

# **Transportation and the Environment Subcommittee**

*Delegate Marc Korman, Chair*  
*Delegate Carol Krimm, Vice Chair*

## **Briefing on the Purple Line**

February 11, 2022

2:00 p.m.

Virtual Meeting

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### **I. Call to Order and Opening Remarks**

### **II. Maryland Department of Legislative Services**

- Mr. Steven McCullough, Policy Analyst

### **III. Maryland Department of Transportation (MDOT)**

- Ms. Holly Arnold, Administrator, Maryland Transit Administration (MTA)
- Mr. Matt Pollack, Executive Director of Transit Development and Delivery, MTA
- Ms. Jaclyn Hartman, Chief Financial Officer, MDOT

### **IV. Montgomery County Department of Transportation**

- Mr. Christopher Conklin, Director
- Ms. Maricela Cordova, Special Assistant to the Director – Strategic Projects

### **V. Closing Remarks**

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# Maryland Department of Transportation Purple Line Briefing

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**Department of Legislative Services  
Office of Policy Analysis  
Annapolis, Maryland**

**February 2022**

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For further information contact: Steven D. McCulloch

Phone: (410) 946-5530

*Analysis of the FY 2023 Maryland Executive Budget, 2022*

# **Purple Line Replacement Design-build Contractor Selected, Public-private Partnership Agreement Amendments Submitted for Approval**

## **Background**

In spring 2016, the Maryland Department of Transportation (MDOT) Maryland Transit Authority (MTA) selected the Purple Line Transit Partners (PLTP) to design, build, finance, operate, and maintain the Purple Line light rail system through a 36-year public-private partnership (P3) concession comprising a 6-year construction period followed by a 30-year operations and maintenance period. The P3 agreement provided for PLTP to be compensated through construction progress and milestone payments during project construction, a revenue service availability payment (AP) at the time revenue operations of the transit line commenced, and semiannual APs during the operations and maintenance period of the concession. Revenue service was expected to begin in March 2022.

A lawsuit brought by opponents to the project resulted in the project's record of decision being vacated and, while that action was eventually overturned on appeal, it resulted in a delay of approximately one year. PLTP filed several claims for additional time and money related to this and other delays. After months of unsuccessful negotiations, PLTP sought to terminate the P3 Agreement. After MTA was unsuccessful in obtaining a court injunction against the design-build contractor quitting the project and had to assume direct oversight of contracts, subcontracts, and other agreements to continue work on the project, it reached an agreement in November 2020 to settle all Purple Line claims and terminate litigation related to the Purple Line.

Pursuant to the Settlement Agreement approved by the Board of Public Works (BPW) on December 16, 2020, PLTP agreed to continue as the concessionaire, procure a replacement design-build contractor, and obtain new financing for the remaining costs to complete the project. MTA paid a \$250 million settlement payment, provided funds to retire the \$313 million in private activity bonds (PAB) issued for the project, and has continued direct oversight of the project pending the selection of a replacement design-build contractor.

## **Replacement Design-Build Contractor**

PLTP began the procurement process for a replacement design-build contractor in January 2021. It shortlisted three firms that had responded to its request for qualifications and, in October 2021, received two proposals in response to its March 2021 request for proposals. PLTP, with concurrence from MTA, selected Maryland Transit Solutions (MTS) as the replacement design-build contractor. MTS is a joint venture between Dragados USA, Inc. and OHLA USA, Inc., both of which are subsidiaries of international construction firms based in Spain. Under the terms of the Settlement Agreement, BPW approval of the replacement design-build contractor is required even though neither the State nor MTA is a party to the design-build contract. BPW approved the contract and modifications to the P3 Agreement at its January 26, 2022 meeting.

## Revised Costs and Schedule

BPW’s approval included an increase to the P3 contract of \$3.4 billion and an extension to the term of just over four years. The cost increase results in a revised contract of \$9.3 billion (including the \$250 million modification for the settlement payment approved in December 2020) and a term of just over 40 years. The increase in term is to maintain the 30-year operating term following the start of revenue service that is now projected for fall 2026. **Exhibit 1** compares cost components between the original and revised P3 contracts.

