



COMMONWEALTH of VIRGINIA

Commonwealth Transportation Board

Shannon Valentine
Chairperson

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Agenda item # 10

RESOLUTION OF THE COMMONWEALTH TRANSPORTATION BOARD

December 8, 2021

MOTION

**Made By: Mr. Merrill Seconded By: Mr. Rucker
Action: Motion carried, unanimously**

Title: Approval of Interstate 81 Corridor Improvement Program Progress Report

WHEREAS, Chapter 743 of the 2018 Acts of Assembly, the General Assembly directed the Commonwealth Transportation Board (Board), to study financing options for improvements to Interstate I-81 (I-81) and, with support from the Office of Intermodal Planning and Investment, develop and adopt an I-81 Corridor Improvement Plan (Plan); and

WHEREAS, the Board adopted the Plan on December 5, 2018, which identified targeted improvements for potential financing and evaluated such improvements using the statewide prioritization process; and

WHEREAS, Chapters 837 and 846 of the 2019 Acts of Assembly established Chapter 36 (§ 33.2-3600 *et seq.*) of Title 33.2 of the *Code of Virginia*, creating the I-81 Corridor Improvement Fund (Fund), and directing the Board to establish the I-81 Committee (Committee), to adopt an I-81 Corridor Improvement Program (Program), to update the Program by July 1st of each year and to report to the General Assembly the status and progress of implementation of the Program (I-81 Corridor Improvement Program Progress Report) by December 15th of each year; and

WHEREAS, pursuant to § 33.2-3603, the Board established the I-81 Committee on May 15, 2019; and

WHEREAS, pursuant to § 33.2-3602, the I-81 Corridor Improvement Program shall, at a minimum:

1. Allocate year by year the revenues, if any, from the Fund and bond proceeds, if any,

backed by the Fund to projects and strategies identified in the Plan adopted by the Board in 2018 and as may be adopted from time to time;

2. Include a financing plan to support such allocation; and
3. Include a schedule for all new projects and strategies identified in the Plan adopted by the Board; and

WHEREAS, prior to the adoption of such Program, the Board shall review the recommendations of and consult with the I-81 Committee; and

WHEREAS, pursuant to § 33.2-3602, the I-81 Corridor Improvement Program Progress Report must include, at a minimum:

1. The safety and performance of the Interstate 81 Corridor, including the number of incidents, the average duration of incidents, the number and average duration of incidents involving lane closures, and the person-hours of delay along the Interstate 81 corridor;
2. An assessment of the effectiveness of the operational strategies and capital projects implemented and funded through the Program;
3. The status of capital projects funded through the Program; and
4. The current and projected balances of the Fund.

WHEREAS, the I-81 Committee received a copy of the draft I-81 Corridor Improvement Program Progress Report on November 22, 2021, for review and comment; and

WHEREAS, the I-81 Corridor Improvement Program Progress Report completely satisfies the above-referenced requirements set forth in § 33.2-3602.

NOW, THEREFORE, BE IT RESOLVED, the Board approves the annual I-81 Corridor Improvement Program Progress Report, attached hereto as Attachment A, as required by § 33.2-3602 of the *Code of Virginia*.

#####

CTB Decision Brief

Approval of the I-81 Corridor Improvement Program Progress Report

Issue: Chapters 837 and 846 of the 2019 Acts of Assembly established Chapter 36 (§ 33.2-3600 *et seq.*) of Title 33.2 of the *Code of Virginia*, creating the Interstate 81 (I-81) Corridor Improvement Fund (Fund), and directing the Commonwealth Transportation Board (Board) to establish the I-81 Committee; to adopt an I-81 Corridor Improvement Program (Program); to update the Program by July 1st of each year; and to report to the General Assembly the status and progress of implementation of the Program (I-81 Corridor Improvement Program Progress Report) by December 15th of each year. Approval by the Board of the I-81 Corridor Improvement Program Report for 2021 is sought.

Facts: In enacting Chapter 743 of the 2018 Acts of Assembly, the General Assembly of Virginia directed the Board to study financing options for improvements to I-81, with assistance from the Office of Intermodal Planning and Investment (OIPI), and to develop and adopt an I-81 Corridor Improvement Plan (Plan). The Board approved the Plan on December 5, 2018, which identified targeted improvements for potential financing and evaluated such improvements using the statewide prioritization process.

The 2019 Acts of Assembly established the Fund, the Program, and the I-81 Committee. The Act also requires the Board to update the Program by July 1 of each year and to report to the General Assembly on the status of implementation of the Program by December 15 of each year.

Sources of revenues initially dedicated to the Fund include a newly-established truck registration fee, an I-81 corridor regional fuels tax, and statewide diesel and road taxes. Funds to support the Program became available July 1, 2019.

In 2020, the General Assembly passed legislation that limited the imposition of regional fuels taxes to only those localities that I-81 passes through. This adjustment to the original fuel tax mechanism is not anticipated to impact the financial health of the Fund. Furthermore, as per the 2020 Interstate Operations and Enhancement Program (IOEP) omnibus legislation, I-81 receives an allocation of funds from the IOEP equal to the ratio of vehicle miles travelled (VMT) on I-81 by vehicle Class 6 or higher to total VMT on all Interstate highways. Beginning in FY2021, the truck registration fees and road tax revenue from the Program were dedicated to the Commonwealth Transportation Fund. Adoption of the FY22-FY27 SYIP included a plan for financing the Program and estimated proceeds from I-81 bonds and Transportation Infrastructure Finance and Innovation Act (TIFIA) financing.

Decision Brief

Approval of the I-81 Corridor Improvement Program Progress Report

December 8, 2021

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The current and projected allocations of the Program based on the FY2022-2027 Six-Year Improvement Program, is reflected below:

| | FY22* | FY23 | FY24 | FY25 | FY26 | FY27 | Total |
|------------------|---------|---------|---------|---------|---------|---------|-----------|
| Total Available | \$542.8 | \$125.7 | \$374.0 | \$131.1 | \$131.4 | \$509.7 | \$1,814.7 |
| Total Programmed | \$542.8 | \$125.7 | \$374.0 | \$131.1 | \$131.4 | \$490.0 | \$1,795.0 |
| Total Remaining | \$0 | \$0 | \$0 | \$0 | \$0 | \$19.7 | \$19.7 |

*FY22 and prior years

The Fund had a fund balance of \$198.8 million on June 30, 2021, and \$215.4 million on September 30, 2021. Moneys in the Fund shall only be used for capital, operating, and other improvement costs identified in the Program. Of the 64 capital projects included in the I-81 Corridor Improvement Plan and Program, 16 have been completed. The FY22-27 Six-Year Improvement Program was adopted by the Board on June 24, 2021, and included both operational improvements and 46 of the 48 remaining capital improvement projects identified in the Plan.

Pursuant to § 33.2-3602 (A), the I-81 Corridor Improvement Program shall, at a minimum:

1. Allocate year by year the revenues, if any, from the Fund and bond proceeds, if any, backed by the Fund to projects and strategies identified in the Plan adopted by the Board in 2018 and as may be adopted from time to time;
2. Include a financing plan to support such allocation; and
3. Include a schedule for all new projects and strategies identified in the Plan adopted by the Board.

Prior to the adoption of the Program, the Board shall review the recommendations of and consult with the I-81 Committee.

Pursuant to § 33.2-3602 (D), the I-81 Corridor Improvement Program Progress Report must include, at a minimum:

1. The safety and performance of the Interstate 81 corridor, including the number of incidents, the average duration of incidents, the number and average duration of incidents involving lane closures, and the person-hours of delay along the Interstate 81 corridor;
2. An assessment of the effectiveness of the operational strategies and capital projects implemented and funded through the Program;
3. The status of capital projects funded through the Program; and
4. The current and projected balances of the Fund.

Decision Brief

Approval of the I-81 Corridor Improvement Program Progress Report

December 8, 2021

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The current I-81 Corridor Improvement Program Progress Report reflects the minimum requirement as required by the § 33.2-3602.

The I-81 Committee, which includes Board members of the Bristol, Salem and Staunton construction districts, received briefings on the status of the Program and met on April 28, 2021. At this time, the I-81 Committee does not plan to meet prior to the end of the year, but will meet at least twice by the end of 2022. The I-81 Committee was provided the draft I-81 Corridor Improvement Program Progress Report for review and comment.

Recommendations: Approval is recommended for the submission of the annual I-81 Corridor Improvement Program Progress Report, attached hereto as Appendix A.

Action Required by CTB: The CTB will be presented with a resolution for a formal vote to approve the annual I-81 Corridor Improvement Program Progress Report. The Board shall report its recommendations for funding and prioritization of projects to the General Assembly by December 15, 2021.

Result, if Approved: If approved, Board authorizes submission of the report.

Options: Approve, Deny, or Defer.

Public Comments/Reactions: None

I-81 Program Progress Report



DECEMBER 2021

Prepared for:



Prepared by:



**Commonwealth
Transportation Board**

I-81 Program Progress Report

Introduction

In April 2019, the Virginia General Assembly enacted legislation that Governor Ralph Northam signed into law establishing the Interstate 81 (I-81) Corridor Improvement Program and Fund, which advances the projects identified in the I-81 Corridor Improvement Plan (the Plan) for implementation. The Plan was approved by the Commonwealth Transportation Board (the Board) in December 2018 following an evaluation of the corridor. Chapters 837 and 846 of the 2019 Virginia Acts of Assembly specify the roles and responsibilities of the Board and the I-81 Committee (the Committee) to enact the I-81 Corridor Improvement Program (the Program) and Fund (the Fund).

Legislative Requirements

Section 33.2-3602 of the legislation requires the Board, in consultation with the Committee, to report to the General Assembly by December 15 of each year “regarding the status and progress of implementation of the Program.” This report is mandated to include:

- ➔ The safety and performance of the I-81 corridor including:
 - ✓ Crash frequency and severity per mile, expressed in equivalent property damage only (EPDO) crashes
 - ✓ Person-hours of delay per mile
 - ✓ Frequency of lane-impacting incidents per mile
 - ✓ Duration of a lane closure
- ➔ An assessment on the effectiveness of the operational strategies and capital projects implemented and funded through the Program
- ➔ The status of capital projects funded through the Program
- ➔ The current and projected balances of the Fund



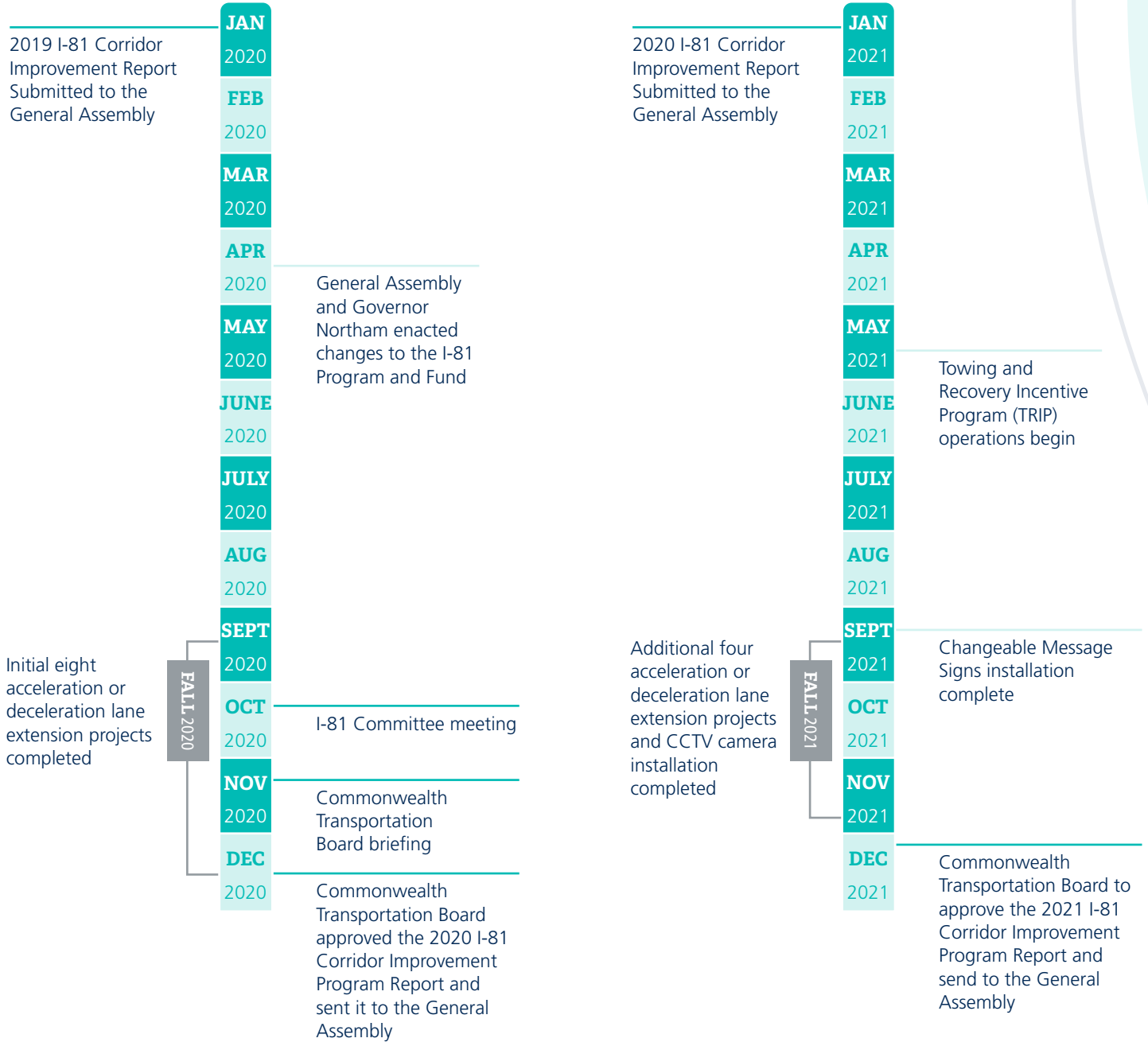
House Bill 2718 (Chapter 837) introduced by Delegates Steve Landes and Terry Austin, and Senate Bill 1716 (Chapter 846), introduced by Senators Mark Obenshain and William Carrico, establish the I-81 Corridor Improvement Program, Fund, and Committee. Governor Ralph Northam announced amendments in March 2019, providing dedicated annual funding to the corridor, estimated initially as \$103 million in fiscal year 2020 and growing to an estimated \$163 million in fiscal year 2025. These funds will support the \$2 billion improvement program (estimate as of 2018 Plan). The revenues for the Fund were provided through the creation of a new truck registration fee as well as establishment of an I-81 corridor regional fuels tax and statewide diesel and road taxes.

During the 2020 General Assembly, House Bill 1414 (Chapter 1230) and Senate Bill 890 (Chapter 1275) made the following changes to the Program and Fund:

- ➔ Authorized the sale and issuance of bonds with an aggregate principal amount of \$1 billion
- ➔ Converted the regional fuels tax to a cents per gallon tax with the opportunity for annual growth based on Consumer Price Index
- ➔ Amended the regional fuels tax to only include localities through which I-81 passes or cities wholly encompassed by a county through which I-81 passes

- ➔ Allocated additional funding for the corridor through the Interstate Operations and Enhancement Program. Previously provided statewide revenue sources are committed to the Commonwealth Transportation Fund beginning in fiscal year 2021.

Timeline of Events



Current and Projected Balances of the Fund

As of October 28, 2021, the Virginia Department of Transportation (VDOT) documented the current and projected allocations of the Program. Of the original 64 projects, 16 have been completed and 46 of the remaining 48 projects are included in the Six-Year Improvement Program (SYIP). This information is summarized in **Table 1**. The amounts shown in the table reflect the allocation of funding adopted by the Board on June 24, 2021, for the 46 projects amended to the Fiscal Year 2022-2027 SYIP. Estimated schedule information for the 46 capital improvement projects amended to the SYIP and the two capital improvement projects yet to be adopted into the SYIP is available in **Appendix A**. The full program schedule is in draft form since the remaining two projects have not been adopted by the Board into the SYIP.

Table 1. Current Versus Projected Funds Available Based on the FY 2022-2027 SYIP (in millions of dollars)

| | PV | FY23 | FY24 | FY25 | FY26 | FY27 | Total |
|-------------------------|------------|------------|------------|------------|------------|---------------|------------------|
| Total Available | \$542.8 | \$125.7 | \$374.0 | \$131.1 | \$131.4 | \$509.7 | \$1,814.7 |
| Total Programmed | \$542.8 | \$125.7 | \$374.0 | \$131.1 | \$131.4 | \$490.0 | \$1,795.0 |
| Total Remaining* | \$0 | \$0 | \$0 | \$0 | \$0 | \$19.7 | \$19.7 |

*Total Remaining value reflects fund availability after debt service has been removed.

Note: FY = Fiscal Year, PV = Previous Value | Source: Virginia Department of Transportation, 2021.

The Interstate 81 Corridor Improvement Fund had a fund balance of \$198.8 million on June 30, 2021 and \$215.4 million on September 30, 2021.

In 2020, the General Assembly passed legislation that limited the imposition of regional fuels taxes to only those localities that I-81 passes through. This adjustment to the original fuel tax mechanism is not anticipated to impact the financial health of the Fund. Furthermore, as per the 2020 Interstate Operations and Enhancement Program (IOEP) omnibus legislation, I-81 receives an allocation of funds from the IOEP equal to the ratio of vehicle miles travelled (VMT) on I-81 by vehicle Class 6 or higher to total VMT on all interstate highways. Beginning in FY 2021, the truck registration fees and road tax revenue from the Program were dedicated to the Commonwealth Transportation Fund. Adoption of the FY 2022-2027 SYIP included a plan for financing the Program and estimated proceeds from I-81 bonds and Transportation Infrastructure Finance and Innovation Act (TIFIA) financing.

Status of Projects Funded Through the Program

The FY 2022-2027 SYIP was adopted by the Board on June 24, 2021, and included operational improvements and 46 of the 48 capital improvement projects identified in the Plan. The safety service patrol improvements identified in the Plan were implemented in July 2019. Before the end of 2020, the initial eight acceleration and deceleration lane extension projects, the eight curve improvement projects, and most of the new camera installations were completed. In 2021, the remaining camera installations were completed along with the installation of changeable message signs. Additionally, construction of three ramp extension projects in the Staunton District was completed. **Figure 1** outlines the status of the projects as of November 11, 2021, based on project type. A table and map summarizing the status of individual capital improvement projects can be found in **Appendix B**.

Performance of the I-81 Corridor

Figure 2 through **Figure 5** show how the four performance measures have changed since 2017. These figures also show the capital improvement projects that have been completed and the ones that are still underway or planned. The performance measures documented in the Plan and adopted by the Board in late 2018 were through 2017. Crash data were compared between the three 5-year periods: 2014-2018, 2015-2019, 2016-2020. A supplementary histogram displaying crash frequency and severity per mile for truck-related crashes is included in **Appendix C**. Delay and incident data were compared for the three 2-year periods: 2017-2018, 2018-2019, and 2019-2020.

