

# ROUTE 7 OVERVIEW

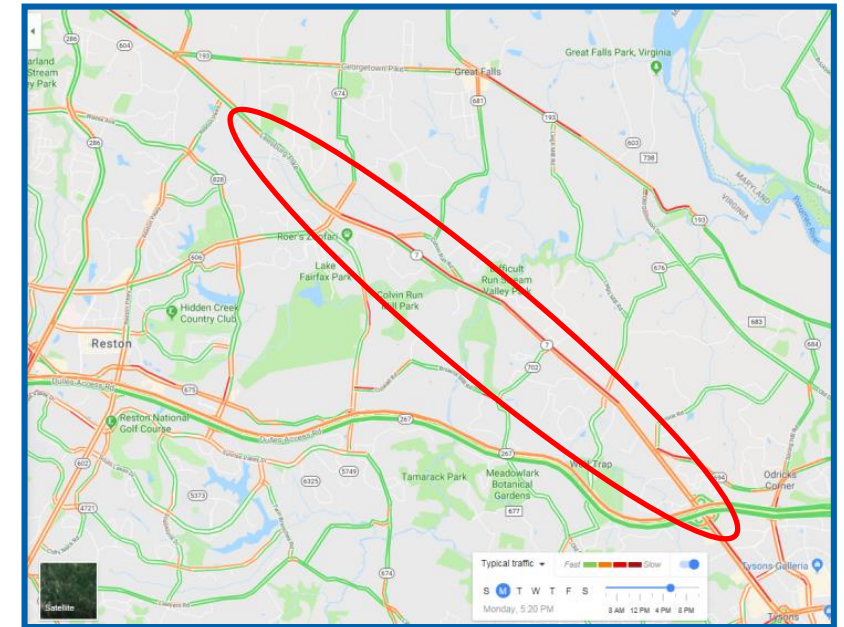
Commonwealth Transportation Board

 Commissioner Stephen C. Brich, P.E.

