A Report to the Maryland General Assembly

Senate Budget and Taxation Committee

and

House Appropriations Committee
House Ways and Means Committee

Regarding

Public-Private Partnership for the Purple Line
Description of the Proposed P3 Agreement

March 4, 2016

The Maryland Department of Transportation
The Maryland Transit Administration

This report was prepared by the Maryland Department of Transportation (MDOT) and the Maryland Transit Administration (MTA) in accordance with State Finance and Procurement Article § 10A-203 – Approval requirements for public-private partnership agreements.

(a)(1) Except as provided in paragraph (2) of this subsection, the Board of Public Works may not approve a public-private partnership agreement until:

> *(i) a copy of the proposed agreement is submitted simultaneously to the Comptroller, the State Treasurer, the budget committees, and the Department of Legislative Services, in accordance with § 2-1246 of the State Government Article ;*
>
> *(ii) the State Treasurer, in coordination with the Comptroller, analyzes the impact on the State's capital debt affordability limits of the proposed public-private partnership agreement;*
>
> *(iii) the State Treasurer submits the analysis to the budget committees and the Department of Legislative Services, in accordance with § 2-1246 of the State Government Article ; and*
>
> *(iv) the budget committees have reviewed and commented on the agreement in accordance with paragraph (3) of this subsection.*
>
> *(2) The Board of Public Works may not approve a public-private partnership agreement for a transportation facilities project, as defined in § 4-101(h) of the Transportation Article, until the proposed agreement is submitted to the budget committees and the Department of Legislative Services, in accordance with § 2-1246 of the State Government Article .*
>
> *(3)(i) The period for review, analysis, and comment under paragraphs (1) and (2) of this subsection may not exceed a total of 30 days from the date the proposed public-private partnership agreement is submitted simultaneously to the State Treasurer, the Comptroller, the budget committees, and the Department of Legislative Services.*
>
> *(ii) The budget committees may facilitate a faster review and comment period by sending a letter to the Board of Public Works supporting a proposed public-private partnership agreement in advance of the expiration of the 30-day review period.*

Background and Overview of the Maryland Purple Line Light Rail Project

The Maryland Purple Line Light Rail Project (the Purple Line) is a 16.2-mile, 21-Station, east-west, light rail transit (LRT) Transitway that will extend from its western terminus just west of Wisconsin Avenue and the Bethesda Metro Station in Montgomery County to its eastern terminus at the New Carrollton Metro Station in Prince George's County, located just inside the I-495/Capital Beltway in the Washington, D.C. metropolitan area.

The Maryland Purple Line Light Rail Public-Private Partnership Agreement also includes certain other improvements as generally described in the Technical Provisions such as:

- Bethesda Red Line Metro Station South Entrance;
- Silver Spring Red Line Mezzanine Connection;
- College Park Metro Kiss-n-Ride and Bus Loop;
- Capital Crescent Trail;
- Silver Spring Green Trail; and
- University of Maryland Bicycle Path.

As planned, the Transitway will be largely at grade with one short tunnel section just east of Silver Spring, three sections elevated on structures, and several bridge structures. The Transitway will operate mainly in dedicated or exclusive lanes, serving five major activity centers just north of Washington, D.C.: Bethesda, Silver Spring, Takoma-Langley Park, College Park/University of Maryland, and New Carrollton. These activity centers are experiencing active development, and major commercial and residential projects are planned. The Purple Line will serve as a major connector to other transit in the region, including the Washington D.C. region's Metrorail system (Metrorail), operated by the Washington Metropolitan Area Transit Authority (WMATA) at four of these major activity centers, MARC, Maryland's commuter rail system at three of these major activity centers. Also, Amtrak services along its Northeast Corridor connect at New Carrollton. The Project will provide passenger transfer capability at each of the major activity centers; however, the Transitway is physically and operationally independent from the Metrorail and MARC operations, and there are no shared operations and no at grade crossings with these operations.

The transit services that connect at these major activity centers include:

- Bethesda – Metrorail Red Line (west leg), and major bus service hub for WMATA Metrobus and Montgomery County's Ride On services (generally the western terminus of the Project);
- Silver Spring – Metrorail Red Line (east leg), MARC Brunswick Line, as well as major bus hub at Silver Spring Transit Center for WMATA Metrobus and Montgomery County's Ride On services;
- Takoma-Langley Park – a transit center under construction as of the RFP date for WMATA Metrobus, Montgomery County's Ride On bus services, and Prince George's County TheBus services;
- College Park/University of Maryland – Metrorail Green Line, MARC Camden Line, and University of Maryland Shuttle bus system, as well as WMATA Metrobus and Prince George's County TheBus services; and
- New Carrollton – Metrorail Orange Line, MARC Penn Line, Amtrak Northeast

Corridor services, and major bus hub for WMATA Metrobus and Prince George's County TheBus services (generally the eastern terminus of the Project).

In addition to these five centers, there are another 16 Stations serving the residential communities, commercial districts, and institutional establishments between the major activity centers, including three Stations serving the University of Maryland with its approximately 37,000 students (2013), 13,000 employees (2013), and visitors. The Purple Line is expected to attract 74,000 daily riders by 2040, with over one-third expected to use Metrorail and/or MARC services for some part of their trip, with the Project typically providing the access or egress connections.

Our Partner

The Maryland Department of Transportation (MDOT) and the Maryland Transit Administration (MTA) have selected Purple Line Transit Partners (PLTP) as the concessionaire to design, build, finance, operate, and maintain the Purple Line over a 36 year term. PLTP is a special purpose vehicle (SPV) consortium comprised of three equity partners:

1. Meridiam Infrastructure Purple Line (70%)
2. Fluor Enterprises, Inc. (15%)
3. Star America Fund GP LLC (15%)

PLTP has committed to holding equity and being a part of the project for the full 36 year P3 term, which creates a true partnership between the Owner and PLTP and promotes efficiencies, long-term life-cycle planning, and accountability.

