

# I-81 Program Progress Report



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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



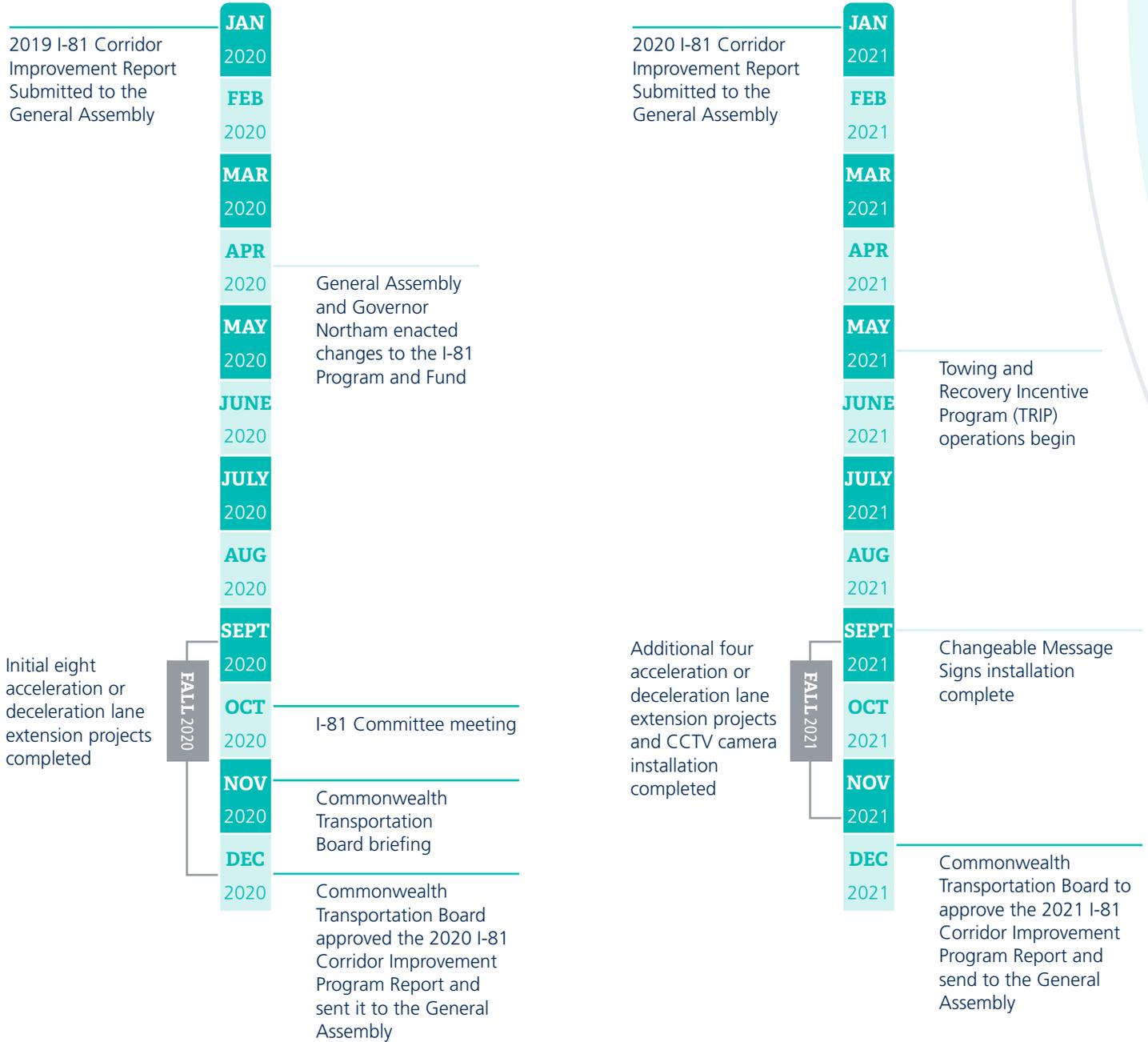
House Bill 2718 (Chapter 837) introduced by Delegates Steve Landes and Terry Austin, and Senate Bill 1716 (Chapter 846), introduced by Senators Mark Obenshain and William Carrico, establish the I-81 Corridor Improvement Program, Fund, and Committee. Governor Ralph Northam announced amendments in March 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	<b>\$1,814.7</b>
Total Programmed	\$542.8	\$125.7	\$374.0	\$131.1	\$131.4	\$490.0	<b>\$1,795.0</b>
<b>Total Remaining*</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$19.7</b>	<b>\$19.7</b>

\*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.

