details. MTA held a risk management workshop on January 26, 2021, that focused on the interim period.

MTA provided a comprehensive Risk Register and risk mitigation activities in conjunction with the draft FRP. In preparation for a risk analysis, MTA held risk assessment interviews with individual risk owners to review existing risk items and identify new risks. In December 2021, MTA prepared an updated Risk Register that includes over 100 risk items, including PLTP and MTS risks.

At a risk workshop held the week of May 2, 2022, the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. MTA confirmed and finalized the Risk Register and prepared the QRA and an update of the RCMP. The

PMOC developed a draft summary of the risk and contingency review results. FTA provided a risk summary to MTA on June 22, 2022, for MTA's consideration while it was updating the RCMP. MTA provided responses to FTA's comments on the risk summary on July 15, 2022, and provided further clarification on August 25, 2022. MTA submitted RCMP Version 15 to FTA and the PMOC for review in October 2022. In February 2023, FTA and the PMOC provided comments on the revised RCMP, which supported MTA's development of the project's budget and schedule contingency. MTA subsequently submitted the revised RCMP Version 16, dated April 21, 2023, and FTA accepted it on May 22, 2023.

In November 2023, MTA held a risk workshop and began a QRA. Project risks were reassessed, and information needed to reevaluate cost and schedule contingencies was determined. The revised project schedule and subsequently the QRA are now complete, and MTA provided the results of its QRA to FTA and the PMOC at a meeting on July 9, 2024. ***In August 2024, the PMOC provided FTA with initial recommendations with respect to the QRA. FTA requested additional information from MTA, which MTA provided at the end of August 2024. The PMOC is reviewing this information and will finalize its recommendations to FTA accordingly in September 2024.***

2.3.7 Safety and Security Certification Plan

Version 3 of the Purple Line SSCP is dated November 4, 2014. The PMOC review found that the SSCP Version 3 met the FTA requirements in support of the FFGA application. MTA submitted SSCP Version 4 on February 3, 2020, in conjunction with the updated SSMP submittal (see the **Safety and Security Management Plan** subsection, above). The SSOA completed its review of SSCP Version 4 and discussed its comments with the PMOC. MTA decided that the new emergency management working group would be a subcommittee to the Fire Life Safety and Security Committee, and this decision would be reflected in the next revisions of the SSMP and the SSCP, which were planned for after the replacement D-B contractor was in place. MTA submitted SSMP Version 13 and SSCP Version 5 to FTA and the PMOC in October 2022. In February 2023, FTA and the PMOC completed their reviews and provided comments on these plan documents to MTA. MTA provided a response to the SSCP review comments to FTA and the PMOC in May 2023. On July 12, 2023, the PMOC and MTA held a call to review and reconcile PMOC/FTA comments on the SSCP. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023 and accepted the current SSCP (Version 7) on December 28, 2023. In April 2024, MTA submitted a revised SSCP (Version 8) that includes the TUN process, as well as a partially complete preliminary LRV Delivery Plan. In June 2024, MTA provided the completed LRV Delivery Plan to FTA and the PMOC. FTA accepted SSCP Version 8 on July 9, 2024.

2.4 Management Capacity and Capability

MTA continues to identify and assign sufficient Management Capacity and Capability (MCC), as needed, to complete the project in compliance with applicable FTA requirements. These efforts have included bringing staff, either MTA or MDOT personnel or consultants, onto the project to

manage the current needs, such as planning, P3 procurement and contracting, real estate acquisition, and construction.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. It was proposed that Roland Carroll, the Purple Line systems safety and construction safety lead, add the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to the new quality management role. The PMOC evaluated this change as a part of the PMP review and will continue to monitor management capacity for this function and all positions through ongoing oversight activities. Specific to safety, the PMOC is concerned that there is a lack of emphasis on safety or on management capacity or capability. Injury rates, particularly for OSF activities, have been higher than the MTA goals. Also, reporting of injury and incident statistics is inconsistent. In June 2024, MTA reported an incident rate that is twice the project goal. Refer to Section 2.16, Safety and Security, for more information.

In March 2023, MTA hired John Donovan in the role of Construction Manager and also formed a commercial project controls team. These changes were in response to: (1) the near completion of OSF and (2) the need to support the management of MTS's increasing amount of work. However, in November 2023 MTA eliminated the Construction Manager position. MTA stated that two construction managers, Mike Gales for Civil Construction and Melvin Henderson for Systems Construction, remain with the project.

On May 25, 2023, MTA communicated the departure of Executive Director Matthew Pollack, Deputy Project Director and Contracting Officer Anita Rodgers, and Communications Director David Abrams from the Purple Line project team. Project Director Ray Biggs, Jim Mitchell of the PMC, and MDOT Chief Financial Officer Jaclyn Hartman were leading the project while those vacated positions were being filled. Ken Forsythe's role changed from his role as Deputy Project Director to the interim Director of Communications role. A new Deputy Project Director, Alexa Heidrich, started with the Purple Line project team on July 26, 2023. Kathryn (Kat) Lamb joined the team in August 2023 as the Communications Director, which completed the hiring for the open senior staff positions for the Purple Line project at that time. In August 2023, MTA provided an updated Purple Line organizational chart that included those newly hired staff. In December 2023, MTA replaced PMC Project Director Jim Mitchell with Brian Freerks.

In January 2024, MTA communicated a significant number of staff changes both within MTA and within the PMC. The current status of these positions is as follows:

- The MTA TDD Executive Director position was filled in May 2024. MTA announced that Martha Gross is the new TDD Executive Director, and she will oversee the Purple Line project in addition to other State of Maryland transit projects such as the Red Line. Current Purple Line Project Director Ray Biggs will report to Ms. Gross.
- Quality Manager Fahad Moazziz has been replaced by Turyalai Momand. In April 2024, Mr. Momand announced that several quality staff have been added to the team, including a Deputy Quality Manager.

- Deputy Communications Director Gary Witherspoon left the project, and as of April 2024, MTA has hired Syrina White to fill this position.
- In May 2024, MTA added two safety staff to the project team—one who will be primarily in the field and another who will be in the office and will manage safety administration.
- In June 2024, Katina Conn was added to fill the Contracting Officer role.

The PMOC continues to express its concern regarding MTA's MCC. A lack of continuity and staff serving in multiple roles all pose a risk to the quality of the oversight the Project Sponsor must provide. Shortfalls in MCC may be causing some of the other issues that the PMOC has identified, such as construction safety and quality management challenges. ***In August 2024, MTA submitted the updated organizational chart to FTA and the PMOC.***

2.5 NEPA Process and Environmental Mitigation

2.5.1 NEPA Process

FTA issued a ROD on March 19, 2014. The National Park Service issued its ROD on July 16, 2014.

MTA has continued to submit environmental re-evaluations as required based on design advancement and other causes. To date, PLTC (before it left the project) and MTA have prepared multiple packages, primarily for minor Limits of Disturbance (LOD) cases, which were submitted to FTA for review and have received FTA concurrence. The most recent status ***(as of July 2024)*** of NEPA items is:

- MTA submitted an additional LOD case at Sligo Creek that is moving through the MDE and USACE processes. MDE granted approval on January 10, 2024. As of July 2024, the LOD was approved by USACE.
- The ATC for the Bethesda Station jet fan has been vetted, and final documentation is being prepared for submittal to FTA for concurrence that the ATC meets project requirements. MTA reviewed the ATC documentation with FTA in June 2024, and FTA approved the ATC in July 2024.
- A ten-year extension of the project's Programmatic Agreement was approved on March 14, 2024.

On August 3, 2016, in response to the lawsuit filed by the Friends of the Capital Crescent Trail against FTA, a federal judge filed his Order and accompanying Memorandum Opinion. In those documents, it was ordered that the ROD for the Purple Line project be vacated and remanded, and that a Supplemental Environmental Impact Statement (SEIS) be prepared, in accordance with the accompanying Memorandum Opinion. In a subsequent Order and Opinion filed on November 22, 2016, the judge, in part, revised the earlier Order by remanding to FTA the responsibility to determine whether an SEIS is required; however, the ROD remained vacated. On May 30, 2017, the judge issued his ruling that dismissed the lawsuit except for the reassessment of the impact of

declining Washington Metro ridership in the Purple Line project's Environmental Impact Statement. The Washington Metro ridership aspect of the ruling was immediately appealed by the Maryland Attorney General. On July 19, 2017, the U.S. Court of Appeals reversed the vacation of the ROD and set an expedited schedule for the appeals process. The appeals hearing occurred on November 1, 2017. The U.S. Court of Appeals issued its ruling on December 19, 2017, in which the judges ruled in favor of FTA and the project, and ruled that the transit agencies would not have to conduct a new environmental study to examine other potential routes for the Purple Line.

The Friends of the Capital Crescent Trail filed a second lawsuit after the FFGA signing and after the groundbreaking ceremony was held on August 28, 2017. The September 19, 2017, Preliminary Hearing for this suit resulted in no temporary injunctions or restraining orders, and project construction proceeded as the case progressed through the court system. On December 5, 2017, FTA and MTA filed a Motion to Dismiss. The plaintiffs subsequently amended and significantly revised the complaint in December 2017, and on March 1, 2018, MTA and FTA filed a Motion to Dismiss. On March 29, 2018, the plaintiffs filed their response. On March 5, 2019, the judge ruled in favor of FTA.

The Friends of the Capital Crescent Trail filed a third lawsuit in January 2019, this time against USACE. The USACE legal staff and the Office of the Attorney General provided the defense. MTA filed a motion to intervene on behalf of USACE. In early May 2019, the plaintiffs filed an objection to MTA's motion, but during the week of July 15, 2019, the Court authorized MTA to intervene on behalf of USACE. In October 2019, USACE filed for a Summary Judgment to Dismiss the case, and the plaintiffs filed their response; a hearing date was set for March 23, 2020. However, in late February 2020, the assigned judge recused himself from the case, and the scheduled hearing was canceled. In mid-April 2020, the District Court ruled in favor of the USACE/MTA motion for a Summary Judgement to Dismiss, and the case was dismissed. The plaintiff subsequently filed an appeal on May 11, 2020, and the case continued in the legal process. Oral arguments related to the appeal occurred on March 11, 2021. The District Court denied the appeal on May 13, 2021. The decision resolved the last remaining lawsuit related to the project.

2.5.2 Environmental Mitigation

The project achieved the required mitigation for reforestation through the purchase of 82.5 acres of offsite credits (combined, in both Montgomery County and Prince George's County). This amount of offsite credits is expected to be more than needed, and the P3 concessionaire will monitor that this remains the case. PLTP's Forest Conservation Plan (FCP), which documented a need of 75.73 acres, was formally submitted to the Maryland Department of Natural Resources (DNR) in August 2016 for approval. The DNR concurred with the FCP on January 31, 2017, and the final approved FCP was received from DNR on July 31, 2017. As LOD cases are identified, they are also reviewed against the FCP credits to maintain an accurate accounting of the reforestation mitigation. In Maryland, need is based on land disturbance rather than only forest removal. MTA's tracking of additional disturbance due to the progress of design and construction indicated that the total need is still within the amount of available offsite credits.

The Joint Permit Application for Wetlands and Stream Mitigation was formally submitted to USACE and MDE in August 2016. In late February 2018, MDE issued its Non-Tidal Wetlands and Waterways permit in advance of the USACE permit, even though it was a joint application. However, because time had passed since the permit was drafted, MDE updated and issued the finalized permit the first week of April 2018. USACE completed its NEPA and conditions review as well as its public interface, receipt of comments, and comment resolution, and issued the Section 10 404 Permit on March 14, 2018. This timing supported MTA's planned advertisement for the Wetlands and Streams Mitigation construction contracts. In October 2018, the project submitted a request to USACE and MDE to extend the duration of the permits until December 2021 to accommodate the longer construction periods resulting from construction moratoriums for forests and streams. The project received approval from MDE during the week of December 3, 2018, and received the USACE approval letter in mid-June 2019.

The project team has addressed the environmental mitigation for wetlands through the development of the offsite Ken-Gar location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. The construction contract was advertised on May 3, 2019, bids were received on June 10, 2019, and the bids underwent MTA Procurement Department review. BPW approval of the award was received on September 4, 2019. As of June 2021, the Ken-Gar wetlands mitigation project was complete and had completed its one-year warranty period. See the **Construction** section of this report, below, for further discussion of the status of this Ken-Gar Wetlands Mitigation construction contract.

The project team has addressed the environmental mitigation for streams through the development of the offsite Paint Branch location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. MTA advertised the Paint Branch Stream Mitigation construction contract on March 8, 2019. After the bid due date was extended several times, proposals were received on May 21, 2019, and underwent MTA review and evaluation. BPW approval of the award was received on September 4, 2019. The Paint Branch stream restoration is complete, and warranty corrections (partial replanting) occurred in December 2022. See the **Construction** section of this report, below, for further discussion of the status of this contract.

The project has plans to address stormwater mitigation, beyond what can be mitigated on the project site, through retrofitting offsite locations in both Montgomery County and Prince George's County. On November 12, 2021, MTA determined that there is a need for additional stormwater mitigation in Prince George's County. A project to construct additional stormwater mitigation is included in the scope of work for MTS. Construction of this stormwater mitigation site began in July 2024**.**

The joint MTA and University of Maryland (UMD) technical board resumed meetings in December 2021 to coordinate efforts related to the mitigation of noise, vibration, and electromagnetic interference at the UMD facilities. Following this meeting, the members of the joint technical board voted to approve the outstanding design packages. This action effectively ended the activities of the technical board until the LRT is in trial running.

The Purple Line project team submits quarterly Environmental Mitigation Monitoring Reports for the project. MTA managed the environmental mitigation and monitoring activities as the project transitioned to the replacement D-B contractor, MTS. Because MTS is now performing construction, MTA will monitor the environmental activities performed by MTS. On January 25, 2024, MTA provided the Fourth Quarter 2023 Environmental Commitment and Mitigation Monitoring Program Report. The report conveys the status of progress toward meeting commitments in the ROD that was issued in March 2014 and any pending actions required. In the report, MTA notes that "no problems, gaps, nonconformances, or NEPA issues of any sort were found during this quarterly assessment." MTA submitted the First Quarter 2024 Environmental Commitment and Mitigation Monitoring Program Report in June 2024. ***On August 27, 2024, MTA submitted the Purple Line Commitment and Mitigation Monitoring Program Report to FTA and the PMOC. MTA reports that there are no major changes from the previous quarter and updates are highlighted within the report.***

The MTA Purple Line team communicated that MDE has implemented a change to the state's construction dewatering monitoring and turbidity requirements. Pumped water discharge from construction sites will need to meet specific requirements—something that Maryland lacked but is common in many states. In September 2023, MTA and MTS participated in training for managers on the new requirements, and a future round of training for field staff is being planned. Activities on the project are currently functioning under the new MDE requirements. The changes related to the new requirements necessitated a change order to address additional MTS's costs to implement the more stringent standards.

2.6 Project Delivery Method and Procurement

The majority of the capital cost of the Purple Line project has been packaged into a Design-Build-Finance-Operate-Maintain P3 contract. This delivery method fits the state's legal definition of a P3 in that it involves a long-term, performance-based agreement between MTA and a private entity (the P3 "concessionaire") in which appropriate risks and benefits are allocated in a cost-effective manner between the contractual partners. The P3 concessionaire is intended to perform some functions normally undertaken by the transit agency, but MTA remains ultimately accountable for the Purple Line project and its public function.

MTA negotiated an approximate 36-year P3 contract, including nearly 6 years of construction and 30 years of operations, and on March 2, 2016, announced that PLTP had been selected as the P3 concessionaire. Commercial close of the P3 contract occurred on April 7, 2016, and financial close occurred on June 17, 2016.

In late April 2020, PLTC notified PLTP that due to PLTC's forecasted schedule delays on the project (which did not receive agreement from MTA), PLTC intended to exercise the clause that allowed it to terminate its contract with PLTP for the design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that would include a definitive path forward. On the response due date of May 14, 2020, PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice

of Unconditional Election to Terminate the P3 Agreement to MTA, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice essentially refuted the validity of the PLTP delay claims and stated that if PLTP fails to perform, MTA has a number of options related to the P3 Agreement. Through July 2020, construction activities continued at the levels previously planned and were not affected by the dispute.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a Temporary Restraining Order (TRO) that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO occurred before the expiration of the TRO on September 14, 2020, and the court rescinded the TRO, allowing PLTP to leave the project.

When an agreement was not reached, the bond holder firms had the first right to take over the project. However, MTA planned an alternate path forward based on its exercise of step-in rights. To that end, MTA assumed the contracts of over 100 subcontractors, indicating MTA's intent to continue the project. MTA adjusted staffing for construction management, resident engineers, and inspectors to move forward with the project.

On November 24, 2020, MTA and the P3 concessionaire, PLTP, reached a settlement agreement to release the project's D-B contractor from the P3 consortium and continue the project with the remaining parties. The state's BPW approved the settlement agreement on December 17, 2020. Activities set out in the agreement and the IRP have proceeded with multiple modifications to milestone dates as needed.

The agreement included the following key aspects, as MTA has communicated to the PMOC:

- PLTP agreed to procure a replacement D-B contractor to complete the project and to obtain project financing. The selection of the preferred replacement D-B contractor, MTS, occurred on November 5, 2021. The TIFIA loan for the project closed on April 14, 2022, allowing financial close and commercial close on that same day. MTS is now the D-B contractor for the project.
- The settlement agreement provided a mutual release from all disputed and undisputed amounts (incurred before September 28, 2020) for PLTP, PLTC, and subcontractors. The agreement also released outstanding litigation among the parties.

2.7 Design

2.7.1 MTA Design

MTA's GEC completed the project design to approximately the 30 percent design level in fall of 2013 and provided incremental enhancements through late 2015. This design formed the basis of the Request for Proposals (RFP) for the P3 contract. See the **P3 Design** subsection, below, for a discussion of the advancement of this design by PLTC, the former PLTP partner that was

responsible for the design and construction of the capital project, and continued design under MTA.

Disputes related to the cost of design changes that were made between execution of the agreement and March 2024 were resolved by Amendment 7. MTA's team estimated that the disputed amount was approximately $15 million.

MTA was responsible for the design and construction contracts under a Design-Bid-Build delivery method (separate from the P3 scope) for the following projects:

- Stream mitigation – MTA completed the 100 percent design packages in June 2017 and received approval from MDE in May 2018. Construction of the stream mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.
- Wetlands mitigation – MTA completed the 100 percent design packages in June 2017. Several design adjustments were subsequently made based on MDE and Montgomery County comments. The construction contract was advertised on May 3, 2019. Construction of the original wetlands mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.
- Offsite SWM sites – MTA completed design and obtained MDE approval of more than the P3 contract-required 5 acres of offsite mitigation in Montgomery County on May 29, 2018. In late October 2019, MTA received MDE approvals for the next 5 acres to be added to the mitigation credit "bank," thus satisfying the contract requirements for 2019. MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS. Construction of this mitigation site began in July 2024.
- See the **Environmental Mitigation** subsection of this report, above, for the current requirements.

MTA also completed the design to support a D-B contract for the replacement of the existing Parks Maintenance Facility with a facility on Polk Street. Construction of the facility is now complete. See the **Real Estate Acquisition and Relocation** and the **Construction** (MTA Scope) sections of this report, below, for further details.

2.7.2 P3 Design

PLTC's design progress was forecasted to achieve substantial design completion of Civil packages in August 2020, substantial design completion of Systems packages (except for Fare Collection) in September 2020, and completion of the Fare Collection design package in 2021. The original baseline schedule anticipated design completion by late fall 2017. As of August 2020, the number of planned Civil, Systems, and Utility design packages was 218.

Upon the departure of PLTC, MTA contracted with the project's engineer of record, Atkins, to continue to advance the design of limited aspects of the project.

The progress through ***August 22, 2024,*** is that 215 of the 218 total planned design packages have been issued as RFC. The packages that remain in design or approval include fare collection, the fire management system at the WMATA/SSTC combined station, and the train control system. The most significant remaining design package, the design package for train control, is scheduled to enter final design review in July 2024. Developing additional equipment specifications and other vendor plans for the train control package will extend until February 2025. As of April 2024, MTA reported that the fare collection requirements were previously included in the platform designs, and the remaining fare collection design is for the equipment/systems. ***MTA now estimates that the fare collection design will be completed in August 2025.*** The PMOC observed that MTS indicates that the design portion of its contract is billed out to 99.9 percent. The requirements of MTA's D-B contract with MTA include the payment of all design costs in the first 15 months of its contract with MTS (i.e., from April 2022 through June 2023), regardless of actual design progress.

The State Highway Administration approved the last traffic signal package in October 2023.

An item related to design was added to the Risk Register regarding an intelligent interface device that could impact implementation and operational costs. MTS made a claim related to a dispute about this item, but the dispute was resolved as a result of the execution of Amendment 7 to the P3 Agreement in March 2024.

PLTC reached resolution on the final remaining ATC identified during the proposal process. The ATC is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA reviewed the design package for NEPA compliance. FTA granted final approval of the ATC in July 2024, and concurred that the ATC will have no Section 4(f) impacts or associated impacts to the ROD.

MTA and CSX worked to resolve issues related to the applicable design criteria and which project areas were affected until, in July 2019, a mutually agreeable path forward was defined for all areas. The following is the current status of the issues and their resolutions:

- To address CSX comments that would have disallowed passenger amenities (fare gates and ticketing kiosks) on the SSTC mezzanine connector pedestrian bridge above CSX tracks, and that would have required a 25-foot vertical clearance, MTA, PLTC, and CSX reached consensus on a design to interpret this area as a "building concourse." In May 2020, CSX indicated that the final design is acceptable. Revised documents, providing some minor clarifications related to ROW, were submitted to CSX on September 8, 2020, and ultimately CSX approved the design. The revised documents were submitted to WMATA several times in early 2021.
- WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of ***August 2024*** for the SSTC and for other locations where WMATA and Purple Line stations coincide. ***The negotiations related to issues at the Bethesda Station are primarily between WMATA and Montgomery County and are regarding improvements adjacent to the station on the Woodmont Avenue Park***

property. MTA reports that the slow resolution of these comments has not impacted critical path activities.

- An encroachment into the CSX vertical clearance was discovered upon installation of girders at the SSTC. An exception was requested from CSX to allow the ¾-inch encroachment to remain. CSX denied the exception. MTA and the designer prepared for a contractor to jack and shim the structure to create the required clearance. Construction of this work was completed in August 2021.
- Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. The Purple Line project is taking advantage of the WMATA service outage to perform work near and above the tracks.
- CSX provided review comments disallowing revised drainage networks, related to the Capital Crescent Trail work, which would connect to CSX's existing drainage culverts. The work on the Capital Crescent Trail is not part of the FFGA and is separately funded by Montgomery County. As a result of work with Montgomery County, the connections were relocated from CSX property to Montgomery County property and therefore are no longer a CSX issue. To fully accomplish this approach, two connections required resolution. Montgomery County acquired two parcels of land from CSX (not FFGA-funded) and then accepted responsibility for one connection currently under the responsibility of CSX. Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. ***As of August 2024,*** MTS has one more jack-and-bore installation of culvert pipe yet to complete. This culvert installation is not on the project critical path and is scheduled for ***November 2024***. ***In August 2024, MTA indicated that negotiations with CSX are underway to obtain 24-hour flagging for the final jack-and-bore construction.***
- Track protection (flagging) availability has limited production work near the CSX rail lines. In March 2024, CSX made a second flagger available, allowing construction activities on the railroad ROW to accelerate. In May 2024, MTS stated that it needs a third flagger in order to maintain the construction schedule; however, MTA believed at that time that it was unlikely that CSX would provide the third flagger. In July 2024, CSX was unable to provide two flaggers at all times, preventing work in the railroad right-of-way for several night shifts.

2.8 Real Estate Acquisition and Relocation

As of August 2024, the total number of planned property acquisitions is 601, including 464 privately owned properties and 137 public acquisitions. All of the original Exhibit 9 FFGA-scope private parcels in the P3 contract are in MTA's possession, some of which are properties that continue in condemnation under the State Highway Administration process. To date, ***437*** of the

original 464 private properties have completed settlement, several additional properties (not part of the original 464 private properties) are pending settlement, and ***14*** condemnations remain to be settled.

All required public properties have been available for construction when needed. Several public property rights transfers are currently being coordinated to accommodate sidewalk changes, utility easements, and ROW exchanges.

As the project has progressed and new utility relocation needs have been identified, additional small parcel acquisitions have been added to the total as utility down-guys. In December 2017, PLTC initially submitted a list of approximately 280 such parcels related to utility relocations and subsequently added to that list. MTA resolved that it would acquire these properties, rather than execute amendments to the utility agreement that would have the utility companies perform this function. MTA's ability to perform appraisals in house for these parcels or to waive appraisals for low-value, uncomplicated parcels has been expediting the process somewhat. ***As of August 2024,*** the number of additional acquisitions totals 188 parcels, and several more acquisitions potentially may be needed for stormwater facilities. Of these parcels, 54 are public property and will be acquired by agreement, and 134 are private acquisitions. Of the total 188 properties, 66 were filed for condemnation, excluding those that were subsequently optioned or settled, and ***10*** condemnations and ***3 settlements are pending*** for this acquisition category. MTA estimates that approximately $21.0 million of risk exposure remains in the acquisition process. This amount has been included in the MTA QRA.

The project required a total of 176 relocations, of which 57 were residential and 120 were businesses. To date, 177 of those identified relocations have been completed in accordance with the applicable procedures, and one active claim remains to be settled. Also, MTA is monitoring terms of agreement of the property acquisitions discussed above that have not yet completed settlement, because some of them could potentially result in the need for additional relocations.

In August 2023, MTA indicated that the goal for completion of all real estate transactions is December 2024. ***MTA intends to submit four administrative settlement requests to FTA before the end of 2024 for FTA concurrence.***

On April 25, 2023, MTA reported that BPW had approved the last of seven critical project acquisitions. These acquisitions were required to allow MTS access to construction areas that include activities on or near the critical path.

Properties that have not yet settled due to disputed compensation values have been going to trial in accordance with the ROW acquisition process. MTA is tracking actual acquisition costs versus planned expenditures, so that contingency can be effectively managed, and MTA shares this information with the PMOC. Based on actual settlement amounts and projected amounts for those not yet closed, settlement/condemnation values are 57.5 percent higher than the original 2014 SCC budget for ROW. MTA included current ROW cost projections in its development of an FRP project cost estimate (see the **Project Cost** section of this report, below).

Due to the extended project duration, some agreements will expire before the expected RSA date. MTA and MTS have started the process of identifying the end dates now needed for the agreements

and will begin the process of obtaining extensions. MTA has evaluated the risks, estimated the cost of the extensions, and included those costs in a budget contingency. As of ***August 2024***, MTA estimates that approximately $18.1 million of risk exposure remains due to necessary TCE extensions. ***As of August 2024,*** the project has expended $6.2 million on TCE extensions.

2.9 Third-party Agreements and Utilities

All major third-party agreements (specifically, those agreements with Washington Gas, Verizon, Potomac Electric Power Company [PEPCO], CSX, UMD, Montgomery County Parks, Prince George's County Parks, WMATA, Washington Suburban Sanitary Commission [WSSC], Montgomery County, and Prince George's County) were executed as of June 7, 2016.

In early June 2018, MTA and PLTP completed the negotiation of all remaining third-party agreements with the smaller utility and telecommunications (telecom) fiber companies. According to MTA, most of the minor fiber/telecom utilities are not co-located with the electrical utilities, and, where they are, PEPCO's arrangement with the fiber/telecom utilities does not require PEPCO's relocation schedule to be driven by that of the minor fiber/telecom companies.

In addition, the need for amendments to existing executed agreements continues to be evaluated. The significant items include:

- To date, the design differences with CSX, as discussed earlier in this report, have been adequately resolved through design review and concurrences, and have not resulted in the need to amend the CSX agreement.
- WSSC proposed that the project relocate a 66-inch underground water main that runs through the Glenridge OMF site. In March 2020, MTA and WSSC agreed on a water main alignment primarily in the median of Veterans Parkway, as well as a strategy for completing the relocation. The original Purple Line project GEC performed the design; WSSC provided the material; and MTA separately contracted for the construction, thus avoiding impact to the P3 concessionaire's scope of work. On May 21, 2021, WSSC authorized work, and mobilization began August 9, 2021. Energizing of the cathodic protection was the last remaining activity, and it was completed in November 2023.
- In late July 2022, MTA and MDOT held a summit with the many utility providers that experience relocations related to transportation projects to discuss best practices and improvements to the utility relocation process. As of May 2023, some of the utility providers are experiencing staff shortages that limit construction production rates. These staff shortages present an ongoing challenge to the project.

The project has been addressing its interface with Montgomery County Schools through the third-party agreement already in place with Montgomery County. However, due to the specific concerns related to the schools and the safety and security of the children, MTA drafted a separate MOU with the Montgomery County Schools system, which was approved by the School Board and signed by the School Superintendent, Montgomery County, and MTA. A similar MOU was negotiated between MTA and the Rosemary Hills School and was approved at the School Board meeting on February 12, 2019. MTA submitted a draft second MOU to Montgomery County

Schools on November 3, 2022. The Purple Line project team is developing information on the utility pole locations and retaining wall maintenance before going back to the school district for final property transfer negotiations. Work will continue under ROE agreements with these parties through 2024.

As MTS commenced construction work, coordination meetings were held to ensure that prior agreements with third parties (utility companies and others) are followed. It is MTA's position that the transfer of third-party agreements from PLTC to MTA and now to MTS should not allow for a change in the terms of the agreements.

In June 2024, MTA reported that risk from the third-party agreements with PEPCO, the electrical service provider, is an increasing risk to the project schedule. MTA is actively trying to mitigate this risk through proactive communications with PEPCO.

2.10 Construction

2.10.1 MTA Scope

Although the P3 concessionaire is responsible for the majority of the project construction, MTA also has construction responsibility in the areas of the replacement Parks Maintenance Facility (which is part of the real estate effort and budget), wetlands mitigation, stream mitigation, and possibly some offsite SWM sites. MTA has accomplished forest mitigation without the need for additional construction. The following discussion presents the current status of the MTA construction contracts:

- **Prince George's County Parks Polk Street Replacement Maintenance Facility** – This D-B contract was awarded after the BPW approved the construction contract award on March 20, 2019. Forrester Construction Company completed construction, Parks has taken possession of the facility, and the warranty period has expired. The only remaining action for this portion of the project is a real estate swap that will transfer the maintenance facility property to Parks in exchange for the property needed by the Purple Line project. The survey for the swap of the parcels has been performed, and as of June 2024, the plat documents needed for appraisals and negotiation for the swap are complete.
- **Offsite Wetlands Mitigation (Ken-Gar)** – The Wetlands Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The contractor mobilized in December 2019 and completed site surveys and the installation of Erosion and Sedimentation controls. Clearing and grubbing began in February 2020. Prince George's County took partial acceptance of the entire project on March 3, 2021. Acceptable growth of vegetation has been achieved, allowing for closure of this project. The one-year warranty review occurred on January 9, 2022, and now the project requires MTA quarterly monitoring until closeout in 2028.
- **Offsite Stream Mitigation (Paint Branch)** – The Stream Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP

was issued to Environmental Quality Resources, LLC on September 5, 2019. The pre-construction meeting was conducted on October 24, 2019. The contractor mobilized in late November 2019. The one-year warranty inspection occurred on August 4, 2022, and 1,700 plants were replaced in November 2022.

2.10.2 P3 Scope

Highlights of construction activities ***through August 2024*** throughout the alignment include***:***

- General: As a result of the dispute with PLTC (see the **Project Delivery Method and Procurement** section, above), all project activities slowed in the fall of 2020. In early August 2020, contractor forces, equipment, and materials were demobilized, and work in some areas ceased. Upon legal action from MTA, partial remobilization occurred. Following the court's rescission of the TRO, demobilization and safe-up activities in the construction area began in earnest in mid-September 2020 and continued into October 2020. Following PLTC's exit, MTA engaged a number of former PLTC subcontractors to continue select project activities. This work was progressed under MTA management with a goal of advancing critical path activities and reducing risk for the replacement D-B contractor.
- OSF construction items that MTA managed:
  - Utility installations of all types are complete or have been transferred to MTS, including construction by the electric provider (PEPCO) and the communications company (Verizon). Water, storm sewer, sanitary sewer, and gas lines are also complete or have been transferred to MTS.
  - As a part of OSF, MTA ordered rail, ties, special trackwork, and turnouts to mitigate supply chain risks. MTA also secured materials previously procured by PLTC for use by the replacement D-B contractor (MTS).
  - Building construction at the Glenridge OMF is essentially complete; however, construction of civil items outside of the building continues, as does final commissioning of systems inside the building. MTS assumed control of the facility in January 2024. As of March 2024, Amendment 7 to the P3 Agreement settled all remaining disputes. MTS is currently installing rail and other features both inside and outside of the building. MTS will complete the tracks for storage and testing of LRVs.
  - Based on the status of construction at the time of PLTC's departure, MTA determined which items would be completed before mobilization of the replacement D-B contractor. OSF construction activities were expected to be completed before September 1, 2022, but some activities continued until November 2023. OSF utility relocations that fell behind schedule caused delays to MTS's work, and delays in OSF activities. Significant OSF delays impacted MTS's activities, and these additional costs are reflected in the Amendment 7 revised total project cost.

- MTA's Equal Employment Opportunity Officer assigned to the project is Marcques Washington, and he is supporting MTS in its hiring program. The former contractor, PLTC, left the project with a shortfall in meeting the requirements of its DBE program, and MTS is required to address this shortfall of approximately $12 million in contract value. In March 2023, MTA reported that the design portion and the nationally targeted worker program of the P3 contract had exceeded the DBE program goal, but the percentage DBE participation for general construction is below the goal. In April 2023, Mr. Washington reported that the DBE participation statistics are improving as construction continues. The PMOC continues to recommend that MTA report the projected values for these goals at the end of the project in addition to the current achieved values to allow for a better evaluation of progress toward meeting the goals. MTA has been performing audits each month to monitor the Davis Bacon prevailing wage requirements. To date, only very minor issues have been identified during these audits**.** In May 2024, MTA's Equal Employment Opportunity Officer increased DBE goals by approximately $87 million to reflect the new total construction cost established by Amendment 7 to the P3 Agreement. ***MTA and MTS continuously assess the status of the project goals and coordinate approaches to increase participation through small business workshops.***

2.11 Vehicle Technology and Procurement

The LRVs are five-car vehicles consisting of 136-foot-long, articulated units. Under the FFGA, 25 vehicles (22 in operation and 3 spares) will be provided for the opening year. PLTP executed the LRV contract with CAF on June 17, 2016, and issued NTP to CAF on July 5, 2016, for the 25 FFGA vehicles. The original NTP to CAF also included one additional LRV outside of the FFGA.

Later, MTA added 2 additional vehicles (outside of the FFGA) by change order to, for a total of 28 vehicles to be supplied by CAF. The two additional LRVs will support better operations. MTS has incorporated these two additional LRVs into its scope of work (in addition to the cost and terms of LRV storage in Elmira).

Vehicle carshell manufacturing activities, which are coordinated with design progress, occurred until the facility in Spain was shut down in late March 2020 due to supply chain issues and to limit the spread of COVID-19. The final assembly facility in Elmira, New York, was shut down in early April 2020 due to New York State restrictions related to COVID-19 and reopened on May 18, 2020, at 50 percent of its workforce capacity. As of early August 2020, both the Spain facility and the Elmira facility were back to 100 percent staffing levels.

The final assembly of vehicles is being performed in CAF's facility in Elmira. MTA, its PMC, and SNC-Lavalin meet weekly with CAF to resolve all open items for design, testing, and manufacturing activities. First Article Inspections (FAIs) for Interior and Cab were completed on March 18, 2021, and FAIs for Exterior, Roof, and Undercar were completed on April 2, 2021.

Shipment of the first vehicle to the project site was expected in late spring of 2021. The lack of available storage at the yet-to-be-completed Glenridge OMF requires use of an offsite storage facility where vehicles can be stored, occasionally powered, and occasionally "exercised" or

moved on tracks. MTA and CAF negotiated an agreement for CAF to store the completed LRVs in Elmira. That storage agreement subsequently transferred to MTS, and its terms are part of MTS's agreement. Twenty-six LRVs have been completed, with twenty-three of those designated as Ready for Shipment and in storage in Elmira. The first LRV delivery occurred on May 15, 2024; and one delivery has occurred each month since. ***The fourth LRV delivery occurred on August 14, 2024***. ***One of the last two LRVs to be ordered (added to the P3 contract outside of the FFGA) is in final assembly, and the other is in static testing in Elmira.***

CAF will continue delivering LRVs at a frequency of one each month but has plans to increase that frequency when possible. Plans are being prepared for dynamic testing, which is scheduled to occur in ***November 2024*** on the test track section near the Glenridge OMF.

2.12 Project Cost

Table 5 summarizes the project's current actual expenditures and EAC, and compares them to the project budget as reported in MTA's SCC Workbook dated June 1, 2016, which is the basis of the project's FFGA. The project's documented expenditures total ***$3,712,602,222 through July 31, 2024.*** Refer also to **Table 4 – FFGA Core Accountability Items** in the **Executive Summary** section of this report for details on the project's planned and actual expenditures. The following table shows project budgets, actual expenditures, and forecast at completion amounts through ***July 31, 2024***, compared with the project budget as reported in MTA's SCC Workbook dated June 1, 2016, and MTA's current working budget.

Table 5 – Project Cost Versus Budget

SCC	Cost Category	Budget (June 1, 2016 Original FFGA)	Working Budget[1] (April 3, 2023 FRP)	Expenditures *(as of July 31, 2024)*[2]	Forecast at Completion[1, 2]
10	Guideway and Track	$280,620,726	$371,508,682	***$245,183,259***	$372,476,815
20	Stations	$114,857,016	$161,159,923	***$83,017,258***	***$***172,082,570
30	Maintenance Facility	$94,155,591	$93,454,387	***$87,231,638***	$94,365,752
40	Sitework	$521,968,990	$796,081,289	***$646,090,443***	***$806,991,852***
50	Systems	$263,887,313	$517,256,196	***$273,994,844***	***$***525,305,831
	Subtotal 10–50	$1,275,489,636	$1,939,460,477	***$1,335,517,442***	***$1,971,222,820***
60	Right-of-Way	$229,600,000	$329,126,214	***$305,882,991***	$333,246,523
70	Vehicles	$212,940,927	$292,780,600	***$177,797,710***	$292,584,921
80	Professional Services (total)	$571,658,114	$2,247,359,915	***$1,893,404,079***	***$2,743,367,505***
80.01	Project Development	$87,149,878	$85,469,312	$85,469,312	$85,469,312
80.02	Engineering[3]	$139,766,036	$196,722,013	$218,117,086	***$219,585,934***
80.03	Project Management for Design and Construction	$148,555,323	$655,185,988	***$461,893,195***	$685,724,396
80.04	Construction Administration and Management	$83,269,280	$734,209,735	***$529,901,797***	$621,153,774

SCC	Cost Category	**Budget** (June 1, 2016 Original FFGA)	**Working Budget**[1] (April 3, 2023 FRP)	**Expenditures** ***(as of July 31, 2024)***[2]	**Forecast at Completion**[1, 2]
80.05	Professional Liability; Other Non-construction Insurance	$34,534,796	$85,701,891	***$76,234,879***	$93,860,971
80.06	Legal; Permits; Review Fees by Other Agencies, Cities, etc.	$5,805,117	$341,013,320	***$443,760,771***	$890,935,383
80.07	Surveys, Testing, Investigation, Inspection	$15,164,346	$92,504,023	***$73,120,904***	$89,959,500
80.08	Startup	$57,413,338	$56,553,635	$4,906,135	$56,678,235
	Subtotal 10–80	$2,289,688,678	$4,808,727,206	***$3,712,602,222***	***$5,340,421,769***
90	Unallocated Contingency	$90,535,748	$307,293,174	$0	***$166,598,612***
100	Finance Charges	$0	$0	$0	$0
	Total	$2,407,030,288	$5,116,020,381	***$3,712,602,222***	***$5,507,020,381***

[1]The Purple Line project Working Budget and Forecast at Completion are based on the accepted FRP, dated April 3, 2023, and subsequent change orders.

[2]Amendment 7 to the P3 Agreement has been partially incorporated into MTA's financial reporting as of July 2024. Amendment 7 added significant cost to the project. The PMOC has requested the breakdown of these costs.

[3]Additional costs associated with Amendment 7 were assigned primarily to SCC 80.02 in MTA's originally reported budget information. MTA reassigned these Amendment 7 costs to SCC 80.04 in May 2024.

MTA developed the FRP unallocated contingency amount of $307,293,174 by utilizing an internal QRA, and the RCMP, dated April 21, 2023, recommended that same amount for unallocated contingency. The June 2024 preliminary QRA recommends an unallocated cost contingency of $179.58 million.

In July 2023, the Maryland BPW approved a change order that had a total addition of $204,954,610 of cost and 207 additional days of contract time. The net budget impact to the capital construction portion of the project was $137,144,705, and the balance of the total amount was applied to the financing and lost return on investment for PLTP. The $137,144,705 will be expended over the course of construction; therefore, this amount does not immediately show up in the MTA budget reports. However, that amount, plus the amount of the earlier change order included in the FRP, represents significant utilization of the budget contingency. The PMOC recommends that MTA closely monitor all cost overruns and the potential need for additional contingency. As of March 2024, a third change order (an amendment to the P3 Agreement [Amendment 7]) was negotiated. The change order essentially utilized all of the FRP budget and schedule contingency, added $406 million to the construction budget, and added 250 more days to the schedule. As a result, MTA is currently developing revised cost and schedule contingency budgets. In July 2024, MTA committed to provide to FTA/PMOC the basis for the large contract budget and schedule changes that have been approved, including efforts to mitigate schedule impacts. ***MTA provided general information about the large budget and schedule changes and indicated that it will not be providing any details.***

The PMOC has requested that MTA clarify the breakdown of Amendment 7 to the P3 Agreement for several reasons. MTA has indicated that Amendment 7 includes schedule mitigation measures,

implying that the measures are changes to the MTA scope of work and overhead costs related to the extended project schedule. The assignment of the costs to SCC 80 does not support those implications. If the costs assigned are for some scope changes (additional Maintenance of Traffic sequences, overtime for accelerated construction work, or other items), then those costs should be assigned to SCCs 10 through 50.

In recent months, SCC 80 expenditures by MTA and MTS have totaled as much as 50 percent of the expenditures for SCCs 10 through 50 combined. The PMOC therefore has questioned the significant amount of these SCC 80 expenditures that MTA records for the project each month. In May 2024, MTA explained that a portion of the SCC 80 expenditures are settlement payments to MTS and PLTP and not true management and administrative costs. ***Excluding Amendment 7 reimbursements,*** MTA estimates that the ***August 2024*** management and administrative expenditures as a percentage of total expenditures are ***approximately 37 percent of the SCC 10 through SCC 50 expenditures for the month. In the opinion of the PMOC, this percentage is higher than what would ordinarily be anticipated.***

2.12.1 Project Funding

The funding for the project, as reflected in Attachment 3 of the FFGA, is shown in Table 6. As mentioned previously, MTA has not yet fully incorporated the effects of Amendment 7 to the P3 Agreement in its financial reporting. MTA has reported that the additional funds (approximately $406 million) related to Amendment 7 will come from the State of Maryland/MDOT Transportation Trust Fund.

Table 6 – Baseline Cost Estimate by Source Funding

Initial New Starts Project Cost (in SCC format)	Total FFGA Cost in Year of Expenditure (YOE) Dollars	Federal 5309 New Starts in YOE Dollars	Federal 5307 in YOE Dollars	Federal American Rescue Plan Act (ARPA) in YOE Dollars	Federal Surface Transportation Program (STP) in YOE Dollars	Local in YOE Dollars
10 Guideway & Track Elements	$371,508,681	$96,464,907	$0	$0	$0	$275,043,774
20 Stations, Stops, Terminals, Intermodal	$161,159,923	$23,557,000	$0	$0	$0	$137,602,923
30 Support Facilities, Yards, Shops, Admin. Bldgs.	$93,454,387	$29,954,000	$0	$0	$0	$63,500,387
40 Sitework & Special Conditions	$796,081,289	$222,858,301	$0	$0	$0	$573,222,988
50 Systems	$517,256,196	$60,116,405	$0	$0	$0	$457,139,791
60 ROW, Land, Existing Improvements	$329,126,214	$102,108,116	$0	$0	$0	$227,018,098
70 Vehicles	$292,780,600	$80,787,818	$0	$0	$0	$211,992,782
80 Professionals Services	$2,638,359,916	$284,153,453	$41,631,310	$106,163,371	$110,000,000	$2,096,411,782
90 Unallocated Contingency	$307,293,174	$0	$0	$0	$0	$307,293,174
100 Finance Charges	0	$0	$0	$0	$0	$0
Total Project Cost (SCCs 10–100)	$5,507,020,380	$900,000,000	$41,631,310	$0	$0	$4,349,225,699

Source: MTA, dated June 2024.

2.13 Project Schedule

The March 15, 2017 progress update of the master project schedule served as the only approved version of the schedule until September 2022. Numerous submissions of schedule updates from PLTC were not approved for various reasons, but the primary reason was the inability of MTA and the P3 concessionaire to agree on the schedule impacts of the approximately one-year delay in the execution of the FFGA. In response to a letter that FTA issued to MTA in early August 2018 expressing concerns about the amount of time that the project had advanced without an approved schedule, MTA prepared a working schedule update of the master project schedule. The working schedule update was based on the negotiations of the P3 contract schedule occurring at the time, but the update was not based on a mutually agreed-upon P3 contract schedule.

In late April 2020, PLTC notified PLTP that, based on its forecasting of schedule delays on the project (which were not mutually agreed upon), PLTC intended to exercise the clause in its P3 contract with PLTP that allows it to terminate the contract for design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that included a definitive path forward for PLTP's intended management of the P3 contract. On May 14, 2020 (the date the response to the formal request was due), PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice refuted the validity of the PLTP delay claims and stated that if PLTP failed to perform, MTA had a number of options related to the agreement. Through late July 2020, construction activities continued at the level previously planned, and construction progress was not affected.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a TRO that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO was held on September 14, 2020. The court rescinded the TRO, allowing PLTP to leave the project. Through negotiation, it was determined that PLTP would remain on the project, although PLTC would not.

MTA contracted with numerous subcontractors to continue the project. MTA developed organizational options with respect to construction management, resident engineers, inspectors, and other staff needed to move forward select project activities.

It was certain that the project schedule as reflected in the FFGA would be negatively affected, and a Recovery Plan for the project, including a revised project schedule with adequate schedule contingency to address remaining project risks, would be required. MTA submitted its draft IRP to FTA in December 2020, and FTA approved the IRP on January 12, 2021. A schedule for the period during which the D-B contractor was to be replaced was developed, and MTA monitored project progress against the schedule.

PLTP and MTA continued to coordinate during the financial process and State of Maryland approvals for the replacement D-B contractor. In addition, MTA successfully coordinated other key issues that needed to be resolved before PLTP could execute the contract with MTS. IRP/re-procurement process spanned from January 6, 2021 to April 14, 2022.

A milestone not specifically mentioned in the IRP was the requirement to extend the current RSD. The RSD in the original FFGA was December 31, 2022. MTA requested an extension to the current RSD based on the MTS schedule. FTA accepted the FRP, which indicates a revised RSD of February 28, 2028.

The schedule included in the FRP was considered to be the new baseline schedule. The MTS master schedule incorporated the schedule recovery of implementing Maintenance of Traffic and construction activity resequencing, at a cost of $21,343,588, which reduced schedule delays from 218 days to 81 days. These schedule delays are a result of OSF utility adjustments that fell behind schedule. MTS has indicated that delays continued to occur as a result of the MTA-managed OSF work. The second OSF-delay-driven change order, as approved by the BPW in July 2023, added 207 days to MTS's RSA date.

This addition to the RSA date represents a significant use of schedule contingency, which is a concern considering the remaining duration of the project. In an effort to mitigate continuing OSF delays**,** MTA resumed the Tiger Team process (in this case referred to as "Tiger Team 2") to develop schedule alternatives. OSF construction activities were expected to be completed before September 1, 2022, but schedules that MTA previously provided indicated completion of most OSF activities in mid-2023, with some activities continuing up to November 1, 2023. OSF utility relocations that were behind schedule continued to cause impacts to MTS's work, and as of July 2023, delays in OSF activities had driven two change orders. MTA and PLTP have used the Tiger Team process to develop schedule alternatives to potentially mitigate delays driven by OSF work between March 2023 and February 2024. Amendment 7 to the P3 Agreement resolved the outstanding disputes and delays related to OSF activities. The amendment added 250 days to the schedule, placing the RSA date at December 30, 2027. MTA has accepted MTS's revised baseline schedule, and in June 2024 prepared a revised master schedule based on the information that MTS provided, including the recommended schedule contingency that is used in the June 2024 MTA QRA. ***In August 2024, MTA provided high-level information regarding the impact of the Tiger Team efforts. MTA reports that the efforts reduced the delay to the RSA date by six months, changing the RSA date from July 2028 to December 2027.***

2.13.1 Key Milestones

Table 7 shows the current key milestone dates for the project for the prior approved (March 15, 2017) progress update of the current master project schedule. Issuance of NTP to PLTP on April 14, 2022, triggered the contract requirement that an MTA-approved MTS Initial Baseline Schedule (IBS) for the full project be in place within 120 days of financial close (by August 14, 2022). In January 2022, MTA submitted a draft version of the master schedule for FTA and PMOC review, and FTA and the PMOC transmitted their review comments to MTA in April 2022. MTS

submitted its IBS, and on September 12, 2022, MTA approved it. MTS submitted the 120-day mobilization schedule, which MTA also approved.

In August 2022, MTA and the PMOC discussed the current state of the baseline schedule, particularly the inclusion of adequate float to address schedule risk. The P65 date that MTA proposed before the risk workshop held in May 2022 included approximately seven months of float and an RSA date in October 2026. After MTA performed the QRA for the updated RCMP, MTA added additional float to address known and unknown schedule risk. The RSD proposed in the FRP is February 28, 2028. However, the recently approved Amendment 7 to the P3 Agreement sets the RSA date at December 30, 2027, essentially utilizing all of the schedule contingency. The outcomes of the current MTA QRA will advise new recommendations regarding schedule float and contingency.

The PMOC recommends that MTA closely monitor schedule contingency and the corresponding budget contingency when evaluating the RSA date/RSD and the EAC that will be incorporated into the FRP. The information in Table 7 will be updated once the schedule reviews and approvals are complete.

Table 7 – Key Milestone Dates

Activity	Prior Approved Master Project Schedule (March 15, 2017)	MTA Master Project Schedule (*August 20, 2024*) (working schedule)
Locally Preferred Alternative Approval Date	08/04/2009 (A)[1]	---
FTA Approval to Enter Preliminary Engineering	10/07/2011 (A)	---
FTA ROD	03/19/2014 (A)	---
Issue Final RFP for P3 Concessionaire	07/28/2014 (A)	---
FTA Approval to Start Enter Engineering Phase	08/28/2014 (A)	---
Issue Addenda 4 through 6 to the P3 RFP	07/2015 through 11/2015 (A)	---
P3 Technical Proposals Due	11/17/2015 (A)	---
P3 Financial Proposals Due	12/08/2015 (A)	---
Evaluation and Announcement of Selected P3 Proposer	01/02/2016 through 03/02/2016 (A)	---
BPW Approval of P3	04/06/2016 (A)	---
P3 Commercial Close	04/07/2016 (A)	---
Limited NTP for P3 Engineering	04/07/2016 (A)	---
MTA Submit FFGA Application	05/24/2016 (A)	---
P3 Financial Close	06/17/2016 (A)	---
FFGA Signed	08/22/2017 (A)	---
Start of First Major Construction Activity	08/28/2017 (A)	---
All Significant ROW Acquisition and Relocation	As needed by construction	---
Commencement of Contract Work for Replacement D-B Contractor (MTS)	---	04/14/2022 (A)
Commencement of Integration Testing	---	07/28/2025

Activity	Prior Approved Master Project Schedule (March 15, 2017)	MTA Master Project Schedule (*August 20, 2024*) (working schedule)
All Segments Complete Construction (with Contingency)	---	02/19/2027
RSA Date per P3 Amendment (Does Not Include Contingency)	---	***12/14/2027***
Preliminary RSD, Including Contingency (not accepted by FTA as of August 2024)		***12/13/2028***
FFGA RSD (Includes Contingency)	12/31/2022	02/28/2028

[1]A = Actual.

