

**Fourth Bimonthly Purple Line Construction
Status Report of Fiscal Year 2024
(2023 JCR, p. 82)**

**A Report to the Maryland General Assembly
Senate Budget and Taxation Committee
and
House Appropriations Committee**

January 2024

Maryland Department of Transportation
Maryland Transit Administration

Introduction

The Maryland Department of Transportation (MDOT) prepared this report in response to language contained in the 2023 Joint Chairmen's Report (JCR). The language states:

“provided that \$100,000 of this appropriation made for the purpose of agency administration may not be expended until the Maryland Transit Administration submits five bimonthly construction status reports for the Purple Line Project to the budget committees. The status reports shall provide:

- 1) the completion percentages for the project as a whole and for each major category of work;*
- 2) the running total amount expended for construction; and*
- 3) an explanation of any material change to the total construction cost estimate or construction schedule as set forth in the revised public-private partnership agreement as amended to add Maryland Transit Solutions as the replacement design-build contractor for the project.*

The first status report shall be submitted by July 1, 2023, and subsequent reports shall be submitted every second month thereafter, and the budget committees shall have 45 days from the date of the receipt of the final report to review and comment. Funds restricted pending the receipt of a report may not be transferred by budget amendment or otherwise to any other purpose and shall be canceled if the report is not submitted to the budget committees.”

The Purple Line is a critical investment in Maryland's transportation system that will provide reliable east-west travel in Montgomery and Prince George's counties, help reduce congestion, improve our environment, increase transit connectivity, create jobs, and drive economic growth.

The Purple Line will transform the region by:

- advancing the shared mission to improve the quality of life and economic vitality in our communities by creating and sustaining an integrated, convenient, and reliable transportation network;
- creating several new multimodal connections across the region, linking to five Washington Metropolitan Area Transit Authority (WMATA) Metro lines, three Maryland Area Regional Commuter (MARC) commuter rail lines, Amtrak, and a host of bus services;
- greatly expanding transit opportunities in Maryland's two most populous and fastest-growing counties in the State;
- creating convenient, dependable east-west access to jobs, educational centers, shopping, recreation, and attractions;
- supporting more than 6,000 jobs, with 26% for design services going to small and minority-owned businesses and 22% for construction going to small and minority-owned businesses;

- relieving automobile congestion on major arteries and local roads in one of the most congested areas in the nation;
- providing significant environmental benefits through the operation of clean electric energy light rail vehicles and taking thousands of vehicles off the road daily, thereby reducing vehicle emissions caused by single occupancy vehicle drivers;
- spurring economic growth along the Purple Line alignment in and between Prince George's and Montgomery counties and having a positive impact on property values by improving access and mobility; and
- revitalizing communities and providing much-needed opportunities for transit-oriented developments, many of which are already under development in anticipation of completion of the Purple Line.

Information Requested

As requested in the 2023 Joint Chairmen's Report, MTA is providing the most recent information collected and summarized through the end of November 2023.

1. The percent completion for the overall project and for each major category of work.

At more than 63% complete, Purple Line progress continues to advance with 60 active work sites from New Carrollton to Bethesda. Though the complex work of utility relocations and upgrade of storm drain systems are largely not visible since these critical activities involve underground work, recent milestones are more visible. For example, station canopies at Riverdale Park North – UMD and Silver Spring, embedded track along Campus Drive at UMD, and catenary pole foundations along Wayne Avenue provide a glimpse of the completed Purple Line.

Additional visible, recognizable activities continue, including: several Purple Line stations currently under construction at Bethesda, Connecticut Ave, Lyttonsville, Manchester Place, Silver Spring, Silver Spring Library, Campus Drive – UMD, Riverdale Park North – UMD, Riverdale Park – Kenilworth and Glenridge; bridge and retaining wall construction, including completion of Talbot Avenue in Silver Spring; light rail track being laid at several locations, including Ellin Road, Campus Drive and the University of Maryland and Riverdale Road; reconstruction of the parking lot at Washington Metropolitan Area Transit Authority's (WMATA) New Carrollton Station and at the Glenridge Operations and Maintenance Facility; installation of light rail systems components, including traction power substations, equipment bungalows, communications ductbank, and electrical systems; and construction of the elevator shaft connection at the Bethesda station that will connect future Purple Line riders to WMATA's Red Line.