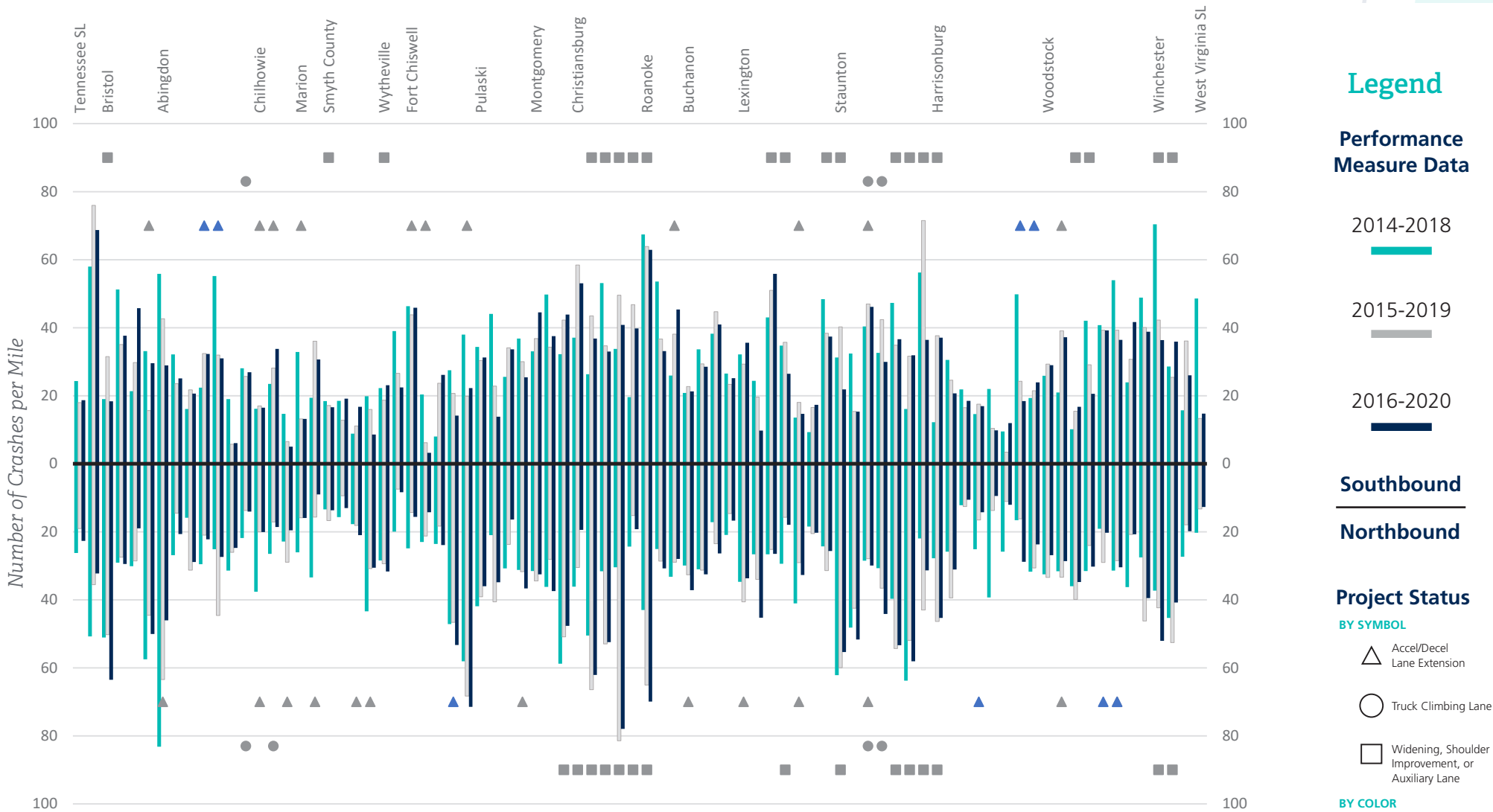
Figure 1. Status of Capital Projects Funded Through the Program

| | Project Type | Status | Total Projects | Estimated Completion |
|------------|---------------------------------------|--|----------------|----------------------|
| Capital | Widening | 8 (Programmed) 2 (Not in Six-Year Improvement Program) | 10 | 2038 |
| | Acceleration/Deceleration Extension | 12 (Not in Six-Year Improvement Program) 24 (Programmed) | 36 | 2028 |
| | Auxiliary Lane | 4 (Programmed) | 4 | 2028 |
| | Truck Climbing Lane | 5 (Programmed) | 5 | 2025 |
| | Shoulder Widening | 1 (Programmed) | 1 | 2030 |
| Operations | Safety Service Patrol Expansion | 1 (Not in Six-Year Improvement Program) | 1 | <i>Completed</i> |
| | Towing and Recovery Incentive Program | 1 (Not in Six-Year Improvement Program) | 1 | <i>Completed</i> |
| | Curve Improvement | 8 (Not in Six-Year Improvement Program) | 8 | <i>Completed</i> |
| | Camera Installation | 42 (Not in Six-Year Improvement Program) | 42 | <i>Completed</i> |
| | Changeable Message Sign Installation | 30 (Not in Six-Year Improvement Program) | 30 | <i>Completed</i> |

Legend: Complete (Blue) Programmed (Green) Not in Six-Year Improvement Program (Grey)

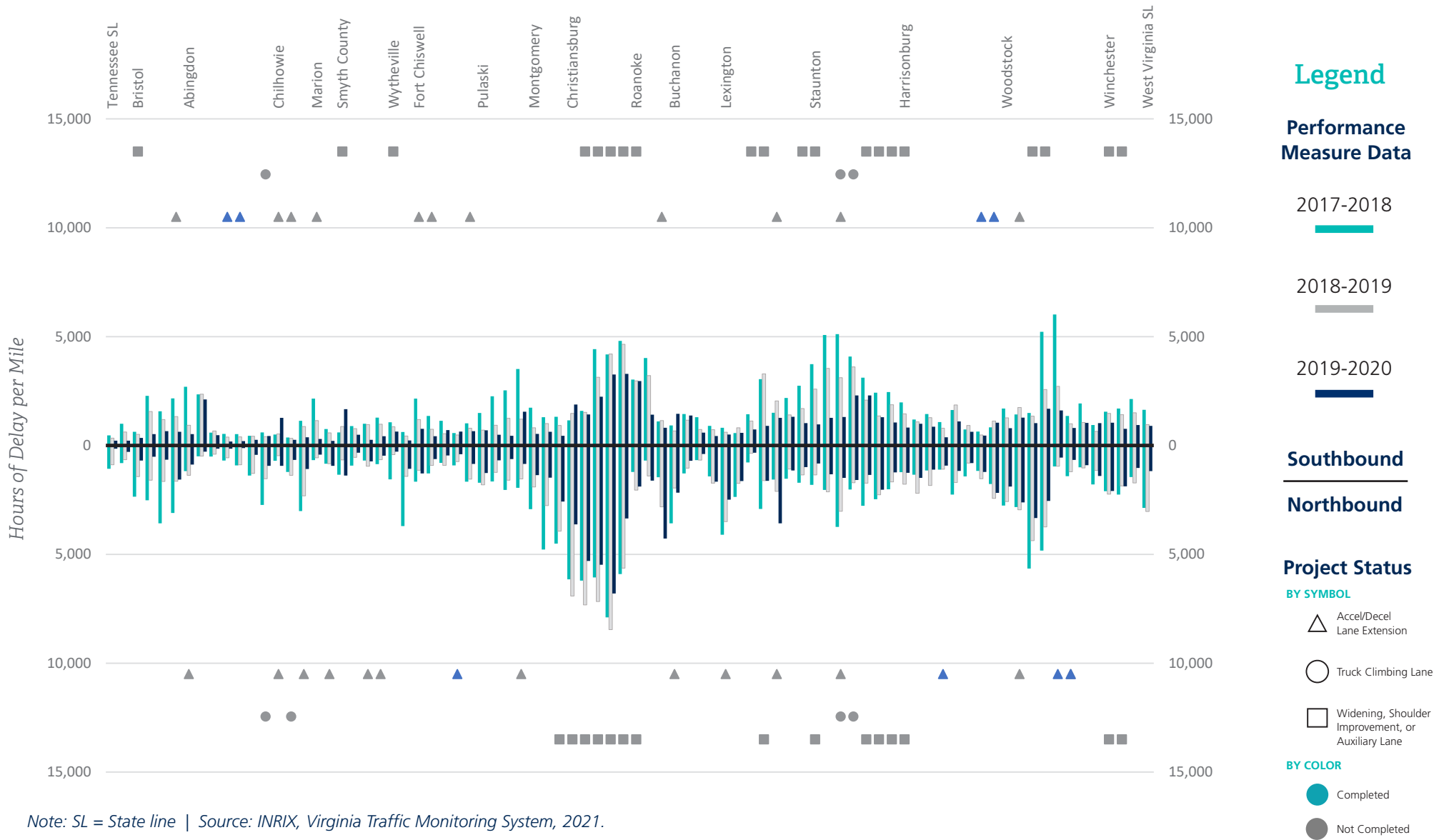
Note: SYIP = Six-year improvement program. | Source: Virginia Department of Transportation, 2021.

Figure 2. Annual Equivalent Property Damage Only Crashes per Mile



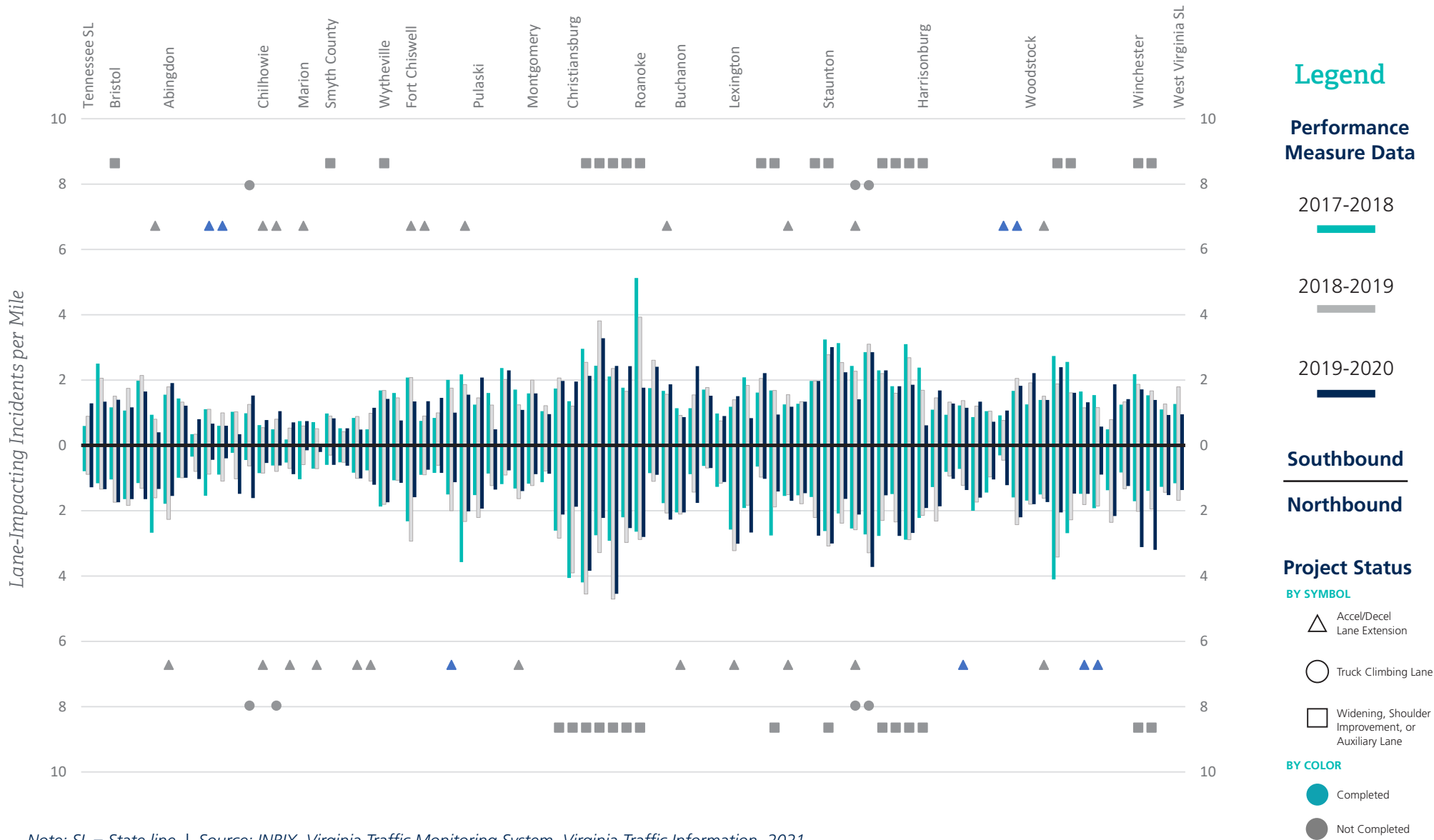
Note: SL = State line | Source: VDOT Roadway Network System, 2021.

Figure 3. Annual Person-Hours of Delay per Mile



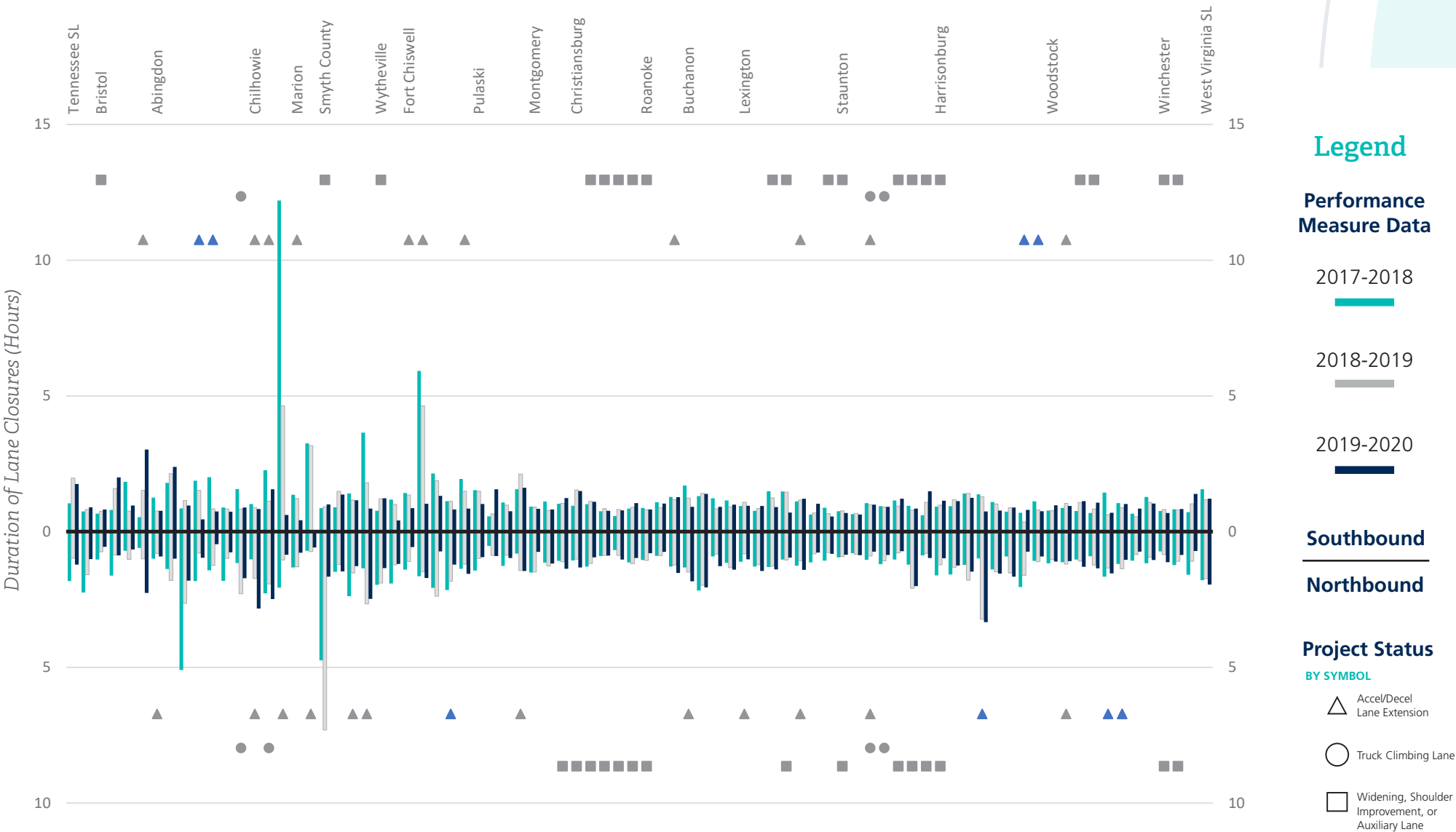
Note: SL = State line | Source: INRIX, Virginia Traffic Monitoring System, 2021.

Figure 4. Annual Lane-Impacting Incidents per Mile



Note: SL = State line | Source: INRIX, Virginia Traffic Monitoring System, Virginia Traffic Information, 2021.

Figure 5. Average Duration of Lane Closures (Hours)



Note: SL = State line | Source: Virginia Traffic Information, 2021.

To show the effectiveness of a program of projects, the study team will rely on a minimum of one year of data following the implementation of the program or project. Although several roadway capital projects have been completed, construction was completed in late 2019 or 2020. Given the completion timeline of these projects, compounded with the impacts of COVID-19 on travel patterns in 2020 and 2021, it is not yet possible to make discernible observations about the impact of completed construction projects on the performance measures using data through 2020.

Table 2 through **Table 5** contain corridor-wide summaries for each two- or five-year period for the four performance measures. The performance measure data has fluctuated on a segment-by-segment and corridor-wide basis in the years since the Plan was developed; the number of lane-impacting incidents and hours of lane closures have increased, while the person hours of delay and number of EPDO crashes have decreased.

In future years, it will be challenging to evaluate the impact of completed construction projects on the performance measures for multiple reasons:

- ➔ The data has fluctuated in the years since the Plan was developed
- ➔ Active work zones
- ➔ Performance measure data for 2020, 2021, and potentially future years will not be reflective of a typical year due to COVID-19

Table 2. Equivalent Property Damage Only Crashes

| Years | Northbound | Southbound | Total | Total Percent Change from Previous Period |
|-----------|------------|------------|---------|---|
| 2014-2018 | 51,639 | 49,109 | 100,748 | - |
| 2015-2019 | 49,095 | 50,012 | 99,107 | -2% |
| 2016-2020 | 49,360 | 47,270 | 96,360 | -2% |

Table 3. Person-Hours of Delay

| Years | Northbound | Southbound | Total | Total Percent Change from Previous Period |
|-----------|------------|------------|-------|---|
| 2017-2018 | 2,325 | 1,919 | 4,244 | - |
| 2018-2019 | 2,116 | 1,471 | 3,587 | -15% |
| 2019-2020 | 1,625 | 1,029 | 2,654 | -26% |

Table 4. Lane-Impacting Incidents

| Years | Northbound | Southbound | Total | Total Percent Change from Previous Period |
|-----------|------------|------------|-------|---|
| 2017-2018 | 1,694 | 1,622 | 3,316 | - |
| 2018-2019 | 1,894 | 1,691 | 3,585 | 8% |
| 2019-2020 | 1,754 | 1,573 | 3,327 | -7% |

Table 5. Hours of Lane Closures

| Years | Northbound | Southbound | Total | Total Percent Change from Previous Period |
|-----------|------------|------------|-------|---|
| 2017-2018 | 2,139 | 1,794 | 3,932 | - |
| 2018-2019 | 2,329 | 1,812 | 4,141 | 5% |
| 2019-2020 | 2,131 | 1,617 | 3,748 | -9% |

Source: VDOT Roadway Network System, INRIX, Virginia Traffic Monitoring System, Virginia Traffic Information, 2021.

Commonwealth Transportation Board Activities

In 2021, the Office of the Secretary of Transportation, in cooperation with VDOT, delivered three I-81 briefings to the Board. According to the legislation, the Board must submit an annual progress report to the General Assembly by December 15.

April 2021 Commonwealth Transportation Board Briefing

The Board met using electronic communications on April 20, 2021. The I-81 Program Delivery Director presented the status of the operational, arterial, and capital improvement projects throughout the corridor. The I-81 Program Delivery Director highlighted the following conclusions:

- ➔ Sixteen (16) capital projects are currently in the planning phase
- ➔ Twenty-eight (28) capital projects are currently in the design phase
- ➔ Four (4) capital projects are under construction
- ➔ Eight (8) capital projects are complete
- ➔ Upcoming program improvements include:
 - Exit 137 to Exit 141 design-build (two projects bundled)
 - Mile marker (MM) 48 single phase design-build
 - Continue design of capital improvement projects
 - Complete projects under construction
 - Begin arterial improvements
 - Execute Towing and Recovery Incentive Program (TRIP) program

The April 2021 presentation delivered to the Board can be found in **Appendix D**.

October 2021 Commonwealth Transportation Board Briefing

The Board met in-person on October 19, 2021. The I-81 Program Delivery Director presented the status of the operational, arterial, and capital improvement projects throughout the corridor. The I-81 Program Delivery Director highlighted the following conclusions:

- ➔ All 18 SYIP projects in Bristol District are completed or under design and two out-year projects have been advanced
- ➔ All 6 SYIP projects in Salem District are under design or construction
- ➔ All 16 SYIP projects in Staunton District are completed or under design
- ➔ Operations improvements, including curve improvements, traffic cameras, and safety service patrol are complete or ahead of schedule
 - Changeable message sign installations set to be complete by October 28, 2021
- ➔ Some arterial improvements along VDOT-maintained arterials are complete, with the remaining improvements under design and scheduled for construction in spring 2022

The Virginia Department of Rail and Public Transportation (DRPT) Chief of Public Transportation and Virginia Passenger Rail Authority Executive Director presented the status of multimodal projects along the I-81 corridor, including the following takeaways:

- ➔ The Virginia Breeze Intercity Bus service from Bristol to Washington, D.C., the Highlands Rhythm, will begin service on November 15, 2021, and is projected to nearly double intercity bus ridership in the I-81 corridor

- ➔ DRPT and Norfolk Southern signed a term sheet for a second State-supported Amtrak train to Roanoke and an extension of both trains to the New River Valley, which is anticipated to add 80,000 net new rides

The October 2021 presentation delivered to the Board can be found in **Appendix E**.

December 2021 Commonwealth Transportation Board Briefing

The Commonwealth Transportation Board approved the 2021 I-81 Program Progress Report at the December 8, 2021 meeting. The resolution is included in **Appendix F**.

I-81 Committee Activities

Following the April 2019 Board meeting, the I-81 Committee was established to advise and make recommendations to the Board regarding the development of the I-81 Corridor Improvement Program. The Committee consists of 15 voting members—seven Virginia lawmakers, three Board members representing the VDOT Bristol, Salem, and Staunton construction districts, and the five chairs of the planning district commissions in the corridor. The two ex-officio and nonvoting members of the Committee are the VDOT Commissioner and the DRPT Director. The legislation required the Committee to hold public meetings at least four times each year and to consult with interested stakeholders. The Appropriations Act updated this requirement to two times per year (Chapter 552, Item 430, R.). Due to constraints posed by COVID-19, the Committee met once in April 2021.

April 2021 Committee Meeting

The Committee met virtually on April 28, 2021. The I-81 Program Delivery Director presented an overview of the I-81 Corridor Improvement Program and the status of operational and capital projects. The DRPT Chief of Public Transit described the Virginia Breeze intercity bus expansion and the western rail initiative. The VDOT Chief Financial Officer presented the financial status of the I-81 Corridor Improvement Program and outlined the projected costs and funding approach of the Program.

The April 2021 presentation delivered to the Committee can be found in **Appendix G**.

