



Richmond Highway Bus Rapid Transit Executive Committee Meeting #4

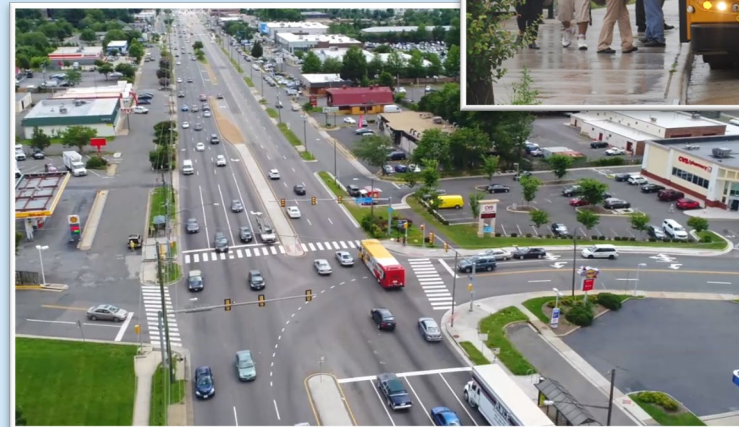
November 28, 2018





Agenda

- Project Updates
 - Environmental (NEPA)
 - Public Outreach
 - Branding
 - Fort Belvoir Station Location
 - Express Bus to Fort Belvoir
 - Weekend Traffic
 - Maintenance Facilities
- Capital Cost and Schedule
- Q/A Session





PROJECT UPDATES



Richmond Highway Bus Rapid Transit



Environmental (NEPA) Status

The National Environmental Policy Act (NEPA) requires that we consider how the project will affect the community and the environment before we make decisions.

Activities To Date Include:

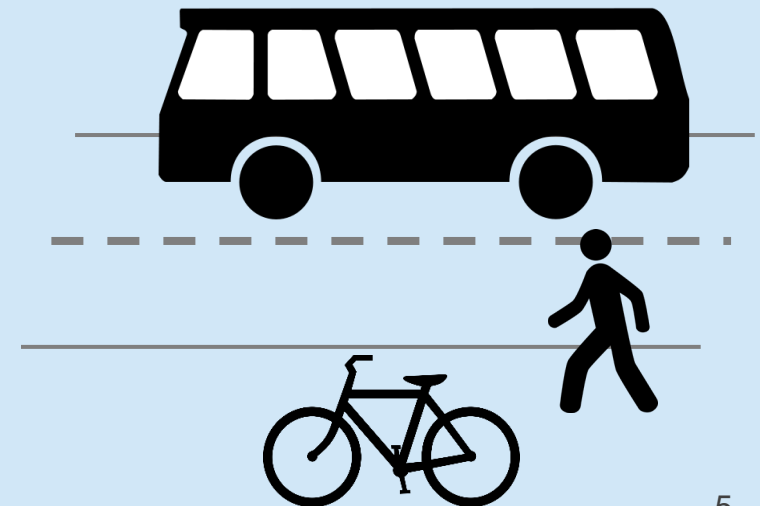
- Federal Transit Administration concurred with Purpose and Need Statement
- Existing conditions analysis for most disciplines complete, including natural resources fieldwork
- Historic architecture identification underway





Environmental Coordination Activities

- BRT FTA Categorical Exclusion (CE) scheduled for Spring 2019
- VDOT Route 1 Widening Project
 - Environmental Assessment underway
 - Hearing on Finding of No Significant Impact held October 29, 2018
- Ft. Belvoir Record of Environmental Consideration (REC)
 - Intended as attachment to BRT CE
 - Scheduled to be complete Spring 2019
- Woodlawn coordination underway





Public Outreach

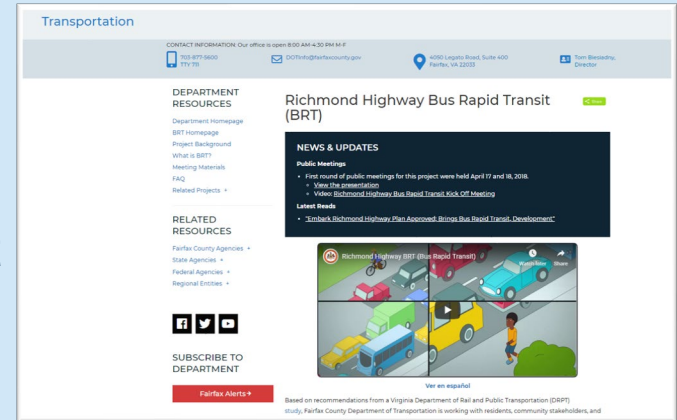
- Community meetings
 - April 17 and 18, 2018
- Various engagement along the corridor:
 - Gum Springs Community Day
 - Sacramento Community Day
 - Mt Vernon Pyramid Back-to-School Fair
 - Sherwood Library Farmers Market
 - Huntington Metro Farmers Market
 - County Architectural Review Board (ARB) and Trails & Sidewalk Committee, and VDOT meetings





Public Outreach

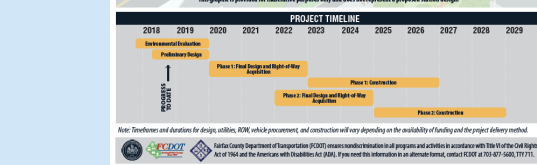
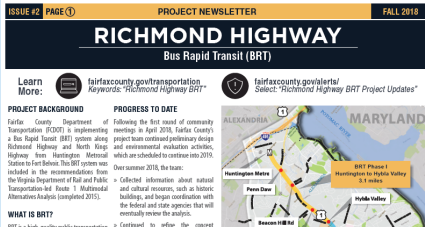
- Refined the Public and Stakeholder Outreach Plan
- Updated the new website with news and project information, including an informational video
- Created graphics and interactive tools to help the community understand the project
- Developed and distributed project information in newsletters in English & Spanish
- Next project public meeting:
January 23, 2019





Public Outreach

- Updated Newsletter - #2, with station infographic



RICHMOND HIGHWAY

Bus Rapid Transit (BRT)

While the Richmond Highway BRT system has not yet been designed, key elements of BRT systems will likely include those shown on the graphic below.