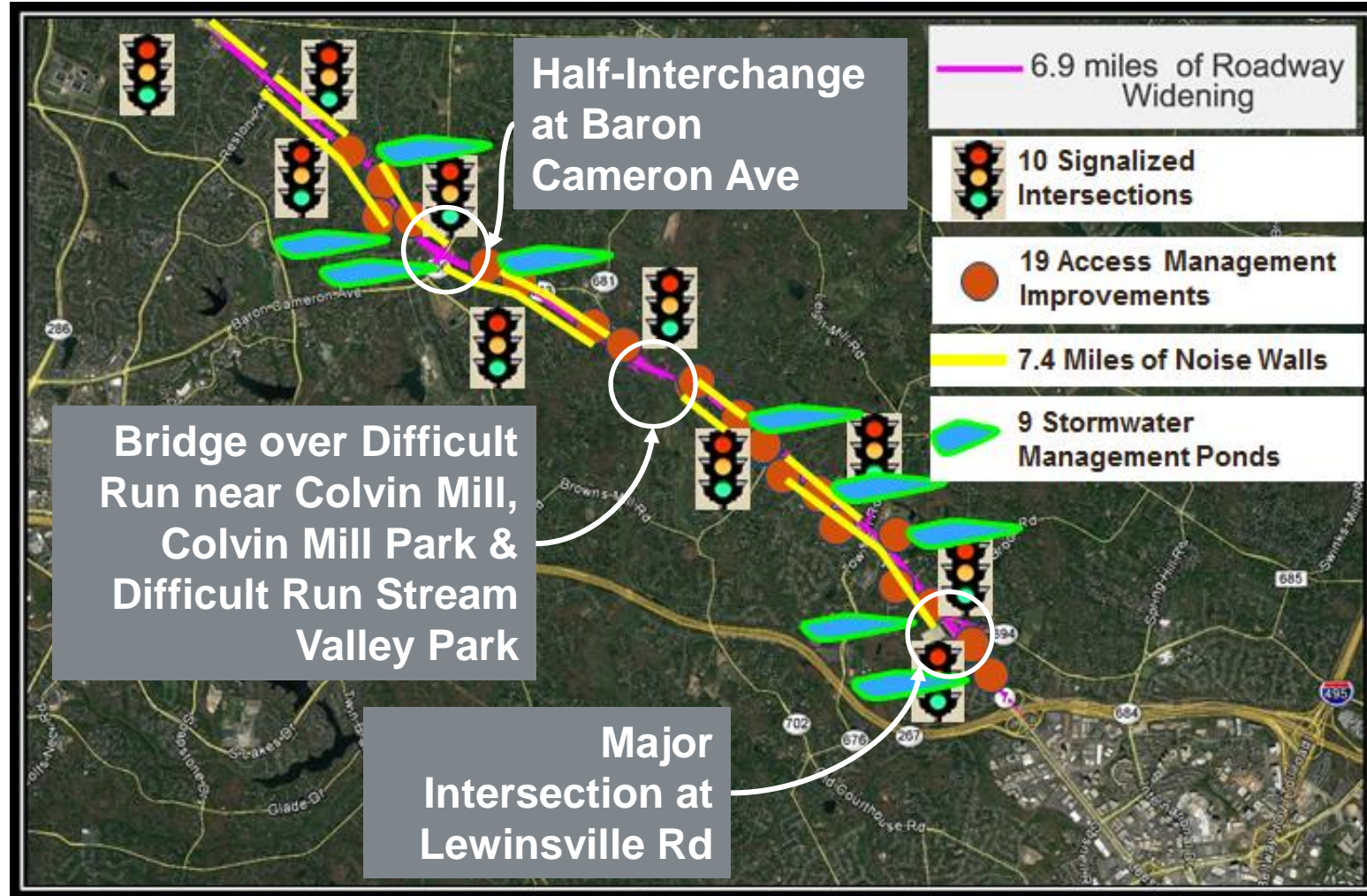
Sept. 17, 2018

# Route 7 Overview

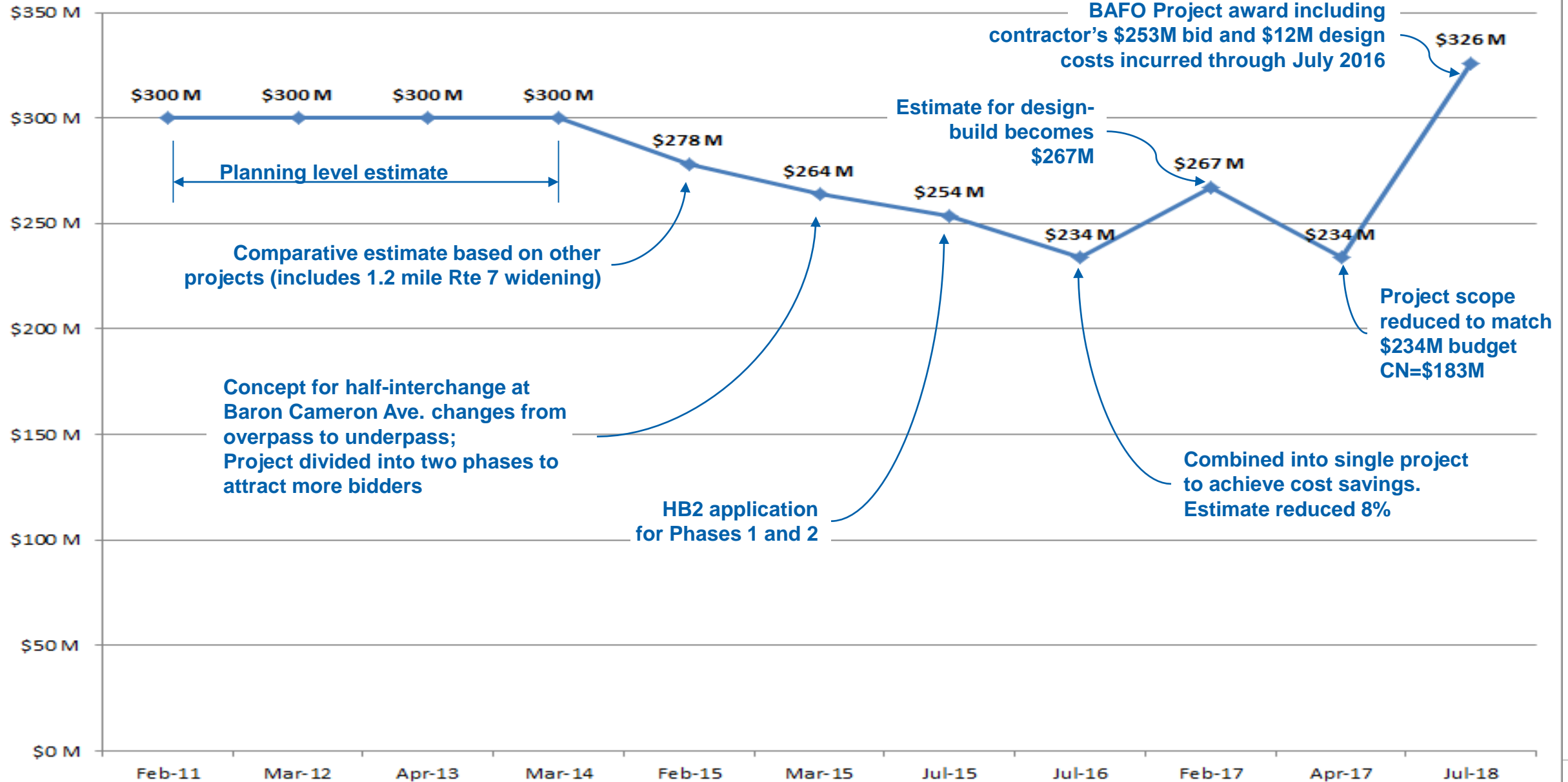
- **Major transportation arterial for commuter and commercial traffic from Alexandria-Leesburg-Winchester**
  - Serves local residents and commuters traveling to the DC Metro area
  - Project limits: 6.9 miles of Route 7 between Leesburg & the Capital Beltway (I-495)
  - Current ADT is 55,000; heavily congested at peak hours
  - Urban residential area
  - Sensitive historical and environmental area at Colvin Mill and Difficult Run
  - Major utility corridor



# Route 7 Corridor Improvements: A Closer Look



# Route 7 Corridor Improvements Estimate History



# Route 7 Corridor Improvements

- **Project Development**

- **February - April 2017**

- Reduced scope (SWM ponds, bridge length, width of median, buffers, and shared-use paths); adjusted contingencies to keep estimate within \$233.8M budget.

- **May - July 2017**

- CTB briefed on Risk Assessment in May; significant risk categories cited:

- Utilities
- Noise Barriers
- Geotechnical
- USACOE
- Washington Gas

- The Finding of Public Interest for design-build with high risk approved by VDOT in July

- **RFQ released in Aug. 2017; RFP in Nov. 2017, with estimated CN of \$183M.**

- **BAFO Summer 2018 – CN of \$253M**

# Route 7 Corridor Improvements

- Major line items and price differences

| Item                | BAFO Price   | VDOT         | Difference   |
|---------------------|--------------|--------------|--------------|
| Design Services     | \$22,965,000 | \$7,632,000  | \$15,333,000 |
| Design-Build QA/QC  | \$14,800,000 | \$7,632,000  | \$7,168,000  |
| Utility Relocations | \$33,295,000 | \$11,493,000 | \$21,802,000 |

| Item         | BAFO Price   | VDOT         | Difference   |
|--------------|--------------|--------------|--------------|
| Mobilization | \$16,710,000 | \$9,097,206  | \$7,612,794  |
| Sound Walls  | \$25,875,330 | \$17,149,843 | \$8,725,487  |
| MOT          | \$19,484,944 | \$5,839,738  | \$13,645,206 |