PLTP has partnered with CAF USA as its vehicle supplier for the Purple Line. CAF currently has LRVs running in Pittsburgh, Sacramento, Houston, and Washington, with LRVs in production for Cincinnati and Kansas City, and LRVs in design for Boston. CAF operates a full-service assembly and manufacturing plant in Elmira, NY where the company will manufacture and assemble the vehicles for the Purple Line. In addition to manufacturing the vehicles, CAF USA will also maintain the vehicles over the course of the 30 year operations and maintenance term at the Glenridge operations and maintenance facility in Prince George's County. By having the LRV provider assemble and manufacture the LRVs as well as being the LRV maintenance provider it helps to ensure that in manufacturing the vehicle, CAF will incorporate a high level of quality to avoid unnecessary maintenance and lifecycle (capital renewal and replacement) costs in the future. As the maintenance provider, this further incentivizes the vehicle manufacturer to build the highest quality and most efficient LRV for the Purple Line from the beginning. In addition, as the manufacturer of the vehicles they bring significant knowledge and expertise of the vehicle, efficiencies, and risk reduction over the course of the P3 contract.

The construction team is comprised of Fluor, The Lane Construction Corporation (Lane), and Traylor Brothers, Inc. (Traylor). Fluor is a leading global construction company and ranked as the number two design-build contractor in the country by Engineering News Record (ENR) and the number one most respected engineering and construction firm by Fortune. Fluor is also a member of the equity partners and will be the lead construction contractor, and maintain the tracks over the course of the 30 year operations and maintenance term. Lane is one of the country's leading heavy civil construction companies. Lane has been ranked the number one

Highway Contractor in the country by Engineering News-Record (ENR) for the past three years– this experience is valuable considering the complex roadwork that will be performed. PLTP has innovative approaches to address the local road impacts, and is very conscientious and considerate of community impacts, including noise and pedestrian and bicyclist safety. Traylor Bros. is an Evansville, Indiana firm that specializes in bridge and underground work (the Purple Line has a 1,000 ft. tunnel). All three lead construction firms have extensive national and regional experience having worked on many mega-projects including:

- $3.0 billion Eagle P3 Project, a light rail P3 transit project in Denver, which will be opening for passenger service in 2016
- $1.48 billion 495 Express Lanes, Northern Virginia
- $456 million 95 Express Lanes, Northern Virginia
- $331 million WMATA Metro Largo Blue Line Extension, Maryland
- $330 million Blue Plains Water Tunnel, Washington, D.C.

The Engineering Design Team lead is Atkins, one of the world's leading design, engineering and project management firms. Other engineering firms on the team include Hensel Phelps, MC Dean and Hatch Mott McDonald.

Rail operations will be managed by Alternate Concepts, Inc. (ACI). The firm, founded by former executives from the Massachusetts Bay Transportation Authority, has over 25 years of experience operating and maintaining transit services throughout North America. They have extensive experience with activating new rail services in the United States. They have rail startup experience in the commuter and light rail systems in Houston, Denver, Phoenix and Puerto Rico and continue to provide operations support for those systems.

Light Rail Vehicle

PLTP has partnered with CAF as its rail vehicle supplier for the Purple Line. PLTP has selected an 80% low floor LRV; this means that 80% of the seats are accessible without the use of stairs, which is beneficial to all customers. It is easier for passengers, particularly those with wheelchairs or strollers to board and leave the vehicle. The CAF 5-module Purple Line vehicle provides the customer with a modern, spacious, open floor design and comfortable transit vehicle. The component-based design is easier to maintain than typical vehicles, the vehicle provides bi-directional operability, and offers an aesthetically pleasing vehicle for commuters and the community.

Management

From day one the PLTP management team will be on-site to provide leadership and direction to the team and high-level interface and coordination with local communities and businesses, MDOT/MTA, Prince George's and Montgomery Counties, the University of Maryland, and other stakeholders. In addition to the Project Manager and Design-Build Manager, the Operations Manager and Maintenance Manager will be involved in the Purple Line from day one. This will ensure the incorporation of the operations and maintenance needs and perspectives from the earliest days of design and provide continuity between the project phases. This approach will promote quality of service to the riders, maximize long-term efficiencies, and assure Purple Line safety, security, and reliability.

In both the Design-Build and the Operations and Maintenance periods, the Quality Program Manager will report to the PLTP Executive Board. The Quality Program Manager has the authority and autonomy necessary to ensure transparency to deliver the highest quality transit system to the taxpayers of Maryland.

Fluor's involvement in each phase of the project over the 36 year term, from financing through handback, provides an important thread of continuity and life-cycle commitment to the Purple Line Project. PLTP will design and build the Project while focused on the successful execution of the 30-year operations and maintenance term.

PLTP has presented a strong plan to achieve the project's Disadvantaged Business Enterprise goals of 26% for design services and 22% for construction work. (Operations and maintenance DBE goals will be set two years prior to the start of operations). The plan includes traditional outreach methods to small, woman, and minority-owned businesses and pledges mentor-protégé programs to assist these firms in securing bonds, meeting federal reporting requirements, and strengthening their capacity to deliver more complex projects. PLTP has also pledged to meet the project's goal of 33% of all construction work hours being performed by economically and socially disadvantaged persons; at least half of those hours must be performed in mid and high skill positions. The PLTP hiring plan includes reaching out to community-based workforce training organizations, area high schools and colleges and veterans' organizations. In order to implement the above activities, PLTP will have a full-time Economic Empowerment Manager.