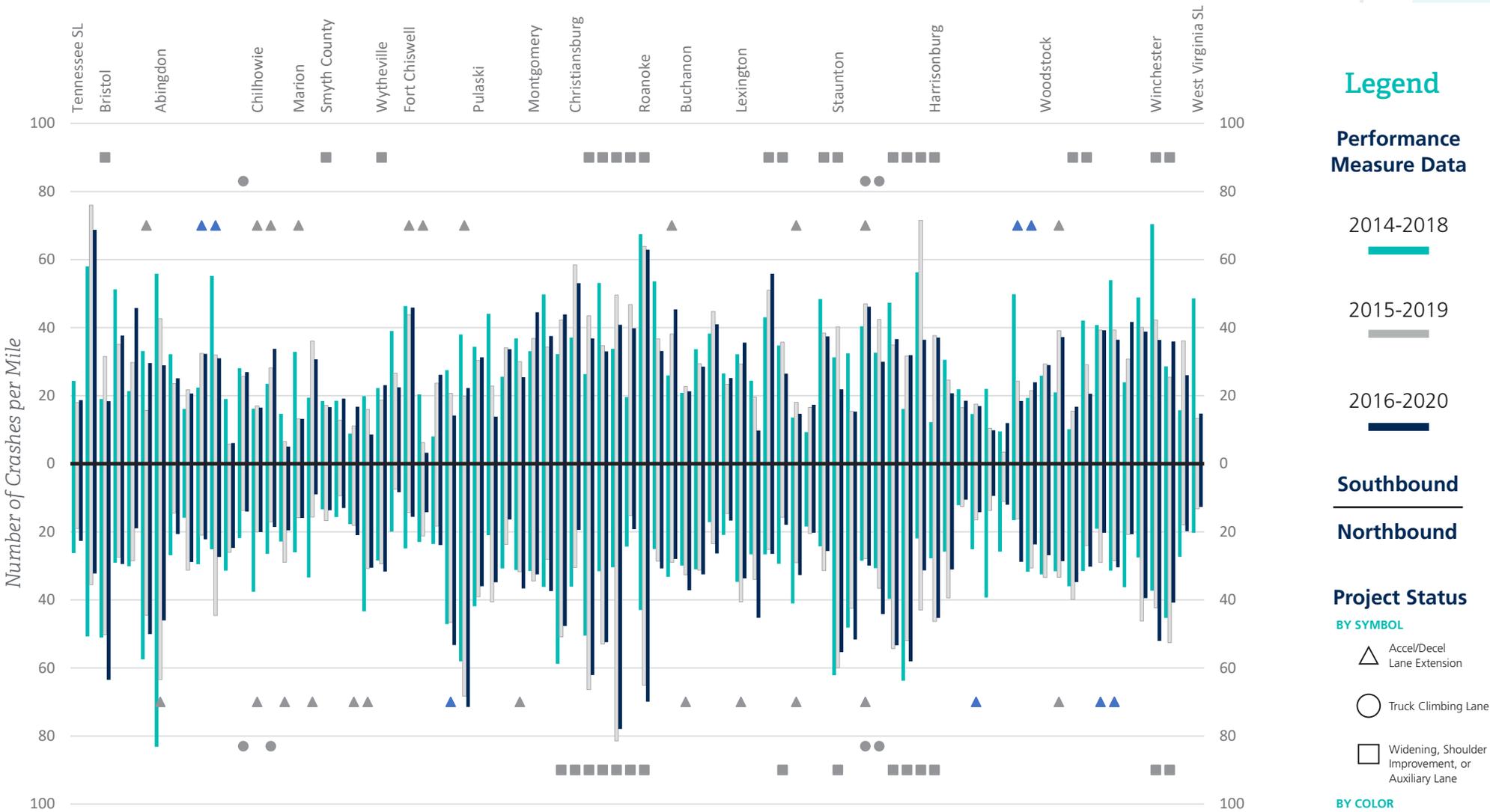
**Figure 1.** Status of Capital Projects Funded Through the Program