Next Steps

Most of the capital improvement projects are currently under construction or in the design phase, either by VDOT staff, an on-call consultant, or a project-specific consultant. The following projects will be advertised in 2022 and will be under design once a Design-Build consultant is procured:

- ➔ Bristol District: Bundle Package – project development to begin soon
 - Northbound deceleration lane extension at Exit 72
 - Southbound auxiliary lane between I-77 Exit 41 and I-81 Exit 72
- ➔ Staunton District: Widening project from Exits 221 to 225 in both directions – planned advertisement in spring to summer 2022

Additionally, construction of the following projects will make continued progress in 2022:

- ➔ Northbound and southbound acceleration lane extensions at Exit 205 – construction started in August 2021

- ➔ Bundled widening project in Staunton District – heavy highway construction anticipated to begin in early spring of 2022
 - Widen to three lanes between MM 136 and MM 139
 - Widen to three lanes between MM 139 and Exit 141
- ➔ Northbound acceleration lane extension at Exit 47 – construction resumed in fall 2021
- ➔ Construction of arterial improvements to begin in spring 2022

APPENDICES

Appendix A: Preliminary Capital Improvement Project Schedule

Appendix B: Improvements Summary Map and Table

Appendix C: Crash Frequency and Severity Per Mile for Truck-Related Crashes

Appendix D: April 2021 Commonwealth Transportation Board PowerPoint Presentation

Appendix E: October 2021 Commonwealth Transportation Board PowerPoint Presentation

Appendix F: December 2021 Commonwealth Transportation Board PowerPoint Resolution

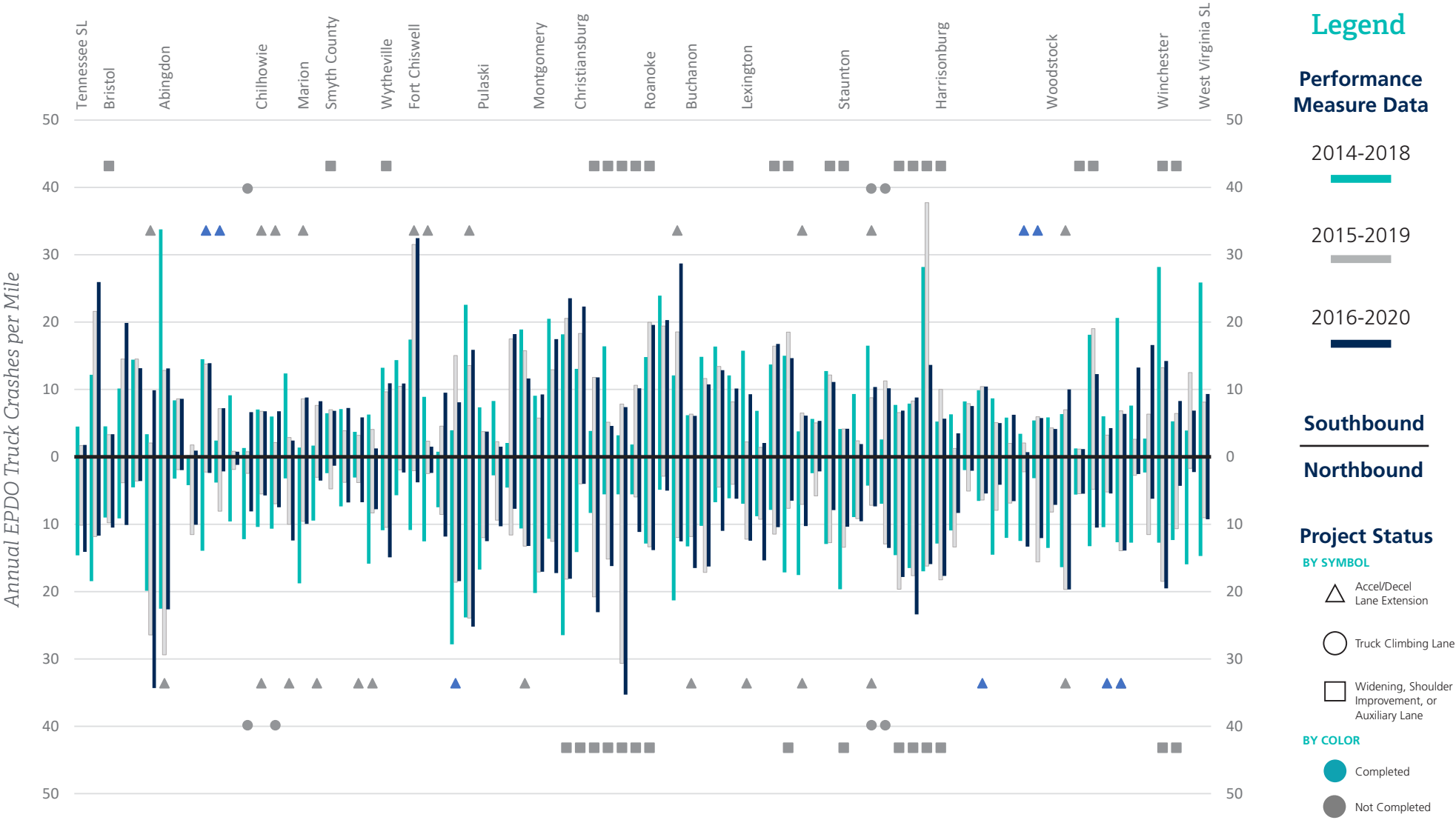
Appendix G: April 2021 I-81 Committee PowerPoint Presentation

Appendix A: Preliminary Capital Improvement Project Schedule

Appendix B: Improvements Summary Map and Table

Appendix C: Crash Frequency and Severity Per Mile for Truck-Related Crashes

Annual Equivalent Property Damage Only Crashes per Mile for Truck-Related Crashes



Source: Virginia Roadway Network System, 2021.

Appendix D: April 2021 Commonwealth Transportation Board PowerPoint Presentation

Appendix E: October 2021 Commonwealth Transportation Board PowerPoint Presentation

Appendix F: December 2021 Commonwealth Transportation Board Resolution

Appendix G: April 2021 I-81 Committee PowerPoint Presentation

Appendix A: Preliminary Capital Improvement Project Schedule

Appendix B: Improvements Summary Map and Table

I-81 CORRIDOR IMPROVEMENT PLAN

RECOMMENDED IMPROVEMENTS

| Study Project ID | UPC | District | Jurisdiction(s) | Direction | Mile Marker | | | Improvement Description |
|------------------|--------|----------|--|-----------------|-------------|----|-------------|---|
| | | | | | From | to | To | |
| 63 | 116281 | Staunton | Frederick County / Winchester | Both Directions | 313.8 | to | 317.5 | Widen to three lanes between Exit 313 and Exit 317 |
| 49 | 115803 | Staunton | Frederick County | NB only | 303.7 | to | 303.9 | Truck scales acceleration lane extension |
| 47 | 116236 | Staunton | Frederick County | NB only | 302.5 | to | 302.9 | Exit 302 acceleration lane extension |
| 48 | 115870 | Staunton | Frederick County | NB only | 302.1 | to | 302.2 | Exit 302 deceleration lane extension |
| 51 | 116244 | Staunton | Shenandoah County | SB only | 296.3 | to | 296.7 | Exit 296 acceleration lane extension |
| 50 | 116268 | Staunton | Shenandoah County / Warren County / Frederick County | SB only | 295.7 | to | 299.2 | Widen to three lanes between Exit 299 and Exit 296 |
| 46 | 116270 | Staunton | Shenandoah County | NB only | 290.6 | to | 291.1 | Exit 291 acceleration lane extension |
| 52 | 115804 | Staunton | Shenandoah County | SB only | 282.9 | to | 283.3 | Exit 283 acceleration lane extension |
| 53 | 116243 | Staunton | Shenandoah County | SB only | 278.7 | to | 279.2 | Exit 279 acceleration lane extension |
| 45 | 115802 | Staunton | Shenandoah County | NB only | 268.8 | to | 268.9 | Exit 269 deceleration lane extension |
| 62 | 116280 | Staunton | Rockingham County / Harrisonburg | Both Directions | 242.2 | to | 248.1 | Widen to three lanes between Exit 243 and Exit 248 |
| 55 | 116278 | Staunton | Augusta County | SB only | 234.6 | to | 236.5 | Weyers Cave truck climbing lane |
| 44 | 116277 | Staunton | Augusta County / Rockingham County | NB only | 233.3 | to | 237.4 | Weyers Cave truck climbing lane |
| 56 | 116275 | Staunton | Augusta County | SB only | 232.7 | to | 232.9 | Mt. Sidney Rest Area deceleration lane extension |
| 57 | 116276 | Staunton | Augusta County | SB only | 231.9 | to | 232.5 | Mt. Sidney Rest Area acceleration lane extension |
| 43 | 116271 | Staunton | Augusta County | NB only | 232.4 | to | 232.8 | Mt. Sidney Rest Area acceleration lane extension |
| 61 | 116269 | Staunton | Augusta County / Staunton | Both Directions | 221.8 | to | 225.3 | Widen to three lanes between Exit 221 and Exit 225 |
| 58 | 116279 | Staunton | Augusta County | SB only | 221.2 | to | 221.5 | Add auxiliary lane between Exit 220 and Exit 221 |
| 42 | 115801 | Staunton | Rockbridge County | NB only | 205.3 | to | 205.7 | Exit 205 acceleration lane extension |
| 59 | 116245 | Staunton | Rockbridge County | SB only | 204.7 | to | 205.2 | Exit 205 acceleration lane extension |
| 60 | 116282 | Staunton | Rockbridge County | SB only | 195.1 | to | 204.5 | Rockbridge County shoulder improvements |
| 41 | 116246 | Staunton | Rockbridge County | NB only | 189 | to | 189.4 | Exit 188 acceleration lane extension |
| 33 | 116199 | Salem | Buchanan / Botetourt County | NB only | 162.4 | to | 162.9 | Exit 162 acceleration lane extension |
| 36 | 116202 | Salem | Botetourt County | SB only | 158.2 | to | 158.4 | Troutville Safety Rest Area deceleration lane extension |
| 37 | | Salem | Botetourt County | SB only | 157.2 | to | 158 | Troutville Safety Rest Area acceleration lane extension |
| 40 | 116201 | Salem | Roanoke / Roanoke County | Both Directions | 144.2 | to | 151.3 | Widen to three lanes between Exit 143 and Exit 150 |
| 39B | 116203 | Salem | Salem / Roanoke County | Both Directions | 139 | to | 141 | Widen to three lanes between MM 139 and Exit 141 |
| 39A | | Salem | Salem / Roanoke County | Both Directions | 136 | to | 139 | Widen to three lanes between MM 136 to MM 139 |
| 32 | 116197 | Salem | Montgomery County / Roanoke County / Salem | NB only | 128.4 | to | 136 | Widen to three lanes from Exit 128 to MM 136 |
| 31 | 116196 | Salem | Christiansburg / Montgomery County | NB only | 116 | to | 128.4 | Widen to three lanes from MM 116 to Exit 128 |
| 30 | 116198 | Salem | Radford / Montgomery County | NB only | 105.5 | to | 106 | Exit 105 acceleration lane extension |
| 38 | 116200 | Salem | Pulaski / Pulaski County | SB only | 93.7 | to | 94.2 | Exit 94 acceleration lane extension |
| 29 | 115795 | Salem | Pulaski County | NB only | 90.2 | to | 90.7 | Exit 89 acceleration lane extension |
| 12 | 116165 | Bristol | Wythe County | SB only | 84.3 | to | 84.5 | Exit 84 deceleration lane extension |
| 13 | 116166 | Bristol | Wythe County | SB only | 81.7 | to | 81.9 | Exit 81 deceleration lane extension |
| 18 | 116175 | Bristol | Wythe County | SB only | 41.6 (I-77) | to | 41.8 (I-77) | Add auxiliary lane between Exit 40 on I-77 and Exit 72 on I-81 and extend acceleration lane from I-77 SB to I-81 SB |
| 14 | 116168 | Bristol | Wytheville | SB only | 73.2 | to | 73.8 | Add auxiliary lane between Exit 73 and Exit 72 |
| 11 | 116164 | Bristol | Wytheville | NB only | 73 | to | 42.9 (I-77) | I-77 deceleration lane extension and reconfigure off-ramp |
| 10 | 116163 | Bristol | Wytheville | NB only | 72.7 | to | 72.9 | Exit 72 deceleration lane extension |
| 8 | 116162 | Bristol | Wytheville | NB only | 67.3 | to | 67.4 | Exit 67 deceleration lane extension |
| 15 | 116169 | Bristol | Smyth County | SB only | 54.1 | to | 54.4 | Add auxiliary lane between Exit 54 and Smyth Safety Rest Area |
| 7 | 116161 | Bristol | Marion / Smyth County | NB only | 48.1 | to | 48.9 | Exit 47 acceleration lane extension |
| 16 | 116158 | Bristol | Marion / Smyth County | SB only | 47.4 | to | 47.6 | Exit 47 acceleration lane extension |
| 6 | 116160 | Bristol | Marion / Smyth County | NB only | 45.5 | to | 45.6 | Exit 45 deceleration lane extension |
| 17 | 116167 | Bristol | Marion / Smyth County | SB only | 42.8 | to | 43 | Exit 44 acceleration lane extension |
| 4 | 116157 | Bristol | Chilhowie / Smyth County | NB only | 39.5 | to | 40.6 | Add truck climbing lane |
| 19 | 116174 | Bristol | Smyth County | SB only | 39.4 | to | 39.5 | Exit 39 deceleration lane extension |
| 5 | 116159 | Bristol | Smyth County | NB only | 38.9 | to | 39 | Exit 39 deceleration lane extension |
| 20 | 116173 | Bristol | Smyth County | SB only | 38.7 | to | 38.9 | Exit 39 acceleration lane extension |
| 21 | 116172 | Bristol | Washington County | SB only | 33 | to | 34 | Add truck climbing lane |
| 3 | 116156 | Bristol | Chilhowie / Washington County | NB only | 32.4 | to | 33.5 | Add truck climbing lane |
| 22 | 115345 | Bristol | Washington County | SB only | 26.7 | to | 26.8 | Exit 26 deceleration lane extension |
| 23 | 115346 | Bristol | Washington County | SB only | 25.9 | to | 26.1 | Exit 26 acceleration lane extension |
| 2 | 116155 | Bristol | Abingdon / Washington County | NB only | 19.2 | to | 19.3 | Exit 19 deceleration lane extension |
| 26 | 116171 | Bristol | Abingdon | SB only | 16.6 | to | 16.7 | Exit 17 acceleration lane extension |
| 27 | 116170 | Bristol | Bristol / Washington County | SB only | 8.1 | to | 9.7 | Widen to three lanes |

SMART SCALE

| ID | UPC | District | Direction | Location | Description (Year Construction Starts) |
|------|----------------|----------|-----------------|----------------------|---|
| SS1 | 105309 | Bristol | SB only | Exit 5 | Exit 5 - widen Route 11 (Lee Highway) & widen I-81 off-ramps (2021) |
| SS2 | 109419 | Bristol | NB only | Exit 17 | Exit 17 interchange improvements (2021) |
| SS3 | 109440 | Bristol | Both Directions | Exit 19 | Exit 19 interchange improvements (2020) |
| SS4 | 108906, 111373 | Salem | Both Directions | Exit 141 to 143 | Add auxiliary lanes between Exit 141 and Exit 143 (2019) |
| SS5* | 111359 | Salem | SB only | MM 167.4 to MM 169.5 | Safety improvements between MM 167.4 to MM 169.5 (2020) |
| SS6 | 109370 | Staunton | Both Directions | Exit 205 | Exit 205 ramp terminal intersection improvements (2021) |
| SS7 | 111055 | Staunton | Both Directions | Exit 235 | Exit 235 access improvements (2021) |
| SS8 | 108809 | Staunton | NB only | Exit 245 | Exit 245 interchange improvements (2019) |
| SS9 | 111230 | Staunton | Both Directions | Exit 247 | Exit 247 interchange improvements (2022) |
| SS10 | 115129 | Staunton | NB only | Exit 291 | Exit 291 northbound ramp widening (2028) |
| SS11 | 111054 | Staunton | SB only | Exit 300 | Exit 300 acceleration lane extension (2021) |
| SS12 | 115717 | Staunton | Both | Exit 313 | Exit 313 bridge capacity improvement (2028) |
| SS13 | 115181 | Staunton | Both Directions | Exit 317 | Exit 317 acceleration and deceleration lane extensions (2028) |

LEGEND

- SYIP Projects Complete
- SYIP Projects Programmed
- Not in SYIP
- SMART SCALE Funded Project

December 2021

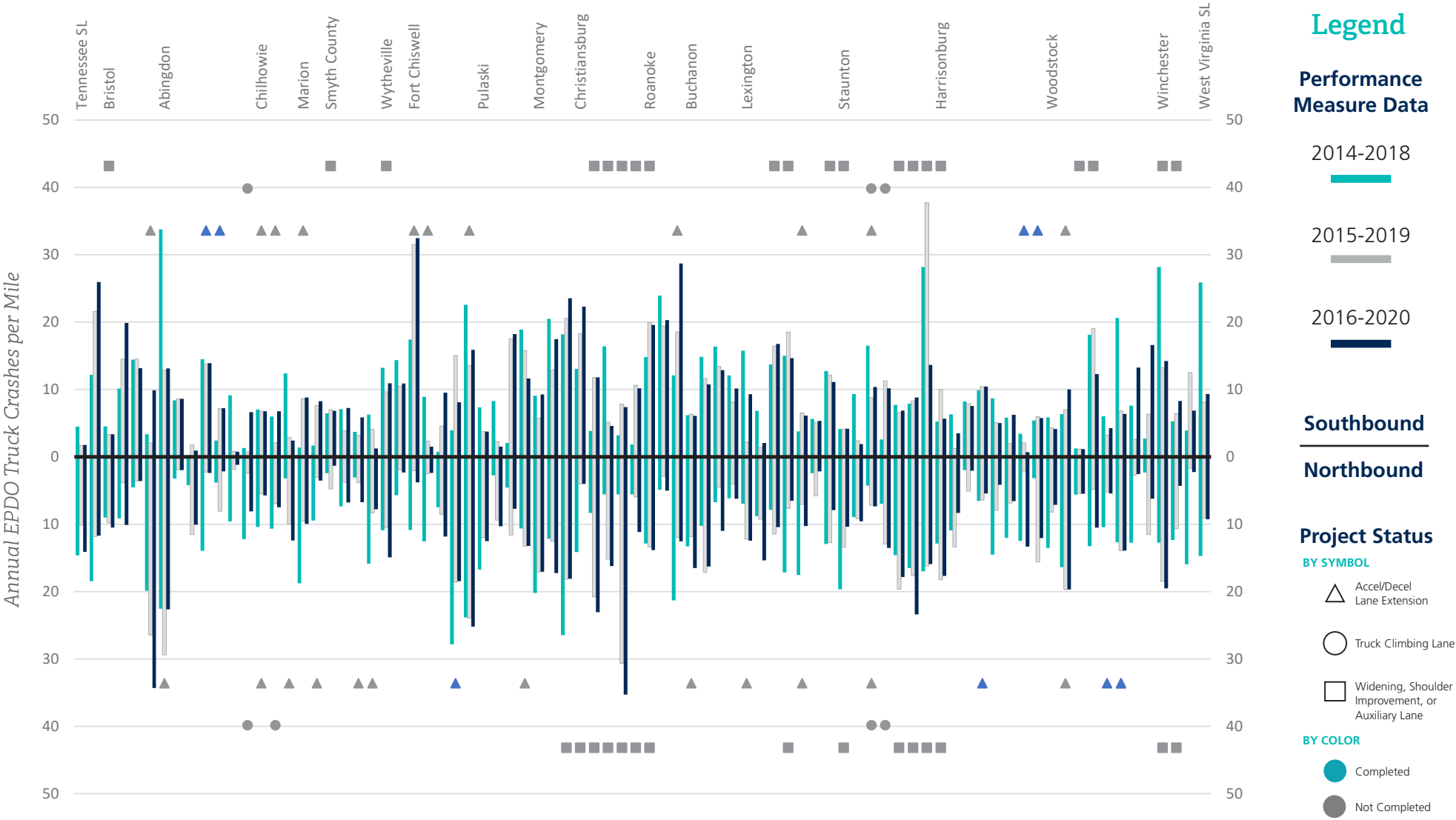


* SS5 - Project is not depicted on map.



Appendix C: Crash Frequency and Severity Per Mile for Truck-Related Crashes

Annual Equivalent Property Damage Only Crashes per Mile for Truck-Related Crashes



Source: Virginia Roadway Network System, 2021.

Appendix D: April 2021 Commonwealth Transportation Board PowerPoint Presentation

IMPROVE **81**

I-81 CORRIDOR IMPROVEMENT PROGRAM

Commonwealth Transportation Board

Dave Covington, PE – VDOT I-81 Program Delivery Director

April 20, 2021

Program Benefits



Enhanced Safety

This program will implement a series of improvements such as lane and shoulder widening to reduce the rate and frequency of crashes along the corridor.



Reduced Congestion

The program will reduce congestion and improve reliability by adding capacity in targeted areas of the corridor and improve speed of incident clearance to help limit travel delays.



Economic Development

I-81 is the main corridor and key economic artery of western Virginia. These improvements will ensure that goods and services critical to our economy move safely and efficiently through and within the region.