Fare Setting

The Owner retains the right and discretion to set and adjust fares and all other charges payable by Users. The Concessionaire shall provide a fare system that is fully compatible with, and procured in conjunction with the WMATA New Electronic Payment Program (NEPP) fare system. All NEPP equipment and associated software is required to have a minimum useful life of fifteen years.

P3 Solicitation Process

In accordance with State Finance and Procurement Article §10A-201, the Maryland Department of Transportation (MDOT), on behalf of the Maryland Transit Administration (MTA), is pursuing a Public-Private Partnership (P3) for the Purple Line using a Design, Build, Finance, Operate, and Maintain (DBFOM) delivery model. Implementing this P3 structure for the Purple Line involves a long-term 36-year, performance-based agreement between MDOT/MTA and Purple Line Transit Partners (PLTP). PLTP is also referred to as the concessionaire, will be responsible for key aspects of final design, construction, financing, operations, and maintenance of the Purple Line asset over a six year design and construction period and an operating period of 30 years. This long-term commitment and commercial structure encourages cost-effective allocation of appropriate risks between the contractual partners.

MDOT/MTA will retain ownership and oversight of the asset and remain ultimately accountable for the Purple Line and its public function. During the design and construction period, MTA will pay PLTP on an earned value basis for up to 85 percent of Design-Build work and the LRV payments will be based on the achievement of certain milestones. In addition, upon achieving Revenue Service (when passengers are able to access and ride the transit system), PLTP will receive a lump sum Revenue Service Availability payment. During the 30 year operations and maintenance period PLTP will be paid using an Availability Payment (AP) structure, which will be directly linked to the performance of the Purple Line, as measured on a frequent basis.

A P3 due diligence effort considered a wide range of policy, operational, and financial factors in assessing whether to use a P3 delivery method for the Purple Line instead of a traditional project delivery method. Based on the findings of MDOT/MTA's due diligence analyses, the following factors support the use of a P3 delivery method for the Purple Line:

1. **Operational factors:** The Purple Line is a natural stand-alone operation. There is no operator in the Washington region which might operate the Purple Line. Other transit and rail providers in the Washington area, such as the Washington Metropolitan Area Transit Authority (WMATA), had not expressed interest in operating and maintaining a light rail system. The distance of the project from MTA's Baltimore operations means stand-alone administrative, supervisory, and maintenance operation would need to be created if the MTA were to operate the Purple Line.

   Since the concessionaire incentives of a P3 agreement are strongly linked to asset performance, a DBFOM approach will also increase the likelihood of achieving enhanced service delivery and performance on the Purple Line. Through the use of single contract accountability and strict payment deductions for non-performance, the following types of benefits could be consistently achieved:

   - Strong, reliable on-time performance of the service.
   - Safe and clean stations and vehicles.
   - Enhanced customer service.

2. **Risk transfer efficiencies:** A DBFOM approach integrates various project elements into a single P3 agreement that clearly outlines the optimal allocation of project risk between the public agency and the concessionaire. For instance, under a traditional project delivery approach, MDOT/MTA faces the full responsibilities and related risks of insufficient coordination and integration among the multiple project delivery contracts. This is mitigated by the P3 approach, which consolidates a range of project responsibilities to the concessionaire, effectively transferring more coordination and integration risk to the concessionaire. Such risk transfer results in a lower overall risk of schedule delays and, as a result, a lower risk to MDOT/MTA of cost overruns. For instance, if there is a construction delay because testing of the light rail vehicles is delayed because of systems integration challenges, the concessionaire assumes the cost impact of the schedule delay. Similar risk transfer efficiencies will be achieved for the operations and maintenance of the asset. To see a more comprehensive list of risk transfers please refer to Appendix 1.

3. **Whole life-cycle planning and cost optimization:** In a DBFOM, the concessionaire will design and construct the project and will also be responsible for operations and maintenance over the long-term. PLTP is also contractually responsible for handing the project back to MDOT/MTA at a pre-defined level of service and quality. Consequently, PLTP will have greater financial incentive to make investment decisions that are optimized over the life of the project rather than the incentives contractors have with traditional delivery methods.

4. **Schedule discipline:** A P3 agreement structure focused on asset availability provides clear incentives for the concessionaire to maintain schedule discipline during construction. The structure of the payments and the schedule on which they are released will create incentives for the concessionaire, especially the equity partners, to enforce strict construction schedule adherence.

5. **Enhanced opportunities for innovation:** In a P3 arrangement, in contrast with traditional project delivery methods, the concessionaire is required to provide project assets and services according to performance-based specifications. The P3 agreement's technical provisions describe "what" is to be built but does not, for most of the work, specify the means and methods on "how" to build it. As a result, the concessionaire is afforded flexibility in how it meets the "what" performance requirements. This approach provides private sector proposers with opportunities and incentives to seek approval to use alternative methods of design, construction, operations, and maintenance practices that will improve long-term asset performance. The multi-phase P3 solicitation process implemented for the Purple Line was structured to encourage private sector innovation, while adhering to mitigation commitments made by MTA in the context of the National Environmental Policy Act (NEPA).
6. **Potential financial value:** It is estimated that a P3 approach will result in significant life-cycle costs savings for the Purple Line. The Concessionaire delivered a proposal with considerable cost savings over the course of the 36-year contract, largely reflected in O&M and capital renewal savings over the operating period.

Financial Plan and Payments

Payments under the P3 Contract

During the design-build phase, when and to the extent that the Concessionaire demonstrates that it has made adequate progress, the Owner will provide the Concessionaire with monthly progress payments (totaling $860 million during construction), a $100 million RSA payment, and a $30 million Final Completion payment (for total construction funding payments of $990 million). Progress payments will pay no more than 85% of the earned value (with the Concessionaire financing the remainder). The Owner has imposed annual caps on the progress payments as follows:

- $190 million for FY 2016;
- $220 million for FY 2017;
- $220 million for FY 2018;
- $180 million for FY 2019; and
- $50 million for FY 2020.