	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)

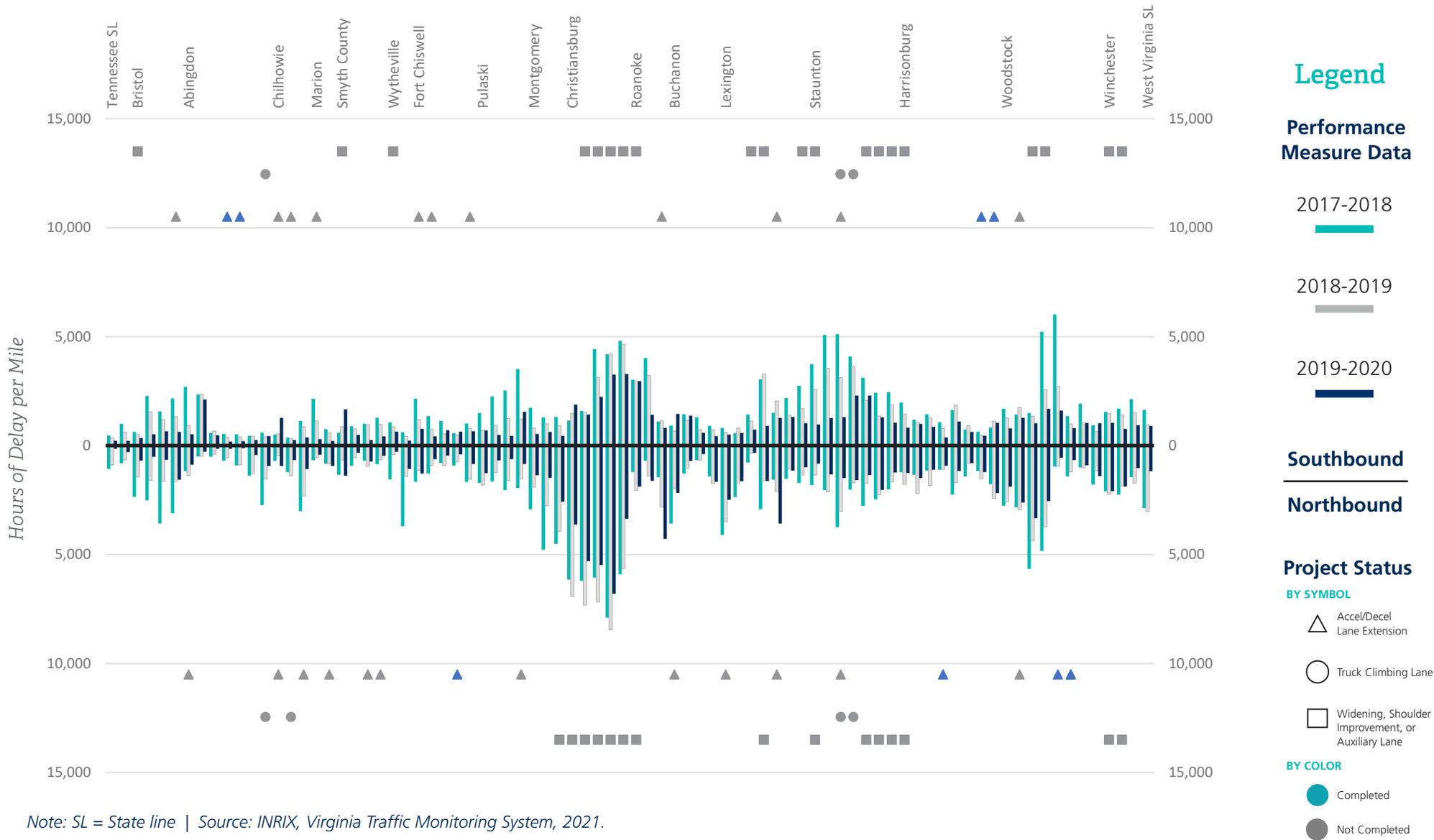
Note: SYIP = Six-year improvement program. | Source: Virginia Department of Transportation, 2021.