Planned Improvements

The **325-mile long corridor** spans three VDOT districts: **Bristol, Salem, and Staunton.**

Localities along the corridor include:

City of Bristol

Washington County

Smyth County

Wythe County

Pulaski County

City of Radford

Montgomery County

City of Salem

Roanoke County

City of Roanoke

Botetourt County

Rockbridge County

City of Lexington

City of Buena Vista

Augusta County

City of Staunton

City of Waynesboro

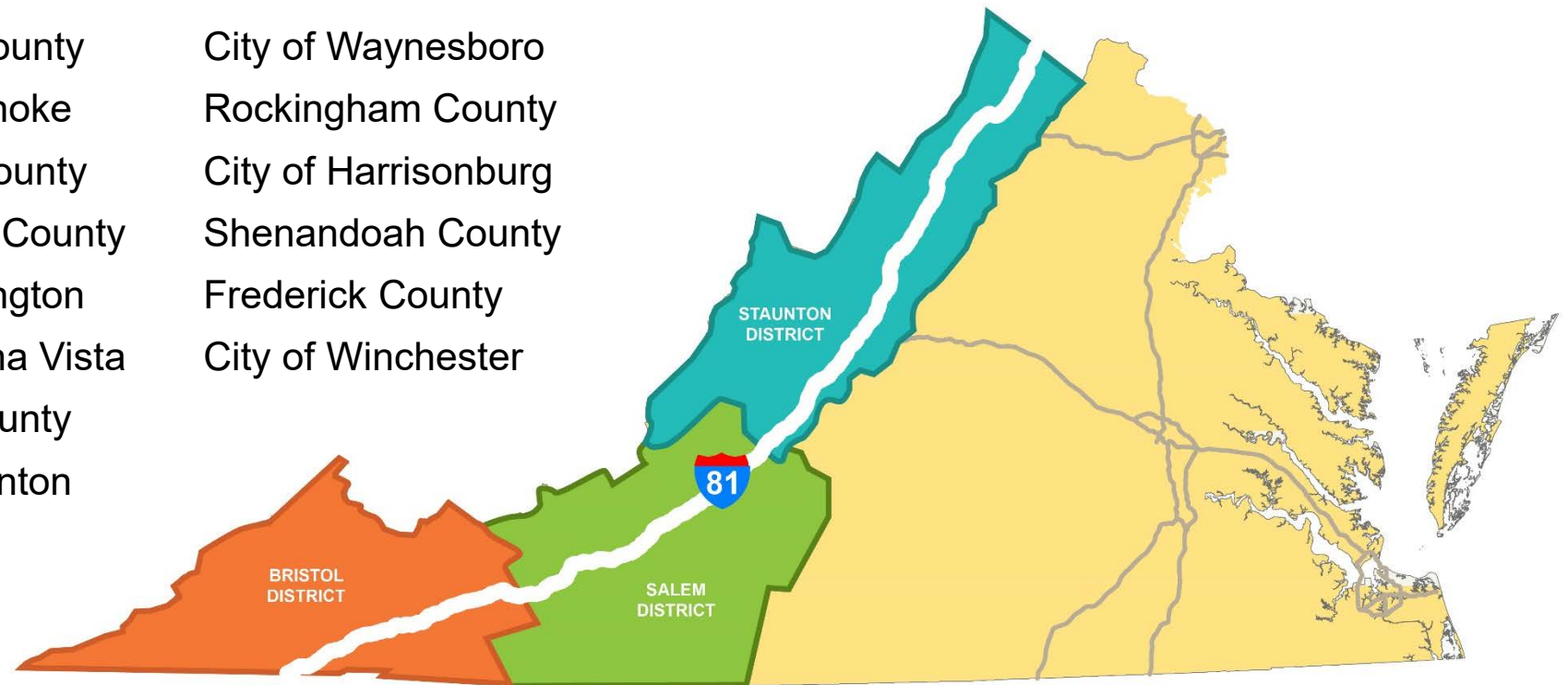
Rockingham County

City of Harrisonburg









Shenandoah County

Frederick County

City of Winchester



Takeaway Scorecard

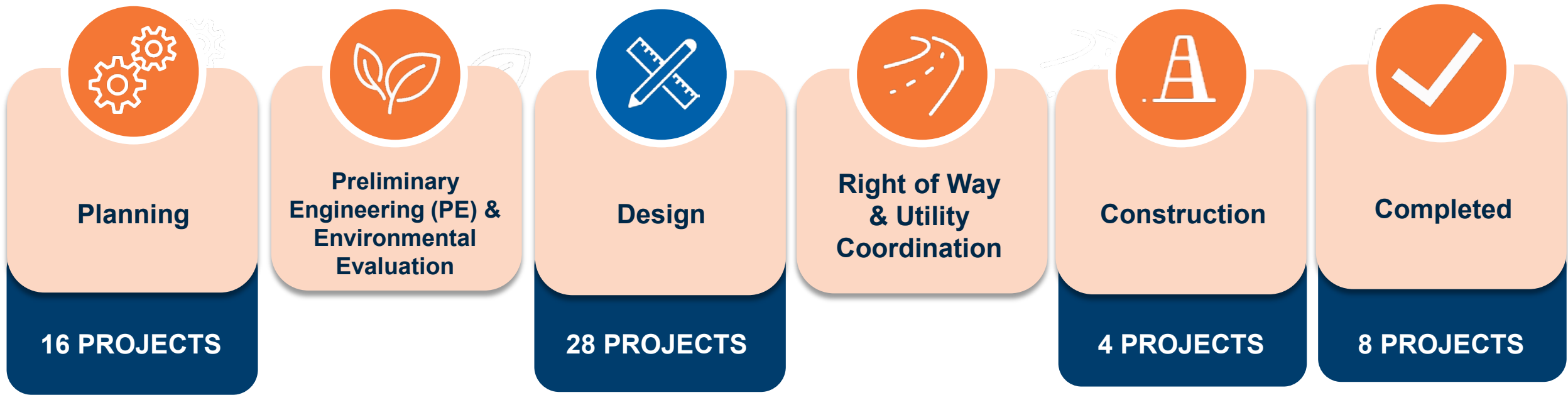
| Activity | Status | Anticipated Completion |
|---|--|------------------------|
| Curve improvements (8) |  Complete | Fall 2019 |
| Initial accel/decel lane extensions (8) |  Complete | Fall 2020 |
| Safety Service Patrol Expansion |  Complete | Summer 2019 |
| Additional Cameras (51) |  Complete | Spring 2020 |
| Additional Digital Message Signs |  Underway | Fall 2021 |
| Arterial Upgrades |  Underway | Varies by project |
| Active Construction Projects (4) |  Underway | Varies by project |
| Remaining capital projects (28) |  Underway | Varies by project |

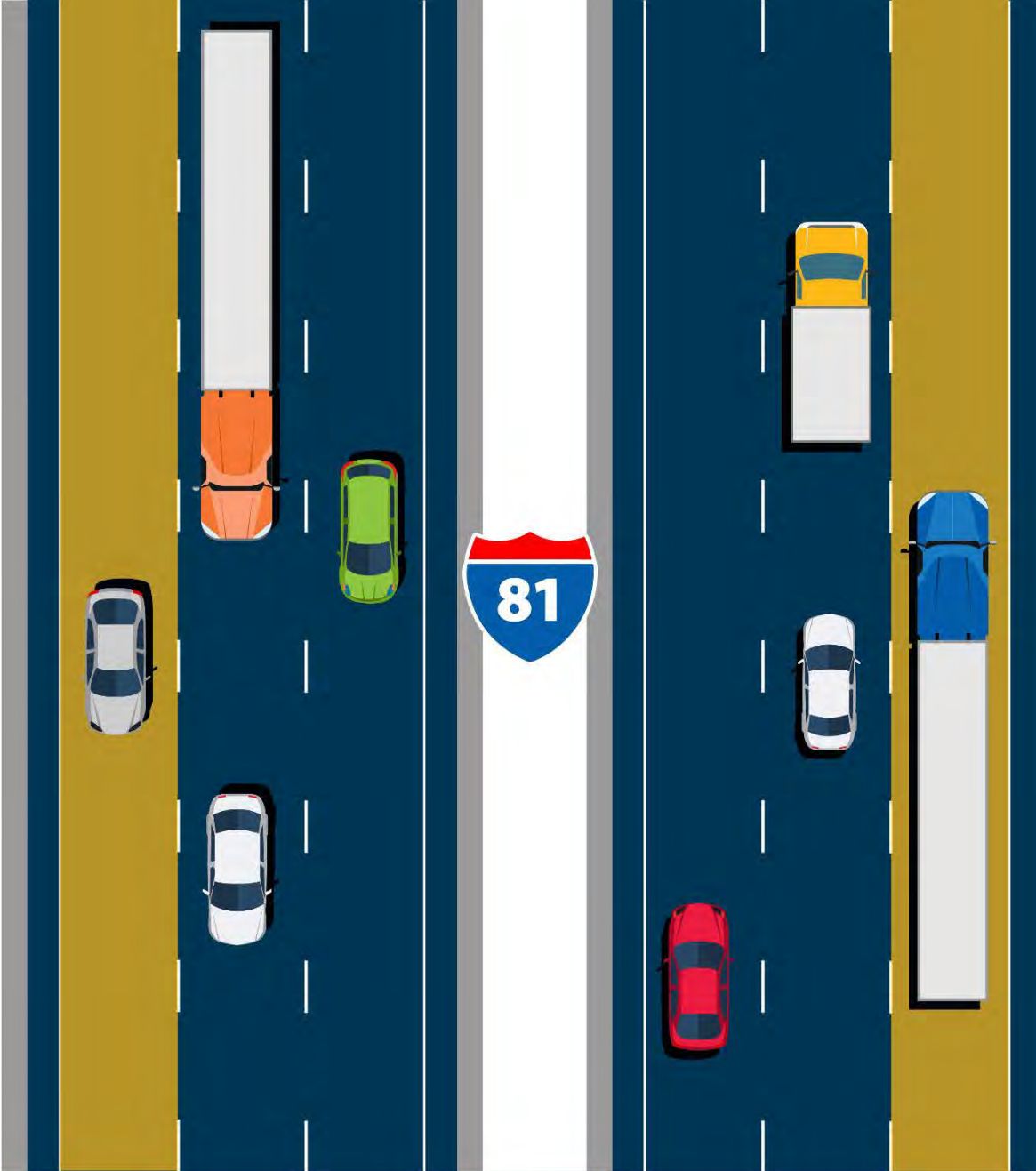
More than
64 Program
Improvements

More than
94% of the contractors and
consultants working on this
program call Virginia home



Project Development Process (Capital Projects)



