VIRGINIA TRANSPORTATION CONSTRUCTION ALLIANCE
VTCA-VDOT Consultant Forum

VDOT Commissioner Stephen Brich, P.E.
Topics

1. Consultant Rates
2. Execution of Program
3. Local Assistance and Delivery
4. Design Build vs Design Bid Build
5. I-81 Improvements
Consultant Rates

- Focus group (ACEC/VDOT/VTCA)
  - Three meetings

- VDOT is in the process of reviewing feedback on loaded rates

- Discussion will continue

- Fair and reasonable
Execution of Program

- All accountable for flawless execution of program
- Locally Administered Program represents majority of the program
- Significant local contribution for transportation projects
- SYIP FY 2020 – 2025

$18.3 billion
3,800 projects
$6.9 billion from others
Local Program Size – Looking Forward
Projects Planned for Award FY2020 – FY2025 (Dashboard)

LAP Percentage of CN Projects
1,595 TOTAL Projects

- VDOT: 44%
- LAPs: 56%

LAP Percentage of CN $$$
$7.25 Billion

- VDOT: 60%
- LAPs: 40%
Locally Administered Projects Performance for FY19

**DEVELOPMENT**

Development typically refers to the planning, design, and procurement necessary for a project.

- **ON-TIME**
  - 65%
  - 163 of 248 On-Time (Green + Yellow)

- **ON-BUDGET**
  - 70%
  - 167 of 248 On-Budget (Green)

**DELIVERY**

Delivery typically refers to the construction of a project, or delivery of products or services to finish the project.

- **ON-TIME**
  - 57%
  - 38 of 66 On-Time (Green + Yellow)

- **ON-BUDGET**
  - 85%
  - 56 of 66 On-Budget (Green)
Locally Administered Projects Performance for FY20

**DEVELOPMENT**

Development typically refers to the planning, design, and procurement necessary for a project.

- **ON-TIME**
  - 65%
  - 164 of 250 On-Time (Green + Yellow)
  - 0 %
  - 100 %

- **ON-BUDGET**
  - 76%
  - 190 of 250 On-Budget (Green)
  - 0 %
  - 100 %

**DELIVERY**

Delivery typically refers to the construction of a project, or delivery of products or services to finish the project.

- **ON-TIME**
  - 91%
  - 79 of 86 On-Time (Green + Yellow)
  - 0 %
  - 100 %

- **ON-BUDGET**
  - 95%
  - 82 of 86 On-Budget (Green)
  - 0 %
  - 100 %
Locally Administered Projects

- **Consultants are key**
  - Design, environmental, contract requirements
  - Uniform Relocation Assistance
  - Real Property Acquisition Act
  - On time, on budget
Design Build vs. Design Bid Build

- **DB vs. DBB**
  - Ongoing discussion
  - Creating a balanced approach
  - Choose the right tool for right project
    - Traditional DB, Progressive DB, DBB
    - Low bid vs Best Value vs Fixed Price
    - Various size projects

- **Market Conditions**
I-81 Improvement Plan and Legislation

- Identified $2 billion in capital improvements
- Four issues recommended for further study
  - Multimodal transportation options
  - Operational and technology improvements
  - Speed enforcement
  - Truck parking
- 2019 Legislation
  - Provides $160 million in annual funding
  - Ensures the $2 billion program is carried out
- Solutions are already being implemented
## Commonwealth Transportation Fund: 
Revenue Distribution FY 2020-25

<table>
<thead>
<tr>
<th>(in millions)</th>
<th>FY20</th>
<th>FY21</th>
<th>FY22</th>
<th>FY23</th>
<th>FY24</th>
<th>FY25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interstate 81 Corridor Improvement Fund</td>
<td>$103.5</td>
<td>$132.0</td>
<td>$162.1</td>
<td>$163.4</td>
<td>$161.9</td>
<td>$163.4</td>
</tr>
<tr>
<td>Interstate 95 Corridor</td>
<td>19.3</td>
<td>28.4</td>
<td>40.1</td>
<td>40.7</td>
<td>40.1</td>
<td>40.4</td>
</tr>
<tr>
<td>Interstate 64 Corridor</td>
<td>13.1</td>
<td>19.2</td>
<td>27.1</td>
<td>27.5</td>
<td>27.1</td>
<td>27.4</td>
</tr>
<tr>
<td>NVTA Fund</td>
<td>9.4</td>
<td>13.8</td>
<td>19.5</td>
<td>19.7</td>
<td>19.4</td>
<td>19.6</td>
</tr>
<tr>
<td>Interstate Improvements</td>
<td>21.5</td>
<td>31.7</td>
<td>44.8</td>
<td>45.4</td>
<td>44.7</td>
<td>45.1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$166.8</strong></td>
<td><strong>$225.0</strong></td>
<td><strong>$293.5</strong></td>
<td><strong>$296.7</strong></td>
<td><strong>$293.2</strong></td>
<td><strong>$296.0</strong></td>
</tr>
</tbody>
</table>
Chief Engineer: Mission & Priorities

Plan, deliver, operate and maintain a transportation system that is safe, enables easy movement of people and goods, enhances the economy and improves our quality of life.