**Figure 2.** Annual Equivalent Property Damage Only Crashes per Mile



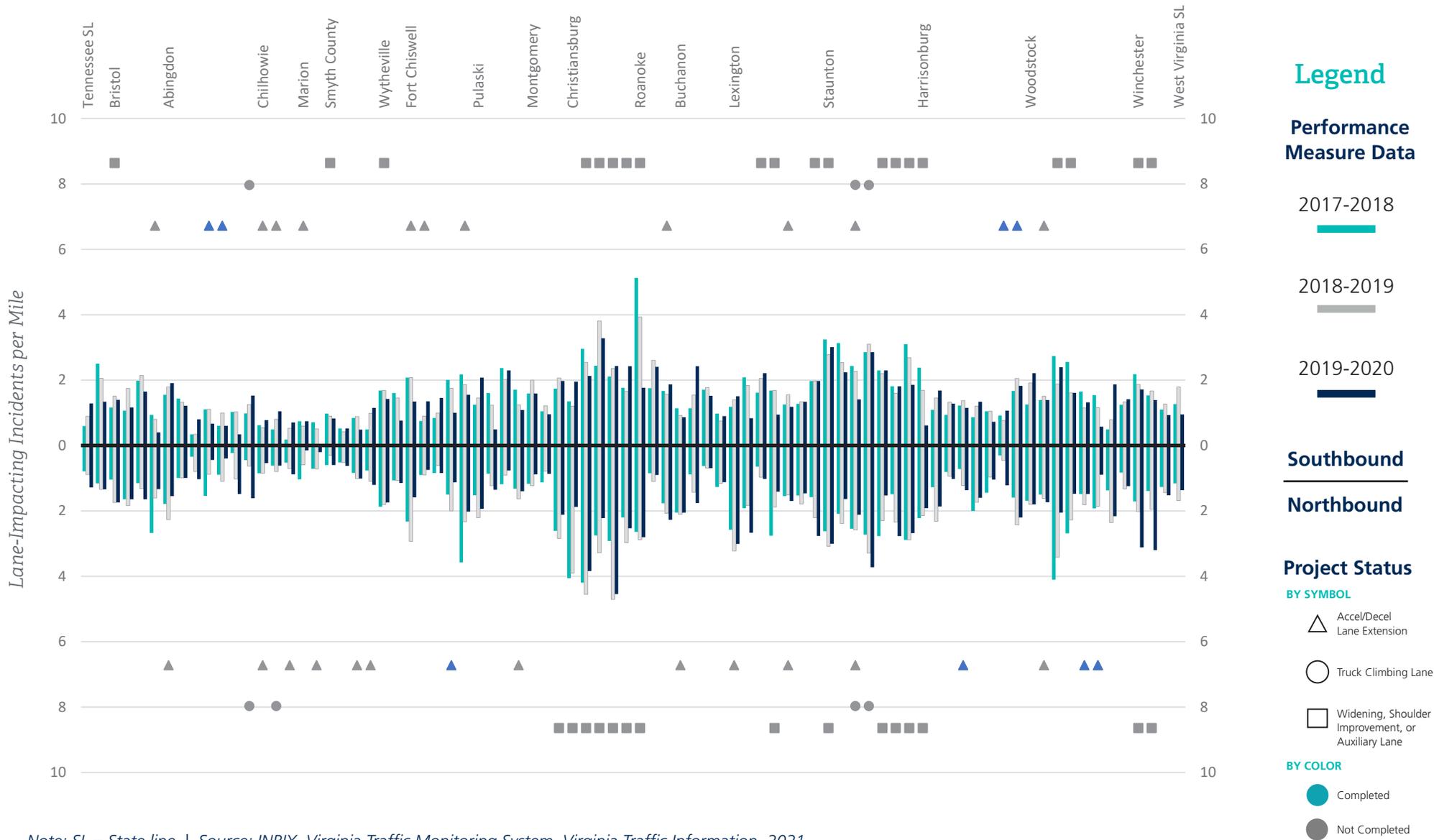
Note: SL = State line | Source: VDOT Roadway Network System, 2021.

