

Delivering Maryland's
**TRANSPORTATION
INVESTMENT**

**Public-Private Partnerships for
Maryland's New Starts Projects**

Jamie Kendrick, Maryland Transit Administration



February, 2014

MTA is an Agency of the Maryland Department of Transportation



- Principal agency of the State of Maryland
- Responsible for building, operating, and maintaining state network of highways, railways, airports, port, and public transit
- Funded by a single, consolidated budget (“Trust Fund”)

MTA is the 11th Largest Transit System in the U.S.

- Primarily Serves Baltimore Region
 - Bus
 - Heavy Rail
 - Light Rail
 - Paratransit
- Commuter rail and bus to Baltimore and Washington

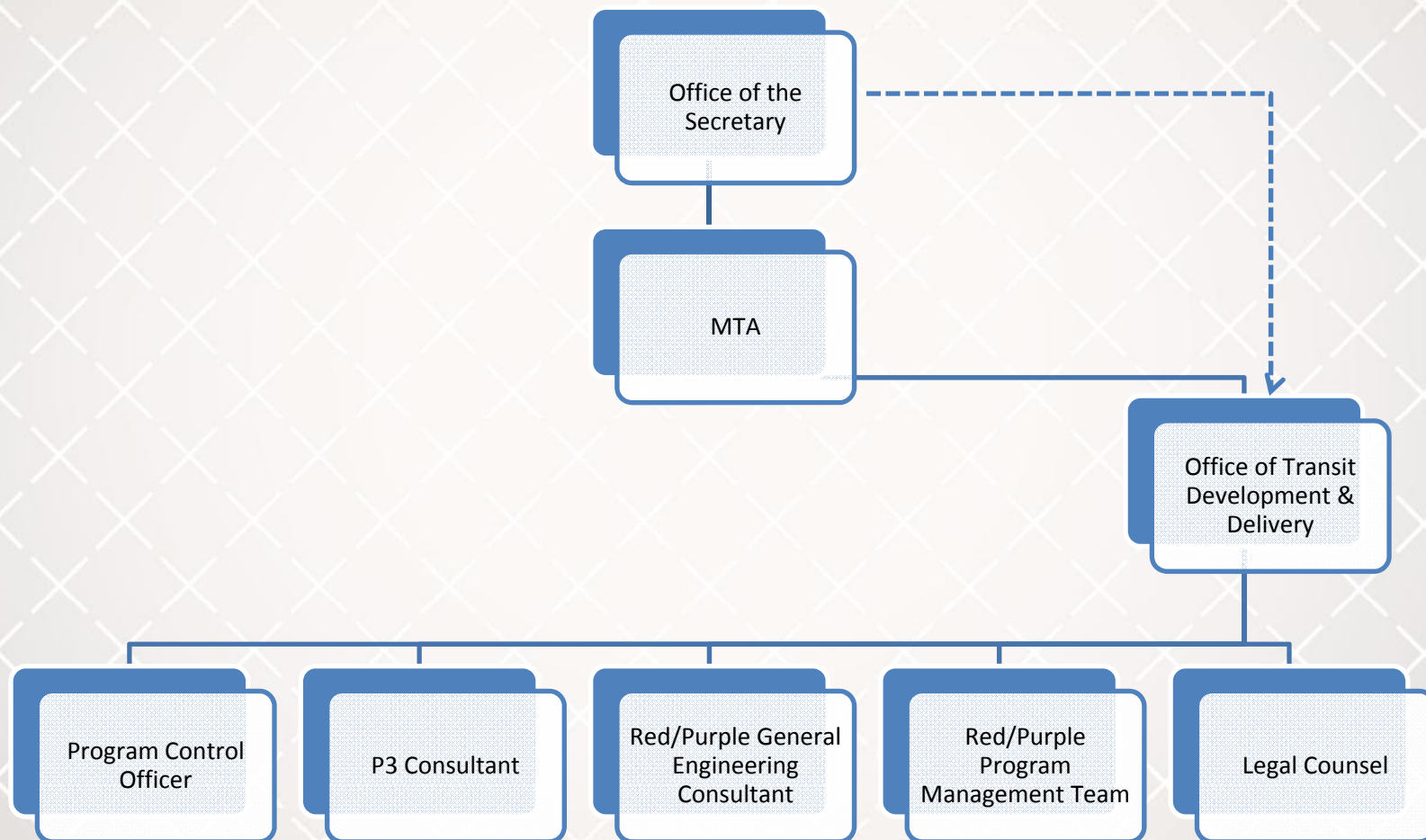


MTA in the Washington suburbs

- Operating/Capital Support for County-based systems
- MARC commuter service to Washington
- 1/3 of operating/capital costs of D.C. Metro