2.13.2 90-day Look-ahead

The critical 90-day (***September 2024 through November 2024***) look-ahead includes activities that MTA highlighted in the recent monthly meeting with the PMOC. MTA and MTS also are preparing four-week look-ahead schedules to manage interim activities. Key activities that MTA has identified for the short term are:

- Acceptance of the revised recommendations for schedule and cost contingencies based on the QRA.
- Completion of yard track and initial installation of OCS at the Glenridge OMF to support LRV delivery and testing.
- ***Continued deliveries of LRVs to the Glenridge OMF.***
- Completion of activities associated with the seven roadway or track outages that are occurring to expedite construction progress in the summer of 2024.
- Concrete lining installation at the Bethesda Enclosed Trainway.
- ***Installation of TPSSs Q5 and QYL***, and energizing of the OCS to facilitate dynamic testing.
- Continued installation of rail in all segments.
- ***October 2024 CAT meetings.***
- ***Finalization of systems integration plans and schedule.***

2.13.3 Critical Path Activities

In the MTA master schedule update dated ***August 20, 2024***, the critical path runs through the activities in Segment 3 utilities and track (see **Attachment G, Project Map**), and then through trial running and systems integration/testing.

2.14 Project Risk

MTA has established a risk management organization that is defined in the RCMP and is overseen by MTA's Risk Management Committee. Two major elements of the RCMP are the periodic performance of a QRA and the maintenance and use of the Risk Register.

During the approximately one-year period during which the ROD had been vacated by the federal judge in his decision related to the Friends of the Capital Crescent Trail lawsuit, MTA did not conduct formal Risk Management Committee meetings, conduct Quantitative Risk Analyses, or perform formal updates of the Risk Register. However, the Purple Line project management team did assess and respond to the risks associated with the unforeseen chain of events related to the lawsuit.

The project team resumed formal Risk Management Committee meetings in October 2017, including individual updates of each risk on the current Risk Register by the risk owner. An overall update of the Risk Register was completed in draft form in January 2018, and was updated further and reissued in March 2018. As an ongoing process, MTA currently is performing updates of the Risk Register periodically, though somewhat less frequently than bimonthly (the frequency established in its RCMP). The current status of the RCMP is discussed in the **Project Management Plan and Sub-plans** section of this report, above.

MTA provides copies of significant updates of the Risk Register to FTA and the PMOC. The top risks from the project's latest issued update of the Risk Register and PMOC-assessed risks are discussed at the PMOC monitoring meetings with the project team; the project's top four project risks are included as Attachment B of this report and are updated quarterly. A risk management workshop was held on January 26, 2021, at which the PMOC and FTA participated. The workshop focused on the resolicitation period for the replacement D-B contractor (January through October 2021).

Once the replacement D-B contractor was under contract, risk updates were prepared. The project held a risk workshop the week of May 2, 2022, at which the PMOC and FTA sponsored an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. Confirmation and finalization of the Risk Register, the QRA, and an update of the RCMP are components of the FRP. FTA provided a summary of the risk workshop to MTA on June 22, 2022, for MTA's consideration and incorporation into its management plans and contingency evaluation. MTA provided responses to FTA comments on the risk workshop summary on July 15, 2022, and clarification on August 25, 2022. In October 2022, MTA submitted RCMP Version 15 to FTA and the PMOC for review. In February 2023, FTA and the PMOC provided comments on RCMP Version 15 to support MTA's development of the project's budget contingency and schedule contingency. On April 21, 2023, MTA provided a revised RCMP to FTA and the PMOC for review, and on May 22, 2023, FTA accepted the revised RCMP with comment.

MTA completed an internal QRA to re-baseline the project's contingency drawdown curves and update the RCMP. The QRA that MTA provided in June 2024 included recommendations for cost contingency and schedule contingency of $179.58 million and 11 months, respectively. ***MTA indicates that the next Risk Management Committee meeting will occur in September 2024.***

In June 2024, MTA identified the following top risks:

Cost Risks:

1. Unknown Unknowns
2. Remaining ROW Negotiations
3. TCE Extensions
4. Disputes

Schedule Risks:

1. Signal Cabinet Testing
2. Permit Compliance
3. Unknown Unknowns
4. Performance Due to Nonconforming Work

Also in June 2024, MTA reported that risk related to the third-party agreements with PEPCO, the electrical service provider, is an increasing risk to the project schedule. MTA is actively trying to mitigate the risk through proactive communications with PEPCO.

2.15 Quality Assurance/Quality Control

The project's QA/QC is addressed in Section 10 of the PMP, the Quality Program Plan, and the updated MTA QAP Revision 8.0, which incorporates the quality plans prepared by PLTC. The **Project Management Plan and Sub-plans** section of this report, above, discusses the most current versions of the PMP and the QAP. MTA also submitted to FTA the package of inter-related quality plans prepared by the P3 concessionaire after the package was reviewed and approved by MTA.

MTA obtained and used PLTP's quality logs and other applicable documents and procedures during the transition to the replacement D-B contractor. Several former subcontractors were under contract with MTA and conducted QA/QC activities during the replacement D-B contractor solicitation period. The budget to address nonconforming construction by PLTC remains a concern as of July 2023. MTA incorporated known defects into the MTS contract; however, MTA has not clarified the specific budget that will be used to rectify defects found since the contract with MTS was executed. MTA estimates that the potential magnitude of this budget impact will be no more than $10 million, and the current Risk Register carries this risk item.

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on the QAP to MTA. MTA provided a revised QAP to FTA and the PMOC in May 2023. Subsequently, FTA and the PMOC made recommendations for revisions to the QAP that MTA committed to include in the next regularly scheduled update to the QAP.

The project has continued to conduct its monthly meeting to review the QA/QC activities performed by the Purple Line project team, including those activities performed by the PMC and the GEC. MTA states that documentation from this meeting is distributed and maintained. The project's Monthly Progress Report to FTA also contains a summary of the significant current QA/QC activities and events, including quality audits and quality reviews. However, in January

2024 MTA did not submit the typical quality program monthly information, citing a change of leadership on the quality team. On January 25, 2024, MTA introduced the project's new Quality Manager, Turyalai Momand. In April 2024, MTA announced that it had hired a Deputy Quality Manager, along with several other quality staff.

In February 2024, MTA stated that it is developing a full schedule of quality audits to be performed in 2024. When asked about a number of very old deficiency notices and instances of non-conforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of sign-offs by managers. MTA is deferring some other older open quality items because making corrections now will negatively impact other critical path activities.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. Roland Carroll, the Purple Line systems and construction safety lead, added the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to his new quality management role. The PMOC evaluated this change as a part of the PMP review and will continue to monitor MTA's management capacity for this function and all positions through ongoing oversight activities.

The PMOC requested that MTA provide more complete documentation for quality-related activities. MTA modified the QAP to reflect many of the noted PMOC concerns. In addition, a technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023. The PMOC then recommended acceptance of the QAP contingent upon MTA's incorporation of outstanding items into the next regularly scheduled annual update. On October 6, 2023, FTA accepted the QAP provided that MTA incorporate the PMOC recommendations. MTA has also developed a quality dashboard to improve its tracking of quality issues. In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational chart for quality management and administration. In April 2024, MTA listed the following three quality process improvements that it is developing:

1. Organizational chart update.
2. Document control procedure update.
3. Development of quality training plan and schedule for 2024.

MTA emphasized that these quality processes apply only to MTA's quality activities, but they are coordinated with MTS's quality processes. In April 2024, MTA stated that it has added quality oversight staff to its organization, including a Deputy Quality Director. ***In August 2024, the PMOC raised concerns about the quality of project documents, citing inconsistencies in format and content. Many documents that MTA has provided to the PMOC include typos and formatting errors.***

2.16 Safety and Security

To support the ultimate Safety and Security Certification of the Purple Line project, the PLTP System Safety team completed development of its first DCCC in May 2017 and submitted it to MTA for approval. MTA (assisted by the PMC) reviews the DCCCs as part of the Final Design package, according to the established submittal review process. According to PLTP, the DCCCs were being verified before the issuance of RFC packages. To date, an estimated 99 percent of the DCCCs have been verified. All previous comments on PLTP's Certified Elements List (CEL), which includes operations and maintenance and system integration testing elements, have been resolved, and CEL Revision 2 was accepted in March 2020. The Certified Items List (CIL) Revision 1 has been accepted. The next revision of the CIL is expected after MTS completes the design. MTA will provide the revised CIL to FTA and the PMOC as soon as it is completed. Approximately 20 percent of the CSCCs have been verified to date.

MTA chairs a Safety and Security Certification Committee (SSCC) that reviews, comments on, and approves any PLTP hazard management and safety and security certification issues. The first meeting of the MTA SSCC was conducted on March 20, 2018. Since July 11, 2018, the SSCC meeting has been held regularly and will continue as a monthly meeting until the level of activity requires more frequent meetings. ***As of August 2024,*** monthly SSCC meetings continue.

PLTC submitted a Threat and Vulnerability Assessment (TVA), and on July 15, 2019, MTA accepted and verified the comment responses and approved PLTC's TVA. PLTC then completed its TVA process. As of ***August 2024,*** MTS is still performing a cybersecurity TVA for the project, ***and a cyber threat risk workshop is being planned.***

MTA continues to conduct bimonthly Fire/Life Safety meetings with Montgomery County and Prince George's County. The meetings provide a basis for the counties' emergency responders to understand the features of the Purple Line systems and to resolve any concerns. Topics of discussion include: Police Department MOUs; Fire Department connection and hydrant locations; access, signage, and station naming conventions; MOUs for training; the Preliminary Hazards Analysis at the Glenridge OMF maintenance gate; station names; and addresses/emergency phone numbers for locations along the corridor. Other topics of discussion have included closed circuit television cameras and Mobile Emergency Vehicle Response access. As of ***August 2024***, MTA indicates that work on establishing MOUs for cooperation with other local agencies continues. MTA will develop an MOU for safety and security with WMATA first and then use that document as the template for MOUs with other agencies. It remains the opinion of the PMOC that MTA should emphasize resolving the project's outstanding Fire/Life Safety issues, because progress on the resolution of these issues is not apparent and has been ongoing for several years.

MTA police continue coordinating MOUs with local safety agencies and developing MOUs with police jurisdictions (such as the Maryland National Capital Park Police) along the Purple Line. These MOUs are related to training the existing police agencies on how to respond to transit situations. During August 2023, the PMOC reiterated that these processes have been ongoing for several years and that milestones for resolution of issues should be established.

During the September 2022 MTA/PMOC meeting, a larger related issue was discussed at length. The SSOA staff participated in this discussion as well. The crux of the issue is that MTA does not have a police force located in proximity to the Purple Line. MTA hired a consultant team to analyze alternatives for providing security and fare enforcement services for the Purple Line. Alternatives included: expanding MTA's enforcement services geographically, bringing on a third party to provide these services through a contract, or sharing police services with another party. On February 23, 2023, MTA submitted its prepared draft recommendation for providing security and fare enforcement to several State of Maryland departments. Representatives from MDOT, which is the SSOA, who are monitoring the Purple Line project development provided comments on the draft recommendation before MTA submitted it to MTA's upper management and the several state departments. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a new Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on MOUs with other local jurisdictions, and developing a facility to house the district.

As of January 2024, the PMOC was continuing to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget for providing security and fare enforcement services. In February 2024, MTA stated that it would complete the implementation plan by March 31, 2024. However, as of April 2024, MTA indicated that it would complete the police and security implementation plan by May or June 2024. MTA stated that the facility for the new Southern District of the police department will not be completed before the February 2028 RSD, and therefore temporary facilities will be required. In May 2024, MTA stated that the Purple Line project team will not be responsible for development of the new police force facility, but rather a different MTA department will manage its development. The PMOC recommends that MTA provide the key schedule milestones for development of the police and fare enforcement services, including for the development of the new police force facility and for the staffing and training for the new Southern District. ***In August 2024, MTA again committed to providing the key milestone dates for staffing and training for the new police force facility.***

As required by the P3 contract, PLTP is responsible for directly implementing many of the safety and security requirements for the project, including those for construction safety and the collection and maintenance of the Occupational Safety and Health Administration (OSHA) safety statistics for the project. PLTC performed this work until its departure from the project, at which time MTA assumed responsibility. Later, once the replacement D-B contractor was in place, MTS transitioned into the safety and security role that PLTC held. MTS and MTA hold regular safety and security coordination meetings.

Safety is a PMOC concern. The rate of recordable incidents remains above project goals, and MTA appears to be having difficulties with incident documentation. ***As MTA reported in August 2024***, the OSHA statistics for the project are:

- TCIR (Total Case Incident Rate) (Recordable Rate):
  - Actual: ***2.2 (2024 Year-to-Date [YTD]) and 3.4 (June 2024)***

- MTS goal: 1.68
- National average: 2.8 (for heavy civil construction)

Note: As of January 2024, the Lost Time Injury Rate (LTIR) is no longer being tracked.

In May 2024, the 2024 YTD and project inception-to-date (for MTS) incident rates decreased significantly. In June 2024, MTA reported that MTS had modified the incident statistics to exclude incidents related to subcontractors and suppliers. MTA is discussing the appropriateness of this change with MTS. The May 2024 TCIR that included all contractors is approximately double the goal. ***MTA has stressed that subcontractors are a critical part of project safety, given that they make up more than half of the personnel on the project.*** Although there is evidence of limited progress in addressing safety, the PMOC continues to have concerns specifically related to construction safety. See **Section 2.16**, below, for more detail.

MTA had assumed responsibility for safety oversight during the IRP until MTS assumed control of the project. As of December 2022, MTA reported that MTS needs coaching on expectations for the required reporting of safety statistics. In April 2023, the PMOC noted to MTA that both the LTIR and the TCIR had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in incident rates, there is an apparent lack of tracking and reporting of safety issues. The PMOC has repeatedly noted that there are inconsistencies in incident reporting between MTA and MTS.

MTA states that it recognizes the issue and reports that it has scheduled additional safety coordination efforts. In May 2023, the PMOC requested documentation on these additional efforts, and in July 2023, the PMOC questioned the effectiveness of the efforts. MTA acknowledges the need for safety process improvement. In November 2023, MTA stated that MTS has replaced its safety director and has added safety staff, although MTA did not review the qualifications of the new director or staff. The PMOC recommended that MTA review the qualifications of MTS safety staff and the safety processes and procedures being followed on the project.

The PMOC recommended that MTA and MTS complete a safety process review as soon as practical and that MTA prepare a written summary. In November 2023, MTA's safety director, Roland Carroll, provided an email and attachment that briefly summarized the safety improvement actions. The document does not indicate target dates for implementation, nor the responsible party for these actions. In January 2024, MTA stated that MTS is not following the contractually required incident reporting procedures and timelines, which include a 20-minute verbal reporting requirement and a 24-hour maximum period to submit written documentation of incidents. In February 2024, MTA provided 12 months of incident reporting information to the PMOC. The document quality requires improvement and should include identifying information, such as the date and who prepared it. The data indicates that nearly 80 percent of all safety incidents are reported late, some as much as several months. The delayed reporting has occurred for both MTA-managed incidents (under OSF) and for MTS-managed incidents under both the former and current MTS Chief of Safety.

It remains the opinion of the PMOC that MTA's processes related to construction safety can be improved. The PMOC recommends that MTA consider dedicating additional resources to construction safety (i.e., resources dedicated to only the construction portion of the Purple Line project). MTA should also consider preparing a comprehensive monthly safety report under the direct supervision of the Project Director.

In April 2024, MTA reported its March 2024 incident rate, which showed an increase, and the rate remains significantly higher than the goal. MTA has stated that it is modifying the safety processes. The PMOC requested that MTA submit the full incident tracking log each month as a part of the standard information it provides to the PMOC, and that MTA also provide the results of the April 2024 audit of the MTS Concessionaire Safety and Health Plan. ***In August 2024, the PMOC requested that MTA provide the injury rate statistics and calculations, because the significant decrease in the project-to-date rate that occurred between January 2024 and July 2024 does not appear to be mathematically possible.***

The PMOC also reviewed the Concessionaire Safety and Health Plan audit results (from the May 2024 MTA audit) and makes the following observation and related recommendation:

- Audit Item 4 – MTS does not have written verification of its subcontractors' and suppliers' health and safety plans. MTA recommended that MTS collect written verification from the subcontractors and suppliers that they are utilizing their health and safety plan or have adopted the MTS health and safety plan. Considering that MTS has had subcontractors onsite for since April 2022, the PMOC finds this lack of verification a significant concern. The PMOC recommends that MTA require MTS provide a firm target date for verification and track progress toward completion.
- The PMOC continues to recommend that MTA carefully monitor safety documentation and develop safety process improvements.

In late October 2022, MTA submitted to FTA updated SSMP and SSCP documents in conjunction with the updated PMP. On February 13, 2023, and March 8, 2023, FTA provided review comments to MTA on the SSMP and SSCP, respectively. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023, and accepted the SSCP on December 28, 2023. In April 2024, MTA submitted a revised SSCP that includes the TUN process and also provided a partially complete preliminary LRV Delivery Plan. FTA accepted SSCP Version 8 on July 9, 2024.

See the **Project Management Plan and Sub-plans** section of this report, above, for the status of the sub-plans of the PMP related to safety and security.

2.17 Americans with Disabilities Act

The PMOC confirmed that the Design Criteria Manual applicable to the Purple Line project addresses Americans with Disabilities Act (ADA) requirements, including references to the requirements in the Maryland Accessibility Code, the ADA Accessibility Guidelines for Buildings and Facilities, and the ADA Standards for Transportation Facilities.

Accessibility and compliance with the ADA are required as part of the functional requirements for stations and guideway, and as part of the codes and standards for LRVs within the P3 contract (Book 2, Part 2) for the Purple Line project. Based on project reviews conducted by the PMOC, MTA has confirmed that it included ADA compliance in its QA oversight reviews of PLTC's design packages.

All design reviews include ADA specifically. The contract requires a full-time MTS Maintenance of Traffic construction representative for the project to monitor whether temporary pedestrian accommodations during construction continue to comply with ADA requirements. The contract also includes an incentive program for ADA compliance. The Maryland State Highway Administration also inspects temporary facilities.

MTA indicates that the project is maintaining ADA accessibility along the project corridor during construction. In addition to planning for ADA accessibility, MTA and MTS respond to public concerns due to construction activities and temporary accessibility features. As of July 2024, the project corridor has experienced an increase in constituent access and mobility concerns due to the intensity of summer construction activities. MTA is coordinating with MTS to address these concerns as quickly as possible.

2.18 Buy America

MTA understands that Buy America compliance applies not only to the rail vehicles but also to the procurement of all manufactured products, including all iron and steel. MTA is also aware that domestic manufacture of all federally funded procurements is required and should be certifiable. Compliance with Buy America regulations is contained in MTA's standard clauses for its procurements, and the P3 contract contains explicit Buy America language in its Appendix 16.

Virginkar and Associates, Inc. conducted the Buy America pre-award audit and concluded that there is reasonable certainty that CAF will satisfy the Buy America requirements as stated in 49 Code of Federal Regulations (CFR) 661. MTA's interpretation is that, because the vehicle RFP was advertised before December 4, 2015 (which is the date of passage of the Fixing America's Surface Transportation Act, also known as the FAST Act), the 49 CFR 661 Public Interest Waiver that limits domestic content to a minimum of 60 percent, as opposed to the escalating domestic content requirements of the FAST Act, applies in this case. During the week of October 2, 2017, an intermediate post-award Buy America audit was conducted of CAF's facility in Elmira, New York, for added confidence that the post-delivery audit would not identify issues. CAF targeted 65 percent domestic content in the completed LRVs.

The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to FTA. On that same day, MDOT also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.

MTS regularly audits its suppliers and subcontractors regarding the construction Buy America requirements. MTS audits its subcontractor's Buy America requirements and any issues are reported in conjunction with the project quality process.

2.19 Start-up, Commissioning, Testing

MTA has begun documentation for the "Roadmap to Revenue Operations" (see **Attachment F**), which includes both MTA and MTS information on integration, testing, and commissioning. MTA submitted an update of Attachment F to the PMOC in May 2024. In July 2024, MTA provided to the PMOC the Integration Test Program Plan and other documentation prepared by PLTP and PLTP's contractor, SENER. As of November 21, 2023, MTA had developed a process for managing testing submittals and reviews, including detailed tracking of open items.

The PMOC has recommended that MTA expedite readiness activities for testing of LRVs. MTA states that the responsibility for readiness activities lies with the P3 concessionaire. LRV delivery began in May 2024, and MTA media events related to vehicle delivery **occurred in July 2024**. The PMOC recommends that MTA expedite the readiness plans for dynamic testing, which is scheduled to begin in ***November 2024.***

2.20 Before-and-After Study Reporting

To be determined.

2.21 Lessons Learned

The resolicitation of a D-B contractor gave MTA the opportunity to apply several lessons learned to the new D-B contract documents and to amend the P3 Agreement. After the May 2022 risk workshop with MTA and the PMOC, MTA provided an update on opportunities for improvement that MTA had identified during the resolicitation and is incorporating into the project. MTA provided an initial Lessons Learned summary that addressed the period of OSF construction and replacement of the D-B contractor. The PMOC recommends that MTA continue the process of recording lessons learned by reviewing and documenting the issues that led to the change order (of more than $600 million and 12 months) that included Amendment 7 to the P3 Agreement.

2.22 Action Items

Action Items are identified at MTA/FTA Quarterly Progress Review Meetings, at MTA/PMOC Monthly Update Meetings, and at MTA/FTA Biweekly New Starts Progress Conference Calls. Action Items in ***August 2024*** are as follows:

1. MTA will provide the key schedule milestones for development of the police and fare enforcement services. – OPEN***; completion is planned for September 2024.***
2. MTA will provide Tiger Team details in (SCC format), which will indicate how the Amendment 7 cost and schedule changes were determined. – ***CLOSED; MTA provided general information in August 2024 and indicated that it will not be providing any details.***

3. MTA will provide an update on quality process improvements, including incorporation of previous FTA and PMOC recommendations for the QAP, including the training plan and organizational chart. – ***CLOSED; MTA provided the information.***
4. ***MTA will provide an updated organizational chart that includes recent key hires to the project team. – CLOSED; MTA provided this information in August 2024.***
5. ***MTA will provide calculations for the LTIR in September 2024 – OPEN***
6. ***MTA will provide partnering information in September 2024, including agenda, notes, and partnering poll results from the August 1, 2024 partnering meeting – OPEN***
7. ***MTA will provide the current CEL and CIL in September 2024 – OPEN***

ATTACHMENT A – LIST OF ACRONYMS

ADA	Americans with Disabilities Act
ARPA	American Rescue Plan Act
ATC	Alternate Technical Concept
BFMP	Bus Fleet Management Plan
BPW	Board of Public Works
CAF	Construcciones y Auxiliar de Ferrocarriles
CAT	Community Advisory Team
CEL	Certified Elements List
CFR	Code of Federal Regulations
CIL	Certified Items List
CSCC	Construction Specification Conformance Checklist
CSX	CSX Corporation
D-B	Design-Build
DBE	Disadvantaged Business Enterprise
DCCC	Design Criteria Conformance Checklist
DNR	Maryland Department of Natural Resources
EAC	Estimate at Completion
FAI	First Article Inspection
FCP	Forest Conservation Plan
FFGA	Full Funding Grant Agreement
FRP	Final Recovery Plan
FTA	Federal Transit Administration
GEC	General Engineering Consultant
IBS	Initial Baseline Schedule
IRP	Interim Recovery Plan
LOD	Limits of Disturbance
LRT	Light Rail Transit
LRV	Light Rail Vehicle
LTIR	Lost Time Injury Rate
MCC	Management Capacity and Capability
MDE	Maryland Department of the Environment
MDOT	Maryland Department of Transportation
MOU	Memorandum of Understanding
MTA	Maryland Transit Administration
MTS	Maryland Transit Solutions
N/A	Not Applicable
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
OCS	Overhead Contact System
OMF	Operation and Maintenance Facility
OP	Oversight Procedure
OSF	Operation Step Forward
OSHA	Occupational Safety and Health Administration
P3	Public-Private Partnership
PEPCO	Potomac Electric Power Company
PLTC	Purple Line Transit Constructors
PLTO	Purple Line Transit Operators
PLTP	Purple Line Transit Partners
PMC	Project Management Consultant
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QA/QC	Quality Assurance/Quality Control
QAP	Quality Assurance Plan
QRA	Quantitative Risk Assessment
RAMP	Real Estate Acquisition Management Plan
RCA	Root Cause Analysis

RCMP	Risk and Contingency Management Plan
RFC	Released for Construction
RFP	Request for Proposals
ROD	Record of Decision
ROE	Right of Entry
ROW	Right-of-Way
RSA	Revenue Service Availability
RSD	Revenue Service Date
SCC	Standard Cost Category
SCIL	Safety Certifiable Item List
SEIS	Supplemental Environmental Impact Statement
SSCC	Safety and Security Certification Committee
SSCP	Safety and Security Certification Plan
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSTC	Silver Spring Transit Center
STP	Surface Transportation Program
SWM	Stormwater Management
TBD	To Be Determined
TCE	Temporary Construction Easement
TCIR	Total Case Incident Rate
TDD	Transit Development and Delivery
TIFIA	Transportation Infrastructure Finance and Innovation Act
TPSS	Traction Power Substation
TRO	Temporary Restraining Order
TUN	Temporary Use Notice
TVA	Threat and Vulnerability Assessment
UMD	University of Maryland
USACE	U.S. Army Corps of Engineers
WMATA	Washington Metropolitan Area Transit Authority
WSSC	Washington Suburban Sanitary Commission
YOE	Year of Expenditure
YTD	Year-to-Date

ATTACHMENT B – TOP PROJECT RISKS

An internal risk workshop to support the Interim Recovery Plan was held on January 26, 2021. Maryland Transit Administration (MTA) and Purple Line Transit Partners (PLTP) used information from the meeting as they solicited a replacement Design-Build contractor.

A risk workshop was held May 3 through May 5, 2022. After the risk workshop, MTA prepared supplementary or updated documents for review, including an updated Risk Register. The Federal Transit Administration (FTA) provided a risk summary to MTA on June 22, 2022, for MTA's consideration when updating risk, contingency, and other project management plans. MTA incorporated the FTA comments in the revised Risk and Contingency Management Plan (RCMP) that is a part of the Final Recovery Plan. On May 22, 2023, FTA accepted the revised RCMP with conditions.

During the February 7, 2024 Quarterly Progress Review Meeting, MTA presented cost and schedule contingency drawdown curves that indicated significant commitment of contingency reserves. Due to this significant commitment of contingency and the fall 2023 completion of the MTA-managed Operation Step Forward (OSF) activities, MTA determined that an update to the Risk Register was warranted.

In March 2024, MTA executed Amendment 7 to the P3 Agreement to address the OSF delays, nonconforming work by the previous D-B contractor (Purple Line Transit Constructors), owner-driven changes to the design, and several other disputes with PLTP and/or Maryland Transit Solutions (MTS), the replacement D-B contractor. Amendment 7 raised PLTP/MTS compensation by $577,459,709 and added 11 months to the project schedule, representing considerably more than the available cost contingency and nearly all of the available schedule contingency, respectively. In response, MTA prepared a Quantitative Risk Assessment (QRA) to re-baseline the project's contingency drawdown curves and update the RCMP. In June 2024, MTA provided a preliminary risk update and QRA, including contingency recommendations; these preliminary recommendations for cost contingency and schedule contingency are $179.58 million and 11 months, respectively.

In June 2024, MTA identified the following top risks:

Cost Risks:

1. Unknown Unknowns
2. Remaining Right-of-Way Negotiations
3. Temporary Construction Easement Extensions
4. Disputes

Schedule Risks:

1. Signal Cabinet Testing
2. Permit Compliance
3. Unknown Unknowns
4. Performance Due to Nonconforming Work

In July 2024, the Project Management Oversight Contractor (PMOC) reviewed the MTA QRA and requested that MTA provide information that describes the basis for the Amendment 7 cost and schedule values, and asked several other questions to help clarify the QRA procedures. ***As of August 2024, despite MTA's reluctance to provide this information, the PMOC will continue its efforts to validate the project cost, schedule, and contingency, and will offer its final recommendations to FTA in September 2024.***

ATTACHMENT C – AWARDED CONTRACTS

Included below is information that MTA provided for the ***August 14, 2024*** Quarterly Progress Review Meeting packet. Please note that the total shown in this table for contracts awarded does not reflect the full project value.

Major Contracts:

Company	Vendor Type	Contract No.	Baseline Amount	Change Order Totals	Current Amount	Pending Change Orders
PB/RK&K	Engineers/ Architects	MTA-1054A	$ 12,000	$ 1,850	$ 13,850	
STV/Jacobs	Engineers/ Architects	MTA-1054B	$ 8,000	$ 1,300	$ 9,300	
AECOM/ RK&K/WSP	Engineers/ Architects	MTA-1264A	$ 60,000	$ 338,500	$ 398,500	
Gannett Fleming/WRA	Engineers/ Architects	MTA-1265B	$ 80,000	$ 71,000	$ 151,000	
Purple Line Transit Partners	P3 Concession (design build portion only)	PUR16032PP	$ 1,988,816	$ 1,921,639	$ 3,910,455	
Total			**$ 2,148,816**	**$ 2,334,289**	**$ 4,483,105**	**0**

Amendment 6 to the Purple Line Transit Partners P3A was not been previously reflected. The amount shown as "Current Amount" represents that portion of the P3A Design-Build contract associated with the New Starts Program.

ATTACHMENT D – ROLLING STOCK VEHICLE STATUS REPORT

Date: August 22, 2024

Vendor: Construcciones y Auxiliar de Ferrocarriles (CAF)

Model: Multiple-section 136-foot articulated car (total length is 142 feet coupler-to-coupler), used in a five-car consist per vehicle

Year: The first vehicle was completed in 2021, and currently 26 vehicles are designated as "Ready for Shipment" and/or have been delivered. Completion of the storage and testing facilities at the Glenridge Operation and Maintenance Facility (OMF) was delayed, so Maryland Transit Administration (MTA) and CAF negotiated terms for storage of vehicles at the CAF facility in Elmira, New York. The storage agreement has now transferred to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS).

Quantity: 25 vehicles (125 cars) were in the original contract (Full Funding Grant Agreement [FFGA]). One vehicle (five cars) was added to the original CAF authorization by MTA, outside of the FFGA.

In July 2021, two vehicles (ten cars) were added via change order to MTS, also outside of the FFGA.

Identification: The original light rail vehicles (LRVs) will be numbered from 101 through 126. The two additional LRVs will be numbered 127 and 128.

New Technologies: None planned (all major suppliers have service-proven equipment).

Status and Significant Activities:

- As a part of the original order, 26 vehicles (130 cars) were assembled in Spain and delivered to CAF's facility in Elmira, New York, for final assembly and static testing. The additional two vehicles (ten cars) also have been delivered to Elmira for final assembly and static testing.
- Delivery of finished vehicles was expected to begin in spring 2021; however, because the Glenridge OMF was not ready to accept railcars, MTA and CAF negotiated an agreement for CAF to store the completed cars in Elmira.
- The first LRV was delivered to the Glenridge OMF on May 15, 2024; and one delivery has occurred each month since. ***The fourth vehicle delivery occurred on August 14, 2024.*** CAF intends to have one vehicle per month delivered until such time as that frequency can be increased.
- Twenty-two LRVs are designated as Ready for Shipment and remain in storage in Elmira. One vehicle is in static testing and one vehicle is in final assembly as of ***August 2024.***

- The Glenridge OMF ***can store up to six vehicles*** in the building, so additional track must be available for additional storage. The Overhead Contact System and Traction Power Substation (TPSS) Q7 and TPSS QYG must be completed and installed before operation of the vehicles.
- SNC-Lavalin (now an MTS subcontractor) prepares a monthly quality report documenting safety, production, and quality items at the New York production facility.
- MTA, the Project Management Consultant, and CAF are holding weekly coordination meetings to review all outstanding testing and factory/shop activities, including onsite testing procedures that are used when the vehicles are delivered to Maryland.
- MTS, which has assumed the CAF contract, is preparing and submitting to MTA reports on LRV maintenance activities required during the storage period.
- The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with the evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to Federal Transit Administration (FTA). On that same day, Maryland Department of Transportation also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicated that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.
- The resolution of a previously identified quality issue related to the M33 bolt on the LRV trucks was closed in May 2024. In July 2024, MTA provided a confidential report on resolution of the issue. CAF performed a Root Cause Analysis, identifying a primary root cause and secondary contributing causes. Validation of the corrective actions was conducted, and the issue is now closed.

ATTACHMENT E – PROJECT MILESTONES/KEY EVENTS

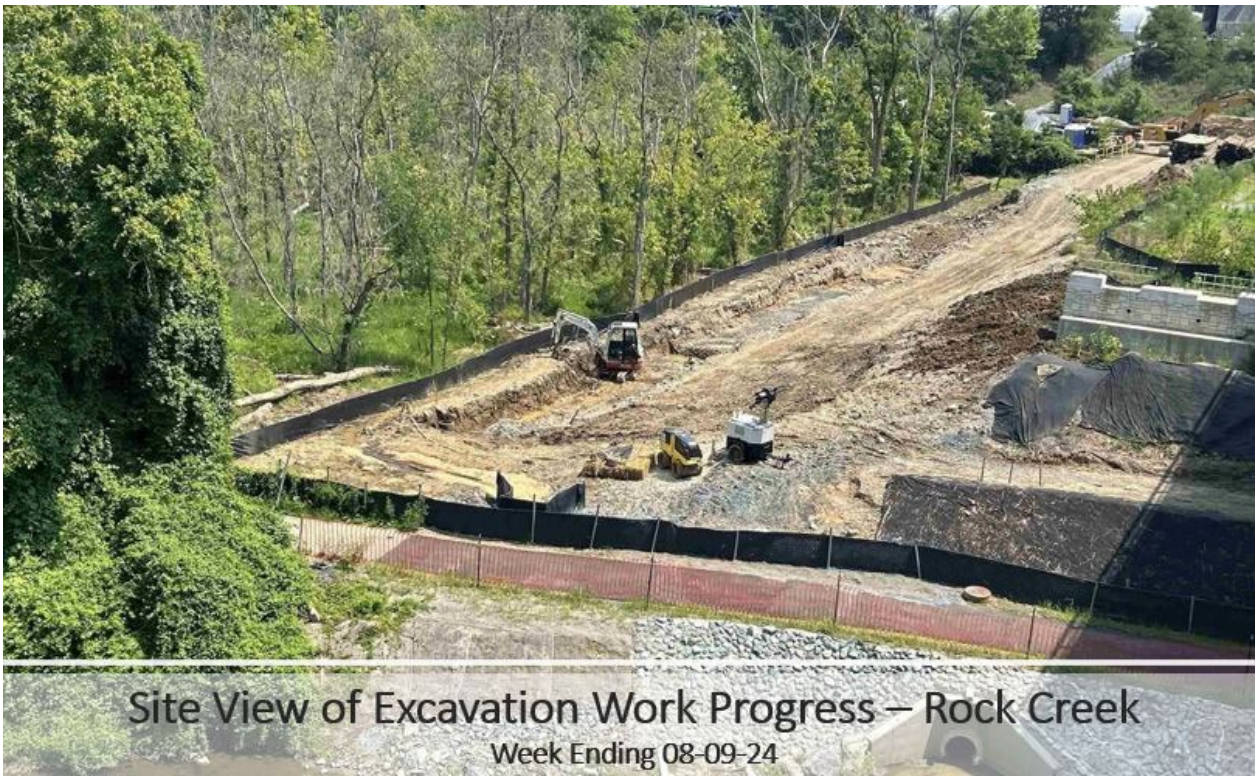
Photos courtesy of Maryland Transit Administration.



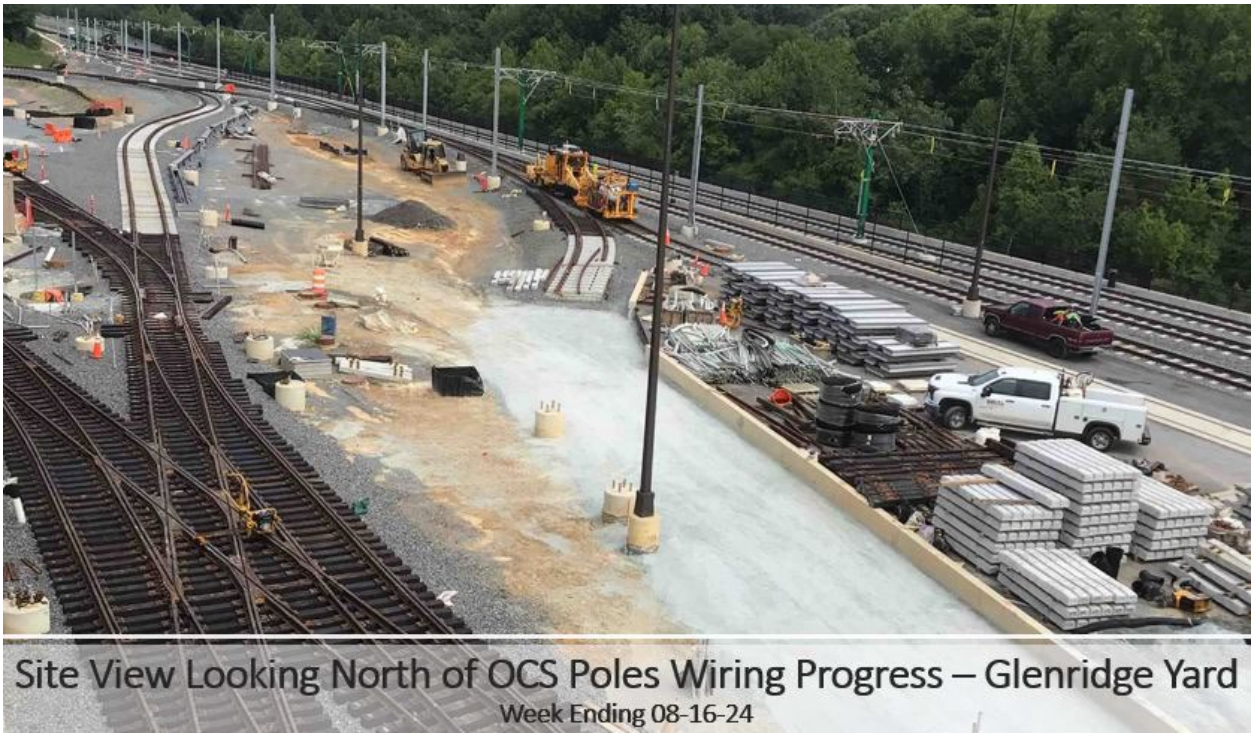




Ceiling Fire Protection Panel Installation Work – Bethesda Enclosed Trainway
Week Ending 08-09-24



Site View of Excavation Work Progress – Rock Creek
Week Ending 08-09-24



Site View Looking North of OCS Poles Wiring Progress – Glenridge Yard
Week Ending 08-16-24



Canopy Frame Painting Work – Campus Park-UMD Station
Week Ending 08-16-24

ATTACHMENT F – ROADMAP TO REVENUE OPERATIONS

In accordance with Oversight Procedure 25, the Project Sponsor will prepare the Roadmap to Revenue Operations template based on the current master project schedule, in the general format presented below. The PMOC provided this template to the Project Sponsor as a separate electronic file for its use. The Project Sponsor is requested to provide quarterly updates for review and discussion. MTA provided the quarterly update for the roadmap, shown below, in ***August 2024***.

ROADMAP TO REVENUE OPERATIONS (MTA to provide updates)

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Testing								
Finalize Comprehensive Test Plan	PLTP/MTS/ Sener	See Notes	In Progress	TBD		**T & C Management Plan** – Accepted **Project Test Program Plan** – Accepted **LRV Test Plan** – Accepted. All factory and site test procedures Accepted. **TCS Test Plan – Local** – Accepted. All factory test procedures submitted, 10 of 11 Accepted. 18 of 37 site test procedures submitted, 12 Accepted **TCS Test Plan – Integration** – Awaiting Submittal **TCS/Traffic/CMS Test Plan** – Awaiting Submittal **TPSS Test Plan** – Accepted. All factory test procedures submitted and Accepted. 21 of 24 site test procedures submitted and Accepted. **OCS Test Plan** – Accepted. Factory test procedures prepared by previous contractor and reviewed by PLTC/Atkins. 9 of 13 site test procedures submitted. **Communications Test Plan** – Accepted. All PL procedures submitted, no unresolved comments. 4 of 51 site test procedures submitted. **CMS Test Plan** – Accepted. 56 of 58 factory test procedures submitted, 51 Accepted. 0 of 52 site test procedures submitted. **Fire & Security Test Plan** – Accepted. 21 of 25 factory test procedures submitted and Accepted. 6 of 47 site test procedures submitted. **Fare System Test Plan** – Awaiting Systems Design **Traffic** – QC with AHJs **EMI Test Plan** – Accepted **CCG Test Plan** – Accepted- Awaiting pass/fail criteria for Electrical Resistance & Continuity &Test Procedures. **Noise & Vibration** – MTS Reviewing **OMIS Test Plan** –CMS Integration added to CMS TPP. OMIS functionality TBD after completion of design.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Ops Simulator Test Plan TPP is pending completion of design. **Trackwork** – Unofficial draft received and comments returned. Awaiting official submittal. **OMFs Test Plan** –Responses received to previous Glenridge submittal – in resolution. Plan for Lyttonsville will be submitted as a separate document. **Station Electrical** – Under Study by MTS/Sener **Fire Protection, Mechanical, Plumbing** – Under Study by MTS/Sener		
Finalize / Update Systems Integration Test (SIT) Plan	PLTP/MTS/ Sener	In Preparation	In Progress	May 2024		Awaiting update of DRC# 3644, CW-164, Systems Integration Test Plan Revised document received – DRC #1066. Completed & Accepted		
Develop Testing Schedule and Monitoring Tools	PLTP/MTS	In Progress	TBD	TBD				
Develop Operating Rules for Testing	PLTP/MTS	In Preparation	In Progress	July 2024		Construction Railway Operations Rules & Procedures (CRO) is complete and submitted to MTA/PMC for information. Training on CRO scheduled to begin in August/September 2024.		
Conduct System Integrated Testing - Prioritized Traffic Signal Systems	PLTP/MTS	In Progress	TBD	TBD				
Certificates of Occupancy / Substantial Completion	Maryland Office of the State Fire Marshal	Glenridge OMF – In progress.				As state-owned property, no certificates of occupancy are issued. The AHJ ensures building is safe through various system inspections to include fire protection systems, elevators, etc. AHJ will take no exception to occupancy if inspections pass.		
Finalize Operating Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept. 2025 Sept 2026		Projected start of Trial Running: March 2027 Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running
Finalize / Revise Standard Operating Procedures (SOPs), manuals, and rulebook as applicable	PLTP/PLTO	See Note	TBD			Included as part of the Operating Plan. Projected start of Trial Running: March 2027 :		Rulebook, SOPs and EOPs to be submitted for review and approval no later than 6 months prior to Trial Running.

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
				Sept. 2025 Sept 2026		Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running. Revisions to operating/maintenance/emergency rules/procedures may occur during the testing and commissioning period.		Preliminary submittal of Operations manuals for review and comment due no later than 18 months prior to Trial Running. Final submittal of Ops manuals for review and approval due no later than 6 months prior to Trial Running
Complete Staffing Plan	PLTP/PLTO	On-going				PLTO has developed a draft staffing and hiring plan that is tied to the approved project schedule. Hiring plan subject to change based on project schedule changes.		
Obtain Required Staff	PLTP/PLTO/ MTS	On-going	Various	March 27		Recruitment and staff hiring based on project schedule. PLTO staffing (operators and dispatchers/controllers) to support vehicle dynamic testing has been coordinated with CAF. Onboarding of other PLTO support staff for vehicle maintenance (after vehicle acceptance) and test track maintenance tied to vehicle delivery dates and start of vehicle dynamic testing (Fall 2024)		
T&C Support Staff	PLTO		March 2024	Fall 2024		**PLTO Current On-site Staffing:** General Manager Director of Maintenance Director of Finance Deputy Director of Operations Manager of Facilities Maintenance Manager of Wayside and Systems Manager of Vehicle Maintenance Vehicle Maintenance Superintendent Vehicle Maintenance Technician Human Resources Manager Buyer/Warranty Specialist Warehouse Supervisor Rail Operators (6 - for T&C Support). Facilities Maintainer Database Administrator Instructor Current On-site Staff supported by various home office operations and engineering staff and consultants such as Safety & Operations, Systems, etc.		

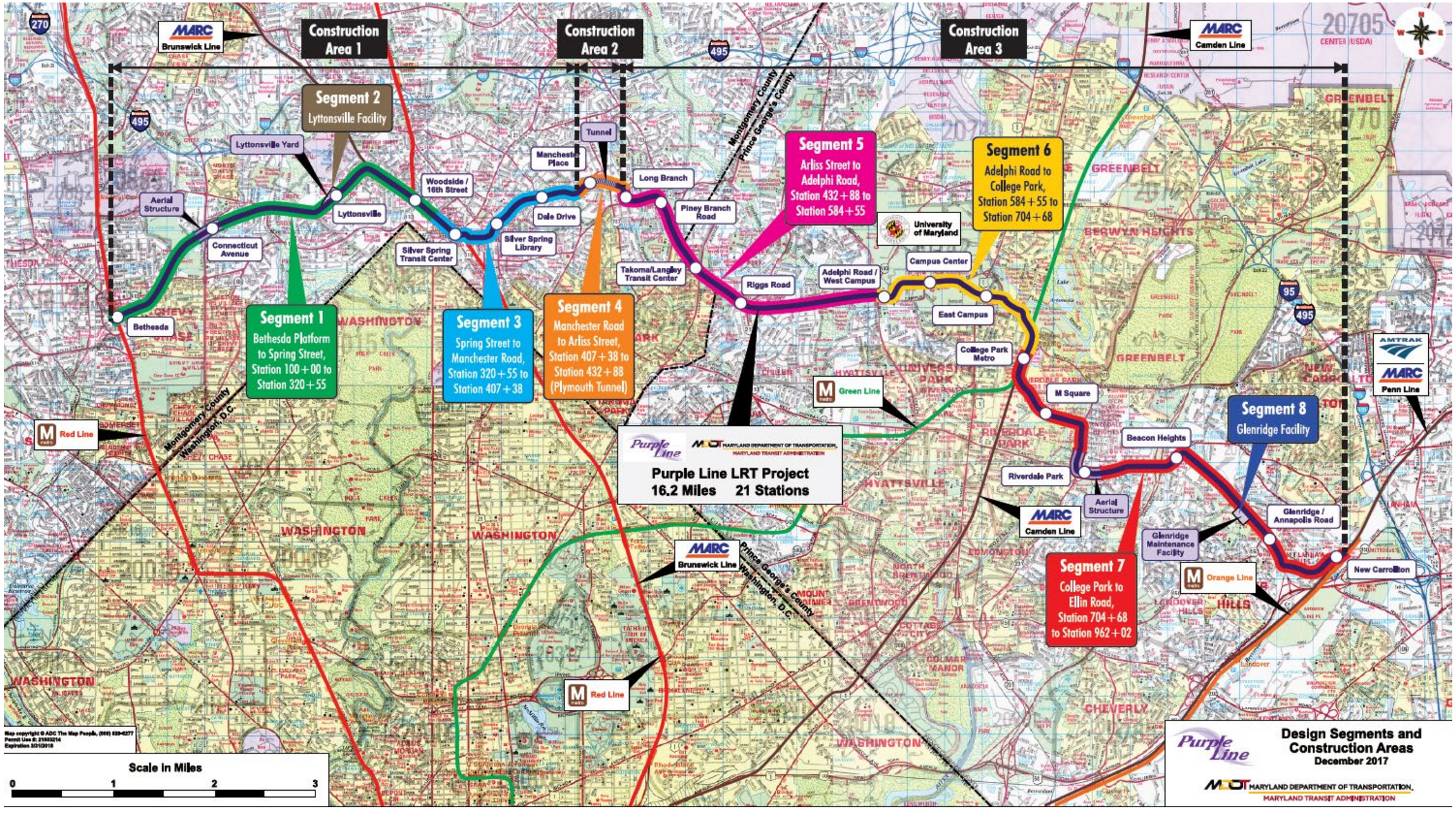
Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Finalize Revenue Operations Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept 2025 Sept. 2026		Projected start of Trial Running: March 2027 Revenue Operations/Service Plan included as part of Operating Plan. Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		
Develop / Revise Safety and Security Certification Plan (SSCP) & Safety and Security Management Plan (SSMP)	MTA	On-going	SSMP – 2/02/2011 SSCP – 8/31/2012	TBD		SSMP is currently on revision 14 and the SSCP is on revision 8. The SSMP is updated in conjunction with the PMP as it is considered a sub-plan.		
Federal Transit Administration (FTA) Office of Safety & Security Readiness Review	FTA	See Note	TBD	TBD		No updates at this time		
PMOC OP-54 Readiness for Revenue Operations Review Report	PMOC	See Note	TBD	TBD		No updates at this time		
Conduct Operational Hazard Analysis (OHA) and resolve other hazards / vulnerabilities	PLTP	See Note	TBD	TBD		No updates at this time		
Pre-Revenue Operations	PLTP/PLTO	See Note	March 2027	Dec. 2027		Pre-revenue Operations broken down into: Trial Running and System Demonstration Testing. Projected start of Trial Running: March 2027		
Develop Safety Outreach Plan	MTA/PMC PLTP MTS	On-Going	TBD August 2024	Sept. 2025 Fall 2024		Projected start of Trial Running: March 2027 Outreach Plan to be developed 18 months before Trial Running. Test track Communications and Outreach Safety Education Campaign expected for October 2024. Dynamic testing on approximately one-mile along Veterans Parkway between Riverdale Road and Annapolis Road is expected in the fall of 2024.		
Provide Community Outreach	MTA/PMC PLTP	On-Going	August 2024	Fall 2024		Outreach plan for test track OCS energization and start of vehicle dynamic testing under development.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Near Term Hiring: Posted Positions Sr Track Maintenance/Inspector Accounting Specialist IT Specialist All OMF building maintenance contracts have been executed with the exception of contracts for the cranes, turntables, hoist which are still under MTS responsibility. Anticipate turnover of equipment to PLTO in the near future. PLTO anticipates having an established maintenance contract with the crane supplier by the end of August. In floor car & truck hoists still in MTS possession awaiting capacity certifications		
Training of Operations and Maintenance (O&M) personnel	PLTP/PLTO/ MTS	On-going	Various	March 2027		**For Testing & Commissioning Support:** Six (6) LRV Operators have received initial familiarization training on the vehicles in Elmira. Those operators will be used to support vehicle dynamic testing and training of full-time operators in the future training at Elmira completed. PLTP/MTS developing training plans for testing & commissioning rules, procedures, and requirements. PLTO will need to be fully staffed prior to the start of Trial Running in March 2027.		
Emergency response plan, training, and drills Initial Training for OMF/Test Track and Vehicles	PLTP/PLTO/ MTS	Various Ongoing	Feb. 2024 Aug. 2024	Jan. 2027 Sept. 2024		Emergency response drills to be conducted during Trial Running. Initial Training for up to 150 first responders will be initiated between PLTP, PLTO, CAF and Prince George's County. Training to begin Monday 8/19/2024 with an estimated completion 8/30/2024.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
	MTS	On-Going	September 16, 2024	October 1, 2024		The Purple Line Outreach Team, in a collaborative effort with partners at PLTP and MTS, will provide resources and community outreach to inform the public, expanding efforts to a broader campaign in preparation of public road testing. Recommended best practices for reference include **Operation Lifesaver** and collaboration with MTA, based on prior safety campaigns. Action Items: **Outreach:** Alert elected officials along the alignment and communities about dynamic track testing **Outreach:** Focus on safety with notifications, resources available on the website highlighting restricted areas and potential dangers of trespassing **Outreach:** Include testing information in the October CAT meeting presentations **Outreach in coordination with MTA Safety**: Message training for the test track on-site crews on protocol if engaged with the public or media who might try to access the area or take photos of testing **Communications:** Create messaging that builds excitement about future ridership **Communications:** Safety-focused social media postings to alert the public about testing and show as a progressive milestone **Communications in coordination with MTS Stakeholder Team:** Send advance communications to elected officials about testing phase and safety reminders for the public going out		
Public Timetables / Maps / Website Updates, etc.	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time.		
Grand Opening Plan	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time		
Update / Finalize SSMP	MTA					See previous SSMP entry.		
Finalize and/or update Safety Certifiable Item List (SCIL) and SSCP	MTA/PLTP	On-going	TBD	TBD		See previous SSCP entry. No update for SCIL..		
Implement Safety and Security Certification Committee	MTA	On-going	April 2018	TBD		The SSCC has been ongoing since 2018.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Implement Fire Life Safety Committee	MTA	On-going	7/27/2012 – Montgomery County 9/26/2012 – Prince George's County	TBD	TBD	MTA has implemented two FLSSCs, one for each Maryland County that Purple Line traverses. Both committees were started in 2012.		
Verify design criteria, Preliminary Hazards Analysis (PHA), Threat and Vulnerability Analysis (TVA), change orders are implemented within the project	MTA/PLTP	On-going	PHAs - 6/26/2012 TVA – 12/10/2013 Change Orders	August 2024	TBD	PLTP has verified over 99% of the design criteria. Initial PHAs on the 30 % Preliminary Design started in 2012 by MTA. PLTP continued PHAs in 2016. Initial TVA completed in 2015 by MTA. PLTP continued in 2017. MTS has initiated a cybersecurity TVA. Cybersecurity Workshop – Risk Ranking conducted on 8/9/2024. Participants included PLTP, MTS, PLTO, CAF, MTA/PMC. Additional information requested of participants; another meeting will be scheduled when info is compiled.		
Review status of quality non-conformances		See Note				No updates at this time.		
Closeout of non-safety critical items/non-conformances		See Note				No updates at this time.		
Closeout of safety critical items/nonconformances	MTA/PLTP	Not started	TBD	TBD		No updates at this time.		
Complete Safety and Security Certification Verification Report (SSCVR)	PLTP	Not started	TBD	December 2027		This report will be due sometime in the December 2027 timeframe.		
Document Workarounds / Open Items List	PLTP	Not started	TBD	TBD				
Verify emergency drills, tabletops, training, etc. are completed	MTA/PLTP/ PLTO		TBD	TBD		Emergency drills to be conducted during the Trial Running period. Training verification will be completed prior to Trial Running.		
SSO final certification / signature	SSO					No updates at this time		
Revenue Service								
Target Revenue Service Date (RSD)	PLTP		TBD	Dec. 2027		Project schedule dependent.		
Public RSD	MTA/PLTP		TBD	Dec. 2027		Project schedule dependent.		
Full Funding Grant Agreement (FFGA) RSD						No updates at this time.		