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### Exhibit 1 P3 Agreement Cost Overview (\$ in Millions)

	<b>Original Agreement (2016 to 2052)</b>	<b>Revised Agreement (2016 to 2056)</b>	<b>Change</b>
Design-build Contract	\$1,971.9	\$3,435.8	\$1,464.0
Settlement Payment	0.0	250.0	250.0
Work Completed by MTA since September 2020	0.0	218.7	218.7
Operations and Maintenance	1,744.3	1,977.2	232.9
Insurance	272.6	340.6	68.0
Capital Renewal	289.1	295.9	6.8
Financing	1,312.0	2,765.8	1,453.7
<b>Total P3 Agreement</b>	<b>\$5,590.0</b>	<b>\$9,284.0</b>	<b>\$3,694.0</b>

MTA: Maryland Transit Administration  
P3: public-private partnership

Source: Maryland Department of Transportation; Department of Legislative Services

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MDOT cites the following as major factors that contribute to the increased cost of the P3 contract:

- delays resulting from federal court action that was later overturned;
- the COVID-19 pandemic;
- mandatory wage increases from living wage laws in Maryland and Montgomery County;
- changes in the insurance market, making insurance harder and more costly to obtain;
- inflation experienced over the last five years; and

- bringing on a new design-build contractor to the project mid-construction.

**Exhibit 2** shows cost increases for the design and construction portion of the P3 agreement by category.

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**Exhibit 2**  
**P3 Agreement Design and Construction Cost Increases by Category**  
**(\$ in Millions)**

<u>Category</u>	<u>Original Agreement</u>	<u>Expended Pre-new Financial Close</u>	<u>Additional Post-new Financial Close</u>	<u>Revised Agreement</u>
Mobilization	\$78.9	\$95.3	\$229.1	\$324.4
Guideway and Track Elements	258.8	136.4	210.8	347.1
Stations, Stops, Terminals, Intermodal	115.3	18.2	229.8	248.0
Support Facilities: Yards, Shops, and Administration Buildings	94.2	76.2	9.0	85.2
Sitework and Special Conditions	453.3	188.5	375.5	563.9
Systems	248.9	57.2	425.5	482.7
Vehicles	212.9	116.5	181.1	297.5
Other*	526.5	457.7	627.8	1,085.5
<b>Total</b>	<b>\$1,988.8</b>	<b>\$1,145.9</b>	<b>\$2,288.5</b>	<b>\$3,434.3</b>

P3: public-private partnership

\*Professional Services, Insurance, Operations and Maintenance Preparation, Third Party

Note: Numbers may not sum to total due to rounding.

Source: Maryland Department of Transportation; Department of Legislative Services

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**Exhibit 3** shows the schedule for remaining milestones for the project under the revised agreement.

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### **Exhibit 3 Remaining Milestones under the Revised P3 Agreement**

<u>Milestone</u>	<u>Date</u>
Mobilization and Start-up	Spring 2022
Commencement of Construction Work	Spring 2022
Delivery of First Light Rail Vehicle	Fall 2023
Test Track Construction Complete and Power Live	Summer 2024
On-site Dynamic Testing of Light Rail Vehicles Complete	Spring 2025
Commencement of Full System Integration and Testing End-to-end	Fall 2025
Operator/Supervisor Training – Full Alignment Complete	Summer 2026
System-wide Testing Complete	Fall 2026
Revenue Service Begins	Fall 2026

P3: public-private partnership

Source: Maryland Department of Transportation; Department of Legislative Services

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### **Project Refinancing**

MTA and PLTP will work to achieve commercial close (execution of the P3 amendment and replacement design-build contract) and financial close (issuance of the new private debt and equity), with both expected to be completed by mid-March 2022.

The upfront construction progress payments funded by MTA have already been fully paid, and no additional progress payments will be made. As originally planned, MTA will still make a milestone payment of \$100 million when the project achieves revenue service (when passengers are able to access and ride the transit system). PLTP will finance the remaining construction costs using a combination of a federal Transportation Infrastructure Finance and Innovation Act (TIFIA) loan, PABs, and equity.

TIFIA loans typically provide up to one-third of eligible project costs. It is anticipated that PLTP's existing TIFIA loan of \$859 million, which has not been drawn upon, will be either canceled and replaced with a new loan or refinanced/restructured with the loan amount increasing to \$1.7 billion. New PABs in the amount of \$700 million are expected to be issued, and PLTP is increasing its equity stake from \$140 million to \$280 million as required under the Settlement Agreement.