To the extent that the Concessionaire does not use all of the progress payments in a year, the unused capacity will roll over into the following year. Based on the Concessionaire's schedule, it is anticipated that the RSA payment will be made in FY 2022 and the Final Completion payment will be paid in FY 2023. An estimate of the construction payments cash flow (based on the preliminary schedule) by fiscal year is presented in the table below.

Estimated Cash Flow of Design-Build Payments to Concessionaire (Inflated $ Millions)

2016	2017	2018	2019	2020	2021	2022	2023	Total
$ 12	$ 337	$ 281	$ 180	$ 50	$ -	$ 100	$ 30	$ 990

MDOT has budgeted for the entire amount of the progress payments, RSA payment, and Final Completion payment. MDOT will update the CTP to reflect the anticipated timing of the design-build payments before financial close and then during the design-build period.

PLTP is planning to finance the remainder of its design-build work with debt and private equity. Its financing plan includes a TIFIA loan from USDOT, as well as tax-exempt private activity bonds (which are non-recourse to the State of Maryland). The amounts will be refined based on finalization of the TIFIA loan parameters and changes in interest rates between November 2015 and Financial Close (the Owner bears the risk or receives the benefit of changes in benchmark U.S. Treasury rates, and shares the risk/reward on yield spreads above Treasuries 85%/15% between the Owner and Concessionaire during the financial proposal validity period), but the approximate amounts of private equity investment and the TIFIA loan are $140 million and $875 million, respectively, based on the November benchmark interest rates used in the proposal. In addition to funding the design-build costs, the concessionaire will also borrow additional funds via private activity bonds (PABs), and a portion of the overall debt will help finance some early O&M and lifecycle startup costs as well as SPV and financing costs incurred during construction such as letters of credit, debt issuance costs, interest during construction, and funding of reserve accounts (e.g., setting aside funds in a reserve for debt service payments). While the Owner will not pay for these costs as they are incurred, these costs are ultimately reflected in the RSA payment paid at the end of construction and the Availability Payments that will be paid during the 30-year operating period.

In the operating period, if the Concessionaire meets the performance requirements of the contract documents then it will earn monthly Availability Payments. Up to 100% of the operating, maintenance, capital (financing) repayment portions of the monthly Availability Payments can be deducted for poor performance, with the exception of insurance and lifecycle payments which are not subject to general performance deductions. The Availability Payments were a key part of the Concessionaire's bid and are intended to cover repayment of the Concessionaire's initial financing (including debt service and a return on its equity investment), its operating and maintenance costs (including insurance), as well as lifecycle costs (e.g., replacing track when it wears out or parts on the light rail vehicles). If the Concessionaire opens the project early then the 30 years of the Availability Payments will be accelerated (i.e., shifted forward), however, if the Concessionaire is delayed in opening the project for factors it is responsible for managing then the Concessionaire will forfeit each month's Availability Payments until the project is opened.

The Concessionaire has committed to a fixed price for the Availability Payments, subject to potential changes based on changes in federally published inflation indices, changes in interest rates prior to Financial Close, and Relief Events. Payments for operations and maintenance, lifecycle, and insurance costs are pegged to a basket of inflation indices (e.g., the consumer price index, the labor cost index, and the producer price index), while payments intended to cover other costs (e.g., debt service and equity investment repayment) are fixed on a nominal (year of expenditure) basis and are not linked to inflation indices. Regarding future inflation, the financial figures assume that future inflation indices increase at 2.5% per year, meaning that the Availability Payments would be less (or more) than anticipated if actual inflation increases at less (or more) than 2.5% per year.

The Availability Payments as presented in the contract posted online and presented in the table below are based on interest rates from November 2015. The payments below reflect peak period service at 7.5 minute headways, which is the initial commitment of the State. The contract also includes options for the State to increase service in the future at pre-agreed upon prices for O&M and lifecycle (e.g., the additional annual O&M cost for 6 minute peak period service is approximately $1.0 million in today's dollars, before future inflation is applied).

Estimated Availability Payments (Inflated $ Millions)*

Operating Year	1	2	3	4	5	6	7	8	9	10
	$ 107	$ 147	$ 150	$ 151	$ 150	$ 141	$ 145	$ 148	$ 146	$ 145
Operating Year	11	12	13	14	15	16	17	18	19	20
	$ 143	$ 150	$ 146	$ 151	$ 159	$ 154	$ 163	$ 170	$ 169	$ 169
Operating Year	21	22	23	24	25	26	27	28	29	30
	$ 158	$ 163	$ 160	$ 169	$ 170	$ 172	$ 177	$ 175	$ 149	$ 119

**Assuming interest rates from November 2015 and 2.5% annual inflation*

With interest rates from November 2015, the average annual Availability Payment (including future inflation over the 36 years) would be approximately $154 million. As noted above, recent interest rates have been considerably lower, and therefore the Availability Payments would be lower than presented here if interest rates at Financial Close are similar to recent interest rates. Based on recent interest rates, the average annual Availability Payment would be estimated at approximately $149.4 million per year.

<u>Other Costs and Funding</u>

Both Prince George's and Montgomery Counties are making financing contributions toward the Purple Line P3 construction program. Prince George's has committed $120 million cash and $3 million in-kind contributions, while Montgomery County has committed $40 million cash plus $170 million in-kind contributions. The in-kind contributions include payments for certain projects included within the Purple Line P3 scope, such as the Bethesda Metro Red Line Station South Entrance, the Capital Crescent Trail, and the Silver Spring Green Trail. The University of Maryland is also providing approximately $0.5 million for the cost of a new bike path adjacent to the Purple Line that the P3 Concessionaire will construct.

