



## COMMONWEALTH of VIRGINIA

### Commonwealth Transportation Board

W. Sheppard Miller, III  
Chairperson

1401 East Broad Street  
Richmond, Virginia 23219

(804) 482-5818  
Fax: (804) 786-2940

*Agenda item # 3*

### RESOLUTION OF THE COMMONWEALTH TRANSPORTATION BOARD

**December 6, 2022**

#### MOTION

**Made By: Mr. Fowlkes, Seconded By: Mr. Merrill**

**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 18, 2022, 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 2022 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 Revised FY2023-FY2028 SYIP included a plan for financing the Program and estimated proceeds from I-81 bonds and Transportation Infrastructure Finance and Innovation Act (TIFIA) financing.

The current and projected allocations of the Program based on the Revised FY2023-2028 Six-Year Financial Plan, are reflected below:

Source	Previous	FY23	FY24	FY25	FY26	FY27	FY28	Total
I-81 Regional Fuels Tax	\$217.3	\$78.8	\$80.0	\$80.7	\$81.4	\$83.2	\$85.2	\$706.6
I-81 Bond Proceeds	\$101.9	\$0.0	\$0.0	\$0.0	\$0.0	\$14.8	\$0.0	\$116.7
I-81 TIFIA Proceeds	\$97.9	\$0.0	\$258.2	\$0.0	\$0.0	\$379.8	\$0.0	\$735.9
I-81 Allocation from IOEP	\$162.0	\$95.9	\$101.3	\$110.1	\$109.2	\$107.6	\$107.8	\$793.9
<b>Total</b>	<b>\$579.1</b>	<b>\$174.7</b>	<b>\$439.5</b>	<b>\$190.8</b>	<b>\$190.6</b>	<b>\$585.4</b>	<b>\$193.0</b>	<b>\$2,353.1</b>

\*I-81 Regional Fuel Tax Revenue includes funds available for debt service.

The Fund had a fund balance of \$290.4 million on July 31, 2022. 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, 29 have been completed. The Revised FY2023-2028 Six-Year Improvement Program was adopted by the Board on October 25, 2022, and included both operational improvements and 47 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;

Decision Brief

Approval of the I-81 Corridor Improvement Program Progress Report

December 6, 2022

Page 3 of 3

3. The status of capital projects funded through the Program; and
4. The current and projected balances of the Fund.

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 July 7, 2022. At this time, the I-81 Committee has not scheduled a meeting prior to the end of the year. 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 Attachment 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, 2022.

**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 2022

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 following information:

- ➔ 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



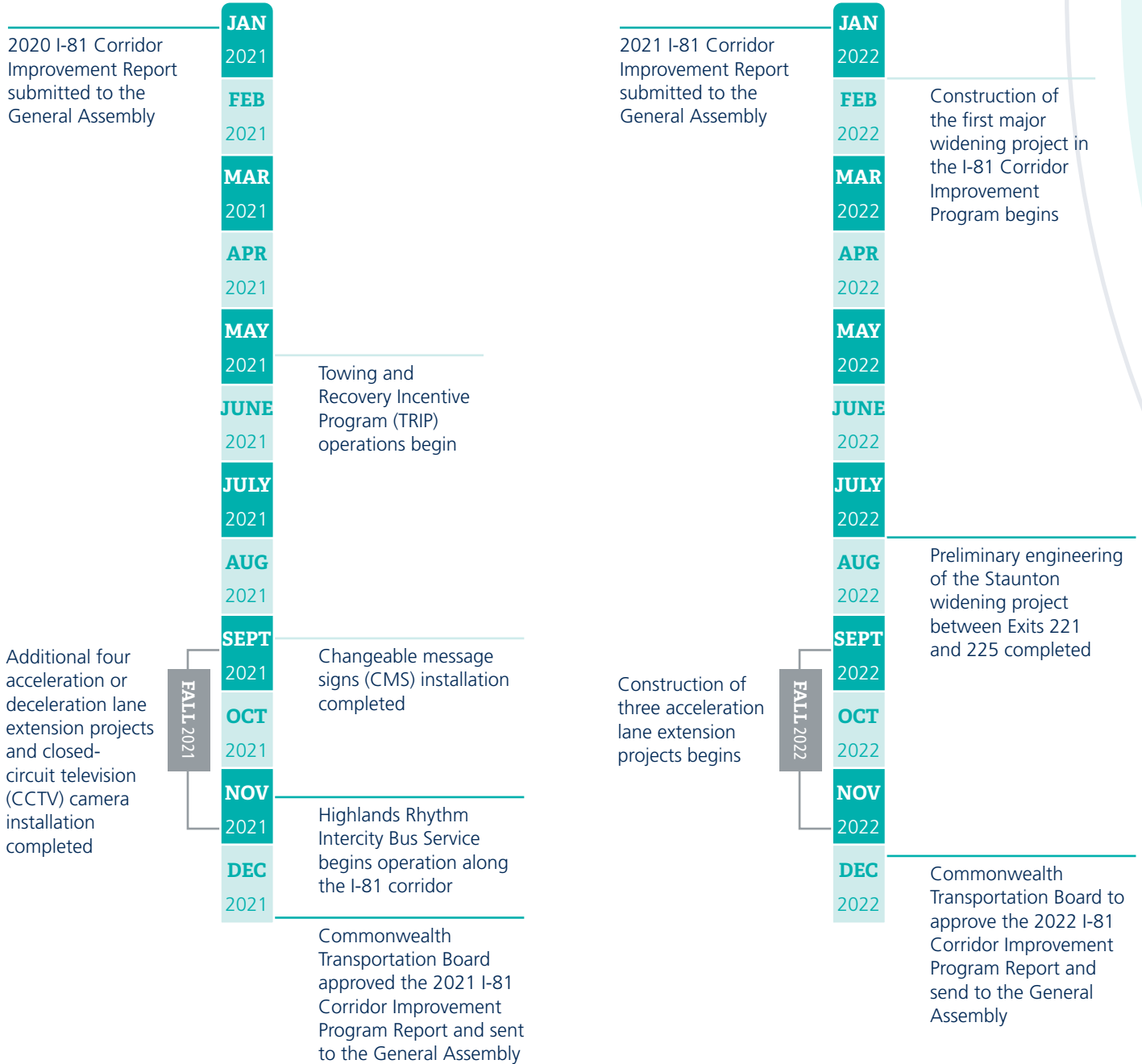
House Bill 2718 (Chapter 837) introduced by Delegates Steve Landes and Terry Austin, and Senate Bill 1716 (Chapter 846), introduced by Senators Mark Obenshain and William Carrico, establish the I-81 Corridor Improvement Program, Fund, and Committee. Governor Ralph Northam announced amendments in March 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 the 2018 Plan). The revenues for the Fund were provided through the creation of a new truck registration fees as well as the 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 the 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 2022, the Virginia Department of Transportation (VDOT) documented the current and projected funds available and allocations of the Program. The current and projected balances of the Fund are summarized in **Table 1**, of which all available funds are expected to be allocated to projects within the Program. The amounts shown in the table also reflect the allocation of funding adopted by the Board on July 7, 2022, for the 32 projects amended to the Fiscal Year 2023-2028 SYIP. Estimated schedule information for the 47 capital improvement projects amended to the Six-Year Improvement Program (SYIP) and the capital improvement project yet to be adopted into the SYIP is available in **Appendix A** and can be found online at [www.improve81.org](http://www.improve81.org). The full program schedule is in draft form since the last remaining project (widening to six lanes between Exits 313 and 317) has not been adopted by the Board into the SYIP.

**Table 1.** Current Versus Projected Funds Available Based on the FY 2023-2028 SYIP (in millions of dollars)

Source	PV	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	Total
I-81 Regional Fuels Tax*	\$217.3	\$78.8	\$80.0	\$80.7	\$81.4	\$83.2	\$85.2	<b>\$706.6</b>
I-81 Bond Proceeds	\$101.9	\$0.0	\$0.0	\$0.0	\$0.0	\$14.8	\$0.0	<b>\$116.7</b>
I-81 TIFIA Proceeds	\$97.9	\$0.0	\$258.2	\$0.0	\$0.0	\$379.8	\$0.0	<b>\$735.9</b>
I-81 Allocation from Interstate Operations and Enhancement Program	\$162.0	\$95.9	\$101.3	\$110.1	\$109.2	\$107.6	\$107.8	<b>\$793.9</b>
<b>Total</b>	<b>\$579.1</b>	<b>\$174.7</b>	<b>\$439.5</b>	<b>\$190.8</b>	<b>\$190.6</b>	<b>\$585.4</b>	<b>\$193.0</b>	<b>\$2,353.1</b>

\*Fuel Tax Revenue includes funds available for debt service

Note: FY = Fiscal Year, PV = Previous Value | Source: Virginia Department of Transportation, 2022.

In 2020, the General Assembly passed legislation that limited the imposition of regional fuels taxes to only those localities through which I-81 passes. This adjustment to the original fuel tax mechanism is not anticipated to impact the financial health of the Fund. 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 traveled (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 2023-2028 SYIP, which was adopted by the Board on June 21, 2022, included both operational improvements and 47 of the 48 capital improvement projects identified in the Plan. The safety service patrol improvements identified in the Plan were implemented in July 2019. The initial eight acceleration and deceleration lane extension projects, eight curve improvement projects, and most of the new camera installations were completed in 2020. In 2021, the remaining camera installations were completed along with the installation of CMS. 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**.