This debt, along with the costs to operate, maintain, and do capital renewal work, will be paid for through the APs MTA will make monthly over 30 years once the project begins revenue service. APs are expected to average \$250 million per year over the 30-year operating period. Repayment of the debt and equity is the largest component of the APs, and MTA retains the risk of any change in interest rates prior to financial close. The debt portion of the APs is estimated based on a TIFIA interest rate of 2.25% and a PABs interest rate of 3.25%. These rates are higher than actual rates mid-January 2022 and, if rates remain below these levels when financial close is achieved, the APs will decrease. The revised P3 contract authority includes a \$192 million contingency to cover an increase in rates prior to financial close.

### **P3 Terms Modifications**

MDOT indicates that changes are being made to the terms of the P3 Agreement in five main areas:

- risk allocation, the State assumes the risk for;
  - any unknown defects in the construction work completed to date or in owner-performed construction work for a certain period;
  - material changes or delays in progressing a limited scope of owner-performed design work by the amendment effective date;
  - utility adjustments to be completed by the State or unanticipated utility adjustments;
  - MTA-provided governmental approvals;
  - expanded pandemic-related relief;
  - delays and other requirements concerning materials procured by the State; and
  - limited relief for light rail vehicle mechanical performance failures outside of the control of the replacement design-build contractor.
- removal of the unconditional right to terminate for extended delay and narrowing of the conditional right to terminate for same;
- provision of an owner-controlled insurance program for the remaining design-build period;
- removal of the light rail vehicle options (during its direct management of the project, MTA exercised an option under the P3 contract to purchase an additional two light rail vehicles); and
- streamlining claims and dispute resolution procedures.

## **Conclusion**

With the perspective of hindsight, it is easy to identify specific actions or decisions that could have been made differently to avoid or mitigate the problems experienced thus far with the Purple Line project. For example, additional language in the nearly 900-page original P3 agreement clarifying how a determination that an extended delay in the critical path existed might have prevented, or altered the outcome of, the litigation that allowed the original design-build contractor to exit the project. While some will point to the P3 agreement as a flawed procurement method for the project, MTA could have faced the same delays and cost increases had the State used a more familiar design-build procurement wherein MTA would have maintained control and oversight. The problems experienced with the Purple Line, however, should serve as a cautionary tale on the dangers of overselling the benefits of using P3s as a procurement method. Ideally, a P3 will align both public and private interests and result in the delivery of an asset at the best value to the public. Executing a P3 agreement does not, however, remove the need for flexibility on the part of both sides of the agreement to keep the public and private interests aligned. It should be hoped that the experience gained on this project will lead to better decisions on future projects.



A stylized map of Maryland is shown on the left side of the slide, featuring a white cross on a red background. A purple line, representing the Purple Line, is overlaid on the map. The background of the slide is a gradient of purple, with a faint, light-colored map outline and a white cross. The text "Purple Line" is written in a white, italicized serif font, with a white swoosh underneath the word "Line".