At the Glenridge Operations and Maintenance Facility, work continues to prepare the facility and storage yard to receive light rail vehicles this year. Ongoing work includes construction of storage tracks, installation of communications and power ductbanks, site lighting, and preparations to install the Overhead Contact System that powers the trains. Inside the facility, work is progressing to ready the equipment that will support delivery, reassembly, and testing of the vehicles upon their arrival.

As of November 30, 2023, the following completion percentages have been achieved:

Completion Category	% Complete (as of 11/30/23)	% Complete (as of 9/30/23)
Overall Project ⁽ⁱ⁾	63.4%	58.5%
Utility Relocations ⁽ⁱⁱ⁾	85.3%	82.1%
Civil Design ⁽ⁱⁱⁱ⁾	100%	99.5%
Systems Design ^(iv)	79.0%	79.0%
Construction Possession of Property Acquisitions ^(v)	100%	100%
Civil Construction ^(vi)	44.5%	42.7%
Rail Installation ^(vii)	4.4%	4.0%
Systems and Station Construction ^(viii)	14.9%	13.7%
Glenridge Operations and Maintenance Facility ^(ix)	95.0%	95.0%
Rail Vehicles Ready to Ship ^(x)	92.8%	92.8%
Capital Crescent Trail Construction ^(xi)	44.7%	Not previously reported

UPDATED CALCULATION FORMULAS:

- i. Overall Project completion is calculated by summing the earned value (EV) for the three P3 project phases (prior Design-Build Contractor, MTA interim, current Design-Build Contractor) and dividing by the sum of the estimates at completion (EAC) for the three P3 project phases.

$$(EV_{priorDB} + EV_{interim} + EV_{currentDB}) / (EAC_{priorDB} + EAC_{interim} + EAC_{currentDB})$$
- ii. Progress of Utility Relocations is now calculated using partial progress information for each individual utility relocation package. Of the 260 total utility relocations packages, the following progress is noted:
 - a. 211 packages at 100% Complete
 - b. 5 packages at $90\% \leq \text{Complete} < 100\%$
 - c. 8 packages at $50\% \leq \text{Complete} < 90\%$
 - d. 3 packages $0\% < \text{Complete} < 50\%$
 - e. 33 packages at 0% Complete
- iii. Civil Design progress is based on 199 of 199 civil design packages having a Released for Construction status.
- iv. Systems Design progress is based on 15 of 19 systems design packages having a Released for Construction status. Systems design packages are the last packages to complete, because equipment location and cable routing must fit into the completed civil design environment. The remaining four systems design packages are progressing towards completion and are being coordinated with the completed civil design packages.
- v. Construction Possession of Property Acquisitions refers to available access for Purple Line Project construction. The category includes all original (P3A Exhibit 9) and additional (P3A Exhibit 9B) properties required for the project.
- vi. Civil Construction is calculated based on physical construction progress of major civil components (retaining walls, bridges, drainage, paving, and underground structures) across the project alignment.

- vii. Rail Installation is calculated based on physical construction progress across the project alignment.
- viii. Systems and Station Construction is calculated based on physical construction progress of major systems components (overhead power, train & traffic signals, communications equipment, substations) and stations across the project alignment.
- ix. This category measures the progress of just the maintenance facility. Civil, rail, and systems construction within the Glenridge Yard is now tracked and reported under the Civil Construction, Rail Installation, and Systems and Station Construction status.
- x. All 26 of the original fleet of 26 light rail vehicles are ready to ship to Maryland from Elmira, New York when the Glenridge Operations and Maintenance Facility is ready. Two additional light rail vehicles were ordered and all ten carshells have been delivered to Elmira and entered into the final assembly process.
- xi. Capital Crescent Trail Construction is calculated based on physical construction progress of major civil components (retaining walls, bridges, drainage, paving, trail connections, and landscaping/fencing) along the Capital Crescent Trail. Portions of the Capital Crescent Trail will be constructed in conjunction with the Purple Line tracks, and therefore the Capital Crescent Trail will open when it is safe to do so in a later stage of the project.

2. *The running total amount expended for construction.*

Since the execution of the new design-build contract on April 15, 2022, through November 30, 2023, \$817.8 million has been expended on the design-build contract. Reported expenditures are based on the latest monthly construction progress report prepared by the Concessionaire.

