And Silver Line-Related Issues

Patty Nicoson

Dulles Corridor Rail Association
Dulles Area Transportation Association
February 17, 2016
Guideway & Stations
Design-Build Activities

Current

• Advancement of Design Packages:
  – 96% (390/406) Complete Overall
  – 87% (62/71) Packages Issued for Construction

• Issued 1 Design Package Permit (Innovation Center Pedestrian Bridges)

• Issued 14 Permit Amendments due to Design Revisions

• Project Office Review/Approval Activities:
  – 19 Design Change Packages
  – 70 Contractor Submittals
  – 16 Non-Conformance Reports
Guideway & Stations
Design-Build Activities

Upcoming

• Reston Station – Drive steel piles for foundation, continue small tunnel/directional drilling for wet utilities and installation of 34.5 KV
• Herndon Station – Continue mass excavation, form and pour station foundation and directional drill for sanitary line
• Innovation Station – Continue station foundation work and precast element placement
• Dulles Station – Prepare foundation for tower crane and erect crane, continue foundation and aerial guideway substructures, continue walkway demolition and tie in to pedestrian tunnel
• Aerial Guideway – Pour drilled shafts, columns, and pier caps, decks, and girders installation, form and cast 3 more S-1 straddle bents
WMATA Rail Yard & Maintenance Facility Design-Build Activities

**Current**

- Structures and Long Lead Items (Integrated Permit Package (IPP) #3)
  - Permit application package in review
- 90% Design Package for track, traction power/ductbank, site utilities, industrial designs (IPP #2, Part 2) “Accepted as Noted”
- Blasting operations
- Service and Inspection Building basement excavation
- Mass cut/fill operation
Guideway & Stations Design-Build Activities

Pour First Straddle Bent East of Aviation Drive
Dulles Airport Station
<table>
<thead>
<tr>
<th>Sources of Capital Funds (Thousands YOE Dollars)</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Total Rail Project Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal (FTA)</td>
<td>$900,000</td>
<td></td>
<td>$900,000</td>
</tr>
<tr>
<td>Commonwealth of Virginia</td>
<td>251,700</td>
<td>323,300</td>
<td>575,000</td>
</tr>
<tr>
<td>Fairfax County</td>
<td>400,000</td>
<td>515,113</td>
<td>915,113</td>
</tr>
<tr>
<td>Loudoun County</td>
<td></td>
<td>272,829</td>
<td>272,829</td>
</tr>
<tr>
<td>MWAA (Aviation Funds)</td>
<td></td>
<td>233,041</td>
<td>233,041</td>
</tr>
<tr>
<td>MWAA (Dulles Toll Road)</td>
<td>1,353,995</td>
<td>1,433,953</td>
<td>2,787,948</td>
</tr>
<tr>
<td><strong>Total Sources of Funds</strong></td>
<td>$2,905,695</td>
<td>$2,778,236</td>
<td>$5,683,931</td>
</tr>
</tbody>
</table>

- Contribution is fixed amount
- Contribution is fixed percentage of total cost
- Contribution is residual

* Total project costs assumes that the Route 28 station is part of the Rail Project baseline budget and that the Counties secure separate funding for the Phase 2 parking garages ($315 million preliminary engineering estimate plus an assumed $33 million of additional contingency).

** Does not include state funds that will be used to pay interest on DTR bonds.
# Phase 2 Cost Summary

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>December Expenditures</td>
<td>$ 62.9 Million</td>
</tr>
<tr>
<td>Total Expenditures</td>
<td>$ 655.6 Million</td>
</tr>
<tr>
<td>Total Budget</td>
<td>$ 2.778 Billion</td>
</tr>
<tr>
<td>Total Forecast</td>
<td>$ 2.778 Billion</td>
</tr>
</tbody>
</table>
**Status**

- **Phase 1**
  - VDOT, WMATA, Fairfax Punch List/Warranty - Ongoing
  - Art in Transit Completion Scheduled – End March 2016
  - Old Meadow Road Realignment - 2017
  - Phase 1 close out - $2.982B