*Purple  
Line*

**Transportation & Environment Sub-Committee  
Purple Line Briefing  
February 11, 2022**

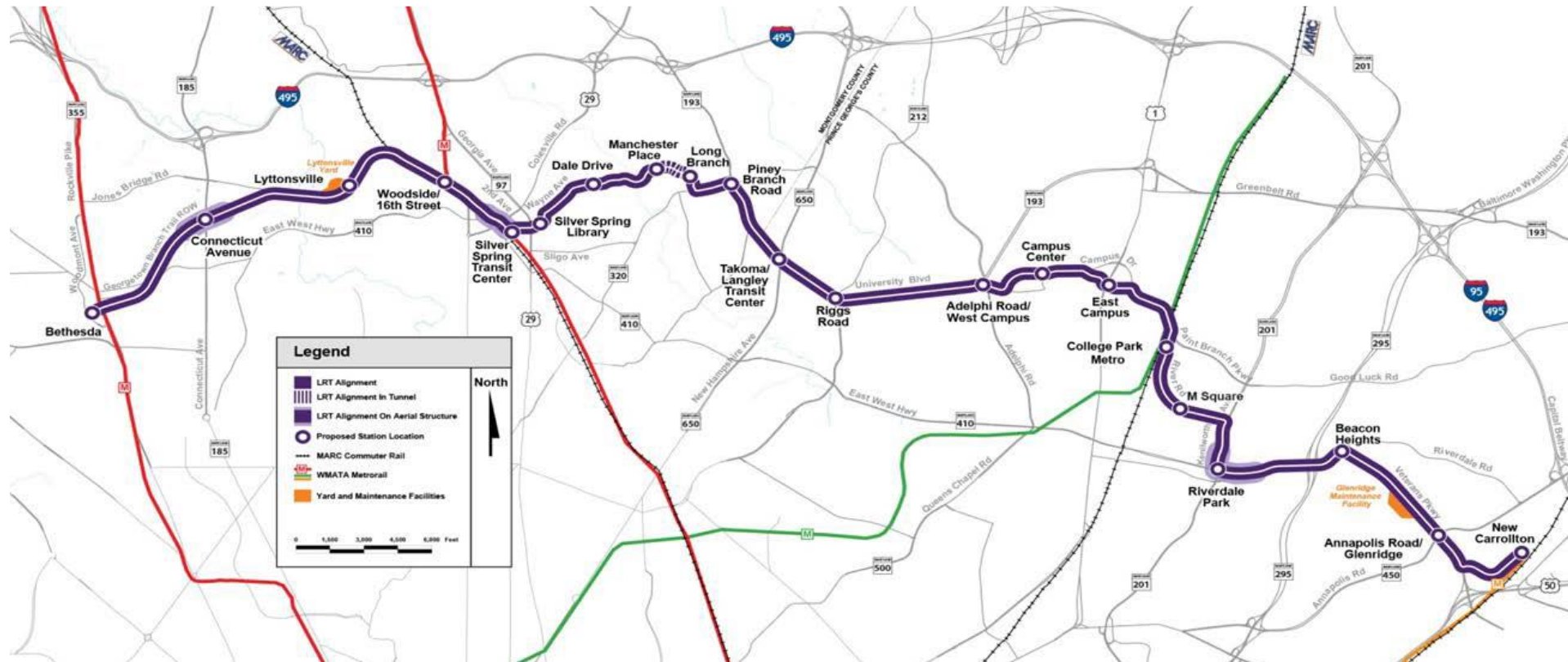
# MEETING AGENDA



- Introductions
- Project Update

# PROJECT DESCRIPTION

- 16.2 mile east-west light rail line between Bethesda in Montgomery County and New Carrollton in Prince George's County
- Operates mostly on the surface with 21 stations