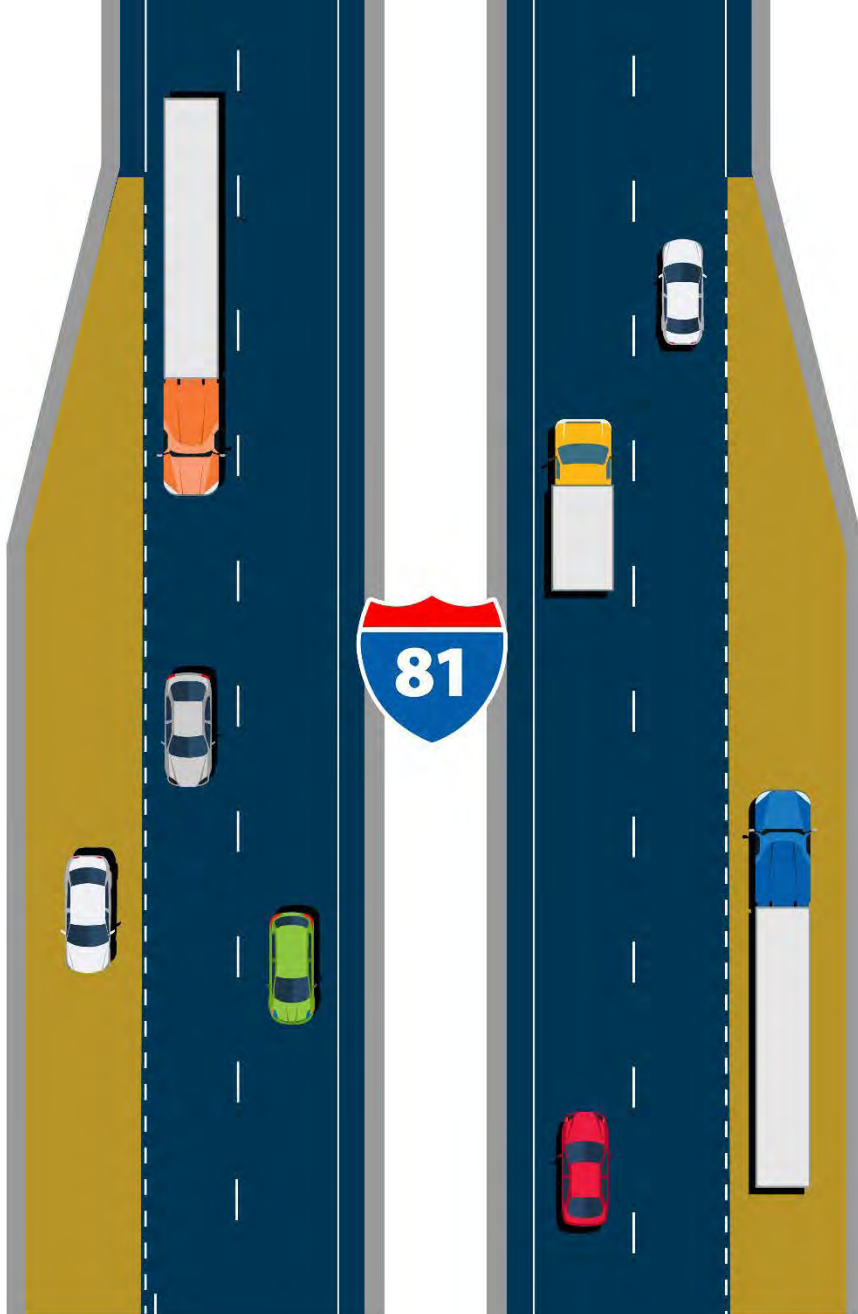


Infrastructure Improvements

Widening

+1

10 Improvements Planned

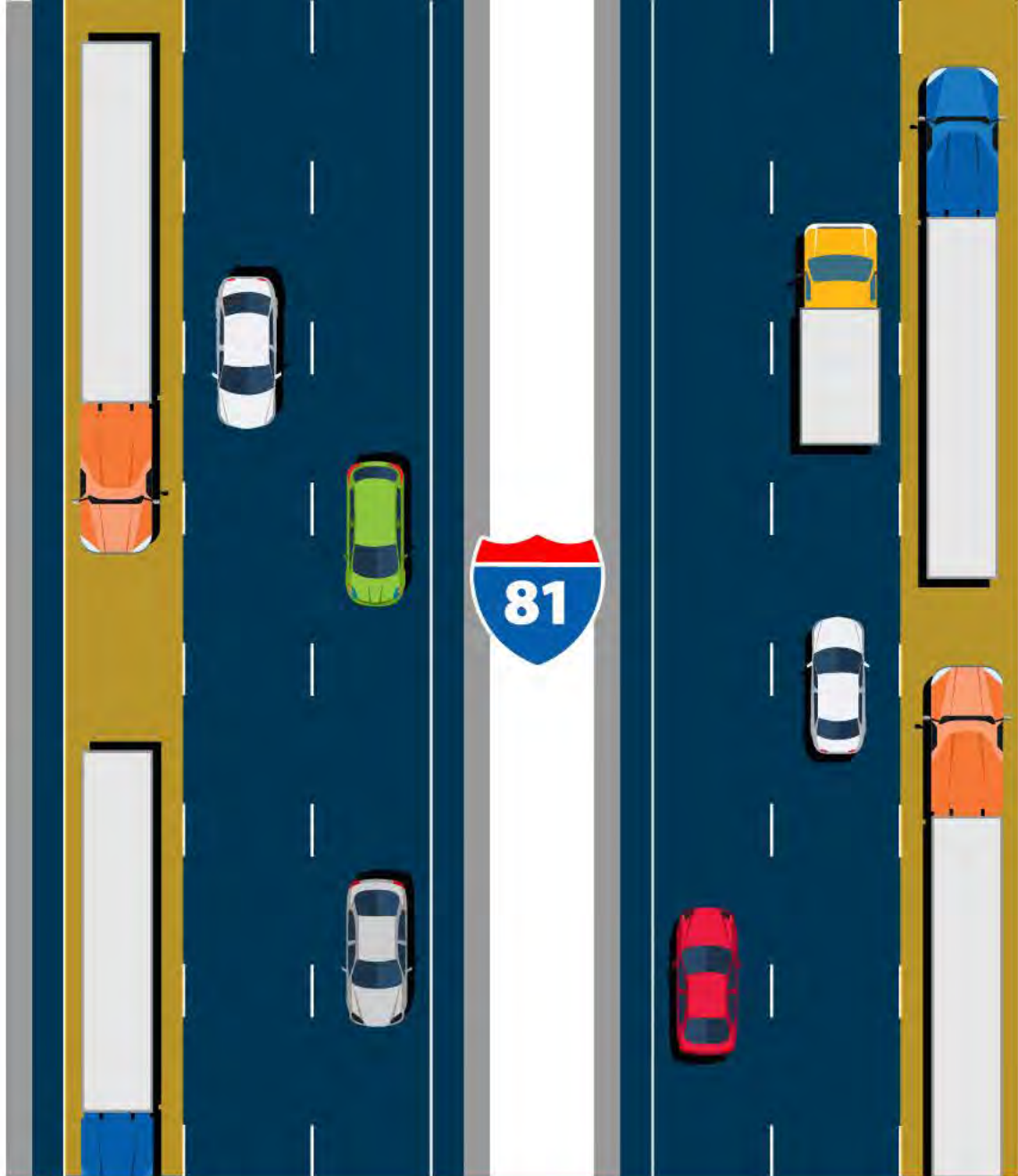


Infrastructure Improvements

Acceleration
& Deceleration
Extension



36 Improvements Planned

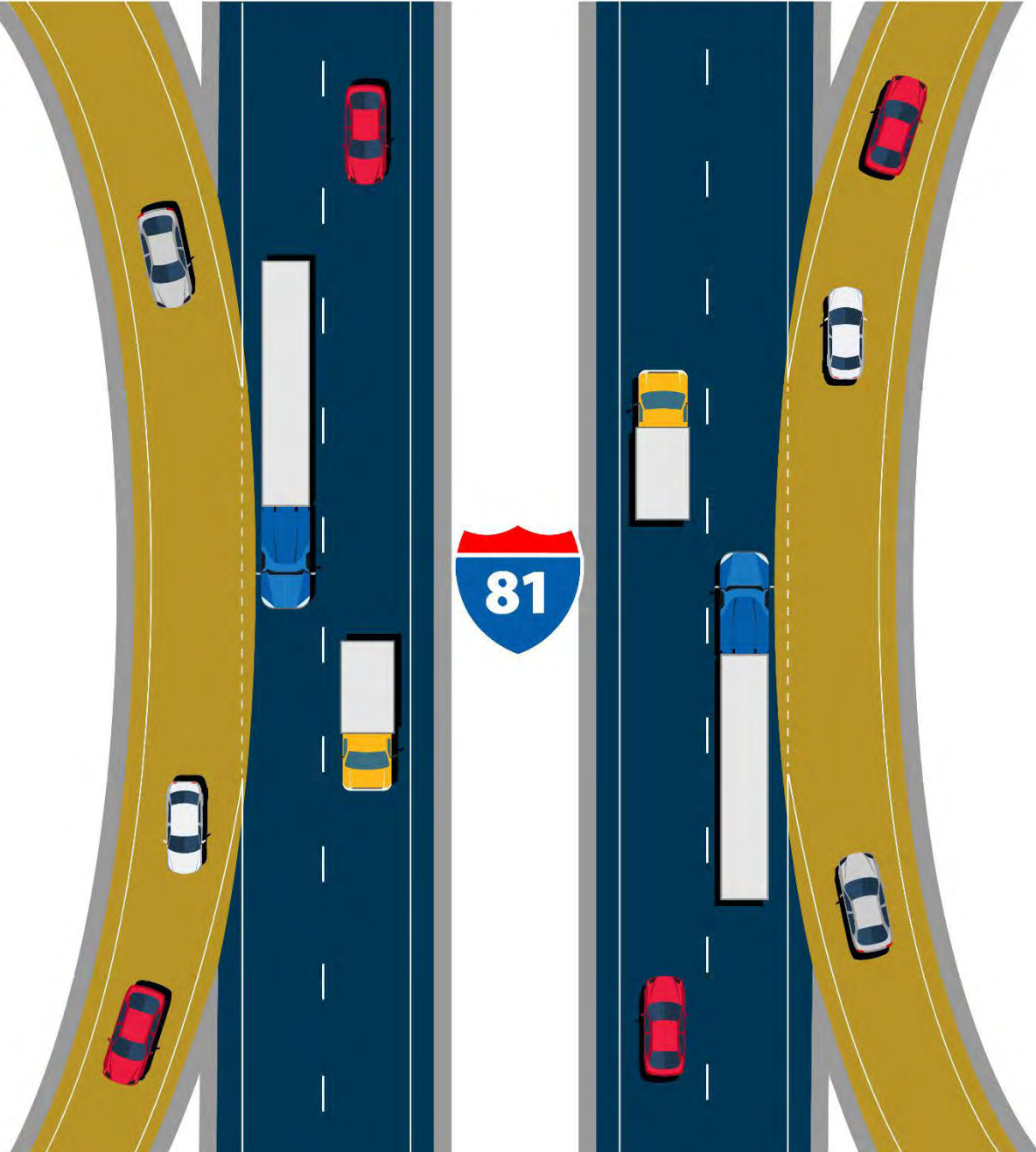


Infrastructure Improvements

Truck Climbing Lanes



5 Improvements Planned



Infrastructure Improvements

Auxiliary Lane



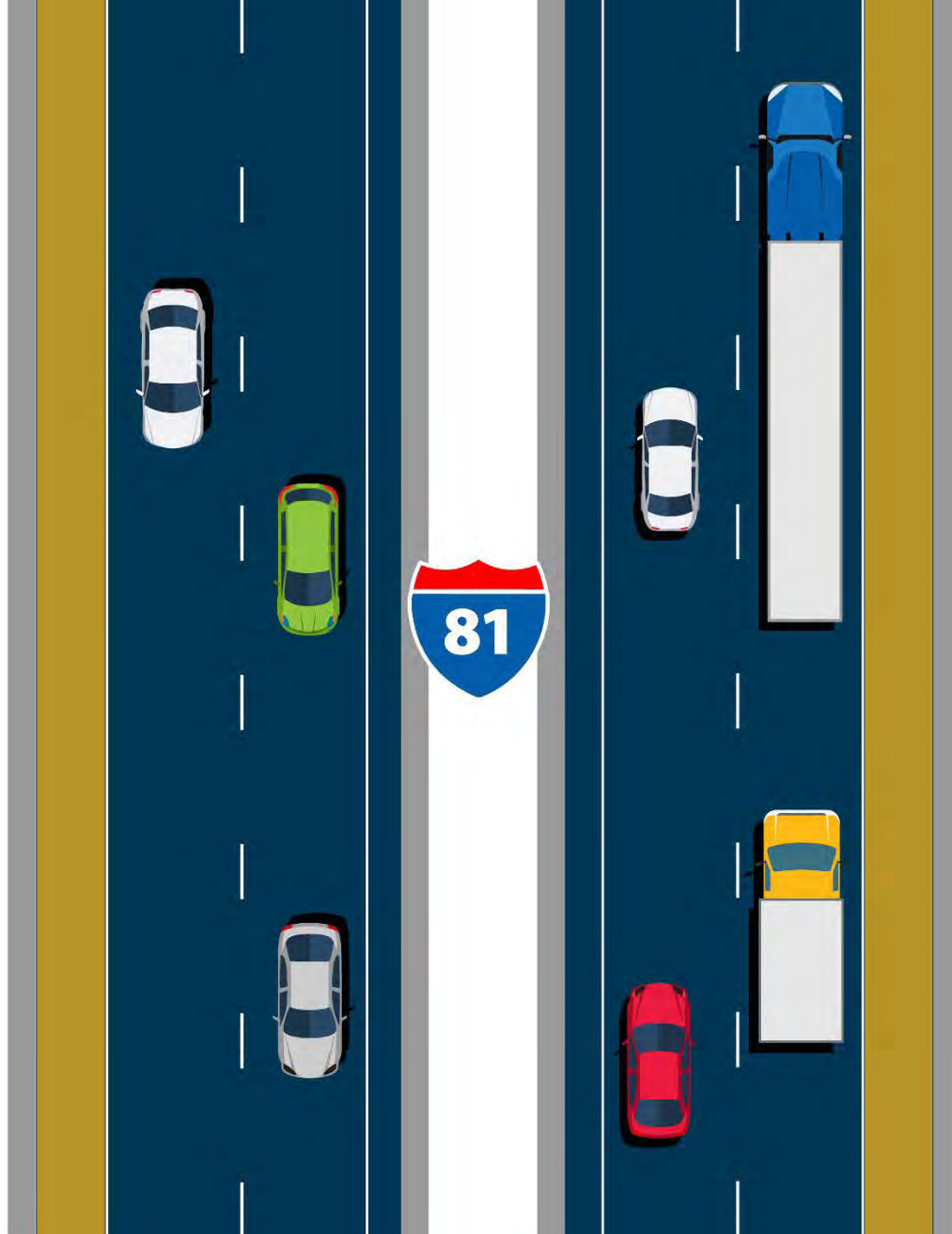
4 Improvements Planned

Infrastructure Improvements

Shoulder Widening

+S

1 Improvement Planned





New digital message signs



New traffic cameras



Extended safety service patrols



Detour route improvements



Improved incident clearance



Multimodal improvements



Curve improvements

Infrastructure Improvements

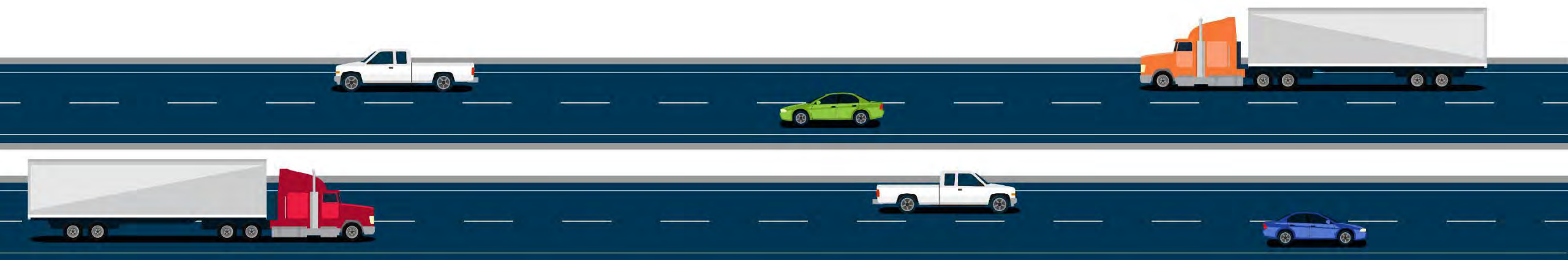
Operational Improvements



5 Improvements Delivered

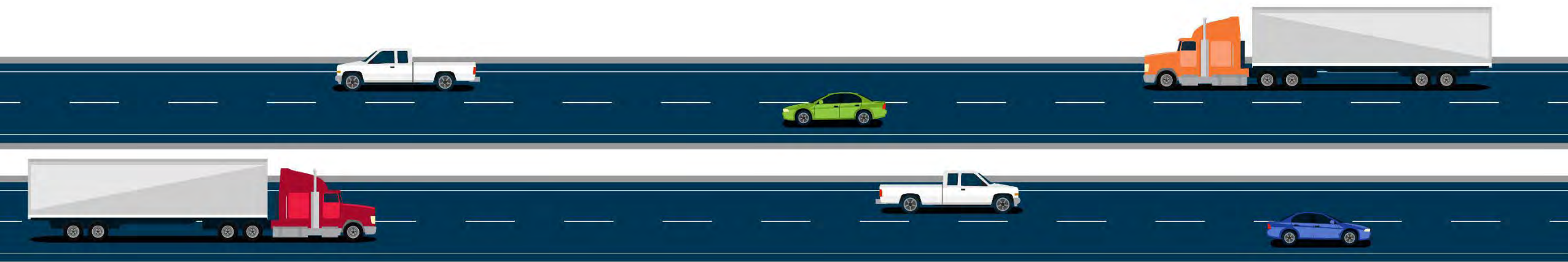
19 Program Improvement Initiatives

Completed through 2020



Upcoming Program Improvements

- Exit 137 to Exit 141 Design Build (2 projects bundled)
- MM 48 Single Phase Design-Build
- Continue Design of Capital Improvement Projects
- Complete Projects Under Construction
- Begin Arterial Improvements
- Execute TRIP Program



Planned Studies With Potential Future Improvements

The [I-81 Corridor Improvement Plan](#), Section 10, identified three areas for further analysis and potential future improvements based on the outcome of the analyses:



Truck Parking

Appendix I of the I-81 Study Report includes an analysis of truck parking availability along the corridor and identifies deficiencies. The Plan recommends the formation of a task force comprised of representatives from the Virginia Department of Transportation, The Virginia Department of Motor Vehicles, private travel center owners, economic development authorities, trucking associations, and representatives from local and regional governments and planning agencies. The purpose of the task force is to:

- Identify site-specific issues and overcome obstacles to parking development
- Investigate opportunities to fund the expansion of public and private truck parking facilities in targeted locations
- Develop a truck parking information system for public rest areas initially and examine opportunities to partner with the private sector
- Implement mobile technology to assist truck drivers with finding available and reserved parking

The Truck Parking Task Force was formed in August 2020 and has begun the work to serve its purpose.

Studies With Potential Future Improvements

The [I-81 Corridor Improvement Plan](#), Section 10, identified three areas for further analysis and potential future improvements based on the outcome of the analyses:



Speed Enforcement

With specific focus on the northern end of the I-81 Corridor within the Commonwealth, the I-81 Corridor Improvement Plan recommends the formation of a task force comprised of members of the Commonwealth Transportation Board, Department of State Police, and local law enforcement to determine strategies for enhanced speed enforcement.

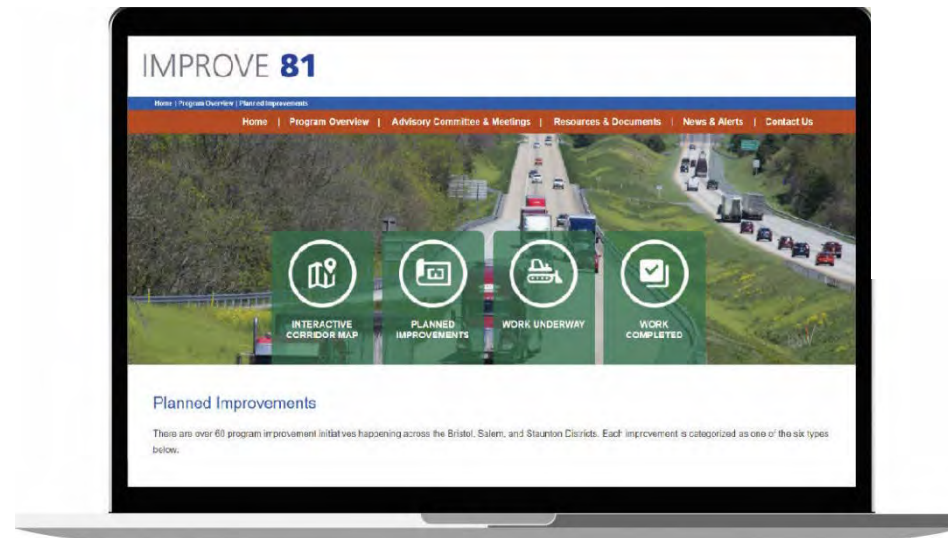


Multimodal Improvements

The I-81 Corridor Improvement Plan states that the Office of Intermodal Planning and Investment and the Virginia Department of Rail and Public Transportation will work through a cooperative process with the railroad industry, Amtrak, local governments, intercity bus operators, and regional planning bodies to fully develop the capital improvement needs to support impactful multimodal improvements along the I-81 Corridor.

Website Implementation

Improve81.org



Appendix E: October 2021 Commonwealth Transportation Board PowerPoint Presentation



COMMONWEALTH of VIRGINIA
Office of the
SECRETARY of TRANSPORTATION

Interstate 81 Corridor Improvement Program and Fund Update

Commonwealth Transportation Board Meeting
October 2021



Agenda

2019 Acts of Assembly

Performance Measures Comparison

Project Development Process

Assessment of Strategies

Annual Program Allocations and Financing Plan

Takeaway Scorecard

2019 Acts of Assembly

- Chapters 837 and 846 – CTB Report Requirements
- Report by December 15 to General Assembly
 - Performance of the I-81 corridor
 - Effectiveness of operational strategies and capital improvements
 - Status of projects
 - Current and projected I-81 Fund balance
- Annual program allocation
- Financing plan
- Schedule of projects and strategies

Performance Measures - Baseline Comparison

Safety and Performance of I-81

- Crash frequency and severity
- Person-hours of delay
- Number of incidents involving lane closures
- Average duration of incidents involving lane closures

Performance Measures - Baseline Comparison

| Start Year | End Year | Person Hours of Delay (Thousands) | | | Lane-Impacting Incidents | | | Hours of Lane Closures | | |
|-----------------------|----------|-----------------------------------|---------------|---------------|--------------------------|--------------|--------------|------------------------|---------------|--------------|
| | | Northbound | Southbound | Total | Northbound | Southbound | Total | Northbound | Southbound | Total |
| 2018 | 2019 | 2,116 | 1,471 | 3,587 | 1,894 | 1,691 | 3,585 | 2,329 | 1,812 | 4,141 |
| 2019 | 2020 | 1,908 | 1,245 | 3,153 | 1,763 | 1,580 | 3,343 | 2,121 | 1,627 | 3,748 |
| Percent Change | | -9.8% | -15.4% | -12.1% | -6.9% | -6.6% | -6.8% | -8.9% | -10.2% | -9.5% |

| Start Year | End Year | EPDO Crashes | | |
|-----------------------|----------|--------------|------------|------------|
| | | Northbound | Southbound | Total |
| 2015 | 2019 | 50,094 | 48,907 | 99,001 |
| 2016 | 2020 | 49,360 | 47,270 | 96,630 |
| Percent Change | | -1% | -3% | -2% |

Operational Improvement Project Status

| Operational Improvement Type | Status |
|---|---|
| Curve improvements (static and flashing chevrons) | ✓ |
| Safety Service Patrol enhancements | ✓ |
| Lift and tow | ✓ |
| Towing and Recovery Incentive Program (TRIP) | ✓ |
| Traffic camera installations | ✓ |
| Changeable message signs installations | Under construction Fixed completion date: October 28, 2021 |



Arterial Improvement Project Status

Corridor-wide Arterial Improvements

- Traffic signal upgrades
 - Planning and design continues in concert with coordination with localities for traffic signal system integration into the VDOT central signal system along entire corridor
- Parallel route upgrades
 - Minor geometric improvement projects to facilitate access to and from I-81 during incidents are complete (3 projects in Rockbridge County)

Project Development Process - Capital Projects



Capital Improvement Project Status - Bristol District

- 4 projects under design by VDOT staff
- 1 project under design by on-call consultant
- 2 projects under design by project-specific consultant (procured)
- 2 design-build projects (bundled) under development (**out year projects advanced**)
- 4 projects under construction
- 5 projects - contracts awarded, Spring constr.
- 2 projects - construction complete
- **Of the 18 SYIP projects in Bristol, all are currently under design or have construction completed. 2 out year projects advanced.**



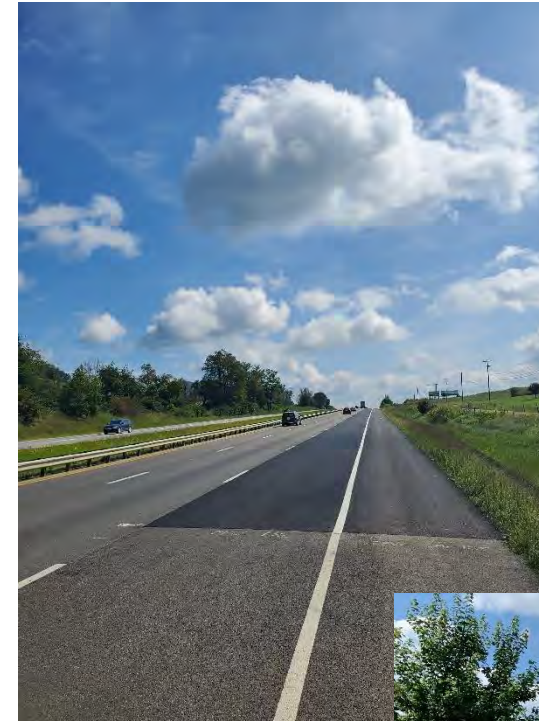
Exit 26 Washington County

Southbound
acceleration and
deceleration lane
extensions



Capital Improvement Project Status - Salem District

- 2 projects under design by VDOT staff
- 0 projects under design by on-call consultant
- 1 project under design by project-specific consultant (procured)
- 2 design-build projects (bundled) under construction
- 1 project - construction complete
- **Of the 6 SYIP projects in Salem, all are currently under design or construction**



Exit 89 Pulaski County

Northbound
deceleration lane
extension



Capital Improvement Project Status - Staunton District

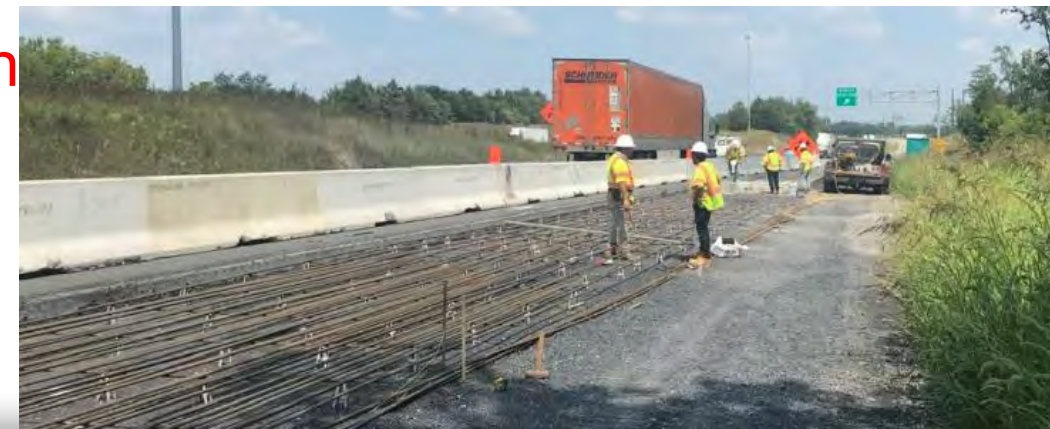
- 1 project under design by VDOT staff
- 1 project under design by on-call consultant
- 4 projects under design by project-specific consultants (procured)
- 0 design-build projects
- 5 projects under construction
- 5 projects – construction complete
- **Of the 16 current SYIP projects in the Staunton District, all are currently under design or have construction completed**



**Exit 269 -
Shenandoah
County**

**Northbound
deceleration
lane extension**

Truck Weigh Station, MM 304 - Frederick County
Northbound deceleration lane extension



Takeaway Scorecard

| Activity | Status | Actual/Anticipated Completion |
|---|--|-------------------------------|
| Curve improvements (8) | Complete | Fall 2019 |
| Initial accel/decel lane extensions (8) | Complete | Fall 2020 |
| Safety service patrol expansion | Complete | July 2019 |
| Additional cameras (51) | Complete | Spring 2021 |
| Additional changeable message signs | Nearly complete | October 2021 |
| Arterial upgrades | Underway (geometric improvements complete) | Varies by project |
| Remaining capital projects (19) | Underway | Varies by project |

Multimodal Project Status – Virginia Breeze Intercity Bus

- Establishing new daily roundtrip service from Bristol to Washington DC
 - Ribbon cutting on November 13th, service begins November 15th
- Anticipated annual ridership of 25,000 on new service, nearly doubling intercity bus ridership in the I-81 corridor
- Highlands Rhythm is the 4th route in the Virginia Breeze network – joining daily services between:
 - Valley Flyer – Blacksburg to DC
 - Piedmont Express – Danville to DC
 - Capital Connector – Martinsville to RVA and DC



Multimodal Project Status – Western Rail Initiative

- DRPT and NS signed a term sheet for a 2nd State-supported Amtrak train to Roanoke (commence 2022) and an extension of both trains to the New River Valley (commence 2026).
- Major features include: purchase of 28 miles of track, construction of a double track south of Manassas and passenger rail bypass of Roanoke Yard, and a station in the New River Valley.
- DRPT, VPRA, and the Office of the Attorney General are negotiating the definitive agreements, completing environmental reviews and due diligence.
- The addition of the 2nd train and the extension to the New River Valley are estimated to add 80,000 net new rides



Fiscal Year 2022-2027 Performance (in millions)

Interstate I-81 Improvement Funding

| Fund | PV | FY22 | FY23 | FY24 | FY25 | FY26 | FY27 |
|-------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| I-81 Regional Fuels Tax | \$ 110.1 | \$ 53.6 | \$ 57.3 | \$ 47.5 | \$ 59.5 | \$ 56.2 | \$ 43.9 |
| I-81 Bond Proceeds | | \$ 101.9 | - | - | - | - | \$ 14.8 |
| I-81 TIFIA Proceeds | | \$ 101.8 | - | \$ 258.2 | - | - | \$ 379.8 |
| Interstate 81 Fund | \$ 119.6 | \$ 55.6 | \$ 68.4 | \$ 68.3 | \$ 71.6 | \$ 75.2 | \$ 71.2 |
| Total | \$ 229.7 | \$ 312.9 | \$ 125.7 | \$ 374.0 | \$ 131.1 | \$ 131.4 | \$ 509.7 |

Fund balance as of June 30, 2021 **\$198.8 million**

Fund balance as of September 30, 2021 **\$215.4 million**

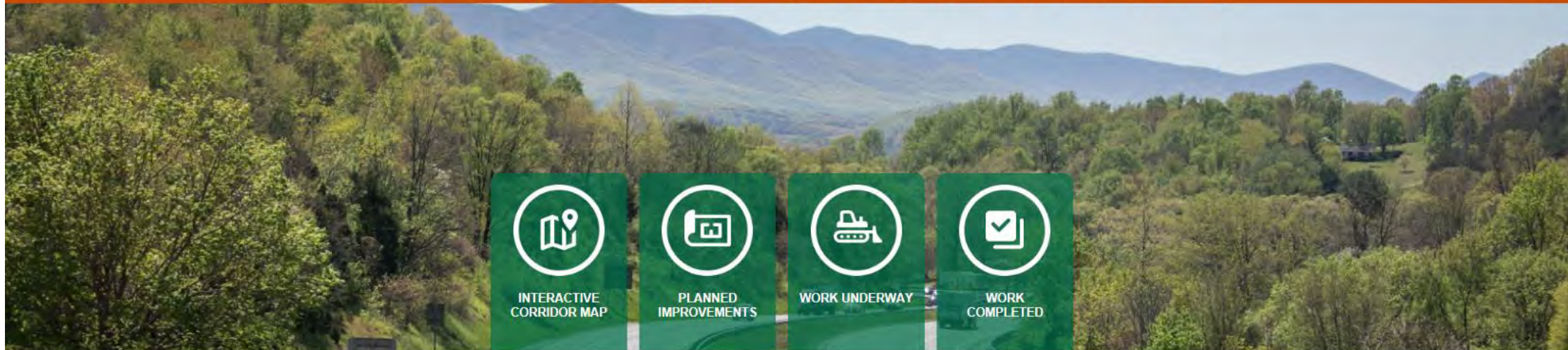
Study Website Improve81.org

IMPROVE 81



Home

Home | Program Overview | Advisory Committee & Meetings | Resources & Documents | News & Alerts | Contact Us



What Is The I-81 Improvement Program?

The I-81 Corridor Improvement Program consists of innovative, targeted improvements that will have a substantial effect on the safety and reliability of a critical portion of our nation's infrastructure.