- 1 Exclusive BRT transitway
- 2 Articulated BRT buses
- 3 Real-time bus tracking
- 4 Off-board fare collection
- 5 Near-level boarding platforms
- 6 High visibility crosswalks
- 7 ADA accessible boarding
- 8 Enhanced bicycling and walking connections

This graphic is provided for illustrative purposes only and does not represent a proposed station design.



Branding

- Development of the Richmond Highway Corridor Video
 - Translation into Spanish and Korean
- **BRANDING DEVELOPMENT TEAM**
 - Leading the development of the BRT Brand
 - Made up of representatives from the community, some CAG members
 - Kickoff Meeting held on 10/18
 - Overview of Development of the Brand for the BRT
 - Workshops throughout the following year, approximately every other month, beginning in November
 - Coordination with the CAG and Executive Committee

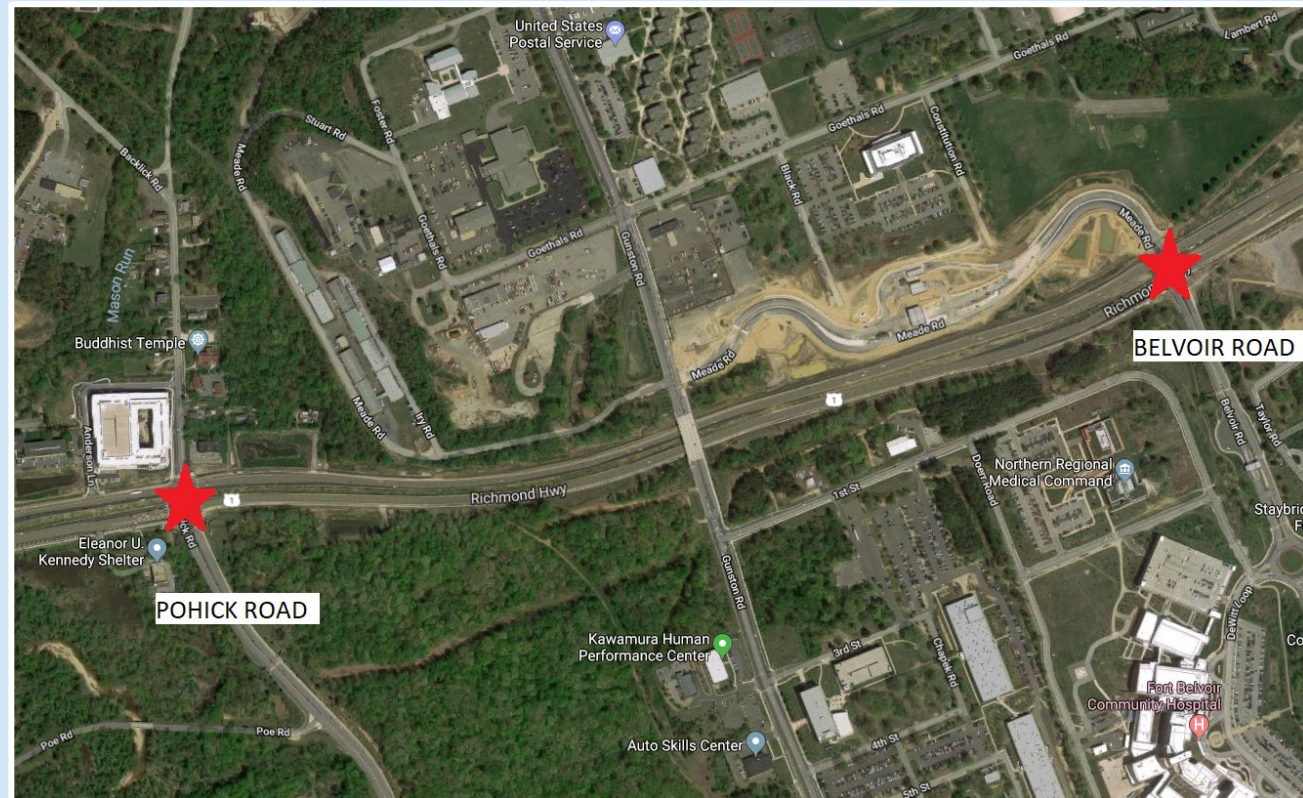




Fort Belvoir Station Location

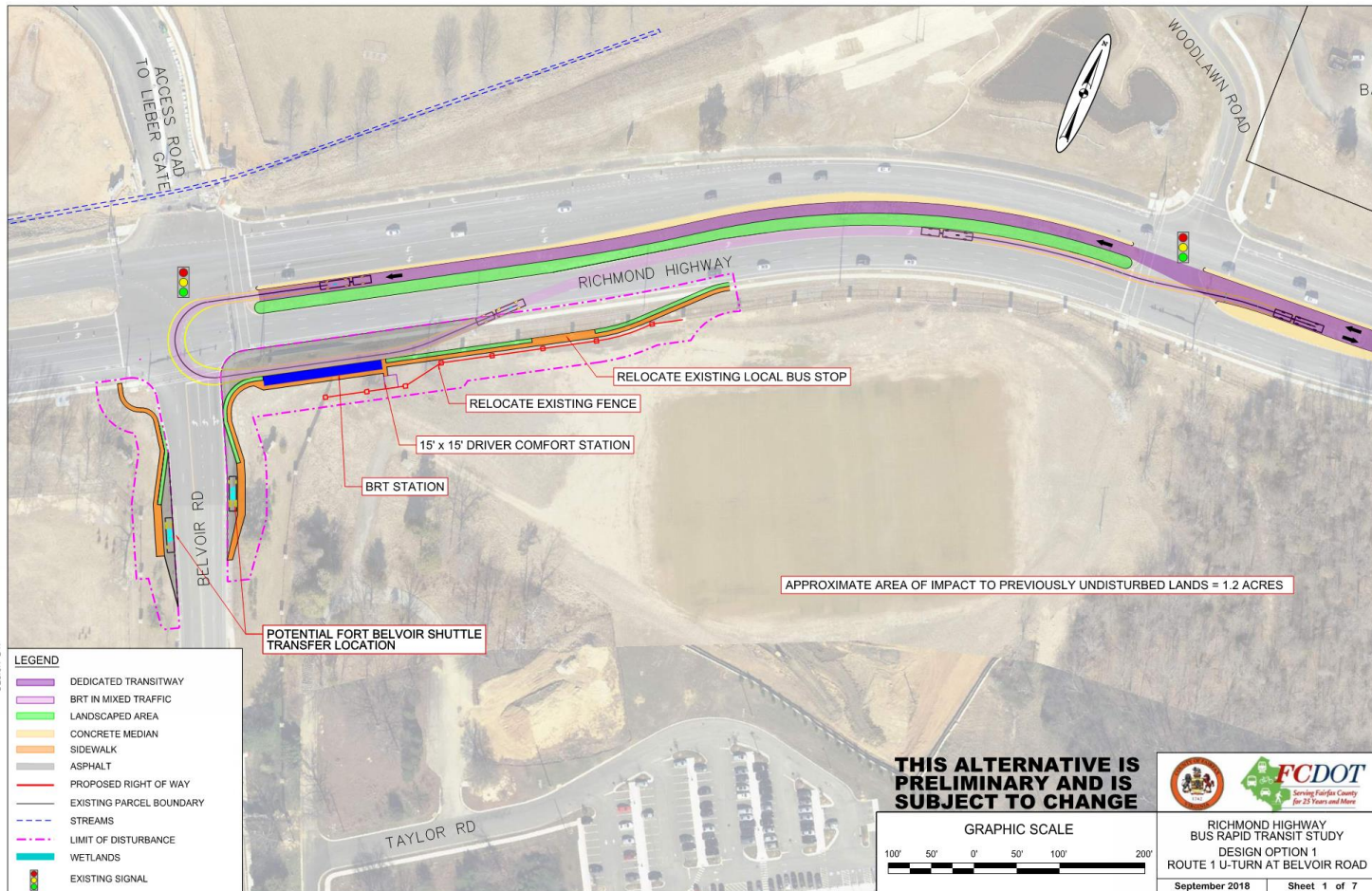
Narrowed down to two locations:

- Belvoir Road
 - 3 Options
- Pohick Road
 - 2 Options



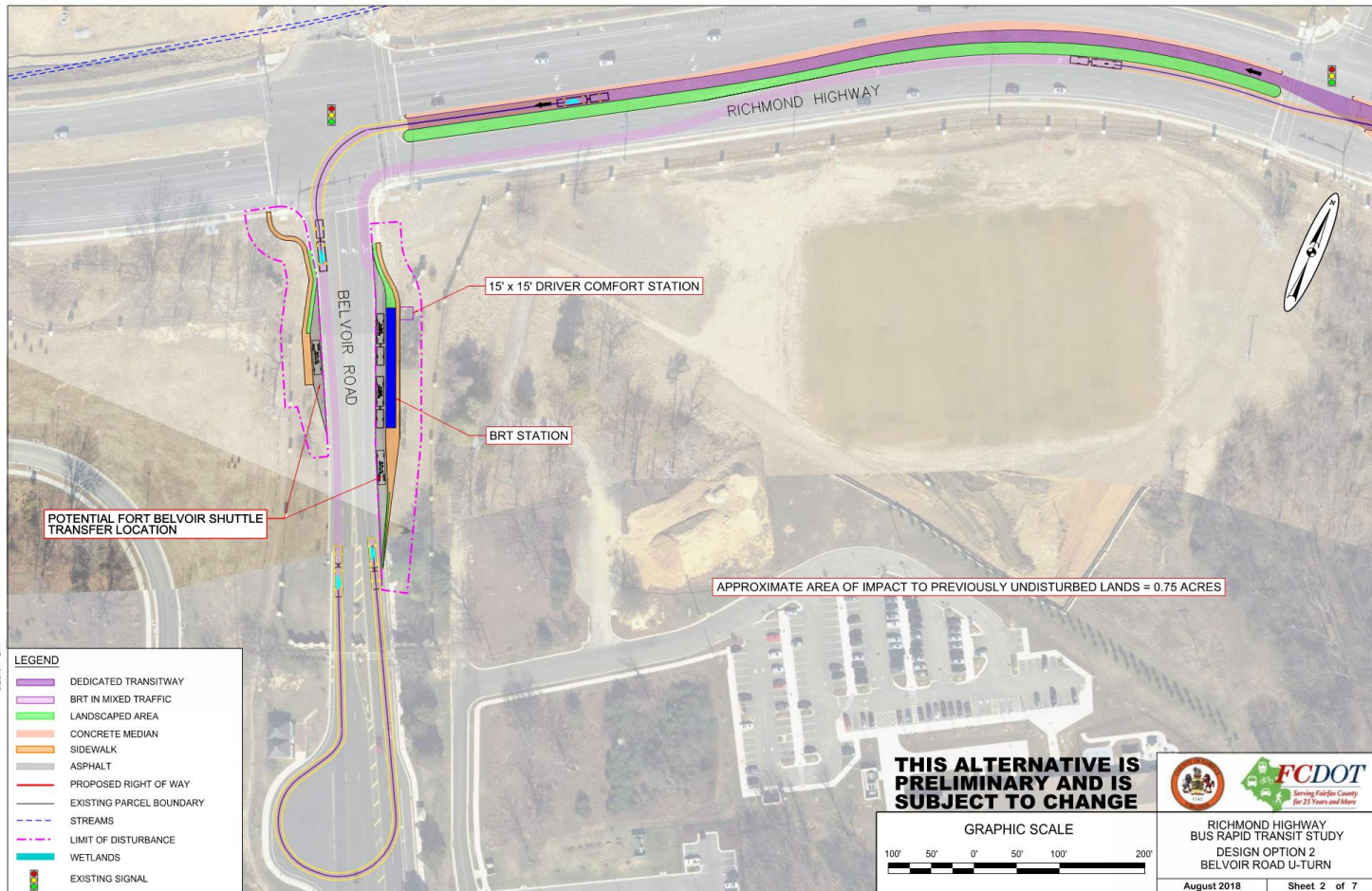


Option 1 - Belvoir Road U-Turn at RH (Preferred by Fort Belvoir)