Federal funding will be used for the Purple Line P3 construction program, including $36 million Federal Transit Administration (FTA) formula funds and $900 million in FTA New Starts funds. The MTA has already spent a $3 million New Starts grant, it has been allocated $200 million from FY2015 and FY2016 appropriations that will be available after the project receives a Full Funding Grant Agreement, and the President has recommended $125 million in the FY2017 budget.

State funds will be used for the remainder of the Purple Line P3 construction program. In addition to funds already spent, it is currently estimated that approximately $159.8 million of State dollars will be used to support construction efforts. A portion of the State funding, federal funding, and local funding will be used for payments to the P3 concessionaire while the remainder will be used for costs outside the P3 contract (e.g., real estate, professional services, off-site environmental mitigation, and oversight during construction).

State Debt Considerations

In the State of Maryland, a major decision factor with any public-private partnership agreement is the determination of the impact the P3 agreement may have on the State's debt affordability measures. Maryland Statute states that the Board of Public Works may not approve a P3 until:

> "*the State Treasurer, in coordination with the Comptroller, analyzes the impact on the State's capital debt affordability limits of the proposed public-private partnership agreement. The period for review, analysis, and comment under paragraphs (1) and (2) of this subsection may not exceed a total of 30 days from the date the proposed public-private partnership agreement is submitted simultaneously to the State Treasurer, the Comptroller, the budget committees, and the Department of Legislative Services.*"

The State Treasurer and Comptroller serve as the Chairman and Vice Chairman, respectively, of the Capital Debt Affordability Committee (CDAC). This committee is charged to review the size and condition of State debt on a continuing basis, determine the aggregate impact of new State debt for the next ten years, and estimate of the total amount of new State debt that prudently may be authorized for the next fiscal year.

In an effort to structure the Purple Line P3 so that it would have a minimal impact on the State's debt measures, MDOT sought advice from the CDAC. A list of key parameters was provided by the Chairman of the CDAC to the Secretary of Transportation in a November 15, 2013 letter, and served as preliminary guidance for the design and structure of the Purple Line project-related debt.

The financing structure for this project adheres to the key parameters laid by the CDAC. All project-related debt is to be held by the private concessionaire with no recourse to the State or pledge of assets. The components of the 'availability payments' will be clearly identified and documented. The component used to support the concessionaire's debt service will be paid by a trustee using transit fare (non-tax) revenues.

Based on these features, it is believed that the Purple Line P3 financing structure exhibits the same characteristics as non-tax-supported debt, and therefore, should not be included nor have any impact on the State's debt affordability measures.

Performance payment deductions associated with non-performance relating to the ongoing maintenance and operation of the Purple Line– Key Performance Indices

MTA is using an availability payment (AP) approach for the Purple Line. Under this structure, the Concessionaire is responsible for designing, constructing, operating and maintaining the asset, as well as financing a portion of construction, and performing capital renewal lifecycle work. The project elements that need to be maintained by the Concessionaire and the applicable performance requirements for O&M from the start of trial running until the end of the term are:

- Preparation and provision of documentation that form the basis for operations and maintenance
- Operations of the Purple Line System
- Cleaning of the various elements of the Purple Line System
- Maintenance of the Purple Line System
- Asset Management of the Purple Line System
- Handback requirements for returning the Purple Line System to MTA at the end of the 36 year Term

The APs will be subject to performance deductions, which will provide strong incentives for the Concessionaire to deliver high-quality service.

PLTP shall perform the O&M Work on the Project beginning on Revenue Service Availability until the end of the Term, in accordance with the requirements of the Contract Documents.

The Project shall be monitored, operated, and maintained 24 hours per day, seven days per week in accordance with the Contract Documents. PLTP shall comply with the most recent versions of the Specifications, Standards, Manuals, and Guidelines, including, at a minimum, those provided in the Technical Provisions Book 3 Codes and Standards and all other Contract Documents.

The Concessionaire shall prepare and submit reports to demonstrate that all aspects of the Project performance relative to the performance requirements have been satisfied.

The Owner may inspect or perform an operating performance analysis, condition assessment, or audit at any time in its reasonable discretion. PLTP shall make all appropriate personnel and records available to Owner at any time during the Term within 48 hours' notice of a written request.

The Owner may perform a condition assessment review at any time at its sole discretion. The Owner may periodically perform independent assessments and quality assurance reviews by inspecting repairs and other maintenance activities recently completed by PLTP as well as observing operations. In addition, Owner may perform field reviews of completed Work for quality and completeness. All records of the O&M Work performed by PLTP shall be made available to Owner for review at any time during the O&M Period upon at least 48 hours notice.

In order to setup a framework and guidelines for how PLTP shall perform the O&M Work for the Project the contract documents established an agreed upon set of Key Performance Indices (KPI's) to monitor the performance of PLTP. Noncompliance with these KPI's will result in monetary reductions in availability payments and Noncompliance Point which may result in termination if there continues to be poor service and a lack of response from to PLTP to correct ongoing issues; this in effect serves as ongoing incentives to provide the customer with a safe, reliable, and timely service. Standards and requirements for operations, maintenance, workforce training, reporting, and other activities are included in the P3 Agreement (Exhibit 4D) and Technical Provisions (Part 3, Section 2), here are several examples:

- PLTP has specific requirements for clearing and removing snow and ice at all stations, platforms and other service areas used by our customers. If they do not meet these ongoing requirements they will receive financial penalties until the situation is resolved.
- Concessionaire shall clean each Train interior at Terminal Stations. If PLTP fails to clean any of the 21 stations along the Purple Line corridor they will receive financial penalties until the station(s) has been cleaned to meet the agreed upon standards.
- Elevators shall be available no less than 98% of the time measured as an annual average for the Purple Line System. PLTP will receive financial penalties for not meeting this availability percentage and the greater the amount of unavailability as a percentage the higher the financial penalty.
- PLTP is required to develop and comply with an Alternative Service Plan for both Planned Service Interruptions and Unplanned Service Interruptions. If they do not comply with the Alternative Service Plan PLTP will receive financial penalties until they comply with the Plan.
- Concessionaire shall provide a mobility shuttle when ADA access to and from a Platform is not available. If this service is not provided PLTP will receive financial penalties until the service is met.
- PLTP has committed to Peak Hour headways for both the AM (6:45 – 8:15) and PM (16:15 – 18:15) weekday periods for Service Level 1 of 7.5 minutes. During midday (8:15 – 16:15) and evening (18:15 – 20:45) hours headways will be every 10 minutes and during early (5:00 – 6:45) and late (20:45 – midnight) hours headways will be every 15 minutes. PLTP will receive financial penalties if they do not provide a consistent schedule based on these headways.

<u>Plan for Contract Oversight During the Operating Period</u>

As is typical with rail P3 contracts, the Purple Line P3 contract requires the Concessionaire to track and self-report performance issues that will be reported on a daily, monthly, and yearly basis. MTA staff will audit the Concessionaire’s reporting and will monitor performance to identify noncompliance occurrences that the Concessionaire must address. A central system will be used to report and track noncompliance issues, which will be directly linked to the performance reporting and payment deductions.

It is currently planned that MTA’s contract management staff will be on-sight in the Purple Line facilities. The P3 contract requires the Concessionaire to provide facilities for MTA oversight staff.

During operations, MTA will continue to provide oversight, and will also be responsible for specifying service levels, setting fare policy, and retaining fare revenues. Should MTA elect to increase service levels, additional capital and operations payments would be required, including higher operating and maintenance costs as well as capital costs. MTA has the option to procure the additional Option LRVs and additional lifecycle costs under upfront pricing, which are also as specified in contract documents. MTA will also ensure that fare enforcement and public sector policing of the Purple Line trains and stations is provided. MTA will retain ownership of the Purple Line throughout the life of the P3 agreement and the assets will be handed back to MTA at the end of the operating period.

The MTA will have access to operations and maintenance databases developed by the Concessionaire, and will receive daily operational and monthly summary reports. This will provide MTA with an ongoing understanding of the service that is being, and any issues that the Concessionaire is facing.

There are several key areas of oversight that will be of particular interest to MTA:

1. On Time Performance

   The Contract provides for monitoring and reporting of Train departure times, arrival times, and the time intervals between Trains traveling along the corridor. In the event that Trains do not operate to the schedules agreed to with MTA, and as provided for in the Contract (e.g., late Trains, incomplete or missing trips), then the MTA may make deductions to payments due to the Concessionaire.

2. Passenger safety, comfort, and access

   The Contract has established a number of Key Performance Indicators (KPIs) that will be monitored during the operating term. The KPIs address a range of issues including things such as prompt return of conditions to a safe state after any accident or incident, adequate lighting of stations, station access and snow removal, and general condition and cleaning of the stations and right of way. In the event that the Concessionaire does not perform in as timely or as effective a manner as required in the Contract, then the MTA may make deductions to payments due to the Concessionaire.

3. Maintenance of the System in a “state of good repair”

   The Contract requires that the Transitway be maintained in a state of good repair throughout the operating term. Such a requirement helps promote the effective and reliable operation of the system, and helps preserve the residual life of the System that will remain after the end of the 30-year operations term has ended. Ongoing coordination with the Concessionaire and access to maintenance and life cycle reports and databases will provide MTA the ability to monitor Concessionaire actions, and provide for oversight to ensure that the system is being adequately maintained.

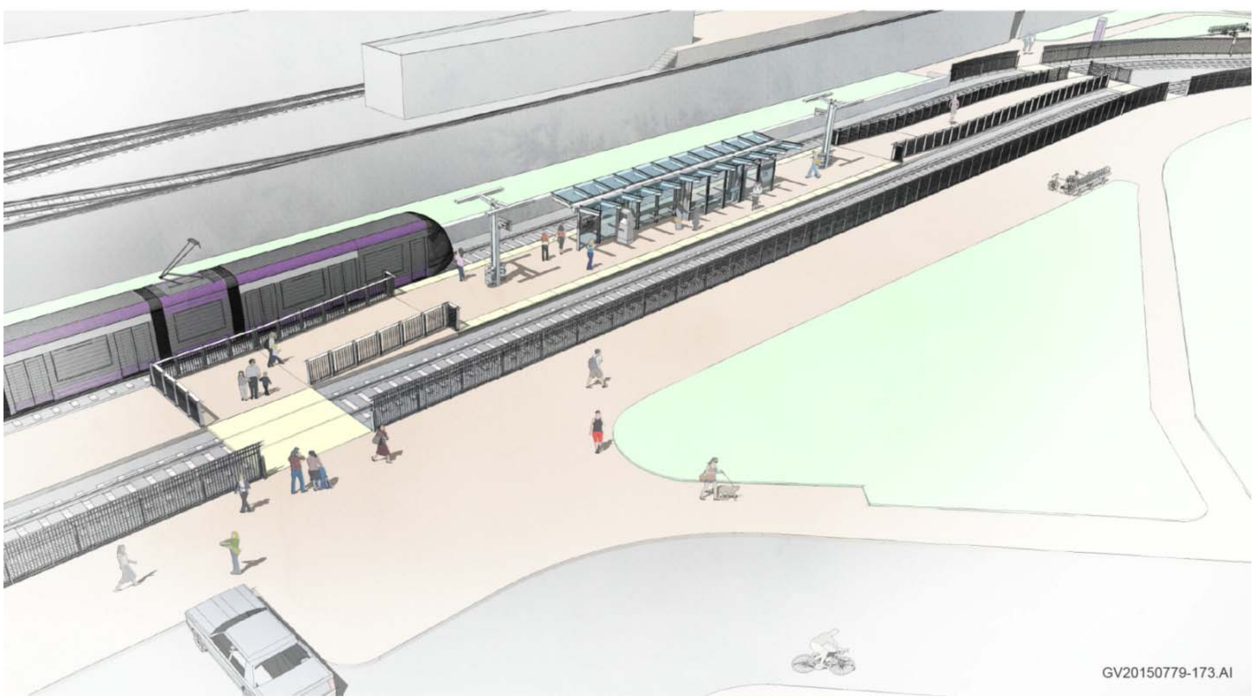
In regards to service through the day and levels of service, the Concessionaire will provide ridership boarding data and trend analysis for use by MTA. This information will help MTA assess the balance between passenger demand and supply so that it can make adjustments to service throughout the day, and when appropriate, increase the level of service to be provided.