New Starts Program Structure

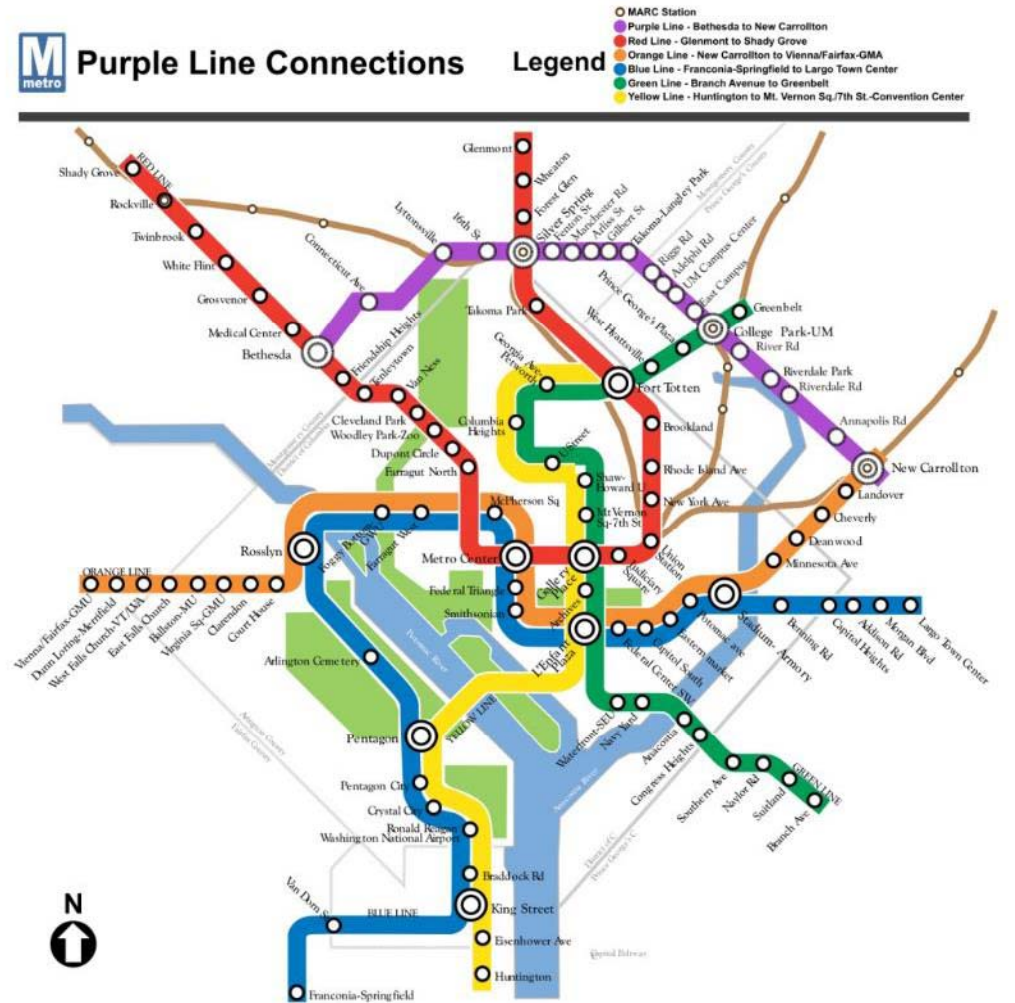




PROJECT OVERVIEW

Provides Intermodal Connectivity

- 4 Metro lines
- 3 MARC lines
- Amtrak Northeast Corridor
- UM Terrapin Shuttle





Forecasted Ridership Level

Average Daily Boardings

2020 (Projected Opening Year)

58,175

2030

64,550

UM Special Events & Generators

1.4 Million Trips Annually

Peak Headway (Opening Year)

7.5 mins

Off-Peak Headway (Opening Year)