# CONNECTING MARYLAND'S TRANSIT SYSTEMS



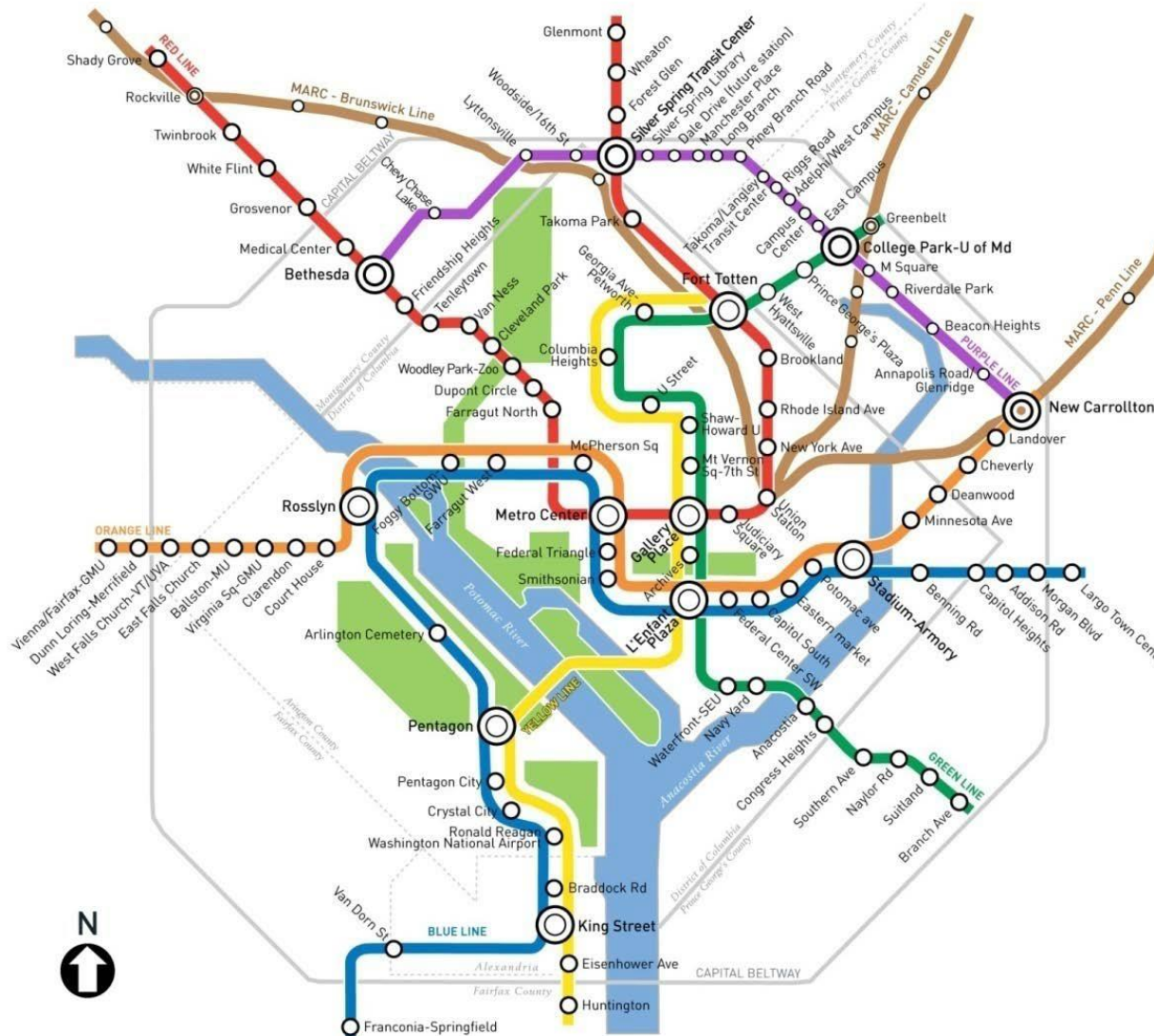
Links with Metro at:

- Red Line at Bethesda
- Red Line at Silver Spring
- Green Line at College Park
- Orange Line at New Carrollton

Connects to all three MARC lines.

Connects to Amtrak Northeast Corridor at New Carrollton.

Links up with regional and local bus services.



# KEY TERMS OF THE ORIGINAL AGREEMENT



Year: 2016

Concessionaire: Purple Line Transit Partners

Term: 36 years (6 yrs design and construction, 30 yrs operations and maintenance)

Type of P3: Design-Build-Finance-Operate-Maintain (availability payment)

What the State Gets:

- Design, construction, operation of new 16.2 mile light rail line
- Ability to make deductions to availability payments if performance standards are not met
- Transfer of risk to the private sector while maintaining ability to set transit fares
- Debt held by concessionaire allows State debt to be used elsewhere

What Purple Line Transit Partners Gets:

- Long-term operations of light rail line
- State assumes all revenue risk, PLTP paid through availability payments