ATTACHMENT G – PROJECT MAP



PMOC MONITORING REPORT
September 2024

National Capital Purple Line Light Rail Transit Project
Montgomery and Prince George's Counties, Maryland

Maryland Transit Administration
Baltimore, Maryland
FINAL

Draft Report Delivered to FTA on ***October 9, 2024***
Final Report Delivered to FTA on ***November 19, 2024***

PMOC Contract No.: 69319519D000016
Task Order No.: 69319520F300095
Project No.: 69319519D000016/69319520F300095
Requisition/Reference No.: FTA-TPM20-20-0106
OPs Referenced: 20, 22, 23, 24, 25, 26, 37, 40
CLINs 0001, 0002, and 0005

David Evans and Associates, Inc.
Pete Hankovszky, Task Order Manager
Voice –720.448.6730; Email – pzh@deainc.com
Time on Project: 05/18/2020 through 05/17/2025

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract #69319519D000016, Task Order #69319520F300095. Its purpose is to provide information and data to assist FTA as it continually monitors the management capacity and capability of the Maryland Transit Administration (MTA) (the Project Sponsor) to execute the project efficiently and effectively, and hence, whether the Project Sponsor continues to be ready to receive federal funds for further project development. This report covers the project management activities on the National Capital Purple Line Light Rail Transit Project managed by MTA as the Project Sponsor and financed by the FTA Full Funding Grant Agreement (FFGA). The cost and schedule information in this report was extracted from MTA's submitted information except where noted. The report is organized to comply with the requirements of updated Oversight Procedure 25 – Recurring Oversight and Related Reports, dated June 2020.

THIRD-PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for FTA. This report should not be relied upon by any party, except FTA or the Project Sponsor, in accordance with the purposes as described below.

For projects funded through the FTA FFGA program, FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a Project Sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a Project Sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a Project Sponsor may develop for project execution. Therefore, the information in the monthly reports will change from month to month, based on relevant factors for the month and/or previous months.

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1 EXECUTIVE SUMMARY

1.1 Project Description

The National Capital Purple Line (Purple Line) is a 16.2-mile east-west light rail transit (LRT) line inside the Washington, DC Beltway, extending from Bethesda in Montgomery County, Maryland, to New Carrollton in Prince George's County, Maryland. The Purple Line will operate largely at street level in a combination of dedicated and semi-exclusive right-of-way (ROW) and includes segments on elevated structures and in tunnels. The alignment for the Purple Line will provide direct connections to Washington Metropolitan Area Transit Authority (WMATA) service at Bethesda, Silver Spring, College Park, and New Carrollton, Maryland. The project will also connect to all three Maryland Area Regional Commuter rail lines, Amtrak, and local bus routes. The project includes 21 stations, 2 operations control/vehicle storage and maintenance facilities, and 28 light rail vehicles (LRVs). Twenty-five of the LRVs are included in the Full Funding Grant Agreement (FFGA), and the remaining three vehicles are state funded. Maryland Transit Administration (MTA) is executing the project using a Public-Private Partnership (P3) method of project delivery.

As documented in the Federal Transit Administration (FTA) FFGA, the original estimated project cost was $2,407,030,289, and the scheduled Revenue Service date (RSD) was December 31, 2022. On January 26, 2022, the Maryland Board of Public Works (BPW) approved significant revisions to the project cost and the Revenue Service Availability (RSA) date. The new Transportation Infrastructure Finance and Innovation Act (TIFIA) loan closed on April 14, 2022. Financing approvals and subsequent financial close allowed Purple Line Transit Partners (PLTP), the P3 concessionaire, to issue Notice to Proceed (NTP) to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS). MTA prepared a Final Recovery Plan (FRP), which FTA accepted on April 17, 2023, and which had a revised project cost of $5,116,020,380 and a revised RSD of February 28, 2028. In conjunction with the FRP, MTA submitted multiple management plan updates for FTA and Project Management Oversight Contractor (PMOC) review and acceptance. On March 13, 2024, MTA received approval from the BPW to increase the total construction cost to approximately $5.51 billion. This change to the construction cost, and also a change to the construction schedule, was due to project changes and delays. MTA is currently developing additional budget and schedule contingency recommendations. Preliminary recommendations for revised cost contingency and schedule contingency, based on MTA's July 2024 Quantitative Risk Assessment (QRA), are $179.58 million and 11 months, respectively. ***Following review of the QRA by FTA and the PMOC, on September 24, 2024, FTA accepted the schedule and budget contingency proposed by MTA. FTA directed MTA to prepare a formal request to amend the FFGA and provide a breakdown of funding sources that meet the total budget, including contingency.***

1.2 Project Status

The FFGA was executed on August 22, 2017. The Purple Line project is currently in the construction phase. Due to a contractual dispute, PLTP demobilized the assets/staff and

subcontractors of the original D-B contractor, Purple Line Transit Constructors (PLTC), from the project in September 2020.

After a procurement process for a replacement D-B contractor, PLTP selected MTS (a joint venture of Dragados USA and OHL USA) and executed a contract with MTS on April 14, 2022.

MTA chose to proceed with several major project elements once PLTC was released from the project. MTA's planning criteria included schedule, budget, and the reduction of risk for the replacement D-B contractor. MTA and its Project Management Consultant (PMC) added staff to support subcontractor invoicing, payment processes, and other administrative tasks.

MTA managed, in a general-contractor-type role, a significant number of construction activities during MTA's Interim Recovery Plan (IRP) period, called Operation Step Forward (OSF). During that time, several OSF activities fell behind schedule, and delays related to third-party utility relocations and other unforeseen issues caused MTA to miss milestone dates included in MTA's revised agreements with PLTP that were executed in April 2022. Through October 2023, MTA executed two change orders caused by delays in OSF activities. In early November 2023, MTA completed the OSF activities. As of March 2024, MTA and MTS reached an agreement on the budget and schedule impacts resulting from OSF delays and other disputes. This agreement resulted in an additional $577.46 million in construction cost and a revised RSA date of December 30, 2027. The agreement was essentially a large change order that resolved several disputes and contract modifications. This contract change is referred to as Amendment 7 to the P3 Agreement.

Construction continues under the management of MTS, including activities and elements such as erosion and sediment control maintenance, bridge structures, platform construction, retaining walls, the Glenridge Operation and Maintenance Facility (OMF), and utility installation. The Polk Street Maintenance Facility (for Prince George's County Parks) is complete, and the Paint Branch stream restoration and the Ken-Gar wetlands mitigation projects are complete except for warranty periods.

Completion of the Glenridge OMF has been on or near the critical path for most of the project duration. MTS assumed control of the facility as of March 2024, and the disputes regarding the completeness of the OMF work that PLTC and MTS had performed now have been fully resolved. MTS is installing rail, utilities, and other elements both inside and outside of the building.

Delayed completion of the OMF construction upon PLTC's departure required an alternative location to store completed LRVs. MTA reached an agreement with Construcciones y Auxiliar de Ferrocarriles (CAF) to store the LRVs at CAF's Elmira, New York facility until track was ready for delivery of the LRVs. MTS assumed the storage agreement with CAF upon finalization of the replacement D-B contract. The first LRV delivery occurred on May 15, 2024, and as of ***September 2024, five LRVs have been unloaded and stored at the Glenridge OMF.*** Purple Line Transit Operators (PLTO), the entity that PLTP has under contract to operate the light rail system, assumes storage and maintenance responsibilities of the LRVs as they are delivered. ***In September 2024, MTA reported that PLTO has taken possession of the Glenridge OMF to allow it to maintain LRVs and coordinate vehicle testing.***

MTA provides FTA and the PMOC with updates on the progress of MTS construction activities, MTA oversight activities, and other monthly updates that track project progress.

- Scope: There have been no significant reductions or changes to project scope. Three LRVs were added to the project scope (non-FFGA) to support improved operations once service commences.
- Schedule:
  - PLTC never developed an approved recovery schedule to address the delayed start of construction caused by the environmental lawsuit (please see the **NEPA Process and Environmental Mitigation** section, below, for a discussion of the environmental lawsuit).
  - MTA developed an IRP schedule for the period during which the initial D-B contractor, PLTC, was being replaced. The subsequent FRP included a revised RSD of February 28, 2028.
  - See also the **Significant Project Activities and/or Key Milestones** subsection of this Executive Summary, below.
  - Table 1 presents MTA's key milestone dates for the project. The schedule in the FRP incorporated the results of the previous (2022) QRA and processes described in MTA's Risk and Contingency Management Plan (RCMP). The FRP schedule included a contingency of 16 months. However, the delays attributed to OSF activities consumed most of the contingency in the FRP schedule. The utilization of a large portion of the schedule contingency in the early stages of MTS's contract is a very significant concern. To address this concern, MTA's revised master baseline schedule ***(September 2024)*** includes 11 months of additional schedule contingency, as recommended in the MTA-prepared June 2024 QRA.
  - To clarify schedule terminology used by MTA: The RSA date is a contractual date critical to the agreement between MTA and PLTP. The RSD is the contractual date tied to FTA FFGA funding and other project approvals.
  - Two executed change orders related to delays attributed to OSF activities extended the project RSA date by 207 days to May 24, 2027. Then, as of March 2024, MTA and MTS have agreed to an extension of the contractual RSA date to December 30, 2027, adding another 250 days.

Table 1 – MTA Master Project Schedule Dates

Activity	Current MTA Master Project Schedule (*September 19, 2024*)
Original FFGA	August 22, 2017
Financial Close / NTP / Amendment Agreement Effective Date for Revised PLTP Agreement	April 14, 2022
Commencement of Integration Testing	***April 26, 2026***

Activity	Current MTA Master Project Schedule (*September 19, 2024*)
Commencement of Demonstration Testing	***December 16, 2026***
Construction Complete All Segments	December 7, 2026
RSA Date	***December 23, 2027***
FFGA RSD	February 28, 2028
September 2024 Proposed RSD, Including 11 months of Contingency*	***December 22, 2028***

*Note: MTA has not yet formally requested this revised RSD, and FTA has not yet accepted it.

- Cost:
  - The project's documented expenditures are ***$3,805,850,407 through August 31, 2024***. ***The expenditure for August 2024 was $88,724,749, which includes $34,976,957 of construction-related costs and $40,726,922 in Amendment 7 compensation.*** Amendment 7 includes terms for compensation to PLTP/MTS at specific project milestones.
  - The Estimate at Completion (EAC) for the project (construction, management, and LRVs) is currently $5,507,020,380.
  - The accepted project cost (before approval of Amendment 7) included $307,293,174 of unallocated cost contingency. The MTA June 2024 QRA recommends an unallocated contingency of $179.58 million, and MTA indicates that reallocation of unused contingency and additional funding will be utilized to provide that recommended amount of unallocated contingency. ***With reallocation of the budget to assign the QRA-recommended amount of contingency, the total project cost increases to $5,589,000,000.***
  - In some months, Standard Cost Category (SCC) 80 expenditures by MTA and MTS are more than 50 percent of the expenditures for SCCs 10 through 50 combined. The PMOC has questioned MTA about this significant amount of SCC 80 expenditures each month. In May 2024, MTA explained that a portion of the SCC 80 expenditures are settlement payments to MTS and PLTP and not true management and administrative costs. MTA includes the large Amendment 7 reimbursements to MTS/PLTP in SCC 80. Excluding Amendment 7 reimbursements, MTA estimates that the ***August 2024*** management and administrative expenditures as a percentage of total expenditures are ***approximately 39 percent of the SCC 10 through SCC 50 expenditures for the month.*** In the opinion of the PMOC, this percentage remains higher than expected.
  - Refer to **Table 4 – Core Accountability Items**, in Section 1.5 below, for additional project cost information.
  - The budget includes funds to address nonconforming construction by PLTC. MTA incorporated known defects into the contract with MTS. However, MTA must pay to address any defects unknown at the time of execution of the MTS contract. MTA and

MTS have evaluated a number of nonconforming PLTC work products as well as several other disputes. The disputes were included in Amendment 7, and MTA reports that the execution of the amendment in March 2024 resolved all disputes as of that date. However, Amendment 7 includes a provision for additional compensation to MTS if, in the future, other defects are discovered in previous PLTC or MTA construction.

- Significant Project Activities and/or Key Milestones:
  - The COVID-19 pandemic impacted the project in different ways and at different levels. The impacts were primarily related to availability of resources and labor. MTA, the PMC, and other project staff followed recommended COVID-19 protocols. On January 30, 2023, MTA suspended COVID-19 protocols for the project.
  - The third lawsuit filed by the Friends of the Capital Crescent Trail in January 2019 against U.S. Army Corps of Engineers (USACE) was dismissed in April 2020. The plaintiff subsequently filed an appeal on May 11, 2020. The District Court denied the appeal on May 13, 2021. The decision resolved the last active lawsuit related to the project.
  - The original baseline schedule indicated design completion by late fall 2017. The progress through ***September 19, 2024***, is that 215 of the 218 total planned design packages have been issued as Released for Construction (RFC). The packages that remain in design or approval include fare collection, the fire management system at the WMATA/Silver Spring Transit Center (SSTC) combined station, and the train control system. ***The WMATA fire management system is in final comment review as of September 2024.*** The most significant remaining design package, train control, will not be 100 percent complete by ***February 2025***. MTA now estimates that the design of the fare collection package will be complete in August 2025.
  - The PMOC observed that MTS indicates that the design portion of its contract is 99.5 percent invoiced and paid. The requirements of MTA's D-B contract with MTS included the payment of all design costs in the first 15 months of initiating the MTS contract, regardless of progress.
  - As of March 2024, disputes related to the cost of design changes that were made after execution of the original agreement with MTS were resolved by Amendment 7 to the P3 Agreement. MTA's team estimated that the amount required to resolve the disputes was approximately $15 million.
  - WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX Corporation [CSX] ROW) will result in what MTA deems are betterments. Resolution of WMATA comments for the SSTC is nearly complete as of ***September 2024***. The negotiations related to issues at the Bethesda Station are primarily between WMATA and Montgomery County and relate to improvements adjacent to the station on the Woodmont Avenue Park property. MTA reports that the resolution of these issues will not impact the critical path.

- Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. One jack-and-bore installation remains to be completed by MTS, and is scheduled for November 2024. Coordination of CSX flagging has been a challenge throughout the Purple Line construction. In April 2024, MTS was able to secure a second flagger, allowing more work to occur in the railroad ROW. In August 2024, MTA indicated that negotiations are underway to obtain 24-hour flagging for the final jack-and-bore construction.
- Proposed construction near the SSTC requires significant coordination with both WMATA and CSX. Track protection (flagging) and a shutdown of the railroads supported a number of Purple Line activities near the SSTC in the summer of 2024. ***As of September 2024,*** the planned work related to the shutdown is substantially complete, although many project activities continue in and around SSTC.
- PLTC reached resolution on the final remaining Alternate Technical Concept (ATC) identified during the proposal process, which is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA reviewed PLTC's design package for National Environmental Policy Act (NEPA) compliance. In July 2024, MTA received approval from FTA for the ATC, indicating that the ATC will have no Section 4(f) impacts or other impacts to the project's Record of Decision (ROD).
- MTA has completed all non-P3 construction contract activities.
- Building construction at the Glenridge OMF is essentially complete; however, ***as of September 2024,*** construction of items outside of the building continues, as does final commissioning of systems inside the building.
- Preparation of Traction Power Substations (TPSSs) continues. MTA expects that nine of the ten total TPSSs will have been delivered to the project site by November 1, 2024.
- The following is the status of LRV manufacturing as of ***September 2024:***
  - Twenty-five vehicles were in the original FFGA project scope description. One additional vehicle was included in the initial P3 agreement but outside of the FFGA. MTA later added two more vehicles by change order and again outside of the FFGA. The additional LRVs will support better operations at the RSA date. A total of 28 LRVs are included in the P3 scope of work.
  - Delivery of vehicles was expected to begin in spring of 2021; however, the Glenridge OMF was not ready to accept railcars. MTA and CAF negotiated an agreement for CAF to store the completed railcars in Elmira to await delivery. The terms of the agreement became a part of MTS's agreement.
  - The first LRV delivery occurred on May 15, 2024; and one delivery has occurred each month since. ***The fifth delivery occurred on September 11, 2024.*** CAF

continues with one LRV delivery each month but has plans to increase that frequency when possible. The PMOC continues to recommend that MTA expedite the planning and completion of readiness activities for testing and certification of the LRVs.

- In September 2024 MTA reported that PLTO has taken possession of the ***Glenridge OMF to allow it to maintain LRVs and coordinate vehicle testing.***

– The resolution of a quality issue related to the M33 bolt on the LRV trucks was closed in May 2024. In July 2024, MTA provided a confidential report on resolution of the issue. CAF performed a Root Cause Analysis (RCA), identifying a primary root cause, and secondary contributing causes. Validation of the corrective actions was conducted, and the issue is now closed.

– The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. The audit indicated that the percentage of U.S. domestic content is 66.74 percent, which meets FTA requirements.

- MTA is responsible for providing offsite stormwater mitigation in Montgomery County. To date, MTA has accumulated a credit for more than 10 acres of designed, Maryland Department of the Environment (MDE)-approved, offsite stormwater management (SWM) capacity in its "bank." MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS. Construction of this mitigation site began in July 2024 and continued in September 2024

- ROW acquisition activities continue for the original required 464 private parcels and 137 public parcels (a total of 601 parcels). All private parcels related to the original P3 contract Exhibit 9 FFGA scope are in MTA's possession for construction. ***As of September 2024***, ***477*** of the 601 parcels have completed settlement, ***14*** condemnations remain in this property acquisition category, and ***3*** settlements are pending. ***As of September 2024,*** the project's Risk Committee continues to rate the cost of ROW acquisitions as a "Significant" risk due to the potential for higher than estimated acquisition costs, ***although continued progress with acquisitions appears to have reduced the risk impact***.

- MTA has identified 188 small property acquisitions that are required for utility relocations, of which 134 are private and 54 are public. As of April 25, 2023, all additional properties were in MTA's possession through Right of Entry (ROE), through options, and/or through agreements. ***As of September 2024,*** ten condemnations remain in this property acquisition category, and three settlements are pending.

- To date, 177 required property relocation agreements are complete. Costs for the completed relocations continue to be processed in accordance with the applicable procedures. As of ***September 2024***, there is one relocation offer pending for a

property that the former owner still occupies. One additional relocation may be required.

- MTA intends to submit four administrative settlement requests to FTA before the end of 2024 for FTA concurrence.
- MTA estimates that the cost for extensions of Temporary Construction Easements (TCEs) has increased due to the project delays included in Amendment 7. These time extensions are one of two risks currently rated as Significant by the project Risk Committee due to the potential need to extend these TCEs, thus increasing their related cost.
- Preparation for safety certification is an ongoing process for MTA, including the development of the appropriate checklists for both design and construction. Design Criteria Conformance Checklists (DCCCs) are more than 99 percent validated. Construction Specification Conformance Checklists (CSCCs) are 20 percent validated. As of ***September 2024***, MTS is preparing the Track Certification Plan, which will include inspection and testing procedures. Testing is scheduled to begin in late 2024.
- In August 2024, MTA provided an updated organizational chart to FTA and the PMOC for review. ***Only one open position was indicated on the organizational chart, a Quality Support role in the Quality Oversight group.***
- MTA carefully considered a request from Montgomery County to single-track the Purple Line through the Bethesda tunnel. In April 2021 Maryland Department of Transportation (MDOT)/MTA determined that it would not be able to accommodate the request.
- MTA and PLTP coordinated to obtain a modified version of the existing TIFIA loan for the project. On April 14, 2022, the TIFIA loan closed, and the bonds were marketed. At that time, MTA was required to update the Transportation Investment Program and State Transportation Investment Program plans to reflect changes in the project.
- MTS is making significant progress toward achieving the project's hiring, wage, and Disadvantaged Business Enterprise (DBE) goals. In May 2024, the Equal Employment Opportunity Officer increased DBE goals by approximately $87 million to reflect the new total construction cost established by Amendment 7 to the P3 Agreement. MTA and MTS continuously assess the status of the project goals and coordinate approaches to increase DBE participation through small business workshops.
- MTA hired a consultant team that analyzed alternatives for providing security and fare enforcement services for the Purple Line. MTA does not currently have existing facilities or staff that can adequately provide these services because the distance from their location to the Purple Line light rail facilities is too great. In late April 2023,

MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on Memorandums of Understanding (MOUs) with other local jurisdictions, and developing a facility to house the district. In May 2024, MTA provided a brief high-level summary of the police force facility plan. Preliminary feedback from the plan indicates that a new facility to house the Southern District will not be complete until several months after the February 2028 FFGA RSD; therefore, temporary facilities will be used until the new facility is complete. The Purple Line team stated that development of the police force facility will be managed by another department at MTA, and the Purple Line team will not report further on the status of the issue. The PMOC continues to recommend that MTA develop a written implementation plan that includes schedule milestones and budget, and provide that plan to FTA and the PMOC for review. ***In September 2024, MTA recommitted to*** submitting to FTA and the PMOC, ***by January 2025,*** a current summary of key activities and dates related to staffing and training of the police force.

- Twice annually MTA holds a series of Community Advisory Team (CAT) meetings. These meetings focus on different neighborhoods along the project corridor. The most recent meetings were held on Tuesdays and Thursdays of each week in May 2024. ***In September 2024, MTA continued*** preparations for the fall 2024 round of CAT meetings, which will be held in October 2024.

1.3 Major Issues and/or Concerns

Table 2 discusses any major issues or concerns impacting the project's scope, schedule, cost, risks, quality, safety, etc.

Table 2 – Current Major Issues and Concerns

Issue/Concern	According to the Project Management Plan (PMP), the master project schedule should be updated monthly.
Date Identified	2022.
Status	Ongoing.
Project Sponsor Action	FTA accepted the FRP schedule in April 2023 as the new project baseline schedule. Two significant change orders, both of which are based on delays to OSF activities, have caused a substantial utilization of the schedule contingency outlined in the FRP. In March 2024, a third change order (Amendment 7 to the P3 Agreement) consumed most remaining schedule contingency and resulted in a significant increase in project cost.

PMOC Recommendation	The PMOC continues to recommend that MTA track all schedule elements and report status to FTA and the PMOC each month. MTA should employ additional methods of evaluating schedule progression and performance, including earned-value metrics, to identify issues as soon as possible. The PMOC recommends that MTA secure a mutually agreed-to (with MTS and PLTP) revised baseline schedule before executing any change order that commits compensation for delays. MTA reported in June 2024 that it has accepted a revised baseline schedule from MTS and has utilized it to develop an updated MTA master schedule. This revised master schedule incorporates 11 months of contingency, indicating a preliminary RSD of December 29, 2028. ***This schedule contingency was accepted by FTA in September 2024.***
Issue/Concern	Changes in the project have significantly impacted the project cost as reflected in the original FFGA. The April 2023 FRP included a revised project cost estimate and cost contingency intended to address remaining project risks. The March 2024 Amendment 7 to the P3 Agreement included a $577.46 million increase to the project cost and utilized most of the available contingency. Preliminary recommendations in the June 2024 MTA QRA include $179.58 million of project contingency. ***In September 2024, MTA informed the PMOC that direct costs for schedule mitigation measures were not included in Amendment 7. Those direct costs have been added to MTS's contract by change order. MTA has not previously informed the PMOC and FTA of this additional commitment of contingency.***
Date Identified	September 2020.
Status	Ongoing.
Project Sponsor Action	Although execution of Amendment 7 resolved all pending disputes at the time, diligent management of the project cost is still needed considering the quantity of remaining project work and remaining project duration. Although the QRA-recommended contingency is significant, it is less than half of the amount of the recently executed Amendment 7. ***The $179.58 million cost contingency was accepted by FTA in September 2024.***
PMOC Recommendation	***The PMOC recommends that MTA carefully monitor project progress against the total project cost estimate, especially since MTA has already committed contingency.***
Issue/Concern	MTA does not have a police force located in proximity to the Purple Line.
Date Identified	September 2022.
Status	As of May 2023, MTA had determined a preferred alternative for providing security and fare enforcement, and had identified several next steps for implementation.
Project Sponsor Action	MTA's preferred security alternative includes the creation of a new Southern District of the MTA Police Department and will require associated staff, operating procedures, and a facility. In May 2024, MTA stated that the Purple Line project team will not be responsible for development of the new facility; instead, a different MTA department will develop the police force facility. MTA committed to provide to the PMOC, ***by the end of January 2025***, the schedule milestones for the staffing and training of the police force.
PMOC Recommendation	The PMOC recommended that MTA provide a milestone schedule and budget in a written plan. The PMOC continues to recommend that the State Safety Oversight Agency (SSOA) be included in the review and comment process for security and fare enforcement.
Issue/Concern	The Lost Time Injury Rate (LTIR) and Total Case Incident Rate (TCIR) increased significantly from 2022 ***to 2024. However, through changes to calculation methods, the current rates are now near stated project goals for TCIR, and LTIR is no longer being tracked.***
Date Identified	April 2023.

Project Sponsor Action	MTA states that it has increased coordination with MTS on safety through additional biweekly coordination meetings. MTA has acknowledged the need for safety process improvements. In November 2023, MTA stated that MTS had replaced its safety director and added safety staff. In June 2024, MTS removed the subcontractors' safety incidents from its own statistics. In July 2024, MTA stressed that subcontractors are a critical part of project safety because they make up more than half of the personnel on the project. ***In September 2024, MTA stated that the TCIR goal is 0, but industry standards for TCIR are between 2 and 3, depending upon the type of construction. Results reported by MTA for TCIR are now just over 2.0 for August 2024, for 2024 Year to Date, and for Project to Date. MTA stated that there has been a recent safety audit and a summary of the audit will be provided to the PMOC.***
PMOC Recommendation	***Project safety goals and calculation methods have been modified significantly. The PMOC recommends that MTA prepare a thorough summary of the changes to safety documentation and calculations, and the rationale for each change.***
Issue/Concern	***As of September 2024,*** LRV delivery will continue for many months. The next major milestone related to vehicles is dynamic testing, which is scheduled to begin in November 2024. Plans for those activities need to be completed and reviewed well in advance of testing.
Project Sponsor Action	Plans for LRV delivery are complete. Temporary Use Notices (TUNs) approved by the SSOA were required to place the vehicles on the tracks. MTA states that the responsibility for readiness activities lies with the P3 concessionaire (i.e., PLTP). As of August 2024, dynamic testing plans are still being developed by the concessionaire.
PMOC Recommendation	The PMOC recommends that MTA expedite the readiness activities for dynamic testing, which is scheduled to begin in the fall of 2024. The PMOC also recommends that MTA engage sufficient resources to provide oversight of the related P3 concessionaire activities.

1.4 Status of Key Indicators Dashboard (Post-grant)

Table 3 shows the project Key Indicators Dashboard after the FFGA was awarded.

Table 3 – Key Indicators Dashboard

Project Sponsor:				Maryland Transit Administration	
Project Name:				MTA National Capital Purple Line Light Rail Transit Project	
Date:				***September 19, 2024***	
Project Detail					
Oversight Frequency:				**Monthly**	
Element	**Status**			**Prior Status**	**Issue or Concern**
	●	●	●		
	G	**Y**	**R**		
Project Management Plan	●			●	MTA developed an updated PMP that reflects revised project conditions, and in October 2022, MTA submitted a revised PMP to the PMOC and FTA for review. On February 1, 2023, FTA provided its review comments on the PMP, and on April 28, 2023, MTA submitted the second revision of the PMP to FTA. MTA will begin preparation of project plan updates in the fall of 2024; completion of the required updates will occur in the spring of 2025.

Management Capacity and Capability	●			●	Since 2023, the Purple Line project team has had numerous changes to key staff, including Transit Development and Delivery (TDD) Executive Director, Communications Director, Construction Manager, and Deputy Project Director positions. In June 2024, the project team filled the last remaining open significant position of Contracting Officer. In August 2024, MTA provided an organizational chart update for FTA and PMOC review.
Cost*	●			●	MTA developed a revised cost estimate that reflected project conditions at the time of the FRP. Based on PMOC and FTA review comments and a revised MTA QRA, MTA established a budget contingency that appeared appropriate for the stage of the project at the time. However, large executed change orders required commitment of all budget contingency and a significant construction budget increase. As of June 2024, MTA's QRA identified the need for $179.58 million of budget contingency, $82.1 million more than the amount remaining in the current project budget. ***In September 2024, FTA accepted MTA's recommended budget contingency.***
Schedule	●			●	In May 2024, MTA accepted a revised project baseline schedule from MTS. That schedule holds the previously reported construction completion date (without contingency) of December 2027. In June 2024, MTA incorporated milestones from the revised baseline schedule into the MTA master project schedule. The master project schedule also includes the MTA QRA recommended additional schedule contingency of approximately 11 months. ***In September 2024, FTA accepted MTA's recommended schedule contingency.***
Quality		●		●	In August 2024, the PMOC raised concerns about the quality of various MTA project documents, citing inconsistencies in format and content.
Safety			●	●	***In September 2024, the PMOC continues to have concerns related to incident tracking and safety reporting. Safety goals and calculation methods have been modified, resulting in the appearance of improved project safety performance. The PMOC recommends that MTA review changes to the safety documentation to determine if those changes are appropriate.***
Risk		●		●	In May 2023, FTA accepted a revised RCMP but also noted additional comments that MTA should address in future updates to the plan. MTA prepared a QRA in June 2024 and presented the results to FTA and the PMOC in a virtual meeting in July 2024. ***In September 2024, FTA accepted the schedule and budget contingencies included in the QRA. However, with more than three years of project duration remaining, the PMOC recommends diligent cost, schedule and risk management.***

Legend	
Green	Satisfactory: No Corrective Action necessary.
Yellow	Caution: Risk/Issues exist. Corrective Action may be necessary.
Red	Elevated for immediate Corrective Action: Significant risk to the health of the project.

1.5 Core Accountability Items

Table 4 shows the core accountability items for the project, including the current status of the project and the major issues and how they are being addressed.

Table 4 – Core Accountability Items

		Original (Grant)	Current Forecast[3]	PMOC Assessment of Current Forecast[3]
Cost	Capital Cost Estimate	$2,407,030,289	***$5,589,000,000***	***Acceptable***
Contingency	Unallocated Contingency	$90,535,748	***$164,213,281***	***Acceptable***
	Allocated Contingency	$59,500,464	To Be Determined (TBD)[4]	***Acceptable***
	Total Contingency	$150,036,212	***$164,213,281***	***Acceptable***
Schedule	Revenue Service Date	12/31/2022	02/28/2028	***Acceptable***

Project Progress		**Amount ($)**	**Percent of Total**
Total Expenditures	Actual cost of all eligible expenditures completed to date	***$3,805,850,407***	***69.1%***
Planned Value to Date[1]	Estimated value of work planned to date	Not Applicable (N/A)	N/A
Actual Value to Date[1]	Actual value of work completed to date	N/A	N/A

Contract Status		**Amount ($)**	**Percent of Total**
Total Contracts Awarded[5]	Value of all contracts (design, support, construction, equipment) awarded; % of total value to be awarded	$4,483,105,000	81.4%
Construction Contracts[5] Awarded	Value of construction contracts awarded; % of total construction value to be awarded	$3,910,455,000	71.1%
Physical Construction Completed	Value of physical construction (SCCs 10-50) completed; % of total construction value completed	***$1,370,556,122***	***69.5%***

Rolling Stock Vehicle Status	**Date Awarded**	**No. Ordered**	**No. Delivered**
28 total car sets[2]	First 26 LRVs: 2016 Additional 2 LRVs: January 2022	28 car sets	***5***

Next Quarterly Progress Review Meeting (QPRM) Date:	November 21, 2024

[1]Earned value information is not available.
[2]The approved FFGA includes a total of 25 LRVs.
[3]Amendment 7 to the P3 Agreement has been partially incorporated into MTA's financial reporting ***as of September 2024.*** Amendment 7 added $577.46 million to the construction cost of the project. MTA currently is in the process of revising the project cost contingency and schedule contingency. ***As of September 2024,*** FTA has accepted the revised EAC, although MTA documentation has not fully incorporated contingency changes.
[4] MTA to finalize the value for allocated contingency as a result of the execution of Amendment 7.
[5] Due to the work constructed during OSF, the value of total construction contracts awarded is unclear.

2 OBSERVATIONS AND FINDINGS

2.1 Summary of Monitoring Activities

The PMOC received an update from the Purple Line project team during the ***September 19, 2024***, virtual monthly meeting with MTA, the PMC, and the PMOC. Before the meeting, the PMOC prepared a draft agenda and MTA provided project information. ***The PMOC completed a review memorandum for the July 2024 MTA QRA. The PMOC attended the September 27, 2024 Risk Management Committee meeting. On September 24, 2024,*** the PMOC participated in the project

update call with FTA and MTA, and subsequently prepared meeting notes. The PMOC's monitoring activities also include review of MTA-provided scope, schedule, risk, financial, construction, safety and security, and real estate information.

After the U.S. Court of Appeals reversed the vacation of the ROD in July 2017 (refer to the **NEPA Process and Environmental Mitigation** section, below, for details), the FFGA was executed on August 22, 2017. In September 2020, the construction (D-B) contractor, PLTC, left the project, and a new project delivery plan was developed, including replacement of the D-B contractor. During the period when the replacement D-B contractor was being solicited, MTA managed specific construction and design activities (OSF activities) in order to reduce uncertainty and support the project schedule. On November 5, 2021, MTS was selected as the replacement D-B contractor, and financial and commercial close occurred on April 14, 2022. MTA managed OSF construction and design activities to their completion or until the activities were transferred to MTS. MTS is performing construction activities across the entire project corridor.

MTA and MTS held initial partnering activities during which they developed relationships, general project priorities for teamwork, and an understanding of key issues for different stakeholders. MTA provided partnering process information to FTA and the PMOC on March 29, 2023. As of August 2023, MTA had replaced the consultant who was leading partnering activities and was developing new processes to facilitate the coordination and relationship between MTA and the MTS/PLTP team. MTA held an internal partnering meeting on October 27, 2023, to help align MTA and PMC staff. On December 11, 2023, a partnering session was held, and MTA, MTS, PLTP, and PLTO participated. One of the main points of discussion was the schedule mitigation efforts that led to Amendment 7 to the P3 Agreement. In February 2024, MTA provided a summary of project goals developed during the December 2023 partnering session. MTA said that action items related to the partnering session goals are incorporated into many project meetings, and senior executives from MTA, PLTP, and MTS meet frequently. ***On July 31, 2024,*** a partnering event for MTA, PLTP, and other project participants was held. ***In September 2024,*** MTA committed to providing the agenda, meeting notes, and the monthly project poll related to partnering activities to the PMOC. The PMOC has repeated its request that PMOC and FTA staff be invited to partnering events, but MTA has indicated that these events will be limited to MTA and the contractors.

2.2 Oversight Triggers

The oversight triggers most applicable to the project are the Oversight Procedure (OP) 25 cost and schedule triggers. The project did not have a mutually agreed-upon baseline schedule between March 2017 and September 2022. Significant schedule delays and a significant increase in project cost keep the project eligible for rigorous oversight. Project schedule delays typically impact project cost, another significant indicator of project health. MTA has developed a revised project EAC in conjunction with development of the project's schedule and FRP. Significant utilization of schedule and budget contingencies has occurred since the development of the FRP. In the opinion of the PMOC, significant risk for additional cost and schedule impacts may still be realized.

2.3 Project Management Plan and Sub-plans

2.3.1 Project Management Plan

The PMOC reviewed the Purple Line Project Management Plan (PMP) Version 10 in accordance with OP 20 for a PMP at the FFGA execution stage of a project. Subsequently, FTA and the PMOC reviewed Versions 11, 12, and 13. Due to significant project team changes since those versions, another update to the PMP was required. In October 2022, MTA provided an updated PMP (Version 14) to FTA and the PMOC for review, and FTA and the PMOC provided comments on PMP Version 14 to MTA. On April 27, 2023, MTA provided PMP Version 15, which FTA accepted, with comment, on June 21, 2023. In February 2024, MTA provided a summary of its forecasted dates for updating the management plans. MTA will begin preparation of project plan updates in the fall of 2024, and the completion of required updates is expected in the spring of 2025. According to best practices, staff changes, fluid project conditions, and FTA direction may necessitate revision updates to MTA management plans in addition to those that are regularly scheduled to occur.

2.3.2 Safety and Security Management Plan

In February 2016, the PMOC reviewed the project's Safety and Security Management Plan (SSMP) Version 6, dated October 22, 2014, in accordance with OP 22 for a project at the FFGA execution stage. The PMOC review found that the SSMP was compliant with FTA content requirements for execution of the FFGA, but the PMOC requested that MTA resubmit the SSMP after execution of the FFGA and address the comments in the PMOC report with updated information from the P3 concessionaire. Subsequently, FTA and the PMOC reviewed SSMP Versions 7 through 11 over the next four years. MDOT, which is the State Safety Oversight Agency (SSOA) for the project, also reviewed SSMP Versions 8 through 11. On January 13, 2022, FTA provided comments on SSMP Version 12 to MTA. MTA submitted SSMP Version 13 as well as Version 5 of the Purple Line SSCP to FTA and the PMOC for review in October 2022. FTA and the PMOC reviewed the Safety and Security Certification Plan (SSCP) and SSMP updates and provided their comments to MTA in February 2023. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the revised SSMP in August 2023, and the revised SSCP on December 28, 2023. FTA accepted the most recent version of the SSCP, SSCP Version 8, on July 9, 2024. The PMOC continues to recommend that MTA evaluate whether its current oversight processes remain in compliance with those specified in the SSMP.

2.3.3 Quality Assurance Plan

In October 2022, MTA submitted Quality Assurance Plan (QAP) Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on QAP Version 10 to MTA. MTA then submitted a revised QAP to FTA for review in May 2023, and FTA and the PMOC provided comments to MTA in June 2023. In July 2023, MTA provided a response to each specific comment and committed to submitting a revised QAP in August 2023. On August 11, 2023, MTA resubmitted the QAP as Version 12. A technical work session with MTA and the

PMOC to discuss outstanding issues related to the QAP was held September 20, 2023, after which the PMOC recommended acceptance of the plan and that MTA should incorporate the outstanding items into the next regularly scheduled plan update. On October 6, 2023, FTA accepted the QAP contingent upon MTA's acceptance of the PMOC recommendations. ***In September 2024, MTA indicated it will provide an update to the QAP in October 2024.***

The PMOC requested that MTA provide more complete documentation for quality-related activities. In September 2023, MTA presented the PMOC with a quality process dashboard that MTA had developed to display monthly statistics on audits, Deficiency Notices, Nonconformance Reports, and quality oversight assessment reports. In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational chart for quality management and administration. In April 2024, MTA listed the following three quality process improvements that it was developing:

1. Organizational chart update.
2. Document control procedure update.
3. Development of a quality training plan and schedule for 2024 training.

MTA emphasized that these quality processes apply only to MTA's quality activities, but they are coordinated with MTS's quality processes. Also in April 2024, MTA stated that it has added quality oversight staff to its organization, including a Deputy Quality Manager. ***In September MTA added a Quality Auditor to the team.***

MTA meets with PLTP, the PMC, and the General Engineering Consultant (GEC) monthly to review quality status. On January 25, 2024, MTA introduced the new Quality Manager, Turyalai Momand. In June 2024, MTA provided the following schedule of 2024 audits:

1. Stormwater Management – January 18, 2024 – complete.
2. Safety – April 9, 2024 – complete.
3. Post Design Audit – May 8, 2024 – complete.
4. Quality – August 2024 – complete.
5. Internal (MTA) Quality Assessment – July 2024 – complete.
6. Internal (MTA) Quality Assessment – December 2024 – scheduled.

When asked about a number of very old deficiency notices and instances of nonconforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of final sign-offs by managers. MTA is deferring some other older open quality items until the related issues can be addressed in order to avoid impacting the project schedule critical path. In August 2024, the PMOC again questioned MTA regarding nonconforming concrete work, which will be disruptive to the repair efforts now that additional work has also been constructed in the proximity. MTA stated that the schedule allows for future

corrective actions that will not affect the critical path and that MTS is responsible for addressing these issues.

MTS also performs significant Quality Assurance/Quality Control (QA/QC) activities and reports having more than 60 full-time quality staff assigned to the project. ***MTA did not provide quality information for August 2024.*** In July 31, 2024, those QA/QC activities by MTS included:

- Offsite inspections of structural steel girders and canopies, Overhead Contact System (OCS) poles and hardware, traffic signal poles, special trackwork, precast concrete structural elements, and other items being fabricated offsite.
- 44 Design Services During Construction reviews and 44 design submittal reviews.
- One internal quality process audit of MTS and subcontractor work, testing, and quality plans was conducted in July 2024.
- Approximately 1,000 materials tests.
- Approximately 1,200 materials samples.

In 2022, MTA frequently provided notes from monthly CAF and SNC-Lavalin LRV manufacturing quality meetings for PMOC review. The information provided a summary of issues and corrective actions, and upcoming quality audits. MTS is now responsible for preparing these notes from the manufacturing quality meetings. Because the LRV manufacturing process is now nearly complete, the June 2024 meeting notes included only a few very minor issues. Open items of note in June 2024 include several certification and compliance activities. The PMOC did not receive these notes in July or August 2024. The PMOC requested that MTA provide the report on these notes in September 2024. MTA questioned its ability to provide the report now that CAF is under contract with MTS, rather than under contract with MTA, as it was during OSF. ***In September 2024, MTA stated that it will not provide the requested vehicle reports, but will inform the PMOC of any items of interest related to vehicle manufacturing.***

The resolution of a previously identified quality issue related to the M33 bolt on the LRV trucks was closed in May 2024. In July 2024, MTA provided a confidential report on resolution of the quality issue. CAF performed an RCA, identifying a primary root cause and secondary contributing causes. The associated corrective actions have been validated, and the issue is now closed.

2.3.4 Real Estate Acquisition Management Plan

The PMOC reviewed the project's Real Estate Acquisition Management Plan (RAMP) Versions 10, 11, and 12. The PMOC reviewed the plans with respect to the guidelines in OP 23 for a project in the construction phase. MTA submitted an updated RAMP Version 13 to FTA and the PMOC in October 2022. FTA provided review comments on RAMP Version 13 to MTA on February 27, 2023, and accepted RAMP Version 13 with comments.

2.3.5 Fleet Management Plans

The current version of the Bus Fleet Management Plan (BFMP) is BFMP Version 8.1, which was submitted for FTA/PMOC review on February 12, 2016. The PMOC completed its review of BFMP Version 8.1 and on March 4, 2016, issued its final OP 37 BFMP review report, concluding that the BFMP met the requirements of OP 37 for the execution of an FFGA for the Purple Line project. On January 24, 2024, MTA provided to FTA and the PMOC BFMP Version 10. This plan addresses updates for the period from 2021 through 2023 and is dated September 2023.

2.3.6 Risk and Contingency Management Plan

In early 2020, MTA commenced another update to the RCMP to incorporate the results of its latest QRA that, in turn, incorporated the results of the replacement D-B contractor resolicitation and the revised project implementation details. MTA held a risk management workshop on January 26, 2021, that focused on the interim period.

MTA provided a comprehensive Risk Register and risk mitigation activities in conjunction with the draft FRP. In preparation for a risk analysis, MTA held risk assessment interviews with individual risk owners to review existing risk items and identify new risks. In December 2021, MTA prepared an updated Risk Register that includes over 100 risk items, including PLTP and MTS risks.

At a risk workshop held the week of May 2, 2022, the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. MTA confirmed and finalized the Risk Register and prepared the QRA and an update of the RCMP. The PMOC developed a draft summary of the risk and contingency review results. FTA provided a risk summary to MTA on June 22, 2022, for MTA's consideration while it was updating the RCMP. MTA provided responses to FTA's comments on the risk summary on July 15, 2022, and provided further clarification on August 25, 2022. MTA submitted RCMP Version 15 to FTA and the PMOC for review in October 2022. In February 2023, FTA and the PMOC provided comments on the revised RCMP, which supported MTA's development of the project's budget and schedule contingency. MTA subsequently submitted the revised RCMP Version 16, dated April 21, 2023, and FTA accepted it on May 22, 2023.

In November 2023, MTA held a risk workshop and began a QRA. Project risks were reassessed, and information needed to reevaluate cost and schedule contingencies was determined. The revised project schedule and subsequently the QRA are now complete, and MTA provided the results of its QRA to FTA and the PMOC at a meeting on July 9, 2024. ***Following review by FTA and the PMOC, on September 24, 2024, FTA accepted the proposed schedule and budget contingency proposed by MTA. FTA directed MTA to prepare a formal request to amend the FFGA and provide a breakdown of funding sources to FTA that are required for MTA to meet the total budget, including contingency.***

2.3.7 Safety and Security Certification Plan

Version 3 of the Purple Line SSCP is dated November 4, 2014. The PMOC review found that the SSCP Version 3 met the FTA requirements in support of the FFGA application. MTA submitted

SSCP Version 4 on February 3, 2020, in conjunction with the updated SSMP submittal (see the **Safety and Security Management Plan** subsection, above). The SSOA completed its review of SSCP Version 4 and discussed its comments with the PMOC. MTA decided that the new emergency management working group would be a subcommittee to the Fire Life Safety and Security Committee, and this decision would be reflected in the next revisions of the SSMP and the SSCP, which were planned for after the replacement D-B contractor was in place. MTA submitted SSMP Version 13 and SSCP Version 5 to FTA and the PMOC in October 2022. In February 2023, FTA and the PMOC completed their reviews and provided comments on these plan documents to MTA. MTA provided a response to the SSCP review comments to FTA and the PMOC in May 2023. On July 12, 2023, the PMOC and MTA held a call to review and reconcile PMOC/FTA comments on the SSCP. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023 and accepted the current SSCP (Version 7) on December 28, 2023. In April 2024, MTA submitted a revised SSCP (Version 8) that includes the Temporary Use Notice (TUN) process, as well as a partially complete preliminary LRV Delivery Plan. In June 2024, MTA provided the completed LRV Delivery Plan to FTA and the PMOC. FTA accepted SSCP Version 8 on July 9, 2024.

2.4 Management Capacity and Capability

MTA continues to identify and assign sufficient Management Capacity and Capability (MCC), as needed, to complete the project in compliance with applicable FTA requirements. These efforts have included bringing staff, either MTA or MDOT personnel or consultants, onto the project to manage the current needs, such as planning, P3 procurement and contracting, real estate acquisition, and construction.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. It was proposed that Roland Carroll, the Purple Line systems safety and construction safety lead, add the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to the new quality management role. The PMOC evaluated this change as a part of the PMP review and will continue to monitor management capacity for this function and all positions through ongoing oversight activities. Specific to safety, the PMOC is concerned that there is a lack of emphasis on safety or on management capacity or capability. Injury rates, particularly for OSF activities, have been higher than the MTA goals. Also, reporting of injury and incident statistics is inconsistent. In June 2024, MTA reported an incident rate that is twice the project goal. Refer to Section 2.16, **Safety and Security**, for more information.

In March 2023, MTA hired John Donovan in the role of Construction Manager and also formed a commercial project controls team. These changes were in response to: (1) the near completion of OSF and (2) the need to support the management of MTS's increasing amount of work. However, in November 2023 MTA eliminated the Construction Manager position. MTA stated that two construction managers, Mike Gales for Civil Construction and Melvin Henderson for Systems Construction, remain with the project.

On May 25, 2023, MTA communicated the departure of Executive Director Matthew Pollack, Deputy Project Director and Contracting Officer Anita Rodgers, and Communications Director David Abrams from the Purple Line project team. Project Director Ray Biggs, Jim Mitchell of the PMC, and MDOT Chief Financial Officer Jaclyn Hartman were leading the project while those vacated positions were being filled. Ken Forsythe's role changed from his role as Deputy Project Director to the interim Director of Communications role. A new Deputy Project Director, Alexa Heidrich, started with the Purple Line project team on July 26, 2023. Kathryn (Kat) Lamb joined the team in August 2023 as the Communications Director, which completed the hiring for the open senior staff positions for the Purple Line project at that time. In August 2023, MTA provided an updated Purple Line organizational chart that included those newly hired staff. In December 2023, MTA replaced PMC Project Director Jim Mitchell with Brian Freerks.

In January 2024, MTA communicated a significant number of staff changes both within MTA and within the PMC. The current status of these positions is as follows:

- The MTA Transit Development and Delivery (TDD) Executive Director position was filled in May 2024. MTA announced that Martha Gross is the new TDD Executive Director, and she will oversee the Purple Line project in addition to other State of Maryland transit projects such as the Red Line. Current Purple Line Project Director Ray Biggs will report to Ms. Gross.
- Quality Manager Fahad Moazziz has been replaced by Turyalai Momand. In April 2024, Mr. Momand announced that several quality staff have been added to the team, including a Deputy Quality Manager.
- Deputy Communications Director Gary Witherspoon left the project, and as of April 2024, MTA has hired Syrina White to fill this position.
- In May 2024, MTA added two safety staff to the project team—one who will be primarily in the field and another who will be in the office and will manage safety administration.
- In June 2024, Katina Conn was added to fill the Contracting Officer role.

The PMOC continues to express its concern regarding MTA's MCC. A lack of continuity and staff serving in multiple roles all pose a risk to the quality of the oversight the Project Sponsor must provide. Shortfalls in MCC may be causing some of the other issues that the PMOC has identified, such as construction safety and quality management challenges. In August 2024, MTA submitted the updated organizational chart to FTA and the PMOC. ***Only one open position was indicated on the organizational chart, a Quality Support role in the Quality Oversight group.***

2.5 NEPA Process and Environmental Mitigation

2.5.1 NEPA Process

FTA issued a ROD on March 19, 2014. The National Park Service issued its ROD on July 16, 2014.