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

Project Type		Status		Total Projects	Estimated Completion
Capital	Widening	9	1	10	2032
	Acceleration/Deceleration Extension	23		13	2028
	Auxiliary Lane	4		4	2028
	Truck Climbing Lane	5		5	2028
	Shoulder Widening	1		1	2028
Operations	Safety Service Patrol Expansion	1		1	Completed
	Towing and Recovery Incentive Program	1		1	Completed
	Curve Improvement	8		8	Completed
	Camera Installation	42		42	Completed
	Changeable Message Sign Installation	30		30	Completed

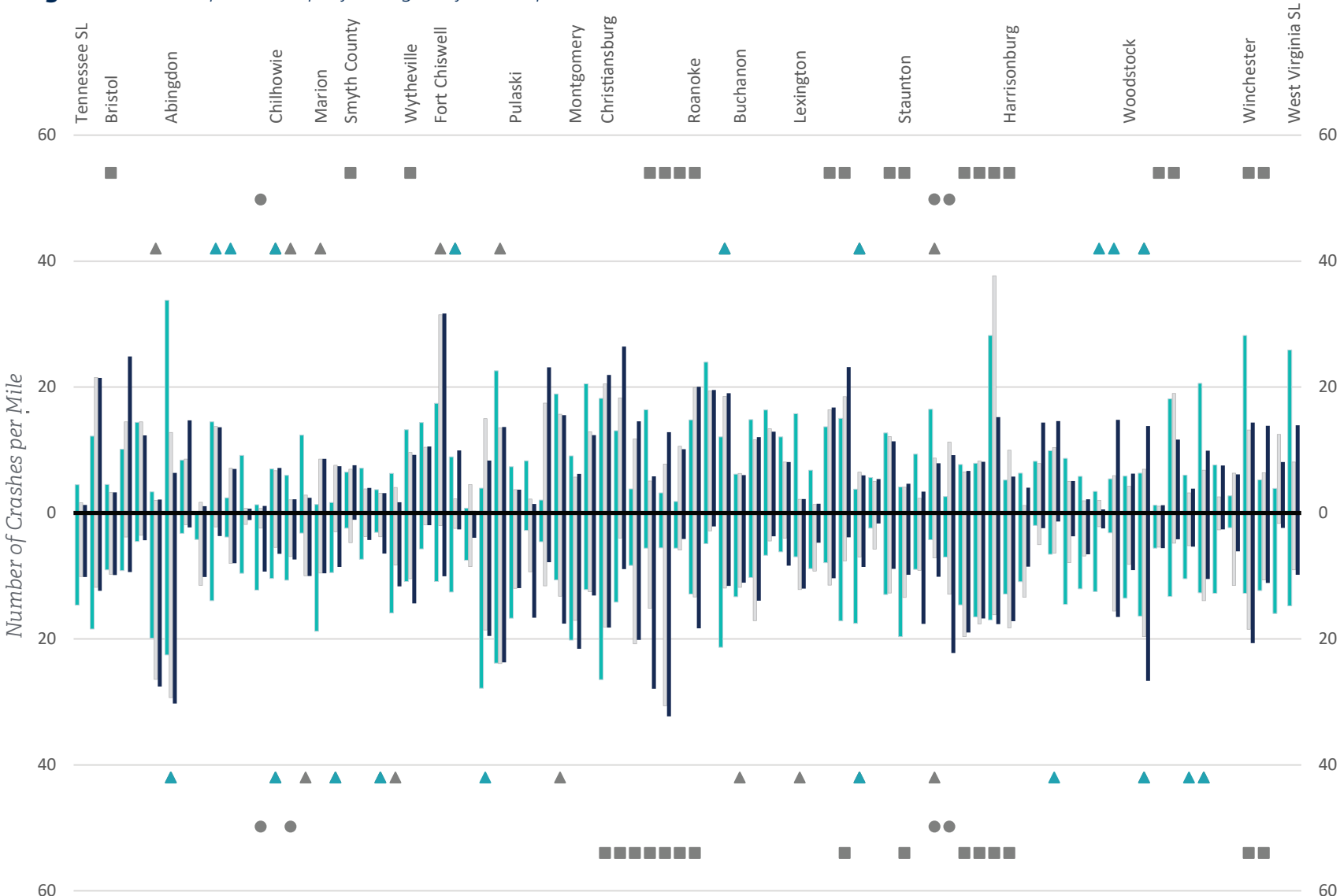
Legend: Complete Programmed Not in Six-Year Improvement Program

Note: SYIP = Six-year Improvement Program. | Source: Virginia Department of Transportation, 2022.

### Performance of the I-81 Corridor

Figure 2 through Figure 5 show how the four performance measures have changed over three multi-year periods. 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. **The emergence of the COVID-19 pandemic in 2020 caused a 15 percent reduction in VMT on I-81, while VMT in 2021 returned to pre-pandemic levels.** Therefore, 2020 data was removed from the multi-year performance measure data periods for this report as reduced travel on I-81 skewed the data significantly when compared to 2019 and 2021. Crash data were compared between the three five-year periods: 2014-2018, 2015-2019, 2016-2021 (without 2020 data). 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 two-year periods: 2017-2018, 2018-2019, and 2019-2021 (without 2020 data).

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



**Legend**

**Performance Measure Data**

2014-2018

2015-2019

2016-2021\*

**Southbound**

**Northbound**

**Project Status**

BY SYMBOL

△ Accel/Decel Lane Extension

○ Truck Climbing Lane

□ Widening, Shoulder Improvement, or Auxiliary Lane

BY COLOR

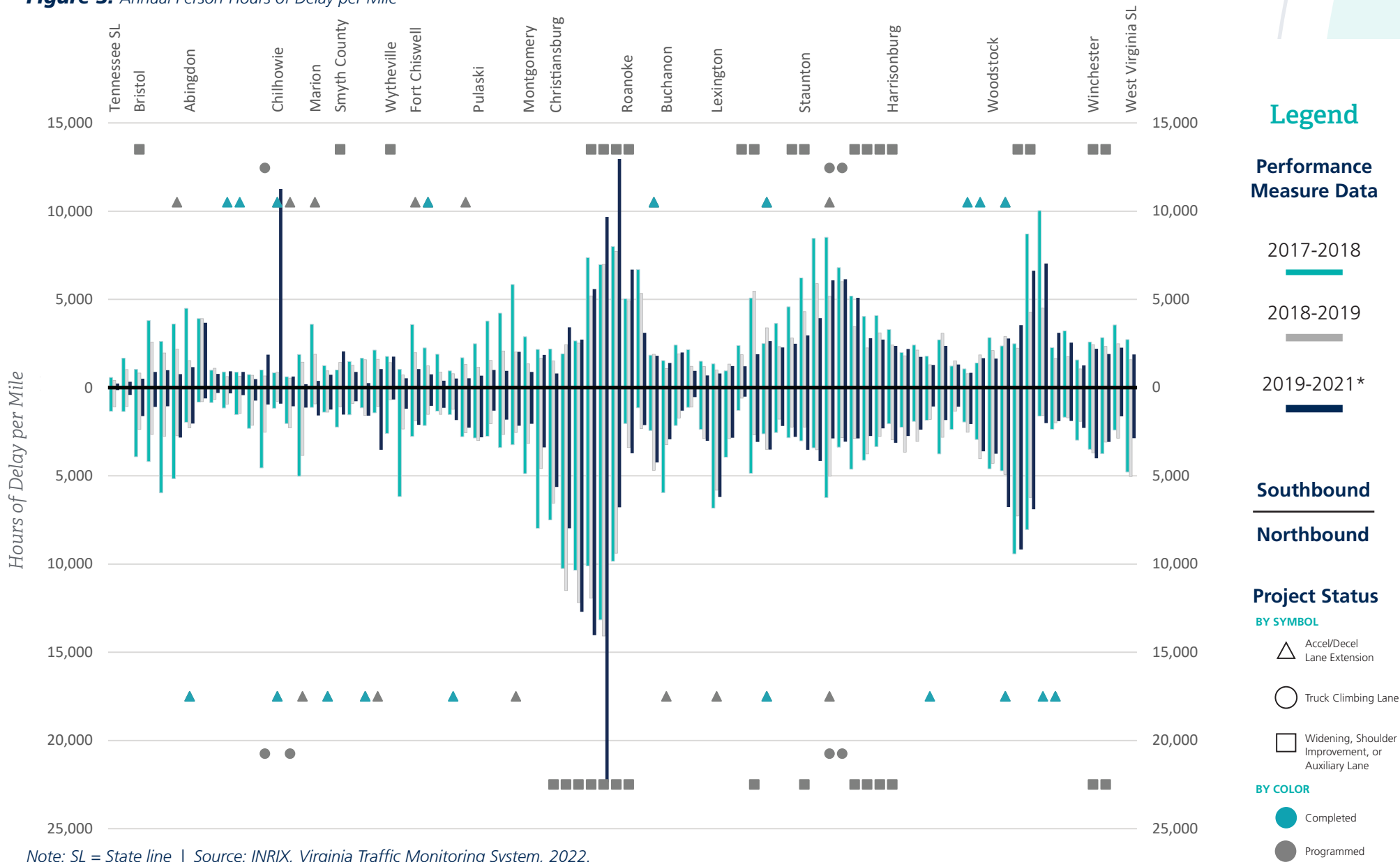
● Completed

● Programmed

Note: SL = State line | Source: VDOT Roadway Network System, 2022.

\*2020 data removed

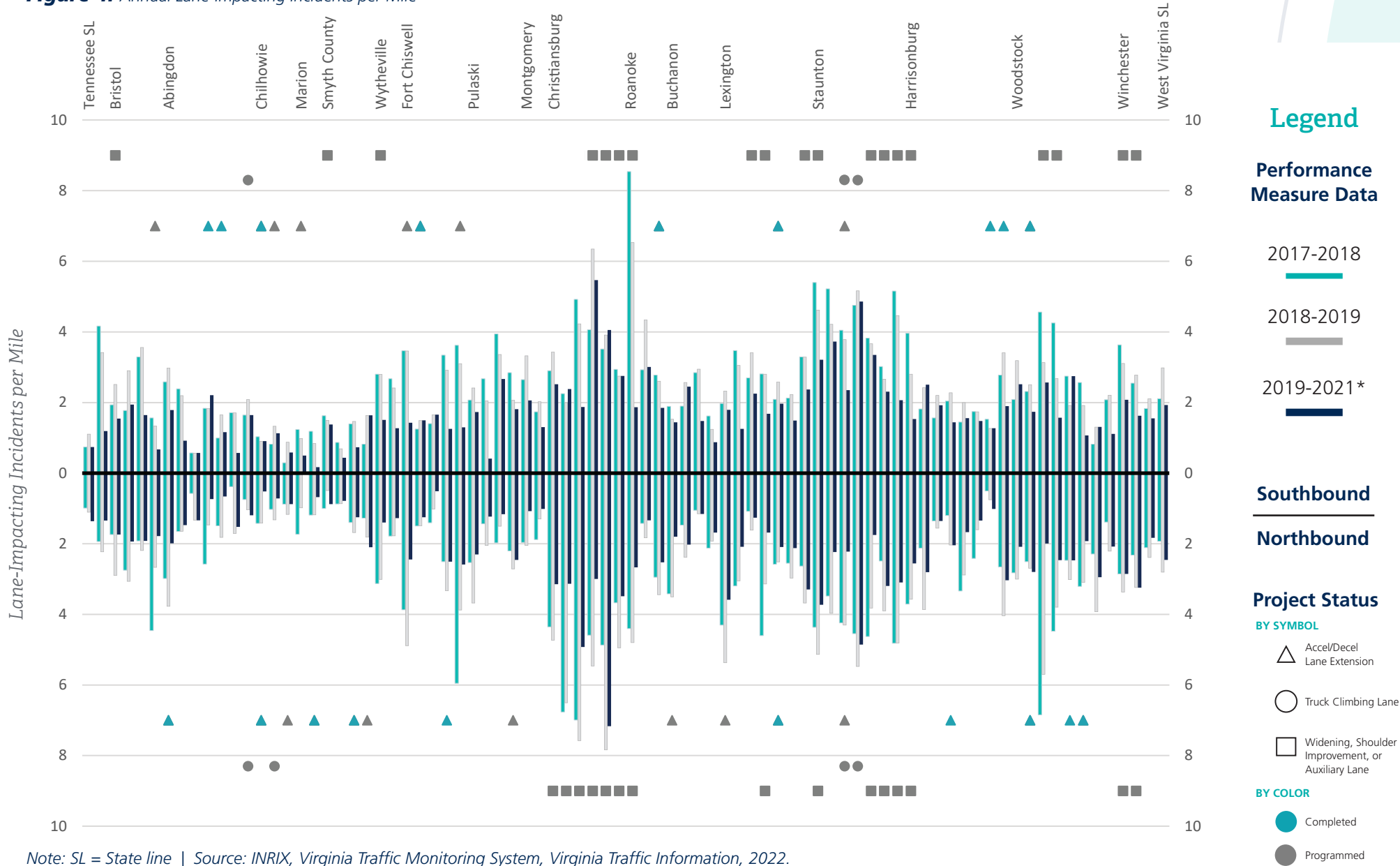
**Figure 3.** Annual Person-Hours of Delay per Mile



Note: SL = State line | Source: INRIX, Virginia Traffic Monitoring System, 2022.