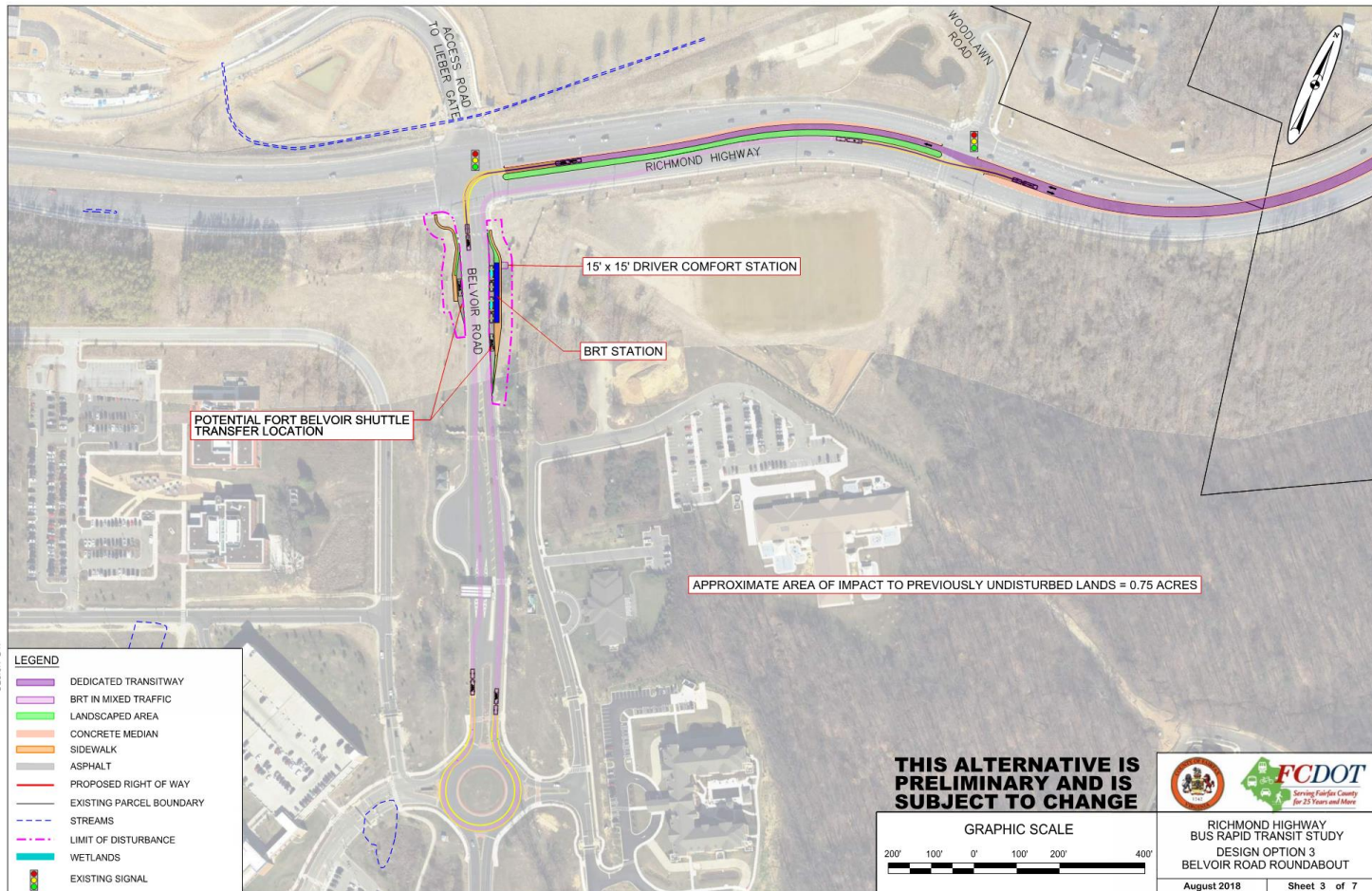


Option 2 - Belvoir Road U-Turn



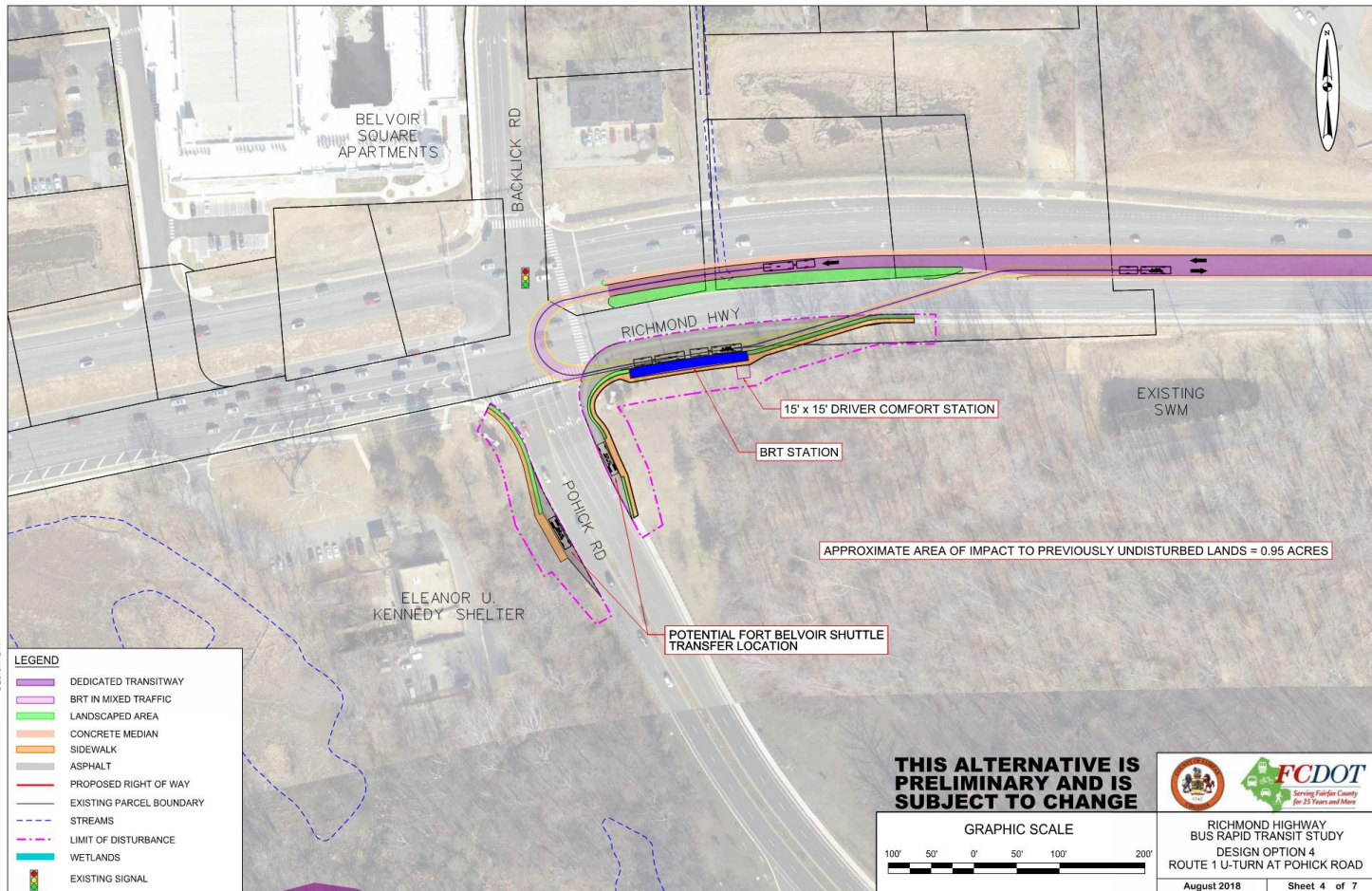


Option 3 - Belvoir Road Roundabout



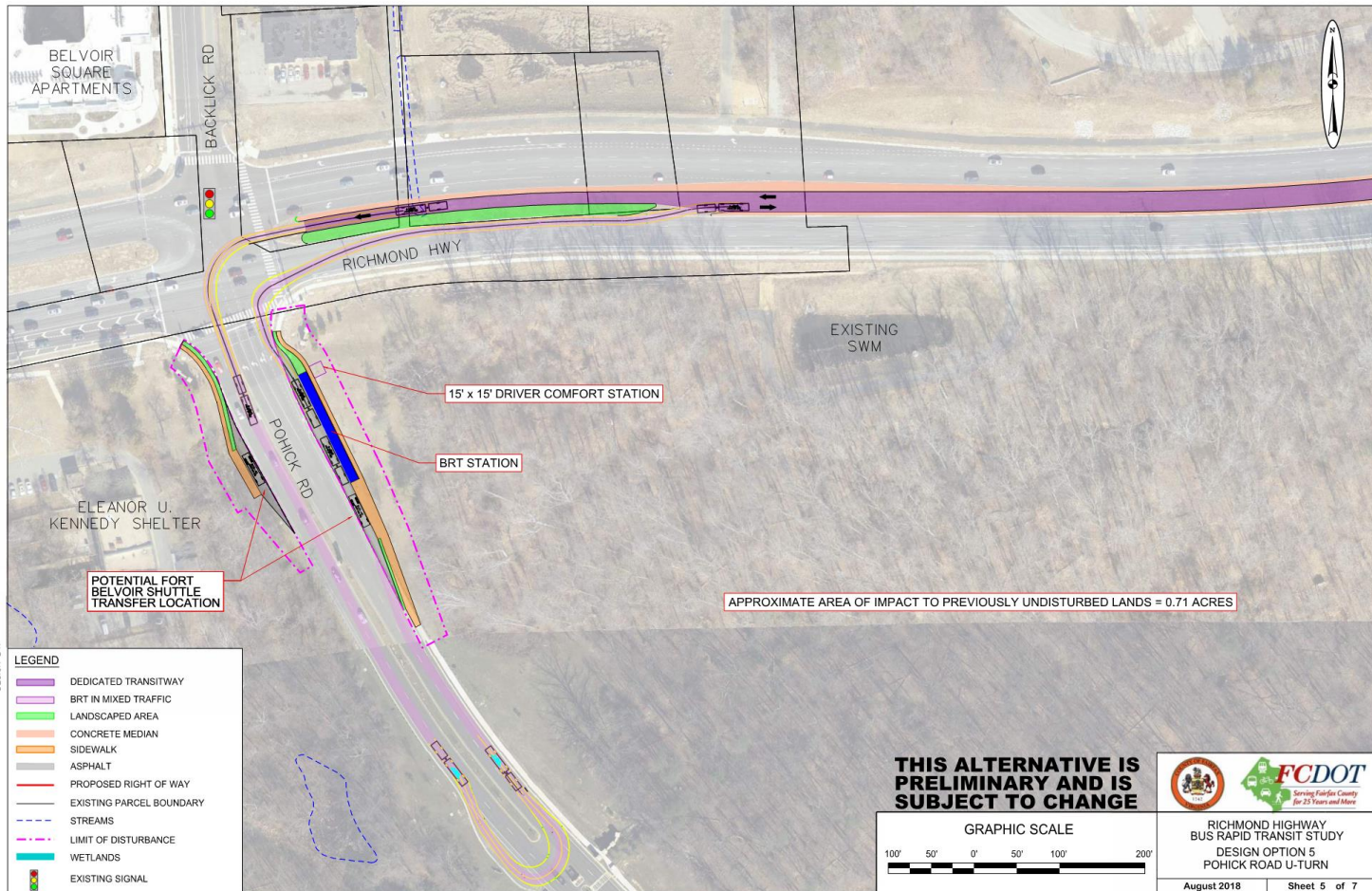


Option 4 - Pohick Road U-Turn at RH



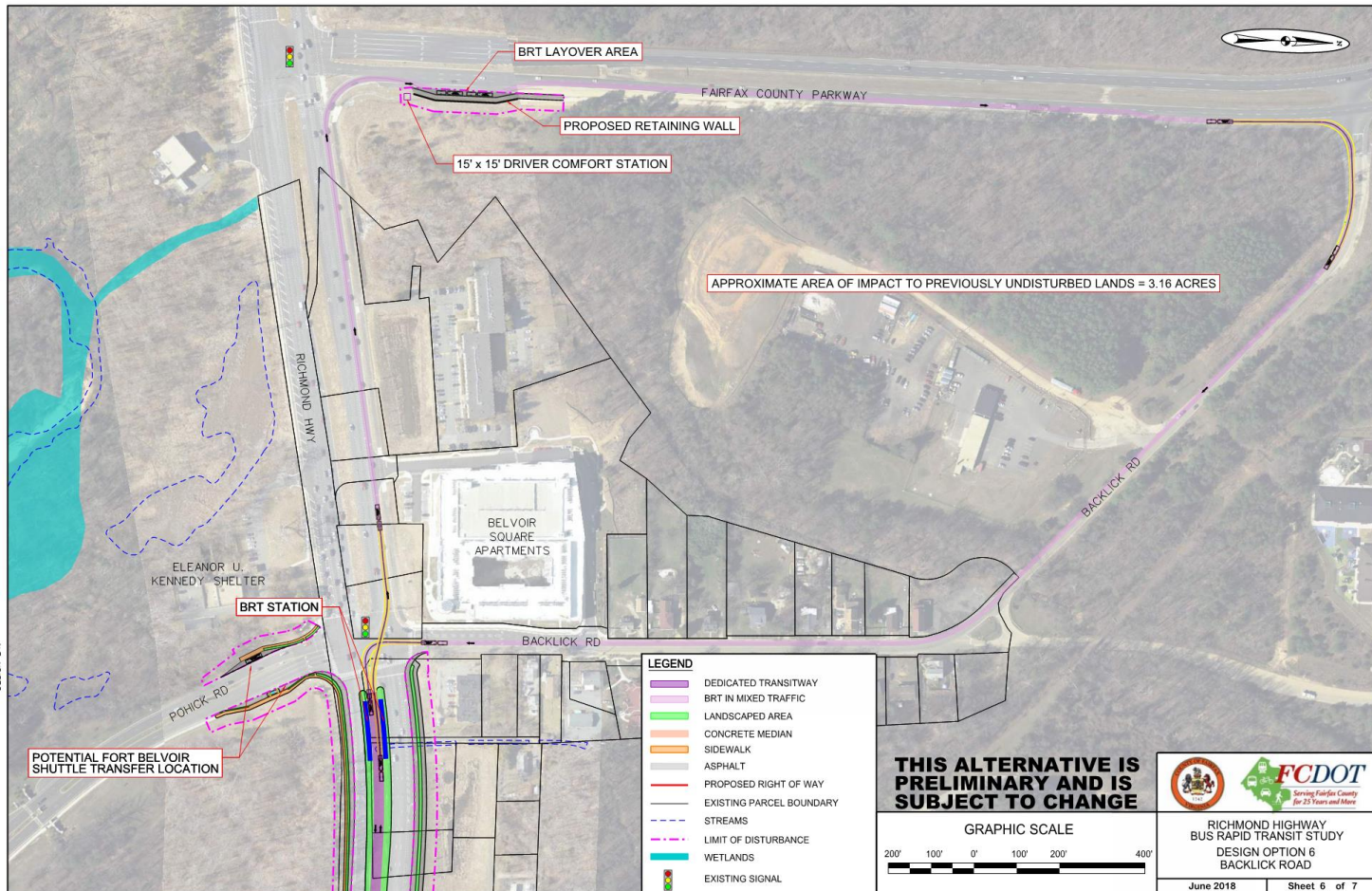


Option 5 - Pohick Road U-Turn





Option 6 - Backlick Road





Fort Belvoir Station Location

Evaluation Criterion	Option					
	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
	Route 1 U-Turn at Belvoir Road	Belvoir Road U-Turn	Belvoir Road Roundabout	Route 1 U-Turn at Pohick Road	Pohick Road U-Turn	Backlick Road Loop
Transit operational efficiency (BRT)	●	◐	◑	●	◐	○
Proximity to rider destinations	●	●	●	◑	◑	◑
Traffic operational considerations (Vehicular)	◑	◐	◑	◑	◐	◐
Station location accommodates Phase 3	○	○	○	○	○	●
Impact to Fort property	◑	◑	◑	◑	◑	◑
Fort gate access and security	●	◑	○	●	◐	●
Cost considerations	◑	●	●	◑	●	○
Total Score¹	21	18	15	18	14	12

¹Scores between 0 and 4 assigned for each criterion. Maximum total score is 24.

Key:

4pts
 3pts
 2pts
 1pts
 0pts



Fort Belvoir Station - Location Considerations

	Belvoir Road	Pohick Road
Number of BRT Vehicles	15	16
Annual O&M Cost	\$6.7M	\$7.5M
Capital Cost ¹	Low	High
Environmental Impacts	LOW ²	Medium

Note:

1. Capital costs are under development, but it is anticipated that a station at Belvoir Road would be cheaper than a station at Pohick Road due to the reduced transitway length.

2. Land near Belvoir Road has previously been disturbed (construction laydown for newly widened Richmond Hwy)

Staff Recommendation: Belvoir Road

Further Considerations to be made

- BRT Team will continue to refine station layout
- Will continue to coordinate with Fort Belvoir on details
- Will also need review and coordination with VDOT



Express Bus to Fort Belvoir

- Further research on express bus service completed
- Key findings:
 - 24 U.S. BRT projects evaluated (in operation); two precedents identified in Los Angeles and Hartford, CT
 - Note: Two projects that allow for passing are not exact to what RH BRT is envisioned and allow for HOV
 - For safe operation, express service requires a passing lane at stations; could be located at stations
 - Passing lane would increase footprint, cost and impacts
 - Not justified based on initial ridership results, core ridership within CBC areas of corridor



Express Bus to Fort Belvoir

PROS

- More direct and faster service to major employer in corridor
- Reduces bunching of buses when frequencies are great

CONS

- Significantly increases cost due to additional right-of-way needs
- Greater impacts to properties from which right-of-way would be acquired
- Potential impacts to sensitive resources
- Increased wait times (reduction in service) for all passengers by splitting service
- Increased pedestrian crossing distances
- Would cause a delay to the current VDOT Richmond Highway Widening project (update NEPA, cost, design, etc.)
- Would impact RH BRT schedule



Precedents for Express BRT Service

El Monte Busway, Los Angeles CA

- 11-mile shared-use busway and high-occupancy toll roadway that runs in the median; two lanes in each direction
- Transitway used primarily by the Metro Silver Line; LA DOT Commuter Express #448 is the only service that skips stations along the busway and operates as a closed-door express service
- Intermediate stations are located in the median of the busway, with pull-off lanes from the through lanes



Precedents for Express BRT Service

El Monte Busway, Los Angeles, CA





Precedents for Express BRT Service CTfastrak, Hartford-New Britain, CT

- CTfastrak in the Hartford-New Britain corridor in Connecticut is a 9.4-mile bus-only roadway with ten stations
- CTfastrak busways is two lanes, one in each direction, with bus pull-outs at eight stations
- Multiple service options
 - Regular
 - Limited local stop service
 - Express service skipping eight of the 10 stations
- Pull-outs allow passenger drop-offs & pickups without delaying express buses



Precedents for Express BRT Service CTfastrak, Hartford-New Britain, CT





Weekend Traffic Analysis

- Data collected on Saturday, May 12, 2018 from 12 PM to 4 PM
- Types of data:
 - Turning movement counts at 15 intersections
 - Travel time measurements along Richmond Highway and N Kings Highway
 - Maximum queue lengths at seven intersections
- Weekend traffic data was compared to weekday peak period traffic data



Weekend Traffic vs. Weekday Traffic

- Weekend traffic volumes along mainline generally higher than weekday AM peak but lower than PM peak
- Traffic volumes along side streets generally higher than weekday AM and PM peaks
- Lower overall intersection volume at most locations than weekday PM peak
- Higher overall intersection volume at most locations than weekday AM peak
- Approaches with higher weekend volumes were generally at shopping centers
- Weekend travel times slightly longer in the northern part of the corridor due to commercial activity
- No major difference between weekend and weekday travel times in the southern part of the corridor