Increases to the level of service would require the acquisition and operation of additional LRVs so that trains could operate more frequently during peak periods.

Exterior Facility and Station Renderings

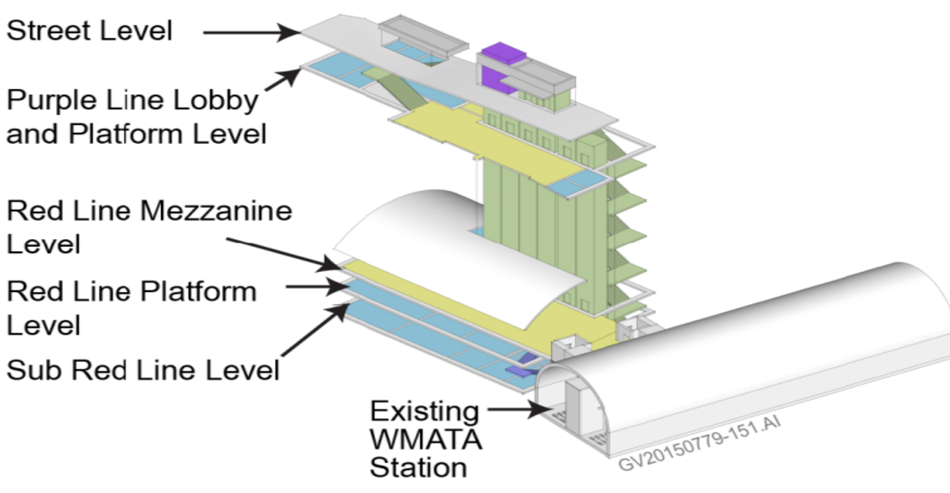
Glenridge Maintenance Facility

Lyttonsville Maintenance Facility



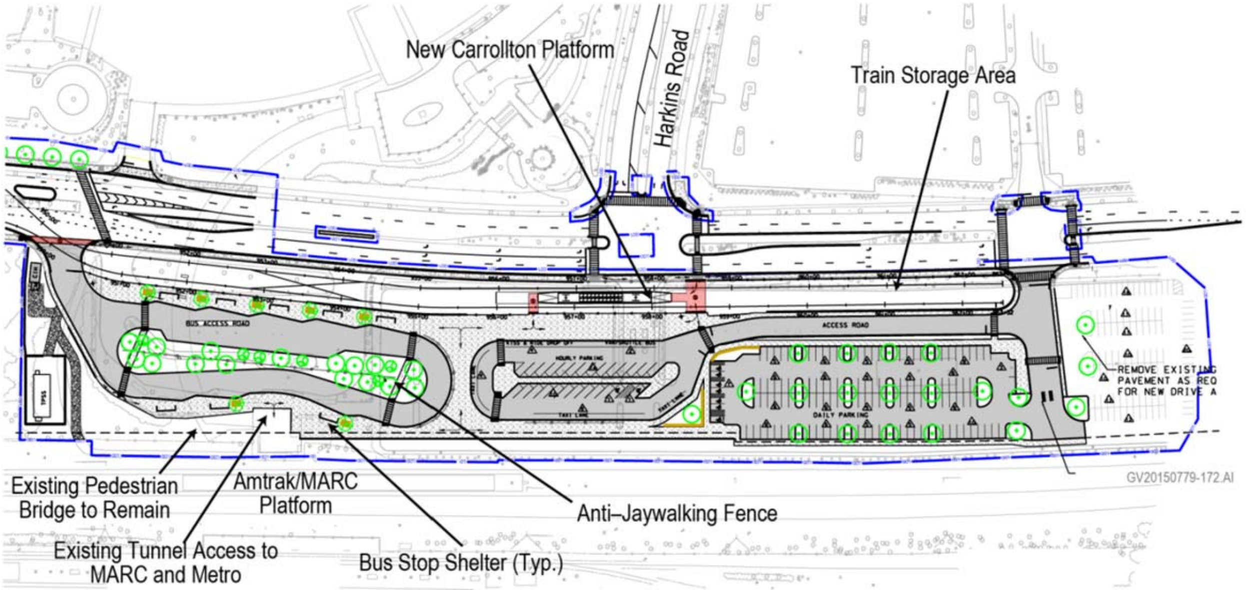
College Park – UM Station

*Silver Spring Library Station (**note: 2nd floor cutaway only in rendering for viewing purposes, will not change the current library architecture**)*