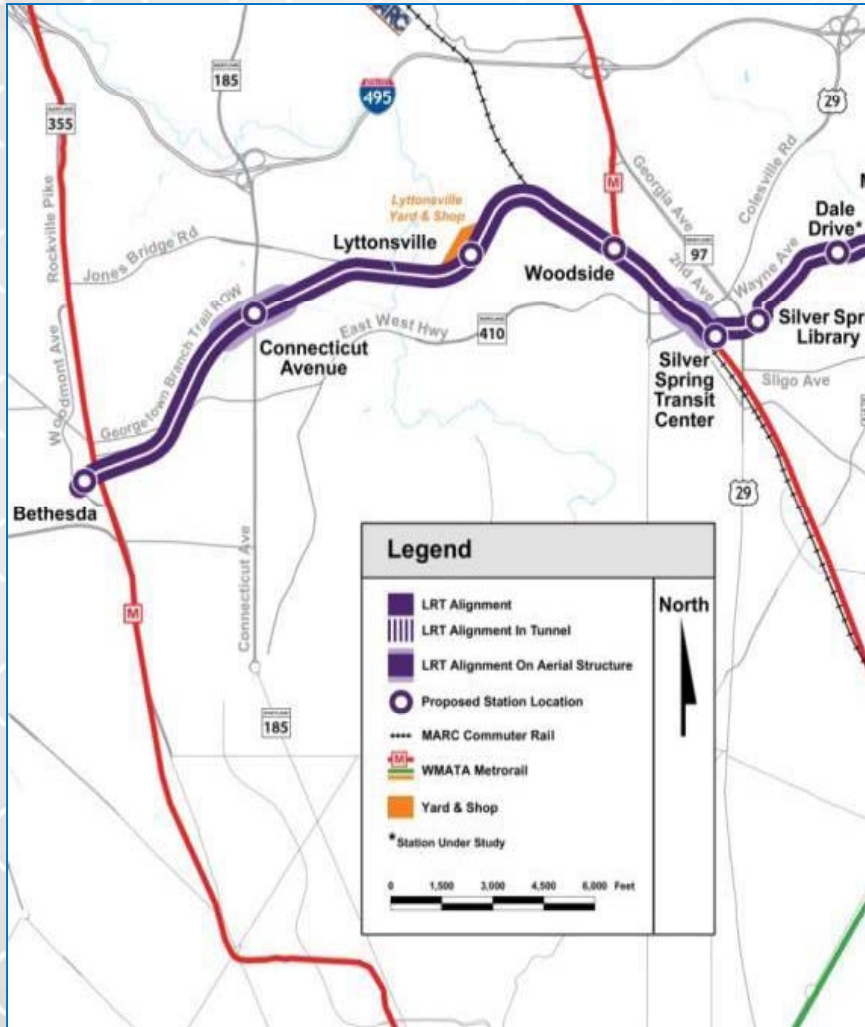
10 mins



Corridor

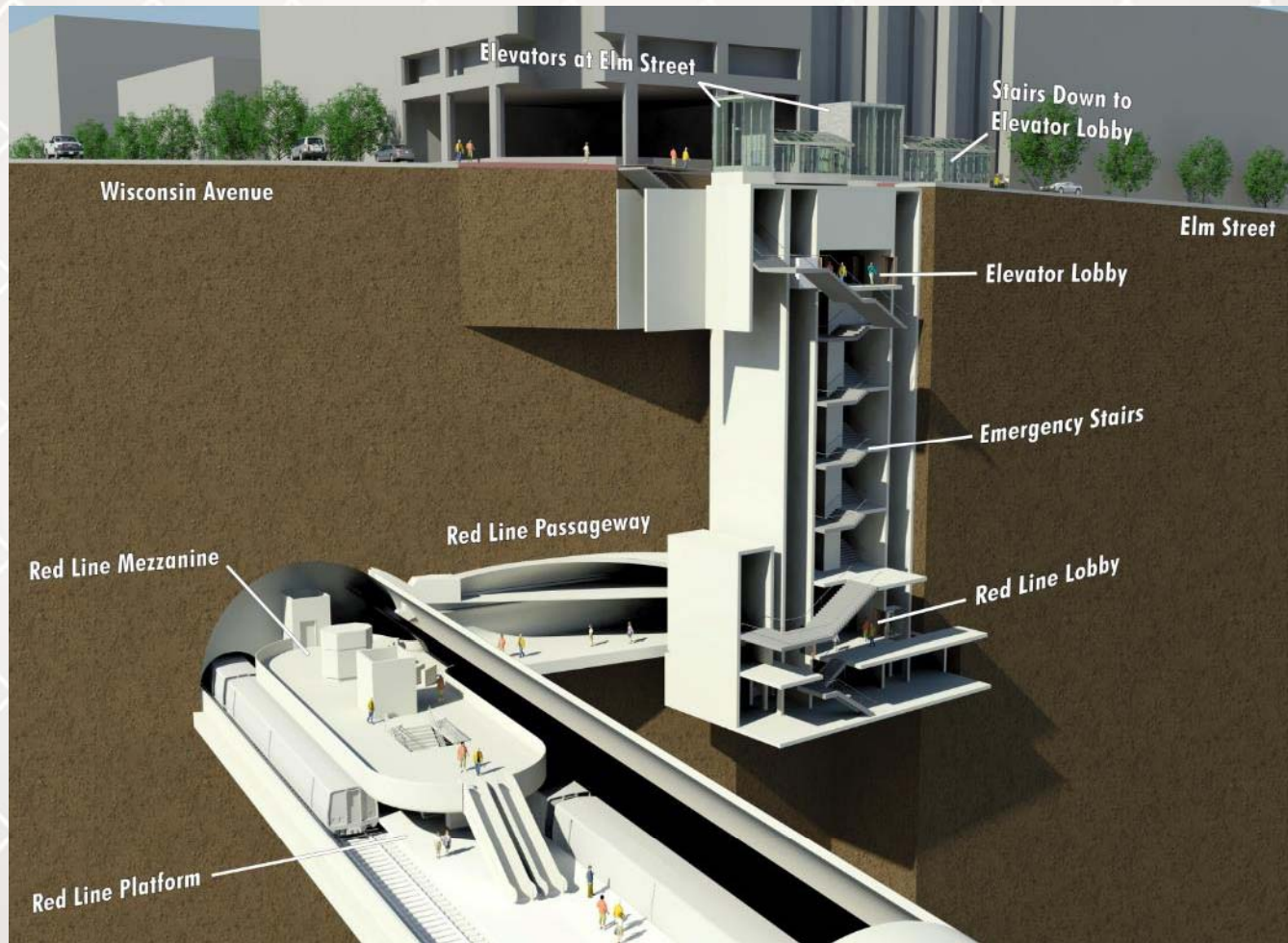
- Developed corridor in which the project is being inserted into the existing environment
- Trade-offs among operating performance, costs, and impacts
- Two maintenance and storage facility sites driven by lack of large site availability
- Traction Power Substation placement driven by existing development
- Construction staging and maintenance of traffic will be challenging

Alignment Characteristics – West



- Bethesda – Silver Spring
- 3 miles along former railroad right-of-way with adjacent Trail
- 1 mile along CSX/Metrorail right-of-way
- 5 stations
- 2 Metrorail connections
- Major ridership market
- Exclusive operating environment
- One minor grade crossing
- Primary Vehicle Storage Facility
- Operations Center

Bethesda Terminal with South Metro Entrance Concept



Alignment Characteristics – Middle



- Silver Spring – University Boulevard
- 3.7 miles in-street running environment
- 1 mile shared traffic operations
- 1,200 ft. tunnel
- 4 stations
- Street car type operating environment
- Community character



Silver Spring Library Station

© The Lukmire Partnership, Inc. 2010

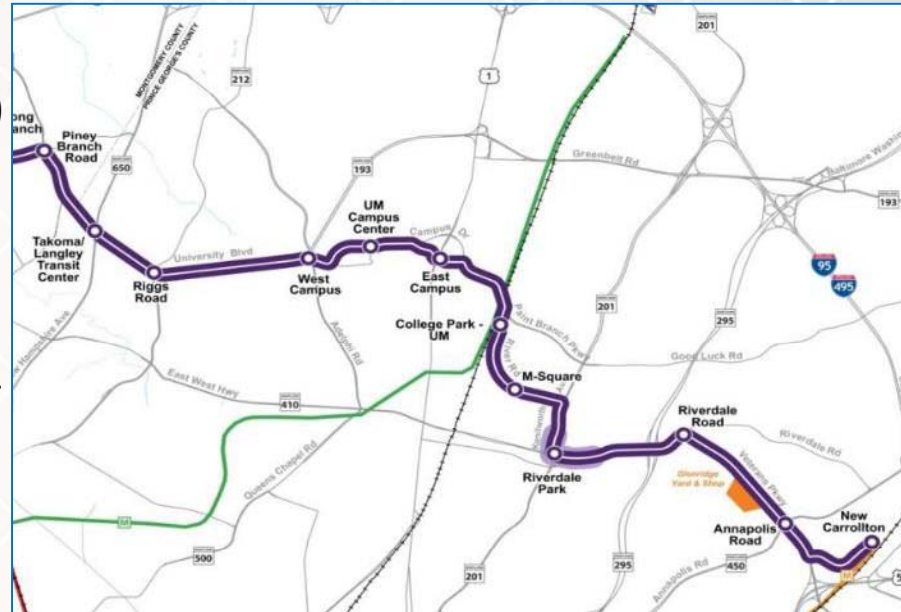
Aerial Stations

Silver Spring Transit Center Station From North



Alignment Characteristics – East

- University Boulevard – New Carrollton (approximately 10 miles)
- Approximately 2.5 miles in dedicated median
- Shares lanes with existing transit providers through the University of Maryland Campus
- 1+ mile of shared traffic operations
- Remainder largely dedicated/ reserved alignment along roadways
- 12 stations
- 2 Metrorail connections
- Primary Maintenance Facility



Planned
Takoma-Langley
Transit Center

Surface Station Prototype

Illustrative Center Platform Station





PROJECT OVERVIEW



Baltimore Region Rail System Plan

August 2002





Red Line Corridor

- MTA's core service area
- Developed corridor with three distinct socio-geographies
 - West: Disinvestment, mistrust, transit dependent
 - Downtown: Stable but skeptical of transit
 - East: Growing, congested, resistant to transit
- Significant construction challenges for tunnel/stations in historic districts, over 2 interstates, and through hospital campus.