3. *An explanation of any material change to the total construction cost estimate or construction schedule as set forth in the revised P3 Agreement as amended to add Maryland Transit Solutions as the replacement design-build contractor for the project.*

The MTA and the Concessionaire continue to work collaboratively to deliver the Purple Line. As with any mega project, the schedule will fluctuate monthly. The MTA and the Concessionaire are actively working to identify and mitigate any potential delays. The MTA will continue to provide regular updates to the public and remains committed to delivering this critical transit project for the region.

The Concessionaire prepares monthly construction progress reports. The report for the month ending November 30, 2023, notes that significant progress is being made; however, critical utility relocation packages are experiencing delays. The Concessionaire quantified this delay to be 249 days from the contractual Revenue Service Availability Deadline, prior to any mitigation efforts or changes to the Revenue Service Availability Deadline. Revenue service availability is the date the Independent Engineer issues a certificate of revenue service availability for the Project, allowing the rail line to begin passenger service. It is important to note that the schedule, as reflected above, is solely based on the views of the Concessionaire and Design-Build Contractor.

The additional delay reported by the Concessionaire reflects a revised project schedule that incorporates construction progress to date, including the completion of utility relocation work undertaken by the MTA following the termination of the previous design-build contract. In September 2020, the MTA assumed responsibility for over 150 contracts and purchase orders when the previous design-build contract was terminated. The MTA identified a package of certain utility relocation and other construction work that MTA would continue to advance while the selection of a new design-build contractor was underway. The completion of this work experienced delays, which is an allowed contractual relief event under the Public-Private Partnership Agreement. On July 19, 2023, the Board of Public Works approved a modification to the Public-Private Partnership Agreement to provide interim relief (time and compensation) to the Concessionaire while the utility relocation work continued. Final completion of the MTA work was achieved on October 31, 2023, and included the transfer of two utility relocation packages to the Concessionaire.

Utility relocations often encounter delays due to unknown underground conditions and the extensive third-party coordination required. With more than 85% of required utility relocations complete, much of the project's schedule risk is reduced. Project delays incurred to date required certain work to be re-sequenced and rescheduled. As previous JCR reports have mentioned, the current Design-Build Contractor has and continues to face unexpected conditions, including reopening construction sites that had sat dormant for nearly two years. These unexpected conditions contribute to the project delay. The MTA, the Concessionaire, and the Design-Build Contractor have continued the tiger team collaboration to identify and recommend potential schedule mitigation opportunities with the goal of mitigating delays. The tiger team continues to meet regularly to review construction progress, anticipate potential schedule impacts, and identify mitigation opportunities to reduce the risk of further delays. As MTA, the Concessionaire, and the Design-Build Contractor reach agreement on schedule mitigation opportunities, MTA will update the public regarding any potential changes.

Milestones



The below table highlights significant remaining milestones for the Project, including the estimated start date of revenue service:

Milestone	Date
Financial and Commercial Close	April 2022
Resumption of Full-Scale Construction	Summer 2022
Delivery of First Light Rail Vehicle	Winter 2024
Test Track Complete for Local Testing & Operator Training	Summer 2025
Construction Complete, Commence Demonstration Testing & Commissioning Activities	Summer 2026
Revenue Service Availability Begins	Spring 2027
Capital Crescent Trail Opens	Spring 2027

Construction Progress

Segment 1 – Grade Beam (foundation) work inside the Bethesda Enclosed Trainway (11/15/23)



**Segment 2 – Crash Wall Concrete Placement, Close to Talbot Avenue Bridge, Silver Spring
(11/09/23)**



Segment 3 – Purple Line bridge over Colesville Road and Silver Spring Station platform, adjacent to Silver Spring Transit Center (11/10/23)



**Segment 4 – Form work at the western portal of the Manchester Place
Station (11/14/23)**



Segment 5 – S27 NW Branch Bridge Deck Rebar (11/10/23)



Segment 6 – PEPCO duct work (11/27/2023)



Segment 7 – Concrete Placement for embedded track, Ellin Road (11/20/23)



**Segment 8 – View from mall access bridge of track adjacent to Glenridge
Operation and Maintenance Facility (11/18/23)**