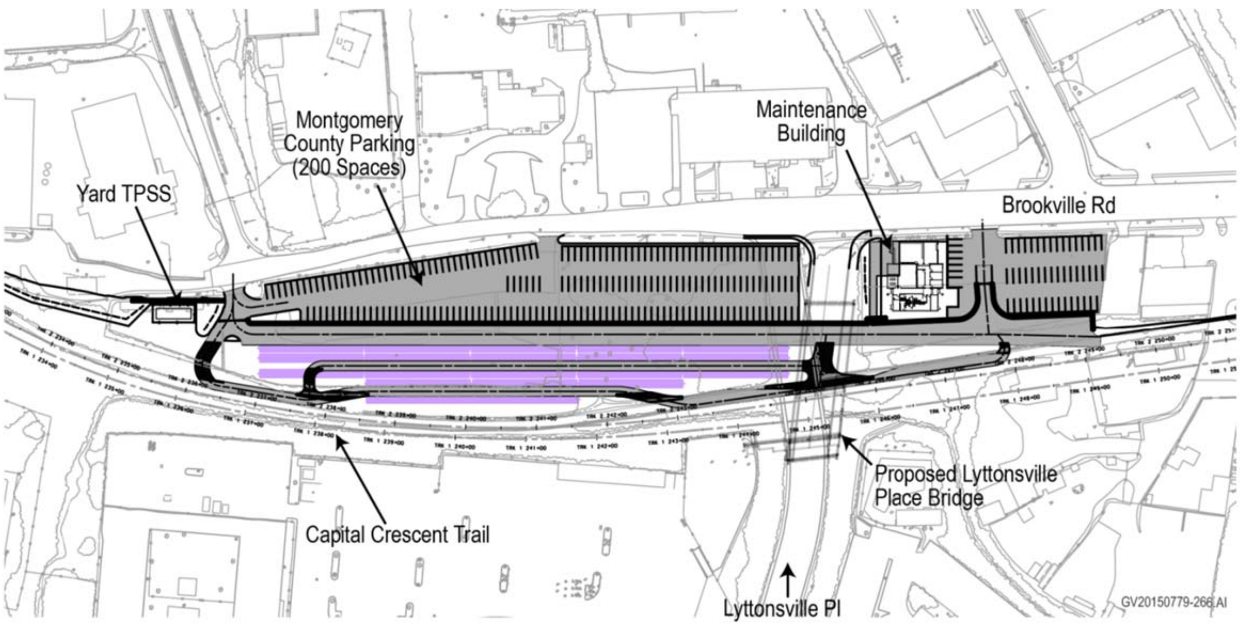


Bethesda Red Line Metro Station South Entrance

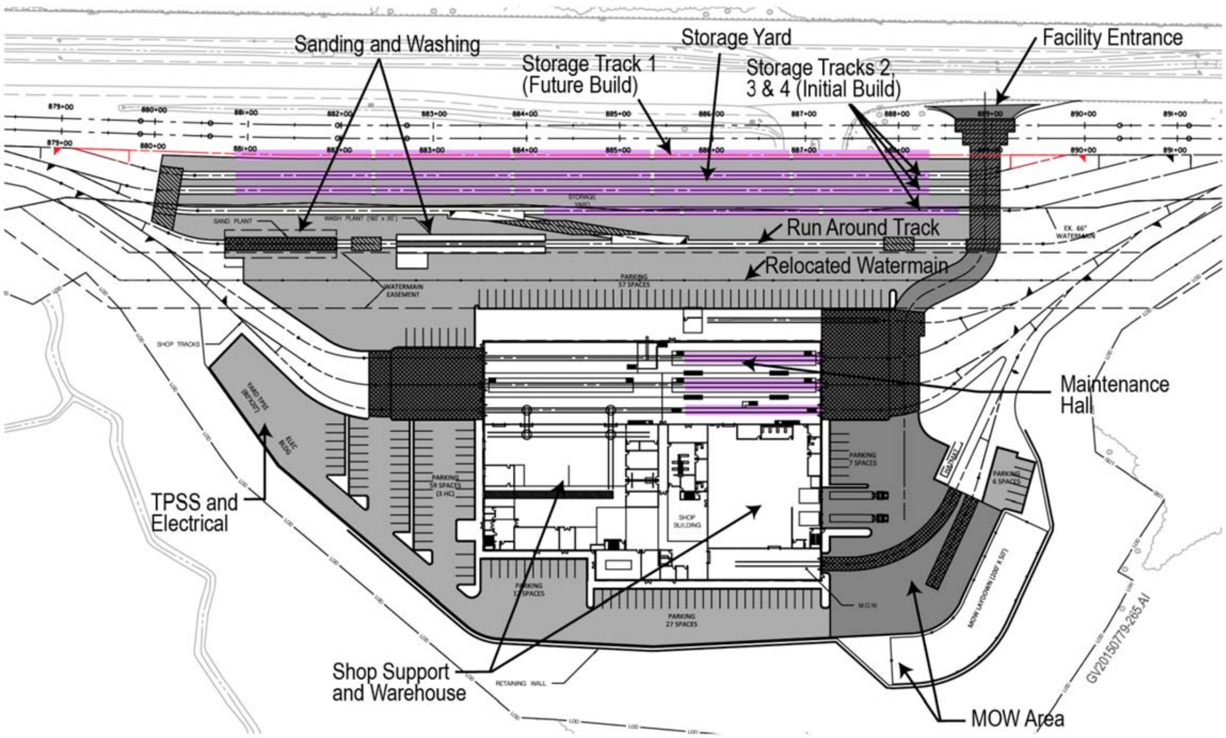
Site Plans



New Carrollton Site Plan



Lyttonsville Site Plan



Glenridge Site Plan