Final Alignment

Baltimore Red Line

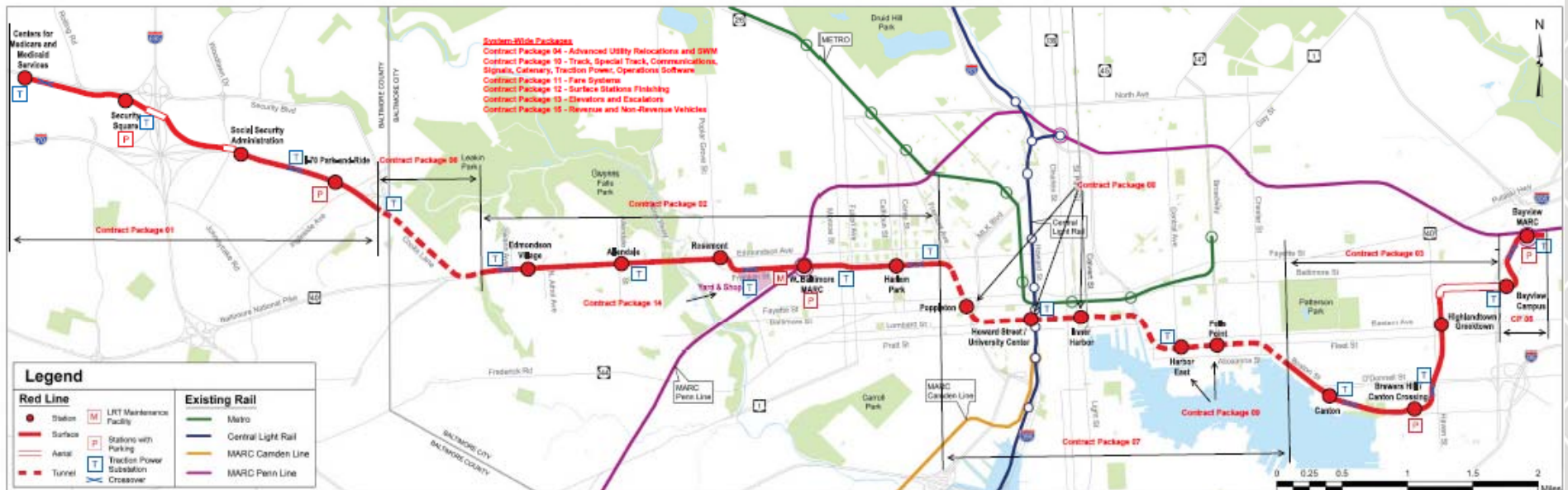


Figure 1-2 Contract Package Map





Alignment Characteristics

- Overall Alignment Length is 14.1 Miles:

Surface Rail 8.7 Miles

2 Tunnels 4.6 Miles total

Aerial/Bridge Structure 0.8 Miles

Surface Stations 14 each

Underground Stations 5 each

Operations & Maintenance Facility 1 each

Light Rail Vehicles 26 Revenue Vehicles

- Double Track Light Rail System; Overhead Catenary System
- Overall Construction & Test Duration Approximately 6 to 7 Years