Figure 3. Annual Person-Hours of Delay per Mile



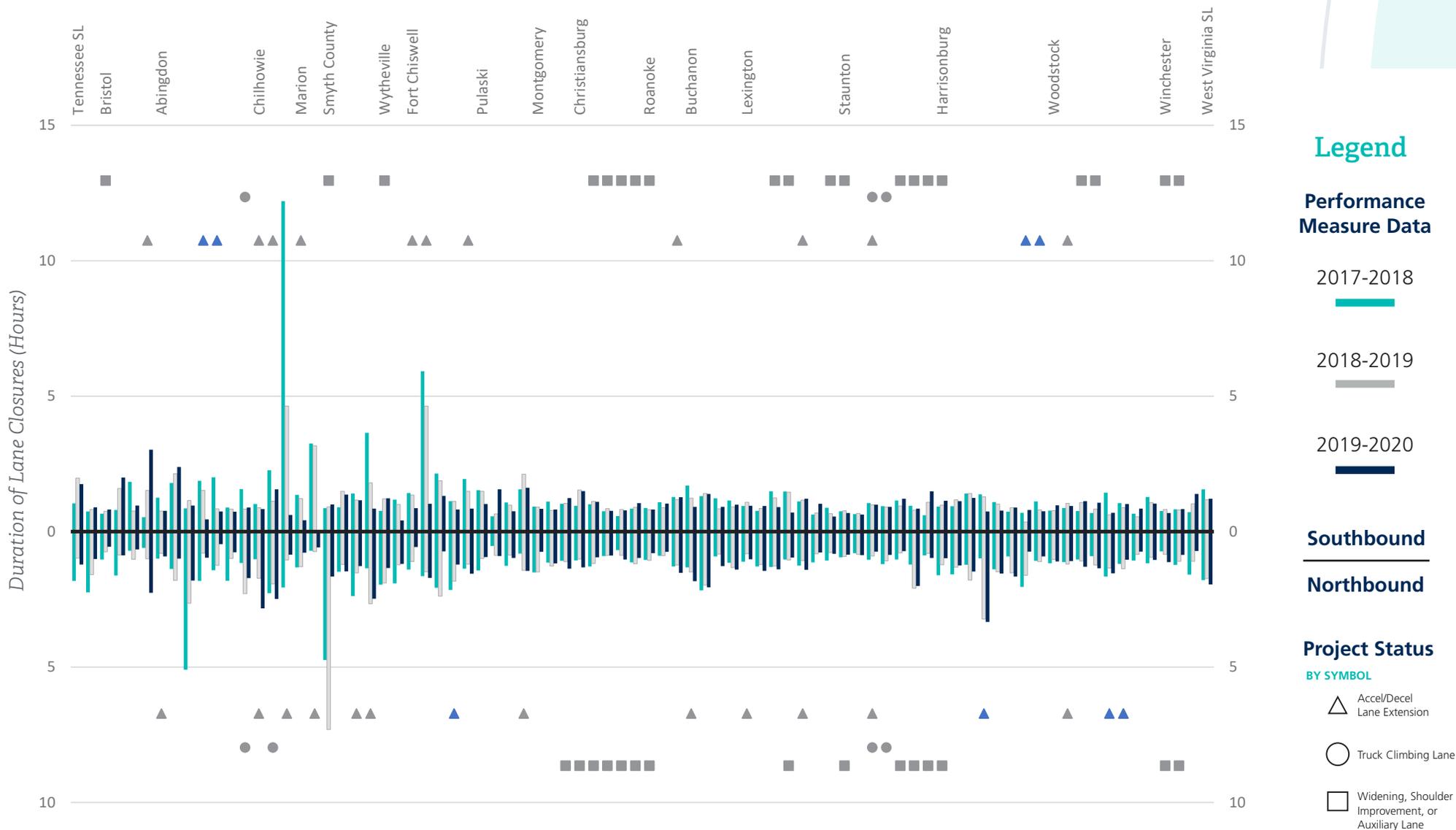
Note: SL = State line | Source: INRIX, Virginia Traffic Monitoring System, 2021.

