Columbia Pike West End Construction Update

County Line to Four Mile Run

Department of Environmental Services
Dec. 17, 2019
Columbia Pike Improvements

- **Vision**: Providing safe, attractive and comfortable access and travel for people who walk, bike, ride transit and drive

- **West end overview** (Segments H&I, County Line to Four Mile Run):
  - Approximately 3,000 feet long
  - Significant utility undergrounding and wet utility replacement
  - Full street reconstruction with new asphalt, wider sidewalks and landscaping
  - Realigning South Jefferson Street to shorten crossings and eliminate slip lanes

Construction timeline:
- Fort Myer started work in February 2018
- Expected to last approximately three years
Planned Roadway Cross-Section

- Sidewalk w/Transit Station or Landscape Strip (Width varies from 6' to 15')
- 56' Roadway Width (curb to curb)
- Median or Left Turn Lane
- Sidewalk w/Transit Station or Landscape Strip (Width varies from 6' to 15')
Existing Conditions

- Sewer
- Gas
- Water
- Stormwater

- Planned Duct Bank Location
- Existing Duct Bank (expected location)

- Existing Roadway (width varies)

- Side walk Grass Strip (Width varies from 4' to 8.5')
What We Found During Construction

• Expected an existing duct bank under the travel lanes, but its actual location is under the sidewalk where a new duct bank was planned
  – Efforts were made before construction to anticipate such issues, using:
    • Utility company records
    • Field location with metal detectors and other tools
    • Test holes
  – This required a redesign

• Impacts due to new duct bank design:
  – Schedule risk
  – Additional construction cost
  – Increased traffic disruption
Duct Bank Work

- Duct bank completed
- Completed by others
- Proposed duct bank redesign

[Map showing the locations of completed, completed by others, and proposed redesign duct banks]
Response Plan

Goal: Maintain early 2021 project completion date
   – Barring other unforeseen conditions or significant weather delays

• Move new duct bank under a travel lane, instead of under sidewalk
• Reduce travel lanes in work zone to one in each direction
  – Additional lane open eastbound during weekday morning rush hours
• Fort Myer will use multiple crews during construction
• Extend construction hours:
  – Until 9 pm during weekdays
  – Additional weekend work (Saturday and Sunday)
  – Additional nighttime work is an option, but not planned at this time

• These changes are not ideal, but this plan is the safest way to move the project forward in the shortest amount of time
Traffic Alternatives Considered

• Continue 2 lanes in each direction for peak periods
  – Adds more than one year to schedule

• Reversible lane to provide 2 lanes for peak direction only
  – Impractical: Contractor would need room to install signs and move barrels for the lane reversal, further reducing lanes open on Columbia Pike
  – Safety risks due to unusual maintenance of traffic and possible driver confusion
Response Plan Impacts & Mitigations

Impacts:
• Increased traffic disruption and delays
  – Additional lane closures
  – Intersection closures (on weekends)
  – Turn restrictions
  – Bus stop relocations
  – Pedestrian detours

Mitigations:
• Encouraging drivers to seek alternate routes
  – Parallel routes: Arlington Boulevard/Rt. 50 and I-395
  – Connecting routes: Carlin Springs Rd, George Mason Dr
• Traffic camera monitoring
  – Signal timing adjustments as needed
• Police assistance during certain periods
Alternate Routes

Parallel routes to Columbia Pike:
• Arlington Boulevard/Rt. 50
• I-395

Routes to get around project area:
• Carlin Springs Road and Rt. 7
• George Mason Drive
Transit

Bus routes affected:
- ART 41, 45, 75
- Metrobus 16A,C,E,H,G,Y

Impacts:
- Bus service detours and bus stop relocations are anticipated during year-long construction period
- Bus stop terminal for ART and Metrobus on S. Dinwiddie Street will be impacted at various points during construction

Mitigations:
- Transit Bureau and Metrobus have developed plans, with goal of keeping passengers moving during construction
- Coordinating with DES and Metro’s communication teams to provide detour information to passengers
- ART service will be monitored to ensure timely service can be provided
Outreach and Notifications

• Electronic message signs on site
• Traffic alert to media
• Messages to stakeholders - Civic Associations, CPRO
• Columbia Pike and Countywide email updates
• Social media - Twitter, Nextdoor
• Asking partners to share notice:
  – Arlington Transportation Partners (outreach to multifamily buildings, major employers)
  – Fairfax County DOT
  – VDOT NOVA
• Open house at Arlington Mill Community Center (January)
Construction Cost

• The Fort Myer contract will need to be increased by $5.5M (from $17.5M to $23M) due to:
  – Additional volume and complexity of work resulting from duct bank redesign
  – Additional work crews and extended construction hours
  – More complex maintenance of traffic

• Much of this additional cost was unavoidable
  – If we had known of utility bank conflict at the beginning, construction bids would have been higher to account for increased volume and complexity of this work

• Funding source for contract increase:
  – $1.3M = Balances remaining from completed Columbia Pike segments and other work on west end segment
  – $4.2M = Funding from Columbia Pike segment D (part of South Garfield Street to South Quinn Street project)*

* Should not impact segment D's schedule, which is being updated based on design and right of way acquisition schedules as part of the current CIP process

Columbia Pike Streets Program funding = $114.5M (FY19-28 CIP)
Lessons Learned for Future Segments

• We have been following industry-standard procedures for identifying utilities

• Given what we now know, we will go above and beyond for future segments by:
  – Enhancing quality control procedures during design
  – Digging additional test holes
  – Applying new technologies (i.e. ground penetrating radar)

• These steps will help minimize construction risks on future Columbia Pike segments, but will not eliminate underground risks