Lessons Learned of the Before and After Study for the Dulles Corridor Metro Rail Project

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Annual Meeting
Key Presentation Take-Aways

- Overview of Dulles Corridor Metrorail Project
- Governance, Funding, & Contracting Structure
- Requirements of FTA Before and After Study
- Lessons Learned from Phase 1 Implementation
- A Look at Phase 2 Construction
- Conclusion
Dulles Corridor Metrorail Project Overview and (Brief) History

- 1962 - Dulles Airport opens, Access Road median for transit
- 1966 - WMATA signed into law
- 1982/3 - I-66 Inside Beltway/Dulles Road Open
- 1986 - Metrorail Orange Line to Vienna Opens
- 1992 - DRPT established & Dulles Corridor MIS begins
- 1995 - Virginia PPTA legislation passed
- 1999 - Dulles NEPA commences
- 2004 - FTA and FAA RODs issued & PPTA Comprehensive Agreement executed
Dulles Corridor Metrorail Project Overview and (Brief) History (con’t)

- 2004 - Phase 1 to Wiehle/Reston East PE begins
- 2007 - MWAA takes over as Project Sponsor
- 2009 - FFGA Approved for Phase 1; NTP issued to Phase 1 D-B
- 2014 – Phase 1 Revenue Operations to Wiehle/Reston East as WMATA’s Silver Line
- 2013/4 – Phase 2 Contract Packages Awarded
Governance, Funding and Contracting Structure

- DRPT – original project sponsor
- MWAA (Airports Authority) – successor sponsor
- WMATA – ultimate owner and operator
- FTA – Federal Transit Administration
  - New Starts funding/NEPA
- FAA – Federal Aviation Administration - NEPA
- Additional funding partners
  - Commonwealth of Virginia
  - Fairfax County (inc. commercial tax district)
  - Loudoun County
Project Sponsor transition DRPT to MWAA

• In 2007, VA privatized the Dulles Toll Road (DTR), concerns revenues for transportation would leave the corridor statewide, no guarantees rail would be built

• MWAA submitted own proposal to take over operations (and revenue) of DTR

• MWAA became project sponsor, FTA grantee and construction contracts holder, added technical capacity
Governance, Funding and Contracting Structure

- Dulles Transit Partners (DTP) – PPTA partner
  - JV of Bechtel and Washington Group
- DTP awarded comprehensive agreement in 2004
  - Fixed price Preliminary Engineering for Phase 1
  - Development Services (ROW, Utilities, Permitting, etc.)
  - Advance Phase 2 PE
  - Right to submit on Design-Build for Phase 1 following completion of Phase 1 PE
## Governance, Funding and Contracting Structure

### Sources of Capital Funding

<table>
<thead>
<tr>
<th>Sources of Capital Funding</th>
<th>Percent at Complete</th>
<th>Phase 1 Total</th>
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</thead>
<tbody>
<tr>
<td>Sec 5309 New Starts Federal Funds</td>
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<tr>
<td>PE Grant</td>
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<td>$54,412,526</td>
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<td>Final Design Grant</td>
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<td>159,001,838</td>
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<td>ARRA</td>
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<td>77,260,000</td>
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<td>FFGA</td>
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<td>609,325,636</td>
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<td><strong>Subtotal - New Starts</strong></td>
<td>28.64%</td>
<td><strong>$ 900,000,000</strong></td>
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<tr>
<td>Other Federal Funds</td>
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<tr>
<td>STP/Sec. 5307</td>
<td>2.39%</td>
<td><strong>$ 75,000,000</strong></td>
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<tr>
<td>Local Funds</td>
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<td>VTA 2000</td>
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<td>$51,700,000</td>
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<td>Commonwealth Transportation Bonds</td>
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<td>125,000,000</td>
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<td>Fairfax County Funds</td>
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<td>523,750,000</td>
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<td>Dulles Toll Road Revenues</td>
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<td>1,467,021,634</td>
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<td><strong>Subtotal - Local Funds</strong></td>
<td>68.97%</td>
<td><strong>$ 2,167,471,634</strong></td>
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<td>Total Project Budget</td>
<td>100.00%</td>
<td><strong>$ 3,142,471,634</strong></td>
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<td>Interrelated Highway Activities</td>
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<td>123,208,229</td>
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<td>DTR Revenues/Commonwealth Funds³</td>
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<td><strong>$ 123,208,229</strong></td>
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<td><strong>Phase 1 Total</strong></td>
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<td><strong>$ 3,265,679,863</strong></td>
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Requirements of the FTA Before and After Study