Program Cost

Total Program Cost

\$2.6 Billion

Construction & Equipment

\$2.0 Billion

Light Rail Vehicles

\$150 million

Right-of-Way

\$75 million

Engineering/Management

\$300 million

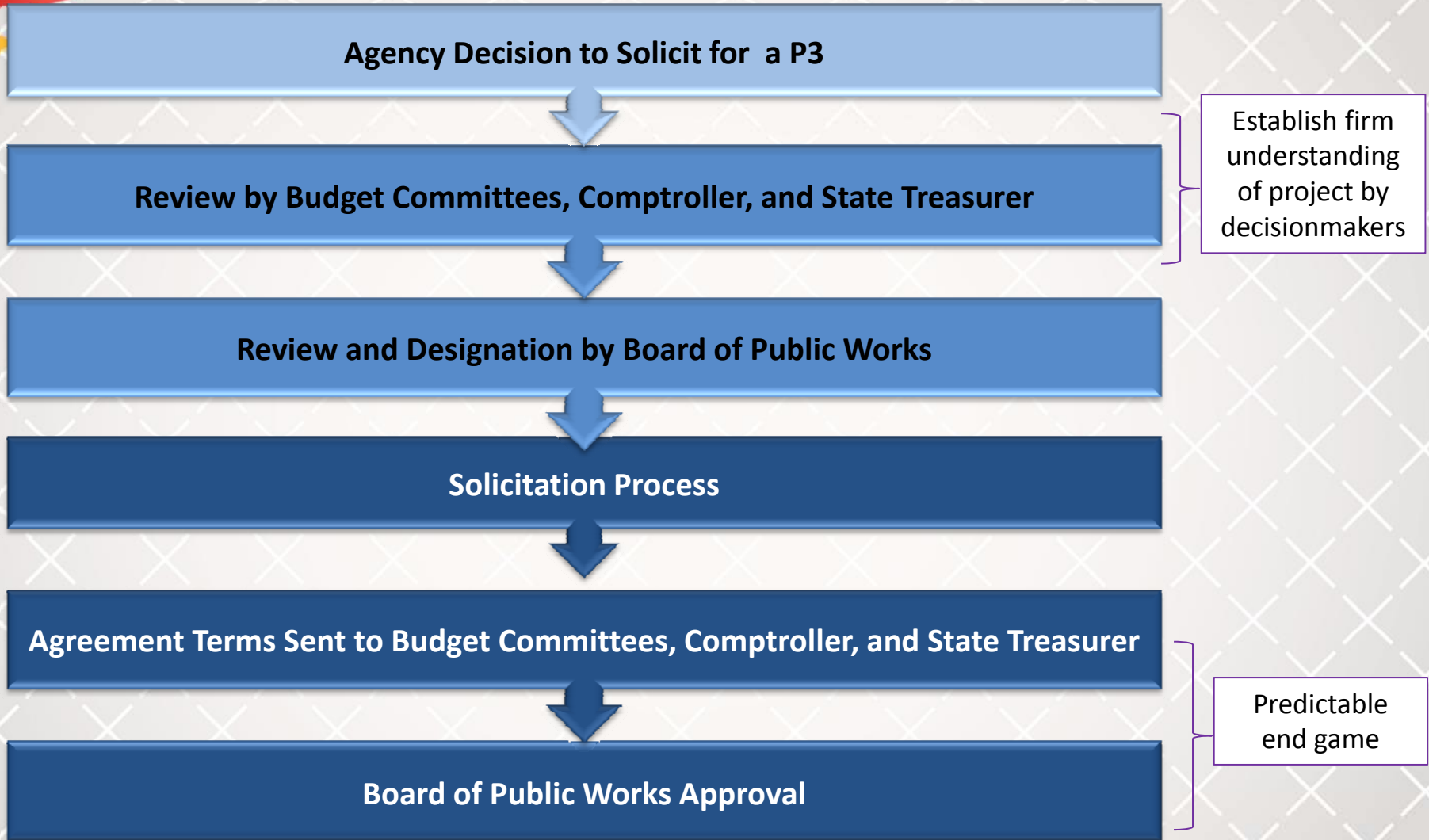
Ops/Maintenance Facility

\$75 million

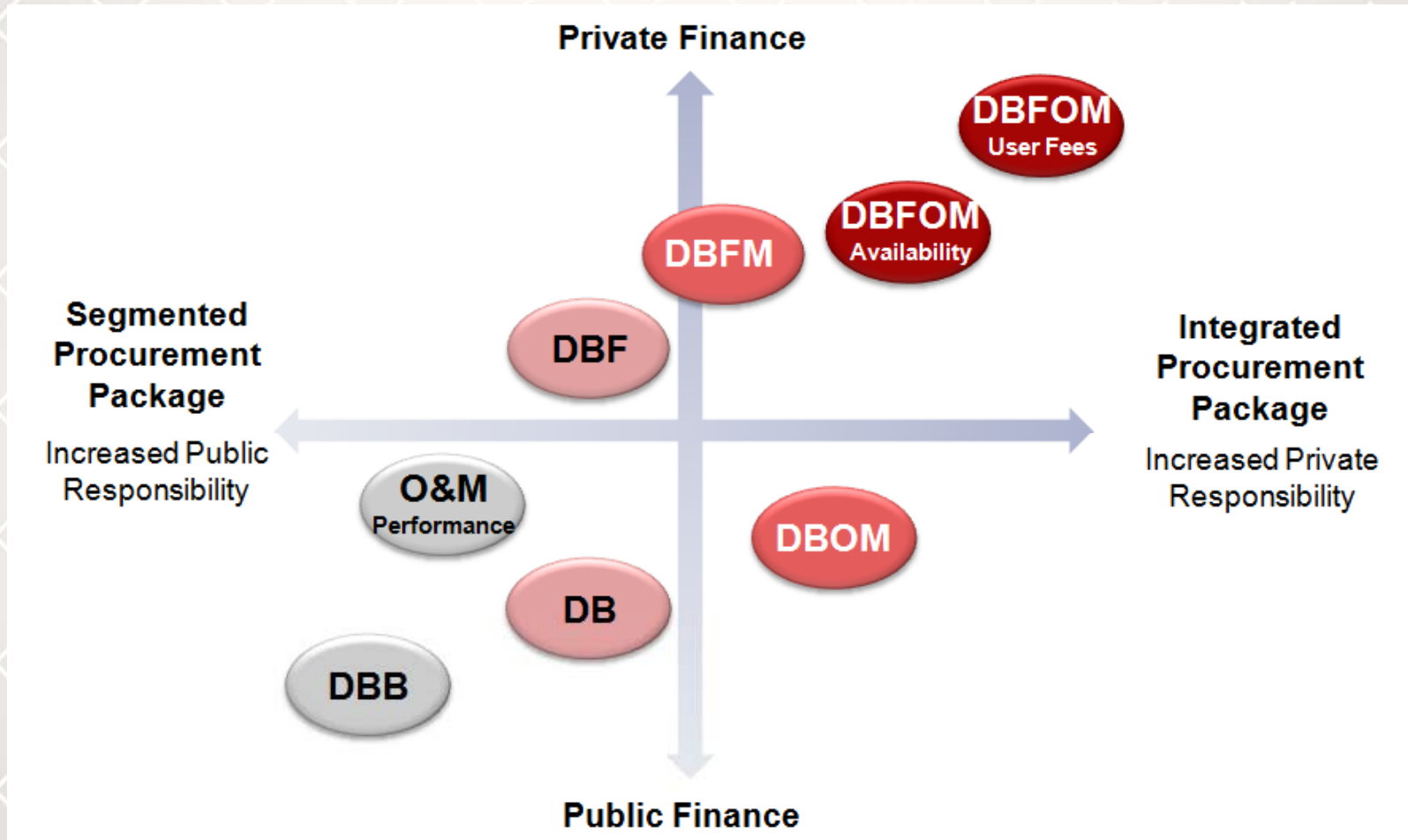


P3 OVERVIEW, ANALYSIS & CONCLUSIONS

Maryland's P3 Oversight Process



Project Delivery Methods





P3 Basics

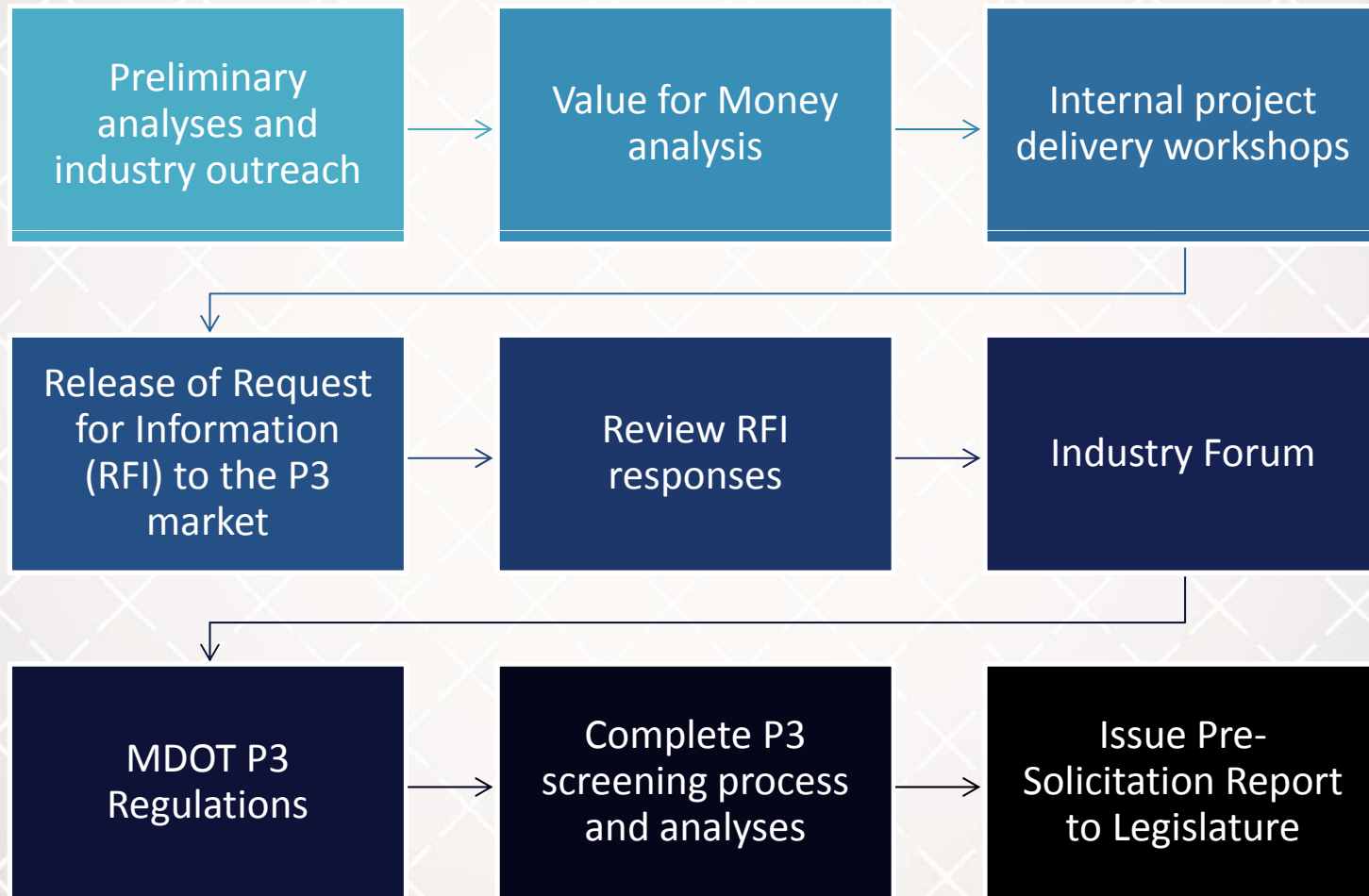
- Combines the design, construction, financing, operations and maintenance into one umbrella contract
- Shares risk between MTA and the Concessionaire and allows the Concessionaire to manage costs and innovate to mitigate risk and earn profit.
- 5 year construction + 30 year O/M period
- Based on performance standards not detailed specs
- Payments are operating performance
- Handback standards protect long-run public interest



Deliberate Project Delivery Analysis

- Comparison of delivery methods relative to:
 - Project goals
 - Technical and financial risks
 - State and federal legal requirements
 - Availability/timing of state and federal funds
 - Integration with existing operations
- Value for Money
- Organizational and marketplace capacity
- Peer review and industry forum

Determining P3 Potential for Maryland's New Starts Projects





Project Delivery Conclusions

Red Line not conducive to P3

- Tunnel is a high-risk item that investors don't want to absorb
- Red Line is part of MTA's core operating area
- Need for strong decision-making on details
- Difficult to phase P3 projects
- Opportunity to package vehicles & systems as mini-P3 to overcome maintenance and long-term recapitalization concerns



Project Delivery Conclusions

Purple Line lends itself to P3

- Self-contained from existing MTA operations
- Appropriate size for concessionaires to bid
- Enough complexity for innovation
- Reasonable risk allocation
- Good value for money