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

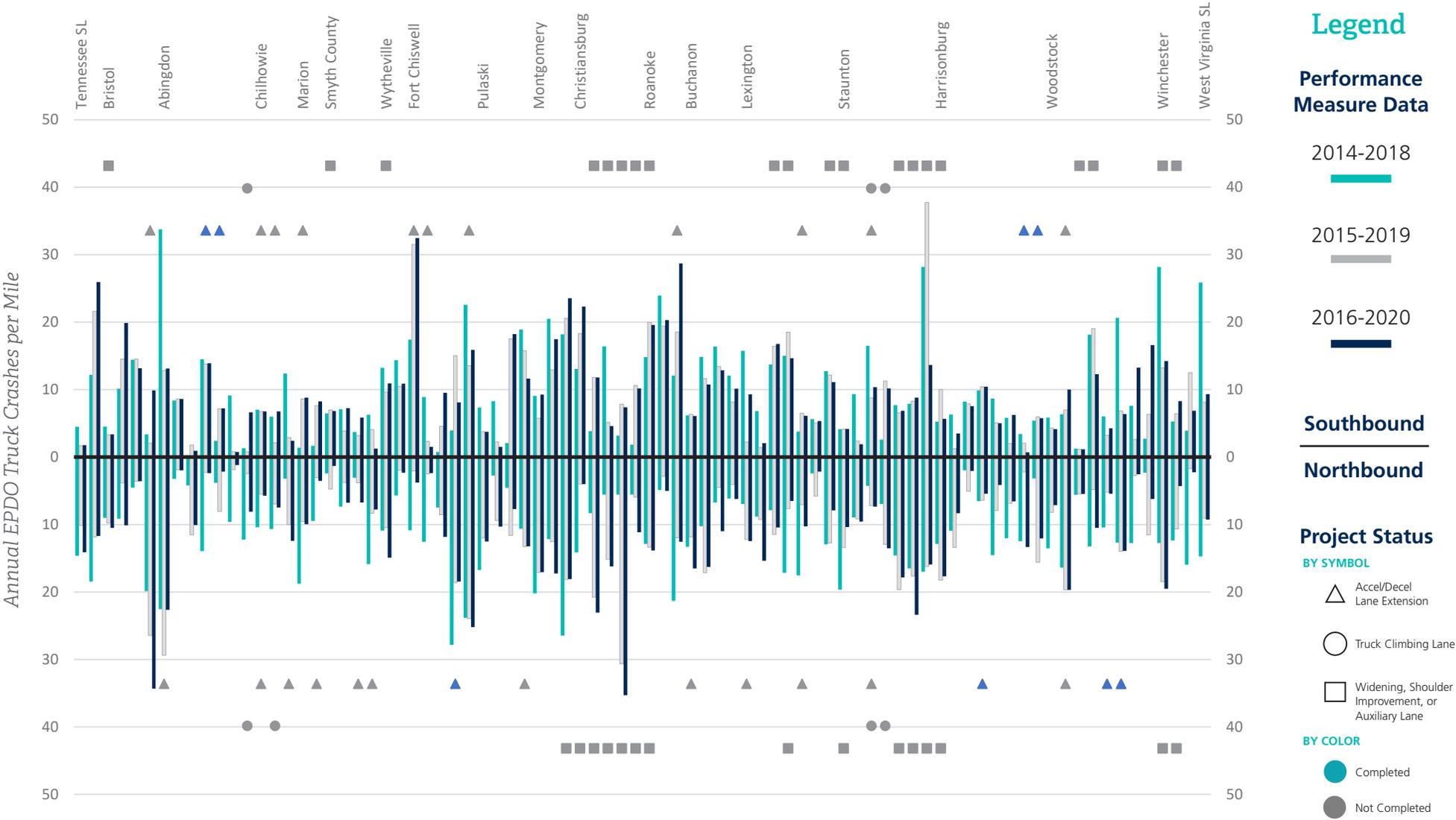
**Appendix G:** April 2021 I-81 Committee PowerPoint Presentation

*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*