MTA has continued to submit environmental re-evaluations as required based on design advancement and other causes. PLTC (before it left the project) and MTA have prepared multiple packages, primarily for minor Limits of Disturbance (LOD) cases, which were submitted to FTA for review and have received FTA concurrence. The most recent status ***(as of September 2024)*** of NEPA items is:

- MTA submitted an additional LOD case at Sligo Creek that went through the MDE and USACE processes. MDE granted approval on January 10, 2024. As of July 2024, the LOD was approved by USACE.
- The ATC for the Bethesda Station jet fan has been vetted, and final documentation was prepared for submittal to FTA for concurrence that the ATC meets project requirements. MTA reviewed the ATC documentation with FTA in June 2024, and FTA approved the ATC in July 2024.
- A ten-year extension of the project's Programmatic Agreement was approved on March 14, 2024.

On August 3, 2016, in response to the lawsuit filed by the Friends of the Capital Crescent Trail against FTA, a federal judge filed his Order and accompanying Memorandum Opinion. In those documents, it was ordered that the ROD for the Purple Line project be vacated and remanded, and that a Supplemental Environmental Impact Statement (SEIS) be prepared, in accordance with the accompanying Memorandum Opinion. In a subsequent Order and Opinion filed on November 22, 2016, the judge, in part, revised the earlier Order by remanding to FTA the responsibility to determine whether an SEIS is required; however, the ROD remained vacated. On May 30, 2017, the judge issued his ruling that dismissed the lawsuit except for the reassessment of the impact of declining Washington Metro ridership in the Purple Line project's Environmental Impact Statement. The Washington Metro ridership aspect of the ruling was immediately appealed by the Maryland Attorney General. On July 19, 2017, the U.S. Court of Appeals reversed the vacation of the ROD and set an expedited schedule for the appeals process. The appeals hearing occurred on November 1, 2017. The U.S. Court of Appeals issued its ruling on December 19, 2017, in which the judges ruled in favor of FTA and the project, and ruled that the transit agencies would not have to conduct a new environmental study to examine other potential routes for the Purple Line.

The Friends of the Capital Crescent Trail filed a second lawsuit after the FFGA signing and after the groundbreaking ceremony was held on August 28, 2017. The September 19, 2017, Preliminary Hearing for this suit resulted in no temporary injunctions or restraining orders, and project construction proceeded as the case progressed through the court system. On December 5, 2017, FTA and MTA filed a Motion to Dismiss. The plaintiffs subsequently amended and significantly revised the complaint in December 2017, and on March 1, 2018, MTA and FTA filed a Motion to Dismiss. On March 29, 2018, the plaintiffs filed their response. On March 5, 2019, the judge ruled in favor of FTA.

The Friends of the Capital Crescent Trail filed a third lawsuit in January 2019, this time against USACE. The USACE legal staff and the Office of the Attorney General provided the defense.

MTA filed a motion to intervene on behalf of USACE. In early May 2019, the plaintiffs filed an objection to MTA's motion, but during the week of July 15, 2019, the Court authorized MTA to intervene on behalf of USACE. In October 2019, USACE filed for a Summary Judgment to Dismiss the case, and the plaintiffs filed their response; a hearing date was set for March 23, 2020. However, in late February 2020, the assigned judge recused himself from the case, and the scheduled hearing was canceled. In mid-April 2020, the District Court ruled in favor of the USACE/MTA motion for a Summary Judgement to Dismiss, and the case was dismissed. The plaintiff subsequently filed an appeal on May 11, 2020, and the case continued in the legal process. Oral arguments related to the appeal occurred on March 11, 2021. The District Court denied the appeal on May 13, 2021. The decision resolved the last remaining lawsuit related to the project.

2.5.2 Environmental Mitigation

The project achieved the required mitigation for reforestation through the purchase of 82.5 acres of offsite credits (combined, in both Montgomery County and Prince George's County). This amount of offsite credits is expected to be more than needed, and the P3 concessionaire will monitor that this remains the case. PLTP's Forest Conservation Plan (FCP), which documented a need of 75.73 acres, was formally submitted to the Maryland Department of Natural Resources (DNR) in August 2016 for approval. The DNR concurred with the FCP on January 31, 2017, and the final approved FCP was received from DNR on July 31, 2017. As LOD cases are identified, they are also reviewed against the FCP credits to maintain an accurate accounting of the reforestation mitigation. In Maryland, need is based on land disturbance rather than only forest removal. MTA's tracking of additional disturbance due to the progress of design and construction indicated that the total need is still within the amount of available offsite credits.

The Joint Permit Application for Wetlands and Stream Mitigation was formally submitted to USACE and MDE in August 2016. In late February 2018, MDE issued its Non-Tidal Wetlands and Waterways permit in advance of the USACE permit, even though it was a joint application. However, because time had passed since the permit was drafted, MDE updated and issued the finalized permit the first week of April 2018. USACE completed its NEPA and conditions review as well as its public interface, receipt of comments, and comment resolution, and issued the Section 10 404 Permit on March 14, 2018. This timing supported MTA's planned advertisement for the Wetlands and Streams Mitigation construction contracts. In October 2018, the project submitted a request to USACE and MDE to extend the duration of the permits until December 2021 to accommodate the longer construction periods resulting from construction moratoriums for forests and streams. The project received approval from MDE during the week of December 3, 2018, and received the USACE approval letter in mid-June 2019.

The project team has addressed the environmental mitigation for wetlands through the development of the offsite Ken-Gar location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. The construction contract was advertised on May 3, 2019, bids were received on June 10, 2019, and the bids underwent MTA Procurement Department review. BPW approval of the award was received on September 4, 2019. As of June 2021, the Ken-Gar wetlands mitigation project was complete and had completed its one-year

warranty period. See the **Construction** section of this report, below, for further discussion of the status of this Ken-Gar Wetlands Mitigation construction contract.

The project team has addressed the environmental mitigation for streams through the development of the offsite Paint Branch location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. MTA advertised the Paint Branch Stream Mitigation construction contract on March 8, 2019. After the bid due date was extended several times, proposals were received on May 21, 2019, and underwent MTA review and evaluation. BPW approval of the award was received on September 4, 2019. The Paint Branch stream restoration is complete, and warranty corrections (partial replanting) occurred in December 2022. See the **Construction** section of this report, below, for further discussion of the status of this contract.

The project has plans to address stormwater mitigation, beyond what can be mitigated on the project site, through retrofitting offsite locations in both Montgomery County and Prince George's County. On November 12, 2021, MTA determined that there is a need for additional stormwater mitigation in Prince George's County. A project to construct additional stormwater mitigation is included in the scope of work for MTS. Construction of this stormwater mitigation site began in July 2024**.**

The joint MTA and University of Maryland (UMD) technical board resumed meetings in December 2021 to coordinate efforts related to the mitigation of noise, vibration, and electromagnetic interference at the UMD facilities. Following this meeting, the members of the joint technical board voted to approve the outstanding design packages. This action effectively ended the activities of the technical board until the LRT is in trial running.

The Purple Line project team submits quarterly Environmental Mitigation Monitoring Reports for the project. MTA managed the environmental mitigation and monitoring activities as the project transitioned to the replacement D-B contractor, MTS. Because MTS is now performing construction, MTA will monitor the environmental activities performed by MTS. On January 25, 2024, MTA provided the Fourth Quarter 2023 Environmental Commitment and Mitigation Monitoring Program Report. The report conveys the status of progress toward meeting commitments in the ROD that was issued in March 2014 and any pending actions required. In the report, MTA notes that "no problems, gaps, nonconformances, or NEPA issues of any sort were found during this quarterly assessment." MTA submitted the First Quarter 2024 Environmental Commitment and Mitigation Monitoring Program Report in June 2024. On August 27, 2024, MTA submitted the Purple Line Commitment and Mitigation Monitoring Program Report to FTA and the PMOC. MTA reports that there are no major changes from the previous quarter and updates are highlighted within the report.

The MTA Purple Line team communicated that MDE has implemented a change to the state's construction dewatering monitoring and turbidity requirements. Pumped water discharge from construction sites will need to meet specific requirements—something that Maryland lacked but is common in many states. In September 2023, MTA and MTS participated in training for managers on the new requirements, and a future round of training for field staff is being planned. Activities on the project are currently functioning under the new MDE requirements. The changes related to

the new requirements necessitated a change order to address additional MTS's costs to implement the more stringent standards.

2.6 Project Delivery Method and Procurement

The majority of the capital cost of the Purple Line project has been packaged into a Design-Build-Finance-Operate-Maintain P3 contract. This delivery method fits the state's legal definition of a P3 in that it involves a long-term, performance-based agreement between MTA and a private entity (the P3 "concessionaire") in which appropriate risks and benefits are allocated in a cost-effective manner between the contractual partners. The P3 concessionaire is intended to perform some functions normally undertaken by the transit agency, but MTA remains ultimately accountable for the Purple Line project and its public function.

MTA negotiated an approximate 36-year P3 contract, including nearly 6 years of construction and 30 years of operations, and on March 2, 2016, announced that PLTP had been selected as the P3 concessionaire. Commercial close of the P3 contract occurred on April 7, 2016, and financial close occurred on June 17, 2016.

In late April 2020, PLTC notified PLTP that due to PLTC's forecasted schedule delays on the project (which did not receive agreement from MTA), PLTC intended to exercise the clause that allowed it to terminate its contract with PLTP for the design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that would include a definitive path forward. On the response due date of May 14, 2020, PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement to MTA, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice essentially refuted the validity of the PLTP delay claims and stated that if PLTP fails to perform, MTA has a number of options related to the P3 Agreement. Through July 2020, construction activities continued at the levels previously planned and were not affected by the dispute.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a Temporary Restraining Order (TRO) that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO occurred before the expiration of the TRO on September 14, 2020, and the court rescinded the TRO, allowing PLTP to leave the project.

When an agreement was not reached, the bond holder firms had the first right to take over the project. However, MTA planned an alternate path forward based on its exercise of step-in rights. To that end, MTA assumed the contracts of over 100 subcontractors, indicating MTA's intent to continue the project. MTA adjusted staffing for construction management, resident engineers, and inspectors to move forward with the project.

On November 24, 2020, MTA and the P3 concessionaire, PLTP, reached a settlement agreement to release the project's D-B contractor from the P3 consortium and continue the project with the remaining parties. The state's BPW approved the settlement agreement on December 17, 2020. Activities set out in the agreement and the IRP have proceeded with multiple modifications to milestone dates as needed.

The agreement included the following key aspects, as MTA has communicated to the PMOC:

- PLTP agreed to procure a replacement D-B contractor to complete the project and to obtain project financing. The selection of the preferred replacement D-B contractor, MTS, occurred on November 5, 2021. The TIFIA loan for the project closed on April 14, 2022, allowing financial close and commercial close on that same day. MTS is now the D-B contractor for the project.
- The settlement agreement provided a mutual release from all disputed and undisputed amounts (incurred before September 28, 2020) for PLTP, PLTC, and subcontractors. The agreement also released outstanding litigation among the parties.

2.7 Design

2.7.1 MTA Design

MTA's GEC completed the project design to approximately the 30 percent design level in fall 2013 and provided incremental enhancements through late 2015. This design formed the basis of the Request for Proposals (RFPs) for the P3 contract. See the **P3 Design** subsection, below, for a discussion of the advancement of this design by PLTC, the former PLTP partner that was responsible for the design and construction of the capital project, and continued design under MTA.

Disputes related to the cost of design changes that were made between execution of the agreement and March 2024 were resolved by Amendment 7. MTA's team estimated that the disputed amount was approximately $15 million.

MTA was responsible for the design and construction contracts under a Design-Bid-Build delivery method (separate from the P3 scope) for the following projects:

- Stream mitigation – MTA completed the 100 percent design packages in June 2017 and received approval from MDE in May 2018. Construction of the stream mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.
- Wetlands mitigation – MTA completed the 100 percent design packages in June 2017. Several design adjustments were subsequently made based on MDE and Montgomery County comments. The construction contract was advertised on May 3, 2019. Construction of the original wetlands mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.

- Offsite SWM sites – MTA completed design and obtained MDE approval of more than the P3 contract-required 5 acres of offsite mitigation in Montgomery County on May 29, 2018. In late October 2019, MTA received MDE approvals for the next 5 acres to be added to the mitigation credit "bank," thus satisfying the contract requirements for 2019. MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS. Construction of this mitigation site began in July 2024.
- See the **Environmental Mitigation** subsection of this report, above, for the current requirements.

MTA also completed the design to support a D-B contract for the replacement of the existing Parks Maintenance Facility with a facility on Polk Street. Construction of the facility is now complete. See the **Real Estate Acquisition and Relocation** and the **Construction** (MTA Scope) sections of this report, below, for further details.

2.7.2 P3 Design

PLTC's design progress was forecasted to achieve substantial design completion of Civil packages in August 2020, substantial design completion of Systems packages (except for Fare Collection) in September 2020, and completion of the Fare Collection design package in 2021. The original baseline schedule anticipated design completion by late fall 2017. As of August 2020, the number of planned Civil, Systems, and Utility design packages was 218.

Upon the departure of PLTC, MTA contracted with the project's engineer of record, Atkins, to continue to advance the design of limited aspects of the project.

The progress through ***September 19, 2024,*** is that 215 of the 218 total planned design packages have been issued as RFC. The packages that remain in design or approval include fare collection, the fire management system at the WMATA/SSTC combined station, and the train control system. The most significant remaining design package, the design package for train control, entered final design review in July 2024. Developing additional equipment specifications and other vendor plans for the train control package will extend until February 2025. As of April 2024, MTA reported that the fare collection requirements were previously included in the platform designs, and the remaining fare collection design is for the equipment/systems. MTA now estimates that the fare collection design will be completed in August 2025. The PMOC observed that MTS indicates that the design portion of its contract is billed out to 99.5 percent. The requirements of MTA's D-B contract with MTA include the payment of all design costs in the first 15 months of its contract with MTS (i.e., from April 2022 through June 2023), regardless of actual design progress.

The State Highway Administration approved the last traffic signal package in October 2023.

An item related to design was added to the Risk Register regarding an intelligent interface device that could impact implementation and operational costs. MTS made a claim related to a dispute about this item, but the dispute was resolved as a result of the execution of Amendment 7 to the P3 Agreement in March 2024.

PLTC reached resolution on the final remaining ATC identified during the proposal process. The ATC is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA reviewed the design package for NEPA compliance. FTA granted final approval of the ATC in July 2024, and concurred that the ATC will have no Section 4(f) impacts or associated impacts to the ROD.

MTA and CSX worked to resolve issues related to the applicable design criteria and which project areas were affected until, in July 2019, a mutually agreeable path forward was defined for all areas. The following is the current status of the issues and their resolutions:

- To address CSX comments that would have disallowed passenger amenities (fare gates and ticketing kiosks) on the SSTC mezzanine connector pedestrian bridge above CSX tracks, and that would have required a 25-foot vertical clearance, MTA, PLTC, and CSX reached consensus on a design to interpret this area as a "building concourse." In May 2020, CSX indicated that the final design is acceptable. Revised documents, providing some minor clarifications related to ROW, were submitted to CSX on September 8, 2020, and ultimately CSX approved the design. The revised documents were submitted to WMATA several times in early 2021.

- WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of ***September 2024*** for the SSTC and for other locations where WMATA and Purple Line stations coincide. The negotiations related to issues at the Bethesda Station are primarily between WMATA and Montgomery County and are regarding improvements adjacent to the station on the Woodmont Avenue Park property. MTA reports that the slow resolution of these comments has not impacted critical path activities.

- An encroachment into the CSX vertical clearance was discovered upon installation of girders at the SSTC. An exception was requested from CSX to allow the ¾-inch encroachment to remain. CSX denied the exception. MTA and the designer prepared for a contractor to jack and shim the structure to create the required clearance. Construction of this work was completed in August 2021.

- Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. The Purple Line project took advantage of the WMATA service outage to perform work near and above the tracks.

- CSX provided review comments disallowing revised drainage networks, related to the Capital Crescent Trail work, which would connect to CSX's existing drainage culverts. The work on the Capital Crescent Trail is not part of the FFGA and is separately funded by Montgomery County. As a result of work with Montgomery County, the connections were relocated from CSX property to Montgomery County property and therefore are no longer a CSX issue. To fully accomplish this approach, two connections required

resolution. Montgomery County acquired two parcels of land from CSX (not FFGA-funded) and then accepted responsibility for one connection currently under the responsibility of CSX. Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. ***As of September 2024,*** MTS has one more jack-and-bore installation of culvert pipe yet to complete. This culvert installation is not on the project critical path and is scheduled for November 2024. In August 2024, MTA indicated that negotiations with CSX are underway to obtain 24-hour flagging for the final jack-and-bore construction.

- Track protection (flagging) availability has limited production work near the CSX rail lines. In March 2024, CSX made a second flagger available, allowing construction activities on the railroad ROW to accelerate. In May 2024, MTS stated that it needs a third flagger in order to maintain the construction schedule; however, MTA believed at that time that it was unlikely that CSX would provide the third flagger. In July 2024, CSX was unable to provide two flaggers at all times, preventing work in the railroad right-of-way for several night shifts. In August 2024, MTA indicated that negotiations with CSX are underway to obtain 24-hour flagging for the final jack-and-bore construction.

2.8 Real Estate Acquisition and Relocation

As of September 2024, the total number of planned property acquisitions is 601, including 464 privately owned properties and 137 public acquisitions. All of the original Exhibit 9 FFGA-scope private parcels in the P3 contract are in MTA's possession, some of which are properties that continue in condemnation under the State Highway Administration process. To date, 437 of the original 464 private properties have completed settlement, several additional properties (not part of the original 464 private properties) are pending settlement, and 14 condemnations remain to be settled.

All required public properties have been available for construction when needed. Several public property rights transfers are currently being coordinated to accommodate sidewalk changes, utility easements, and ROW exchanges.

As the project has progressed and new utility relocation needs have been identified, additional small parcel acquisitions have been added to the total as utility down-guys. In December 2017, PLTC initially submitted a list of approximately 280 such parcels related to utility relocations and subsequently added to that list. MTA resolved that it would acquire these properties, rather than execute amendments to the utility agreement that would have the utility companies perform this function. MTA's ability to perform appraisals in house for these parcels or to waive appraisals for low-value, uncomplicated parcels has been expediting the process somewhat. ***As of September 2024,*** the number of additional acquisitions totals 188 parcels, and several more acquisitions potentially may be needed for stormwater facilities. Of these parcels, 54 are public property and will be acquired by agreement, and 134 are private acquisitions. Of the total 188 properties, 66 were filed for condemnation, excluding those that were subsequently optioned or settled, and 10

condemnations and 3 settlements are pending for this acquisition category. MTA estimates that approximately $21.0 million of risk exposure remains in the acquisition process. This amount has been included in the MTA QRA.

The project required a total of 177 relocations, of which 57 were residential and 120 were businesses. To date, 177 of those identified relocations have been completed in accordance with the applicable procedures, and one active claim remains to be settled. Also, MTA is monitoring terms of agreement of the property acquisitions discussed above that have not yet completed settlement, because some of them could potentially result in the need for additional relocations.

In August 2023, MTA indicated that the goal for completion of all real estate transactions is December 2024. MTA intends to submit four administrative settlement requests to FTA before the end of 2024 for FTA concurrence.

On April 25, 2023, MTA reported that BPW had approved the last of seven critical project acquisitions. These acquisitions were required to allow MTS access to construction areas that include activities on or near the critical path.

Properties that have not yet settled due to disputed compensation values have been going to trial in accordance with the ROW acquisition process. MTA is tracking actual acquisition costs versus planned expenditures, so that contingency can be effectively managed, and MTA shares this information with the PMOC. Based on actual settlement amounts and projected amounts for those not yet closed, settlement/condemnation values are 57.5 percent higher than the original 2014 SCC budget for ROW. MTA included current ROW cost projections in its development of an FRP project cost estimate (see the **Project Cost** section of this report, below).

Due to the extended project duration, some agreements will expire before the expected RSA date. MTA and MTS have started the process of identifying the end dates now needed for the agreements and will begin the process of obtaining extensions. MTA has evaluated the risks, estimated the cost of the extensions, and included those costs in a budget contingency. As of ***September 2024***, MTA estimates that approximately $18.1 million of risk exposure remains due to necessary TCE extensions. ***As of September 2024,*** the project has expended $6.2 million on TCE extensions, ***and several extensions must be executed before the end of 2024.***

2.9 Third-party Agreements and Utilities

All major third-party agreements (specifically, those agreements with Washington Gas, Verizon, Potomac Electric Power Company [PEPCO], CSX, UMD, Montgomery County Parks, Prince George's County Parks, WMATA, Washington Suburban Sanitary Commission [WSSC], Montgomery County, and Prince George's County) were executed as of June 7, 2016.

In early June 2018, MTA and PLTP completed the negotiation of all remaining third-party agreements with the smaller utility and telecommunications (telecom) fiber companies. According to MTA, most of the minor fiber/telecom utilities are not co-located with the electrical utilities, and, where they are, PEPCO's arrangement with the fiber/telecom utilities does not require PEPCO's relocation schedule to be driven by that of the minor fiber/telecom companies.

In addition, the need for amendments to existing executed agreements continues to be evaluated. The significant items include:

- To date, the design differences with CSX, as discussed earlier in this report, have been adequately resolved through design review and concurrences, and have not resulted in the need to amend the CSX agreement.
- WSSC proposed that the project relocate a 66-inch underground water main that runs through the Glenridge OMF site. In March 2020, MTA and WSSC agreed on a water main alignment primarily in the median of Veterans Parkway, as well as a strategy for completing the relocation. The original Purple Line project GEC performed the design; WSSC provided the material; and MTA separately contracted for the construction, thus avoiding impact to the P3 concessionaire's scope of work. On May 21, 2021, WSSC authorized work, and mobilization began August 9, 2021. Energizing of the cathodic protection was the last remaining activity, and it was completed in November 2023.
- In late July 2022, MTA and MDOT held a summit with the many utility providers that experience relocations related to transportation projects to discuss best practices and improvements to the utility relocation process. As of May 2023, some of the utility providers are experiencing staff shortages that limit construction production rates. These staff shortages present an ongoing challenge to the project.

The project has been addressing its interface with Montgomery County Schools through the third-party agreement already in place with Montgomery County. However, due to the specific concerns related to the schools and the safety and security of the children, MTA drafted a separate MOU with the Montgomery County Schools system, which was approved by the School Board and signed by the School Superintendent, Montgomery County, and MTA. A similar MOU was negotiated between MTA and the Rosemary Hills School and was approved at the School Board meeting on February 12, 2019. MTA submitted a draft second MOU to Montgomery County Schools on November 3, 2022. The Purple Line project team is developing information on the utility pole locations and retaining wall maintenance before going back to the school district for final property transfer negotiations. Work will continue under ROE agreements with these parties through 2024.

As MTS commenced construction work, coordination meetings were held to ensure that prior agreements with third parties (utility companies and others) are followed. It is MTA's position that the transfer of third-party agreements from PLTC to MTA and now to MTS should not allow for a change in the terms of the agreements.

In June 2024, MTA reported that risk from the third-party agreements with PEPCO, the electrical service provider, is an increasing risk to the project schedule. MTA is actively trying to mitigate this risk through proactive communications with PEPCO.

2.10 Construction

2.10.1 MTA Scope

Although the P3 concessionaire is responsible for the majority of the project construction, MTA also has construction responsibility in the areas of the replacement Parks Maintenance Facility (which is part of the real estate effort and budget), wetlands mitigation, stream mitigation, and possibly some offsite SWM sites. MTA has accomplished forest mitigation without the need for additional construction. The following discussion presents the current status of the MTA construction contracts:

- **Prince George's County Parks Polk Street Replacement Maintenance Facility** – This D-B contract was awarded after the BPW approved the construction contract award on March 20, 2019. Forrester Construction Company completed construction, Parks has taken possession of the facility, and the warranty period has expired. The only remaining action for this portion of the project is a real estate swap that will transfer the maintenance facility property to Parks in exchange for the property needed by the Purple Line project. The survey for the swap of the parcels has been performed, and as of June 2024, the plat documents needed for appraisals and negotiation for the swap are complete.
- **Offsite Wetlands Mitigation (Ken-Gar)** – The Wetlands Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The contractor mobilized in December 2019 and completed site surveys and the installation of Erosion and Sedimentation controls. Clearing and grubbing began in February 2020. Prince George's County took partial acceptance of the entire project on March 3, 2021. Acceptable growth of vegetation has been achieved, allowing for closure of this project. The one-year warranty review occurred on January 9, 2022, and now the project requires MTA quarterly monitoring until closeout in 2028.
- **Offsite Stream Mitigation (Paint Branch)** – The Stream Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The pre-construction meeting was conducted on October 24, 2019. The contractor mobilized in late November 2019. The one-year warranty inspection occurred on August 4, 2022, and 1,700 plants were replaced in November 2022.

2.10.2 P3 Scope

Highlights of construction activities ***through September 2024*** throughout the alignment include***:***

- General: As a result of the dispute with PLTC (see the **Project Delivery Method and Procurement** section, above), all project activities slowed in the fall of 2020. In early August 2020, contractor forces, equipment, and materials were demobilized, and work in some areas ceased. Upon legal action from MTA, partial remobilization occurred. Following the court's rescission of the TRO, demobilization and safe-up activities in the

construction area began in earnest in mid-September 2020 and continued into October 2020. Following PLTC's exit, MTA engaged a number of former PLTC subcontractors to continue select project activities. This work was progressed under MTA management with a goal of advancing critical path activities and reducing risk for the replacement D-B contractor.

- OSF construction items that MTA managed:
  - Utility installations of all types are complete or have been transferred to MTS, including construction by the electric provider (PEPCO) and the communications company (Verizon). Water, storm sewer, sanitary sewer, and gas lines are also complete or have been transferred to MTS.
  - As a part of OSF, MTA ordered rail, ties, special trackwork, and turnouts to mitigate supply chain risks. MTA also secured materials previously procured by PLTC for use by the replacement D-B contractor (MTS).
  - Building construction at the Glenridge OMF is essentially complete; however, construction of civil items outside of the building continues, as does final commissioning of systems inside the building. MTS assumed control of the facility in January 2024. As of March 2024, Amendment 7 to the P3 Agreement settled all remaining disputes. MTS is currently installing rail and other features both inside and outside of the building. MTS will complete the tracks for storage and testing of LRVs.
  - Based on the status of construction at the time of PLTC's departure, MTA determined which items would be completed before mobilization of the replacement D-B contractor. OSF construction activities were expected to be completed before September 1, 2022, but some activities continued until November 2023. OSF utility relocations that fell behind schedule caused delays to MTS's work, and delays in OSF activities. Significant OSF delays impacted MTS's activities, and these additional costs are reflected in the Amendment 7 revised total project cost.
  - MTA's Equal Employment Opportunity Officer assigned to the project is Marcques Washington, and he is supporting MTS in its hiring program. The former contractor, PLTC, left the project with a shortfall in meeting the requirements of its DBE program, and MTS is required to address this shortfall of approximately $12 million in contract value. In March 2023, MTA reported that the design portion and the nationally targeted worker program of the P3 contract had exceeded the DBE program goal, but the percentage DBE participation for general construction is below the goal. In April 2023, Mr. Washington reported that the DBE participation statistics are improving as construction continues. The PMOC continues to recommend that MTA report the projected values for these goals at the end of the project in addition to the current achieved values to allow for a better evaluation of progress toward meeting the goals. MTA has been performing audits each month to monitor the Davis Bacon prevailing wage requirements. To date, only very minor issues have

been identified during these audits. In May 2024, MTA's Equal Employment Opportunity Officer increased DBE goals by approximately $87 million to reflect the new total construction cost established by Amendment 7 to the P3 Agreement. MTA and MTS continuously assess the status of the project goals and coordinate approaches to increase participation through small business workshops. ***In September 2024, MTA reported that one method that MTS is utilizing to increase DBE participation is releasing retainage as quickly as possible. In some cases, MTS has paid for bonding on behalf of the subcontractor, reducing cash flow challenges experienced by some small DBE firms.***

2.11 Vehicle Technology and Procurement

The LRVs are five-car vehicles consisting of 136-foot-long, articulated units. Under the FFGA, 25 vehicles (22 in operation and 3 spares) will be provided for the opening year. PLTP executed the LRV contract with CAF on June 17, 2016, and issued NTP to CAF on July 5, 2016, for the 25 FFGA vehicles. The original NTP to CAF also included one additional LRV outside of the FFGA.

Later, MTA added 2 additional vehicles (outside of the FFGA) by change order to, for a total of 28 vehicles to be supplied by CAF. The two additional LRVs will support better operations. MTS has incorporated these two additional LRVs into its scope of work (in addition to the cost and terms of LRV storage in Elmira).

Vehicle carshell manufacturing activities, which are coordinated with design progress, occurred until the facility in Spain was shut down in late March 2020 due to supply chain issues and to limit the spread of COVID-19. The final assembly facility in Elmira, New York, was shut down in early April 2020 due to New York State restrictions related to COVID-19 and reopened on May 18, 2020, at 50 percent of its workforce capacity. As of early August 2020, both the Spain facility and the Elmira facility were back to 100 percent staffing levels.

The final assembly of vehicles is being performed in CAF's facility in Elmira. MTA, its PMC, and SNC-Lavalin meet weekly with CAF to resolve all open items for design, testing, and manufacturing activities. First Article Inspections (FAIs) for Interior and Cab were completed on March 18, 2021, and FAIs for Exterior, Roof, and Undercar were completed on April 2, 2021.

Shipment of the first vehicle to the project site was expected in late spring of 2021. The lack of available storage at the yet-to-be-completed Glenridge OMF required use of an offsite storage facility where vehicles can be stored, occasionally powered, and occasionally "exercised" or moved on tracks. MTA and CAF negotiated an agreement for CAF to store the completed LRVs in Elmira. That storage agreement subsequently transferred to MTS, and its terms are part of MTS's agreement. Twenty-six LRVs have been completed, with twenty-three of those designated as Ready for Shipment and in storage in Elmira. The first LRV delivery occurred on May 15, 2024; and one delivery has occurred each month since. ***The fifth LRV delivery occurred on September 11, 2024***. ***The final two LRVs ordered (added to the P3 contract outside of the FFGA) by MTA are in static testing in Elmira.***

CAF will continue delivering LRVs at a frequency of one each month but has plans to increase that frequency when possible. Plans are being prepared for dynamic testing, which is scheduled to occur in November 2024 on the test track section near the Glenridge OMF.

2.12 Project Cost

Table 5 summarizes the project's current actual expenditures and EAC, and compares them to the project budget as reported in MTA's SCC Workbook dated June 1, 2016, which is the basis of the project's FFGA. The project's documented expenditures total ***$3,805,850,407 through August 31, 2024.*** Refer also to **Table 4 – FFGA Core Accountability Items** in the **Executive Summary** section of this report for details on the project's planned and actual expenditures. The following table shows project budgets, actual expenditures, and forecast at completion amounts through ***August 31, 2024***, compared with the project budget as reported in MTA's SCC Workbook dated June 1, 2016, and MTA's current working budget.

Table 5 – Project Cost Versus Budget

SCC	Cost Category	Budget (June 1, 2016 Original FFGA)	Working Budget[1] (April 3, 2023 FRP)	Expenditures *(as of August 31, 2024)*[2]	Forecast at Completion[1, 2]
10	Guideway and Track	$280,620,726	$371,508,682	***$248,454,769***	$372,476,815
20	Stations	$114,857,016	$161,159,923	***$92,248,631***	$172,082,570
30	Maintenance Facility	$94,155,591	$93,454,387	***$87,511,398***	$94,365,752
40	Sitework	$521,968,990	$796,081,289	***$657,095,759***	***$808,927,298***
50	Systems	$263,887,313	$517,256,196	***$285,245,565***	$525,305,831
	Subtotal 10–50	$1,275,489,636	$1,939,460,477	***$1,370,556,122***	***$1,971,227,797***
60	Right-of-Way	$229,600,000	$329,126,214	***$306,196,114***	$333,246,523
70	Vehicles	$212,940,927	$292,780,600	***$181,627,150***	$292,584,921
80	Professional Services (total)	$571,658,114	$2,247,359,915	***$1,858,379,386***	***$2,599,059,241***
80.01	Project Development	$87,149,878	$85,469,312	$85,469,312	$85,469,312
80.02	Engineering[3]	$139,766,036	$196,722,013	***$218,512,527***	***$219,966,287***
80.03	Project Management for Design and Construction	$148,555,323	$655,185,988	***$469,232,140***	$685,724,396
80.04	Construction Administration and Management	$83,269,280	$734,209,735	***$533,885,843***	$621,153,774
80.05	Professional Liability; Other Non-construction Insurance	$34,534,796	$85,701,891	***$76,284,744***	$93,860,971
80.06	Legal; Permits; Review Fees by Other Agencies, Cities, etc.	$5,805,117	$341,013,320	***$484,612,376***	$890,935,383
80.07	Surveys, Testing, Investigation, Inspection	$15,164,346	$92,504,023	***$74,567,943***	$89,959,500
80.08	Startup	$57,413,338	$56,553,635	$4,906,135	$56,678,235
	Subtotal 10–80	$2,289,688,678	$4,808,727,206	***$3,805,850,407***	***$5,342,807,099***
90	Unallocated Contingency	$90,535,748	$307,293,174	$0	***$164,213,281***

SCC	Cost Category	**Budget** (June 1, 2016 Original FFGA)	**Working Budget**[1] (April 3, 2023 FRP)	**Expenditures** ***(as of August 31, 2024)***[2]	**Forecast at Completion**[1, 2]
100	Finance Charges	$0	$0	$0	$0
	Total	$2,407,030,288	$5,116,020,381	***$3,712,602,222***	***$5,507,020,380***

[1]The Purple Line project Working Budget and Forecast at Completion are based the revised budget after execution of Amendment 7.

[2]Amendment 7 to the P3 Agreement has been partially incorporated into MTA's financial reporting as of July 2024. Amendment 7 added significant cost to the project, ***and contingency values have been modified in September 2024.***

[3]Additional costs associated with Amendment 7 were assigned primarily to SCC 80.02 in MTA's originally reported budget information. MTA reassigned these Amendment 7 costs to SCC 80.04 in May 2024.

MTA developed the FRP unallocated contingency amount of $307,293,174 by utilizing an internal QRA, and the RCMP, dated April 21, 2023, recommended that same amount for unallocated contingency. The June 2024 preliminary QRA recommends an unallocated cost contingency of $179.58 million. ***This cost contingency recommendation was accepted by FTA in September 2024.***

In July 2023, the Maryland BPW approved a change order that had a total addition of $204,954,610 of cost and 207 additional days of contract time. The net budget impact to the capital construction portion of the project was $137,144,705, and the balance of the total amount was applied to the financing and lost return on investment for PLTP. The $137,144,705 will be expended over the course of construction; therefore, this amount does not immediately show up in the MTA budget reports. However, that amount, plus the amount of the earlier change order included in the FRP, represents significant utilization of the budget contingency. The PMOC recommends that MTA closely monitor all cost overruns and the potential need for additional contingency. As of March 2024, a third change order (an amendment to the P3 Agreement [Amendment 7]) was negotiated. The change order essentially utilized all of the FRP budget and schedule contingency, added $406 million to the construction budget, and added 250 more days to the schedule. As a result, MTA is currently developing revised cost and schedule contingency budgets. In July 2024, MTA committed to provide to FTA/PMOC the basis for the large contract budget and schedule changes that have been approved, including efforts to mitigate schedule impacts. MTA provided general information about the large budget and schedule changes and indicated that it will not be providing any details.

The PMOC requested that MTA clarify the breakdown of Amendment 7 to the P3 Agreement for several reasons. MTA indicated that Amendment 7 includes schedule mitigation measures, implying that the measures are changes to the MTA scope of work and overhead costs related to the extended project schedule. The assignment of the costs to SCC 80 does not support those implications. If the costs assigned are for some scope changes (additional Maintenance of Traffic sequences, overtime for accelerated construction work, or other items), then those costs should be assigned to SCCs 10 through 50. ***In September 2024, MTA informed the PMOC that direct costs for schedule mitigation measures were not included in Amendment 7. Those direct costs have been added to MTS's contract by change order. MTA has not previously informed the PMOC or FTA of this additional commitment of contingency.***

In recent months, SCC 80 expenditures by MTA and MTS have totaled as much as 50 percent of the expenditures for SCCs 10 through 50 combined. The PMOC therefore has questioned the significant amount of these SCC 80 expenditures that MTA records for the project each month. In May 2024, MTA explained that a portion of the SCC 80 expenditures are settlement payments to MTS and PLTP and not true management and administrative costs. Excluding Amendment 7 reimbursements, MTA estimates that the ***September 2024*** management and administrative expenditures as a percentage of total expenditures are ***approximately 39 percent*** of the SCC 10 through SCC 50 expenditures for the month. In the opinion of the PMOC, this percentage is higher than what would ordinarily be anticipated.

2.12.1 Project Funding

The funding for the project, as reflected in Attachment 3 of the FFGA, is shown in Table 6. As mentioned previously, MTA has not yet fully incorporated the effects of Amendment 7 to the P3 Agreement in its financial reporting. MTA has reported that the additional funds (approximately $406 million) related to Amendment 7 will come from the State of Maryland/MDOT Transportation Trust Fund.

Table 6 – Baseline Cost Estimate by Source Funding

Initial New Starts Project Cost (in SCC format)	Total FFGA Cost in Year of Expenditure (YOE) Dollars	Federal 5309 New Starts in YOE Dollars	Federal 5307 in YOE Dollars	Federal American Rescue Plan Act (ARPA) in YOE Dollars	Federal Surface Transportation Program (STP) in YOE Dollars	Local in YOE Dollars
10 Guideway & Track Elements	$371,508,681	$96,464,907	$0	$0	$0	$275,043,774
20 Stations, Stops, Terminals, Intermodal	$161,159,923	$23,557,000	$0	$0	$0	$137,602,923
30 Support Facilities, Yards, Shops, Admin. Bldgs.	$93,454,387	$29,954,000	$0	$0	$0	$63,500,387
40 Sitework & Special Conditions	$796,081,289	$222,858,301	$0	$0	$0	$573,222,988
50 Systems	$517,256,196	$60,116,405	$0	$0	$0	$457,139,791
60 ROW, Land, Existing Improvements	$329,126,214	$102,108,116	$0	$0	$0	$227,018,098
70 Vehicles	$292,780,600	$80,787,818	$0	$0	$0	$211,992,782
80 Professionals Services	$2,638,359,916	$284,153,453	$41,631,310	$106,163,371	$110,000,000	$2,096,411,782
90 Unallocated Contingency	$307,293,174	$0	$0	$0	$0	$307,293,174
100 Finance Charges	0	$0	$0	$0	$0	$0
Total Project Cost (SCCs 10–100)	$5,507,020,380	$900,000,000	$41,631,310	$0	$0	$4,349,225,699

Source: MTA, dated June 2024. ***MTA must provide the funding source(s) for Amendment 7 and the currently accepted (September 2024) budget contingency.***

2.13 Project Schedule

The March 15, 2017 progress update of the master project schedule served as the only approved version of the schedule until September 2022. Numerous submissions of schedule updates from PLTC were not approved for various reasons, but the primary reason was the inability of MTA and the P3 concessionaire to agree on the schedule impacts of the approximately one-year delay

in the execution of the FFGA. In response to a letter that FTA issued to MTA in early August 2018 expressing concerns about the amount of time that the project had advanced without an approved schedule, MTA prepared a working schedule update of the master project schedule. The working schedule update was based on the negotiations of the P3 contract schedule occurring at the time, but the update was not based on a mutually agreed-upon P3 contract schedule.

In late April 2020, PLTC notified PLTP that, based on its forecasting of schedule delays on the project (which were not mutually agreed upon), PLTC intended to exercise the clause in its P3 contract with PLTP that allows it to terminate the contract for design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that included a definitive path forward for PLTP's intended management of the P3 contract. On May 14, 2020 (the date the response to the formal request was due), PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice refuted the validity of the PLTP delay claims and stated that if PLTP failed to perform, MTA had a number of options related to the agreement. Through late July 2020, construction activities continued at the level previously planned, and construction progress was not affected.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a TRO that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO was held on September 14, 2020. The court rescinded the TRO, allowing PLTP to leave the project. Through negotiation, it was determined that PLTP would remain on the project, although PLTC would not.

MTA contracted with numerous subcontractors to continue the project. MTA developed organizational options with respect to construction management, resident engineers, inspectors, and other staff needed to move forward select project activities.

It was certain that the project schedule as reflected in the FFGA would be negatively affected, and a Recovery Plan for the project, including a revised project schedule with adequate schedule contingency to address remaining project risks, would be required. MTA submitted its draft IRP to FTA in December 2020, and FTA approved the IRP on January 12, 2021. A schedule for the period during which the D-B contractor was to be replaced was developed, and MTA monitored project progress against the schedule.

PLTP and MTA continued to coordinate during the financial process and State of Maryland approvals for the replacement D-B contractor. In addition, MTA successfully coordinated other key issues that needed to be resolved before PLTP could execute the contract with MTS. IRP/re-procurement process spanned from January 6, 2021 to April 14, 2022.

A milestone not specifically mentioned in the IRP was the requirement to extend the current RSD. The RSD in the original FFGA was December 31, 2022. MTA requested an extension to the

current RSD based on the MTS schedule. FTA accepted the FRP, which indicates a revised RSD of February 28, 2028.

The schedule included in the FRP was considered to be the new baseline schedule. The MTS master schedule incorporated the schedule recovery of implementing Maintenance of Traffic and construction activity resequencing, at a cost of $21,343,588, which reduced schedule delays from 218 days to 81 days. These schedule delays are a result of OSF utility adjustments that fell behind schedule. MTS has indicated that delays continued to occur as a result of the MTA-managed OSF work. The second OSF-delay-driven change order, as approved by the BPW in July 2023, added 207 days to MTS's RSA date.

This addition to the RSA date represents a significant use of schedule contingency, which is a concern considering the remaining duration of the project. In an effort to mitigate continuing OSF delays**,** MTA resumed the Tiger Team process (in this case referred to as "Tiger Team 2") to develop schedule alternatives. OSF construction activities were expected to be completed before September 1, 2022, but schedules that MTA previously provided indicated completion of most OSF activities in mid-2023, with some activities continuing up to November 1, 2023. OSF utility relocations that were behind schedule continued to cause impacts to MTS's work, and as of July 2023, delays in OSF activities had driven two change orders. MTA and PLTP have used the Tiger Team process to develop schedule alternatives to potentially mitigate delays driven by OSF work between March 2023 and February 2024. Amendment 7 to the P3 Agreement resolved the outstanding disputes and delays related to OSF activities. The amendment added 250 days to the schedule, placing the contractual RSA date at December 30, 2027. MTA has accepted MTS's revised baseline schedule, and in June 2024 prepared a revised master schedule based on the information that MTS provided, including the recommended schedule contingency that is used in the June 2024 MTA QRA. In August 2024, MTA provided high-level information regarding the impact of the Tiger Team efforts. MTA reports that the efforts reduced the delay to the RSA date by six months, changing the RSA date from July 2028 to December 2027. ***In September 2024, MTA reported that the direct costs for schedule mitigation measures were not included in Amendment 7. Those direct costs were added to MTS's contract by change order in July 2024.***

2.13.1 Key Milestones

Table 7 shows the current key milestone dates for the project for the prior approved (March 15, 2017) progress update of the current master project schedule. Issuance of NTP to PLTP on April 14, 2022, triggered the contract requirement that an MTA-approved MTS Initial Baseline Schedule (IBS) for the full project be in place within 120 days of financial close (by August 14, 2022). In January 2022, MTA submitted a draft version of the master schedule for FTA and PMOC review, and FTA and the PMOC transmitted their review comments to MTA in April 2022. MTS submitted its IBS, and on September 12, 2022, MTA approved it. MTS submitted the 120-day mobilization schedule, which MTA also approved.

In August 2022, MTA and the PMOC discussed the current state of the baseline schedule, particularly the inclusion of adequate float to address schedule risk. The P65 date that MTA proposed before the risk workshop held in May 2022 included approximately seven months of

float and an RSA date in October 2026. After MTA performed the QRA for the updated RCMP, MTA added additional float to address known and unknown schedule risk. The RSD proposed in the FRP is February 28, 2028. However, the recently approved Amendment 7 to the P3 Agreement sets the RSA date at December 30, 2027, essentially utilizing all of the schedule contingency. The outcomes of the current MTA QRA will advise new recommendations regarding schedule float and contingency.

The PMOC recommends that MTA closely monitor schedule contingency and the corresponding budget contingency when evaluating the RSA date/RSD and the EAC that will be incorporated into the FRP. The information in Table 7 will be updated once the schedule reviews and approvals are complete.

Table 7 – Key Milestone Dates

Activity	**Prior Approved Master Project Schedule (March 15, 2017)**	**MTA Master Project Schedule (*September 17, 2024*) (working schedule)**
Locally Preferred Alternative Approval Date	08/04/2009 (A)[1]	---
FTA Approval to Enter Preliminary Engineering	10/07/2011 (A)	---
FTA ROD	03/19/2014 (A)	---
Issue Final RFP for P3 Concessionaire	07/28/2014 (A)	---
FTA Approval to Start Enter Engineering Phase	08/28/2014 (A)	---
Issue Addenda 4 through 6 to the P3 RFP	07/2015 through 11/2015 (A)	---
P3 Technical Proposals Due	11/17/2015 (A)	---
P3 Financial Proposals Due	12/08/2015 (A)	---
Evaluation and Announcement of Selected P3 Proposer	01/02/2016 through 03/02/2016 (A)	---
BPW Approval of P3	04/06/2016 (A)	---
P3 Commercial Close	04/07/2016 (A)	---
Limited NTP for P3 Engineering	04/07/2016 (A)	---
MTA Submit FFGA Application	05/24/2016 (A)	---
P3 Financial Close	06/17/2016 (A)	---
FFGA Signed	08/22/2017 (A)	---
Start of First Major Construction Activity	08/28/2017 (A)	---
All Significant ROW Acquisition and Relocation	As needed by construction	---
Commencement of Contract Work for Replacement D-B Contractor (MTS)	---	04/14/2022 (A)
Commencement of Integration Testing	---	07/28/2025
All Segments Complete Construction (with Contingency)	---	02/19/2027
RSA Date per P3 Amendment (Does Not Include Contingency)	---	***12/30/2027***
Preliminary RSD, Including Contingency (***not formally accepted by FTA as of September 2024***)		***12/22/2028***

Activity	Prior Approved Master Project Schedule (March 15, 2017)	MTA Master Project Schedule (*September 17, 2024*) (working schedule)
FFGA RSD (Includes Contingency)	12/31/2022	02/28/2028

[1]A = Actual.

2.13.2 90-day Look-ahead

The critical 90-day (***October 2024 through December 2024***) look-ahead includes activities that MTA highlighted in the recent monthly meeting with the PMOC. MTA and MTS also are preparing four-week look-ahead schedules to manage interim activities. Key activities that MTA has identified for the short term are:

- Acceptance of the revised recommendations for schedule and cost contingencies based on the QRA.
- Completion of yard track and initial installation of OCS at the Glenridge OMF to support LRV delivery and testing.
- Continued deliveries of LRVs to the Glenridge OMF.
- Completion of activities associated with the seven roadway or track outages that are occurring to expedite construction progress in the summer of 2024.
- Concrete lining installation at the Bethesda Enclosed Trainway.
- Installation of TPSSs Q5 and QYL, and energizing of the OCS to facilitate dynamic testing.
- Continued installation of rail in all segments.
- October 2024 CAT meetings.
- Finalization of systems integration plans and schedule.

2.13.3 Critical Path Activities

In the MTA master schedule update dated ***September 17, 2024***, the critical path runs through the activities in Segment 3 utilities and track (see **Attachment G, Project Map**), and then through trial running and systems integration/testing.

2.14 Project Risk

MTA has established a risk management organization that is defined in the RCMP and is overseen by MTA's Risk Management Committee. Two major elements of the RCMP are the periodic performance of a QRA and the maintenance and use of the Risk Register.

During the approximately one-year period during which the ROD had been vacated by the federal judge in his decision related to the Friends of the Capital Crescent Trail lawsuit, MTA did not conduct formal Risk Management Committee meetings, conduct Quantitative Risk Analyses, or perform formal updates of the Risk Register. However, the Purple Line project management team

did assess and respond to the risks associated with the unforeseen chain of events related to the lawsuit.

The project team resumed formal Risk Management Committee meetings in October 2017, including individual updates of each risk on the current Risk Register by the risk owner. An overall update of the Risk Register was completed in draft form in January 2018, and was updated further and reissued in March 2018. As an ongoing process, MTA currently is performing updates of the Risk Register periodically, though somewhat less frequently than bimonthly (the frequency established in its RCMP). The current status of the RCMP is discussed in the **Project Management Plan and Sub-plans** section of this report, above.

MTA provides copies of significant updates of the Risk Register to FTA and the PMOC. The top risks from the project's latest issued update of the Risk Register and PMOC-assessed risks are discussed at the PMOC monitoring meetings with the project team; the project's top project risks are included as Attachment B of this report and are updated quarterly. A risk management workshop was held on January 26, 2021, at which the PMOC and FTA participated. The workshop focused on the resolicitation period for the replacement D-B contractor (January through October 2021).

Once the replacement D-B contractor was under contract, risk updates were prepared. The project held a risk workshop the week of May 2, 2022, at which the PMOC and FTA sponsored an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. Confirmation and finalization of the Risk Register, the QRA, and an update of the RCMP are components of the FRP. FTA provided a summary of the risk workshop to MTA on June 22, 2022, for MTA's consideration and incorporation into its management plans and contingency evaluation. MTA provided responses to FTA comments on the risk workshop summary on July 15, 2022, and clarification on August 25, 2022. In October 2022, MTA submitted RCMP Version 15 to FTA and the PMOC for review. In February 2023, FTA and the PMOC provided comments on RCMP Version 15 to support MTA's development of the project's budget contingency and schedule contingency. On April 21, 2023, MTA provided a revised RCMP to FTA and the PMOC for review, and on May 22, 2023, FTA accepted the revised RCMP with comment.

MTA completed an internal QRA to re-baseline the project's contingency drawdown curves and update the RCMP. The QRA that MTA provided in June 2024 included recommendations for cost contingency and schedule contingency of $179.58 million and 11 months, respectively. ***In September 2024 FTA accepted the contingency recommendations in the QRA. The PMOC attended the September 27, 2024 virtual Risk Management Committee meeting. At the meeting,*** MTA identified the following top risks:

1. ***Unknown Existing Construction Defects from the prior D-B contractor.***
2. ***Temporary Construction Easement Extensions.***

In June 2024, MTA reported that risk related to the third-party agreements with PEPCO, the electrical service provider, is an increasing risk to the project schedule. MTA is actively trying to mitigate the risk through proactive communications with PEPCO.

2.15 Quality Assurance/Quality Control

The project's QA/QC is addressed in Section 10 of the PMP, the Quality Program Plan, and the updated MTA QAP Revision 8.0, which incorporates the quality plans prepared by PLTC. The **Project Management Plan and Sub-plans** section of this report, above, discusses the most current versions of the PMP and the QAP. MTA also submitted to FTA the package of inter-related quality plans prepared by the P3 concessionaire after the package was reviewed and approved by MTA.

MTA obtained and used PLTP's quality logs and other applicable documents and procedures during the transition to the replacement D-B contractor. Several former subcontractors were under contract with MTA and conducted QA/QC activities during the replacement D-B contractor solicitation period. The budget to address nonconforming construction by PLTC remains a concern as of July 2023. MTA incorporated known defects into the MTS contract; however, MTA has not clarified the specific budget that will be used to rectify defects found since the contract with MTS was executed. MTA estimates that the potential magnitude of this budget impact will be no more than $10 million, and the current Risk Register carries this risk item.

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on the QAP to MTA. MTA provided a revised QAP to FTA and the PMOC in May 2023. Subsequently, FTA and the PMOC made recommendations for revisions to the QAP that MTA committed to include in the next regularly scheduled update to the QAP.

The project has continued to conduct its monthly meeting to review the QA/QC activities performed by the Purple Line project team, including those activities performed by the PMC and the GEC. MTA states that documentation from this meeting is distributed and maintained. The project's Monthly Progress Report to FTA also contains a summary of the significant current QA/QC activities and events, including quality audits and quality reviews. However, in January 2024 MTA did not submit the typical quality program monthly information, citing a change of leadership on the quality team. On January 25, 2024, MTA introduced the project's new Quality Manager, Turyalai Momand. In April 2024, MTA announced that it had hired a Deputy Quality Manager, along with several other quality staff.