\*2020 data removed

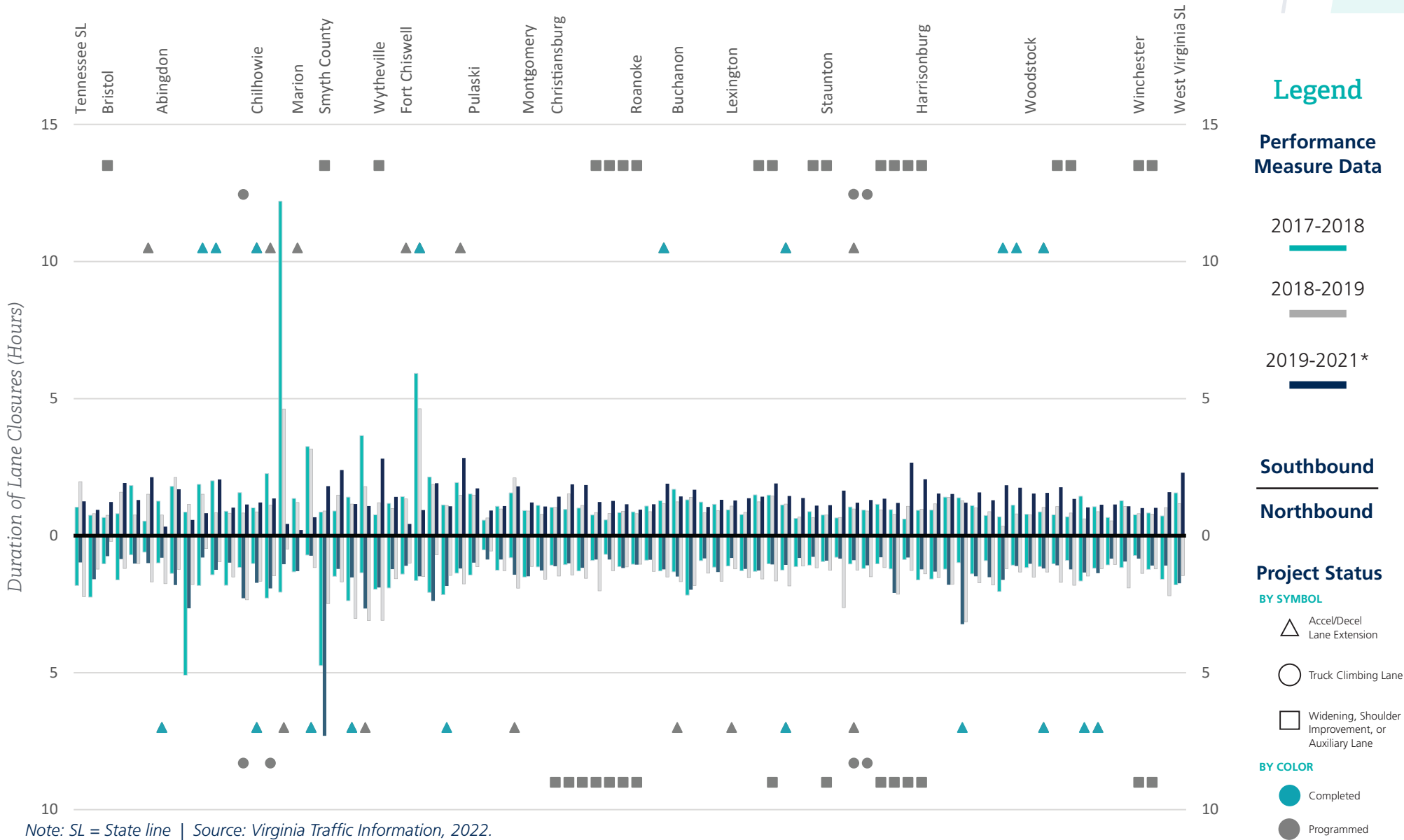
Figure 4. Annual Lane-Impacting Incidents per Mile



Note: SL = State line | Source: INRIX, Virginia Traffic Monitoring System, Virginia Traffic Information, 2022.

\*2020 data removed

Figure 5. Average Duration of Lane Closures (Hours)



Note: SL = State line | Source: Virginia Traffic Information, 2022.

\*2020 data removed

To show the effectiveness of a program of projects, the study team relied on a minimum of one year of data following the implementation of the program or project. **Table 2** through **Table 5** contain corridor-wide summaries for each two- or five-year period for the four performance measures. Performance measure data was sourced from the VDOT Roadway Network System, INRIX, Virginia Traffic Monitoring System, and Virginia Traffic Information. 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 lasting longer than one hour, and lane closures associated with those events have decreased, even as travel on I-81 rebounded in 2021 (up one percent from 2019).

This decrease in incidents and lane closures may be attributed to the implementation of the Towing and Recovery Incentive Program (TRIP), which aims to improve incident response times so traffic can move again. The total person-hours of delay on I-81 also has decreased, though to a lesser extent than the decrease observed for lane impacting incidents and lane closures. Although operations performance measures decreased during the most recent five years, total EPDO crashes increased. The prevalence of work zones on I-81 has impacted the total EPDO crashes on I-81, where the total number of work zone related crashes increased by 95 percent between 2019 and 2021.

In future years, it will continue to 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
- ➔ Performance measure impacts of active work zones
- ➔ Performance measure data for 2020 are not reflective of a typical year due to COVID-19
- ➔ Lack of sufficient time for projects to be implemented and to develop a subsequent performance trend

**Table 2.** Equivalent Property Damage Only (EPDO) Crashes

End of Five-Year Period	Northbound	Southbound	Total	Total Percent Change from Previous Period
2018	51,639	49,109	100,748	-
2019	49,095	50,012	99,001	-1.7%
2021*	52,519	47,880	100,399	+1.4%

\*2016-2021 without 2020 data

**Table 3.** Person-Hours of Delay

End of Two-Year Period	Northbound	Southbound	Total	Total Percent Change from Previous Period
2018	2,325	1,919	4,244	-
2019	2,116	1,471	3,587	-15.5%
2021*	1,959	1,453	3,412	-4.9%

\*2019-2021 without 2020 data

**Table 4.** Lane-Impacting Incidents

End of Two-Year Period	Northbound	Southbound	Total	Total Percent Change from Previous Period
2018	1,694	1,622	3,316	-
2019	1,894	1,691	3,585	+8.1%
2021*	1,341	1,184	2,525	-29.6%

\*2019-2021 without 2020 data

**Table 5.** Hours of Lane Closures

End of Two-Year Period	Northbound	Southbound	Total	Total Percent Change from Previous Period
2018	2,139	1,794	3,932	-
2019	2,329	1,812	4,141	+5.3%
2021*	1,945	1,542	3,487	-15.8%

\*2019-2021 without 2020 data

## Multimodal Improvements to the I-81 Corridor

Along with the capital and operational improvements included in the I-81 Corridor Improvement Plan, several multimodal improvements have been planned and implemented to provide meaningful bus transit and rail connections throughout the corridor. The Virginia Breeze bus system consists of four intercity bus routes, two of which run along the I-81 corridor. The Valley Flyer route travels between Blacksburg and Washington, DC and the Highlands Rhythm route travels between Bristol and Washington DC. During the FY22, Virginia Breeze’s on-time performance was 85 percent and the percent of costs covered by fares (farebox recovery) was 52 percent. The Valley Flyer route had a farebox recovery of more than 80 percent.

The I-81 Multimodal Corridor Improvement Plan also includes for the expansion of passenger and freight rail in the New River Valley. In June of 2022, negotiations were finalized with Norfolk Southern to improve the rail systems near the I-81 corridor. A second Amtrak train on the Roanoke Route went into service in July of 2022. The rail improvements also include:

- ➔ Adding a second track 7 miles south of Manassas and extending the route between Roanoke and Washington, DC to include New River Valley
- ➔ Improving the Roanoke yard including a passenger bypass to improve efficiency
- ➔ Purchasing 28 miles of track that extend from Salem to New River Valley
- ➔ Constructing the New River Valley station and connector track

Construction of these improvements are expected to be complete by the Virginia Passenger Rail Authority in 2026, with the construction of the new train station at the New River Valley to be delivered by the New River Valley Station Authority at roughly the same time.

## Commonwealth Transportation Board Activities

In 2022, VDOT delivered one I-81 Corridor Improvement Program update to the Commonwealth Transportation Board. In addition to the meeting detailed below, the Board also discussed budget and project area updates of specific projects along the I-81 corridor. According to the legislation, the Board must submit an annual progress report to the General Assembly by December 15.



### *September 2022 Commonwealth Transportation Loan Update*

The Board met in-person on September 20, 2022. VDOT's Chief Financial Officer presented a TIFIA loan update on the I-81 corridor which included an overview of the structure and legislative background of TIFIA loans, I-81 fund projections, and how TIFIA loans will impact future funding of the I-81 Corridor Improvement Program.

The September 2022 presentation delivered to the Board can be found in **Appendix D**.

### *October 2022 Commonwealth Transportation Board Briefing*

The Board met in person on October 21, 2022. 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 operational improvements, including curve improvements, traffic cameras, digital message signs, and safety service patrol upgrades are complete
- ➔ 14 of the 23 Bristol District projects are either complete (10) or under construction (4)
- ➔ 5 of the 11 Salem District projects are either complete (1) or under construction (4)
- ➔ 10 of the 22 Staunton District projects are complete
- ➔ Some arterial improvements along VDOT-maintained arterials are complete, with the remaining improvements under design and scheduled for construction in 2023

The Virginia Department of Rail and Public Transportation (DRPT) Chief of Public Transportation and Virginia Passenger Rail Authority COO 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, DC, the Highlands Rhythm, began service on November 15, 2021
- ➔ Ridership on Virginia Breeze Intercity Bus has exceeded pre-pandemic ridership in 2022 after reduced ridership in 2020 and 2021, in part to new routes such as the Highlands Rhythm
- ➔ Ridership on the Roanoke Amtrak route is setting all time records and was doing so even before the commencement of the second train in July that was triggered by the June close of agreements with Norfolk Southern

The October 2022 presentation delivered to the Board can be found in **Appendix E**.