Appendix F: December 2021 Commonwealth Transportation Board Resolution



COMMONWEALTH of VIRGINIA

Commonwealth Transportation Board

Shannon Valentine
Chairperson

1401 East Broad Street
Richmond, Virginia 23219

(804) 786-2701
Fax: (804) 786-2940

Agenda item # 10

RESOLUTION OF THE COMMONWEALTH TRANSPORTATION BOARD

December 8, 2021

MOTION

Made By: _____ Seconded By: _____

Action: _____

Title: Approval of Interstate 81 Corridor Improvement Program Progress Report

WHEREAS, Chapter 743 of the 2018 Acts of Assembly, the General Assembly directed the Commonwealth Transportation Board (Board), to study financing options for improvements to Interstate I-81 (I-81) and, with support from the Office of Intermodal Planning and Investment, develop and adopt an I-81 Corridor Improvement Plan (Plan); and

WHEREAS, the Board adopted the Plan on December 5, 2018, which identified targeted improvements for potential financing and evaluated such improvements using the statewide prioritization process; and

WHEREAS, Chapters 837 and 846 of the 2019 Acts of Assembly established Chapter 36 (§ 33.2-3600 *et seq.*) of Title 33.2 of the *Code of Virginia*, creating the I-81 Corridor Improvement Fund (Fund), and directing the Board to establish the I-81 Committee (Committee), to adopt an I-81 Corridor Improvement Program (Program), to update the Program by July 1st of each year and to report to the General Assembly the status and progress of implementation of the Program (I-81 Corridor Improvement Program Progress Report) by December 15th of each year; and

WHEREAS, pursuant to § 33.2-3603, the Board established the I-81 Committee on May 15, 2019; and

WHEREAS, pursuant to § 33.2-3602, the I-81 Corridor Improvement Program shall, at a minimum:

1. Allocate year by year the revenues, if any, from the Fund and bond proceeds, if any, backed by the Fund to projects and strategies identified in the Plan adopted by the Board in 2018 and as may be adopted from time to time;
2. Include a financing plan to support such allocation; and
3. Include a schedule for all new projects and strategies identified in the Plan adopted by the Board; and

WHEREAS, prior to the adoption of such Program, the Board shall review the recommendations of and consult with the I-81 Committee; and

WHEREAS, pursuant to § 33.2-3602, the I-81 Corridor Improvement Program Progress Report must include, at a minimum:

1. The safety and performance of the Interstate 81 Corridor, including the number of incidents, the average duration of incidents, the number and average duration of incidents involving lane closures, and the person-hours of delay along the Interstate 81 corridor;
2. An assessment of the effectiveness of the operational strategies and capital projects implemented and funded through the Program;
3. The status of capital projects funded through the Program; and
4. The current and projected balances of the Fund.

WHEREAS, the I-81 Committee received a copy of the draft I-81 Corridor Improvement Program Progress Report on November 22, 2021, for review and comment; and

WHEREAS, the I-81 Corridor Improvement Program Progress Report completely satisfies the above-referenced requirements set forth in § 33.2-3602.

NOW, THEREFORE, BE IT RESOLVED, the Board approves the annual I-81 Corridor Improvement Program Progress Report, attached hereto as Attachment A, as required by § 33.2-3602 of the *Code of Virginia*.

####

Appendix G: April 2021 I-81 Committee PowerPoint Presentation

IMPROVE **81**

I-81 CORRIDOR IMPROVEMENT PROGRAM

I-81 Committee Meeting

Dave Covington, PE – VDOT I-81 Program Delivery Director

April 28, 2021

Program Benefits



Enhanced Safety

This program will implement a series of improvements such as lane and shoulder widening to reduce the rate and frequency of crashes along the corridor.



Reduced Congestion

The program will reduce congestion and improve reliability by adding capacity in targeted areas of the corridor and improve speed of incident clearance to help limit travel delays.



Economic Development

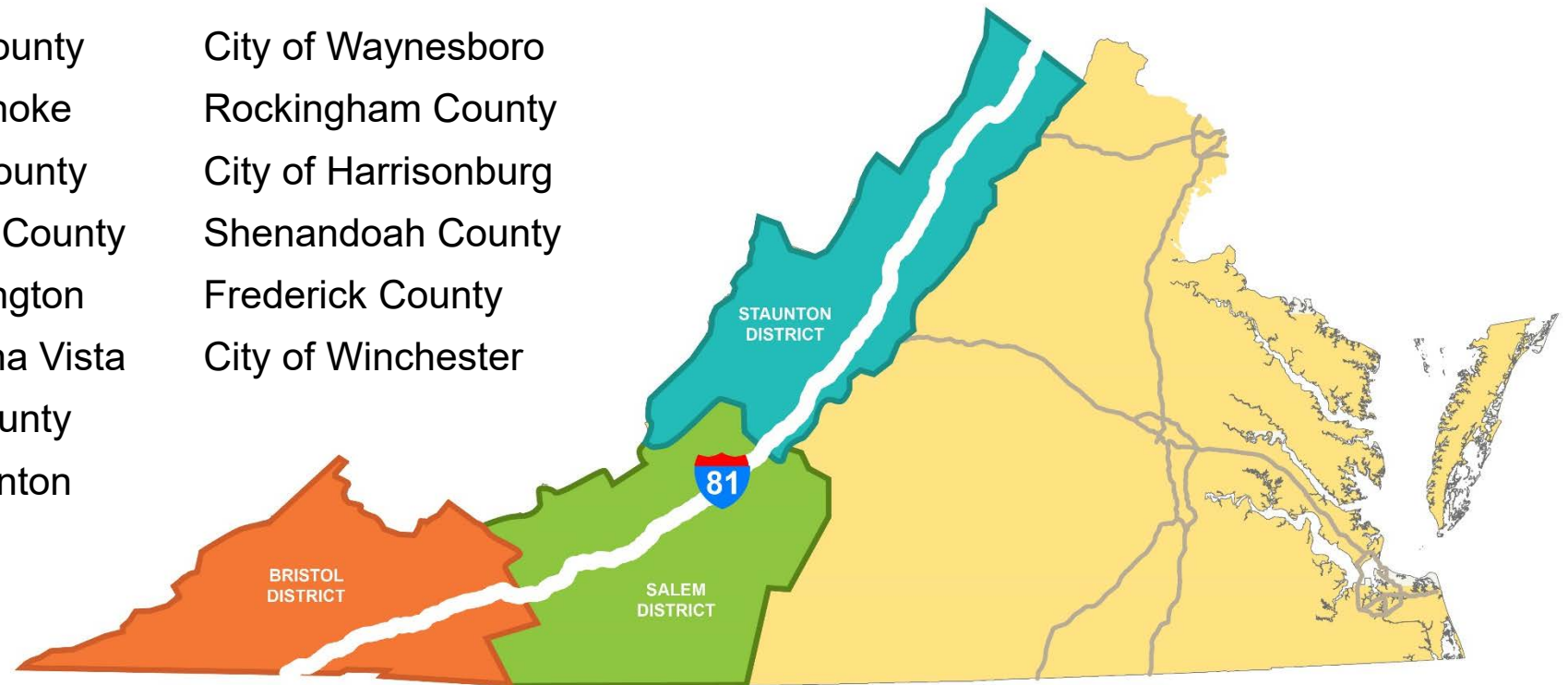
I-81 is the main corridor and key economic artery of western Virginia. These improvements will ensure that goods and services critical to our economy move safely and efficiently through and within the region.

Planned Improvements









The **325-mile long corridor** spans three VDOT districts: **Bristol, Salem, and Staunton.**

Localities along the corridor include:

| | | |
|-------------------|---------------------|----------------------|
| City of Bristol | Roanoke County | City of Waynesboro |
| Washington County | City of Roanoke | Rockingham County |
| Smyth County | Botetourt County | City of Harrisonburg |
| Wythe County | Rockbridge County | Shenandoah County |
| Pulaski County | City of Lexington | Frederick County |
| City of Radford | City of Buena Vista | City of Winchester |
| Montgomery County | Augusta County | |
| City of Salem | City of Staunton | |



Takeaway Scorecard

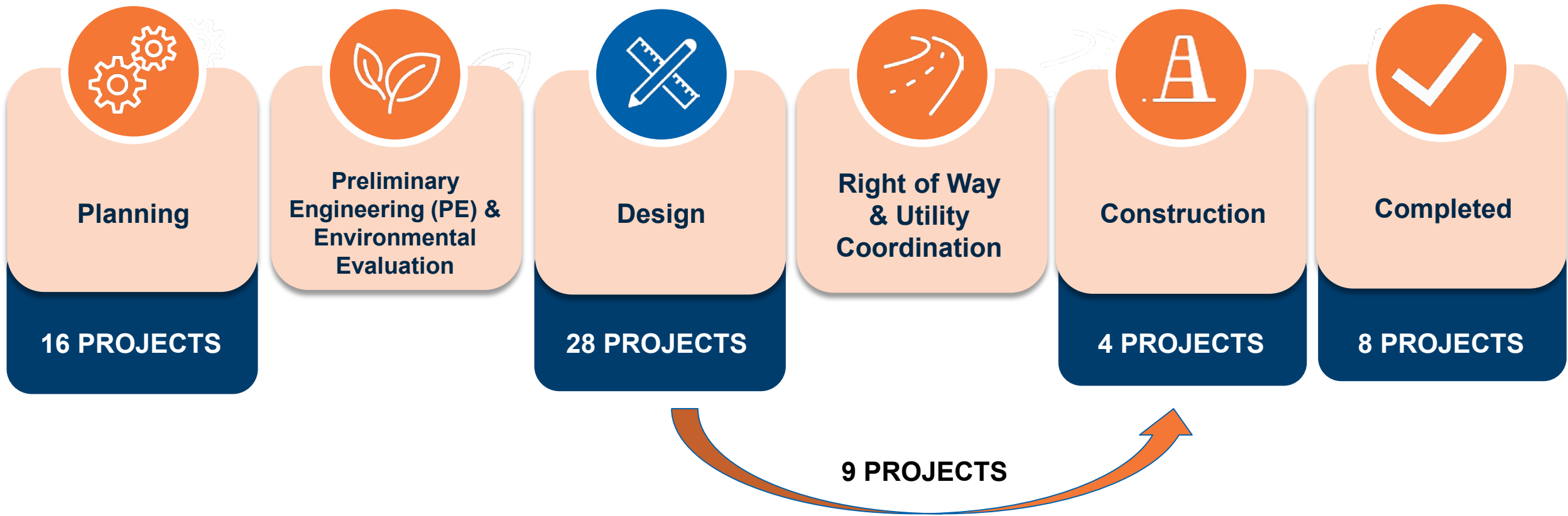
| Activity | Status | Anticipated Completion |
|---|--|------------------------|
| Curve improvements (8) |  Complete | Fall 2019 |
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| Safety Service Patrol Expansion |  Complete | Summer 2019 |
| Additional Cameras (51) |  Complete | Spring 2020 |
| Additional Digital Message Signs |  Underway | Fall 2021 |
| Arterial Upgrades |  Underway | Varies by project |
| Active Construction Projects (4) |  Underway | Varies by project |
| Remaining capital projects (28) |  Underway | Varies by project |

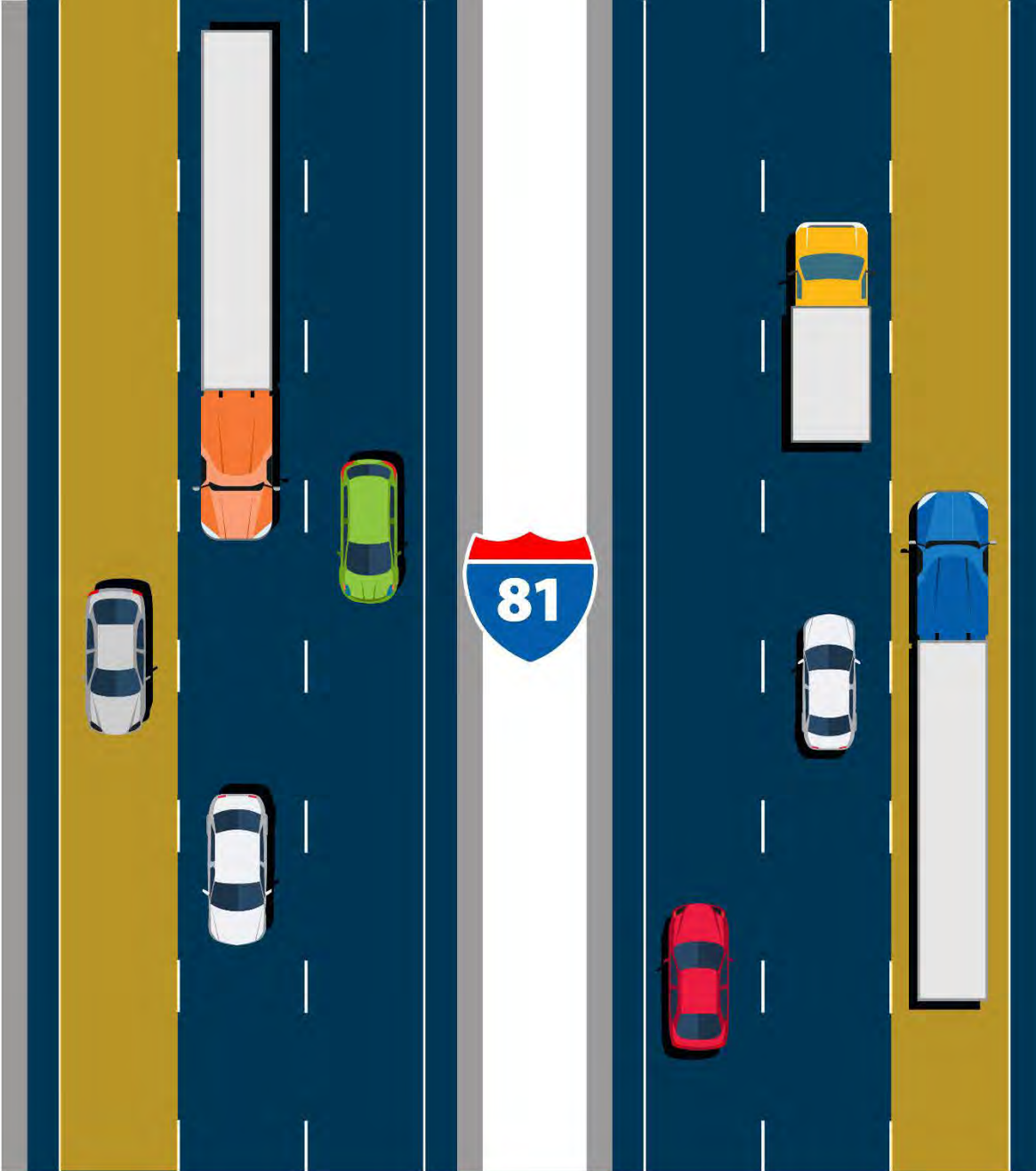
More than
64 Program
Improvements

More than
94% of the contractors and
consultants working on this
program call Virginia home



Project Development Process (Capital Projects)