STRUCTURING THE P3



Project Development Status

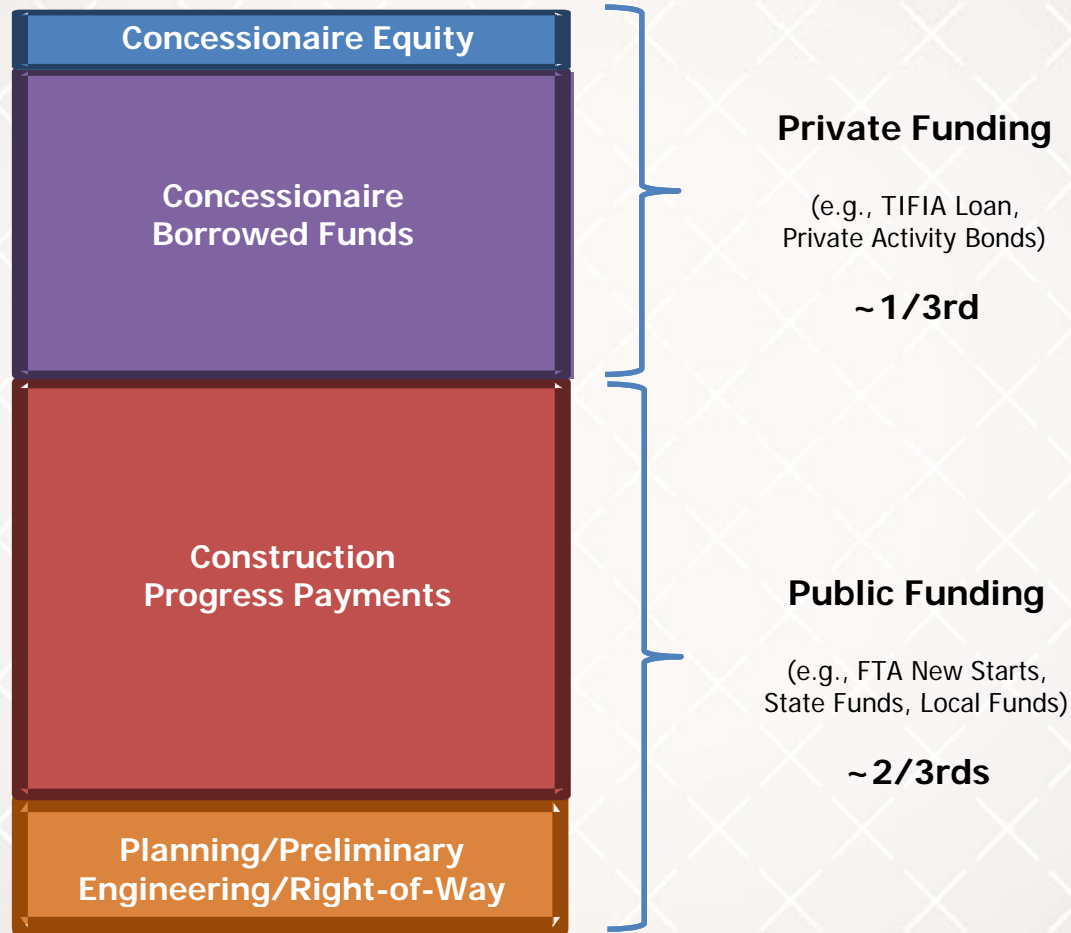
- Generally 20 – 30% level of design development across disciplines
 - Civil/roadways
 - Drainage/stormwater management
 - Stations/architecture
 - Tunnel and structures
 - Systems
 - Right-of-Way



MTA Plans to Retain Primary Responsibility for Certain Elements

- Public information, communications, and involvement during construction
- General terms of Third Party Agreements
- Right-of-Way acquisition
- Fare policy, revenue, and ridership risks
- Quality oversight

P3 Capital Funding Sources

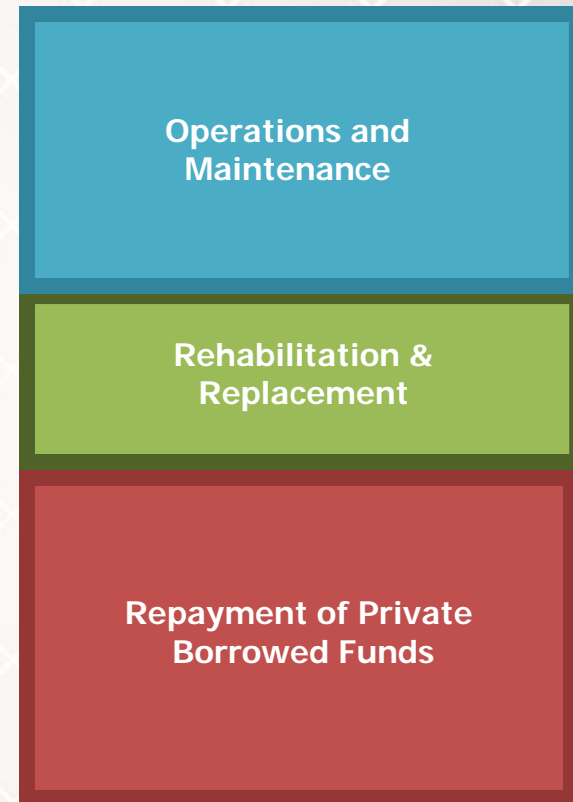


Not to Scale

Availability Payment Components

- APs are performance payments based on the concessionaire meeting established performance requirements
- AP amount is tied to the concessionaire's performance
 - MTA has the right to not pay or make deductions if the concessionaire doesn't perform as agreed
- Payments cover:
 - O&M
 - Rehabilitation and replacement
 - Repayment of private borrowed funds

AP Components



Not to Scale



ASSIGNING AND MANAGING RISK

Typical P3 Risk Allocation

Standard Cost Categories	Risk Description	Risk Allocation	
		PSC	DBFOM
Key: ○ Public Risk ● Private Risk ◐ Shared Risk			
10 - 30	Contractor interface	○	●
10 - 30	Commodity inflation	○	●
10 - 30	Labor Inflation	○	●
10 - 30	Cost overruns, schedule delays, scope gaps	○	●
40	Unanticipated hazardous materials	○	◐
40	Tunnel construction	○	◐
40	Unanticipated utilities and unexpected utility location	○	◐
40	Geotechnical variations (other than tunnel sections)	○	◐
40	Grade crossings	○	◐
50	Civil design integration and interfaces	○	●
50	Vehicle interface	○	●
60	Third party railroad interface/jurisdiction	○	○
70	Late vehicle delivery	○	●
80	Design errors/omissions	○	●
80	Third party approvals, external reviews and permits	○	◐
80	Scope gaps between contractors	○	●
90	Changes in government impacting the program	○	○
90	Concessionaire financial failure	N/A	○
90	Scope gap disputes between project contractors	○	●
90	Insufficient availability of regional contractors	○	●
90	Commissioning	○	●



Primary Risk: 700 Right-of-Way Parcels Are Required

- Total approximately 86 acres
 - 82% are partial acquisitions
 - Relocations
 - 50 residential
 - 70 businesses
- Aggressive schedule, delayed by ROD
- Mix of acquisition authority
- Proposers want to know what they get and when



Primary Risk: Third-Party Agreements

- Proposers want to understand who they are dealing with besides the owner.
 - Government & Quasi-governmental Agencies
 - Utilities
 - Universities & Schools
 - Railroads
- 3rd parties should be treated as part of the project team



Primary Risk: Project Discipline

- “They will figure it out.”
- “That’s 30 years from now.”
- “It just gets rolled in to the cost.”