## **I-81 Committee Activities**

### *July 2022 Advisory Committee Meeting*

The Committee met in-person on July 7, 2022. The I-81 Program Director presented an overview of the I-81 Corridor Improvement Program and the status of operational and capital projects. The DRPT Acting Chief of Public Transportation and the Virginia Passenger Rail Authority (VPRA) Chief Operating Officer presented the status of the 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 project costs and funding approach of the Program. The Deputy Secretary of Transportation presented an overview of the federal Infrastructure Jobs Act and how it applies to funding in Virginia.

The July 2022 presentation delivered to the Committee can be found in **Appendix F**.

## 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 2023 and will be under design once a Design-Build consultant is procured:

- ➔ Bristol District: Glade Spring Truck climbing lanes set for advertisement in Summer 2023
  - ✓ Exit 32 to MM 33.5 NB
  - ✓ MM 34 to MM 33 SB

Additionally, construction of the following projects will continue in 2023:

- ➔ Northbound and southbound deceleration lane extension Exit 39: construction started August 2021
- ➔ Southbound acceleration lane extension at Exit 47: construction started August 2021
- ➔ Southbound acceleration lane extension at Exit 44: construction started September 2021
- ➔ Bundled widening project in Salem District: heavy highway construction started December 2021
  - ✓ Widen to three lanes between Exit 137 and Exit 140
  - ✓ Widen to three lanes between Exit 140 and Exit 141
- ➔ Southbound deceleration lane extension at Troutville Safety Rest Area: construction started February 2022
- ➔ Southbound auxiliary lane construction between Exit 54 and Smyth Safety Rest Area (MM 54.1 to 54.5): construction started April 2022
- ➔ Northbound truck climbing lane: construction started June 2022
- ➔ Widen to three lanes between Exit 221 and Exit 225: construction to be started December 2022

## APPENDICES

**Appendix A:** Preliminary Capital Improvement Project Schedule

**Appendix B:** Improvements Summary Table

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

**Appendix D:** September 2022 Commonwealth Transportation Board PowerPoint Presentation

**Appendix E:** October 2022 I-81 Commonwealth Transportation Board PowerPoint Presentation

**Appendix F:** July 2022 I-81 Commonwealth Transportation Board PowerPoint Presentation

**Appendix A:** *Preliminary Capital Improvement Project Schedule*



**Appendix B:** *Improvements Summary 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 2022



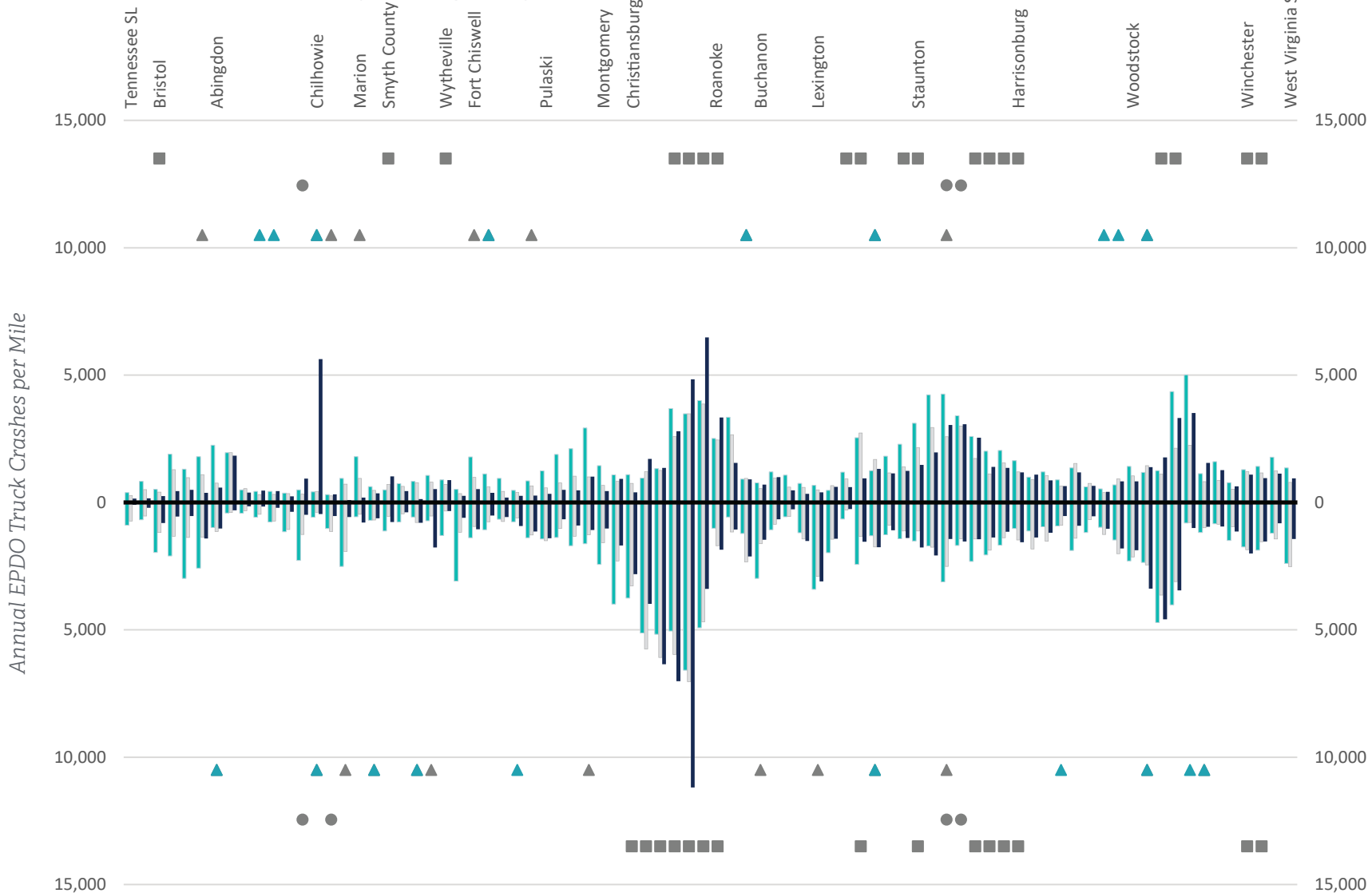
\* SS5 - Project is not depicted on map.



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



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



Legend

Performance Measure Data

2014-2018

2015-2019

2016-2021\*

Southbound

Northbound

Project Status

BY SYMBOL

△ Accel/Decel Lane Extension

○ Truck Climbing Lane

□ Widening, Shoulder Improvement, or Auxiliary Lane

BY COLOR

● Completed

● Programmed

Source: Virginia Roadway Network System, 2022.