- **Phase 2**
  - Total Project Status (all bid packages)
    - Overall Project – 30%
    - Design – 96%
    - Construction – 14%
  - Highlights
    - Tower crane at Herndon Station
    - Mass excavation
    - Innovation Station
    - Foundations, walls, columns, and precast erection
    - Dulles Airport
    - Mass excavation and aerial guideway
    - Pedestrian tunnel closed at garage
    - Rail Yard at Dulles Airport
    - Design
    - Earthwork
    - All Stations in Fairfax County have construction and/or utility work ongoing

- **Significant County Activities – Past 60 Days**
  - Phase 2 Design Reviews – Herndon Station
  - Herndon and Innovation Center Stations Garages
    - Ongoing design work
    - Herndon Station Schedule Coordination
    - Innovation Center Station (Garage) –
      - PC Approved change in garage height on Feb 3, 2016
      - Board of Supervisors Public Hearing – Feb 16, 2016
  - Innovation North SE/2232 (Pavilion/Kiss and Ride)
    - Planning Commission Approved – Feb 3, 2016
    - Board of Supervisors Public Hearing – Feb 16, 2016
  - County Coordination
    - Project Partners (MWAA, VDOT, DRPT, WMATA, Loudoun County, Town of Herndon, Landowners)

- **Budget**
  - $2.775B
  - Total Contingency - $561M (Remaining $481M)
  - Contract extension costs under negotiations between MWAA and CRC
Reston Town Center Station

Small tunnel operations for utilities and installation of 34.5 KV duct bank.
Dulles Airport Station

Aerial Guideway
Pour drilled shafts, columns, and pier caps (On Airport and Yard Leads)
Innovation Center Station

Concrete foundations, Station support walls, and directional drilling for utility lines.
Innovation Center Station Garage

Total Project Estimate and Schedule

Total Project Estimate: $57 Million

Schedule
- Aug14-Oct16: Design
- Feb 2016: Planning Commission and Board of Supervisors for Proffered Condition Amendment to raise garage 1 level; Real Estate Exchange
- Jan16-Oct16: Building and Site Permits Submission & Review
- Oct16-Mar17: County bid process
- Spring 2017: Construction Notice to Proceed
- Spring 2019: Substantial Completion
### Herndon Station Garage

#### Budget / Schedule

<table>
<thead>
<tr>
<th>Description</th>
<th>Date Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Project Estimate</td>
<td>$56.7 million</td>
</tr>
<tr>
<td>Design:</td>
<td>June 2014 – November 2015</td>
</tr>
<tr>
<td>Permitting:</td>
<td>September 2015 – May 2016</td>
</tr>
<tr>
<td>Bid:</td>
<td>January 2017</td>
</tr>
<tr>
<td>Construction Award:</td>
<td>April 2017</td>
</tr>
<tr>
<td>Construction:</td>
<td>April 2017 – April 2019</td>
</tr>
<tr>
<td>Ready for Occupancy:</td>
<td>May 2019</td>
</tr>
</tbody>
</table>
Final Recommendations

#1. Maintain current Plan Policy and Zoning at the Loudoun Gateway Station Area to promote job-generating, airport-compatible uses.

#2. Consider a catalytic anchor use at the Loudoun Gateway Station Area, if the office market remains stagnant.

#3. Work with MWAA to encourage airport-compatible development at the Loudoun Gateway Station Area.

#4. Continue to pursue commercial development at the Ashburn Station Area.

#5. Consider interim uses at the Station Areas to activate them, provide income for property owners, and generate tax revenues.
Map 3 — Consultant Recommended Growth Concept Map

Note:
The growth concept map is for illustrative purposes only, and created solely for depicting development types, locations, patterns and intensities recommended by the consultant for the Loudoun County Land Use Scenarios Planning Study. It is not something officially supported by the Loudoun County Board of Supervisors (or any county department participating in the scenario planning study) beyond the purpose stated above.
STAFF EVALUATION