PURPLE LINE IMPLEMENTATION



P3 Timeline

- *RFI/Industry Forum*
 - *RFQ*
 - *Short List*
 - *Draft RFP*
 - **ATCs & Vehicle Supplier** April 2014
 - **Final RFP** late Spring 2014
 - **Preferred Provider** early Winter 2014
 - **Commercial Close** mid-Winter 2015
 - **Financial Close** early Spring 2015
 - **Design/Construction** immediately upon close
 - **Commissioning** +/- 4 years from design/construction start
 - **Operations** +/- 1 year from commissioning
- Completed*



Request for Qualifications

RFQ Structure

- MDOT/MTA provided industry with a description of the Purple Line Project characteristics, anticipated financing (including potential federal grants and loans), transaction approach, solicitation process, environmental and permit approvals, right-of-way schedule, third-party consideration and coordination, and evaluation summary
- Railcars kept separate until RFP

RFQ Evaluation Criteria

- Proposer's relevant development experience;
- Proposer's team, key personnel, organization, and experience;
- Proposer's financial capability, approach, and experience;
- Proposer's stewardship activities approach and experience; and
- Proposer's approach to Purple Line development



Shortlisted Teams

Maryland Purple Line Partners

VINCI Concessions

Walsh Investors

InfraRed Capital Partners

ALSTOM Transport

Keolis S.A.

Maryland Transit Connectors

John Laing Investments Limited

Kiewit Development Company

Edgemoor Infrastructure & Real Estate LLC

Kiewit/Clark Construction JV

Parsons Transportation Group

RATP Dev

Purple Line Transit Partners

Meridiam Infrastructure Purple Line, LLC

Flour Enterprises, Inc.

Star America Fund GP LLC

Alternative Concepts, Inc.

Purple Plus Alliance LLC

Macquarie Capital Group

Skanska Infrastructure Development Inc.

HDR


Veolia



Draft RFP – Issued February 24, 2014

- Instructions to Proposers (ITP)
- Term Sheet
 - Outline of Concession Agreement (CA)
- Technical Provisions (TPs)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">• Project Description• Design/Construction• Operations & Maintenance• Turnback | <ul style="list-style-type: none">• Contract Drawings• Reference Materials• 3rd Party Agreements• Design Criteria |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|



Performance Based Specifications: Elevator Example

D/B/B Specification

Capacity up to 50 persons @ 1.7 sq. ft. per person

Controls Micro-Processor based full simplex collective selective control with self diagnostic fault finding system.

Cabins Stainless Steel with 4 wooden laminated panels spaced 6" apart on rear panel.

Door Types Stainless Steel Panels with Glass doors of

Requirement of Lifts Machine's Room On top of lift shaft size as per orientation of beams & columns in the building.

Power Supply required 415 volts A.C. power supply.

Performance-Based Specification

Capacity: Elevators must be designed to accommodate peak passenger load based on ridership forecast for station.

Speed: Must travel at 100' per minute

Safety: Must have CCTV including audio monitoring

Cleanliness: Elevators must be free of trash, debris, graffiti, and other contaminants. Glass surfaces shall be free of dirt from the outside and within the cab.

Sample Compliance Regime

		Type	Category	Response	Rectification/ Remediation	Recording Frequency
4.2.2	LRV interiors shall be cleaned before entering Revenue Service. Cleaning shall include removing trash and graffiti, cleaning the floor, windows, and wiping down the seats and all other interior services	Quality Failure	Major	Daily	Next Day	Per Event
4.1.3	Concessionaire shall dispose in an approved facility all trash and waste materials from all project facilities	Quality Failure	Medium	Daily	Next Day	Per Event
5.1.2	Concessionaire shall submit Structures Inspection Report within 20 days of inspection completion	Quality Failure	Minor	One Time Event	Same Day	Per Event

Sample non-compliance deductions: Major \$5,000 per occurrence
 Medium: \$500 per occurrence
 Minor: \$50 per day



Handback Requirements?

- Long-term performance guarantee
- At the end of the contract, the assets and operational responsibilities will be turned back by Concessionaire to the MTA in a state of good repair
- Prior to end of contract term, identify and execute renewal work to be completed before end of contract




Lessons Learned to Date

- **Organizational mindset change**
 - Command & Control vs. Trust but Verify
 - Project development is for life-cycle, not just design and construction
- **Rules of the Road**
 - FTA not structured to guide the process
 - New Starts process doesn't fit
- **Stakeholder Management**
 - 3rd parties need to be educated
 - Manage potential conflicts of interest



P3 REFERENCES



Who is a Concessionaire and/or P3 Private Partner?

- Typically multiple companies combine into a joint venture or similar legal entity
- Brings equity investment to project
- The company has a long-term investment in the project and focused on its long-term performance not on individual components of the project (i.e. design, construction, operations, maintenance, etc.)



Benefits of P3 Concession

- Private investors and bond/debt holders add strong oversight to the contractors because they are also at risk if the contractor does not perform (“skin in the game”)
- More effective transfer of system integration and performance risk to the private sector
- Fully optimize the design for O&M as well as construction
- Single point of contact and accountability throughout the entire contract term



How does a Concessionaire get paid?

- **Milestone Payments**

- Lump-sum payments made by the public agency from public funds for a portion of the project cost and typically made during design and construction

- **Project Revenues**

- Payments made by users during operations (e.g. tolls, fares)

- **Availability Payments**

- Periodic payments made by the public agency from public funds during operations (after construction and final acceptance) and based on the “availability” of the project at a certain, well-measured level of performance

- **Ancillary Revenues**

- Revenue collected from non-users (e.g. advertising, development rights, utility rights, etc.)