Our mission remains the same.
**Recent Organizational Changes**

**Chief of Maintenance and Operations**
Reporting to Chief Deputy Commissioner

- Maintenance
- Operations and Emergency Management
- Land Use
- Asset Management
- Traffic Engineering

**Chief Engineer**
Reporting to Commissioner

- Construction
  - Location and Design
    - Materials
    - Structure and Bridge
  - Alternative Project Delivery
  - Transportation and Mobility Planning

- **Districts**
  - Reporting to Chief Deputy Commissioner
Chief Engineer: Moving Forward

• Program Development
  • Executing the projects in the SYIP

• Project Delivery
  • Delivery of Construction Program
Executing the Six-Year Improvement (SYIP) Program

FY 2020-2025 Six-Year Improvement Program breakdown:

- $18.3 billion – Highway Construction (VDOT):
- $4.6 billion – Rail and Public Transportation (DRPT)
- $22.9 billion - Total VDOT and DRPT SYIP

Third Round of SMART SCALE:

- $859.4 million
- 134 highway and public transportation and transportation demand management projects statewide

3,800 projects in the FY 2020-2025 SYIP
## Contract Advertisements (in Millions)

<table>
<thead>
<tr>
<th>CY</th>
<th>Eng.</th>
<th>DB</th>
<th>DBB</th>
<th>Locality</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>$305</td>
<td>$345</td>
<td>$1,175</td>
<td>$280</td>
<td>$2,105</td>
</tr>
<tr>
<td>2016</td>
<td>$222</td>
<td>$836</td>
<td>$1,341</td>
<td>$321</td>
<td>$2,720</td>
</tr>
<tr>
<td>2017</td>
<td>$242</td>
<td>$506</td>
<td>$1,143</td>
<td>$322</td>
<td>$2,213</td>
</tr>
<tr>
<td>2018</td>
<td>$182</td>
<td>$43</td>
<td>$970</td>
<td>$207</td>
<td>$1,402</td>
</tr>
<tr>
<td>2019</td>
<td>$125</td>
<td>$158</td>
<td>$403</td>
<td>$216</td>
<td>$902*</td>
</tr>
</tbody>
</table>

*as of 9/15/2019
Projects Underway

- **I-66 East Widening, Inside the Beltway**
  - Northern Virginia District: $86M
  - Contractor: The Lane Construction Corporation
- **I-66 Express Lanes, Outside the Beltway**
  - Northern Virginia District: $2.2B
  - Public-private partnership with I-66 Express Mobility Partners through 2066
- **High Rise Bridge**
  - Hampton Roads District: $410M
  - Contractor: Granite-Parsons-Corman
- **I-64 Segment III**
  - Hampton Roads District: $178M
  - Contractor: Shirley Contracting Company
- **Hampton Roads Bridge-Tunnel Expansion Project**
  - $3.6B
  - Completion in late 2025
Cost Estimating

- As part of the VDOT Business Plan, we are working toward improving project cost estimating
- While considered a gold standard of project prioritization processes, SMART SCALE has fundamentally changed how we approach our plan development and delivery

Success is critical: The overall team could be challenged with project overruns, loss of public/partner trust, and reduction of cost/benefit analysis, which could increase risk of project approvals and advances
Cost Estimating

**Action steps:**

- Conducted internal and peer reviews of policies, procedures and recent market trends
- Developed a working group in partnership with our CTB, conducting reviews of process to improve
- Planning for independent reviews/analyses of current methodologies and assessing any new processes or tools

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**People**

- Train the next generation of engineers on new needs and potential risks
- Relationships with partners

**Process**

- Develop uniform estimating packages; standardize additional reviews

**Tools**

- Develop updated training and new manual that assists with estimations
Cost Estimating

Moving forward:

🤝 Look forward to partnership and collaboration throughout process

🤝 Will keep our partners updated on developments and new expectations
Interstate 81 Corridor Improvement Plan
# Interstate 81 Improvement Plan

<table>
<thead>
<tr>
<th>I-81 Corridor Improvement Study completed in 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governor Northam’s amendment funded improvements</td>
</tr>
<tr>
<td>Amendment included:</td>
</tr>
<tr>
<td>• Increased truck registration fees</td>
</tr>
<tr>
<td>• Increased diesel and road taxes</td>
</tr>
<tr>
<td>• 2.1% increase motor fuels tax along 81</td>
</tr>
<tr>
<td>Amendment passed by House and Senate</td>
</tr>
</tbody>
</table>
### $2 billion in I-81 Plan for Capital Improvements