# Route 7 Corridor Improvements

- **VDOT's estimate did not predict the market response**
- **Design-build project's size and time constraints likely affected the contractor's pricing. Compared to other design-build projects in NOVA:**
  - Project duration was 6 years – other projects took approximately 3 years
  - Project length was nearly 7 miles – other projects have averaged 3 - 4 miles
  - 20 utility companies involved – previous maximum was 12, and average was 8
  - 230 properties affected – previous maximum was 64, and average was 30
- **Other contributing factors**
  - Labor availability
  - Market saturation
  - Uncertainty on materials

# SMART SCALE has changed how we do business.

- **Normal project development**
  - As design progresses – more information available
  - Scope, schedule, and budget likely to change
- **SMART SCALE changed process**
  - **Scope**
  - **Schedule**
  - **Estimates**
    - All set with limited design
  - **Estimates become budget**
- **How is VDOT controlling for this change?**



# Round 1 and 2 Projects – Lessons Learned

- **Location Studies not completed prior to application or funding**
  - **Strengthened NEPA application readiness requirements**
- **Underestimated Scopes of Work and Budgets**
  - **During validation:**
    - District confirms project description
    - Features and estimate are in agreement
    - Understanding of scope is confirmed with applicant
- **Increased Property Values**
  - **Right of Way estimates being adjusted based on market conditions**

# Round 1 and 2 Projects – Lessons Learned, cont'd

- **Underestimated or Increased Right of Way Impacts**
  - Confirmation of a well defined scope during validation
  - Early identification of potential utility relocations
- **Phased projects from Round 1 and Round 2 have been combined – resulted in increased construction costs**
  - Projects approved in previous rounds should not be delayed to coincide with schedules of projects approved in later rounds

# New Validation Policies for Round 3

- **Ensure District and Central Office Subject Matter Experts are engaged during validation**
- **Use risk checklist during validation**
- **Additional Central Office L&D Estimate Validation**
  - **Application requests of greater \$50M in SMART SCALE funds**
    - Estimate reviewed & certified by State L&D Engineer (~ 30 Applications)
  - **Thorough review of Preliminary Engineering, Right of Way and Construction estimates of all projects that have a Construction Estimate greater than \$10M (Tier 2) and have one or more of the following risks:**
    - Environmental
    - Right of Way
    - Design and Construction

# Risk Items Considered in Round 3 Validation

- **Environmental Risks:**
  - Historical or park properties
  - Wetland or stream impacts
  - Threatened and Endangered(T&E) species
  - Hazardous materials
  - Soundwalls
  - Time of year restrictions
- **Right of Way Risks:**
  - Relocations or total takes
  - Coordination of utility relocations and betterments
  - Coordination with railroads

# Risk Items Considered in Round 3 Validation

- **Design and Construction Risks:**
  - **Complex maintenance of traffic requirements**
  - **Coordination with other agency stakeholders (Military, Transit, etc)**
  - **Large quantities of earthwork or rock excavation**
  - **Inability to treat stormwater onsite**
  - **Active Traffic Management (ATM) or ITS Components**
  - **Regional construction industry workload**
  - **Delivery method and accelerated schedules**

# At-Risk Project Identification

- **Project schedule and budgets reviewed monthly**
- **Follow Re-evaluation Process if changes are requested**
- **Districts, CO L&D, and IID work together to identify at-risk projects. Of those identified, some:**
  - **Are recoverable (still at an early stage of development)**
  - **Have increases covered by the applicant**
  - **Will require CTB action to cover increase or drop project**
- **VDOT Executive Team review of at-risk projects**
- **Quarterly briefing to CTB (Oct. 2018)**