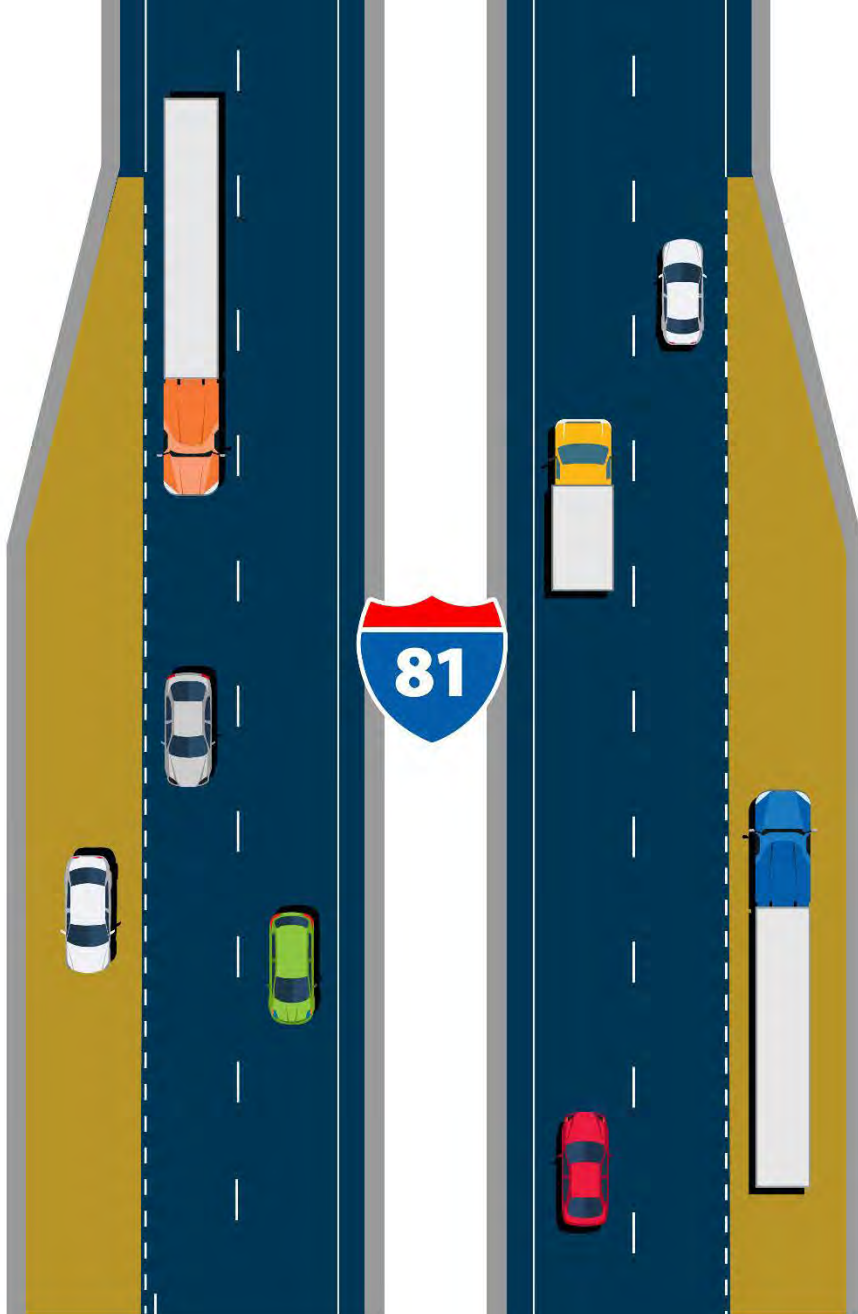




Infrastructure Improvements

Widening +1

10 Improvements Planned

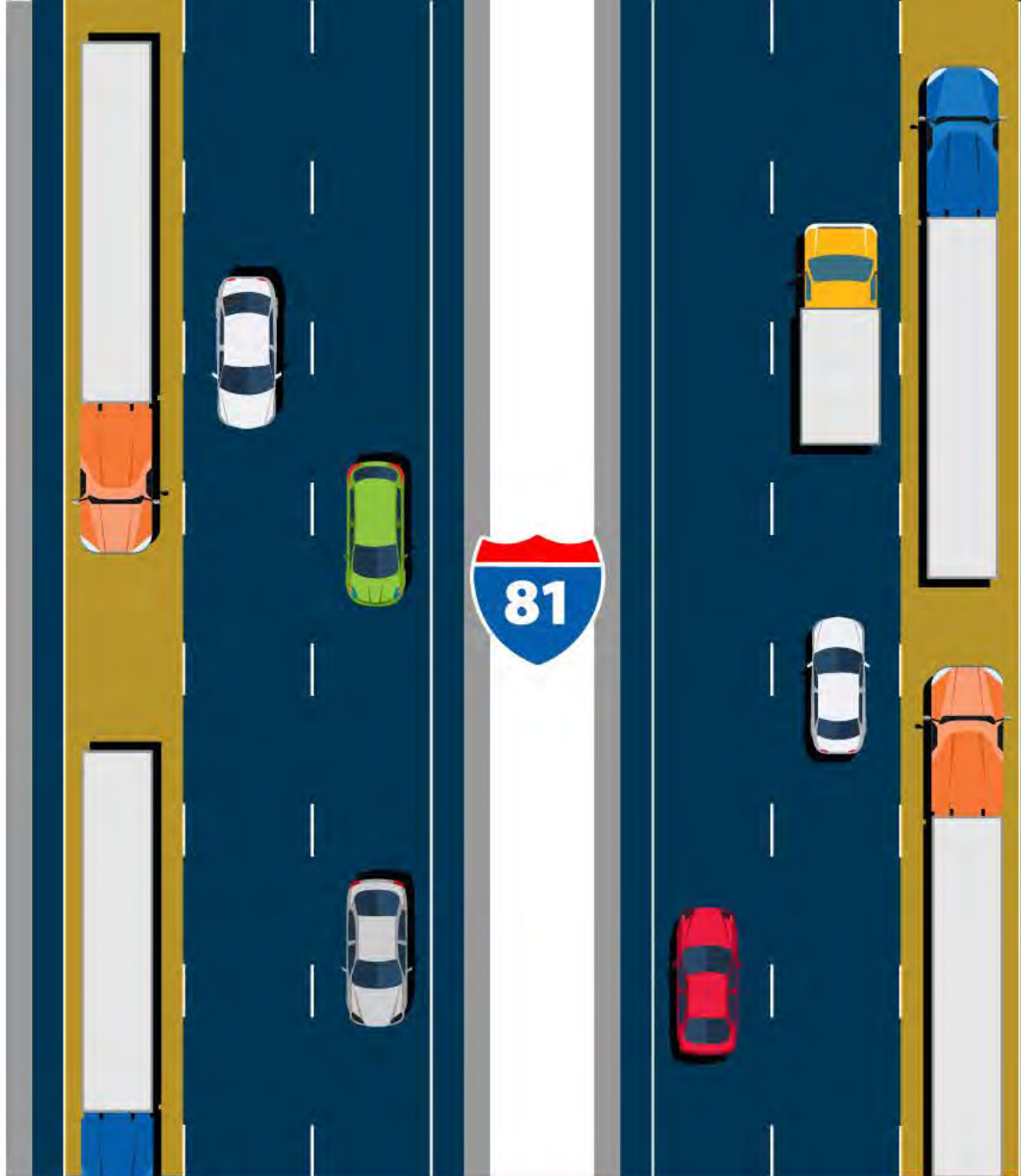


Infrastructure Improvements

Acceleration
& Deceleration
Extension



36 Improvements Planned

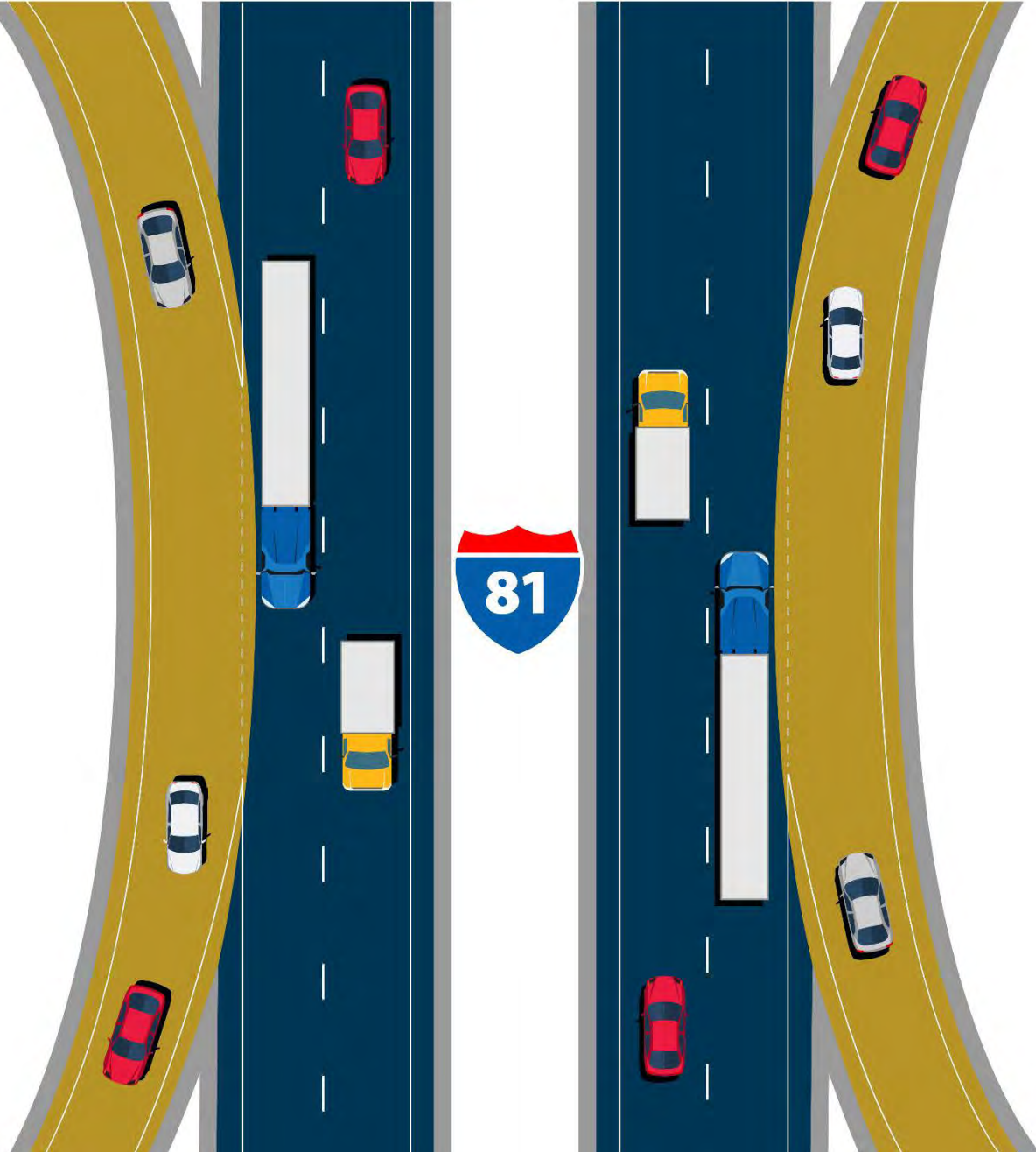


Infrastructure Improvements

Truck Climbing Lanes



5 Improvements Planned



Infrastructure Improvements

Auxiliary Lane



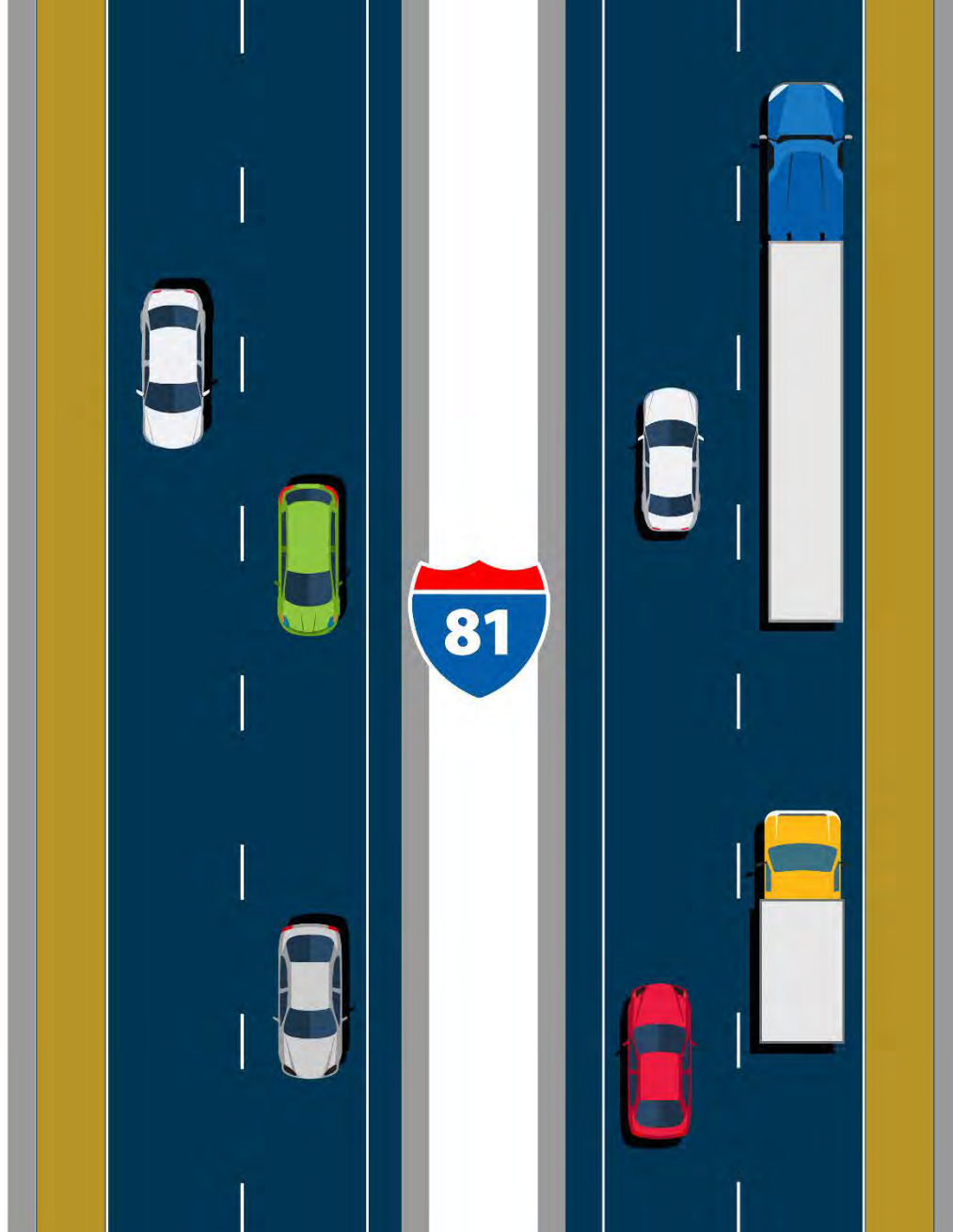
4 Improvements Planned

Infrastructure Improvements

Shoulder Widening

+S

1 Improvement Planned





New digital message signs



New traffic cameras



Extended safety service patrols



Detour route improvements



Improved incident clearance



Multimodal improvements



Curve improvements

Infrastructure Improvements

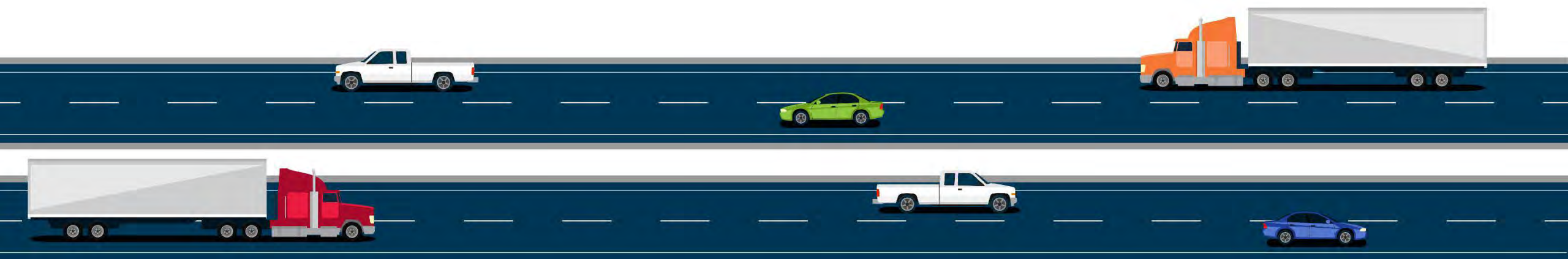
Operational Improvements



5 Improvements Delivered

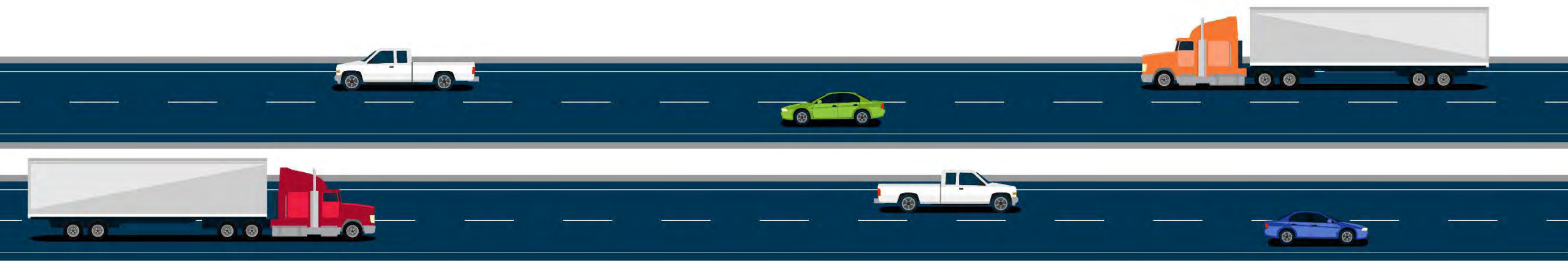
19 Program Improvement Initiatives

Completed through 2020



Upcoming Program Improvements

- Exit 137 to Exit 141 Design Build (2 projects bundled)
- MM 48 Single Phase Design-Build
- Continue Design of Capital Improvement Projects
- Complete Projects Under Construction
- Begin Arterial Improvements
- Execute TRIP Program



Planned Studies With Potential Future Improvements

The [I-81 Corridor Improvement Plan](#), Section 10, identified three areas for further analysis and potential future improvements based on the outcome of the analyses:



Truck Parking

Appendix I of the I-81 Study Report includes an analysis of truck parking availability along the corridor and identifies deficiencies. The Plan recommends the formation of a task force comprised of representatives from the Virginia Department of Transportation, The Virginia Department of Motor Vehicles, private travel center owners, economic development authorities, trucking associations, and representatives from local and regional governments and planning agencies. The purpose of the task force is to:

- Identify site-specific issues and overcome obstacles to parking development
- Investigate opportunities to fund the expansion of public and private truck parking facilities in targeted locations
- Develop a truck parking information system for public rest areas initially and examine opportunities to partner with the private sector
- Implement mobile technology to assist truck drivers with finding available and reserved parking

The Truck Parking Task Force was formed in August 2020 and has begun the work to serve its purpose.

Studies With Potential Future Improvements

The [I-81 Corridor Improvement Plan](#), Section 10, identified three areas for further analysis and potential future improvements based on the outcome of the analyses:



Speed Enforcement

With specific focus on the northern end of the I-81 Corridor within the Commonwealth, the I-81 Corridor Improvement Plan recommends the formation of a task force comprised of members of the Commonwealth Transportation Board, Department of State Police, and local law enforcement to determine strategies for enhanced speed enforcement.



Multimodal Improvements

The I-81 Corridor Improvement Plan states that the Office of Intermodal Planning and Investment and the Virginia Department of Rail and Public Transportation will work through a cooperative process with the railroad industry, Amtrak, local governments, intercity bus operators, and regional planning bodies to fully develop the capital improvement needs to support impactful multimodal improvements along the I-81 Corridor.

Website Implementation

Improve81.org





I-81 Multimodal Improvements Funding Recommendations

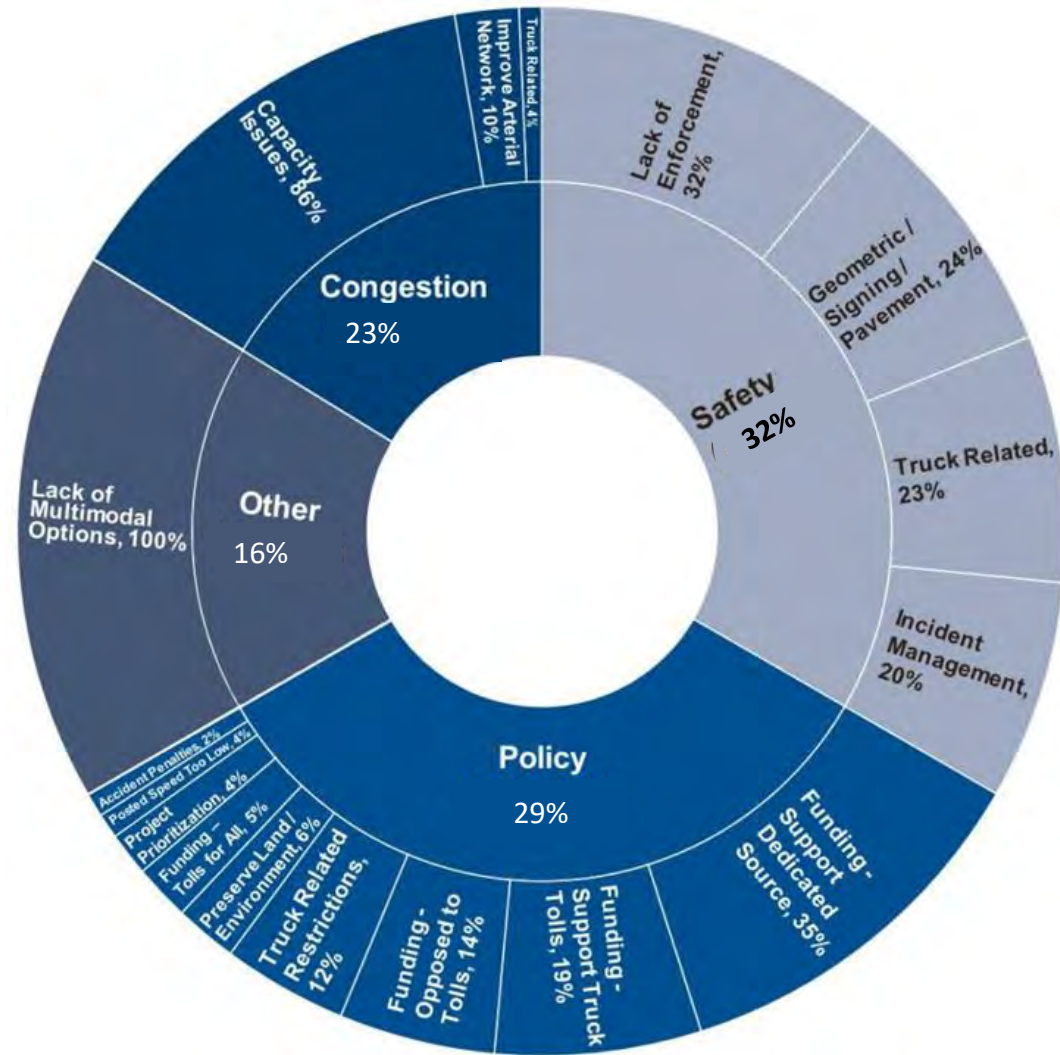
April 28, 2021

I-81 CORRIDOR
IMPROVEMENT PLAN



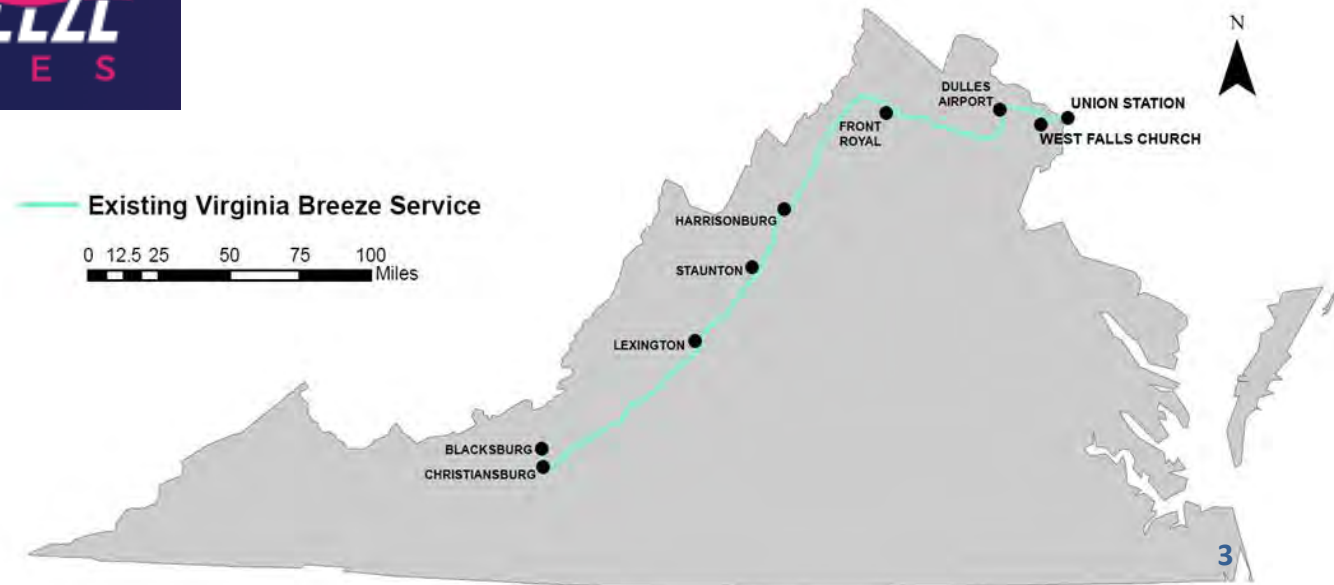
Background

- Over 300 comments from I-81 Corridor Improvement public meetings referenced lack of multimodal options
- DRPT has identified potential transit and rail improvements, taking into account existing gaps in service
- DRPT briefed the I-81 Advisory Committee on technical study in October 2020



Virginia Breeze Expansion

- *Virginia Breeze* Bus Lines operates the Valley Flyer daily roundtrip service between Blacksburg and Washington D.C. with stops in the Shenandoah Valley, Front Royal, Dulles Airport, and Arlington
- DRPT studied an expansion of *Virginia Breeze* intercity bus service to Bristol, along with new bus stops and critical improvements to existing intercity bus stops along the corridor



Virginia Breeze Expansion

- Provide new daily roundtrip service from Bristol to Washington DC
- Anticipated annual ridership of 25,000 on new service, nearly doubling intercity bus ridership in the corridor
- Net annual O&M cost estimated at \$243,000*
- Corridor bus stop improvements estimated at \$100,000*
 - Improvements to existing Front Royal and Lexington stops
 - New bus stops at Bristol, Wytheville, and Salem
- Service to be initiated in Fall 2021

*All costs shown are 2022 YOE

25,000 New Riders
Estimated to be added
to a Route that had
27,000 riders in 2019.



Western Rail Initiative

- 2nd State-Supported Round Trip would connect the Northeast Corridor and Alexandria, Burke, Manassas, Culpeper, Charlottesville, Lynchburg and Roanoke
- Extension of Service to New River Valley
- Discussions with NS ongoing



80,000 New Riders Estimated to be added to a Route that had 220,000 riders in 2019.