<table>
<thead>
<tr>
<th>District</th>
<th>Widening</th>
<th>Auxiliary Lane</th>
<th>Truck Climbing Lane</th>
<th>Acceleration Lane Extension</th>
<th>Deceleration Lane Extension</th>
<th>Curve Improvement</th>
<th>Shoulder Widening</th>
<th>Total Number of Projects</th>
<th>Total Cost (millions $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bristol District</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>6</td>
<td>10</td>
<td>4</td>
<td>0</td>
<td>27</td>
<td>$285.3</td>
</tr>
<tr>
<td>Salem District</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>14</td>
<td>$875.4</td>
</tr>
<tr>
<td>Staunton District</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>10</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>23</td>
<td>$838.1</td>
</tr>
<tr>
<td><strong>Total I-81 Corridor Number of Improvements</strong></td>
<td><strong>10</strong></td>
<td><strong>4</strong></td>
<td><strong>5</strong></td>
<td><strong>20</strong></td>
<td><strong>16</strong></td>
<td><strong>8</strong></td>
<td><strong>1</strong></td>
<td><strong>64</strong></td>
<td><strong>$1,998.8</strong></td>
</tr>
</tbody>
</table>
Mainline Safety Capital Improvements Underway

Curve Improvements (Static and/or Flashing Chevrons)

<table>
<thead>
<tr>
<th>District</th>
<th>Number of Locations</th>
<th>Planned Installation Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bristol District</td>
<td>4</td>
<td>Fall 2019</td>
</tr>
<tr>
<td>Salem District</td>
<td>3</td>
<td>Fall 2019</td>
</tr>
<tr>
<td>Staunton District</td>
<td>1</td>
<td>Fall 2019</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8</strong></td>
<td></td>
</tr>
</tbody>
</table>
Mainline Capital Improvements Under Design

Acceleration/Deceleration Lane Extensions

<table>
<thead>
<tr>
<th>District</th>
<th>Number of Locations</th>
<th>Project Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bristol District</td>
<td>2</td>
<td>Underway</td>
</tr>
<tr>
<td>Salem District</td>
<td>1</td>
<td>Underway</td>
</tr>
<tr>
<td>Staunton District</td>
<td>5</td>
<td>Underway</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8</strong></td>
<td></td>
</tr>
</tbody>
</table>

- All of these projects are included in the FY20-25 Six-Year Improvement Program
- Of the 16 initial programmed projects, 8 will be complete, and 5 will be under construction in 2020
Next Steps

- Presenting a potential schedule of projects to I-81 Advisory Committee
- Incorporate feedback received
- Modify schedule based on alternative financing options (to be determined)
- Continue to engage with industry
- New I-81 Program Delivery Director
VDOT’s Vision of the Future

A future transportation system that delivers safer, faster and more-efficient mobility

- Frictionless, automated, personalized travel in Urban Areas
- Connected, resilient Rural Areas across the Commonwealth of Virginia
- Transportation through Smart Infrastructure
- Innovation and shifting attitudes toward mobility
- New Funding Streams through new monetization strategies
Technology Improvements | eConstruction Initiatives

3D | 4D

Tablet-Based Inspection

Document Management Systems

Digital Strategy

- 3D engineered model linked to project schedule (4D)
- Unmanned Aerial Systems (UAS)
- Automated Machine Guidance (AMG)
- PlanGrid
- HeadLight Pilot
- Integrations
- Project dashboard
- Radio Frequency Identification (RFID)
- E-Ticketing
- Submittal processes
- Workflow mapping
- Project Document Management
- Evaluation of Current Systems
- Post-implementation O&M
- Other Research and Development
Technology Improvements | eConstruction Initiatives

**PlanGrid Pilot Program**
- Began in September 2018
- VDOT inspectors using iPads to review plans & documents, take pictures, and complete daily diaries
- Full implementation beginning on projects advertised after January 1, 2020

**HeadLight Pilot Program**
- Phase 1 began in Fall 2018; Phase 2 began in Spring 2019
- VDOT inspectors using iPads to complete daily diaries and material test reports
- Phase 3 planned for 2020; full implementation in 2021 or beyond

**eTicketing**
- Special Provision will be revised to allow contractors to submit e-tickets to VDOT electronically (as an option not a requirement)
Safety is always VDOT’s top priority

Police: Four hurt in crash after driver ran a red light

( PHOTO: Virginia State Police)
VDOT Driving Forward

- Program Delivery
- Sustainable project pipeline
- Maintenance of assets
- Operations

Diagram:
- Program Delivery
- Operations
- Project Pipeline
- Maintenance

DELIVERY