In February 2024, MTA stated that it is developing a full schedule of quality audits to be performed in 2024. When asked about a number of very old deficiency notices and instances of non-conforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of sign-offs by managers. MTA is deferring some other older open quality items because making corrections now will negatively impact other critical path activities.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. Roland Carroll, the Purple Line systems and construction safety lead, added the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to his new quality management role. The PMOC evaluated this change as a part of the PMP review and will

continue to monitor MTA's management capacity for this function and all positions through ongoing oversight activities.

The PMOC requested that MTA provide more complete documentation for quality-related activities. MTA modified the QAP to reflect many of the noted PMOC concerns. In addition, a technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023. The PMOC then recommended acceptance of the QAP contingent upon MTA's incorporation of outstanding items into the next regularly scheduled annual update. On October 6, 2023, FTA accepted the QAP provided that MTA incorporate the PMOC recommendations. MTA has also developed a quality dashboard to improve its tracking of quality issues. In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational chart for quality management and administration. In April 2024, MTA listed the following three quality process improvements that it is developing:

1. Organizational chart update.
2. Document control procedure update.
3. Development of a quality training plan and schedule for 2024.

MTA emphasized that these quality processes apply only to MTA's quality activities, but they are coordinated with MTS's quality processes. In April 2024, MTA stated that it has added quality oversight staff to its organization, including a Deputy Quality Director. In August 2024, the PMOC raised concerns about the quality of project documents, citing inconsistencies in format and content. Many documents that MTA has provided to the PMOC include typos and formatting errors. ***In September 2024, MTA added a Quality Auditor to the team. MTA did not provide quality information for August 2024 as is typical.***

2.16 Safety and Security

To support the ultimate Safety and Security Certification of the Purple Line project, the PLTP System Safety team completed development of its first DCCC in May 2017 and submitted it to MTA for approval. MTA (assisted by the PMC) reviews the DCCCs as part of the Final Design package, according to the established submittal review process. According to PLTP, the DCCCs were being verified before the issuance of RFC packages. To date, an estimated 99 percent of the DCCCs have been verified. All previous comments on PLTP's Certified Elements List (CEL), which includes operations and maintenance and system integration testing elements, have been resolved, and CEL Revision 2 was accepted in March 2020. The Certified Items List (CIL) Revision 1 has been accepted. The next revision of the CIL is expected after MTS completes the design. MTA will provide the revised CIL to FTA and the PMOC as soon as it is completed. Approximately 20 percent of the CSCCs have been verified to date.

MTA chairs a Safety and Security Certification Committee (SSCC) that reviews, comments on, and approves any PLTP hazard management and safety and security certification issues. The first meeting of the MTA SSCC was conducted on March 20, 2018. Since July 11, 2018, the SSCC

meeting has been held regularly and will continue as a monthly meeting until the level of activity requires more frequent meetings. ***As of September 2024,*** monthly SSCC meetings continue.

PLTC submitted a Threat and Vulnerability Assessment (TVA), and on July 15, 2019, MTA accepted and verified the comment responses and approved PLTC's TVA. PLTC then completed its TVA process. ***As of September 2024***, MTS is still performing a cybersecurity TVA for the project, and a cyber threat risk workshop ***was held in September 2024***.

MTA continues to conduct bimonthly Fire/Life Safety meetings with Montgomery County and Prince George's County. The meetings provide a basis for the counties' emergency responders to understand the features of the Purple Line systems and to resolve any concerns. Topics of discussion include: Police Department MOUs; Fire Department connection and hydrant locations; access, signage, and station naming conventions; MOUs for training; the Preliminary Hazards Analysis at the Glenridge OMF maintenance gate; station names; and addresses/emergency phone numbers for locations along the corridor. Other topics of discussion have included closed circuit television cameras and Mobile Emergency Vehicle Response access. As of ***September 2024***, MTA indicates that work on establishing MOUs for cooperation with other local agencies continues. ***Coordination of an MOU for safety and security is in progress with WMATA and Prince George's County. Those documents will serve as*** the template for MOUs with other agencies. It remains the opinion of the PMOC that MTA should emphasize resolving the project's outstanding Fire/Life Safety issues, because progress on the resolution of these issues is not apparent and has been ongoing for several years.

MTA police continue coordinating MOUs with local safety agencies and developing MOUs with police jurisdictions (such as the Maryland National Capital Park Police) along the Purple Line. These MOUs are related to training the existing police agencies on how to respond to transit situations. During August 2023, the PMOC reiterated that these processes have been ongoing for several years and that milestones for resolution of issues should be established.

During the September 2022 MTA/PMOC meeting, a larger related issue was discussed at length. The SSOA staff participated in this discussion as well. The crux of the issue is that MTA does not have a police force located in proximity to the Purple Line. MTA hired a consultant team to analyze alternatives for providing security and fare enforcement services for the Purple Line. Alternatives included: expanding MTA's enforcement services geographically, bringing on a third party to provide these services through a contract, or sharing police services with another party. On February 23, 2023, MTA submitted its prepared draft recommendation for providing security and fare enforcement to several State of Maryland departments. Representatives from MDOT, which is the SSOA, who are monitoring the Purple Line project development provided comments on the draft recommendation before MTA submitted it to MTA's upper management and the several state departments. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a new Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on MOUs with other local jurisdictions, and developing a facility to house the district.

As of January 2024, the PMOC was continuing to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget for providing security and fare enforcement services. In February 2024, MTA stated that it would complete the implementation plan by March 31, 2024. However, as of April 2024, MTA indicated that it would complete the police and security implementation plan by May or June 2024. MTA stated that the facility for the new Southern District of the police department will not be completed before the February 2028 RSD, and therefore temporary facilities will be required. In May 2024, MTA stated that the Purple Line project team will not be responsible for development of the new police force facility, but rather a different MTA department will manage its development. The PMOC recommends that MTA provide the key schedule milestones for development of the police and fare enforcement services, including for the development of the new police force facility and for the staffing and training for the new Southern District. ***In September 2024,*** MTA again committed to providing the key milestone dates for staffing and training for the new police force facility***, although the expected date that the information will now be available in January 2025.***

As required by the P3 contract, PLTP is responsible for directly implementing many of the safety and security requirements for the project, including those for construction safety and the collection and maintenance of the Occupational Safety and Health Administration (OSHA) safety statistics for the project. PLTC performed this work until its departure from the project, at which time MTA assumed responsibility. Later, once the replacement D-B contractor was in place, MTS transitioned into the safety and security role that PLTC held. MTS and MTA hold regular safety and security coordination meetings.

Safety is a PMOC concern. The rate of recordable incidents remains above project goals, and MTA appears to be having difficulties with incident documentation. ***As MTA reported in August 2024***, the OSHA statistics for the project are:

- TCIR (Total Case Incident Rate) (Recordable Rate):
  - Actual: ***2.20 for 2024 (Year-to-Date [YTD]) and 2.0 (August 2024)***
  - MTS goal: ***2.0 to 3.0, the national average depending on construction type***

Note: As of January 2024, the Lost Time Injury Rate (LTIR) is no longer being tracked.

In May 2024, the 2024 YTD and project inception-to-date (for MTS) incident rates decreased significantly. In June 2024, MTA reported that MTS had modified the incident statistics to exclude incidents related to subcontractors and suppliers. MTA is discussing the appropriateness of this change with MTS. The May 2024 TCIR that included all contractors was approximately double the goal. MTA has stressed that subcontractors are a critical part of project safety, given that they make up more than half of the personnel on the project. Although there is evidence of limited progress in addressing safety, the PMOC continues to have concerns specifically related to construction safety.

MTA had assumed responsibility for safety oversight during the IRP until MTS assumed control of the project. As of December 2022, MTA reported that MTS needs coaching on expectations for the required reporting of safety statistics. In April 2023, the PMOC noted to MTA that both

the LTIR and the TCIR had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in incident rates, there is an apparent lack of tracking and reporting of safety issues. The PMOC has repeatedly noted that there are inconsistencies in incident reporting between MTA and MTS.

MTA states that it recognizes the issue and reports that it has scheduled additional safety coordination efforts. In May 2023, the PMOC requested documentation on these additional efforts, and in July 2023, the PMOC questioned the effectiveness of the efforts. MTA acknowledges the need for safety process improvement. In November 2023, MTA stated that MTS has replaced its safety director and has added safety staff, although MTA did not review the qualifications of the new director or staff. The PMOC recommended that MTA review the qualifications of MTS safety staff and the safety processes and procedures being followed on the project.

The PMOC recommended that MTA and MTS complete a safety process review as soon as practical and that MTA prepare a written summary. In November 2023, MTA's safety director, Roland Carroll, provided an email and attachment that briefly summarized the safety improvement actions. The document does not indicate target dates for implementation, nor the responsible party for these actions. In January 2024, MTA stated that MTS is not following the contractually required incident reporting procedures and timelines, which include a 20-minute verbal reporting requirement and a 24-hour maximum period to submit written documentation of incidents. In February 2024, MTA provided 12 months of incident reporting information to the PMOC. The document quality requires improvement and should include identifying information, such as the date and who prepared it. The data indicates that nearly 80 percent of all safety incidents are reported late, some as much as several months. The delayed reporting has occurred for both MTA-managed incidents (under OSF) and for MTS-managed incidents under both the former and current MTS Chief of Safety.

It remains the opinion of the PMOC that MTA's processes related to construction safety can be improved. The PMOC recommends that MTA consider dedicating additional resources to construction safety (i.e., resources dedicated to only the construction portion of the Purple Line project). MTA should also consider preparing a comprehensive monthly safety report under the direct supervision of the Project Director.

In April 2024, MTA reported its March 2024 incident rate, which showed an increase, and the rate remains significantly higher than the goal. MTA has stated that it is modifying the safety processes. The PMOC requested that MTA submit the full incident tracking log each month as a part of the standard information it provides to the PMOC, and that MTA also provide the results of the April 2024 audit of the MTS Concessionaire Safety and Health Plan. In August 2024, the PMOC requested that MTA provide the injury rate statistics and calculations, because the significant decrease in the project-to-date rate that occurred between January 2024 and July 2024 does not appear to be mathematically possible. ***As of September 2024, project safety goals and calculation methods have been modified significantly. The PMOC recommends that MTA prepare a thorough summary of the changes to safety documentation and calculations, and the reasoning for each change.***

The PMOC reviewed the Concessionaire Safety and Health Plan audit results (from the May 2024 MTA audit) and makes the following observation and related recommendation:

- Audit Item 4 – MTS does not have written verification of its subcontractors' and suppliers' health and safety plans. MTA recommended that MTS collect written verification from the subcontractors and suppliers that they are utilizing their health and safety plan or have adopted the MTS health and safety plan. Considering that MTS has had subcontractors onsite since April 2022, the PMOC finds this lack of verification a significant concern. The PMOC recommends that MTA require MTS provide a firm target date for verification and track progress toward completion.
- The PMOC continues to recommend that MTA carefully monitor safety documentation and develop safety process improvements.

In late October 2022, MTA submitted to FTA updated SSMP and SSCP documents in conjunction with the updated PMP. On February 13, 2023, and March 8, 2023, FTA provided review comments to MTA on the SSMP and SSCP, respectively. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023, and accepted the SSCP on December 28, 2023. In April 2024, MTA submitted a revised SSCP that includes the TUN process and also provided a partially complete preliminary LRV Delivery Plan. FTA accepted SSCP Version 8 on July 9, 2024.

See the **Project Management Plan and Sub-plans** section of this report, above, for the status of the sub-plans of the PMP related to safety and security.

2.17 Americans with Disabilities Act

The PMOC confirmed that the Design Criteria Manual applicable to the Purple Line project addresses Americans with Disabilities Act (ADA) requirements, including references to the requirements in the Maryland Accessibility Code, the ADA Accessibility Guidelines for Buildings and Facilities, and the ADA Standards for Transportation Facilities.

Accessibility and compliance with the ADA are required as part of the functional requirements for stations and guideway, and as part of the codes and standards for LRVs within the P3 contract (Book 2, Part 2) for the Purple Line project. Based on project reviews conducted by the PMOC, MTA has confirmed that it included ADA compliance in its QA oversight reviews of PLTC's design packages.

All design reviews include ADA specifically. The contract requires a full-time MTS Maintenance of Traffic construction representative for the project to monitor whether temporary pedestrian accommodations during construction continue to comply with ADA requirements. The contract also includes an incentive program for ADA compliance. The Maryland State Highway Administration also inspects temporary facilities.

MTA indicates that the project is maintaining ADA accessibility along the project corridor during construction. In addition to planning for ADA accessibility, MTA and MTS respond to public concerns due to construction activities and temporary accessibility features. As of July 2024, the

project corridor has experienced an increase in constituent access and mobility concerns due to the intensity of summer construction activities. MTA is coordinating with MTS to address these concerns as quickly as possible.

2.18 Buy America

MTA understands that Buy America compliance applies not only to the rail vehicles but also to the procurement of all manufactured products, including all iron and steel. MTA is also aware that domestic manufacture of all federally funded procurements is required and should be certifiable. Compliance with Buy America regulations is contained in MTA's standard clauses for its procurements, and the P3 contract contains explicit Buy America language in its Appendix 16.

Virginkar and Associates, Inc. conducted the Buy America pre-award audit and concluded that there is reasonable certainty that CAF will satisfy the Buy America requirements as stated in 49 Code of Federal Regulations (CFR) 661. MTA's interpretation is that, because the vehicle RFP was advertised before December 4, 2015 (which is the date of passage of the Fixing America's Surface Transportation Act, also known as the FAST Act), the 49 CFR 661 Public Interest Waiver that limits domestic content to a minimum of 60 percent, as opposed to the escalating domestic content requirements of the FAST Act, applies in this case. During the week of October 2, 2017, an intermediate post-award Buy America audit was conducted of CAF's facility in Elmira, New York, for added confidence that the post-delivery audit would not identify issues. CAF targeted 65 percent domestic content in the completed LRVs.

The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to FTA. On that same day, MDOT also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.

MTS regularly audits its suppliers and subcontractors regarding the construction Buy America requirements. MTS audits its subcontractor's Buy America requirements and any issues are reported in conjunction with the project quality process.

2.19 Start-up, Commissioning, Testing

MTA has begun documentation for the "Roadmap to Revenue Operations" (see **Attachment F**), which includes both MTA and MTS information on integration, testing, and commissioning. MTA submitted an update of Attachment F to the PMOC in May 2024. In July 2024, MTA provided to the PMOC the Integration Test Program Plan and other documentation prepared by PLTP and PLTP's contractor, SENER. As of November 21, 2023, MTA had developed a process for managing testing submittals and reviews, including detailed tracking of open items.

The PMOC has recommended that MTA expedite readiness activities for testing of LRVs. MTA states that the responsibility for readiness activities lies with the P3 concessionaire. LRV delivery began in May 2024, and MTA media events related to vehicle delivery occurred in July 2024. The

PMOC recommends that MTA expedite the readiness plans for dynamic testing, which is scheduled to begin in ***November 2024.***

2.20 Before-and-After Study Reporting

To be determined.

2.21 Lessons Learned

The resolicitation of a D-B contractor gave MTA the opportunity to apply several lessons learned to the new D-B contract documents and to amend the P3 Agreement. After the May 2022 risk workshop with MTA and the PMOC, MTA provided an update on opportunities for improvement that MTA had identified during the resolicitation and is incorporating into the project. MTA provided an initial Lessons Learned summary that addressed the period of OSF construction and replacement of the D-B contractor. The PMOC recommends that MTA continue the process of recording lessons learned by reviewing and documenting the issues that led to the change orders (of nearly $600 million and 11 months) that included Amendment 7 to the P3 Agreement. ***In September 2024, MTA indicated that it is committed to documenting lessons learned, although it has not had the resources available to do so.***

2.22 Action Items

Action Items are identified at MTA/FTA QPRMs, at MTA/PMOC Monthly Update Meetings, and at MTA/FTA Biweekly New Starts Progress Conference Calls. Action Items in ***September 2024*** are as follows:

1. MTA will provide the key schedule milestones for development of the police and fare enforcement services. – OPEN***; completion is now planned for January 2025.***
2. MTA will provide calculations for the LTIR in September 2024 **– *CLOSED***
3. MTA will provide partnering information in ***October 2024,*** including agenda, notes, and partnering poll results from the ***July 31, 2024*** partnering meeting **– *OPEN***
4. MTA will provide the current CEL and CIL in September 2024 **– *CLOSED***
5. ***MTA will provide to FTA a formal request (letter) to amend the FFGA requirements for RSD and cost, including a breakdown of contingency, funding, and sources of funding. – OPEN***
6. ***MTA will provide the results of the recent safety audit when complete. – OPEN***

ATTACHMENT A – LIST OF ACRONYMS

ADA	Americans with Disabilities Act
ARPA	American Rescue Plan Act
ATC	Alternate Technical Concept
BFMP	Bus Fleet Management Plan
BPW	Board of Public Works
CAF	Construcciones y Auxiliar de Ferrocarriles
CAT	Community Advisory Team
CEL	Certified Elements List
CFR	Code of Federal Regulations
CIL	Certified Items List
CSCC	Construction Specification Conformance Checklist
CSX	CSX Corporation
D-B	Design-Build
DBE	Disadvantaged Business Enterprise
DCCC	Design Criteria Conformance Checklist
DNR	Maryland Department of Natural Resources
EAC	Estimate at Completion
FAI	First Article Inspection
FCP	Forest Conservation Plan
FFGA	Full Funding Grant Agreement
FRP	Final Recovery Plan
FTA	Federal Transit Administration
GEC	General Engineering Consultant
IBS	Initial Baseline Schedule
IRP	Interim Recovery Plan
LOD	Limits of Disturbance
LRT	Light Rail Transit
LRV	Light Rail Vehicle
LTIR	Lost Time Injury Rate
MCC	Management Capacity and Capability
MDE	Maryland Department of the Environment
MDOT	Maryland Department of Transportation
MOU	Memorandum of Understanding
MTA	Maryland Transit Administration
MTS	Maryland Transit Solutions
N/A	Not Applicable
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
OCS	Overhead Contact System
OMF	Operation and Maintenance Facility
OP	Oversight Procedure
OSF	Operation Step Forward
OSHA	Occupational Safety and Health Administration
P3	Public-Private Partnership
PEPCO	Potomac Electric Power Company
PLTC	Purple Line Transit Constructors
PLTO	Purple Line Transit Operators
PLTP	Purple Line Transit Partners
PMC	Project Management Consultant
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QA/QC	Quality Assurance/Quality Control
QAP	Quality Assurance Plan
QPRM	Quarterly Progress Review Meeting
QRA	Quantitative Risk Assessment

RAMP	Real Estate Acquisition Management Plan
RCA	Root Cause Analysis
RCMP	Risk and Contingency Management Plan
RFC	Released for Construction
RFP	Request for Proposals
ROD	Record of Decision
ROE	Right of Entry
ROW	Right-of-Way
RSA	Revenue Service Availability
RSD	Revenue Service Date
SCC	Standard Cost Category
SEIS	Supplemental Environmental Impact Statement
SSCC	Safety and Security Certification Committee
SSCP	Safety and Security Certification Plan
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSTC	Silver Spring Transit Center
STP	Surface Transportation Program
SWM	Stormwater Management
TBD	To Be Determined
TCE	Temporary Construction Easement
TCIR	Total Case Incident Rate
TDD	Transit Development and Delivery
TIFIA	Transportation Infrastructure Finance and Innovation Act
TPSS	Traction Power Substation
TRO	Temporary Restraining Order
TUN	Temporary Use Notice
TVA	Threat and Vulnerability Assessment
UMD	University of Maryland
USACE	U.S. Army Corps of Engineers
WMATA	Washington Metropolitan Area Transit Authority
WSSC	Washington Suburban Sanitary Commission
YOE	Year of Expenditure
YTD	Year-to-Date

ATTACHMENT B – TOP PROJECT RISKS

An internal risk workshop to support the Interim Recovery Plan was held on January 26, 2021. Maryland Transit Administration (MTA) and Purple Line Transit Partners (PLTP) used information from the meeting as they solicited a replacement Design-Build contractor.

A risk workshop was held May 3 through May 5, 2022. After the risk workshop, MTA prepared supplementary or updated documents for review, including an updated Risk Register. The Federal Transit Administration (FTA) provided a risk summary to MTA on June 22, 2022, for MTA's consideration when updating risk, contingency, and other project management plans. MTA incorporated the FTA comments in the revised Risk and Contingency Management Plan (RCMP) that is a part of the Final Recovery Plan. On May 22, 2023, FTA accepted the revised RCMP with conditions.

During the February 7, 2024 Quarterly Progress Review Meeting, MTA presented cost and schedule contingency drawdown curves that indicated significant commitment of contingency reserves. Due to this significant commitment of contingency and the fall 2023 completion of the MTA-managed Operation Step Forward (OSF) activities, MTA determined that an update to the Risk Register was warranted.

In March 2024, MTA executed Amendment 7 to the P3 Agreement to address the OSF delays, nonconforming work by the previous D-B contractor (Purple Line Transit Constructors), owner-driven changes to the design, and several other disputes with PLTP and/or Maryland Transit Solutions (MTS), the replacement D-B contractor. Amendment 7 raised PLTP/MTS compensation by $577,459,709 and added 11 months to the project schedule, representing considerably more than the available cost contingency and nearly all of the available schedule contingency, respectively. In response, MTA prepared a Quantitative Risk Assessment (QRA) to re-baseline the project's contingency drawdown curves and update the RCMP. In June 2024, MTA provided a preliminary risk update and QRA, including contingency recommendations; these preliminary recommendations for cost contingency and schedule contingency are $179.58 million and 11 months, respectively. ***In September 2024, FTA accepted the contingency amounts as proposed by MTA.***

In September 2024, MTA identified the following top risks:

1. ***Unknown Existing Construction Defects from the prior D-B contractor.***
2. ***Temporary Construction Easement Extensions.***

In July 2024, the Project Management Oversight Contractor (PMOC) reviewed the MTA QRA and requested that MTA provide information that describes the basis for the Amendment 7 cost and schedule values, and asked several other questions to help clarify the QRA procedures. ***In September 2024, the PMOC provided its final QRA comments/recommendations to FTA***.

ATTACHMENT C – AWARDED CONTRACTS

Included below is information that MTA provided for the August 14, 2024 Quarterly Progress Review Meeting packet. Please note that the total shown in this table for contracts awarded does not reflect the full project value.

Major Contracts:

Company	Vendor Type	Contract No.	Baseline Amount	Change Order Totals	Current Amount	Pending Change Orders
PB/RK&K	Engineers/ Architects	MTA-1054A	$ 12,000	$ 1,850	$ 13,850	
STV/Jacobs	Engineers/ Architects	MTA-1054B	$ 8,000	$ 1,300	$ 9,300	
AECOM/ RK&K/WSP	Engineers/ Architects	MTA-1264A	$ 60,000	$ 338,500	$ 398,500	
Gannett Fleming/WRA	Engineers/ Architects	MTA-1265B	$ 80,000	$ 71,000	$ 151,000	
Purple Line Transit Partners	P3 Concession (design build portion only)	PUR16032PP	$ 1,988,816	$ 1,921,639	$ 3,910,455	
Total			**$ 2,148,816**	**$ 2,334,289**	**$ 4,483,105**	**0**

Amendment 6 to the Purple Line Transit Partners P3A was not been previously reflected. The amount shown as "Current Amount" represents that portion of the P3A Design-Build contract associated with the New Starts Program.

ATTACHMENT D – ROLLING STOCK VEHICLE STATUS REPORT

Date: ***September 19, 2024***

Vendor: Construcciones y Auxiliar de Ferrocarriles (CAF)

Model: Multiple-section 136-foot articulated car (total length is 142 feet coupler-to-coupler), used in a five-car consist per vehicle

Year: The first vehicle was completed in 2021, and currently 26 vehicles are designated as "Ready for Shipment" and/or have been delivered. Completion of the storage and testing facilities at the Glenridge Operation and Maintenance Facility (OMF) was delayed, so Maryland Transit Administration (MTA) and CAF negotiated terms for storage of vehicles at the CAF facility in Elmira, New York. The storage agreement has now transferred to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS).

Quantity: 25 vehicles (125 cars) were in the original contract (Full Funding Grant Agreement [FFGA]). One vehicle (five cars) was added to the original CAF authorization by MTA, outside of the FFGA.

In July 2021, two vehicles (ten cars) were added via change order to MTS, also outside of the FFGA.

Identification: The original light rail vehicles (LRVs) will be numbered from 101 through 126. The two additional LRVs will be numbered 127 and 128.

New Technologies: None planned (all major suppliers have service-proven equipment).

Status and Significant Activities:

- As a part of the original order, 26 vehicles (130 cars) were assembled in Spain and delivered to CAF's facility in Elmira, New York, for final assembly and static testing. The additional two vehicles (ten cars) also have been delivered to Elmira for final assembly and static testing.
- Delivery of finished vehicles was expected to begin in spring 2021; however, because the Glenridge OMF was not ready to accept railcars, MTA and CAF negotiated an agreement for CAF to store the completed cars in Elmira.
- The first LRV was delivered to the Glenridge OMF on May 15, 2024; and one delivery has occurred each month since. ***The fifth vehicle delivery occurred on September 11, 2024.*** CAF intends to have one vehicle per month delivered until such time as that frequency can be increased. ***Four vehicles have completed static testing onsite at Glenridge, utilizing auxiliary power. Additional testing is required when traction power is available.***

- ***Twenty-one*** LRVs are designated as Ready for Shipment and remain in storage in Elmira. ***Two vehicles are in factory testing as of September 2024.***
- The Glenridge OMF can store up to six vehicles in the building, so additional track must be available for additional storage. The Overhead Contact System and Traction Power Substation (TPSS) Q7 and TPSS QYG must be completed and installed before operation of the vehicles.
- SNC-Lavalin (now an MTS subcontractor) prepares a monthly quality report documenting safety, production, and quality items at the Elmira production facility.
- MTS, which has assumed the CAF contract, ***is no longer*** submitting to MTA reports on LRV maintenance activities required during the storage period.
- The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with the evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to Federal Transit Administration (FTA). On that same day, Maryland Department of Transportation also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicated that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.
- The resolution of a previously identified quality issue related to the M33 bolt on the LRV trucks was closed in May 2024. In July 2024, MTA provided a confidential report on resolution of the issue. CAF performed a Root Cause Analysis, identifying a primary root cause and secondary contributing causes. Validation of the corrective actions was conducted, and the issue is now closed.
- ***In September 2024, MTA reported that PLTO has taken possession of the Glenridge OMF to allow it to maintain LRVs and coordinate vehicle testing.***

ATTACHMENT E – PROJECT MILESTONES/KEY EVENTS

Photos courtesy of Maryland Transit Administration.



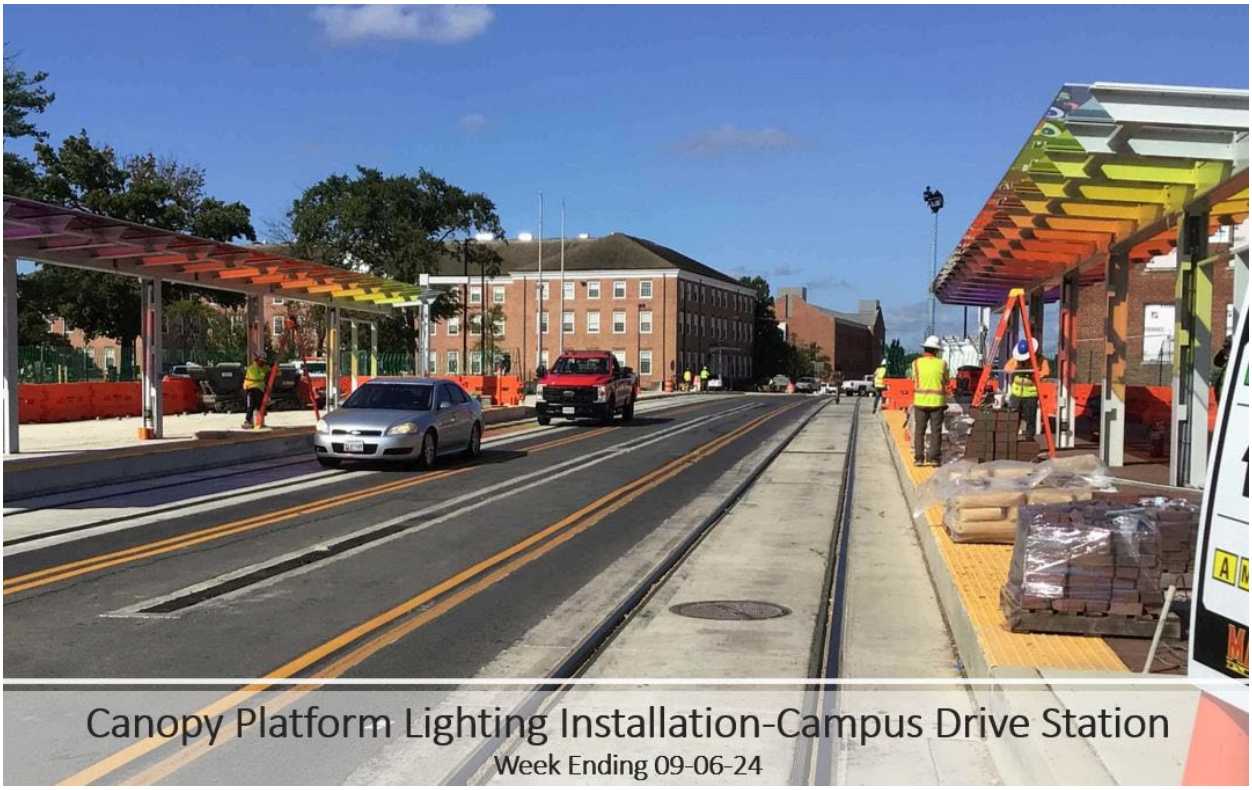




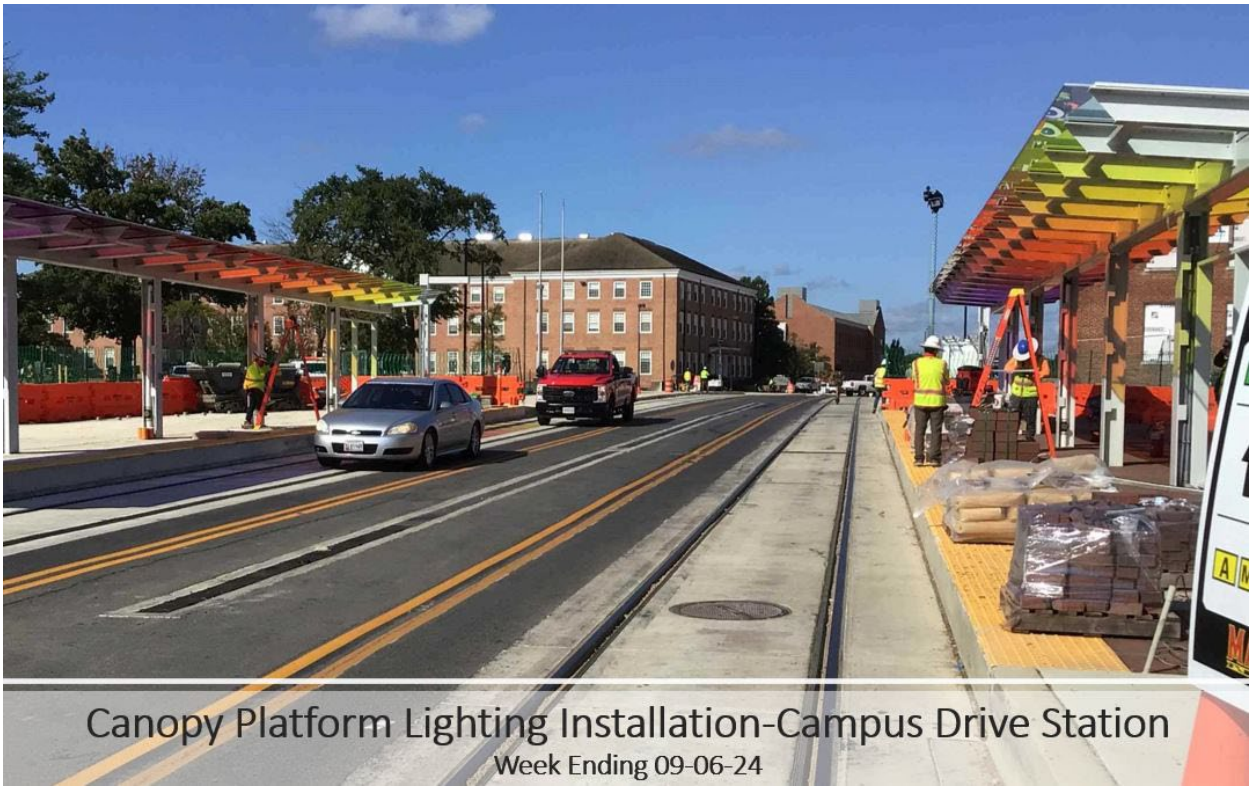
Wall 1-001A Stem Rebar Work – Bethesda
Week Ending 09-13-24



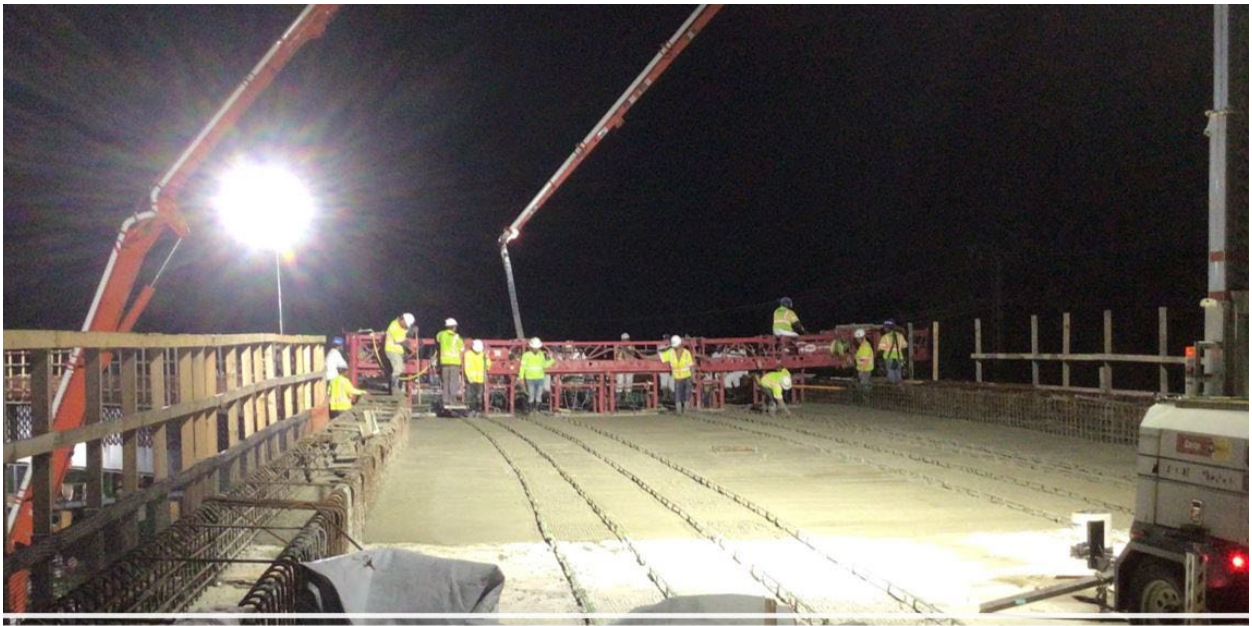
Wall 3-146 Stem Rebar Work – Wayne Ave. at Manchester Rd
Week Ending 09-13-24


Canopy Platform Lighting Installation-Campus Drive Station
Week Ending 09-06-24


Flatwork Concrete Placement –MD650 and MD193
Week Ending 09-06-24



Canopy Platform Lighting Installation-Campus Drive Station
Week Ending 09-06-24



S29 Aerial LRT Bridge Deck Span 2 Concrete Placement – Riverdale Rd
Week Ending 09-20-24


WEC-484 Foundation Pad Concrete Placement – University Blvd.
Week Ending 09-20-24


Terminating Load side Switch for TPSS-Q7 – Veterans Parkway
Week Ending 09-27-24



Site View of CMU Foundation Work Progress – Lyttonsville OMF
Week Ending 09-27-24

ATTACHMENT F – ROADMAP TO REVENUE OPERATIONS

In accordance with Oversight Procedure 25, the Project Sponsor will prepare the Roadmap to Revenue Operations template based on the current master project schedule, in the general format presented below. The PMOC provided this template to the Project Sponsor as a separate electronic file for its use. The Project Sponsor is requested to provide quarterly updates for review and discussion. MTA provided the quarterly update for the roadmap, shown below, in August 2024.

ROADMAP TO REVENUE OPERATIONS (MTA to provide updates)

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Testing								
Finalize Comprehensive Test Plan	PLTP/MTS/ Sener	See Notes	In Progress	TBD		**T & C Management Plan** – Accepted **Project Test Program Plan** – Accepted **LRV Test Plan** – Accepted. All factory and site test procedures Accepted. **TCS Test Plan – Local** – Accepted. All factory test procedures submitted, 10 of 11 Accepted. 18 of 37 site test procedures submitted, 12 Accepted **TCS Test Plan – Integration** – Awaiting Submittal **TCS/Traffic/CMS Test Plan** – Awaiting Submittal **TPSS Test Plan** – Accepted. All factory test procedures submitted and Accepted. 21 of 24 site test procedures submitted and Accepted. **OCS Test Plan** – Accepted. Factory test procedures prepared by previous contractor and reviewed by PLTC/Atkins. 9 of 13 site test procedures submitted. **Communications Test Plan** – Accepted. All PL procedures submitted, no unresolved comments. 4 of 51 site test procedures submitted. **CMS Test Plan** – Accepted. 56 of 58 factory test procedures submitted, 51 Accepted. 0 of 52 site test procedures submitted. **Fire & Security Test Plan** – Accepted. 21 of 25 factory test procedures submitted and Accepted. 6 of 47 site test procedures submitted. **Fare System Test Plan** – Awaiting Systems Design **Traffic** – QC with AHJs **EMI Test Plan** – Accepted **CCG Test Plan** – Accepted- Awaiting pass/fail criteria for Electrical Resistance & Continuity &Test Procedures. **Noise & Vibration** – MTS Reviewing **OMIS Test Plan** –CMS Integration added to CMS TPP. OMIS functionality TBD after completion of design.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Ops Simulator Test Plan TPP is pending completion of design. **Trackwork** – Unofficial draft received and comments returned. Awaiting official submittal. **OMFs Test Plan** –Responses received to previous Glenridge submittal – in resolution. Plan for Lyttonsville will be submitted as a separate document. **Station Electrical** – Under Study by MTS/Sener **Fire Protection, Mechanical, Plumbing** – Under Study by MTS/Sener		
Finalize / Update Systems Integration Test (SIT) Plan	PLTP/MTS/ Sener	In Preparation	In Progress	May 2024		Awaiting update of DRC# 3644, CW-164, Systems Integration Test Plan Revised document received – DRC #1066. Completed & Accepted		
Develop Testing Schedule and Monitoring Tools	PLTP/MTS	In Progress	TBD	TBD				
Develop Operating Rules for Testing	PLTP/MTS	In Preparation	In Progress	July 2024		Construction Railway Operations Rules & Procedures (CRO) is complete and submitted to MTA/PMC for information. Training on CRO scheduled to begin in August/September 2024.		
Conduct System Integrated Testing - Prioritized Traffic Signal Systems	PLTP/MTS	In Progress	TBD	TBD				
Certificates of Occupancy / Substantial Completion	Maryland Office of the State Fire Marshal	Glenridge OMF – In progress.				As state-owned property, no certificates of occupancy are issued. The AHJ ensures building is safe through various system inspections to include fire protection systems, elevators, etc. AHJ will take no exception to occupancy if inspections pass.		
Finalize Operating Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept. 2025 Sept 2026		Projected start of Trial Running: March 2027 Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running
Finalize / Revise Standard Operating Procedures (SOPs), manuals, and rulebook as applicable	PLTP/PLTO	See Note	TBD			Included as part of the Operating Plan. Projected start of Trial Running: March 2027 :		Rulebook, SOPs and EOPs to be submitted for review and approval no later than 6 months prior to Trial Running.

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
				Sept. 2025 Sept 2026		Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running. Revisions to operating/maintenance/emergency rules/procedures may occur during the testing and commissioning period.		Preliminary submittal of Operations manuals for review and comment due no later than 18 months prior to Trial Running. Final submittal of Ops manuals for review and approval due no later than 6 months prior to Trial Running
Complete Staffing Plan	PLTP/PLTO	On-going				PLTO has developed a draft staffing and hiring plan that is tied to the approved project schedule. Hiring plan subject to change based on project schedule changes.		
Obtain Required Staff	PLTP/PLTO/ MTS	On-going	Various	March 27		Recruitment and staff hiring based on project schedule. PLTO staffing (operators and dispatchers/controllers) to support vehicle dynamic testing has been coordinated with CAF. Onboarding of other PLTO support staff for vehicle maintenance (after vehicle acceptance) and test track maintenance tied to vehicle delivery dates and start of vehicle dynamic testing (Fall 2024)		
T&C Support Staff	PLTO		March 2024	Fall 2024		**PLTO Current On-site Staffing:** General Manager Director of Maintenance Director of Finance Deputy Director of Operations Manager of Facilities Maintenance Manager of Wayside and Systems Manager of Vehicle Maintenance Vehicle Maintenance Superintendent Vehicle Maintenance Technician Human Resources Manager Buyer/Warranty Specialist Warehouse Supervisor Rail Operators (6 - for T&C Support). Facilities Maintainer Database Administrator Instructor Current On-site Staff supported by various home office operations and engineering staff and consultants such as Safety & Operations, Systems, etc.		

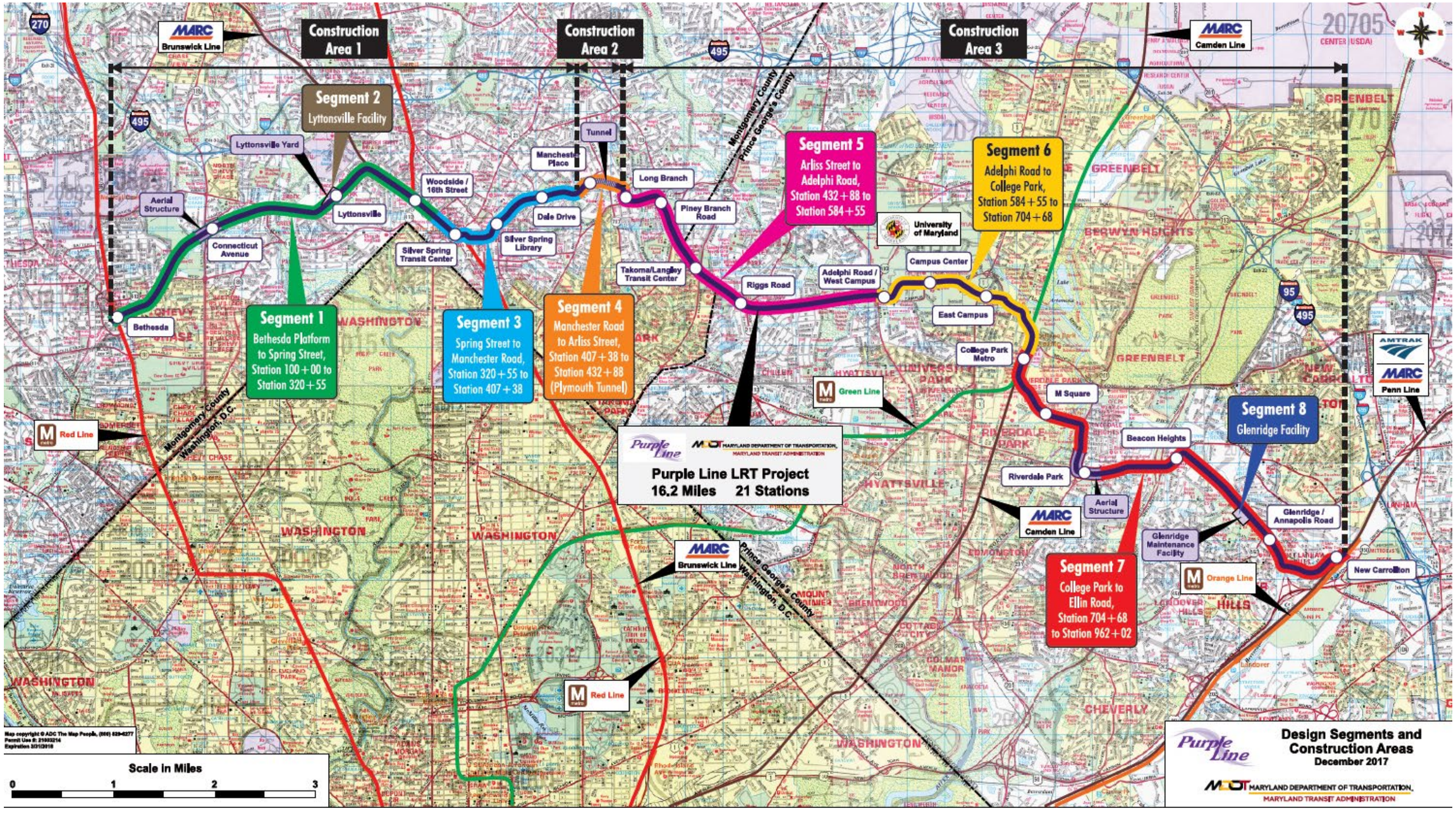
Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Finalize Revenue Operations Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept 2025 Sept. 2026		Projected start of Trial Running: March 2027 Revenue Operations/Service Plan included as part of Operating Plan. Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		
Develop / Revise Safety and Security Certification Plan (SSCP) & Safety and Security Management Plan (SSMP)	MTA	On-going	SSMP – 2/02/2011 SSCP – 8/31/2012	TBD		SSMP is currently on revision 14 and the SSCP is on revision 8. The SSMP is updated in conjunction with the PMP as it is considered a sub-plan.		
Federal Transit Administration (FTA) Office of Safety & Security Readiness Review	FTA	See Note	TBD	TBD		No updates at this time		
PMOC OP-54 Readiness for Revenue Operations Review Report	PMOC	See Note	TBD	TBD		No updates at this time		
Conduct Operational Hazard Analysis (OHA) and resolve other hazards / vulnerabilities	PLTP	See Note	TBD	TBD		No updates at this time		
Pre-Revenue Operations	PLTP/PLTO	See Note	March 2027	Dec. 2027		Pre-revenue Operations broken down into: Trial Running and System Demonstration Testing. Projected start of Trial Running: March 2027		
Develop Safety Outreach Plan	MTA/PMC PLTP MTS	On-Going	TBD August 2024	Sept. 2025 Fall 2024		Projected start of Trial Running: March 2027 Outreach Plan to be developed 18 months before Trial Running. Test track Communications and Outreach Safety Education Campaign expected for October 2024. Dynamic testing on approximately one-mile along Veterans Parkway between Riverdale Road and Annapolis Road is expected in the fall of 2024.		
Provide Community Outreach	MTA/PMC PLTP	On-Going	August 2024	Fall 2024		Outreach plan for test track OCS energization and start of vehicle dynamic testing under development.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Near Term Hiring: Posted Positions Sr Track Maintenance/Inspector Accounting Specialist IT Specialist All OMF building maintenance contracts have been executed with the exception of contracts for the cranes, turntables, hoist which are still under MTS responsibility. Anticipate turnover of equipment to PLTO in the near future. PLTO anticipates having an established maintenance contract with the crane supplier by the end of August. In floor car & truck hoists still in MTS possession awaiting capacity certifications		
Training of Operations and Maintenance (O&M) personnel	PLTP/PLTO/ MTS	On-going	Various	March 2027		**For Testing & Commissioning Support:** Six (6) LRV Operators have received initial familiarization training on the vehicles in Elmira, Those operators will be used to support vehicle dynamic testing and training of full-time operators in the future training at Elmira completed. PLTP/MTS developing training plans for testing & commissioning rules, procedures, and requirements. PLTO will need to be fully staffed prior to the start of Trial Running in March 2027.		
Emergency response plan, training, and drills Initial Training for OMF/Test Track and Vehicles	PLTP/PLTO/ MTS	Various Ongoing	Feb. 2024 Aug. 2024	Jan. 2027 Sept. 2024		Emergency response drills to be conducted during Trial Running. Initial Training for up to 150 first responders will be initiated between PLTP, PLTO, CAF and Prince George's County. Training to begin Monday 8/19/2024 with an estimated completion 8/30/2024.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
	MTS On-Going	September 16, 2024	October 1, 2024		The Purple Line Outreach Team, in a collaborative effort with partners at PLTP and MTS, will provide resources and community outreach to inform the public, expanding efforts to a broader campaign in preparation of public road testing. Recommended best practices for reference include **Operation Lifesaver** and collaboration with MTA, based on prior safety campaigns. Action Items: **Outreach:** Alert elected officials along the alignment and communities about dynamic track testing **Outreach:** Focus on safety with notifications, resources available on the website highlighting restricted areas and potential dangers of trespassing **Outreach:** Include testing information in the October CAT meeting presentations **Outreach in coordination with MTA Safety**: Message training for the test track on-site crews on protocol if engaged with the public or media who might try to access the area or take photos of testing **Communications:** Create messaging that builds excitement about future ridership **Communications:** Safety-focused social media postings to alert the public about testing and show as a progressive milestone **Communications in coordination with MTS Stakeholder Team:** Send advance communications to elected officials about testing phase and safety reminders for the public going out		
Public Timetables / Maps / Website Updates, etc.	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time.		
Grand Opening Plan	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time		
Update / Finalize SSMP	MTA					See previous SSMP entry.		
Finalize and/or update Safety Certifiable Item List (SCIL) and SSCP	MTA/PLTP	On-going	TBD	TBD		See previous SSCP entry. No update for SCIL..		
Implement Safety and Security Certification Committee	MTA	On-going	April 2018	TBD		The SSCC has been ongoing since 2018.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Implement Fire Life Safety Committee	MTA	On-going	7/27/2012 – Montgomery County 9/26/2012 – Prince George's County	TBD	TBD	MTA has implemented two FLSSCs, one for each Maryland County that Purple Line traverses. Both committees were started in 2012.		
Verify design criteria, Preliminary Hazards Analysis (PHA), Threat and Vulnerability Analysis (TVA), change orders are implemented within the project	MTA/PLTP	On-going	PHAs - 6/26/2012 TVA – 12/10/2013 Change Orders	August 2024	TBD	PLTP has verified over 99% of the design criteria. Initial PHAs on the 30 % Preliminary Design started in 2012 by MTA. PLTP continued PHAs in 2016. Initial TVA completed in 2015 by MTA. PLTP continued in 2017. MTS has initiated a cybersecurity TVA. Cybersecurity Workshop – Risk Ranking conducted on 8/9/2024. Participants included PLTP, MTS, PLTO, CAF, MTA/PMC. Additional information requested of participants; another meeting will be scheduled when info is compiled.		
Review status of quality non-conformances		See Note				No updates at this time.		
Closeout of non-safety critical items/non-conformances		See Note				No updates at this time.		
Closeout of safety critical items/nonconformances	MTA/PLTP	Not started	TBD	TBD		No updates at this time.		
Complete Safety and Security Certification Verification Report (SSCVR)	PLTP	Not started	TBD	December 2027		This report will be due sometime in the December 2027 timeframe.		
Document Workarounds / Open Items List	PLTP	Not started	TBD	TBD				
Verify emergency drills, tabletops, training, etc. are completed	MTA/PLTP/ PLTO		TBD	TBD		Emergency drills to be conducted during the Trial Running period. Training verification will be completed prior to Trial Running.		
SSO final certification / signature	SSO					No updates at this time		
Revenue Service								
Target Revenue Service Date (RSD)	PLTP		TBD	Dec. 2027		Project schedule dependent.		
Public RSD	MTA/PLTP		TBD	Dec. 2027		Project schedule dependent.		
Full Funding Grant Agreement (FFGA) RSD						No updates at this time.		