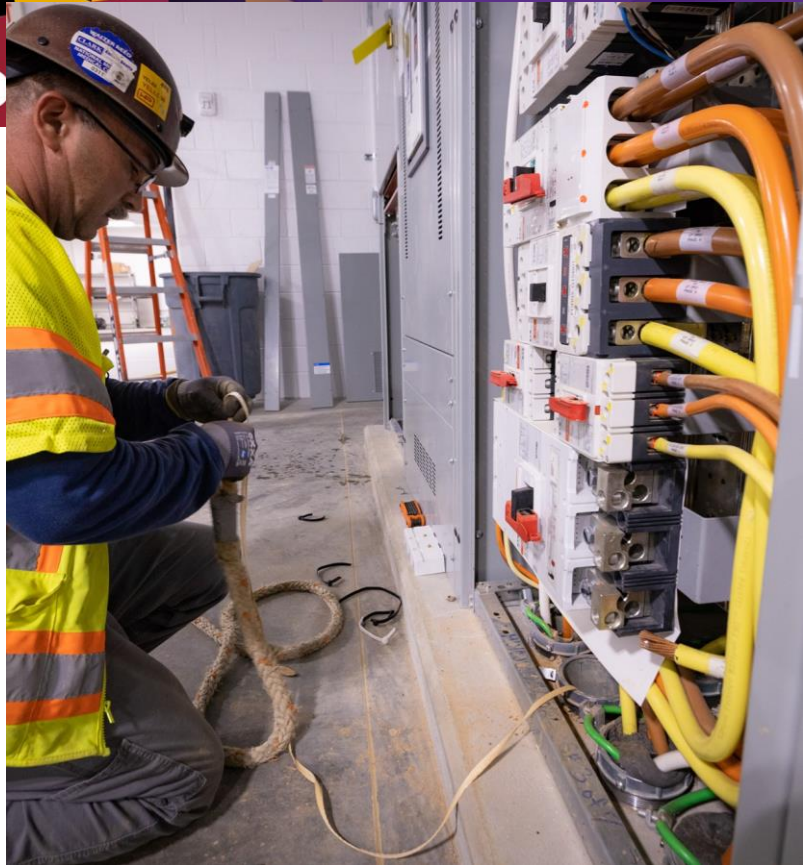
# PROJECT'S IMPORTANCE



- The Purple Line will:
  - Create several new multimodal connections across the region
  - Expand transit opportunities to two of the fastest growing counties in the state
  - Create better access to jobs and community services for neighborhoods that are highly transit dependent
  - Create convenient, dependable east-west transit
  - Spur economic growth across two counties
  - Revitalize communities
  - Relieve automobile congestion on major arteries
  - Provide significant environmental benefits through the operation of electric vehicles and reduction in vehicular emissions

# PROJECT CHALLENGES

- Project's Record of Decision (ROD) vacated
- ROD later reinstated after appeals but more than a year was lost
- MDOT and PLTP unable to reach agreement on additional time and money for ROD and other delays – Claims of \$800M
- Settlement Agreement approved by BPW in December 2020
  - Resolves all disputes, litigation, and claims
  - Design-build contractor removed from project
  - \$250 million settlement payment
  - Project will require an updated cost and schedule
  - State retains project control during resolicitation



# MTA's Construction Activities



# SELECTION OF NEW DESIGN-BUILDER

- Resolicitation Process



- Selected Maryland Transit Solutions (MTS) as new Design-Builder
  - MTS is a Joint Venture comprised of Dragados and OHL

# DRAFT DB contractor overview



- **Maryland Transit Solutions (MTS)**, is a joint venture comprised of Dragados USA, Inc (60%). and OHL USA, Inc (40%).
- **DRAGADOS USA** Dragados USA, Inc., a wholly owned subsidiary of Dragados S.A. (Dragados), is a leading construction firm with unmatched capabilities in large scale civil infrastructure and engineering projects. As of 2020 Dragados is ranked No. 6 on both the ENR Top 20 Transportation Firms and Top 50 Domestic Heavy Contractors lists. Over the past eight decades, Dragados has built a reputation as a recognized leader in alternative project delivery having constructed over 200 design-build and more than 100 P3 projects worldwide. Dragados excels in the transportation sector having built over 1,600 miles of rail and transit projects.
- **OHL USA** OHL USA, Inc. is the North American division of international construction company, Obrascon Huarte Lain, S.A. (The OHL Group). The OHL Group has a 100-year history of successful project deliveries. The firm's U.S. operations provide general contracting, at-risk construction management, design-build, and P3 services for public and private sector clients. OHL ranks No. 3 on ENR's list of Top 10 Transportation Contractors in New York and New Jersey, and No. 15 on the Top 50 Domestic Heavy Contractors list. OHL has owned multiple concessions globally and is well-versed in Design-Build and P3 project administration, financing, and delivery.

## Dragados Project Experience

### LAX AUTOMATED PEOPLE MOVER



The LAX APM represents the client's first P3 procurement and is the cornerstone of its broader Landside Access Modernization Program. The project includes the DBF of 2.25 miles of elevated guideway, six stations, pedestrian bridges, and an automated people mover system.

### MLO WEST LIGHT RAIL TRAIN



The West LRT connects the ML2 (in Pozuelo) and ML3 (in Boadilla del Monte) with the rest of the Madrid underground network. OHL provided DBFOM on the ML2 line and O&M on the ML3 line. The two above-ground lines cover a total of 14 miles, with 29 stations (including 4 underground stations), and 3 interchanges.