\*2020 data removed

**Appendix D:** *September 2022 Commonwealth Transportation Board PowerPoint Presentation*

# I-81 Corridor TIFIA Loan Update

 Laura Farmer  
Chief Financial Officer

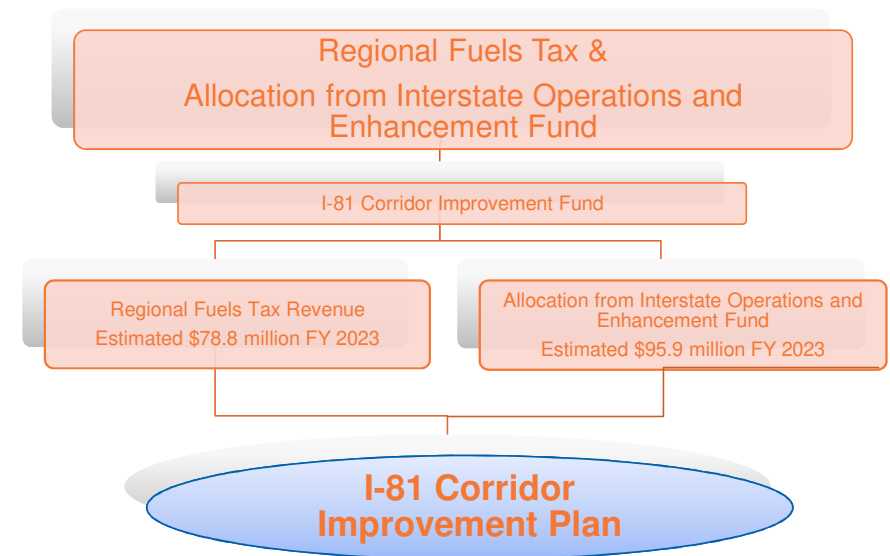
September 20, 2022

# Legislative Background

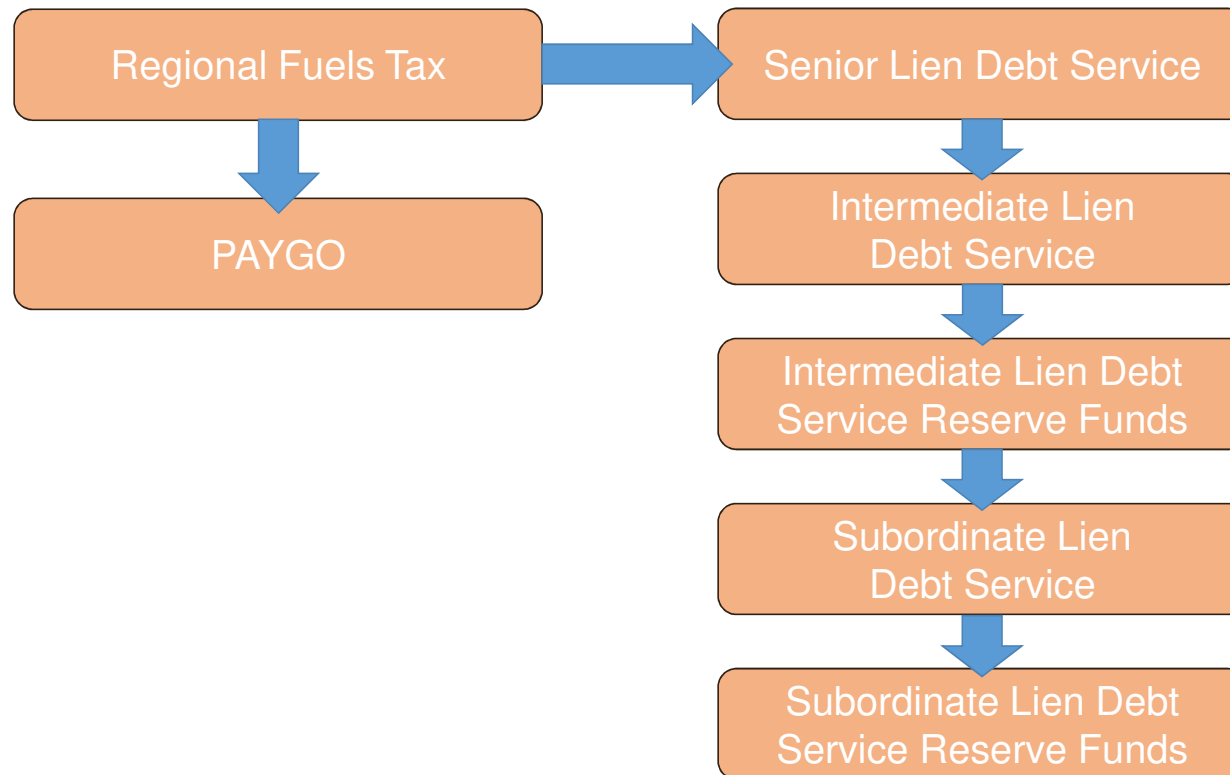
- **Chapters 837 and 846 (HB 2718 and SB 1716, 2019 Session)**
  - Created the Interstate 81 Corridor Improvement Program and Fund
  - Provided new transportation revenues to support the interstate highways and specifically I-81
- **Chapters 1230 and 1275 (HB 1414 and SB 890, 2020 Session)**
  - Authorized the sale and issuance of bonds with an aggregate principal amount not to exceed \$1 billion
  - Reduced the geographic footprint for collections of fuel tax revenues
  - Provided allocated funding from 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
  - Intended to provide funding for paygo



# Planned Use of Regional Fuels Tax



# Revenue Performance and Projections

Interstate 81 Improvement Fund (in millions) - Actual Receipts for FY 2020 - 2022 and Projections for FY 2023-2028

Source	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	Total
Regional Fuels Tax	\$69.8	\$71.4	\$76.1	\$78.8	\$80.0	\$80.7	\$81.4	\$83.2	\$85.2	<b>\$706.6</b>
Interstate Operations and Enhancement Program	22.6	71.3	68.1	95.9	101.3	110.1	109.2	107.6	107.8	<b>793.9</b>
Interest Income	0.7	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	<b>4.9</b>
<b>Total</b>	<b>\$93.1</b>	<b>\$143.4</b>	<b>\$144.7</b>	<b>\$175.2</b>	<b>\$181.8</b>	<b>\$191.3</b>	<b>\$191.1</b>	<b>\$191.3</b>	<b>\$193.5</b>	<b>\$1,505.4</b>

	(\$millions)
Project Expenditures through July 31, 2022 – from paygo and bond proceeds	\$ 117.4
Fund Balance as of July 31, 2022	\$290.4
Bond Proceeds Balance as of July 31, 2022	\$ 77.6

# I-81 Corridor Program – Existing Scope

- Based on current revenue assumptions and debt model, estimated costs total \$2.69 billion\*, with projects implemented in phases through 2033

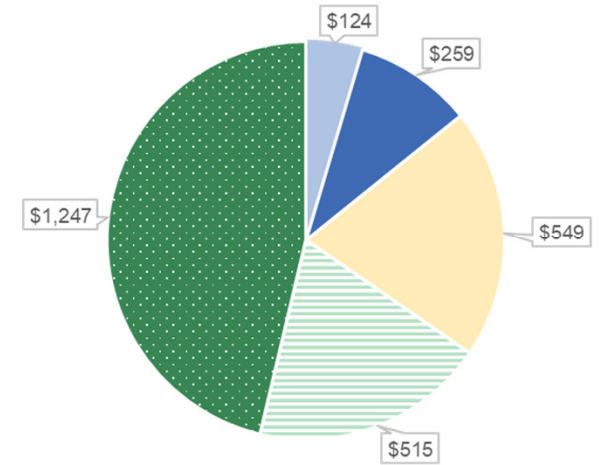
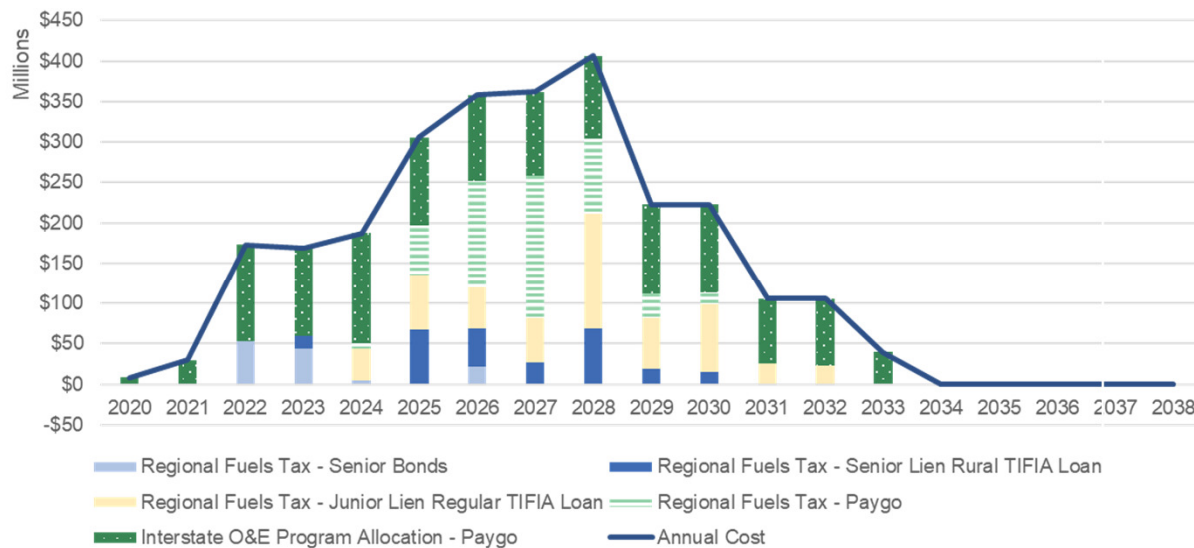
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
<i>in millions</i>															
<b>Operational Improvements</b>	\$4	\$12	\$45	\$40	\$38	\$34	\$39	\$26	\$38						\$276
<b>Capital Improvements</b>															
Rural Projects	\$1	\$7	\$35	\$59	\$61	\$103	\$62	\$82	\$80	\$19	\$19				\$529
Regular Projects	\$3	\$10	\$93	\$70	\$88	\$169	\$257	\$254	\$288	\$204	\$204	\$105	\$105	\$40	\$1,889
sub-total	\$4	\$18	\$128	\$128	\$149	\$272	\$319	\$336	\$368	\$223	\$223	\$105	\$105	\$40	\$2,418
<b>Total</b>	\$8	\$30	\$172	\$168	\$187	\$306	\$358	\$362	\$406	\$223	\$223	\$105	\$105	\$40	\$2,694

\* Preliminary and subject to change



# I-81 Program - 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)



# I-81 Program - 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 Bonds <sup>(1)</sup>	2022 TIFIA Loans <sup>(2)</sup>	Future Financings	Total
<i>Funded Costs (in \$MM)</i>				
Senior Lien Bonds	\$102	\$0	\$22	\$124
Senior Lien Rural TIFIA Loan	\$0	\$15	\$244	\$259
Subordinate Lien Regular TIFIA Loan	\$0	\$83	\$467	\$549
<i>Total</i>	\$102	\$98	\$733	\$932

Notes:

(1) Issued in August 2021 & includes both bond and and premium amounts

(2) Expect to close in December 2022

# Results of Municipal Bond Offering – Series 2021

Summary Terms of Offering/Results	
Issuer	Commonwealth Transportation Board
Project(s)	UPC 116203 - MM136 to MM142 Add Lane in Each Direction Roanoke County
Ratings	Aa1 (Moody's) and AA- (S&P)
Pricing Date	August 4, 2021
Security	Regional Fuels Tax Revenue
Par Amount	\$80,990,000*
Structure	Serial Bonds 2023-2041, Term Bonds 2046, 2051, and 2057
Final Maturity (years)	36
True Interest Cost (TIC)	3.01%

\*Resulted in total bond proceeds of \$102 million which includes \$21 million of premium.

# 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 and draw period of up to one-year post substantial completion**
- **TIFIA Program allows VDOT to advance projects with the use of debt financing**
  - Financing approximately \$808 million\* loans through multiple applications
- **Projects (UPCs) to be packaged:**
  - Rural v. regular/non-rural projects
  - Based on project readiness/schedules and cash flow

\* Subject to change

# TIFIA Loan Approach

- **First series of TIFIA Loans are in progress**
  - Submitted two TIFIA Letters of Interest (LOI) initially in July 2021 for the 2022 Loans

2022 TIFIA Loans		
Type	Total Project Costs (millions)*	Estimated Loan Amount (millions)*
Rural Projects	\$41.7	\$20.4
Regular/Non-rural Project	\$232.7	\$81.3
Total	\$274.4	\$101.7

\* Estimates in 2021; estimates have been updated (please see page 13 and 14); subject to final negotiation and subject to change

# 2022 TIFIA Loans – Rural & Regular Projects\*

Senior Lien 2022 Rural TIFIA Loan Funded Projects			
UPC(s)	Project Description	Project Location	Project Cost (millions)
115801, 116245	Extending northbound and southbound Exit 205 acceleration lanes	Rockbridge County	\$4.02
115803, 116244, 116270	Extending northbound Exit 291 acceleration lane, northbound Exit 304 acceleration lane, and southbound Exist 296 acceleration lane	Frederick and Shenandoah Counties	2.61
116158, 116174, 116159	Extending northbound deceleration and southbound acceleration lanes	Smyth County	5.58
115345, 115346	Extend southbound deceleration lane from MM 26.7 to 26.8 and 25.9 to 26.1	Washington County	0.89
115795	Extend acceleration lane at Exit 89	Pulaski County	0.76
116171	Extend southbound acceleration lane at MM 16.6	Abingdon	1.41
116155	Extend northbound deceleration lane at MM 19.2	Abingdon	1.33
116165	Extend southbound deceleration lane at MM 84.3	Wythe County	1.49
116162	Extend northbound deceleration lane at MM 67.3	Wytheville	1.20
116173	Apply high friction epoxy to southbound curve Exit 39	Smyth County	1.53
116161	Design Build to extend northbound acceleration lane at MM 48.1	Smyth County	9.88
<b>Total Rural Projects Costs</b>			<b>\$30.69</b>
Subordinate Lien 2022 Regular TIFIA Loan Funded Projects			
116203	MM 136 to MM 139 adding lane in each direction	Roanoke County	\$232.72
<b>Total Regular Project Costs</b>			<b>\$232.72</b>
<b>Total 2022 TIFIA Project Costs</b>			<b>\$263.41</b>

\* Estimates as of August 2022; subject to change

# 2022 TIFIA Loans' Structures

- **Fixed interest rates based on a US Treasury Rate per TIFIA Guidelines**
  - Senior Lien Rural loan – at one-half 30-year U.S. Treasury rate
  - Subordinate Lien Regular loan – at 30-year U.S. Treasury rate

	Senior Lien Series 2022 Rural Loan*	Subordinate Lien Series 2022 Regular Loan*
Drawdown	Single Draw in June 2023	Monthly Draws from May 2025 to June 2025
Capitalized Interest	-	Through Nov 2025
First Interest Payment	Nov 2023	May 2026
First Principal Payment	May 2024	May 2026
Final Payment	May 2057	May 2060
Amortization	Level Debt Service	Level Debt Service

\*Preliminary, subject to change.