ATTACHMENT G – PROJECT MAP



PMOC MONITORING REPORT
October 2024

National Capital Purple Line Light Rail Transit Project
Montgomery and Prince George's Counties, Maryland

Maryland Transit Administration
Baltimore, Maryland
FINAL

Draft Report Delivered to FTA on ***November 8, 2024***
Final Report Delivered to FTA on ***November 27, 2024***

PMOC Contract No.: 69319519D000016
Task Order No.: 69319520F300095
Project No.: 69319519D000016/69319520F300095
Requisition/Reference No.: FTA-TPM20-20-0106
OPs Referenced: 20, 22, 23, 24, 25, 26, 37, 40
CLINs 0001, 0002, and 0005

David Evans and Associates, Inc.
Pete Hankovszky, Task Order Manager
Voice –720.448.6730; Email – pzh@deainc.com
Time on Project: 05/18/2020 through 05/17/2025

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract #69319519D000016, Task Order #69319520F300095. Its purpose is to provide information and data to assist FTA as it continually monitors the management capacity and capability of the Maryland Transit Administration (MTA) (the Project Sponsor) to execute the project efficiently and effectively, and hence, whether the Project Sponsor continues to be ready to receive federal funds for further project development. This report covers the project management activities on the National Capital Purple Line Light Rail Transit Project managed by MTA as the Project Sponsor and financed by the FTA Full Funding Grant Agreement (FFGA). The cost and schedule information in this report was extracted from MTA's submitted information except where noted. The report is organized to comply with the requirements of updated Oversight Procedure 25 – Recurring Oversight and Related Reports, dated June 2020.

THIRD-PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for FTA. This report should not be relied upon by any party, except FTA or the Project Sponsor, in accordance with the purposes as described below.

For projects funded through the FTA FFGA program, FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a Project Sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a Project Sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a Project Sponsor may develop for project execution. Therefore, the information in the monthly reports will change from month to month, based on relevant factors for the month and/or previous months.

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1 EXECUTIVE SUMMARY

1.1 Project Description

The National Capital Purple Line (Purple Line) is a 16.2-mile east-west light rail transit (LRT) line inside the Washington, DC Beltway, extending from Bethesda in Montgomery County, Maryland, to New Carrollton in Prince George's County, Maryland. The Purple Line will operate largely at street level in a combination of dedicated and semi-exclusive right-of-way (ROW) and includes segments on elevated structures and in tunnels. The alignment for the Purple Line will provide direct connections to Washington Metropolitan Area Transit Authority (WMATA) service at Bethesda, Silver Spring, College Park, and New Carrollton, Maryland. The project will also connect to all three Maryland Area Regional Commuter rail lines, Amtrak, and local bus routes. The project includes 21 stations, 2 operations control/vehicle storage and maintenance facilities, and 28 light rail vehicles (LRVs). Twenty-five of the LRVs are included in the Full Funding Grant Agreement (FFGA), and the remaining three vehicles are state funded. Maryland Transit Administration (MTA) is executing the project using a Public-Private Partnership (P3) method of project delivery.

As documented in the Federal Transit Administration (FTA) FFGA, the original estimated project cost was $2,407,030,289, and the scheduled Revenue Service date (RSD) was December 31, 2022. On January 26, 2022, the Maryland Board of Public Works (BPW) approved significant revisions to the project cost and the Revenue Service Availability (RSA) date. The new Transportation Infrastructure Finance and Innovation Act (TIFIA) loan closed on April 14, 2022. Financing approvals and subsequent financial close allowed Purple Line Transit Partners (PLTP), the P3 concessionaire, to issue Notice to Proceed (NTP) to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS). MTA prepared a Final Recovery Plan (FRP), which FTA accepted on April 17, 2023, and which had a revised project cost of $5,116,020,380 and a revised RSD of February 28, 2028. In conjunction with the FRP, MTA submitted multiple management plan updates for FTA and Project Management Oversight Contractor (PMOC) review and acceptance. On March 13, 2024, MTA received approval from the BPW to increase the total construction cost to approximately $5.59 billion. This change to the construction cost, and also a change to the construction schedule, was due to project changes and delays. MTA has developed additional budget and schedule contingency recommendations. Recommendations for revised cost contingency and schedule contingency, based on MTA's June 2024 Quantitative Risk Assessment (QRA), are $179.58 million and 11 months, respectively. Following review of the QRA by FTA and the PMOC, on September 24, 2024, FTA accepted the schedule and budget contingency proposed by MTA. FTA directed MTA to prepare a formal request to amend the FFGA and provide a breakdown of funding sources that meet the total budget, including contingency. ***As of October 2024, MTA is preparing the formal request and will submit it to FTA when complete.***

1.2 Project Status

The FFGA was executed on August 22, 2017. The Purple Line project is currently in the construction phase. Due to a contractual dispute, PLTP demobilized the assets/staff and

subcontractors of the original D-B contractor, Purple Line Transit Constructors (PLTC), from the project in September 2020.

After a procurement process for a replacement D-B contractor, PLTP selected MTS (a joint venture of Dragados USA and OHL USA) and executed a contract with MTS on April 14, 2022.

MTA chose to proceed with several major project elements once PLTC was released from the project. MTA's planning criteria included schedule, budget, and the reduction of risk for the replacement D-B contractor. MTA and its Project Management Consultant (PMC) added staff to support subcontractor invoicing, payment processes, and other administrative tasks.

MTA managed, in a general-contractor-type role, a significant number of construction activities during MTA's Interim Recovery Plan (IRP) period, called Operation Step Forward (OSF). During that time, several OSF activities fell behind schedule, and delays related to third-party utility relocations and other unforeseen issues caused MTA to miss milestone dates included in MTA's revised agreements with PLTP that were executed in April 2022. Through October 2023, MTA executed two change orders caused by delays in OSF activities. In early November 2023, MTA completed the OSF activities. As of March 2024, MTA and MTS reached an agreement on the budget and schedule impacts resulting from OSF delays and other disputes. This agreement resulted in an additional $577.46 million in construction cost and a revised RSA date of December 30, 2027. The agreement was essentially a large change order that resolved several disputes and contract modifications. This contract change is referred to as Amendment 7 to the P3 Agreement.

Construction continues under the management of MTS, including activities and elements such as erosion and sediment control maintenance, bridge structures, platform construction, retaining walls, the Glenridge Operation and Maintenance Facility (OMF), and utility installation. The Polk Street Maintenance Facility (for Prince George's County Parks) is complete, and the Paint Branch stream restoration and the Ken-Gar wetlands mitigation projects are complete except for warranty periods.

Completion of the Glenridge OMF has been on or near the critical path for most of the project duration. MTS assumed control of the facility as of March 2024, and the disputes regarding the completeness of the OMF work that PLTC and MTS had performed now have been fully resolved. MTS is installing rail, utilities, and other elements both inside and outside of the building.

Delayed completion of the OMF construction upon PLTC's departure required an alternative location to store assembled LRVs. MTA reached an agreement with Construcciones y Auxiliar de Ferrocarriles (CAF) to store the LRVs at CAF's Elmira, New York facility until track was ready for delivery of the LRVs. MTS assumed the storage agreement with CAF upon finalization of the replacement D-B contract. The first LRV delivery occurred on May 15, 2024, and as of ***October 22, 2024, five LRVs have been unloaded and stored at the Glenridge OMF. Two more LRVs were scheduled to be delivered in the last week of October.*** Purple Line Transit Operators (PLTO), the entity that PLTP has under contract to operate the light rail system, assumes storage and maintenance responsibilities of the LRVs as they are delivered. In September 2024, MTA

reported that PLTO has taken possession of the Glenridge OMF to allow it to maintain LRVs and coordinate vehicle testing.

MTA provides FTA and the PMOC with updates on the progress of MTS construction activities, MTA oversight activities, and other monthly updates that track project progress.

- Scope: There have been no significant reductions or changes to project scope. Three LRVs were added to the project scope (non-FFGA) to support improved operations once service commences.
- Schedule:
  - PLTC never developed an approved recovery schedule to address the delayed start of construction caused by the environmental lawsuit (please see the **NEPA Process and Environmental Mitigation** section, below, for a discussion of the environmental lawsuit).
  - MTA developed an IRP schedule for the period during which the initial D-B contractor, PLTC, was being replaced. The subsequent FRP included a revised RSD of February 28, 2028.
  - See also the **Significant Project Activities and/or Key Milestones** subsection of this Executive Summary, below.
  - Table 1 presents MTA's key milestone dates for the project. The schedule in the FRP incorporated the results of the previous (2022) QRA and processes described in MTA's Risk and Contingency Management Plan (RCMP). The 2022 FRP schedule included a contingency of 16 months. However, the delays attributed to OSF activities consumed most of the contingency in the FRP schedule. MTS utilized a large portion of the schedule contingency in the early stages of its contract. To address this concern, MTA's June 2024 QRA recommended 11 additional months of schedule contingency. ***As of October 2024, MTA's revised master baseline schedule includes 12 months of contingency for the RSD.***
  - To clarify schedule terminology used by MTA: The RSA date is a contractual date critical to the agreement between MTA and PLTP. The RSD is the contractual date tied to FTA FFGA funding and other project approvals.
  - Two executed change orders related to OSF delays extended the project RSA date by 207 days to May 24, 2027. Then in March 2024, MTA and MTS agreed to an extension of the contractual RSA date to December 30, 2027, adding another 250 days.

Table 1 – MTA Master Project Schedule Dates

Activity	Current MTA Master Project Schedule (*October 15, 2024*)
Original FFGA	August 22, 2017

Activity	Current MTA Master Project Schedule (*October 15, 2024*)
Financial Close / NTP / Amendment Agreement Effective Date for Revised PLTP Agreement	April 14, 2022
Commencement of Integration Testing	***March 2, 2027***
Commencement of Demonstration Testing	***December 27, 2027***
Construction Complete All Segments	***January 12, 2027***
RSA Date	***December 23, 2027***
FFGA RSD	February 28, 2028
September 2024 Proposed RSD, Including 11 months of Contingency*	December 22, 2028

*Note: MTA has not yet formally requested this revised RSD, and FTA has not yet accepted it.

- Cost:
  - The project's documented expenditures are ***$3,901,706,022 through September 30, 2024***. ***The expenditures for September 2024 included $82,938,608 of construction-related costs. This construction total represents the largest monthly expenditures for Standard Cost Category (SCC) 10 through SCC 50 in a single month since MTS began its contract as a result of the summer 2024 construction focus.*** Amendment 7 includes terms for compensation to PLTP/MTS at specific project milestones.
  - The Estimate at Completion (EAC) for the project (construction, management, and LRVs) is currently $***5,589,093,112***.
  - The accepted project cost (before approval of Amendment 7) included $307,293,174 of unallocated cost contingency. The MTA June 2024 QRA recommends an unallocated contingency of $179.58 million, and MTA indicates that reallocation of unused contingency and additional funding will be utilized to provide that recommended amount of unallocated contingency. With reallocation of the budget to assign the QRA-recommended amount of contingency, the total project cost increases to $5,589,093,112.
  - In some months, SCC 80 expenditures by MTA and MTS are more than 50 percent of the expenditures for SCCs 10 through 50 combined. The PMOC has questioned MTA about this significant amount of SCC 80 expenditures each month. In May 2024, MTA explained that a portion of the SCC 80 expenditures are settlement payments to MTS and PLTP and not true management and administrative costs. MTA includes the large Amendment 7 reimbursements to MTS/PLTP in SCC 80.
  - Refer to **Table 4 – Core Accountability Items**, in Section 1.5 below, for additional project cost information.
  - The budget includes funds to address nonconforming construction by PLTC. MTA incorporated known defects into the contract with MTS. However, MTA must pay to address any defects unknown at the time of execution of the MTS contract. MTA and MTS have evaluated a number of nonconforming PLTC work products as well as

several other disputes. The disputes were included in Amendment 7, and MTA reports that the execution of the amendment in March 2024 resolved all disputes as of that date. However, Amendment 7 includes a provision for additional compensation to MTS if, in the future, other defects are discovered in previous PLTC or MTA construction.

- Significant Project Activities and/or Key Milestones:
  - The COVID-19 pandemic impacted the project in different ways and at different levels. The impacts were primarily related to availability of resources and labor. MTA, the PMC, and other project staff followed recommended COVID-19 protocols. On January 30, 2023, MTA suspended COVID-19 protocols for the project.
  - The third lawsuit filed by the Friends of the Capital Crescent Trail in January 2019 against U.S. Army Corps of Engineers (USACE) was dismissed in April 2020. The plaintiff subsequently filed an appeal on May 11, 2020. The District Court denied the appeal on May 13, 2021. The decision resolved the last active lawsuit related to the project.
  - The original baseline schedule indicated design completion by late fall 2017. The progress through ***October 22, 2024***, is that 215 of the 218 total planned design packages have been issued as Released for Construction (RFC). The packages that remain in design or approval include fare collection, the fire management system at the WMATA/Silver Spring Transit Center (SSTC) combined station, and the train control system. The WMATA fire management system is in final comment review as of ***October 2024.*** The most significant remaining design package, train control, will not be 100 percent complete by February 2025. MTA now estimates that the design of the fare collection package will be completed in August 2025.
  - The PMOC observed that MTS indicates that the design portion of its contract is 99.5 percent invoiced and paid, despite the three incomplete design packages. The requirements of MTA's D-B contract with MTS included the payment of all design costs in the first 15 months of initiating the MTS contract, regardless of progress.
  - As of March 2024, disputes related to the cost of design changes that were made after execution of the original agreement with MTS were resolved by Amendment 7 to the P3 Agreement. MTA's team estimated that the amount required to resolve the disputes was approximately $15 million.
  - WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX Corporation [CSX] ROW) will result in what MTA deems are betterments. Resolution of WMATA comments for the SSTC continue as of ***October 2024***. The negotiations related to issues at the Bethesda Station are primarily between WMATA and Montgomery County and relate to improvements adjacent to the station on the Woodmont Avenue Park property. MTA reports that the resolution of these issues will not impact the critical path.

- Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. One jack-and-bore installation remains to be completed by MTS, and is scheduled for November 2024. Coordination of CSX flagging has been a challenge throughout the Purple Line construction. In April 2024, MTS was able to secure a second flagger, allowing more work to occur in the railroad ROW. In August 2024, MTA indicated that negotiations are underway to obtain 24-hour flagging for the final jack-and-bore construction.
- Proposed construction near the SSTC requires significant coordination with both WMATA and CSX. Track protection (flagging) and a shutdown of the railroads supported a number of Purple Line activities near the SSTC in the summer of 2024. The planned work related to the shutdown was substantially complete, although many project activities continue in and around SSTC.
- PLTC reached resolution on the final remaining Alternate Technical Concept (ATC) identified during the proposal process, which is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA reviewed PLTC's design package for National Environmental Policy Act (NEPA) compliance. In July 2024, MTA received approval from FTA for the ATC, indicating that the ATC will have no Section 4(f) impacts or other impacts to the project's Record of Decision (ROD).
- MTA has completed all non-P3 construction contract activities.
- Building construction at the Glenridge OMF is essentially complete; however, ***as of October 2024,*** construction of items outside of the building continues, as does final commissioning of systems inside the building.
- Preparation of Traction Power Substations (TPSSs) continues. MTA expects that nine of the ten total TPSSs will have been delivered to the project site by November 1, 2024.
- The following is the status of LRV manufacturing as of ***October 2024:***
  - Twenty-five vehicles were in the original FFGA project scope description. One additional vehicle was included in the initial P3 agreement but outside of the FFGA. MTA later added two more vehicles by change order and again outside of the FFGA. The additional LRVs will support better operations at the RSA date. A total of 28 LRVs are included in the P3 scope of work.
  - Delivery of vehicles was expected to begin in spring of 2021; however, the Glenridge OMF was not ready to accept railcars. MTA and CAF negotiated an agreement for CAF to store the completed railcars in Elmira to await delivery. The terms of the agreement became a part of MTS's agreement.
  - The first LRV delivery occurred on May 15, 2024; and one delivery has occurred each month since. ***The fifth delivery occurred on September 11, 2024.*** CAF

continues with one LRV delivery each month but has plans to increase that frequency when possible. ***Two additional vehicles were expected to be delivered before October 31, 2024.***

- In September 2024 MTA reported that PLTO has taken possession of the Glenridge OMF to allow it to maintain LRVs and coordinate vehicle testing.

– The resolution of a quality issue related to the M33 bolt on the LRV trucks was closed in May 2024. In July 2024, MTA provided a confidential report on resolution of the issue. CAF performed a Root Cause Analysis (RCA), identifying a primary root cause, and secondary contributing causes. Validation of the corrective actions was conducted, and the issue is now closed.

– The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. The audit indicated that the percentage of U.S. domestic content is 66.74 percent, which meets FTA requirements.

- MTA is responsible for providing offsite stormwater mitigation in Montgomery County. To date, MTA has accumulated a credit for more than 10 acres of designed, Maryland Department of the Environment (MDE)-approved, offsite stormwater management (SWM) capacity in its "bank." MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS. Construction of this mitigation site began in July 2024 and ***continues in October 2024.***
- ROW acquisition activities continue for the original required 464 private parcels and 137 public parcels (a total of 601 parcels). All private parcels related to the original P3 contract Exhibit 9 FFGA scope are in MTA's possession for construction. ***As of October 2024***, ***437*** of the 601 parcels have completed settlement, 14 condemnations remain in this property acquisition category, and ***3*** settlements are pending. ***As of October 2024,*** the project's Risk Committee continues to rate the cost of ROW acquisitions as a "Significant" risk due to the potential for higher than estimated acquisition costs, although continued progress with acquisitions appears to have reduced the risk impact.
- MTA has identified 188 small property acquisitions that are required for utility relocations, of which 134 are private and 54 are public. As of April 25, 2023, all additional properties were in MTA's possession through Right of Entry, through options, and/or through agreements. ***As of October 2024,*** ten condemnations remain in this property acquisition category, and three settlements are pending.
- To date, 177 required property relocation agreements are complete. Costs for the completed relocations continue to be processed in accordance with the applicable procedures. As of ***October 2024***, there is one relocation offer pending for a property that the former owner still occupies. One additional relocation may be required.

- MTA intends to submit four administrative settlement requests to FTA before the end of 2024 for FTA concurrence.
- MTA estimates that the cost for extensions of Temporary Construction Easements (TCEs) has increased due to the project delays included in Amendment 7. These time extensions are one of two risks currently rated as Significant by the project Risk Committee due to the potential need to extend these TCEs, thus increasing their related cost.
- Preparation for safety certification is an ongoing process for MTA, including the development of the appropriate checklists for both design and construction. Design Criteria Conformance Checklists (DCCCs) are more than 99 percent validated. Construction Specification Conformance Checklists (CSCCs) are 20 percent validated. As of ***October 2024***, MTS is preparing the Track Certification Plan, which will include inspection and testing procedures. Testing is scheduled to begin in late 2024.
- In August 2024, MTA provided an updated organizational chart to FTA and the PMOC for review. ***On September 13, 2024, Mike Barwick joined the team in a*** Quality Support role, thus filling the only open position that was on the August 2024 organizational chart.
- MTA carefully considered a request from Montgomery County to single-track the Purple Line through the Bethesda tunnel. In April 2021 Maryland Department of Transportation (MDOT)/MTA determined that it would not be able to accommodate the request.
- MTA and PLTP coordinated to obtain a modified version of the existing TIFIA loan for the project. On April 14, 2022, the TIFIA loan closed, and the bonds were marketed. At that time, MTA was required to update the Transportation Investment Program and State Transportation Investment Program plans to reflect changes in the project.
- MTS is making significant progress toward achieving the project's hiring, wage, and Disadvantaged Business Enterprise (DBE) goals. In May 2024, the Equal Employment Opportunity Officer increased DBE goals by approximately $87 million to reflect the new total construction cost established by Amendment 7 to the P3 Agreement. MTA and MTS continuously assess the status of the project goals and coordinate approaches to increase DBE participation through small business workshops.
- MTA hired a consultant team that analyzed alternatives for providing security and fare enforcement services for the Purple Line. MTA does not currently have existing facilities or staff that can adequately provide these services because the distance from their location to the Purple Line light rail facilities is too great. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a Southern District of the MTA Police

Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on Memorandums of Understanding (MOUs) with other local jurisdictions, and developing a facility to house the district. In May 2024, MTA provided a brief high-level summary of the police force facility plan. Preliminary feedback from the plan indicates that a new facility to house the Southern District will not be complete until several months after the February 2028 FFGA RSD; therefore, temporary facilities will be used until the new facility is complete. The Purple Line team stated that development of the police force facility will be managed by another department at MTA, and the Purple Line team will not report further on the status of the issue. The PMOC continues to recommend that MTA develop a written implementation plan that includes schedule milestones and budget, and provide that plan to FTA and the PMOC for review. In September 2024, MTA recommitted to submitting to FTA and the PMOC, by January 2025, a current summary of key activities and dates related to staffing and training of the police force.

- Twice annually MTA holds a series of Community Advisory Team (CAT) meetings. These meetings focus on different neighborhoods along the project corridor. CAT meetings were held on Tuesdays and Thursdays of each week in May 2024. ***In October 2024, MTA held the seven scheduled fall 2024 CAT meetings.***

1.3 Major Issues and/or Concerns

Table 2 discusses any major issues or concerns impacting the project's scope, schedule, cost, risks, quality, safety, etc.

Table 2 – Current Major Issues and Concerns

Issue/Concern	According to the Project Management Plan (PMP), the master project schedule should be updated monthly.
Date Identified	2022.
Status	Ongoing.
Project Sponsor Action	FTA accepted the FRP schedule in April 2023 as the new project baseline schedule. Two significant change orders, both of which are based on delays to OSF activities, have caused a substantial utilization of the schedule contingency outlined in the FRP. In March 2024, a third change order (Amendment 7 to the P3 Agreement) consumed most remaining schedule contingency and resulted in a significant increase in project cost.
PMOC Recommendation	The PMOC continues to recommend that MTA track all schedule elements and report status to FTA and the PMOC each month. MTA should employ additional methods of evaluating schedule progression and performance, including earned-value metrics, to identify issues as soon as possible. The PMOC recommends that MTA secure a mutually agreed-to (with MTS and PLTP) revised baseline schedule before executing any change order that commits compensation for delays. MTA reported in June 2024 that it has accepted a revised baseline schedule from MTS and has utilized it to develop an updated MTA master schedule. This revised master schedule incorporated 11 months of contingency, indicating a preliminary RSD of December 29, 2028. FTA accepted this schedule contingency in September 2024, ***but MTA still needs to request an FFGA modification, including this RSD, from FTA.***

Issue/Concern	Changes in the project have significantly impacted the project cost as reflected in the original FFGA. The April 2023 FRP included a revised project cost estimate and cost contingency intended to address remaining project risks. The March 2024 Amendment 7 to the P3 Agreement included a $577.46 million increase to the project cost and utilized most of the available contingency. Recommendations in the June 2024 MTA QRA include $179.58 million of project contingency. In September 2024, MTA informed the PMOC that direct costs for schedule mitigation measures were not included in Amendment 7. Those direct costs have been added to MTS's contract by change order. MTA has not previously informed the PMOC and FTA of this additional commitment of contingency.
Date Identified	September 2020.
Status	Ongoing.
Project Sponsor Action	Although execution of Amendment 7 resolved all pending disputes at the time, diligent management of the project cost is still needed considering the quantity of remaining project work and remaining project duration. Although the QRA-recommended contingency is significant, it is less than half of the amount of the recently executed Amendment 7. FTA accepted the $179.58 million cost contingency in September 2024, ***but MTA still needs to request an FFGA modification, including this project cost, from FTA.***
PMOC Recommendation	The PMOC recommends that MTA carefully monitor project progress against the total project cost estimate, especially since MTA has already committed contingency.
Issue/Concern	MTA does not have a police force located in proximity to the Purple Line.
Date Identified	September 2022.
Status	As of May 2023, MTA had determined a preferred alternative for providing security and fare enforcement, and had identified several next steps for implementation.
Project Sponsor Action	MTA's preferred security alternative includes the creation of a new Southern District of the MTA Police Department and will require associated staff, operating procedures, and a facility. In May 2024, MTA stated that the Purple Line project team will not be responsible for development of the new facility; instead, a different MTA department will develop the police force facility. MTA committed to provide to the PMOC, by the end of January 2025, the schedule milestones for the staffing and training of the police force.
PMOC Recommendation	The PMOC recommended that MTA provide a milestone schedule and budget in a written plan. The PMOC continues to recommend that the State Safety Oversight Agency (SSOA) be included in the review and comment process for security and fare enforcement.
Issue/Concern	The Lost Time Injury Rate (LTIR) and Total Case Incident Rate (TCIR) increased significantly from 2022 to 2024. However, through changes to calculation methods, the current rates are now near the stated project goals for TCIR, and the LTIR is no longer being tracked. ***Calculations that MTA presented to the PMOC in September 2024 are inconsistent with the stated number of work hours in MTS's monthly report for the same period. The inconsistencies could have significantly changed the LTIR.***
Date Identified	April 2023.

Project Sponsor Action	MTA states that it has increased coordination with MTS on safety through additional biweekly coordination meetings. MTA has acknowledged the need for safety process improvements. In November 2023, MTA stated that MTS had replaced its safety director and added safety staff. In June 2024, MTS removed the subcontractors' safety incidents from its own statistics. In July 2024, MTA stressed that subcontractors are a critical part of project safety because they make up more than half of the personnel on the project. In September 2024, MTA stated that the TCIR goal is 0, but industry standards for the TCIR are between 2 and 3, depending upon the type of construction. Results reported by MTA for the TCIR are now just over 2 for August 2024, for 2024 Year to Date, and for Project to Date. MTA stated that a safety audit was conducted recently, and a summary of the audit will be provided to the PMOC ***in November 2024.***
PMOC Recommendation	Project safety goals and calculation methods have been modified significantly. The PMOC ***continues to recommend*** that MTA prepare a thorough summary of the changes to safety documentation and calculations, and the rationale for each change.
Issue/Concern	***As of September 2024,*** LRV delivery will continue for many months. The next major milestone related to vehicles is dynamic testing, which is scheduled to begin in November 2024. Plans for those activities need to be completed and reviewed well in advance of testing.
Project Sponsor Action	Plans for LRV delivery are complete. Temporary Use Notices (TUNs) approved by the SSOA were required to place the vehicles on the tracks. ***Additional TUNs are required when LRVs are unloaded by different methods in different locations.*** MTA states that the responsibility for readiness activities lies with the P3 concessionaire (i.e., PLTP). As of ***October 2024***, dynamic testing plans are still being developed by the concessionaire.
PMOC Recommendation	The PMOC recommends that MTA expedite the readiness activities for dynamic testing, which is scheduled to begin ***in December 2024***. The PMOC also recommends that MTA engage sufficient resources to provide oversight of the related P3 concessionaire activities.

1.4 Status of Key Indicators Dashboard (Post-grant)

Table 3 shows the project Key Indicators Dashboard after the FFGA was awarded.

Table 3 – Key Indicators Dashboard

Project Sponsor:				Maryland Transit Administration	
Project Name:				MTA National Capital Purple Line Light Rail Transit Project	
Date:				***October 22, 2024***	
Project Detail					
Oversight Frequency:				**Monthly**	
Element	**Status**			**Prior Status**	**Issue or Concern**
	●	●	●		
	G	**Y**	**R**		
Project Management Plan (PMP)	●			●	MTA developed an updated PMP that reflects revised project conditions, and in October 2022, MTA submitted the revised PMP to the PMOC and FTA for review. On February 1, 2023, FTA provided its review comments on the PMP, and on April 28, 2023, MTA submitted the second revision of the PMP to FTA. MTA will begin preparation of project plan updates in the fall of 2024; completion of the updates will occur in ***June 2025***.

Management Capacity and Capability	●			●	Since 2023, the Purple Line project team has had numerous changes to key staff, including Transit Development and Delivery (TDD) Executive Director, Communications Director, Construction Manager, and Deputy Project Director positions. In August 2024, MTA provided an organizational chart update for FTA and PMOC review***; that organizational chart showed only one open position, which subsequently was filled in September 2024.***
Cost*	●			●	MTA developed a revised cost estimate that reflected project conditions at the time of the FRP. Based on PMOC and FTA review comments and a revised MTA QRA, MTA established a budget contingency that appeared appropriate for the stage of the project at the time. However, large executed change orders required commitment of all budget contingency and a significant construction budget increase. As of June 2024, MTA's QRA identified the need for $179.58 million of budget contingency, $82.1 million more than the amount remaining in the current project budget. In September 2024, FTA accepted MTA's recommended budget contingency.
Schedule	●			●	In May 2024, MTA accepted a revised project baseline schedule from MTS. That schedule holds the previously reported construction completion date (without contingency) of December 2027. In June 2024, MTA incorporated milestones from the revised baseline schedule into the MTA master project schedule. The master project schedule also includes the MTA QRA recommended additional schedule contingency of approximately 11 months. In September 2024, FTA accepted MTA's recommended schedule contingency.
Quality		●		●	In August 2024, the PMOC raised concerns about the quality of various MTA project documents, citing inconsistencies in format and content. ***The PMOC continues to monitor quality issues.***
Safety			●	●	***In October 2024,*** the PMOC continues to have concerns related to incident tracking and safety reporting. Safety goals and calculation methods have been modified, resulting in the appearance of improved project safety performance. The PMOC recommends that MTA review changes to the safety documentation to determine if those changes are appropriate.
Risk		●		●	In May 2023, FTA accepted a revised RCMP but also noted additional comments that MTA should address in future updates to the plan. MTA prepared a QRA in June 2024 and presented the results to FTA and the PMOC in a virtual meeting in July 2024. In September 2024, FTA accepted the schedule and budget contingencies included in the QRA. However, with more than three years of project duration remaining, the PMOC recommends diligent cost, schedule and risk management.

Legend	
Green	Satisfactory: No Corrective Action necessary.
Yellow	Caution: Risk/Issues exist. Corrective Action may be necessary.
Red	Elevated for immediate Corrective Action: Significant risk to the health of the project.

1.5 Core Accountability Items

Table 4 shows the core accountability items for the project, including the current status of the project and the major issues and how they are being addressed.

Table 4 – Core Accountability Items

		Original (Grant)	Current Forecast[4]	PMOC Assessment of Current Forecast[4]
Cost	Capital Cost Estimate	$2,407,030,289	***$5,589,093,112***	***Acceptable***
Contingency	Unallocated Contingency	$90,535,748	***$164,213,281***	***Acceptable***
	Allocated Contingency	$59,500,464	To Be Determined (TBD)[5]	***Acceptable***
	Total Contingency	$150,036,212	***$153,604,965***	***Acceptable***
Schedule	Revenue Service Date	12/31/2022	02/28/2028	***Acceptable***

Project Progress		**Amount ($)**	**Percent of Total**
Total Expenditures	Actual cost of all eligible expenditures completed to date	***$3,901,706,022***	***71.8%***
Planned Value to Date[1]	Estimated value of work planned to date	Not Applicable (N/A)	N/A
Actual Value to Date[1]	Actual value of work completed to date	N/A	N/A

Contract Status		**Amount ($)**	**Percent of Total**
Total Contracts Awarded[2]	Value of all contracts (design, support, construction, equipment) awarded; % of total value to be awarded	$4,483,105,000	81.4%
Construction Contracts[2] Awarded	Value of construction contracts awarded; % of total construction value to be awarded	$3,910,455,000	71.1%
Physical Construction Completed	Value of physical construction (SCCs 10-50) completed; % of total construction value completed	***$1,453,504,730***	***72.2%***

Rolling Stock Vehicle Status	**Date Awarded**	**No. Ordered**	**No. Delivered**
28 total car sets[3]	First 26 LRVs: 2016 Additional 2 LRVs: January 2022	28 car sets	5

Next Quarterly Progress Review Meeting Date:	November 21, 2024

[1]Earned value information is not available.
[2]Due to the work constructed during OSF, the value of total construction contracts awarded is unclear.
[3]The approved FFGA includes a total of 25 LRVs.
[4]Amendment 7 to the P3 Agreement has ***now*** been incorporated into MTA's financial reporting ***as of October 2024.*** Amendment 7 added $577.46 million to the construction cost of the project. ***As of October 2024,*** FTA has accepted the revised EAC.
[5]MTA to finalize the value for allocated contingency as a result of the execution of Amendment 7.

2 OBSERVATIONS AND FINDINGS

2.1 Summary of Monitoring Activities

The PMOC received an update from the Purple Line project team during the ***October 22, 2024***, virtual monthly meeting with MTA, the PMC, and the PMOC. Before the meeting, the PMOC prepared a draft agenda and MTA provided project information. ***On October 8 and October 22, 2024,*** the PMOC participated in the biweekly project update call with FTA and MTA, and subsequently prepared meeting notes. The PMOC's monitoring activities also include review of

MTA-provided scope, schedule, risk, financial, construction, safety and security, and real estate information.

After the U.S. Court of Appeals reversed the vacation of the ROD in July 2017 (refer to the **NEPA Process and Environmental Mitigation** section, below, for details), the FFGA was executed on August 22, 2017. In September 2020, the construction (D-B) contractor, PLTC, left the project, and a new project delivery plan was developed, including replacement of the D-B contractor. During the period when the replacement D-B contractor was being solicited, MTA managed specific construction and design activities (OSF activities) in order to reduce uncertainty and support the project schedule. On November 5, 2021, MTS was selected as the replacement D-B contractor, and financial and commercial close occurred on April 14, 2022. MTA managed OSF construction and design activities to their completion or until the activities were transferred to MTS. MTS is performing construction activities across the entire project corridor.

MTA and MTS held initial partnering activities during which they developed relationships, general project priorities for teamwork, and an understanding of key issues for different stakeholders. MTA provided partnering process information to FTA and the PMOC on March 29, 2023. As of August 2023, MTA had replaced the consultant who was leading partnering activities and was developing new processes to facilitate the coordination and relationship between MTA and the MTS/PLTP team. MTA held an internal partnering meeting on October 27, 2023, to help align MTA and PMC staff. On December 11, 2023, a partnering session was held, and MTA, MTS, PLTP, and PLTO participated. One of the main points of discussion was the schedule mitigation efforts that led to Amendment 7 to the P3 Agreement. In February 2024, MTA provided a summary of project goals developed during the December 2023 partnering session. MTA said that action items related to the partnering session goals are incorporated into many project meetings, and senior executives from MTA, PLTP, and MTS meet frequently. On July 31, 2024, a partnering event for MTA, PLTP, and other project participants was held. ***In October 2024, MTA provided the agenda and meeting notes from that meeting to the PMOC. It appears, based on the PMOC's review of the information, that the meeting was very productive.*** The PMOC has repeated its request that PMOC and FTA staff be invited to partnering events, but MTA has indicated that these events will be limited to MTA and the contractors.

2.2 Oversight Triggers

The oversight triggers most applicable to the project are the Oversight Procedure (OP) 25 cost and schedule triggers. The project did not have a mutually agreed-upon baseline schedule between March 2017 and September 2022. Significant schedule delays and a significant increase in project cost keep the project eligible for rigorous oversight. Project schedule delays typically impact project cost, another significant indicator of project health. MTA has developed a revised project EAC in conjunction with development of the project's schedule and FRP. Significant utilization of schedule and budget contingencies has occurred since the development of the FRP. In the opinion of the PMOC, significant risk for additional cost and schedule impacts may still be realized.

2.3 Project Management Plan and Sub-plans

2.3.1 Project Management Plan

The PMOC reviewed the Purple Line Project Management Plan (PMP) Version 10 in accordance with OP 20 for a PMP at the FFGA execution stage of a project. Subsequently, FTA and the PMOC reviewed Versions 11, 12, and 13. Due to significant project team changes since those versions, another update to the PMP was required. In October 2022, MTA provided an updated PMP (Version 14) to FTA and the PMOC for review, and FTA and the PMOC provided comments on PMP Version 14 to MTA. On April 27, 2023, MTA provided PMP Version 15, which FTA accepted, with comment, on June 21, 2023. In February 2024, MTA provided a summary of its forecasted dates for updating the management plans. MTA will begin preparation of project plan updates in the fall of 2024, and the completion of the updates ***is expected by June 2025***. According to best practices and due to staff changes and fluid project conditions, ***FTA may review the management plans to provide supporting recommendations to MTA.***

2.3.2 Safety and Security Management Plan

In February 2016, the PMOC reviewed the project's Safety and Security Management Plan (SSMP) Version 6, dated October 22, 2014, in accordance with OP 22 for a project at the FFGA execution stage. The PMOC review found that the SSMP was compliant with FTA content requirements for execution of the FFGA, but the PMOC requested that MTA resubmit the SSMP after execution of the FFGA and address the comments in the PMOC report with updated information from the P3 concessionaire. Subsequently, FTA and the PMOC reviewed SSMP Versions 7 through 11 over the next four years. MDOT, which is the State Safety Oversight Agency (SSOA) for the project, also reviewed SSMP Versions 8 through 11. On January 13, 2022, FTA provided comments on SSMP Version 12 to MTA. MTA submitted SSMP Version 13 as well as Version 5 of the Purple Line Safety and Security Certification Plan (SSCP) to FTA and the PMOC for review in October 2022. FTA and the PMOC reviewed the SSCP and SSMP updates and provided their comments to MTA in February 2023. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the revised SSMP in August 2023, and the revised SSCP on December 28, 2023. FTA accepted the most recent version of the SSCP, SSCP Version 8, on July 9, 2024. The PMOC continues to recommend that MTA evaluate whether its current oversight processes remain in compliance with those specified in the SSMP.

2.3.3 Quality Assurance Plan

In October 2022, MTA submitted Quality Assurance Plan (QAP) Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on QAP Version 10 to MTA. MTA then submitted a revised QAP to FTA for review in May 2023, and FTA and the PMOC provided comments to MTA in June 2023. In July 2023, MTA provided a response to each specific comment and committed to submitting a revised QAP in August 2023. On August 11, 2023, MTA resubmitted the QAP as Version 12. A technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023, after which

the PMOC recommended acceptance of the plan and that MTA should incorporate the outstanding items into the next regularly scheduled plan update. On October 6, 2023, FTA accepted the QAP contingent upon MTA's acceptance of the PMOC recommendations. ***In October 2024***, MTA indicated it will provide an update to the QAP in ***the spring of 2025.***

The PMOC requested that MTA provide more complete documentation for quality-related activities. In September 2023, MTA presented the PMOC with a quality process dashboard that MTA had developed to display monthly statistics on audits, Deficiency Notices, Nonconformance Reports, and quality oversight assessment reports. In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational chart for quality management and administration. In April 2024, MTA listed the following three quality process improvements that it was developing:

1. Organizational chart update.
2. Document control procedure update.
3. A quality training plan and schedule for 2024 training.

MTA emphasized that these quality processes apply only to MTA's quality activities, but they are coordinated with MTS's quality processes. Also in April 2024, MTA stated that it had added quality oversight staff to its organization, including a Deputy Quality Manager. ***In September 2024, MTA added a Quality Auditor to the team.***

MTA meets with PLTP, the PMC, and the General Engineering Consultant (GEC) monthly to review quality status. On January 25, 2024, MTA introduced a new Quality Manager, Turyalai Momand. In June 2024, MTA provided the following schedule of 2024 audits:

1. Stormwater Management – January 18, 2024 – complete.
2. Safety – April 9, 2024 – complete.
3. Post Design Audit – May 8, 2024 – complete.
4. Quality – August 2024 – complete.
5. Internal (MTA) Quality Assessment – July 2024 – complete.
6. Internal (MTA) Quality Assessment – December 2024 – scheduled.

When asked about a number of very old deficiency notices and instances of nonconforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of final sign-offs by managers. MTA is deferring some other older open quality items until the related issues can be addressed in order to avoid impacting the project schedule critical path. In August 2024, the PMOC again questioned MTA regarding nonconforming concrete work, which will be disruptive to the repair efforts now that additional work has also been constructed in the proximity. MTA stated that the schedule allows for future

corrective actions that will not affect the critical path and that MTS is responsible for addressing these issues.

MTS also performs Quality Assurance/Quality Control (QA/QC) activities and reports having more than 60 full-time quality staff assigned to the project.

In 2022, MTA frequently provided notes from monthly CAF and SNC-Lavalin LRV manufacturing quality meetings for PMOC review. The information provided a summary of issues and corrective actions, and upcoming quality audits. MTS is now responsible for preparing these notes from the manufacturing quality meetings. Because the LRV manufacturing process is now nearly complete, the June 2024 meeting notes included only a few very minor issues. Open items of note in June 2024 include several certification and compliance activities. The PMOC did not receive these notes in July or August 2024. The PMOC requested that MTA provide the report on these notes in September 2024. MTA questioned its ability to provide the report now that CAF is under contract with MTS, rather than under contract with MTA, as it was during OSF. In September 2024, MTA stated that it will not provide the requested vehicle reports, but will inform the PMOC of any items of interest related to vehicle manufacturing.

The resolution of a previously identified quality issue related to the M33 bolt on the LRV trucks was closed in May 2024. In July 2024, MTA provided a confidential report on resolution of the quality issue. CAF performed an RCA, identifying a primary root cause and secondary contributing causes. The associated corrective actions have been validated, and the issue is now closed.

2.3.4 Real Estate Acquisition Management Plan

The PMOC reviewed the project's Real Estate Acquisition Management Plan (RAMP) Versions 10, 11, and 12. The PMOC reviewed the plans with respect to the guidelines in OP 23 for a project in the construction phase. MTA submitted an updated RAMP Version 13 to FTA and the PMOC in October 2022. FTA provided review comments on RAMP Version 13 to MTA on February 27, 2023, and accepted RAMP Version 13 with comments. ***MTA plans to submit an updated RAMP before the end of 2024.***

2.3.5 Fleet Management Plans

The current version of the Bus Fleet Management Plan (BFMP) is BFMP Version 8.1, which was submitted for FTA/PMOC review on February 12, 2016. The PMOC completed its review of BFMP Version 8.1 and on March 4, 2016, issued its final OP 37 BFMP review report, concluding that the BFMP met the requirements of OP 37 for the execution of an FFGA for the Purple Line project. On January 24, 2024, MTA provided to FTA and the PMOC BFMP Version 10. This plan addresses updates for the period from 2021 through 2023 and is dated September 2023.

2.3.6 Risk and Contingency Management Plan

In early 2020, MTA commenced another update to the RCMP to incorporate the results of its latest QRA that, in turn, incorporated the results of the replacement D-B contractor resolicitation and the

revised project implementation details. MTA held a risk management workshop on January 26, 2021, that focused on the interim period.

MTA provided a comprehensive Risk Register and risk mitigation activities in conjunction with the draft FRP. In preparation for a risk analysis, MTA held risk assessment interviews with individual risk owners to review existing risk items and identify new risks. In December 2021, MTA prepared an updated Risk Register that includes over 100 risk items, including PLTP and MTS risks.

At a risk workshop held the week of May 2, 2022, the PMOC and FTA participated in an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. MTA confirmed and finalized the Risk Register and prepared the QRA and an update of the RCMP. The PMOC developed a draft summary of the risk and contingency review results. FTA provided a risk summary to MTA on June 22, 2022, for MTA's consideration while it was updating the RCMP. MTA provided responses to FTA's comments on the risk summary on July 15, 2022, and provided further clarification on August 25, 2022. MTA submitted RCMP Version 15 to FTA and the PMOC for review in October 2022. In February 2023, FTA and the PMOC provided comments on the revised RCMP, which supported MTA's development of the project's budget and schedule contingency. MTA subsequently submitted the revised RCMP Version 16, dated April 21, 2023, and FTA accepted it on May 22, 2023.

In November 2023, MTA held a risk workshop and began a QRA. Project risks were reassessed, and information needed to reevaluate cost and schedule contingencies was determined. The revised project schedule and subsequently the QRA were completed, and MTA provided the results of its QRA to FTA and the PMOC at a meeting on July 9, 2024. Following review by FTA and the PMOC, on September 24, 2024, FTA accepted the proposed schedule and budget contingency proposed by MTA. FTA directed MTA to prepare a formal request to amend the FFGA and provide a breakdown of funding sources to FTA that are required for MTA to meet the total budget, including contingency. ***As of October 2024, MTA had not yet submitted the formal request to amend the FFGA.***

2.3.7 Safety and Security Certification Plan

Version 3 of the Purple Line SSCP is dated November 4, 2014. The PMOC review found that the SSCP Version 3 met the FTA requirements in support of the FFGA application. MTA submitted SSCP Version 4 on February 3, 2020, in conjunction with the updated SSMP submittal (see the **Safety and Security Management Plan** subsection, above). The SSOA completed its review of SSCP Version 4 and discussed its comments with the PMOC. MTA decided that the new emergency management working group would be a subcommittee to the Fire Life Safety and Security Committee, and this decision would be reflected in the next revisions of the SSMP and the SSCP, which were planned for after the replacement D-B contractor was in place. MTA submitted SSMP Version 13 and SSCP Version 5 to FTA and the PMOC in October 2022. In February 2023, FTA and the PMOC completed their reviews and provided comments on these plan documents to MTA. MTA provided a response to the SSCP review comments to FTA and the PMOC in May 2023. On July 12, 2023, the PMOC and MTA held a call to review and reconcile

PMOC/FTA comments on the SSCP. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023 and accepted the current SSCP (Version 7) on December 28, 2023. In April 2024, MTA submitted a revised SSCP (Version 8) that includes the Temporary Use Notice (TUN) process, as well as a partially complete preliminary LRV Delivery Plan. In June 2024, MTA provided the completed LRV Delivery Plan to FTA and the PMOC. FTA accepted SSCP Version 8 on July 9, 2024.

2.4 Management Capacity and Capability

MTA continues to identify and assign sufficient Management Capacity and Capability (MCC), as needed, to complete the project in compliance with applicable FTA requirements. These efforts have included bringing staff, either MTA or MDOT personnel or consultants, onto the project to manage the current needs, such as planning, P3 procurement and contracting, real estate acquisition, and construction.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. It was proposed that Roland Carroll, the Purple Line systems safety and construction safety lead, add the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to the new quality management role. The PMOC evaluated this change as a part of the PMP review and will continue to monitor management capacity for this function and all positions through ongoing oversight activities. Specific to safety, the PMOC remains concerned that there is a lack of emphasis on safety or on management capacity or capability. Injury rates, particularly for OSF activities, have been higher than the MTA goals. Also, reporting of injury and incident statistics is inconsistent. In June 2024, MTA reported an incident rate that is twice the project goal. Refer to Section 2.16, **Safety and Security**, for more information.

In March 2023, MTA hired John Donovan in the role of Construction Manager and also formed a commercial project controls team. These changes were in response to: (1) the near completion of OSF and (2) the need to support the management of MTS's increasing amount of work. However, in November 2023 MTA eliminated the Construction Manager position. MTA stated that two construction managers, Mike Gales for Civil Construction and Melvin Henderson for Systems Construction, remain with the project.

On May 25, 2023, MTA communicated the departure of Executive Director Matthew Pollack, Deputy Project Director and Contracting Officer Anita Rodgers, and Communications Director David Abrams from the Purple Line project team. Project Director Ray Biggs, Jim Mitchell of the PMC, and MDOT Chief Financial Officer Jaclyn Hartman led the project while those vacated positions were being filled. Ken Forsythe's role changed from his role as Deputy Project Director to the interim Director of Communications role. A new Deputy Project Director, Alexa Heidrich, started with the Purple Line project team on July 26, 2023. Kathryn (Kat) Lamb joined the team in August 2023 as the Communications Director, which completed the hiring for the open senior staff positions for the Purple Line project at that time. In August 2023, MTA provided an updated Purple Line organizational chart that included those newly hired staff. In December 2023, MTA replaced PMC Project Director Jim Mitchell with Brian Freerks.

In January 2024, MTA communicated a significant number of staff changes both within MTA and within the PMC. The current status of these positions is as follows:

- The MTA Transit Development and Delivery (TDD) Executive Director position was filled in May 2024. MTA announced that Martha Gross is the new TDD Executive Director, and she will oversee the Purple Line project in addition to other State of Maryland transit projects such as the Red Line. Current Purple Line Project Director Ray Biggs will report to Ms. Gross.
- Quality Manager Fahad Moazziz has been replaced by Turyalai Momand. In April 2024, Mr. Momand announced that several quality staff have been added to the team, including a Deputy Quality Manager.
- Deputy Communications Director Gary Witherspoon left the project, and in April 2024, MTA hired Syrina White to fill this position.
- In May 2024, MTA added two safety staff to the project team—one who will be primarily in the field and another who will be in the office and will manage safety administration.
- In June 2024, Katina Conn was added to fill the Contracting Officer role.

The PMOC continues to express its concern regarding MTA's MCC. A lack of continuity and staff serving in multiple roles pose a risk to the quality of the oversight the Project Sponsor must provide. Shortfalls in MCC may be causing some of the other issues that the PMOC has identified, such as construction safety and quality management challenges. In August 2024, MTA submitted the updated organizational chart to FTA and the PMOC. ***MTA has filled*** the one open position on the August 2024 organizational chart, a Quality Support role in the Quality Oversight group.

2.5 NEPA Process and Environmental Mitigation

2.5.1 NEPA Process

FTA issued a ROD on March 19, 2014. The National Park Service issued its ROD on July 16, 2014.

MTA has continued to submit environmental re-evaluations as required based on design advancement and other causes. PLTC (before it left the project) and MTA have prepared multiple packages, primarily for minor Limits of Disturbance (LOD) cases, which were submitted to FTA for review and have received FTA concurrence. The most recent status ***(as of October 2024)*** of NEPA items is:

- MTA submitted an additional LOD case at Sligo Creek that went through the MDE and USACE processes. MDE granted approval on January 10, 2024. As of July 2024, the LOD was approved by USACE.
- The ATC for the Bethesda Station jet fan has been vetted, and final documentation was prepared for submittal to FTA for concurrence that the ATC meets project requirements.

MTA reviewed the ATC documentation with FTA in June 2024, and FTA approved the ATC in July 2024.

- A ten-year extension of the project's Programmatic Agreement was approved on March 14, 2024.

On August 3, 2016, in response to the lawsuit filed by the Friends of the Capital Crescent Trail against FTA, a federal judge filed his Order and accompanying Memorandum Opinion. In those documents, it was ordered that the ROD for the Purple Line project be vacated and remanded, and that a Supplemental Environmental Impact Statement (SEIS) be prepared, in accordance with the accompanying Memorandum Opinion. In a subsequent Order and Opinion filed on November 22, 2016, the judge, in part, revised the earlier Order by remanding to FTA the responsibility to determine whether an SEIS is required; however, the ROD remained vacated. On May 30, 2017, the judge issued his ruling that dismissed the lawsuit except for the reassessment of the impact of declining Washington Metro ridership in the Purple Line project's Environmental Impact Statement. The Washington Metro ridership aspect of the ruling was immediately appealed by the Maryland Attorney General. On July 19, 2017, the U.S. Court of Appeals reversed the vacation of the ROD and set an expedited schedule for the appeals process. The appeals hearing occurred on November 1, 2017. The U.S. Court of Appeals issued its ruling on December 19, 2017, in which the judges ruled in favor of FTA and the project, and ruled that the transit agencies would not have to conduct a new environmental study to examine other potential routes for the Purple Line.

The Friends of the Capital Crescent Trail filed a second lawsuit after the FFGA signing and after the groundbreaking ceremony was held on August 28, 2017. The September 19, 2017, Preliminary Hearing for this suit resulted in no temporary injunctions or restraining orders, and project construction proceeded as the case progressed through the court system. On December 5, 2017, FTA and MTA filed a Motion to Dismiss. The plaintiffs subsequently amended and significantly revised the complaint in December 2017, and on March 1, 2018, MTA and FTA filed a Motion to Dismiss. On March 29, 2018, the plaintiffs filed their response. On March 5, 2019, the judge ruled in favor of FTA.

The Friends of the Capital Crescent Trail filed a third lawsuit in January 2019, this time against USACE. The USACE legal staff and the Office of the Attorney General provided the defense. MTA filed a motion to intervene on behalf of USACE. In early May 2019, the plaintiffs filed an objection to MTA's motion, but during the week of July 15, 2019, the Court authorized MTA to intervene on behalf of USACE. In October 2019, USACE filed for a Summary Judgment to Dismiss the case, and the plaintiffs filed their response; a hearing date was set for March 23, 2020. However, in late February 2020, the assigned judge recused himself from the case, and the scheduled hearing was canceled. In mid-April 2020, the District Court ruled in favor of the USACE/MTA motion for a Summary Judgement to Dismiss, and the case was dismissed. The plaintiff subsequently filed an appeal on May 11, 2020, and the case continued in the legal process. Oral arguments related to the appeal occurred on March 11, 2021. The District Court denied the appeal on May 13, 2021. The decision resolved the last remaining lawsuit related to the project.