• Required by Congress under Section 5309 Capital Investment Grants - New Starts funding
• Examines accuracy of predictions for capital costs and ridership at project milestones:
  – Project Development (NEPA)
  – Entry to Preliminary Engineering (previous milestone)
  – Entry to Final Design
  – Full Funding Grant Agreement (FFGA)
• Documents Before/After conditions, lessons learned
• Phase 1 Final Report to be completed late 2017
Lessons Learned from Phase 1 Implementation
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- **Stability** - Not recommended to change lead Project Sponsor in middle of project!
- **Competition** is good! Comprehensive Agreement had an off ramp but not realistic based on delay a competitive procurement would required
- **Avoid** new alternatives being identified after ROD (tunnel)
- **Cleary define** Authorities Having Jurisdiction (AHJ)s and permitting entities as early as possible.
- **Nail down code requirements/interpretations** of each AHJ well in advance (check for conflicts with design criteria)
Lessons Learned from Phase 1 Implementation

- **Commence** right-of-way acquisition, utility relocation, and vehicle procurement as early as possible
- **Specify requirements** for a full-time ultimate owner/operator staff, empowered to make decisions and methods to resolve inter-departmental issues/conflicts
- **All construction permits** should be the Contractor’s responsibility and the D-B Contract must state that Permits required for Work must be approved before construction of that Work may begin
- **Public Outreach** – DB should have responsibility to adequately staff internal and external communications efforts in neighborhoods impacted by construction
Lessons Learned from Phase 1 Implementation

• Require the D-B to comply with jurisdictional requirements regarding local land use processes and approvals

• Division 1 specifications should require the D-B Contractor to comply with change approval processes required by the permit review agencies.

• D-B to advise the Owner of potential design changes in a timely manner and obtain authorization from CO before committing substantial resources to additional design

• D-B to submit an Environmental Compliance Plan identifying all environmental laws, rules and regulations
Lessons Learned from Phase 1 Implementation

• **Require** design packages submitted for review should be comprehensive including drawings, specifications, and calculations for the portion of the project under review.

• **Require SOE design** to be submitted with the facility design submittal if it is intended that the SOE is to remain in place permanently and not be removed upon construction completion. Specify any qualifications or restrictions against leaving SOE in place.

• **Systems Contracts** packages for traction power, signal, communication, ETS, etc. should be combined to reduce or eliminate duplication.
Lessons Learned from Phase 1 Implementation

• Review the Intergovernmental Agreements (IGAs) to ensure that all commitments to signatories are flowed down through the D-B Contract. Ensure all state/local construction and monitoring requirements are imposed on the Contractor or otherwise accounted for.

• DB should provide accurate information to subs based on commitments that were made to the community.

• Obtain written acceptance of plans submitted to Utilities for records.

• Fieldwork areas and restrictions need to be shown on design/permit plans to avoid surprises to agencies/public.
Lessons Learned from Phase 1 Implementation

• Significant mixed-use development and economic activity at stations in Tysons and Reston
• Tysons to be home to 200,000 jobs and 100,000 residents by 2030
• More than a million square feet of office space under construction and another 15 million has been approved
• Significant residential, retail and hotels also underway
• Wiehle-Reston East Station multimodal hub includes Fairfax County P3 large mixed-use development
Lessons Learned from Phase 1 Implementation
A Look at Phase 2

- Ashburn
- Broad Run
- Loudoun Gateway
- Aerial Guideway
- Horsepen Run
- Innovation Center
- Centreville Rd.
- Herndon
- Reston Town Center

- At-Grade Station
- Aerial Station
- Line Bridge
A Look at Phase 2

• Phase 2 includes multiple packages competitively bid Design-Build:
  – Package A: Line, Stations and Systems
    • 6 Stations, 11.5 miles of revenue track
    • Construction 60% complete
    • Substantial Completion scheduled for late 2019
  – Package B: Service and Inspection Yard (major repair)
    • Largest in WMATA system, Storage for 184 vehicles, Expansion to 250
    • System Acceptance to commence in 2019
A Look at Phase 2

- Smaller packages for SWM ponds and Screenwall at IAD Station in procurement
- Localities Fairfax and Loudoun implementing parking garages at Herndon-Monroe, Innovation, Loudoun Gateway and Ashburn Stations
- Station at Dulles Airport was relocated during PE from “bowl” area underground to in front of north parking garage above ground (connection to terminal via pedestrian tunnel via moving sidewalks)
  - Value Engineering resulted in $600M+ cost reduction
A Look at Phase 2
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Conclusion