CTP inconsistencies

Specific land use designations

Significant new densities

Fiscal Impacts
Reston Network Analysis Study Area
Purpose of RNS Study

• Conduct a detailed analysis of the grid of streets and determine
  – A finalized grid of streets
  – Number of lanes between and at intersections
  – How to best accommodate transit, bikes, and pedestrians
  – Right-of-way needs

• Assign urban street types and modal emphasis based on Department of Rail and Public Transportation design guide lines

• Examine four specific locations in detail
Reston Phase I Plan Amendment
Major Road Transportation Recommendations

- An enhanced street network to increase connectivity
- Soapstone Drive Overpass
- Town Center Parkway Underpass
- South Lakes Drive Overpass
- Grade Separate Fairfax County Parkway/Sunrise Valley Drive
Reston Phase I Plan Amendment
Grid of Streets

- Conceptual grid of streets was a result of the Reston Task Force
- The three TSAs were examined and had conceptual grids developed by task force members
- These grids were refined by FCDOT staff
- The conceptual grid was then included in the comprehensive plan
Transportation Improvement Categories

1. Reston-wide Improvements
   - Road transportation improvements\(^1\) (Overpasses, Widenings, Extensions, Interchanges) to enhance connectivity
   - Intersection improvements required for adequate traffic operations

2. Grid of local streets in Reston TSA areas
   - Enhance pedestrian and vehicular circulation in, around, and through, station areas

---

\(^1\) All roadways will be designed with pedestrian facilities. Many will also have bike facilities.
Evaluating the Grid

- Level of Service and Delay at Intersections
- Queue Length
- Walksheds – pedestrian accessibility
- Enhanced connectivity for transit
# TDM Vehicle Trip Reduction Goals

<table>
<thead>
<tr>
<th>Development</th>
<th>Peak Hour – Future Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-1/4 Mile</td>
</tr>
<tr>
<td>2030</td>
<td>2030</td>
</tr>
<tr>
<td>2050</td>
<td>2050</td>
</tr>
<tr>
<td>Office</td>
<td>40%</td>
</tr>
<tr>
<td>Residential</td>
<td>40%</td>
</tr>
<tr>
<td>Technological Advancement for all Trips</td>
<td>-</td>
</tr>
</tbody>
</table>

Reductions based off of ITE Trip Generation Rates
Projects

Major Components of Reston Phase I Infrastructure:

Reston-Wide Projects, $1.345B
- **Roadway** (Overpasses, Widenings, Extensions, Interchanges), $1.280B
- **Intersection Projects**, $0.065B

Grid Network, $1.284B

Total $2.629B
Mitigation Measures

• Mitigation reduced delays experienced at intersections
• Mitigation reduces vehicle congestion
• Mitigation improves the reliability of travel times through an area (for both buses and vehicles)

• Mitigation will be the way we achieve LOS E in the Transit Station Areas
Mitigation Options

- Mitigation Measures - Tiered Approach
  - 1st Tier: No right of way impact
  - 2nd Tier: Some right of way impact
  - 3rd Tier: Large scale mitigations if needed
    - Consultation with Advisory Group and Stakeholders

- Each grid link is initially assumed to be one lane in each direction
Mitigation Measures
1st Tier: No Right of Way Impact

- **Intersection Reconfiguration**
  - Optimized signal timing and phasing
  - Lane configuration modification

Westwood Center Dr. @ Route 7 (2013)  Westwood Center Dr. @ Route 7 (2015)
Mitigation Measures (Cont.)

1\textsuperscript{st} Tier: No Right of Way Impact

- Existing and Potential Future Signals
  - Adding/removing traffic signals
  - Adding/modifying stop control
  - Modifying Parking

Westwood Center Dr. @ Sheraton Tysons Dr. (2013)  
Westwood Center Dr. @ Sheraton Tysons Dr. (2015)
Mitigation Measures

2\textsuperscript{nd} Tier: Some Right of Way Impact

- Turn lanes
  - Left and Right turn lanes
  - Add storage
  - Reduces queuing on to through movement
- Additional through lane
- Additional grid link
Mitigation Measures

3rd Tier: Alternative Intersection Treatment

- Median U-Turn/Superstreet
  - Eliminate left turn movement for side streets
  - Increases thru movement green time
  - Additional needed ROW to provide turn radius
Mitigation Measures
3rd Tier: Large Mitigation Measures

• Underpass/Overpass
  – Provides for an uninterrupted thru movement
• Only done in close coordination with Advisory Group and Stakeholders after all other mitigation measures have not worked
Shared Funding Solutions

Public and private investment in Reston is both critical and responsible for ensuring Reston’s future success. While each solution is unique to the situation, there are a range of transportation funding mechanisms available.