# Additional Debt and Reserve Funding Requirements

- **Debt Service Coverage Thresholds**
  - 2.00x senior lien debt service coverage
  - 1.50x intermediate lien debt service coverage
  - 1.35x total debt service coverage
- **Intermediate Lien (if any) Debt Service Reserve Fund**
  - Requirement: 100% maximum annual debt service
- **Subordinate Lien TIFIA Debt Service Reserve Fund**
  - Requirement: 140% of maximum annual debt service
  - Funded by no later than the later of (a) the date of the final disbursement and (b) the substantial completion date



## 2022 TIFIA Loans – Preliminary Schedule\*



\* Subject to change

**Appendix E:** *October 2022 I-81 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 2022



# 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 Updated

Year	VMT (millions)	Person Hours of Delay (Thousands)			Lane-Impacting Incidents			Hours of Lane Closures		
		Northbound	Southbound	Total	Northbound	Southbound	Total	Northbound	Southbound	Total
2019	15.06	2,116	1,471	3,587	1,894	1,691	3,585	2,329	1,812	4,141
2021	15.21	1,702	1,434	3,136	1,247	1,175	2,422	1,797	1,570	3,367
Percent Change	<b>+1.0%</b>	<b>-19.6%</b>	<b>+2.5%</b>	<b>-12.6%</b>	<b>-34.2%</b>	<b>-30.5%</b>	<b>-32.4%</b>	<b>-22.8%</b>	<b>-13.4%</b>	<b>-18.7%</b>

Years	Equivalent Property Damage Only Crashes		
	Northbound	Southbound	Total
2015-2019	50,094	48,907	99,001
2017-2021	51,274	48,169	99,443
Percent Change	<b>+2.4%</b>	<b>+1.5%</b>	<b>+0.5%</b>

# Operational Improvement Project Status

Operational Improvement Type	Status
Curve improvements (static and flashing chevrons)	<b>COMPLETE</b>
Safety Service Patrol (SSP) enhancements	<b>COMPLETE</b>
Lift and tow on SSP vehicles	<b>COMPLETE</b>
Towing and Recovery Incentive Program (TRIP)	<b>COMPLETE</b>
Traffic camera installations	<b>COMPLETE</b>
Digital message sign installations	<b>COMPLETE</b>
Arterial Signal Improvements	<b>ONGOING</b>





# Arterial Signal Improvement Project Status

## Corridor-wide Arterial Improvements

- Parallel route upgrades
  - Minor geometric improvement projects to facilitate access to and from I-81 during incidents are **complete** (3 projects in Rockbridge County)
- Traffic signal upgrades
  - Bristol District – 1 project **complete**, 1 project advertised for construction, 1 project to be advertised in 2023.
  - Salem District – 1 project **complete**, 1 project under construction (Dec. 2023 completion), 1 project to be advertised December 2022.
  - Staunton District – 2 projects to begin construction early 2023, 2 projects to be advertised for construction November 2022.

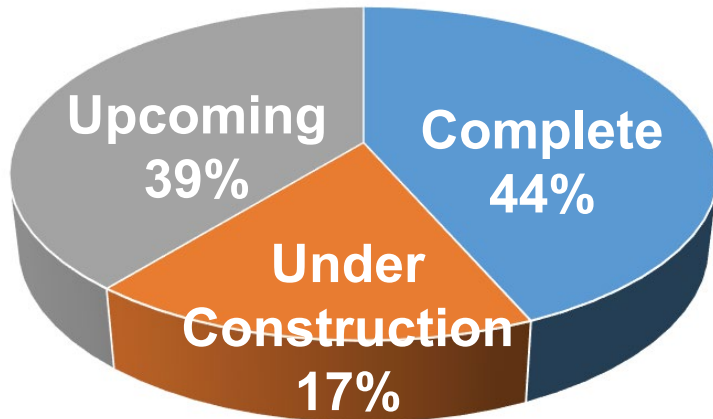
# Capital Improvement Project Status

**Total of  
64  
Projects**



# Capital Improvement Project Status - Bristol District

- **9** upcoming projects  
– \$220M
- **4** projects under construction  
– \$33M
- **10** projects - construction complete  
– \$47.5M



**Exit 47  
Smyth County**

**Northbound  
acceleration lane  
and ramp extension**



# Capital Improvement Project Status - Bristol District

## Completed Projects:

- Exit 19 NB Decel Lane Extension (Abingdon)
- Exit 26 SB Accel & Decel Lane Extension (Emory)
- Exit 39 SB Accel & Decel, NB Decel Lane Extension (Seven Mile Ford)
- Exit 44 SB Accel Lane Extension (Marion)
- Exit 47 NB Accel Lane Extension (Marion)
- Exit 67 Decel Lane Extension (South of Wytheville)
- Exit 84 SB Decel Lane Extension (North of Fort Chiswell)

## Projects Under Construction:

- Exit 17 SB Acceleration Lane Extension (Abingdon)
- Exit 39 to MM 40.6 NB Truck Climbing Lane (Seven Mile Ford)
- Exit 47 SB Accel; Exit 54 SB Auxiliary Lane (South of Rural Retreat)

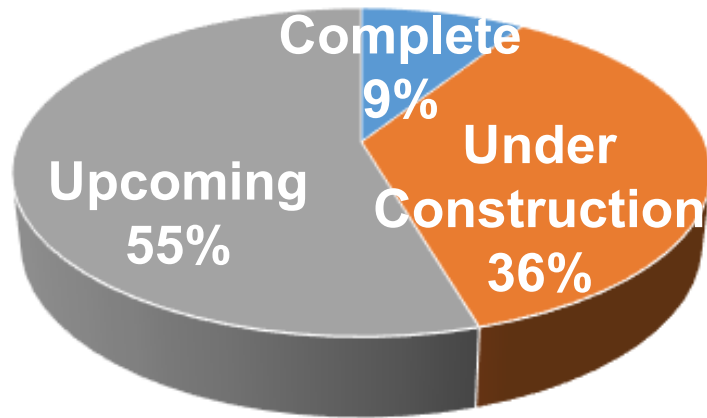
# Capital Improvement Project Status - Bristol District

## Upcoming Projects:

- **MM 9.7 to MM 8.1 SB widening to three lanes (Bristol)**
- **Exit 32 to MM 33.5 NB Truck Climbing Lane (Glade Spring) – Advertise Summer 2023**
- **MM 34 to MM 33 SB Truck Climbing Lane (Glade Spring) – Advertise Summer 2023**
- **Exit 45 NB Decel Lane Extension (Marion)**
- **Exit 72 NB Decel Extension and I-77 Exit 41 to I-81 SB Exit 72 Auxiliary Lane – Design-Build with Request For Qualifications advertisement Spring 2023. (Wytheville)**
- **I-81 Exit 73 to I-77 Exit 41 SB Decel Lane Extension and Ramp Reconstruction (Wytheville)**
- **Exit 73 to Exit 72 SB Auxiliary Lane (Wytheville)**
- **Exit 81 SB Decel Lane Extension (Fort Chiswell)**

# Capital Improvement Project Status - Salem District

- 6 upcoming projects - \$796M
- 4 projects under construction – \$300M
- 1 projects - construction complete – \$4.8M



**Exit 137-141  
Salem and  
Roanoke County**

**Northbound and  
southbound widening**



# Capital Improvement Project Status - Salem District

## Completed Projects:

- Exit 89 NB Acceleration Lane Extension (Pulaski)
- Troutville Rest Area SB Entrance and Exit Extension (2 projects) - Troutville

## Projects Under Construction:

- Exit 137 to Exit 141 Widening NB and SB (Design Build, 2 projects bundled) - Salem

## Upcoming Projects:

- MM 116 to Exit 128 Widening NB Only – Construction 2027 (Christiansburg to Ironto)
- Exit 128 to Exit 137 Widening NB Only – Construction 2027 (Ironto to Salem)
- Exit 143 to Exit 150 Widening NB & SB – Construction 2025 (Roanoke to Troutville)

# Capital Improvement Project Status - Salem District

- **Upcoming Projects Continued:**
  - **Exit 162 NB Accel Lane Extension – Construction 2025 (Buchanan)**
  - **Exit 105 NB Accel Lane Extension – Construction 2026 (Radford)**
  - **Exit 94 SB Accel Lane Extension – Construction 2025 (Pulaski)**



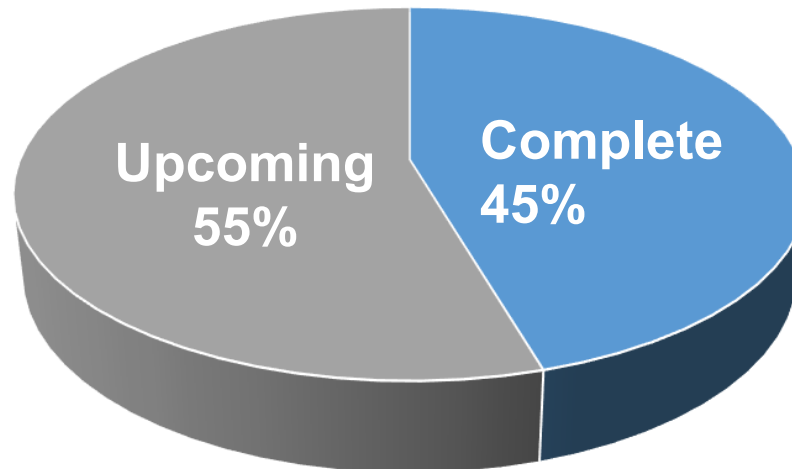
# Capital Improvement Project Status - Staunton District

- **12** upcoming projects  
– \$963M
- **0** project under construction
- **10** projects - construction complete  
– \$19.8M