2.5.2 Environmental Mitigation

The project achieved the required mitigation for reforestation through the purchase of 82.5 acres of offsite credits (combined, in both Montgomery County and Prince George's County). This amount of offsite credits is expected to be more than needed, and the P3 concessionaire will monitor that this remains the case. PLTP's Forest Conservation Plan (FCP), which documented a need of 75.73 acres, was formally submitted to the Maryland Department of Natural Resources (DNR) in August 2016 for approval. The DNR concurred with the FCP on January 31, 2017, and the final approved FCP was received from DNR on July 31, 2017. As LOD cases are identified, they are also reviewed against the FCP credits to maintain an accurate accounting of the reforestation mitigation. In Maryland, need is based on land disturbance rather than only forest removal. MTA's tracking of additional disturbance due to the progress of design and construction indicated that the total need is still within the amount of available offsite credits.

The Joint Permit Application for Wetlands and Stream Mitigation was formally submitted to USACE and MDE in August 2016. In late February 2018, MDE issued its Non-Tidal Wetlands and Waterways permit in advance of the USACE permit, even though it was a joint application. However, because time had passed since the permit was drafted, MDE updated and issued the finalized permit the first week of April 2018. USACE completed its NEPA and conditions review as well as its public interface, receipt of comments, and comment resolution, and issued the Section 10 404 Permit on March 14, 2018. This timing supported MTA's planned advertisement for the Wetlands and Streams Mitigation construction contracts. In October 2018, the project submitted a request to USACE and MDE to extend the duration of the permits until December 2021 to accommodate the longer construction periods resulting from construction moratoriums for forests and streams. The project received approval from MDE during the week of December 3, 2018, and received the USACE approval letter in mid-June 2019.

The project team has addressed the environmental mitigation for wetlands through the development of the offsite Ken-Gar location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. The construction contract was advertised on May 3, 2019, bids were received on June 10, 2019, and the bids underwent MTA Procurement Department review. BPW approval of the award was received on September 4, 2019. As of June 2021, the Ken-Gar wetlands mitigation project was complete and had completed its one-year warranty period. See the **Construction** section of this report, below, for further discussion of the status of this Ken-Gar Wetlands Mitigation construction contract.

The project team has addressed the environmental mitigation for streams through the development of the offsite Paint Branch location, which is implemented through a separate Design-Bid-Build construction contract administered by MTA. MTA advertised the Paint Branch Stream Mitigation construction contract on March 8, 2019. After the bid due date was extended several times, proposals were received on May 21, 2019, and underwent MTA review and evaluation. BPW approval of the award was received on September 4, 2019. The Paint Branch stream restoration is complete, and warranty corrections (partial replanting) occurred in December 2022. See the **Construction** section of this report, below, for further discussion of the status of this contract.

The project has plans to address stormwater mitigation, beyond what can be mitigated on the project site, through retrofitting offsite locations in both Montgomery County and Prince George's County. On November 12, 2021, MTA determined that there is a need for additional stormwater mitigation in Prince George's County. A project to construct additional stormwater mitigation is included in the scope of work for MTS. Construction of this stormwater mitigation site began in July 2024**.**

The joint MTA and University of Maryland (UMD) technical board resumed meetings in December 2021 to coordinate efforts related to the mitigation of noise, vibration, and electromagnetic interference at the UMD facilities. Following this meeting, the members of the joint technical board voted to approve the outstanding design packages. This action effectively ended the activities of the technical board until the LRT is in trial running.

The Purple Line project team submits quarterly Environmental Mitigation Monitoring Reports for the project. MTA managed the environmental mitigation and monitoring activities as the project transitioned to the replacement D-B contractor, MTS. Because MTS is now performing construction, MTA will monitor the environmental activities performed by MTS. On January 25, 2024, MTA provided the Fourth Quarter 2023 Environmental Commitment and Mitigation Monitoring Program Report. The report conveys the status of progress toward meeting commitments in the ROD that was issued in March 2014 and any pending actions required. In the report, MTA notes that "no problems, gaps, nonconformances, or NEPA issues of any sort were found during this quarterly assessment." MTA submitted the First Quarter 2024 Environmental Commitment and Mitigation Monitoring Program Report in June 2024. On August 27, 2024, MTA submitted the Purple Line Commitment and Mitigation Monitoring Program Report to FTA and the PMOC. MTA reports that there are no major changes from the previous quarter and updates are highlighted within the report.

The MTA Purple Line team communicated that MDE has implemented a change to the state's construction dewatering monitoring and turbidity requirements. Pumped water discharge from construction sites will need to meet specific requirements, something that Maryland did not require but is common in many states. In September 2023, MTA and MTS participated in training for managers on the new requirements, and a future round of training for field staff is being planned. Activities on the project are currently functioning under the new MDE requirements. The changes related to the new requirements necessitated a change order to address MTS's additional costs to implement the more stringent standards.

2.6 Project Delivery Method and Procurement

The majority of the capital cost of the Purple Line project has been packaged into a Design-Build-Finance-Operate-Maintain P3 contract. This delivery method fits the state's legal definition of a P3 in that it involves a long-term, performance-based agreement between MTA and a private entity (the P3 "concessionaire") in which appropriate risks and benefits are allocated in a cost-effective manner between the contractual partners. The P3 concessionaire is intended to perform some functions normally undertaken by the transit agency, but MTA remains ultimately accountable for the Purple Line project and its public function.

MTA negotiated an approximate 36-year P3 contract, including nearly 6 years of construction and 30 years of operations, and on March 2, 2016, announced that PLTP had been selected as the P3 concessionaire. Commercial close of the P3 contract occurred on April 7, 2016, and financial close occurred on June 17, 2016.

In late April 2020, PLTC notified PLTP that due to PLTC's forecasted schedule delays on the project (which did not receive agreement from MTA), PLTC intended to exercise the clause that allowed it to terminate its contract with PLTP for the design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that would include a definitive path forward. On the response due date of May 14, 2020, PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement to MTA, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice essentially refuted the validity of the PLTP delay claims and stated that if PLTP fails to perform, MTA has a number of options related to the P3 Agreement. Through July 2020, construction activities continued at the levels previously planned and were not affected by the dispute.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a Temporary Restraining Order (TRO) that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO occurred before the expiration of the TRO on September 14, 2020, and the court rescinded the TRO, allowing PLTP to leave the project.

When an agreement was not reached, the bond holder firms had the first right to take over the project. However, MTA planned an alternate path forward based on its exercise of step-in rights. To that end, MTA assumed the contracts of over 100 subcontractors, indicating MTA's intent to continue the project. MTA adjusted staffing for construction management, resident engineers, and inspectors to move forward with the project.

On November 24, 2020, MTA and the P3 concessionaire, PLTP, reached a settlement agreement to release the project's D-B contractor from the P3 consortium and continue the project with the remaining parties. The state's BPW approved the settlement agreement on December 17, 2020. Activities set out in the agreement and the IRP have proceeded with multiple modifications to milestone dates as needed.

The agreement included the following key aspects, as MTA has communicated to the PMOC:

- PLTP agreed to procure a replacement D-B contractor to complete the project and to obtain project financing. The selection of the preferred replacement D-B contractor, MTS, occurred on November 5, 2021. The TIFIA loan for the project closed on April 14, 2022, allowing financial close and commercial close on that same day. MTS is now the D-B contractor for the project.

- The settlement agreement provided a mutual release from all disputed and undisputed amounts (incurred before September 28, 2020) for PLTP, PLTC, and subcontractors. The agreement also released outstanding litigation among the parties.

2.7 Design

2.7.1 MTA Design

MTA's GEC completed the project design to approximately the 30 percent design level in fall 2013 and provided incremental enhancements through late 2015. This design formed the basis of the Request for Proposals (RFP) for the P3 contract. See the **P3 Design** subsection, below, for a discussion of the advancement of this design by PLTC, the former PLTP partner that was responsible for the design and construction of the capital project, and continued design under MTA.

Disputes related to the cost of design changes that were made between execution of the agreement and March 2024 were resolved by Amendment 7. MTA's team estimated that the disputed amount was approximately $15 million.

MTA was responsible for the design and construction contracts under a Design-Bid-Build delivery method (separate from the P3 scope) for the following projects:

- Stream mitigation – MTA completed the 100 percent design packages in June 2017 and received approval from MDE in May 2018. Construction of the stream mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.
- Wetlands mitigation – MTA completed the 100 percent design packages in June 2017. Several design adjustments were subsequently made based on MDE and Montgomery County comments. The construction contract was advertised on May 3, 2019. Construction of the original wetlands mitigation is now complete. See the **Environmental Mitigation** subsection of this report, above, for additional details.
- Offsite SWM sites – MTA completed design and obtained MDE approval of more than the P3 contract-required 5 acres of offsite mitigation in Montgomery County on May 29, 2018. In late October 2019, MTA received MDE approvals for the next 5 acres to be added to the mitigation credit "bank," thus satisfying the contract requirements for 2019. MTA has determined that there is a need for additional mitigation in Prince George's County, and a project to construct additional mitigation is included in the scope of work for MTS. Construction of this mitigation site began in July 2024.
- See the **Environmental Mitigation** subsection of this report, above, for the current requirements.

MTA also completed the design to support a D-B contract for the replacement of the existing Parks Maintenance Facility with a facility on Polk Street. Construction of the facility is now complete. See the **Real Estate Acquisition and Relocation** and the **Construction** (MTA Scope) sections of this report, below, for further details.

2.7.2 P3 Design

PLTC's design progress was forecasted to achieve substantial design completion of Civil packages in August 2020, substantial design completion of Systems packages (except for Fare Collection) in September 2020, and completion of the Fare Collection design package in 2021. The original baseline schedule anticipated design completion by late fall 2017. As of August 2020, the number of planned Civil, Systems, and Utility design packages was 218.

Upon the departure of PLTC, MTA contracted with the project's engineer of record, Atkins, to continue to advance the design of limited aspects of the project.

The progress through ***October 22, 2024,*** is that 215 of the 218 total planned design packages have been issued as RFC. The packages that remain in design or approval include fare collection, the fire management system at the WMATA/SSTC combined station, and the train control system. The most significant remaining design package, the design package for train control, entered final design review in July 2024. Developing additional equipment specifications and other vendor plans for the train control package will extend until February 2025. As of April 2024, MTA reported that the fare collection requirements were previously included in the platform designs, and the remaining fare collection design is for the equipment/systems. MTA now estimates that the fare collection design will be completed in August 2025. The PMOC observed that MTS indicates that the design portion of its contract is billed out to 99.5 percent. The requirements of MTA's D-B contract with MTA include the payment of all design costs in the first 15 months of its contract with MTS (i.e., from April 2022 through June 2023), regardless of actual design progress.

The MDOT State Highway Administration approved the last traffic signal package in October 2023.

An item related to design was added to the Risk Register regarding an intelligent interface device that could impact implementation and operational costs. MTS made a claim related to a dispute about this item, but the dispute was resolved as a result of the execution of Amendment 7 to the P3 Agreement in March 2024.

PLTC reached resolution on the final remaining ATC identified during the proposal process. The ATC is related to the use of jet fans at the Bethesda Station in lieu of vent shafts. In accordance with the established process, MTA reviewed the design package for NEPA compliance. FTA granted final approval of the ATC in July 2024, and concurred that the ATC will have no Section 4(f) impacts or associated impacts to the ROD.

MTA and CSX worked to resolve issues related to the applicable design criteria and which project areas were affected until, in July 2019, a mutually agreeable path forward was defined for all areas. The following is the current status of the issues and their resolutions:

- To address CSX comments that would have disallowed passenger amenities (fare gates and ticketing kiosks) on the SSTC mezzanine connector pedestrian bridge above CSX tracks, and that would have required a 25-foot vertical clearance, MTA, PLTC, and CSX reached consensus on a design to interpret this area as a "building concourse." In May

2020, CSX indicated that the final design is acceptable. Revised documents, providing some minor clarifications related to ROW, were submitted to CSX on September 8, 2020, and ultimately CSX approved the design. The revised documents were submitted to WMATA several times in early 2021.

- WMATA's comments on design plans for the SSTC mezzanine connector pedestrian bridge (over CSX ROW) will result in what MTA deems are betterments. Resolution of WMATA comments continues as of ***October 2024*** for the SSTC and for other locations where WMATA and Purple Line stations coincide. The negotiations related to issues at the Bethesda Station are primarily between WMATA and Montgomery County and are regarding improvements adjacent to the station on the Woodmont Avenue Park property. MTA reports that the slow resolution of these comments has not impacted critical path activities.

- An encroachment into the CSX vertical clearance was discovered upon installation of girders at the SSTC. An exception was requested from CSX to allow the ¾-inch encroachment to remain. CSX denied the exception. MTA and the designer prepared for a contractor to jack and shim the structure to create the required clearance. Construction of this work was completed in August 2021.

- Proposed construction near the SSTC will require significant coordination with both WMATA and CSX. Track protection (flagging) and planning of a shutdown of the railroads to allow Purple Line activities near the SSTC in 2024 have been identified as schedule risk items. The Purple Line project took advantage of the WMATA service outage to perform work near and above the tracks.

- CSX provided review comments disallowing revised drainage networks, related to the Capital Crescent Trail work, which would connect to CSX's existing drainage culverts. The work on the Capital Crescent Trail is not part of the FFGA and is separately funded by Montgomery County. As a result of work with Montgomery County, the connections were relocated from CSX property to Montgomery County property and therefore are no longer a CSX issue. To fully accomplish this approach, two connections required resolution. Montgomery County acquired two parcels of land from CSX (not FFGA-funded) and then accepted responsibility for one connection currently under the responsibility of CSX. Storm sewer construction under the CSX railroad is required in several locations. Two jack-and-bore installations of culvert pipes were completed in November 2022. ***As of October 2024,*** MTS has one more jack-and-bore installation of culvert pipe yet to complete. This culvert installation is not on the project critical path but ***still is scheduled to be completed in 2024***. ***In August 2024, MTA indicated that negotiations with CSX are continuously underway to obtain flagging for as many shifts as possible to facilitate the final jack-and-bore construction and crash wall construction.***

2.8 Real Estate Acquisition and Relocation

As of October 2024, the total number of planned property acquisitions is 601, including 464 privately owned properties and 137 public acquisitions. All of the original Exhibit 9 FFGA-scope private parcels in the P3 contract are in MTA's possession, some of which are properties that continue in condemnation under the State Highway Administration process. To date, ***437*** of the original 464 private properties have completed settlement, several additional properties (not part of the original 464 private properties) are pending settlement, and 14 condemnations remain to be settled.

All required public properties have been available for construction when needed. Several public property rights transfers are currently being coordinated to accommodate sidewalk changes, utility easements, and ROW exchanges.

As the project has progressed and new utility relocation needs have been identified, additional small parcel acquisitions have been added to the total as utility down-guys. In December 2017, PLTC initially submitted a list of approximately 280 such parcels related to utility relocations and subsequently added to that list. MTA resolved that it would acquire these properties, rather than execute amendments to the utility agreement that would have the utility companies perform this function. MTA's ability to perform appraisals in house for these parcels or to waive appraisals for low-value, uncomplicated parcels has been expediting the process somewhat. ***As of October 2024,*** the number of additional acquisitions totals 188 parcels, and several more acquisitions potentially may be needed for stormwater facilities. Of these parcels, 54 are public property and will be acquired by agreement, and 134 are private acquisitions. Of the total 188 properties, 66 were filed for condemnation, excluding those that were subsequently optioned or settled, and 10 condemnations and 3 settlements are pending for this acquisition category. MTA estimates that ***approximately $30.1 million*** of risk exposure remains in the acquisition process. This amount has been included in the MTA QRA.

The project required a total of 177 relocations, of which 57 were residential and 120 were businesses. To date, 177 of those identified relocations have been completed in accordance with the applicable procedures, and one active claim remains to be settled. Also, MTA is monitoring terms of agreement of the property acquisitions discussed above that have not yet completed settlement, because some of them could potentially result in the need for additional relocations.

In August 2023, MTA indicated that the goal for completion of all real estate transactions is December 2024. MTA intends to submit four administrative settlement requests to FTA before the end of 2024 for FTA concurrence.

On April 25, 2023, MTA reported that BPW had approved the last of seven critical project acquisitions. These acquisitions were required to allow MTS access to construction areas that include activities on or near the critical path.

Properties that have not yet settled due to disputed compensation values have been going to trial in accordance with the ROW acquisition process. MTA is tracking actual acquisition costs versus planned expenditures, so that contingency can be effectively managed, and MTA shares this information with the PMOC. Based on actual settlement amounts and projected amounts for those

not yet closed, settlement/condemnation values are ***61.8 percent*** higher than the original 2014 SCC budget for ROW. MTA included current ROW cost projections in its development of an FRP project cost estimate (see the **Project Cost** section of this report, below).

Due to the extended project duration, some agreements will expire before the expected RSA date. MTA and MTS have started the process of identifying the end dates now needed for the agreements and will begin the process of obtaining extensions. MTA has evaluated the risks, estimated the cost of the extensions, and included those costs in a budget contingency. As of ***October 2024***, MTA estimates that approximately ***$18.2 million*** of risk exposure remains due to necessary TCE extensions. ***As of October 2024,*** the project has expended $6.2 million on TCE extensions.

2.9 Third-party Agreements and Utilities

All major third-party agreements (specifically, those agreements with Washington Gas, Verizon, Potomac Electric Power Company [PEPCO], CSX, UMD, Montgomery County Parks, Prince George's County Parks, WMATA, Washington Suburban Sanitary Commission [WSSC], Montgomery County, and Prince George's County) were executed as of June 7, 2016.

In early June 2018, MTA and PLTP completed the negotiation of all remaining third-party agreements with the smaller utility and telecommunications (telecom) fiber companies. According to MTA, most of the minor fiber/telecom utilities are not co-located with the electrical utilities, and, where they are, PEPCO's arrangement with the fiber/telecom utilities does not require PEPCO's relocation schedule to be driven by that of the minor fiber/telecom companies.

In addition, the need for amendments to existing executed agreements continues to be evaluated. The significant items include:

- To date, the design differences with CSX, as discussed earlier in this report, have been adequately resolved through design review and concurrences, and have not resulted in the need to amend the CSX agreement.
- WSSC proposed that the project relocate a 66-inch underground water main that runs through the Glenridge OMF site. In March 2020, MTA and WSSC agreed on a water main alignment primarily in the median of Veterans Parkway, as well as a strategy for completing the relocation. The original Purple Line project GEC performed the design; WSSC provided the material; and MTA separately contracted for the construction, thus avoiding impact to the P3 concessionaire's scope of work. On May 21, 2021, WSSC authorized work, and mobilization began August 9, 2021. Energizing of the cathodic protection was the last remaining activity, and it was completed in November 2023.
- In late July 2022, MTA and MDOT held a summit with the many utility providers that experience relocations related to transportation projects to discuss best practices and improvements to the utility relocation process. As of May 2023, some of the utility providers are experiencing staff shortages that limit construction production rates. These staff shortages present an ongoing challenge to the project.

The project has been addressing its interface with Montgomery County Schools through the third-party agreement already in place with Montgomery County. However, due to the specific concerns related to the schools and the safety and security of the children, MTA drafted a separate MOU with the Montgomery County Schools system, which was approved by the School Board and signed by the School Superintendent, Montgomery County, and MTA. A similar MOU was negotiated between MTA and the Rosemary Hills School and was approved at the School Board meeting on February 12, 2019. MTA submitted a draft second MOU to Montgomery County Schools on November 3, 2022. ***As of October 2024, MTA and the school district continue to resolve comments and concerns related to the draft MOU.***

As MTS commenced construction work, coordination meetings were held to ensure that prior agreements with third parties (utility companies and others) are followed. It is MTA's position that the transfer of third-party agreements from PLTC to MTA and now to MTS should not allow for a change in the terms of the agreements.

In June 2024, MTA reported that risk from the third-party agreements with PEPCO, the electrical service provider, is an increasing risk to the project schedule. MTA is actively trying to mitigate this risk through proactive communications with PEPCO.

2.10 Construction

2.10.1 MTA Scope

Although the P3 concessionaire is responsible for the majority of the project construction, MTA also has construction responsibility in the areas of the replacement Parks Maintenance Facility (which is part of the real estate effort and budget), wetlands mitigation, stream mitigation, and possibly some offsite SWM sites. MTA has accomplished forest mitigation without the need for additional construction. The following discussion presents the current status of the MTA construction contracts:

- **Prince George's County Parks Polk Street Replacement Maintenance Facility** – This D-B contract was awarded after the BPW approved the construction contract award on March 20, 2019. Forrester Construction Company completed construction, Parks has taken possession of the facility, and the warranty period has expired. The only remaining action for this portion of the project is a real estate swap that will transfer the maintenance facility property to Parks in exchange for the property needed by the Purple Line project. The survey for the swap of the parcels has been performed, and as of June 2024, the plat documents needed for appraisals and negotiation for the swap are complete.
- **Offsite Wetlands Mitigation (Ken-Gar)** – The Wetlands Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The contractor mobilized in December 2019 and completed site surveys and the installation of Erosion and Sedimentation controls. Clearing and grubbing began in February 2020. Prince George's County took partial acceptance of the entire project on March 3, 2021.

Acceptable growth of vegetation has been achieved, allowing for closure of this project. The one-year warranty review occurred on January 9, 2022, and now the project requires MTA quarterly monitoring until closeout in 2028.

- **Offsite Stream Mitigation (Paint Branch)** – The Stream Mitigation construction contract was awarded after the BPW approved the award on September 4, 2019, and NTP was issued to Environmental Quality Resources, LLC on September 5, 2019. The pre-construction meeting was conducted on October 24, 2019. The contractor mobilized in late November 2019. The one-year warranty inspection occurred on August 4, 2022, and 1,700 plants were replaced in November 2022.

2.10.2 P3 Scope

Highlights of construction activities ***through October 2024*** throughout the alignment include:

- General: As a result of the dispute with PLTC (see the **Project Delivery Method and Procurement** section, above), all project activities slowed in the fall of 2020. In early August 2020, contractor forces, equipment, and materials were demobilized, and work in some areas ceased. Upon legal action from MTA, partial remobilization occurred. Following the court's rescission of the TRO, demobilization and safe-up activities in the construction area began in earnest in mid-September 2020 and continued into October 2020. Following PLTC's exit, MTA engaged a number of former PLTC subcontractors to continue select project activities. This work was progressed under MTA management with a goal of advancing critical path activities and reducing risk for the replacement D-B contractor.
- OSF construction items that MTA managed:
    - Utility installations of all types are complete or have been transferred to MTS, including construction by the electric provider (PEPCO) and the communications company (Verizon). Water, storm sewer, sanitary sewer, and gas lines are also complete or have been transferred to MTS.
    - As a part of OSF, MTA ordered rail, ties, special trackwork, and turnouts to mitigate supply chain risks. MTA also secured materials previously procured by PLTC for use by the replacement D-B contractor (MTS).
    - Building construction at the Glenridge OMF is essentially complete; however, construction of civil items outside of the building continues, as does final commissioning of systems inside the building. MTS assumed control of the facility in January 2024. As of March 2024, Amendment 7 to the P3 Agreement settled all remaining disputes. MTS is currently installing rail and other features both inside and outside of the building. MTS will complete the tracks for storage and testing of LRVs.
    - Based on the status of construction at the time of PLTC's departure, MTA determined which items would be completed before mobilization of the replacement D-B

contractor. OSF construction activities were expected to be completed before September 1, 2022, but some activities continued until November 2023. OSF utility relocations that fell behind schedule caused delays to MTS's work, and delays in OSF activities. Significant OSF delays impacted MTS's activities, and these additional costs are reflected in the Amendment 7 revised total project cost.

- MTA's Equal Employment Opportunity Officer assigned to the project is Marcques Washington, and he is supporting MTS in its hiring program. The former contractor, PLTC, left the project with a shortfall in meeting the requirements of its DBE program, and MTS is required to address this shortfall of approximately $12 million in contract value. In March 2023, MTA reported that the design portion and the nationally targeted worker program of the P3 contract had exceeded the DBE program goal, but the percentage DBE participation for general construction is below the goal. In April 2023, Mr. Washington reported that the DBE participation statistics are improving as construction continues. The PMOC continues to recommend that MTA report the projected values for these goals at the end of the project in addition to the current achieved values to allow for a better evaluation of progress toward meeting the goals. MTA has been performing audits each month to monitor the Davis Bacon prevailing wage requirements. To date, only very minor issues have been identified during these audits. In May 2024, MTA's Equal Employment Opportunity Officer increased DBE goals by approximately $87 million to reflect the new total construction cost established by Amendment 7 to the P3 Agreement. MTA and MTS continuously assess the status of the project goals and coordinate approaches to increase participation through small business workshops.

  In September 2024, MTA reported that one method that MTS is utilizing to increase DBE participation is releasing retainage as quickly as possible. In some cases, MTS has paid for bonding on behalf of the subcontractor, reducing cash flow challenges experienced by some small DBE firms.

2.11 Vehicle Technology and Procurement

The LRVs are five-car vehicles consisting of 136-foot-long, articulated units. Under the FFGA, 25 vehicles (22 in operation and 3 spares) will be provided for the opening year. PLTP executed the LRV contract with CAF on June 17, 2016, and issued NTP to CAF on July 5, 2016, for the 25 FFGA vehicles. The original NTP to CAF also included one additional LRV outside of the FFGA.

Later, MTA added 2 additional vehicles (outside of the FFGA) by change order to, for a total of 28 vehicles to be supplied by CAF. The two additional LRVs will support better operations. MTS has incorporated these two additional LRVs into its scope of work (in addition to the cost and terms of LRV storage in Elmira).

Vehicle carshell manufacturing activities, which are coordinated with design progress, occurred until the facility in Spain was shut down in late March 2020 due to supply chain issues and to limit the spread of COVID-19. The final assembly facility in Elmira, New York, was shut down in early April 2020 due to New York State restrictions related to COVID-19 and reopened on

May 18, 2020, at 50 percent of its workforce capacity. As of early August 2020, both the Spain facility and the Elmira facility were back to 100 percent staffing levels.

The final assembly of vehicles is being performed in CAF's facility in Elmira. MTA, its PMC, and SNC-Lavalin meet weekly with CAF to resolve all open items for design, testing, and manufacturing activities. First Article Inspections (FAIs) for Interior and Cab were completed on March 18, 2021, and FAIs for Exterior, Roof, and Undercar were completed on April 2, 2021.

Shipment of the first vehicle to the project site was expected in late spring of 2021. The lack of available storage at the yet-to-be-completed Glenridge OMF required use of an offsite storage facility where vehicles can be stored, occasionally powered, and occasionally "exercised" or moved on tracks. MTA and CAF negotiated an agreement for CAF to store the completed LRVs in Elmira. That storage agreement subsequently transferred to MTS, and its terms are part of MTS's agreement. Twenty-six LRVs have been completed, with twenty-three of those designated as Ready for Shipment and in storage in Elmira. The final two LRVs ordered (added to the P3 contract outside of the FFGA) by MTA are in static testing in Elmira.

The first LRV delivery occurred on May 15, 2024; and one delivery has occurred each month since. The fifth LRV delivery occurred on September 11, 2024. CAF intends to have one vehicle per month delivered until such time as that frequency can be increased. ***Two LRVs were scheduled to be delivered in the last week of October 2024.***

Twenty-one LRVs were designated as Ready for Shipment ***(prior to the pending late October 2024 deliveries of two LRVs)*** and remain in storage in Elmira. Plans are being prepared for dynamic testing, which is scheduled to occur in November 2024 on the test track section near the Glenridge OMF.

2.12 Project Cost

Table 5 summarizes the project's current actual expenditures and EAC, and compares them to the project budget as reported in MTA's SCC Workbook dated June 1, 2016, which is the basis of the project's FFGA. The project's documented expenditures total ***$3,901,706,022 through September 30, 2024.*** Refer also to **Table 4 – FFGA Core Accountability Items** in the **Executive Summary** section of this report for details on the project's planned and actual expenditures. The following table shows project budgets, actual expenditures, and forecast at completion amounts through ***September 2024***, compared with the project budget as reported in MTA's SCC Workbook dated June 1, 2016, and MTA's current working budget.

Table 5 – Project Cost Versus Budget

SCC	Cost Category	Budget (June 1, 2016 Original FFGA)	Working Budget[1] (April 3, 2023 FRP)	Expenditures *(as of September 30, 2024)*[2]	Forecast at Completion[1, 2]
10	Guideway and Track	$280,620,726	$371,508,682	***$256,400,731***	$372,476,815
20	Stations	$114,857,016	$161,159,923	***$100,158,418***	***$172,152,101***
30	Maintenance Facility	$94,155,591	$93,454,387	***$88,292,223***	***$94,408,358***
40	Sitework	$521,968,990	$796,081,289	***$704,476,126***	***$848,280,043***

SCC	Cost Category	**Budget** (June 1, 2016 Original FFGA)	**Working Budget**[1] (April 3, 2023 FRP)	**Expenditures** ***(as of September 30, 2024)***[2]	**Forecast at Completion**[1, 2]
50	Systems	$263,887,313	$517,256,196	***$304,177,232***	***$525,486,792***
	Subtotal 10–50	$1,275,489,636	$1,939,460,477	***$1,453,504,730***	***$2,012,804,109***
60	Right-of-Way	$229,600,000	$329,126,214	***$289,887,796***	***$315,652,668***
70	Vehicles	$212,940,927	$292,780,600	***$185,456,590***	$292,584,921
80	Professional Services (total)	$571,658,114	$2,247,359,915	***$1,972,856,906***	***$2,814,446,449***
80.01	Project Development	$87,149,878	$85,469,312	$85,469,312	$85,469,312
80.02	Engineering[3]	$139,766,036	$196,722,013	***$218,486,110***	***$220,080,932***
80.03	Project Management for Design and Construction	$148,555,323	$655,185,988	***$469,029,209***	***$749,184,067***
80.04	Construction Administration and Management	$83,269,280	$734,209,735	***$537,919,889***	$621,153,774
80.05	Professional Liability; Other Non-construction Insurance	$34,534,796	$85,701,891	***$74,598,853***	***$97,282,372***
80.06	Legal; Permits; Review Fees by Other Agencies, Cities, etc.	$5,805,117	$341,013,320	***$507,306,646***	***$895,136,780***
80.07	Surveys, Testing, Investigation, Inspection	$15,164,346	$92,504,023	***$75,140,752***	***$89,460,977***
80.08	Startup	$57,413,338	$56,553,635	$4,906,135	$56,678,235
	Subtotal 10–80	$2,289,688,678	$4,808,727,206	***$3,901,706,022***	***$5,435,488,147***
90	Unallocated Contingency	$90,535,748	$307,293,174	$0	***$153,604,965***
100	Finance Charges	$0	$0	$0	$0
	Total	$2,407,030,288	$5,116,020,381	***$3,901,706,022***	***$5,589,093,112***

[1]The Purple Line project Working Budget and Forecast at Completion are based the revised budget after execution of Amendment 7.

[2]Amendment 7 to the P3 Agreement has been partially incorporated into MTA's financial reporting as of July 2024. Amendment 7 added significant cost to the project, and contingency values have been modified in ***October 2024.***

[3]Additional costs associated with Amendment 7 were assigned primarily to SCC 80.02 in MTA's originally reported budget information. MTA reassigned these Amendment 7 costs to SCC 80.04 in May 2024.

MTA developed the FRP unallocated contingency amount of $307,293,174 by utilizing an internal QRA, and the RCMP, dated April 21, 2023, recommended that same amount for unallocated contingency. The June 2024 preliminary QRA recommends an unallocated cost contingency of $179.58 million. This cost contingency recommendation was accepted by FTA in September 2024. ***As of October 2024, more than $23.3 million of that contingency has been committed to change orders.***

In July 2023, the Maryland BPW approved a change order that had a total addition of $204,954,610 of cost and 207 additional days of contract time. The net budget impact to the capital construction portion of the project was $137,144,705, and the balance of the total amount was applied to the financing and lost return on investment for PLTP. The $137,144,705 will be expended over the course of construction; therefore, this amount does not immediately show up in the MTA budget

reports. However, that amount, plus the amount of the earlier change order included in the FRP, represents significant utilization of the budget contingency. The PMOC recommends that MTA closely monitor all cost overruns and the potential need for additional contingency. As of March 2024, a third change order (an amendment to the P3 Agreement [Amendment 7]) was negotiated. The change order essentially utilized all of the FRP budget and schedule contingency, added $406 million to the construction budget, and added 250 more days to the schedule. As a result, MTA is currently developing revised cost and schedule contingency budgets. In July 2024, MTA committed to provide to FTA/PMOC the basis for the large contract budget and schedule changes that have been approved, including efforts to mitigate schedule impacts. MTA provided general information about the large budget and schedule changes and indicated that it will not be providing any details.

The PMOC requested that MTA clarify the breakdown of Amendment 7 to the P3 Agreement for several reasons. MTA indicated that Amendment 7 includes schedule mitigation measures, implying that the measures are changes to the MTA scope of work and overhead costs related to the extended project schedule. The assignment of the costs to SCC 80 does not support those implications. If the costs assigned are for some scope changes (additional Maintenance of Traffic sequences, overtime for accelerated construction work, or other items), then those costs should be assigned to SCCs 10 through 50. In September 2024, MTA informed the PMOC that direct costs for schedule mitigation measures were not included in Amendment 7. Those direct costs have been added to MTS's contract by change order.

In recent months, SCC 80 expenditures by MTA and MTS have totaled as much as 50 percent of the expenditures for SCCs 10 through 50 combined. The PMOC therefore questioned the significant amount of these SCC 80 expenditures that MTA records for the project each month. In May 2024, MTA explained that a portion of the SCC 80 expenditures are settlement payments to MTS and PLTP and not true management and administrative costs.

2.12.1 Project Funding

The funding for the project, as reflected in Attachment 3 of the FFGA, is shown in Table 6. As mentioned previously, MTA has not yet fully incorporated the effects of Amendment 7 to the P3 Agreement in its financial reporting. MTA has reported that the additional funds (approximately $406 million) related to Amendment 7 will come from the State of Maryland/MDOT Transportation Trust Fund.

Table 6 – Baseline Cost Estimate by Source Funding

Initial New Starts Project Cost (in SCC format)	Total FFGA Cost in Year of Expenditure (YOE) Dollars	Federal 5309 New Starts in YOE Dollars	Federal 5307 in YOE Dollars	Federal American Rescue Plan Act in YOE Dollars	Federal Surface Transportation Program in YOE Dollars	Local in YOE Dollars
10 Guideway & Track Elements	$371,508,681	$96,464,907	$0	$0	$0	$275,043,774
20 Stations, Stops, Terminals, Intermodal	$161,159,923	$23,557,000	$0	$0	$0	$137,602,923

Initial New Starts Project Cost (in SCC format)	Total FFGA Cost in Year of Expenditure (YOE) Dollars	Federal 5309 New Starts in YOE Dollars	Federal 5307 in YOE Dollars	Federal American Rescue Plan Act in YOE Dollars	Federal Surface Transportation Program in YOE Dollars	Local in YOE Dollars
30 Support Facilities, Yards, Shops, Admin. Bldgs.	$93,454,387	$29,954,000	$0	$0	$0	$63,500,387
40 Sitework & Special Conditions	$796,081,289	$222,858,301	$0	$0	$0	$573,222,988
50 Systems	$517,256,196	$60,116,405	$0	$0	$0	$457,139,791
60 ROW, Land, Existing Improvements	$329,126,214	$102,108,116	$0	$0	$0	$227,018,098
70 Vehicles	$292,780,600	$80,787,818	$0	$0	$0	$211,992,782
80 Professionals Services	$2,638,359,916	$284,153,453	$41,631,310	$106,163,371	$110,000,000	$2,096,411,782
90 Unallocated Contingency	$307,293,174	$0	$0	$0	$0	$307,293,174
100 Finance Charges	0	$0	$0	$0	$0	$0
Total Project Cost (SCCs 10–100)	$5,507,020,380	$900,000,000	$41,631,310	$106,163,371	$110,000,000	$4,349,225,699

Source: MTA, dated June 2024. MTA must provide the funding source(s) for Amendment 7 and the currently accepted (September 2024) budget contingency.

2.13 Project Schedule

The March 15, 2017 progress update of the master project schedule served as the only approved version of the schedule until September 2022. Numerous submissions of schedule updates from PLTC were not approved for various reasons, but the primary reason was the inability of MTA and the P3 concessionaire to agree on the schedule impacts of the approximately one-year delay in the execution of the FFGA. In response to a letter that FTA issued to MTA in early August 2018 expressing concerns about the amount of time that the project had advanced without an approved schedule, MTA prepared a working schedule update of the master project schedule. The working schedule update was based on the negotiations of the P3 contract schedule occurring at the time, but the update was not based on a mutually agreed-upon P3 contract schedule.

In late April 2020, PLTC notified PLTP that, based on its forecasting of schedule delays on the project (which were not mutually agreed upon), PLTC intended to exercise the clause in its P3 contract with PLTP that allows it to terminate the contract for design and construction services under the P3 contract if delays exceed 365 days. MTA sent a formal request to PLTP for a response that included a definitive path forward for PLTP's intended management of the P3 contract. On May 14, 2020 (the date the response to the formal request was due), PLTP submitted its response, which stated that PLTP intended to continue to negotiate with PLTC to retain PLTC as part of the P3 concessionaire team. On June 23, 2020, PLTP sent a formal Notice of Unconditional Election to Terminate the P3 Agreement, although PLTP indicated a willingness to negotiate a settlement. On June 24, 2020, MTA sent a Formal Notice of Concessionaire Default. This notice refuted the validity of the PLTP delay claims and stated that if PLTP failed to perform, MTA had a number of options related to the agreement. Through late July 2020, construction activities continued at the level previously planned, and construction progress was not affected.

In early August 2020, PLTC and subcontractors demobilized equipment, materials, and personnel. In response, the Maryland Attorney General filed a motion for a TRO that prevented PLTP from abandoning the work or demobilizing. Upon issuance of the TRO, the contractor and

subcontractors remobilized some equipment and restarted many construction activities. A hearing to uphold or rescind the TRO was held on September 14, 2020. The court rescinded the TRO, allowing PLTP to leave the project. Through negotiation, it was determined that PLTP would remain on the project, although PLTC would not.

MTA contracted with numerous subcontractors to continue the project. MTA developed organizational options with respect to construction management, resident engineers, inspectors, and other staff needed to move forward select project activities.

It was certain that the project schedule as reflected in the FFGA would be negatively affected, and a Recovery Plan for the project, including a revised project schedule with adequate schedule contingency to address remaining project risks, would be required. MTA submitted its draft IRP to FTA in December 2020, and FTA approved the IRP on January 12, 2021. A schedule for the period during which the D-B contractor was to be replaced was developed, and MTA monitored project progress against the schedule.

PLTP and MTA continued to coordinate during the financial process and State of Maryland approvals for the replacement D-B contractor. In addition, MTA successfully coordinated other key issues that needed to be resolved before PLTP could execute the contract with MTS. IRP/re-procurement process spanned from January 6, 2021 to April 14, 2022.

A milestone not specifically mentioned in the IRP was the requirement to extend the current RSD. The RSD in the original FFGA was December 31, 2022. MTA requested an extension to the current RSD based on the MTS schedule. FTA accepted the FRP, which indicates a revised RSD of February 28, 2028.

The schedule included in the FRP was considered to be the new baseline schedule. The MTS master schedule incorporated the schedule recovery of implementing Maintenance of Traffic and construction activity resequencing, at a cost of $21,343,588, which reduced schedule delays from 218 days to 81 days. These schedule delays are a result of OSF utility adjustments that fell behind schedule. MTS has indicated that delays continued to occur as a result of the MTA-managed OSF work. The second OSF-delay-driven change order, as approved by the BPW in July 2023, added 207 days to MTS's RSA date.

This addition to the RSA date represents a significant use of schedule contingency, which is a concern considering the remaining duration of the project. In an effort to mitigate continuing OSF delays**,** MTA resumed the Tiger Team process (in this case referred to as "Tiger Team 2") to develop schedule alternatives. OSF construction activities were expected to be completed before September 1, 2022, but schedules that MTA previously provided indicated completion of most OSF activities in mid-2023, with some activities continuing up to November 1, 2023. OSF utility relocations that were behind schedule continued to cause impacts to MTS's work, and as of July 2023, delays in OSF activities had driven two change orders. MTA and PLTP have used the Tiger Team process to develop schedule alternatives to potentially mitigate delays driven by OSF work between March 2023 and February 2024. Amendment 7 to the P3 Agreement resolved the outstanding disputes and delays related to OSF activities. The amendment added 250 days to the schedule, placing the contractual RSA date at December 30, 2027. MTA has accepted MTS's

revised baseline schedule, and in June 2024 prepared a revised master schedule based on the information that MTS provided, including the recommended schedule contingency that is used in the June 2024 MTA QRA. In August 2024, MTA provided high-level information regarding the impact of the Tiger Team efforts. MTA reports that the efforts reduced the delay to the RSA date by six months, changing the RSA date from July 2028 to December 2027. In September 2024, MTA reported that the direct costs for schedule mitigation measures were not included in Amendment 7. Those direct costs were added to MTS's contract by change order in July 2024.

2.13.1 Key Milestones

Table 7 shows the current key milestone dates for the project for the prior approved (March 15, 2017) progress update of the current master project schedule. Issuance of NTP to PLTP on April 14, 2022, triggered the contract requirement that an MTA-approved MTS Initial Baseline Schedule (IBS) for the full project be in place within 120 days of financial close (by August 14, 2022). In January 2022, MTA submitted a draft version of the master schedule for FTA and PMOC review, and FTA and the PMOC transmitted their review comments to MTA in April 2022. MTS submitted its IBS, and on September 12, 2022, MTA approved it. MTS submitted the 120-day mobilization schedule, which MTA also approved.

In August 2022, MTA and the PMOC discussed the current state of the baseline schedule, particularly the inclusion of adequate float to address schedule risk. The P65 date that MTA proposed before the risk workshop held in May 2022 included approximately seven months of float and an RSA date in October 2026. After MTA performed the QRA for the updated RCMP, MTA added additional float to address known and unknown schedule risk. The RSD proposed in the FRP is February 28, 2028. However, the recently approved Amendment 7 to the P3 Agreement sets the RSA date at December 30, 2027, essentially utilizing all of the schedule contingency. The outcomes of the current MTA QRA will advise new recommendations regarding schedule float and contingency.

The PMOC recommends that MTA closely monitor schedule contingency and the corresponding budget contingency when evaluating the RSA date/RSD and the project EAC. The information in Table 7 will be updated once the schedule reviews and approvals are complete.

Table 7 – Key Milestone Dates

Activity	Prior Approved Master Project Schedule (March 15, 2017)	MTA Master Project Schedule (*October 15, 2024*) (working schedule)
Locally Preferred Alternative Approval Date	08/04/2009 (A)[1]	---
FTA Approval to Enter Preliminary Engineering	10/07/2011 (A)	---
FTA ROD	03/19/2014 (A)	---
Issue Final RFP for P3 Concessionaire	07/28/2014 (A)	---
FTA Approval to Start Enter Engineering Phase	08/28/2014 (A)	---
Issue Addenda 4 through 6 to the P3 RFP	07/2015 through 11/2015 (A)	---
P3 Technical Proposals Due	11/17/2015 (A)	---

Activity	Prior Approved Master Project Schedule (March 15, 2017)	MTA Master Project Schedule (*October 15, 2024*) (working schedule)
P3 Financial Proposals Due	12/08/2015 (A)	---
Evaluation and Announcement of Selected P3 Proposer	01/02/2016 through 03/02/2016 (A)	---
BPW Approval of P3	04/06/2016 (A)	---
P3 Commercial Close	04/07/2016 (A)	---
Limited NTP for P3 Engineering	04/07/2016 (A)	---
MTA Submit FFGA Application	05/24/2016 (A)	---
P3 Financial Close	06/17/2016 (A)	---
FFGA Signed	08/22/2017 (A)	---
Start of First Major Construction Activity	08/28/2017 (A)	---
All Significant ROW Acquisition and Relocation	As needed by construction	---
Commencement of Contract Work for Replacement D-B Contractor (MTS)	---	04/14/2022 (A)
Commencement of Integration Testing	---	07/28/2025
All Segments Complete Construction (with Contingency)	---	02/19/2027
RSA Date per P3 Amendment (Does Not Include Contingency)	---	12/30/2027
Preliminary RSD, Including Contingency (not formally accepted by FTA as of September 2024)		12/22/2028
FFGA RSD (Includes Contingency)	12/31/2022	02/28/2028

[1]A = Actual.

2.13.2 90-day Look-ahead

The critical 90-day (***November 2024 through January 2025***) look-ahead includes activities that MTA highlighted in the recent monthly meeting with the PMOC. MTA and MTS also are preparing four-week look-ahead schedules to manage interim activities. Key activities that MTA has identified for the short term are:

- Acceptance of the revised recommendations for schedule and cost contingencies based on the QRA.
- Completion of yard track and initial installation of Overhead Contact System (OCS) at the Glenridge OMF to support LRV delivery and testing.
- Continued deliveries of LRVs to the Glenridge OMF.
- Concrete lining installation at the Bethesda Enclosed Trainway.
- Installation of TPSSs Q5 and QYL, and energizing of the OCS to facilitate dynamic testing.
- Continued installation of rail in all segments.

- Finalization of systems integration plans and schedule.

2.13.3 Critical Path Activities

In the MTA master schedule update dated ***October 15, 2024***, the critical path runs through the activities in Segment 3 utilities and track (see **Attachment G, Project Map**), and then through trial running and systems integration/testing. ***Segment 5 track activities are on the near-critical path.***

2.14 Project Risk

MTA has established a risk management organization that is defined in the RCMP and is overseen by MTA's Risk Management Committee. Two major elements of the RCMP are the periodic performance of a QRA and the maintenance and use of the Risk Register.

During the approximately one-year period during which the ROD had been vacated by the federal judge in his decision related to the Friends of the Capital Crescent Trail lawsuit, MTA did not conduct formal Risk Management Committee meetings, conduct Quantitative Risk Analyses, or perform formal updates of the Risk Register. However, the Purple Line project management team did assess and respond to the risks associated with the unforeseen chain of events related to the lawsuit.

The project team resumed formal Risk Management Committee meetings in October 2017, including individual updates of each risk on the current Risk Register by the risk owner. An overall update of the Risk Register was completed in draft form in January 2018, and was updated further and reissued in March 2018. As an ongoing process, MTA currently is performing updates of the Risk Register periodically, though somewhat less frequently than bimonthly (the frequency established in its RCMP). The current status of the RCMP is discussed in the **Project Management Plan and Sub-plans** section of this report, above.

MTA provides copies of significant updates of the Risk Register to FTA and the PMOC. The top risks from the project's latest issued update of the Risk Register and PMOC-assessed risks are discussed at the PMOC monitoring meetings with the project team; the project's top project risks are included as Attachment B of this report and are updated quarterly. A risk management workshop was held on January 26, 2021, at which the PMOC and FTA participated. The workshop focused on the resolicitation period for the replacement D-B contractor (January through October 2021).

Once the replacement D-B contractor was under contract, risk updates were prepared. The project held a risk workshop the week of May 2, 2022, at which the PMOC and FTA sponsored an OP 40 risk and contingency review that evaluated cost, schedule, and project contingency. Confirmation and finalization of the Risk Register, the QRA, and an update of the RCMP are components of the FRP. FTA provided a summary of the risk workshop to MTA on June 22, 2022, for MTA's consideration and incorporation into its management plans and contingency evaluation. MTA provided responses to FTA comments on the risk workshop summary on July 15, 2022, and clarification on August 25, 2022. In October 2022, MTA submitted RCMP Version 15 to FTA and the PMOC for review. In February 2023, FTA and the PMOC provided comments on RCMP

Version 15 to support MTA's development of the project's budget contingency and schedule contingency. On April 21, 2023, MTA provided a revised RCMP to FTA and the PMOC for review, and on May 22, 2023, FTA accepted the revised RCMP with comment.

MTA completed an internal QRA to re-baseline the project's contingency drawdown curves and update the RCMP. The QRA that MTA provided in June 2024 included recommendations for cost contingency and schedule contingency of $179.58 million and 11 months, respectively. In September 2024, FTA accepted the contingency recommendations in the QRA. The PMOC attended the September 27, 2024 virtual Risk Management Committee meeting. At the meeting, MTA identified the following top risks:

1. Unknown Existing Construction Defects from the prior D-B contractor.
2. Temporary Construction Easement Extensions.

In June 2024, MTA reported that risk related to the third-party agreements with PEPCO, the electrical service provider, is an increasing risk to the project schedule. MTA is actively trying to mitigate the risk through proactive communications with PEPCO.

2.15 Quality Assurance/Quality Control

The project's QA/QC is addressed in Section 10 of the PMP, the Quality Program Plan, and the updated MTA QAP Revision 8.0, which incorporates the quality plans prepared by PLTC. The **Project Management Plan and Sub-plans** section of this report, above, discusses the most current versions of the PMP and the QAP. MTA also submitted to FTA the package of inter-related quality plans prepared by the P3 concessionaire after the package was reviewed and approved by MTA.

MTA obtained and used PLTP's quality logs and other applicable documents and procedures during the transition to the replacement D-B contractor. Several former subcontractors were under contract with MTA and conducted QA/QC activities during the replacement D-B contractor solicitation period. The budget to address nonconforming construction by PLTC remains a concern as of July 2023. MTA incorporated known defects into the MTS contract; however, MTA has not clarified the specific budget that will be used to rectify defects found since the contract with MTS was executed. MTA estimates that the potential magnitude of this budget impact will be no more than $10 million, and the current Risk Register carries this risk item.

In October 2022, MTA submitted QAP Version 10 to FTA and the PMOC for review, and on March 8, 2023, FTA provided review comments on the QAP to MTA. MTA provided a revised QAP to FTA and the PMOC in May 2023. Subsequently, FTA and the PMOC made recommendations for revisions to the QAP that MTA committed to include in the next regularly scheduled update to the QAP.

The project has continued to conduct its monthly meeting to review the QA/QC activities performed by the Purple Line project team, including those activities performed by the PMC and the GEC. MTA states that documentation from this meeting is distributed and maintained. The project's Monthly Progress Report to FTA also contains a summary of the significant current QA/QC activities and events, including quality audits and quality reviews. However, in January

2024 MTA did not submit the typical quality program monthly information, citing a change of leadership on the quality team. On January 25, 2024, MTA introduced the project's new Quality Manager, Turyalai Momand. In April 2024, MTA announced that it had hired a Deputy Quality Manager, along with several other quality staff, and in September 2024 hired staff for the last open position on the quality team.

In February 2024, MTA stated that it is developing a full schedule of quality audits to be performed in 2024. When asked about a number of very old deficiency notices and instances of non-conforming work that are still outstanding, MTA explained that some of those items are not complete due to administrative issues, such as the lack of sign-offs by managers. MTA is deferring some other older open quality items because making corrections now will negatively impact other critical path activities.

In November 2021, MTA's quality director for the Purple Line project, Rene Schroeder, retired. Roland Carroll, the Purple Line systems and construction safety lead, added the quality director role to his other Purple Line roles. In February 2022, MTA provided a white paper outlining Mr. Carroll's experience, his recent training, and the proposed supporting staff related to his new quality management role. The PMOC evaluated this change as a part of the PMP review and will continue to monitor MTA's management capacity for this function and all positions through ongoing oversight activities.