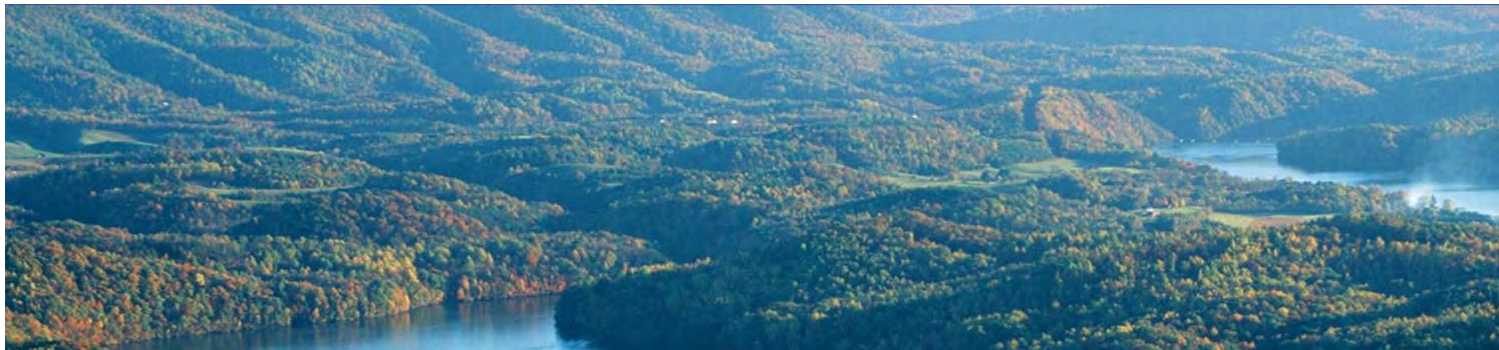
Western Rail Initiative Funding

- Budget Bill Passed General Assembly in March (\$83.5M)
- I-81 Multimodal Funding (\$100M)
- SMART SCALE (application submitted by CTB for \$50M)
- SYIP and Commonwealth Rail Fund Allocations



Next Steps

- CTB Approval of SYIP – June
- Western Rail Initiative:
 - Continue Engineering Due Diligence
 - Continue Negotiations with Norfolk Southern
- Virginia Breeze:
 - Negotiate contract for additional I-81 service
 - Corridor branding/marketing
 - Initiate service – Fall 2021





I-81 Multimodal Improvements Funding Recommendations

April 28, 2021

I-81 CORRIDOR
IMPROVEMENT PLAN





I-81 Project Finance Update

Series 2021 Authorization

 Laura Farmer
Chief Financial Officer

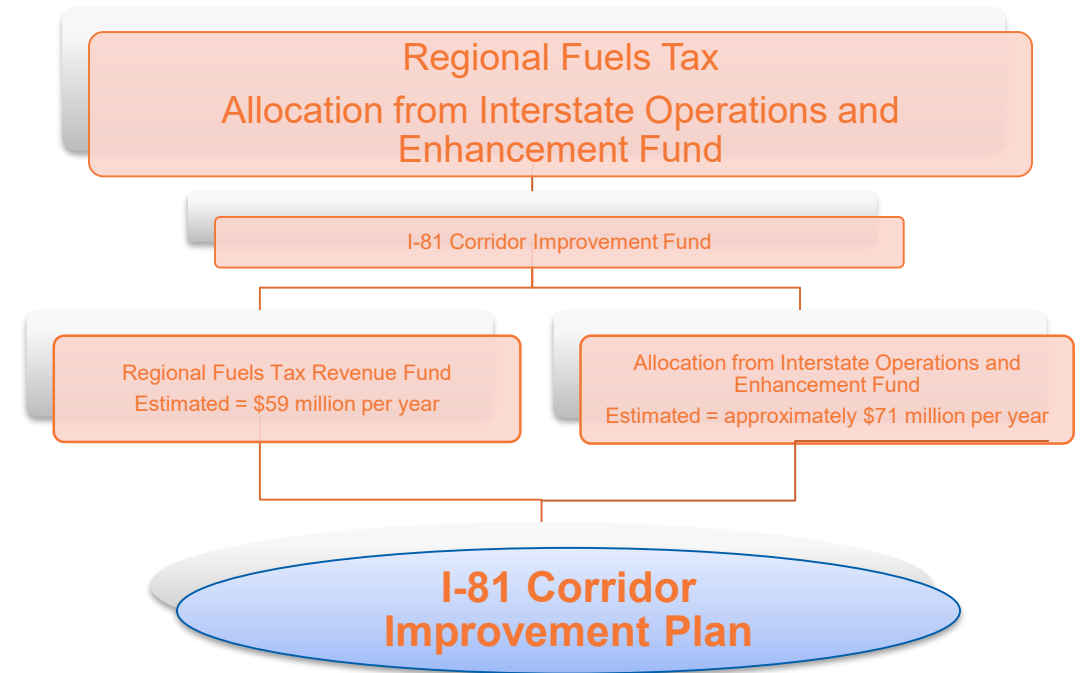
April 20, 2021

Legislative Background

- **Chapters 837 and 846 (HB 2718 and SB 1716)**
 - Created the Interstate 81 Corridor Improvement Program and Fund
 - Provided new transportation revenues to support the interstate highways and specifically I-81
- **Chapters 1230 and 1275 (HB 1414 and SB 890)**
 - Authorized the sale and issuance of bonds with an aggregate principal amount not to exceed \$1 billion
 - Changed the localities contributing to fuel tax revenue for I-81 Fund to those through which I-81 passes or cities wholly encompassed by a county through which I-81 passes
 - Provided allocated funding through the Interstate Operations and Enhancement Program (IOEP)

Funding Sources and Structure

- **Dedicated funding for the I-81 Program is deposited in the I-81 Corridor Improvement Fund and includes:**
 - Regional Fuels Tax along the I-81 Corridor
 - Share of statewide revenues from allocation of the IOEP
- **Regional Fuels Tax**
 - July 1, 2019 through June 30, 2020, additional 2.1% tax on gasoline and diesel sold by a distributor to a retail dealer
 - Effective July 1, 2020, changed to a per gallon rate subject to annual CPI-U adjustment
 - May be leveraged for debt service and paygo
- **Allocation from IOEP**
 - I-81 receives allocation equal to ratio of Vehicle Miles Traveled (VMT) on I-81 by vehicles Class 6 or higher to total VMT on all Interstate highways
 - May provide funding only for paygo



Revenue Performance and Projections

Interstate 81 Improvement Fund (in millions) - Actual Receipts for FY 2020 and Projections for FY 2021-2027

| Source | FY 2020 | FY 2021* | FY 2022 | FY 2023 | FY 2024 | FY 2025 | FY 2026 | FY 2027 | Total |
|--|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|
| Regional Fuels Tax | \$69.8 | \$59.3 | \$61.0 | \$62.8 | \$64.2 | \$65.0 | \$66.1 | \$67.7 | \$515.9 |
| Interstate Operation and Enhancement Program | 22.6 | 71.3 | 69.4 | 69.4 | 69.4 | 72.7 | 76.3 | 72.3 | 523.4 |
| Interest Income | 0.7 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 4.2 |
| Total | \$93.1 | \$131.1 | \$130.9 | \$132.7 | \$134.1 | \$138.2 | \$142.9 | \$140.5 | \$1,043.5 |

*FY 2021 regional fuels tax collections as March 31, 2021 were \$53.8 million

| | |
|---|---------|
| Project Expenditures through March 31, 2021 | \$24.8 |
| Cash Balance on March 31, 2021 | \$123.1 |

I-81 Corridor Program – Project Costs

- **Project costs total \$2.87* billion over life of program**
 - Comprised of operational and capital improvements
 - No single project exceeds 11% of the Program
 - Projects are implemented in phases through 2038 based on current revenue assumptions and debt model
 - Projects are independent of each other

| | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | Total |
|---------------------------------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|------|------|------|------|------|---------|
| <i>in millions</i> | | | | | | | | | | | | | | | | | | | | |
| Operational Improvements | \$11 | \$16 | \$12 | \$45 | \$43 | \$38 | \$39 | \$39 | \$39 | \$14 | \$14 | \$15 | \$15 | \$15 | \$16 | \$16 | \$17 | \$17 | \$18 | \$441 |
| Capital Improvements | | | | | | | | | | | | | | | | | | | | |
| Rural Projects | \$1 | \$2 | \$29 | \$26 | \$36 | \$87 | \$64 | \$114 | \$114 | \$45 | \$21 | | | | | | | | | \$540 |
| Regular Projects | \$2 | \$1 | \$58 | \$58 | \$58 | \$168 | \$244 | \$180 | \$218 | \$154 | \$154 | \$84 | \$84 | \$121 | \$77 | \$77 | \$77 | \$37 | \$37 | \$1,889 |
| sub-total | \$3 | \$3 | \$87 | \$85 | \$95 | \$255 | \$308 | \$294 | \$333 | \$199 | \$175 | \$84 | \$84 | \$121 | \$77 | \$77 | \$77 | \$37 | \$37 | \$2,429 |
| Total | \$14 | \$19 | \$100 | \$130 | \$138 | \$293 | \$347 | \$333 | \$372 | \$213 | \$189 | \$98 | \$99 | \$136 | \$93 | \$93 | \$94 | \$55 | \$55 | \$2,870 |

* Preliminary and subject to change

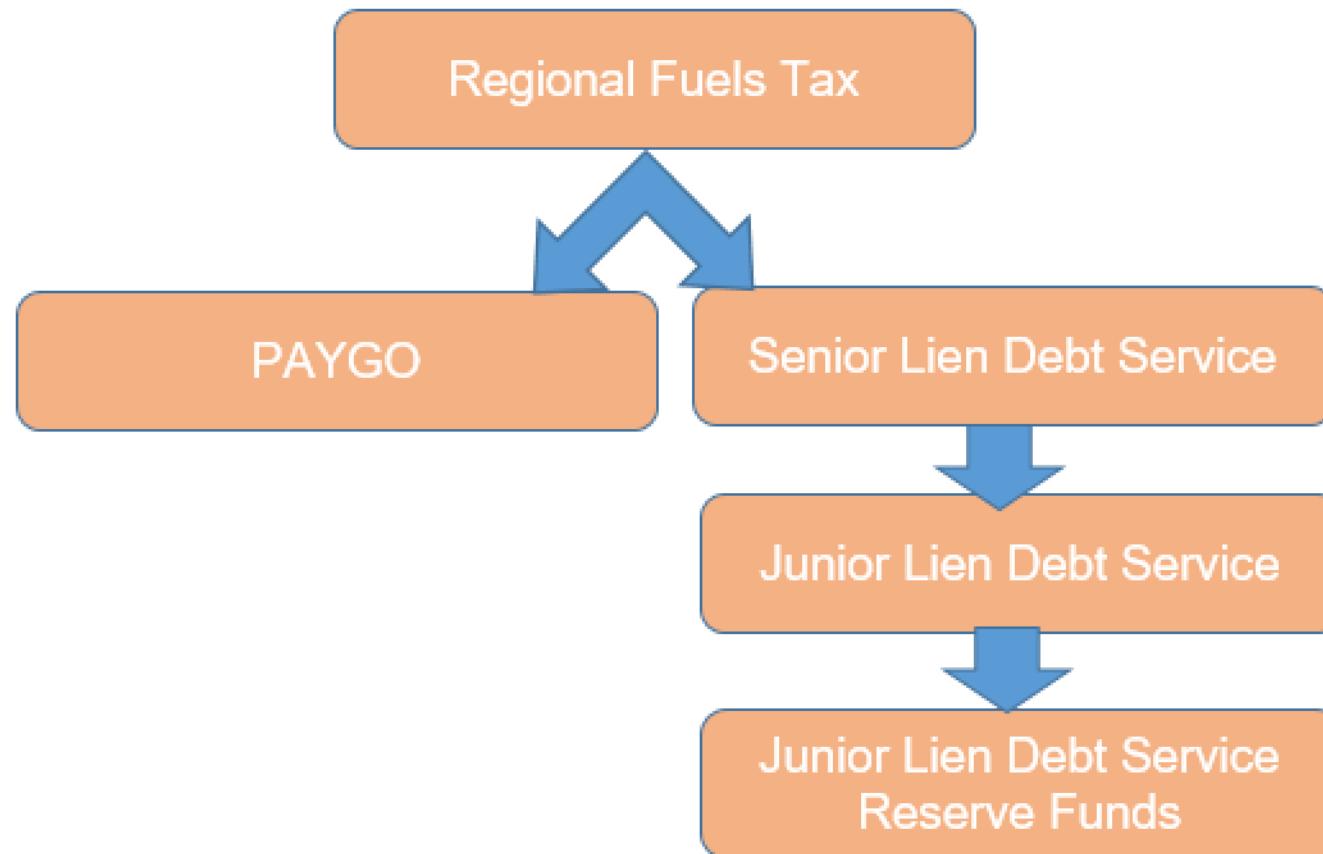
Debt Issuance Plan

- The I-81 Regional Fuels Tax revenues will support all debt issued
- Will not impact debt capacity of the Commonwealth
- Similar to bond programs implemented by NVRTA and HRTAC backed by regional revenues
- Mixture of municipal bonds and Transportation Infrastructure Financing Innovation Act (TIFIA) loans over the life of the program

| | 2021 Financings | Future Financings | Total |
|--------------------------------|-----------------|-------------------|---------|
| <i>Funded Costs (in \$MM)</i> | | | |
| Senior Lien Bonds | \$99 | \$30 | \$129 |
| Senior Lien Rural TIFIA Loan | \$19 | \$258 | \$277 |
| Junior Lien Regular TIFIA Loan | \$77 | \$517 | \$594 |
| <i>Total</i> | \$195 | \$805 | \$1,000 |

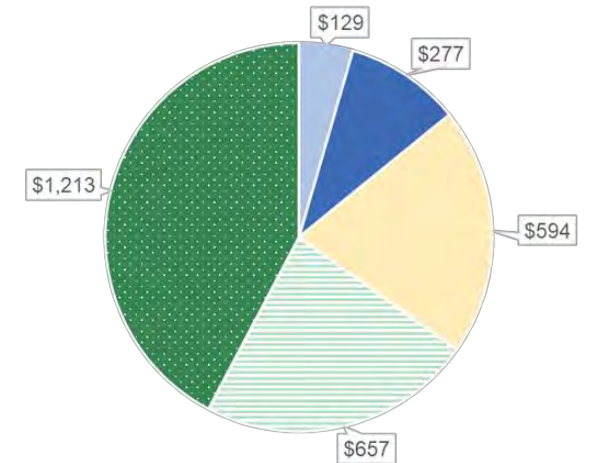
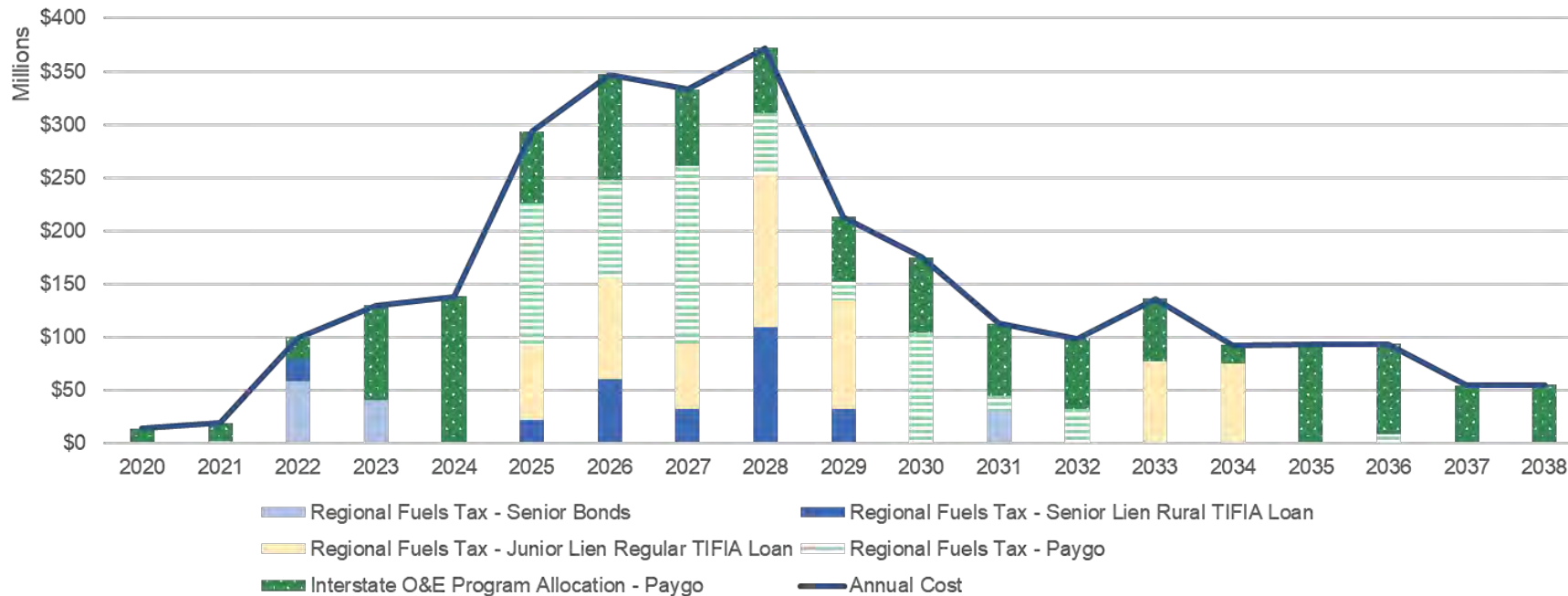
* Preliminary and subject to change

Planned Use of Regional Fuels Tax



Preliminary Funding by Year and Source

- Well-balanced funding mix of paygo and multi-lien debt
- TIFIA loans are shown based on expected cash flow draws with loans committed in advance
- Healthy cash liquidity maintained (preliminary minimum target of \$25 million)



Inaugural Municipal Bond Offering – 2021 Series

- **Negotiated sale**
- **Allows additional focus on introducing new program to investor community**
- **Both HRTAC (2018) and NVTAs (2014) sold inaugural bonds on a negotiated basis**

| Summary Terms of Offering* | |
|----------------------------|--|
| Issuer | Commonwealth Transportation Board |
| Project(s) | UPC 116203 - MM136 TO MM142 Add Lane in Each Direction Roanoke County |
| Anticipated Ratings | Double-A Category |
| Pricing Date | July 2021* |
| Security | Regional Fuels Tax Revenue |
| Par Amount | \$90 million* |
| Structure | Serial Bonds 2022-2055* |
| Final Maturity (years) | 35* |

* Preliminary and subject to change

Series 2021 Bond Sale –Schedule*

April 2021

- Request confidential indicative ratings
- Present financing plan to CTB

May 2021

- Request CTB approval to issue Series 2021

June 2021

- Request Treasury Board approval to issue Series 2021
- Request formal public ratings

July 2021

- Bond pricing
- Closing

* Preliminary and subject to change

Transportation Infrastructure Finance and Innovation Act (TIFIA) Loan

- **Proposed structure allows for maximized TIFIA program benefits**
 - Rural loan – allows for financing of up to 49% of project costs at one-half 30-year U.S. Treasury rate
 - Regular/non-rural loan – allows for financing of up to 33% of project costs at 30-year U.S. Treasury rate
- **Repayment term – 35 years after substantial completion**
- **Flexible payment structure**
- **Flexible draw period of up to one-year post substantial completion**

TIFIA Debt Issuance Approach

- Will assist in financing approximately \$870 million over the program through multiple loans
- Projects (UPCs) to be packaged:
 - Rural v. regular/non-rural projects
 - Based on project readiness/schedules and cash flow
- Anticipate submitting two TIFIA Letters of Interest (LOI) in late spring/early summer for the 2022 loans

| TIFIA Loans – 2022 | | |
|------------------------------|--------------------------------------|--|
| Type | Total Project(s) Cost* (millions) | Anticipated Loan Amount* (millions) |
| Rural projects | \$39.3 | \$19.3 |
| Regular/non-rural project(s) | \$232.7 | \$76.8 |
| | \$272.0 | \$96.1 |

* Preliminary and subject to change

2022 TIFIA – Projects*

| 2022 Rural TIFIA | | | |
|---------------------------------------|--|-----------------------------------|-------------------------|
| UPC(s) | Project Description | Project Location | Project Cost (millions) |
| 115801, 116245 | Extending northbound and southbound Exit 205 acceleration lanes | Rockbridge County | \$2.75 |
| 115803, 116244, 116270 | Extending northbound Exit 291 acceleration lane, northbound Exit 304 acceleration lane, and southbound Exist 296 acceleration lane | Frederick and Shenandoah Counties | 3.71 |
| 116158, 116174, 116159 | Extending northbound deceleration and southbound acceleration lanes | Smyth County | 5.31 |
| 115345 | Extend southbound deceleration lane from MM 26.7 to 26.8 | Washington County | 0.27 |
| 115346 | Extend southbound acceleration lane from MM 25.9 to 26.1 | Washington County | 0.68 |
| 115795 | Extend acceleration lane at Exit 89 | Pulaski County | 0.82 |
| 116171 | Extend southbound acceleration lane at MM 16.6 | Abingdon | 1.62 |
| 116155 | Extend northbound deceleration lane at MM 19.2 | Abingdon | 1.60 |
| 116165 | Extend southbound deceleration lane at MM 84.3 | Wythe County | 1.80 |
| 116162 | Extend northbound deceleration lane at MM 67.3 | Wytheville | 1.46 |
| 116173 | Apply high friction epoxy to southbound curve Exit 39 | Smyth County | 2.10 |
| 116161 | Design Build to extend northbound acceleration lane at MM 48.1 | Smyth County | 17.20 |
| Total Rural Projects Costs | | | \$39.32 |
| 2022 Regular TIFIA | | | |
| 116203 | MM 136 to MM 139 adding lane in each direction | Roanoke County | 232.70 |
| Total Regular Project Costs | | | \$232.70 |
| Total 2022 TIFIA Project Costs | | | \$272.02 |

* Preliminary and subject to change

2022 TIFIA Loan – Schedule*

June 2021 through
August 2021

- Submit Letter of Interest (LOI)
- Creditworthiness presentation to TIFIA

September 2021

- Present TIFIA plan of finance to CTB

October 2021

- Request CTB approval to submit loan application and enter into TIFIA loan agreement

November 2021

- Request Treasury Board approval
- Submit TIFIA loan application

February 2022

- TIFIA loan execution

* Preliminary and subject to change