## Exit 205 Rockbridge County

Acceleration lane extension,  
off-ramp widening, and turn  
lane construction



# Capital Improvement Project Status - Staunton District

## Completed Projects:

- Exit 302 NB Accel, Exit 302 SB Decel, Exit 283 SB Accel,
- Exit 269 NB Decel, Exit 279 SB Accel
- Exit 291 NB Accel, Exit 296 SB Accel, Exit 304 NB Accel
- Exit 205 SB Accel, Exit 205 NB Accel (Raphine)

## Projects Under Construction: None

## Upcoming Projects:

- Exit 221 to Exit 220 SB Auxiliary Lane – Construction Fall/Winter 2023 (South of Staunton)
- Exit 221 to Exit 225 NB and SB Widening – Construction Summer 2023 (Staunton)
- Weyers Cave NB and SB Truck Climbing Lanes – Construction Spring 2025
- Exit 242 to Exit 248 NB and SB Widening – Construction Summer 2025 (Harrisonburg)
- Exit 299 to Exit 296 SB Widening – Construction Fall/Winter 2024 (Strasburg)

# Capital Improvement Project Status - Staunton District

- **Upcoming Projects Continued:**
  - **Exit 313 to Exit 317 NB and SB Widening – Construction 2027 (Winchester)**
  - **Mt. Sidney Rest Area SB Decel Lane Extension – Construction 2026**
  - **Mt. Sidney Rest Area SB Accel Lane Extension – Construction 2026**
  - **Mt. Sidney Rest Area NB Accel Lane Extension – Construction 2026**
  - **Rockbridge County Shoulder Improvements – Construction 2026**
  - **Exit 188 NB Accel Extension – Construction 2025**

# Program Website Improve81.org

IMPROVE 81



## 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.



# Fiscal Year 2023-2028 Performance (in millions)

## Interstate I-81 Improvement Funding

Fund	Previous	FY23	FY24	FY25	FY26	FY27	FY28	Total
I-81 Regional Fuels Tax*	\$ 217.3	\$ 78.8	\$ 80.0	\$ 80.7	\$ 81.4	\$ 83.2	\$ 85.2	\$ 706.6
I-81 Bond Proceeds	\$ 101.9	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 14.8	\$ 0.0	\$ 116.7
I-81 TIFIA Proceeds	\$ 97.9	\$ 0.0	\$ 258.2	\$ 0.0	\$ 0.0	\$ 379.8	\$ 0.0	\$ 735.9
I-81 Allocation from IOEP	\$ 162.0	\$ 95.9	\$ 101.3	\$ 110.1	\$ 109.2	\$ 107.6	\$ 107.8	\$ 793.9
<b>Total</b>	<b>\$ 579.1</b>	<b>\$ 174.7</b>	<b>\$ 439.5</b>	<b>\$ 190.8</b>	<b>\$ 190.6</b>	<b>\$ 585.4</b>	<b>\$ 193.0</b>	<b>\$ 2,353.1</b>

Fund balance as of July 31, 2022

\$290.4 million

\*Fuel Tax Revenue includes funds available for debt service

# I-81 Multimodal Improvement Plan: Virginia Breeze



# Virginia Breeze: System Overview



## VALLEY FLYER

Blacksburg — Washington,  
D.C.



## CAPITAL CONNECTOR

Martinsville — Richmond —  
Washington, D.C.



## PIEDMONT EXPRESS

Danville — Washington, D.C.



## HIGHLANDS RHYTHM

Bristol — Washington, D.C.

- State-sponsored intercity bus service that runs 7 days a week, 365 days per year
- Four (4) Virginia Breeze routes, each providing connections to rural communities
  - Two (2) routes - Valley Flyer and Highlands Rhythm - service I-81
- Ticket prices range from \$21 to \$60

# I-81 Virginia Breeze Service

## September 2013

- *Virginia Statewide Intercity Bus Study* identifies high-level needs for service

## December 2017

- The first Virginia Breeze route is put into service, connecting Blacksburg to Washington D.C. via I-81

## March 2020

- *Virginia Breeze I-81 Service Expansion Study* identifies unmet needs and service alternatives for connecting Bristol to Washington D.C. via I-81

## November 2021

- The 4<sup>th</sup> Virginia Breeze route – the Highlands Rhythm – is put into service





# Virginia Breeze: Highlands Rhythm

## Top Performing Stops

- 1) Harrisonburg
- 2) Dulles Airport
- 3) Washington D.C.
- 4) West Falls Church
- 5) Radford

Northbound	Southbound
Departure: 11:00 AM (Bristol)	Departure: 12:50 PM (Washington D.C.)
Arrival: 6:55 PM (Washington D.C.)	Arrival: 8:30 PM (Bristol)

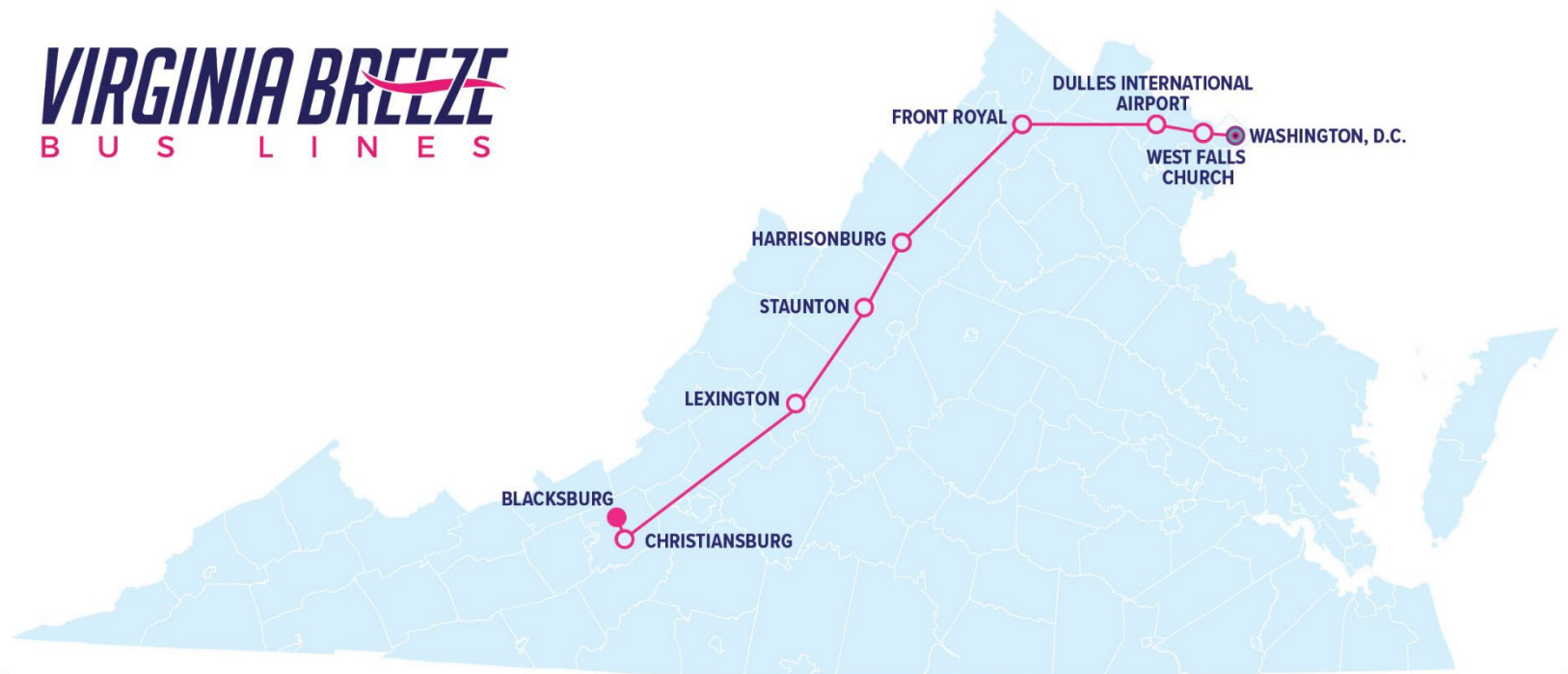


# Virginia Breeze: Valley Flyer

Northbound	Southbound
Departure: 8:00 AM (Blacksburg)	Departure: 9:35 AM (Washington D.C.)
Arrival: 2:05 PM (Washington D.C.)	Arrival: 3:40 PM (Blacksburg)

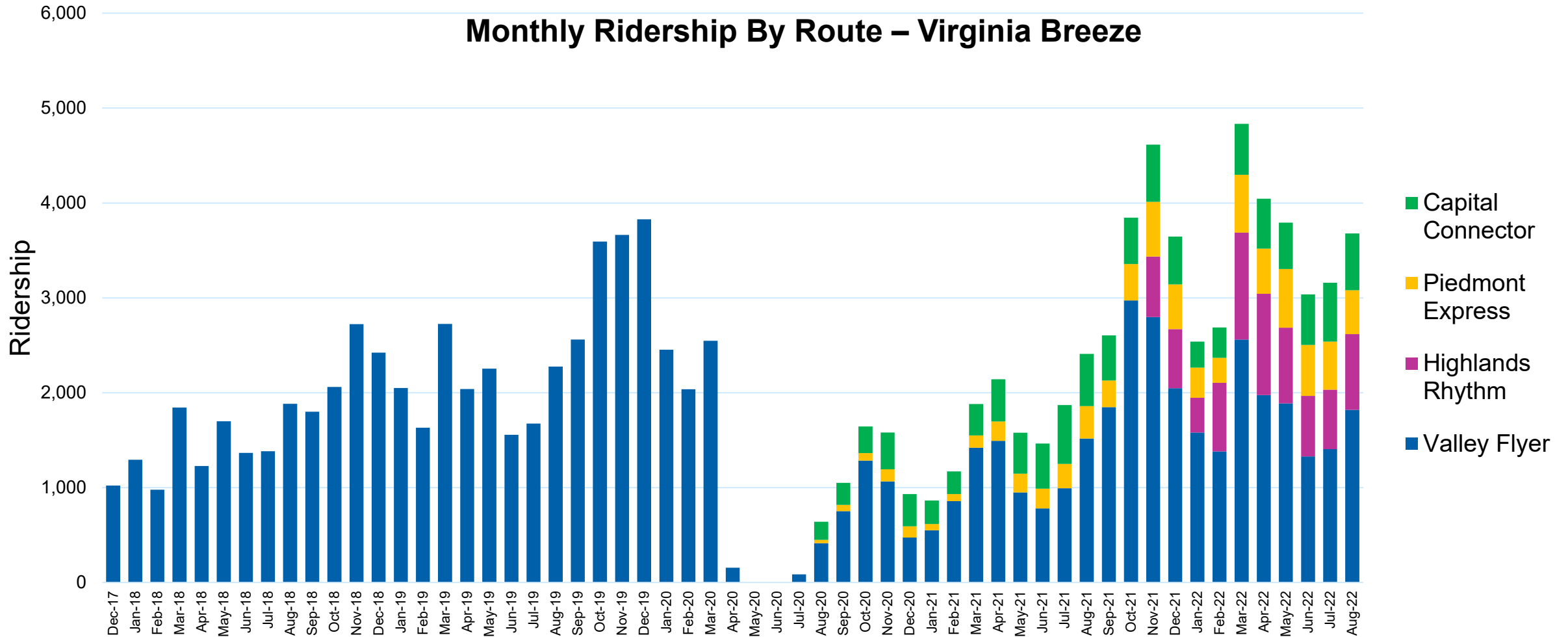
## Top Performing Stops

- 1) Blacksburg
- 2) Dulles Airport
- 3) Harrisonburg
- 4) Washington D.C.
- 5) West Falls Church