## OHL Project Experience

### LIRR THIRD TRACK EXPANSION



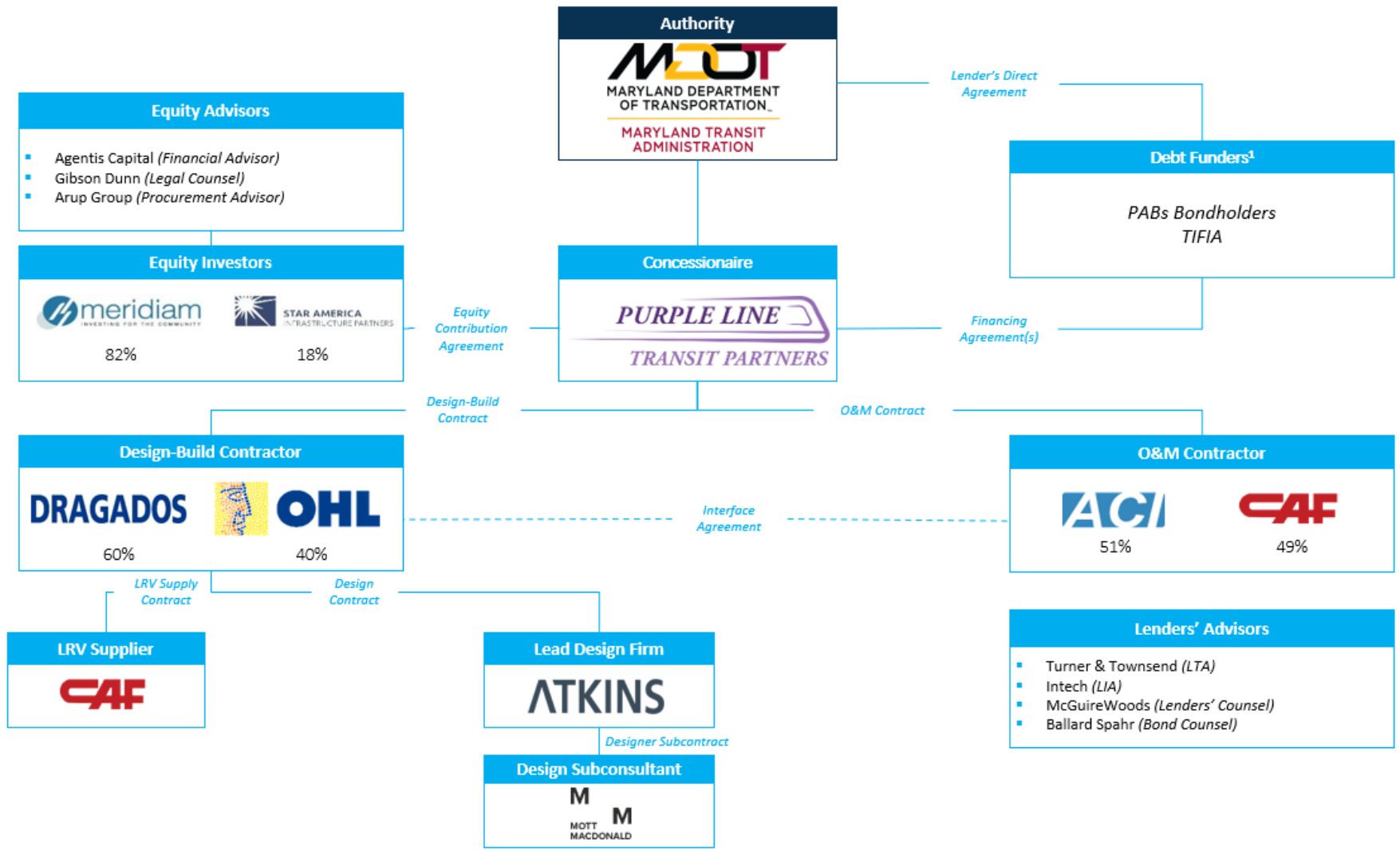
The LIRR Expansion project consists of improvements along a 10-mile-long corridor to add additional capacity to a constrained urban corridor. The project included removal of 7 at-grade crossings, reconstruction of 6 railroad bridges and 5 roadway bridges, parking garages and other structures.