**Public sector funding** will come from federal, state, local, and regional sources.

- Multiple sources within each category

**Private sector funding** can come from:

- Proffers

- Cash contributions, Road Fund (per square foot/per dwelling unit contributions)

- In-kind Contributions

- Tax Districts/Service Districts and/or

- Other
Public and Private Investment

Public and private sources of revenue identified to potentially fund plan include the following:

- Existing and historical funding sources that have been allocated to transportation projects
- Existing or potential funding sources available to Fairfax County, as permitted by law
Public | Federal Revenue Sources

**Congestion Mitigation Air Quality (CMAQ)**
- Primarily for capital projects that relieve congestion and improve air quality.
- Allocated and approved annually by the Northern Virginia Transportation Authority (NVTA).

**Regional Surface Transportation Program (RSTP)**
- Can be used for many transportation capital improvements.
- Allocated and approved annually by NVTA.

**Discretionary Grant Programs**
- Competitive process, not a predictable source of revenue.
- Amount of funding varies by cycle.
- TIGER – Transportation Infrastructure Generating Economic Recovery.
- Allocated by USDOT.
Shared Funding Solutions

Public and private investment in Reston is both critical and responsible for ensuring Reston’s future success. While each solution is unique to the situation, there are a range of transportation funding mechanisms available.

**Public sector funding** will come from federal, state, local, and regional sources.

- Multiple sources within each category

**Private sector funding** can come from:

- Proffers
- Cash contributions, Road Fund (per square foot/per dwelling unit contributions)
- In-kind Contributions
- Tax Districts/Service Districts and/or
- Other
Public and Private Investment

Public and private sources of revenue identified to potentially fund plan include the following:

- Existing and historical funding sources that have been allocated to transportation projects
- Existing or potential funding sources available to Fairfax County, as permitted by law
Tysons Transportation Funding Allocation

- Redevelopment Proposals: 18%
- Road Fund - Grid: 10%
- Service District: 8%
- Road Fund - Tysons-wide: 8%
- General Fund (Transit): 22%
- G.O. Bonds: 11%
- C & I Revenue: 4%
- Revenue Bonds: < 1%
- State Aid: 7%
- Federal: 5%
- Unspecified State/Federal: 7%
Reston Potential Cost Allocation

- Reston-wide Improvements ($1.345B)
  - Outside/Inside
  - Outside to be primarily funded by public sector
  - Inside to be primarily funded by private sector contributions

- Grid Network ($1.284B)
  - Primarily funded by private sector contributions

- Total funding plan: $2.629 B
Next Steps

- Advisory group feedback on potential revenue sources, including others that should be evaluated
- Development of proposed funding plan to include cost allocations between public and private sector
- Outreach to stakeholders and public
- Revise plan based on feedback received
- Share proposed funding plan with Board Transportation Committee
- Seek Board of Supervisors approval
Herndon Metro Station
Town requested at the Metro Town-Side Pavilion:

1. Imprinted concrete along retaining wall (approx. 400’) – VDOT special standard

2. Metro Sign at Herndon Parkway

3. Decorative black handrail/fence both sides of sidewalk (approx. 1000’) – VDOT special standard

4. Canopy for 30 bike racks

5. More durable sidewalk standard
Figure ES.8 | Herndon Transit-Oriented Core Plan

- Bus Stop and Metro Passenger Drop-off/Pick-up Area
- Worldgate Drive Extension
- North Pavilion Entrance
- Herndon Metro Promenade

**Legend**
- Orange: Buildings
- Gray: Parking Structures