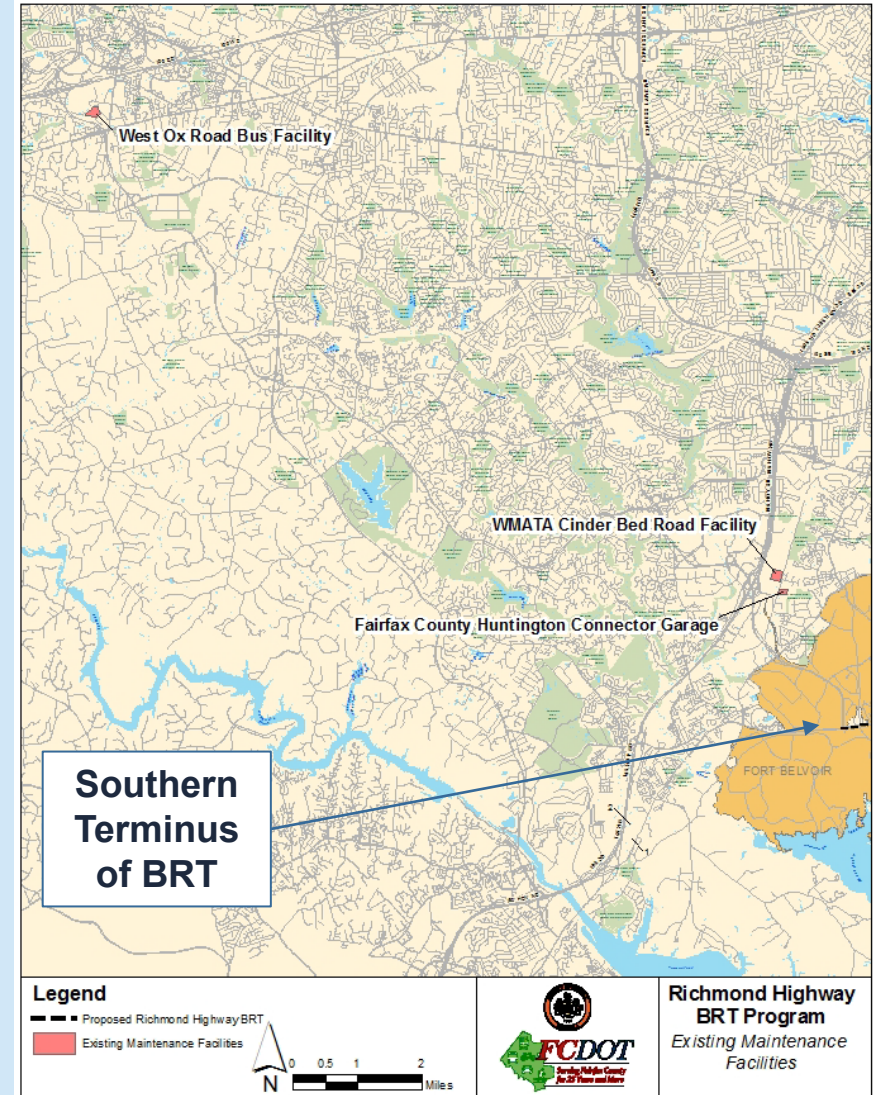
Weekend travel outside of congested commercial portions of the corridor generally free-flow with minimal stops and/or stop delay



Maintenance Facilities

Existing Facilities:

- WMATA Cinder Bed Road
- Huntington Connector Garage
- West Ox Facility





Maintenance Facilities

Preferred Option is WMATA Cinder Bed Road Facility:

- Facility already designed for 60' buses
- Sufficient existing parking capacity
- Will need administrative and operations spaces
- County will need WMATA approval to use this facility





Capital Cost and Schedule



Richmond Highway Bus Rapid Transit



Capital Cost Estimate - Planning Level Estimate

DRPT Estimate		BRT Current Estimate	
Engineering	\$72.7	Engineering	\$51.2
Utilities	\$75.8	Utilities	\$104.5
Right of Way	\$83.8	Right of Way	\$150.3
Construction	\$469	Construction	\$378
Vehicles	\$31	Vehicles	\$46.2
Total	\$529M (2014 Dollars)	Total	\$577M (2018 Dollars)
Escalated Estimate	\$732M (2025 Dollars)	Escalated Estimate	\$730M (2025 Dollars)

- Initial estimates are different due to estimate being completed in different years with slightly different assumptions
- Estimates are consistent when escalated to mid-point of construction (2025)
- Estimates are still subject to change and refinement as more engineering/design is completed



Milestone Schedule

Activity	Date
NEPA Analysis, 20% Design and Document Preparation	November 2017 – Spring 2019
NEPA Approval	Summer 2019
Development of 30% Design	Summer 2019 – Spring 2020
Initiate FTA New Starts Process	Summer 2019
Solicit Design Build-Contract	Summer 2021 – Summer 2022
Receipt of Full Funding Grant Agreement	Spring 2022
Phase 1 Construction	Spring 2023 – Fall 2025
Phase 1 Open to Service	Spring 2026



Upcoming 2019 Public Information Meeting

Staff Recommended Topics:

- Environmental process
 - Findings to date; existing conditions
- Conceptual Design -- what does the BRT alignment look like on the road
- Schedule
- Cost
- Traffic – weekend volumes; other findings
- Branding



Q/A Session



Richmond Highway Bus Rapid Transit



Back Up Slides





Federal Funding

- Preliminary project financial plan assumes 45% federal funding
- Funding potentially available from FTA's Capital Investment Grant (formerly "New Starts") program
- Multi-step competitive process; projects are rated on:
 - **Project Justification** (e.g., Mobility, Congestion Relief, Cost Effectiveness, Land Use)
 - **Local Financial Commitment** (e.g., Financial Condition of Grantee, Commitment of non-FTA funds)
- Challenging political environment
- FTA coordination initiated January 2018