The PMOC requested that MTA provide more complete documentation for quality-related activities. MTA modified the QAP to reflect many of the noted PMOC concerns. In addition, a technical work session with MTA and the PMOC to discuss outstanding issues related to the QAP was held September 20, 2023. The PMOC then recommended acceptance of the QAP contingent upon MTA's incorporation of outstanding items into the next regularly scheduled annual update. On October 6, 2023, FTA accepted the QAP provided that MTA incorporate the PMOC recommendations. MTA has also developed a quality dashboard to improve its tracking of quality issues. In March 2024, MTA requested a virtual meeting with the PMOC to clarify comments provided by the PMOC during its most recent QAP review. Topics of discussion at this virtual meeting were oversight of MTS by MTA, documentation of quality training, and the organizational chart for quality management and administration. In April 2024, MTA listed the following three quality process improvements that it is developing:

1. Organizational chart update.
2. Document control procedure update.
3. A quality training plan and schedule for 2024.

MTA emphasized that these quality processes apply only to MTA's quality activities, but they are coordinated with MTS's quality processes. In April 2024, MTA stated that it has added quality oversight staff to its organization, including a Deputy Quality Director. In August 2024, the PMOC raised concerns about the quality of project documents, citing inconsistencies in format and content. Many documents that MTA has provided to the PMOC include typos and formatting errors. In September 2024, MTA added a Quality Auditor to the team ***and the PMOC continues to monitor for document quality improvements***

2.16 Safety and Security

To support the ultimate Safety and Security Certification of the Purple Line project, the PLTP System Safety team completed development of its first DCCC in May 2017 and submitted it to MTA for approval. MTA (assisted by the PMC) reviews the DCCCs as part of the Final Design package, according to the established submittal review process. According to PLTP, the DCCCs were being verified before the issuance of RFC packages. To date, an estimated 99 percent of the DCCCs have been verified. All previous comments on PLTP's Certified Elements List (CEL), which includes operations and maintenance and system integration testing elements, have been resolved, and CEL Revision 2 was accepted in March 2020. The Certified Items List (CIL) Revision 1 has been accepted. The next revision of the CIL is expected after MTS completes the design. MTA will provide the revised CIL to FTA and the PMOC as soon as it is completed. Approximately 20 percent of the CSCCs have been verified to date.

MTA chairs a Safety and Security Certification Committee (SSCC) that reviews, comments on, and approves any PLTP hazard management and safety and security certification issues. The first meeting of the MTA SSCC was conducted on March 20, 2018. Since July 11, 2018, the SSCC meeting has been held regularly and will continue as a monthly meeting until the level of activity requires more frequent meetings. ***As of October 2024,*** monthly SSCC meetings continue.

PLTC submitted a Threat and Vulnerability Assessment (TVA), and on July 15, 2019, MTA accepted and verified the comment responses and approved PLTC's TVA. PLTC then completed its TVA process. As of September 2024, MTS is still performing a cybersecurity TVA for the project, and a cyber threat risk workshop was held in September 2024.

MTA continues to conduct bimonthly Fire/Life Safety meetings with Montgomery County and Prince George's County. The meetings provide a basis for the counties' emergency responders to understand the features of the Purple Line systems and to resolve any concerns. Topics of discussion include: Police Department MOUs; Fire Department connection and hydrant locations; access, signage, and station naming conventions; MOUs for training; the Preliminary Hazards Analysis at the Glenridge OMF maintenance gate; station names; and addresses/emergency phone numbers for locations along the corridor. Other topics of discussion have included closed circuit television cameras and Mobile Emergency Vehicle Response access. As of ***October 2024***, MTA indicates that work on establishing MOUs for cooperation with other local agencies continues. Coordination of an MOU for safety and security is in progress with WMATA and Prince George's County. Those documents will serve as the template for MOUs with other agencies. It remains the opinion of the PMOC that MTA should emphasize resolving the project's outstanding Fire/Life Safety issues, because progress on the resolution of these issues is not apparent and has been ongoing for several years.

MTA police continue coordinating MOUs with local safety agencies and developing MOUs with police jurisdictions (such as the Maryland National Capital Park Police) along the Purple Line. These MOUs are related to training the existing police agencies on how to respond to transit situations. During August 2023, the PMOC reiterated that these processes have been ongoing for several years and that milestones for resolution of issues should be established.

During the September 2022 MTA/PMOC meeting, a larger related issue was discussed at length. The SSOA staff participated in this discussion as well. The crux of the issue is that MTA does not have a police force located in proximity to the Purple Line. MTA hired a consultant team to analyze alternatives for providing security and fare enforcement services for the Purple Line. Alternatives included: expanding MTA's enforcement services geographically, bringing on a third party to provide these services through a contract, or sharing police services with another party. On February 23, 2023, MTA submitted its prepared draft recommendation for providing security and fare enforcement to several State of Maryland departments. Representatives from MDOT, which is the SSOA, who are monitoring the Purple Line project development provided comments on the draft recommendation before MTA submitted it to MTA's upper management and the several state departments. In late April 2023, MTA provided FTA with the alternatives study for review. The study indicates that the preferred alternative is the development of a new Southern District of the MTA Police Department and recommends several next steps toward implementation of the new district, including hiring a commander, developing operating procedures, working on MOUs with other local jurisdictions, and developing a facility to house the district.

As of January 2024, the PMOC was continuing to recommend that MTA develop a written implementation plan that includes schedule milestones and a budget for providing security and fare enforcement services. In February 2024, MTA stated that it would complete the implementation plan by March 31, 2024. However, as of April 2024, MTA indicated that it would complete the police and security implementation plan by May or June 2024. MTA stated that the facility for the new Southern District of the police department will not be completed before the ***December 2027 RSA,*** and therefore temporary facilities will be required. In May 2024, MTA stated that the Purple Line project team will not be responsible for development of the new police force facility, but rather a different MTA department will manage its development. The PMOC recommends that MTA provide the key schedule milestones for development of the police and fare enforcement services, including for the development of the new police force facility and for the staffing and training for the new Southern District. In September 2024, MTA again committed to providing the key milestone dates for staffing and training for the new police force facility, although the expected date that the information will now be available is January 2025.

As required by the P3 contract, PLTP is responsible for directly implementing many of the safety and security requirements for the project, including those for construction safety and the collection and maintenance of the Occupational Safety and Health Administration (OSHA) safety statistics for the project. PLTC performed this work until its departure from the project, at which time MTA assumed responsibility. Later, once the replacement D-B contractor was in place, MTS transitioned into the safety and security role that PLTC held. MTS and MTA hold regular safety and security coordination meetings.

Safety is a PMOC concern. The rate of recordable incidents remains above project goals, and MTA appears to be having difficulties with incident documentation. ***As MTA reported in October 2024***, the OSHA statistics for the project are:

- Total Case Incident Rate (TCIR) (Recordable Rate):

- Actual: ***2.03 for 2024 (Year-to-Date [YTD]) and 0.93 (September 2024)***
- MTS goal: As of September 2024, MTS is no longer reporting a goal for incidents, stating that the goal is zero incidents or injuries.

Note: As of January 2024, the Lost Time Injury Rate (LTIR) is no longer being tracked.

Calculations of safety statistics that MTA presented to the PMOC in October 2024 are inconsistent with the stated number of work hours in MTS's monthly report for the same period. The inconsistencies could have significantly changed the LTIR.

In May 2024, the 2024 YTD and project inception-to-date (for MTS) incident rates decreased significantly. In June 2024, MTA reported that MTS had modified the incident statistics to exclude incidents related to subcontractors and suppliers. MTA is discussing the appropriateness of this change with MTS. The May 2024 TCIR that included all contractors was approximately double the goal. MTA has stressed that subcontractors are a critical part of project safety, given that they make up more than half of the personnel on the project. Although there is evidence of limited progress in addressing safety, the PMOC continues to have concerns specifically related to construction safety.

MTA had assumed responsibility for safety oversight during the IRP until MTS assumed control of the project. As of December 2022, MTA reported that MTS needs coaching on expectations for the required reporting of safety statistics. In April 2023, the PMOC noted to MTA that both the LTIR and the TCIR had significantly increased, particularly for the MTA-managed OSF activities. In addition to the increase in incident rates, there is an apparent lack of tracking and reporting of safety issues. The PMOC has repeatedly noted that there are inconsistencies in incident reporting between MTA and MTS.

MTA states that it recognizes the issue and reports that it has scheduled additional safety coordination efforts. In May 2023, the PMOC requested documentation on these additional efforts, and in July 2023, the PMOC questioned the effectiveness of the efforts. MTA acknowledges the need for safety process improvement. In November 2023, MTA stated that MTS has replaced its safety director and has added safety staff, although MTA did not review the qualifications of the new director or staff. The PMOC recommended that MTA review the qualifications of MTS safety staff and the safety processes and procedures being followed on the project.

The PMOC recommended that MTA and MTS complete a safety process review as soon as practical and that MTA prepare a written summary. In November 2023, MTA's safety director, Roland Carroll, provided an email and attachment that briefly summarized the safety improvement actions. The document does not indicate target dates for implementation, nor the responsible party for these actions. In January 2024, MTA stated that MTS is not following the contractually required incident reporting procedures and timelines, which include a 20-minute verbal reporting requirement and a 24-hour maximum period to submit written documentation of incidents. In February 2024, MTA provided 12 months of incident reporting information to the PMOC. The document quality requires improvement and should include identifying information, such as the date and who prepared it. The data indicates that nearly 80 percent of all safety incidents are

reported late, some as much as several months. The delayed reporting has occurred for both MTA-managed incidents (under OSF) and for MTS-managed incidents under both the former and current MTS Chief of Safety.

It remains the opinion of the PMOC that MTA's processes related to construction safety can be improved. The PMOC recommends that MTA consider dedicating additional resources to construction safety (i.e., resources dedicated to only the construction portion of the Purple Line project). MTA should also consider preparing a comprehensive monthly safety report under the direct supervision of the Project Director.

In April 2024, MTA reported its March 2024 incident rate, which showed an increase, and the rate remains significantly higher than the goal. MTA has stated that it is modifying the safety processes. The PMOC requested that MTA submit the full incident tracking log each month as a part of the standard information it provides to the PMOC, and that MTA also provide the results of the April 2024 audit of the MTS Concessionaire Safety and Health Plan. In August 2024, the PMOC requested that MTA provide the injury rate statistics and calculations, because the significant decrease in the project-to-date rate that occurred between January 2024 and July 2024 does not appear to be mathematically possible. As of September 2024, project safety goals and calculation methods have been modified significantly. The PMOC recommends that MTA prepare a thorough summary of the changes to safety documentation and calculations, and the reasoning for each change.

The PMOC reviewed the Concessionaire Safety and Health Plan audit results (from the May 2024 MTA audit) and makes the following observation and related recommendation:

- Audit Item 4 – MTS does not have written verification of its subcontractors' and suppliers' health and safety plans. MTA recommended that MTS collect written verification from the subcontractors and suppliers that they are utilizing their health and safety plan or have adopted the MTS health and safety plan. Considering that MTS has had subcontractors onsite since April 2022, the PMOC finds this lack of verification a significant concern. The PMOC recommends that MTA require MTS provide a firm target date for verification and track progress toward completion.
- The PMOC continues to recommend that MTA carefully monitor safety documentation and develop safety process improvements.

In late October 2022, MTA submitted to FTA updated SSMP and SSCP documents in conjunction with the updated PMP. On February 13, 2023, and March 8, 2023, FTA provided review comments to MTA on the SSMP and SSCP, respectively. MTA submitted a revised SSMP to FTA on June 28, 2023, and submitted a revised SSCP on August 28, 2023. FTA approved the SSMP in August 2023, and accepted the SSCP on December 28, 2023. In April 2024, MTA submitted a revised SSCP that includes the TUN process and also provided a partially complete preliminary LRV Delivery Plan. FTA accepted SSCP Version 8 on July 9, 2024.

See the **Project Management Plan and Sub-plans** section of this report, above, for the status of the sub-plans of the PMP related to safety and security.

2.17 Americans with Disabilities Act

The PMOC confirmed that the Design Criteria Manual applicable to the Purple Line project addresses Americans with Disabilities Act (ADA) requirements, including references to the requirements in the Maryland Accessibility Code, the ADA Accessibility Guidelines for Buildings and Facilities, and the ADA Standards for Transportation Facilities.

Accessibility and compliance with the ADA are required as part of the functional requirements for stations and guideway, and as part of the codes and standards for LRVs within the P3 contract (Book 2, Part 2) for the Purple Line project. Based on project reviews conducted by the PMOC, MTA has confirmed that it included ADA compliance in its QA oversight reviews of PLTC's design packages.

All design reviews include ADA specifically. The contract requires a full-time MTS Maintenance of Traffic construction representative for the project to monitor whether temporary pedestrian accommodations during construction continue to comply with ADA requirements. The contract also includes an incentive program for ADA compliance. The Maryland State Highway Administration also inspects temporary facilities.

MTA indicates that the project is maintaining ADA accessibility along the project corridor during construction. In addition to planning for ADA accessibility, MTA and MTS respond to public concerns due to construction activities and temporary accessibility features. As of July 2024, the project corridor has experienced an increase in constituent access and mobility concerns due to the intensity of summer construction activities. MTA is coordinating with MTS to address these concerns as quickly as possible.

2.18 Buy America

MTA understands that Buy America compliance applies not only to the rail vehicles but also to the procurement of all manufactured products, including all iron and steel. MTA is also aware that domestic manufacture of all federally funded procurements is required and should be certifiable. Compliance with Buy America regulations is contained in MTA's standard clauses for its procurements, and the P3 contract contains explicit Buy America language in its Appendix 16.

Virginkar and Associates, Inc. conducted the Buy America pre-award audit and concluded that there is reasonable certainty that CAF will satisfy the Buy America requirements as stated in 49 Code of Federal Regulations (CFR) 661. MTA's interpretation is that, because the vehicle RFP was advertised before December 4, 2015 (which is the date of passage of the Fixing America's Surface Transportation Act, also known as the FAST Act), the 49 CFR 661 Public Interest Waiver that limits domestic content to a minimum of 60 percent, as opposed to the escalating domestic content requirements of the FAST Act, applies in this case. During the week of October 2, 2017, an intermediate post-award Buy America audit was conducted of CAF's facility in Elmira, New York, for added confidence that the post-delivery audit would not identify issues. CAF targeted 65 percent domestic content in the completed LRVs.

The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with evaluation of

Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to FTA. On that same day, MDOT also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicates that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.

MTS regularly audits its suppliers and subcontractors regarding the construction Buy America requirements. MTS audits its subcontractor's Buy America requirements and any issues are reported in conjunction with the project quality process.

2.19 Start-up, Commissioning, Testing

MTA has begun documentation for the "Roadmap to Revenue Operations" (see **Attachment F**), which includes both MTA and MTS information on integration, testing, and commissioning. MTA submitted an update of Attachment F to the PMOC in May 2024. In July 2024, MTA provided to the PMOC the Integration Test Program Plan and other documentation prepared by PLTP and PLTP's contractor, SENER. As of November 21, 2023, MTA had developed a process for managing testing submittals and reviews, including detailed tracking of open items.

The PMOC has recommended that MTA expedite readiness activities for testing of LRVs. MTA states that the responsibility for readiness activities lies with the P3 concessionaire. LRV delivery began in May 2024, and MTA media events related to vehicle delivery occurred in July 2024. The PMOC recommends that MTA expedite the readiness plans for dynamic testing, which is scheduled to begin in ***November 2024.***

2.20 Before-and-After Study Reporting

To be determined.

2.21 Lessons Learned

The resolicitation of a D-B contractor gave MTA the opportunity to apply several lessons learned to the new D-B contract documents and to amend the P3 Agreement. After the May 2022 risk workshop with MTA and the PMOC, MTA provided an update on opportunities for improvement that MTA had identified during the resolicitation and is incorporating into the project. MTA provided an initial Lessons Learned summary that addressed the period of OSF construction and replacement of the D-B contractor. The PMOC recommends that MTA continue the process of recording lessons learned by reviewing and documenting the issues that led to the change orders (of nearly $600 million and 11 months) that included Amendment 7 to the P3 Agreement. ***In October 2024, MTA again indicated*** that it is committed to documenting lessons learned, although it has not had the resources available to do so.

2.22 Action Items

Action Items are identified at MTA/FTA Quarterly Progress Review Meetings, at MTA/PMOC Monthly Update Meetings, and at MTA/FTA Biweekly New Starts Progress Conference Calls. Action Items in ***October 2024*** are as follows:

1. MTA will provide the key schedule milestones for development of the police and fare enforcement services. – OPEN; completion is now planned for January 2025.
2. ***MTA will clarify its calculations for the LTIR in October 2024. – OPEN***
3. MTA will provide partnering information in October 2024, including agenda, notes, and partnering poll results from the July 31, 2024 partnering meeting. **– *CLOSED***
4. MTA will provide the current CEL and CIL in September 2024. **– *CLOSED***
5. MTA will provide to FTA a formal request (letter) to amend the FFGA requirements for RSD and cost, including a breakdown of contingency, funding, and sources of funding. – OPEN
6. MTA will provide the results of the recent safety audit when complete. – OPEN
7. ***MTA will provide a summary and documentation related to the first responder's training that was held at the Glenridge OMF in September 2024. – OPEN***

ATTACHMENT A – LIST OF ACRONYMS

ADA	Americans with Disabilities Act
ATC	Alternate Technical Concept
BFMP	Bus Fleet Management Plan
BPW	Board of Public Works
CAF	Construcciones y Auxiliar de Ferrocarriles
CAT	Community Advisory Team
CEL	Certified Elements List
CFR	Code of Federal Regulations
CIL	Certified Items List
CSCC	Construction Specification Conformance Checklist
CSX	CSX Corporation
D-B	Design-Build
DBE	Disadvantaged Business Enterprise
DCCC	Design Criteria Conformance Checklist
DNR	Maryland Department of Natural Resources
EAC	Estimate at Completion
FAI	First Article Inspection
FCP	Forest Conservation Plan
FFGA	Full Funding Grant Agreement
FRP	Final Recovery Plan
FTA	Federal Transit Administration
GEC	General Engineering Consultant
IBS	Initial Baseline Schedule
IRP	Interim Recovery Plan
LOD	Limits of Disturbance
LRT	Light Rail Transit
LRV	Light Rail Vehicle
LTIR	Lost Time Injury Rate
MCC	Management Capacity and Capability
MDE	Maryland Department of the Environment
MDOT	Maryland Department of Transportation
MOU	Memorandum of Understanding
MTA	Maryland Transit Administration
MTS	Maryland Transit Solutions
N/A	Not Applicable
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
OCS	Overhead Contact System
OMF	Operation and Maintenance Facility
OP	Oversight Procedure
OSF	Operation Step Forward
OSHA	Occupational Safety and Health Administration
P3	Public-Private Partnership
PEPCO	Potomac Electric Power Company
PLTC	Purple Line Transit Constructors
PLTO	Purple Line Transit Operators
PLTP	Purple Line Transit Partners
PMC	Project Management Consultant
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QA/QC	Quality Assurance/Quality Control
QAP	Quality Assurance Plan
QRA	Quantitative Risk Assessment
RAMP	Real Estate Acquisition Management Plan
RCA	Root Cause Analysis

RCMP	Risk and Contingency Management Plan
RFC	Released for Construction
RFP	Request for Proposals
ROD	Record of Decision
ROW	Right-of-Way
RSA	Revenue Service Availability
RSD	Revenue Service Date
SCC	Standard Cost Category
SEIS	Supplemental Environmental Impact Statement
SSCC	Safety and Security Certification Committee
SSCP	Safety and Security Certification Plan
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSTC	Silver Spring Transit Center
SWM	Stormwater Management
TBD	To Be Determined
TCE	Temporary Construction Easement
TCIR	Total Case Incident Rate
TDD	Transit Development and Delivery
TIFIA	Transportation Infrastructure Finance and Innovation Act
TPSS	Traction Power Substation
TRO	Temporary Restraining Order
TUN	Temporary Use Notice
TVA	Threat and Vulnerability Assessment
UMD	University of Maryland
USACE	U.S. Army Corps of Engineers
WMATA	Washington Metropolitan Area Transit Authority
WSSC	Washington Suburban Sanitary Commission
YOE	Year of Expenditure
YTD	Year-to-Date

ATTACHMENT B – TOP PROJECT RISKS

An internal risk workshop to support the Interim Recovery Plan was held on January 26, 2021. Maryland Transit Administration (MTA) and Purple Line Transit Partners (PLTP) used information from the meeting as they solicited a replacement Design-Build contractor.

A risk workshop was held May 3 through May 5, 2022. After the risk workshop, MTA prepared supplementary or updated documents for review, including an updated Risk Register. The Federal Transit Administration (FTA) provided a risk summary to MTA on June 22, 2022, for MTA's consideration when updating risk, contingency, and other project management plans. MTA incorporated the FTA comments in the revised Risk and Contingency Management Plan (RCMP) that is a part of the Final Recovery Plan. On May 22, 2023, FTA accepted the revised RCMP with conditions.

During the February 7, 2024 Quarterly Progress Review Meeting, MTA presented cost and schedule contingency drawdown curves that indicated significant commitment of contingency reserves. Due to this significant commitment of contingency and the fall 2023 completion of the MTA-managed Operation Step Forward (OSF) activities, MTA determined that an update to the Risk Register was warranted.

In March 2024, MTA executed Amendment 7 to the P3 Agreement to address the OSF delays, nonconforming work by the previous D-B contractor (Purple Line Transit Constructors), owner-driven changes to the design, and several other disputes with PLTP and/or Maryland Transit Solutions (MTS), the replacement D-B contractor. Amendment 7 raised PLTP/MTS compensation by $577,459,709 and added 11 months to the project schedule, representing considerably more than the available cost contingency and nearly all of the available schedule contingency, respectively. In response, MTA prepared a Quantitative Risk Assessment (QRA) to re-baseline the project's contingency drawdown curves and update the RCMP. In June 2024, MTA provided a preliminary risk update and QRA, including contingency recommendations; these preliminary recommendations for cost contingency and schedule contingency are $179.58 million and 11 months, respectively. In September 2024, FTA accepted the contingency amounts as proposed by MTA.

In September 2024, MTA identified the following top risks:

1. Unknown Existing Construction Defects from the prior D-B contractor.
2. Temporary Construction Easement Extensions.

In July 2024, the Project Management Oversight Contractor (PMOC) reviewed the MTA QRA and requested that MTA provide information that describes the basis for the Amendment 7 cost and schedule values, and asked several other questions to help clarify the QRA procedures. In September 2024, the PMOC provided its final QRA comments/recommendations to FTA.

ATTACHMENT C – AWARDED CONTRACTS

Included below is information that MTA provided for the August 14, 2024 Quarterly Progress Review Meeting packet. Please note that the total shown in this table for contracts awarded does not reflect the full project value.

Major Contracts:

Company	Vendor Type	Contract No.	Baseline Amount	Change Order Totals	Current Amount	Pending Change Orders
PB/RK&K	Engineers/ Architects	MTA-1054A	$ 12,000	$ 1,850	$ 13,850	
STV/Jacobs	Engineers/ Architects	MTA-1054B	$ 8,000	$ 1,300	$ 9,300	
AECOM/ RK&K/WSP	Engineers/ Architects	MTA-1264A	$ 60,000	$ 338,500	$ 398,500	
Gannett Fleming/WRA	Engineers/ Architects	MTA-1265B	$ 80,000	$ 71,000	$ 151,000	
Purple Line Transit Partners	P3 Concession (design build portion only)	PUR16032PP	$ 1,988,816	$ 1,921,639	$ 3,910,455	
Total			**$ 2,148,816**	**$ 2,334,289**	**$ 4,483,105**	**0**

Amendment 6 to the Purple Line Transit Partners P3A was not been previously reflected. The amount shown as "Current Amount" represents that portion of the P3A Design-Build contract associated with the New Starts Program.

ATTACHMENT D – ROLLING STOCK VEHICLE STATUS REPORT

Date: ***October 22, 2024***

Vendor: Construcciones y Auxiliar de Ferrocarriles (CAF)

Model: Multiple-section 136-foot articulated car (total length is 142 feet coupler-to-coupler), used in a five-car consist per vehicle

Year: The first vehicle was completed in 2021, and currently 26 vehicles are designated as "Ready for Shipment" and/or have been delivered. Completion of the storage and testing facilities at the Glenridge Operation and Maintenance Facility (OMF) was delayed, so Maryland Transit Administration (MTA) and CAF negotiated terms for storage of vehicles at the CAF facility in Elmira, New York. The storage agreement has now transferred to the replacement Design-Build (D-B) contractor, Maryland Transit Solutions (MTS).

Quantity: 25 vehicles (125 cars) were in the original contract (Full Funding Grant Agreement [FFGA]). One vehicle (five cars) was added to the original CAF authorization by MTA, outside of the FFGA.

In July 2021, two vehicles (ten cars) were added via change order to MTS, also outside of the FFGA.

Identification: The original light rail vehicles (LRVs) will be numbered from 101 through 126. The two additional LRVs will be numbered 127 and 128.

New Technologies: None planned (all major suppliers have service-proven equipment).

Status and Significant Activities:

- As a part of the original order, 26 vehicles (130 cars) were assembled in Spain and delivered to CAF's facility in Elmira, New York, for final assembly and static testing. The additional two vehicles (ten cars) also have been delivered to Elmira for final assembly and static testing.
- Delivery of finished vehicles was expected to begin in spring 2021; however, because the Glenridge OMF was not ready to accept railcars, MTA and CAF negotiated an agreement for CAF to store the completed cars in Elmira.
- The first LRV was delivered to the Glenridge OMF on May 15, 2024; and one delivery has occurred each month since. The fifth vehicle delivery occurred on September 11, 2024. Four vehicles have completed static testing onsite at Glenridge, utilizing auxiliary power. Additional testing is required when traction power is available.
- CAF intends to have one vehicle per month delivered until such time as that frequency can be increased. ***Two vehicles were scheduled to be delivered in the last week of October 2024.***

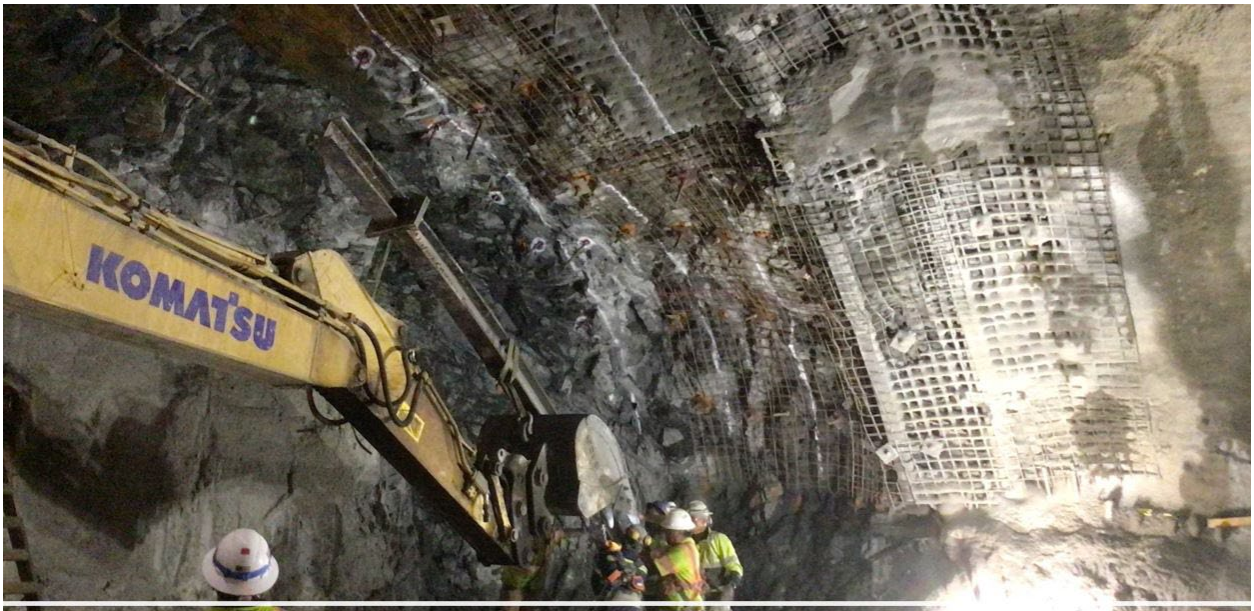
- Twenty-one LRVs were designated as Ready for Shipment ***(prior to the pending late October 2024 deliveries of two LRVs)*** and remain in storage in Elmira. Two vehicles are in factory testing as of September 2024.
- The Glenridge OMF can store up to six vehicles in the building, so additional track must be available for additional storage. The Overhead Contact System and Traction Power Substation (TPSS) Q7 and TPSS QYG must be completed and installed before operation of the vehicles.
- Temporary Use Notices (TUNs) approved by the SSOA are required to place the vehicles on the tracks. Additional TUNs are required when LRVs are unloaded by different methods in different locations.
- SNC-Lavalin (now an MTS subcontractor) prepares a monthly quality report documenting safety, production, and quality items at the Elmira production facility.
- MTS, which has assumed the CAF contract, ***is no longer*** submitting to MTA reports on LRV maintenance activities required during the storage period.
- The project's Buy America compliance audit for the LRVs was conducted on November 14, 2022. In January 2023, CAF provided additional documentation requested to assist with the evaluation of Buy America compliance. On August 17, 2023, MTA provided the Post-delivery Buy America Audit, dated April 21, 2023, to Federal Transit Administration (FTA). On that same day, Maryland Department of Transportation also provided the Certificate of Compliance to FTA for the Post-delivery Audit of Rolling Stock Purchases. The audit indicated that the percentage of U.S. domestic content of the LRVs is 66.74 percent, which meets FTA requirements.
- The resolution of a previously identified quality issue related to the M33 bolt on the LRV trucks was closed in May 2024. In July 2024, MTA provided a confidential report on resolution of the issue. CAF performed a Root Cause Analysis, identifying a primary root cause and secondary contributing causes. Validation of the corrective actions was conducted, and the issue is now closed.
- ***In September 2024, MTA reported that Purple Line Transit Operators has taken possession of the Glenridge OMF to allow it to maintain LRVs and coordinate vehicle testing.***

ATTACHMENT E – PROJECT MILESTONES/KEY EVENTS

Photos courtesy of Maryland Transit Administration.







Site View of Cavern HA-7 Arch Beam Work – Bethesda Metro South Entrance
Week Ending 10-11-24



Site View of Canopy Gutter Work – Adelphi Road-UGMC-UMD Station
Week Ending 10-11-24



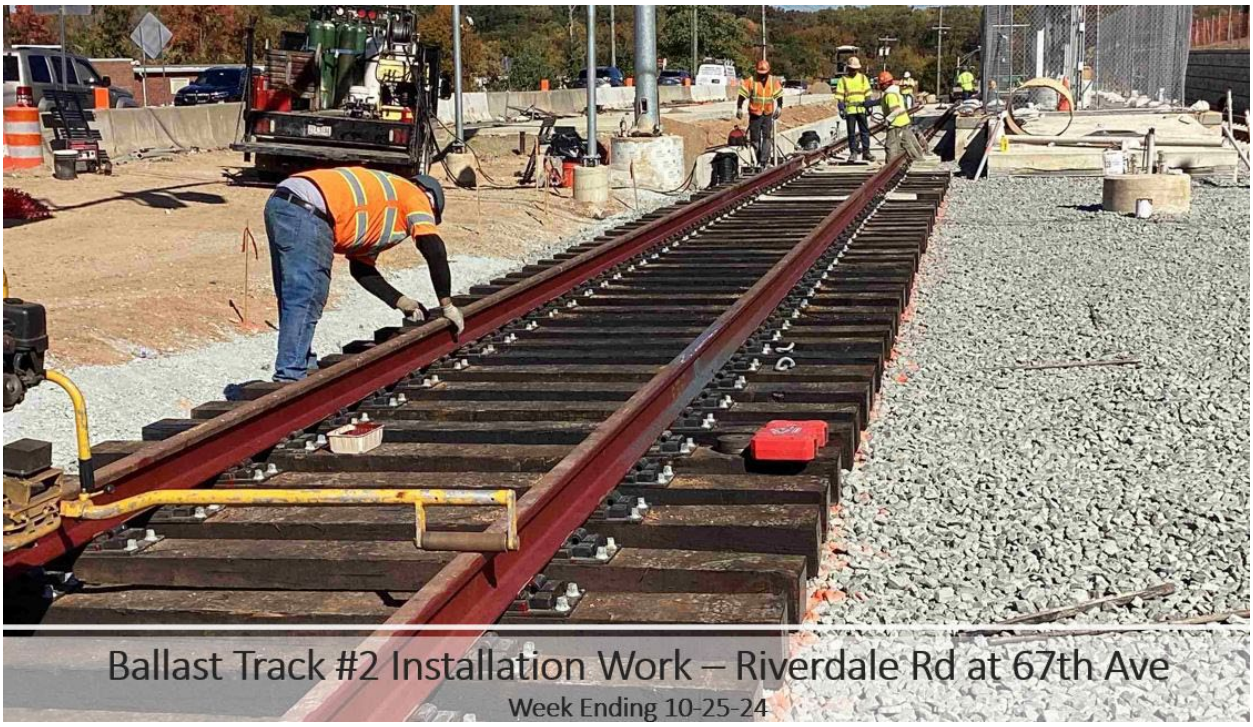
Traction Power Substation 3rd Section Set in Place – TPSS-Q5
Week Ending 10-18-24



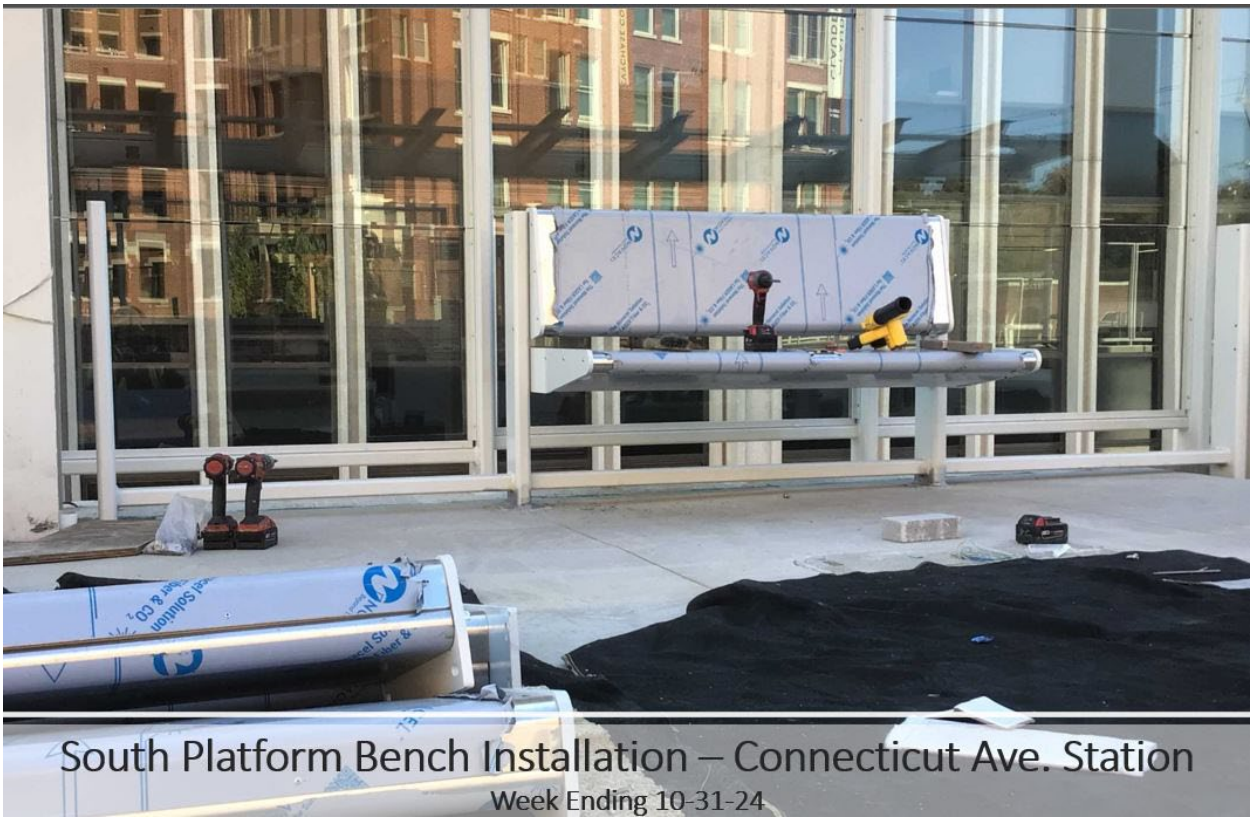
Terminating Train Wayside Communication Circuits inside CIH-G2 – Glenridge Yard
Week Ending 10-18-24



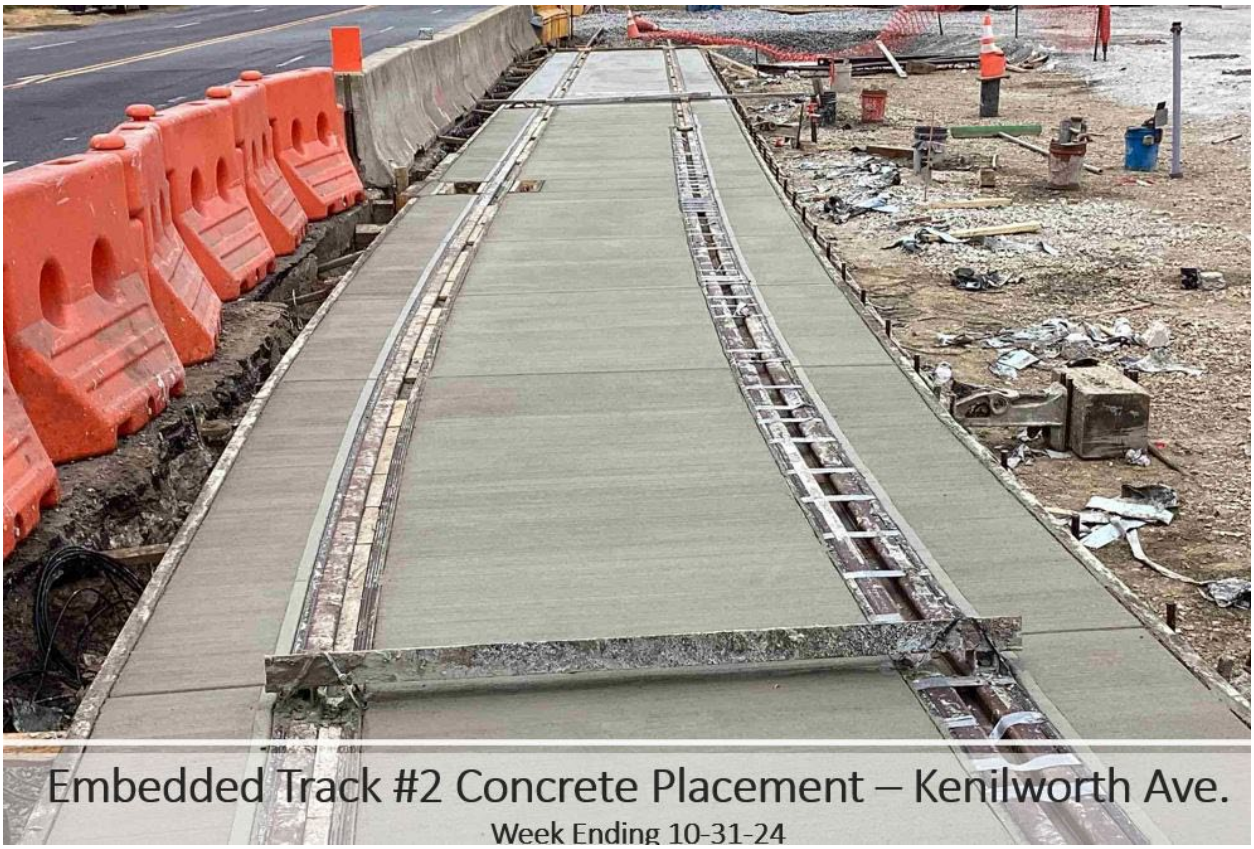
Site View of Install Ground Grid Backfill Work – New Carrollton Station
Week Ending 10-25-24



Ballast Track #2 Installation Work – Riverdale Rd at 67th Ave
Week Ending 10-25-24



South Platform Bench Installation – Connecticut Ave. Station
Week Ending 10-31-24



Embedded Track #2 Concrete Placement – Kenilworth Ave.
Week Ending 10-31-24

ATTACHMENT F – ROADMAP TO REVENUE OPERATIONS

In accordance with Oversight Procedure 25, the Project Sponsor will prepare the Roadmap to Revenue Operations template based on the current master project schedule, in the general format presented below. The Project Management Oversight Contractor provided this template to the Project Sponsor as a separate electronic file for its use. The Project Sponsor is requested to provide quarterly updates for review and discussion. Maryland Transit Administration (MTA) provided the quarterly update for the roadmap, shown below, in August 2024.

ROADMAP TO REVENUE OPERATIONS (MTA to provide updates)

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Testing								
Finalize Comprehensive Test Plan	PLTP/MTS/ Sener	See Notes	In Progress	TBD		**T & C Management Plan** – Accepted **Project Test Program Plan** – Accepted **LRV Test Plan** – Accepted. All factory and site test procedures Accepted. **TCS Test Plan – Local** – Accepted. All factory test procedures submitted, 10 of 11 Accepted. 18 of 37 site test procedures submitted, 12 Accepted **TCS Test Plan – Integration** – Awaiting Submittal **TCS/Traffic/CMS Test Plan** – Awaiting Submittal **TPSS Test Plan** – Accepted. All factory test procedures submitted and Accepted. 21 of 24 site test procedures submitted and Accepted. **OCS Test Plan** – Accepted. Factory test procedures prepared by previous contractor and reviewed by PLTC/Atkins. 9 of 13 site test procedures submitted. **Communications Test Plan** – Accepted. All PL procedures submitted, no unresolved comments. 4 of 51 site test procedures submitted. **CMS Test Plan** – Accepted. 56 of 58 factory test procedures submitted, 51 Accepted. 0 of 52 site test procedures submitted. **Fire & Security Test Plan** – Accepted. 21 of 25 factory test procedures submitted and Accepted. 6 of 47 site test procedures submitted. **Fare System Test Plan** – Awaiting Systems Design **Traffic** – QC with AHJs **EMI Test Plan** – Accepted **CCG Test Plan** – Accepted- Awaiting pass/fail criteria for Electrical Resistance & Continuity &Test Procedures. **Noise & Vibration** – MTS Reviewing **OMIS Test Plan** –CMS Integration added to CMS TPP. OMIS functionality TBD after completion of design.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Ops Simulator Test Plan TPP is pending completion of design. **Trackwork** – Unofficial draft received and comments returned. Awaiting official submittal. **OMFs Test Plan** –Responses received to previous Glenridge submittal – in resolution. Plan for Lyttonsville will be submitted as a separate document. **Station Electrical** – Under Study by MTS/Sener **Fire Protection, Mechanical, Plumbing** – Under Study by MTS/Sener		
Finalize / Update Systems Integration Test (SIT) Plan	PLTP/MTS/ Sener	In Preparation	In Progress	May 2024		Awaiting update of DRC# 3644, CW-164, Systems Integration Test Plan Revised document received – DRC #1066. Completed & Accepted		
Develop Testing Schedule and Monitoring Tools	PLTP/MTS	In Progress	TBD	TBD				
Develop Operating Rules for Testing	PLTP/MTS	In Preparation	In Progress	July 2024		Construction Railway Operations Rules & Procedures (CRO) is complete and submitted to MTA/PMC for information. Training on CRO scheduled to begin in August/September 2024.		
Conduct System Integrated Testing - Prioritized Traffic Signal Systems	PLTP/MTS	In Progress	TBD	TBD				
Certificates of Occupancy / Substantial Completion	Maryland Office of the State Fire Marshal	Glenridge OMF – In progress.				As state-owned property, no certificates of occupancy are issued. The AHJ ensures building is safe through various system inspections to include fire protection systems, elevators, etc. AHJ will take no exception to occupancy if inspections pass.		
Finalize Operating Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept. 2025 Sept 2026		Projected start of Trial Running: March 2027 Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running
Finalize / Revise Standard Operating Procedures (SOPs), manuals, and rulebook as applicable	PLTP/PLTO	See Note	TBD			Included as part of the Operating Plan. Projected start of Trial Running: March 2027 :		Rulebook, SOPs and EOPs to be submitted for review and approval no later than 6 months prior to Trial Running.

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
				Sept. 2025 Sept 2026		Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running. Revisions to operating/maintenance/emergency rules/procedures may occur during the testing and commissioning period.		Preliminary submittal of Operations manuals for review and comment due no later than 18 months prior to Trial Running. Final submittal of Ops manuals for review and approval due no later than 6 months prior to Trial Running
Complete Staffing Plan	PLTP/PLTO	On-going				PLTO has developed a draft staffing and hiring plan that is tied to the approved project schedule. Hiring plan subject to change based on project schedule changes.		
Obtain Required Staff	PLTP/PLTO/ MTS	On-going	Various	March 27		Recruitment and staff hiring based on project schedule. PLTO staffing (operators and dispatchers/controllers) to support vehicle dynamic testing has been coordinated with CAF. Onboarding of other PLTO support staff for vehicle maintenance (after vehicle acceptance) and test track maintenance tied to vehicle delivery dates and start of vehicle dynamic testing (Fall 2024)		
T&C Support Staff	PLTO		March 2024	Fall 2024		**PLTO Current On-site Staffing:** General Manager Director of Maintenance Director of Finance Deputy Director of Operations Manager of Facilities Maintenance Manager of Wayside and Systems Manager of Vehicle Maintenance Vehicle Maintenance Superintendent Vehicle Maintenance Technician Human Resources Manager Buyer/Warranty Specialist Warehouse Supervisor Rail Operators (6 - for T&C Support). Facilities Maintainer Database Administrator Instructor Current On-site Staff supported by various home office operations and engineering staff and consultants such as Safety & Operations, Systems, etc.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Finalize Revenue Operations Plan	PLTP/PLTO	Preliminary Op Plan submitted and approved	TBD	Sept 2025 Sept. 2026		Projected start of Trial Running: March 2027 Revenue Operations/Service Plan included as part of Operating Plan. Intermediate Operating Plan to be submitted for review and approval no less than 18 months prior to Trial Running. Final Operating Plan to be submitted for review and approval no less than 6 months prior to Trial Running		
Develop / Revise Safety and Security Certification Plan (SSCP) & Safety and Security Management Plan (SSMP)	MTA	On-going	SSMP – 2/02/2011 SSCP – 8/31/2012	TBD		SSMP is currently on revision 14 and the SSCP is on revision 8. The SSMP is updated in conjunction with the PMP as it is considered a sub-plan.		
Federal Transit Administration (FTA) Office of Safety & Security Readiness Review	FTA	See Note	TBD	TBD		No updates at this time		
PMOC OP-54 Readiness for Revenue Operations Review Report	PMOC	See Note	TBD	TBD		No updates at this time		
Conduct Operational Hazard Analysis (OHA) and resolve other hazards / vulnerabilities	PLTP	See Note	TBD	TBD		No updates at this time		
Pre-Revenue Operations	PLTP/PLTO	See Note	March 2027	Dec. 2027		Pre-revenue Operations broken down into: Trial Running and System Demonstration Testing. Projected start of Trial Running: March 2027		
Develop Safety Outreach Plan	MTA/PMC PLTP MTS	On-Going	TBD August 2024	Sept. 2025 Fall 2024		Projected start of Trial Running: March 2027 Outreach Plan to be developed 18 months before Trial Running. Test track Communications and Outreach Safety Education Campaign expected for October 2024. Dynamic testing on approximately one-mile along Veterans Parkway between Riverdale Road and Annapolis Road is expected in the fall of 2024.		
Provide Community Outreach	MTA/PMC PLTP	On-Going	August 2024	Fall 2024		Outreach plan for test track OCS energization and start of vehicle dynamic testing under development.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
						Near Term Hiring: Posted Positions Sr Track Maintenance/Inspector Accounting Specialist IT Specialist All OMF building maintenance contracts have been executed with the exception of contracts for the cranes, turntables, hoist which are still under MTS responsibility. Anticipate turnover of equipment to PLTO in the near future. PLTO anticipates having an established maintenance contract with the crane supplier by the end of August. In floor car & truck hoists still in MTS possession awaiting capacity certifications		
Training of Operations and Maintenance (O&M) personnel	PLTP/PLTO/ MTS	On-going	Various	March 2027		**For Testing & Commissioning Support:** Six (6) LRV Operators have received initial familiarization training on the vehicles in Elmira. Those operators will be used to support vehicle dynamic testing and training of full-time operators in the future training at Elmira completed. PLTP/MTS developing training plans for testing & commissioning rules, procedures, and requirements. PLTO will need to be fully staffed prior to the start of Trial Running in March 2027.		
Emergency response plan, training, and drills Initial Training for OMF/Test Track and Vehicles	PLTP/PLTO/ MTS	Various Ongoing	Feb. 2024 Aug. 2024	Jan. 2027 Sept. 2024		Emergency response drills to be conducted during Trial Running. Initial Training for up to 150 first responders will be initiated between PLTP, PLTO, CAF and Prince George's County. Training to begin Monday 8/19/2024 with an estimated completion 8/30/2024.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
	MTS On-Going	September 16, 2024	October 1, 2024		The Purple Line Outreach Team, in a collaborative effort with partners at PLTP and MTS, will provide resources and community outreach to inform the public, expanding efforts to a broader campaign in preparation of public road testing. Recommended best practices for reference include **Operation Lifesaver** and collaboration with MTA, based on prior safety campaigns. Action Items: **Outreach:** Alert elected officials along the alignment and communities about dynamic track testing **Outreach:** Focus on safety with notifications, resources available on the website highlighting restricted areas and potential dangers of trespassing **Outreach:** Include testing information in the October CAT meeting presentations **Outreach in coordination with MTA Safety**: Message training for the test track on-site crews on protocol if engaged with the public or media who might try to access the area or take photos of testing **Communications:** Create messaging that builds excitement about future ridership **Communications:** Safety-focused social media postings to alert the public about testing and show as a progressive milestone **Communications in coordination with MTS Stakeholder Team:** Send advance communications to elected officials about testing phase and safety reminders for the public going out		
Public Timetables / Maps / Website Updates, etc.	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time.		
Grand Opening Plan	MTA/PLTP/ MTS/ PLTO	Not started	TBD	TBD		No updates at this time		
Update / Finalize SSMP	MTA					See previous SSMP entry.		
Finalize and/or update Safety Certifiable Item List (SCIL) and SSCP	MTA/PLTP	On-going	TBD	TBD		See previous SSCP entry. No update for SCIL..		
Implement Safety and Security Certification Committee	MTA	On-going	April 2018	TBD		The SSCC has been ongoing since 2018.		

Description	Responsible Party	Status	Early Start Date	Estimated Completion Date	Actual Completion Date	Agency Notes	PMOC Notes	Additional Information Required
Implement Fire Life Safety Committee	MTA	On-going	7/27/2012 – Montgomery County 9/26/2012 – Prince George's County	TBD	TBD	MTA has implemented two FLSSCs, one for each Maryland County that Purple Line traverses. Both committees were started in 2012.		
Verify design criteria, Preliminary Hazards Analysis (PHA), Threat and Vulnerability Analysis (TVA), change orders are implemented within the project	MTA/PLTP	On-going	PHAs - 6/26/2012 TVA – 12/10/2013 Change Orders	August 2024	TBD	PLTP has verified over 99% of the design criteria. Initial PHAs on the 30 % Preliminary Design started in 2012 by MTA. PLTP continued PHAs in 2016. Initial TVA completed in 2015 by MTA. PLTP continued in 2017. MTS has initiated a cybersecurity TVA. Cybersecurity Workshop – Risk Ranking conducted on 8/9/2024. Participants included PLTP, MTS, PLTO, CAF, MTA/PMC. Additional information requested of participants; another meeting will be scheduled when info is compiled.		
Review status of quality non-conformances		See Note				No updates at this time.		
Closeout of non-safety critical items/non-conformances		See Note				No updates at this time.		
Closeout of safety critical items/nonconformances	MTA/PLTP	Not started	TBD	TBD		No updates at this time.		
Complete Safety and Security Certification Verification Report (SSCVR)	PLTP	Not started	TBD	December 2027		This report will be due sometime in the December 2027 timeframe.		
Document Workarounds / Open Items List	PLTP	Not started	TBD	TBD				
Verify emergency drills, tabletops, training, etc. are completed	MTA/PLTP/ PLTO		TBD	TBD		Emergency drills to be conducted during the Trial Running period. Training verification will be completed prior to Trial Running.		
SSO final certification / signature	SSO					No updates at this time		
Revenue Service								
Target Revenue Service Date (RSD)	PLTP		TBD	Dec. 2027		Project schedule dependent.		
Public RSD	MTA/PLTP		TBD	Dec. 2027		Project schedule dependent.		
Full Funding Grant Agreement (FFGA) RSD						No updates at this time.		

ATTACHMENT G – PROJECT MAP