### EAST SIDE ACCESS, STRUCTURES PART I



The East Side Access Project was created to ease the commute for Long Island Railroad passengers. The scope of the contract was to construct 25,000 linear ft. of 22 ft. diameter tunnels to be excavated using two tunnel boring machines (TBM) to construct four tunnel drives, two each on the upper and lower levels will be constructed.

# CONCESSIONAIRE ORGANIZATION STRUCTURE



# P3 AGREEMENT CHANGES – TERMS



- Modification No. 6 to the Purple Line P3 Agreement reflects the changes necessary to continue to move this critical project forward
  - Reflects project's updated construction cost and schedule based on the replacement design-build contract
  - Reflects the updated financial plan and financing costs associated with the replacement design-build contract
  - Reflects updated pricing for operations, maintenance, insurance, and lifecycle costs
  - Reflects updated terms regarding risk allocation, termination, insurance, light rail vehicle options, and dispute resolution procedures

# P3 AGREEMENT CHANGES – COST

The updated design-build contract cost \$3.4 billion, including all prior and future work. The increase in the design-build contract has a multiplying effect on the cost of financing, operations, and maintenance. The P3 Agreement total cost includes:

- PLTP's cost to design and construct the highly complex light rail system, including all related financing costs for:
  - All construction completed to date by the previous design-builder
  - The replacement design-builder's fixed price to complete the project
  - Work completed by MDOT MTA during the resolicitation period
- Costs related to the Settlement Agreement
  - Settlement payments made to the previous design-builder
  - Repayment of the private activity bonds for construction work previously completed
- Capital renewal costs for the 30-year operating period
- Operations, maintenance, and insurance costs over the 30-year operating period
  - Deductions to O&M payments will be made if performance specifications are not met

# P3 AGREEMENT CHANGES – COST (continued)



The cost of the P3 Agreement has increased for a number of reasons:

- Delay impact of federal court action that was later overturned;
- Impacts of global COVID-19 pandemic:
  - Rising materials costs rising and supply chain issues across the construction industry;
  - Labor shortages/workforce challenges;
- Mandatory wage increases for living wage laws in Maryland and Montgomery County;
- Changes in the insurance market, making insurance harder and more costly to obtain;
- Inflation experienced over the last five years; and
- Bringing on a new design-build contractor to the Project mid-construction.

## P3 Agreement Cost Overview

\$ in Millions

	2016 Funding (2016-2052)	2022 Funding (2016-2056)	
Design-build Contract	1,971,885	3,435,839	
Settlement Payment	-	250,000	
Work completed by MDOT MTA since Sept. 2020	-	218,673	
Operations and Maintenance	1,744,297	1,977,179	
Insurance	272,638	340,642	
Capital Renewal	289,144	295,908	
Financing	1,312,036	2,765,759	
<b>Total P3 Agreement</b>	<b>5,590,000</b>	<b>9,284,000</b>	<b>66%</b>

- The remaining construction cost of the project will be financed with:
  - \$1.7 billion TIFIA loan (replacement and restructuring of original loan)
  - \$0.7 billion private activity bonds
  - \$0.3 billion private equity
- The debt and equity will be non-recourse to the State and MDOT
- The State will make availability payments over the 30-year O&M period of the contract to provide for the repayment of these amounts
- MDOT is working with the State Treasurer's Office to confirm those payments will not count as State tax-supported debt



# REVISED PROJECT SCHEDULE

Coming Weeks

- Financial and Commercial Close

Spring 2022

- Full-scale construction will commence by MTS

Fall 2023

- Light rail vehicles will arrive at Glenridge Operations & Maintenance Facility in Prince George's County

Summer 2024

- Test track will be complete for local testing and operator training

Winter 2025

- Construction will be complete, commence system-wide testing and commissioning activities will be ongoing

Fall 2026

- Revenue service will begin – full line and all 21 stations operational at one time

- MDOT MTA took assignment of approximately 150 contracts from the prior design-builder
  - Many of these same contracts will be re-assigned to MTS, the new design-builder
  - Over the next year, MDOT MTA will continue to progress and complete current, unfinished work including utility relocation, concrete and other construction work. This work will occur in parallel with construction initiated by MTS.