# Virginia Breeze Performance

## Monthly Ridership By Route – Virginia Breeze



# Virginia Breeze Performance

- **FY22 on-time performance (calculated by stop): 85%**
- **FY22 farebox recovery rate (% of costs covered by fares): 52%**
- **More than 110,000 rides provided on these routes since December 2017**
- **Pre-booked tickets allow DRPT to accommodate increased ridership demand**
  - **December 1, 2019: Added 12 additional Valley Flyer buses to address demand**



# I-81 Multimodal Funding: Transit

I-81 Multimodal Financial Plan (Transit)		
Description	Capital*	O&M (Annual)
Virginia Breeze Service Extension to Bristol**	-	\$243,000
Virginia Breeze Extension Stops	\$60,000	-
Improvements to Existing Stops	\$40,000	-

## Notes

\* Pending review of ridership levels

\*\*Includes 15% contingency, 3-years of operating funds per CTB IOEP policy (does not include farebox revenue or federal revenue)

# FY22 Operating Revenues

FY22 Operating Revenues (I-81 VA Breeze Service)		
Source	Amount	Percent (%)
I-81 Multimodal Transit Funding (IOEP) Bristol Ext	\$243,000	10%
FTA Funding (5311(f) and CARES)*	\$920,672	38%
Farebox Revenues	\$1,275,209	52%
<b>Total Operating Cost</b>	<b>\$2,438,881</b>	<b>100%</b>

## Notes

\* FTA CARES funds are one-time stimulus funds. Once these funds are expended, FTA 5311(f) funding will be utilized.

**Appendix F:** *July 2022 I-81 Commonwealth Transportation  
Board PowerPoint Presentation*

IMPROVE **81**

# I-81 CORRIDOR IMPROVEMENT PROGRAM

I-81 Committee Meeting

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

July 7, 2022



# 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

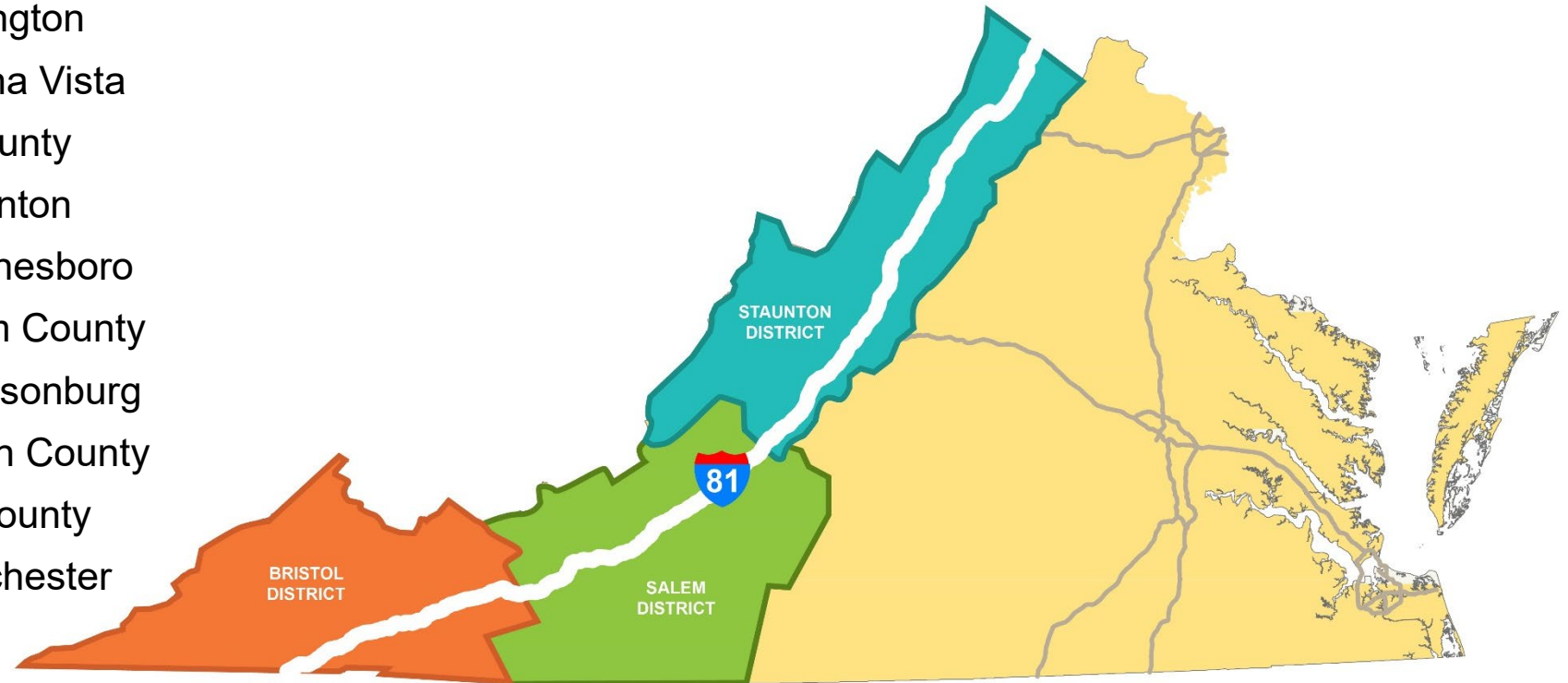
I-81 is the main corridor and key economic artery of western Virginia. These improvements will ensure that goods and services critical to our economy move safely and efficiently through and within the region.

# Planned Improvements

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

## Localities along the corridor include:









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



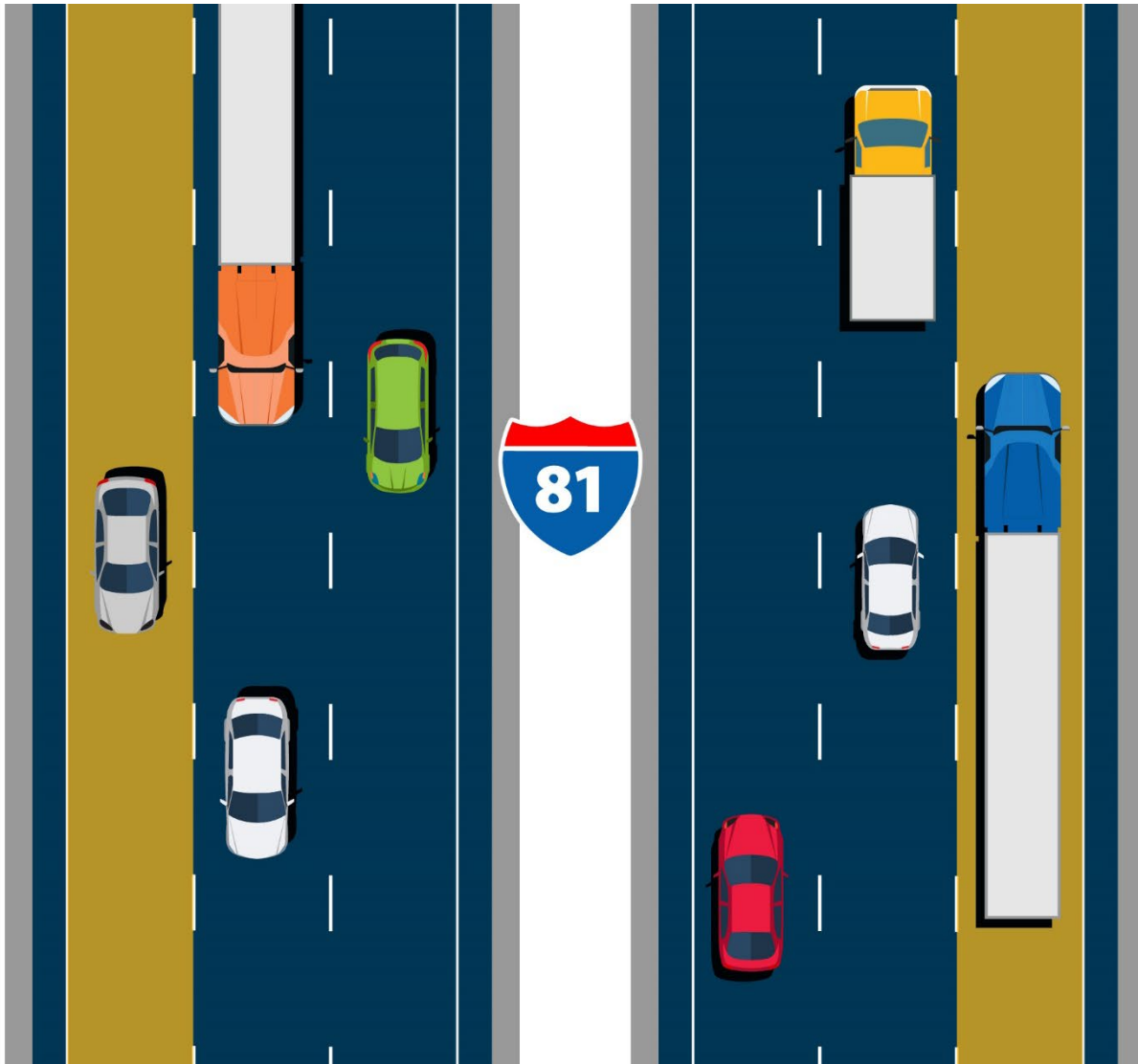
# Takeaway Scorecard

## Operational Projects

## Capital Projects

Projects	Status	Anticipated Completion
Improved Incident Clearance 	Complete	Spring 2021
Safety Service Patrol Expansion 	Complete	Summer 2019
Additional Cameras (51) 	Complete	Spring 2020
Additional Digital Message Signs (30) 	Complete	Fall 2021
Arterial Upgrades 	Underway	VDOT signals underway, Locality signals complete in 2025
Completed Projects (23) 	Complete	Spring 2022
Active Construction Projects (15) 	Underway	8 in 2022, 4 in 2023, 1 in 2024, 2 in 2026
Remaining capital projects (26) 	Upcoming Projects	All complete by 2033

# Types of Projects

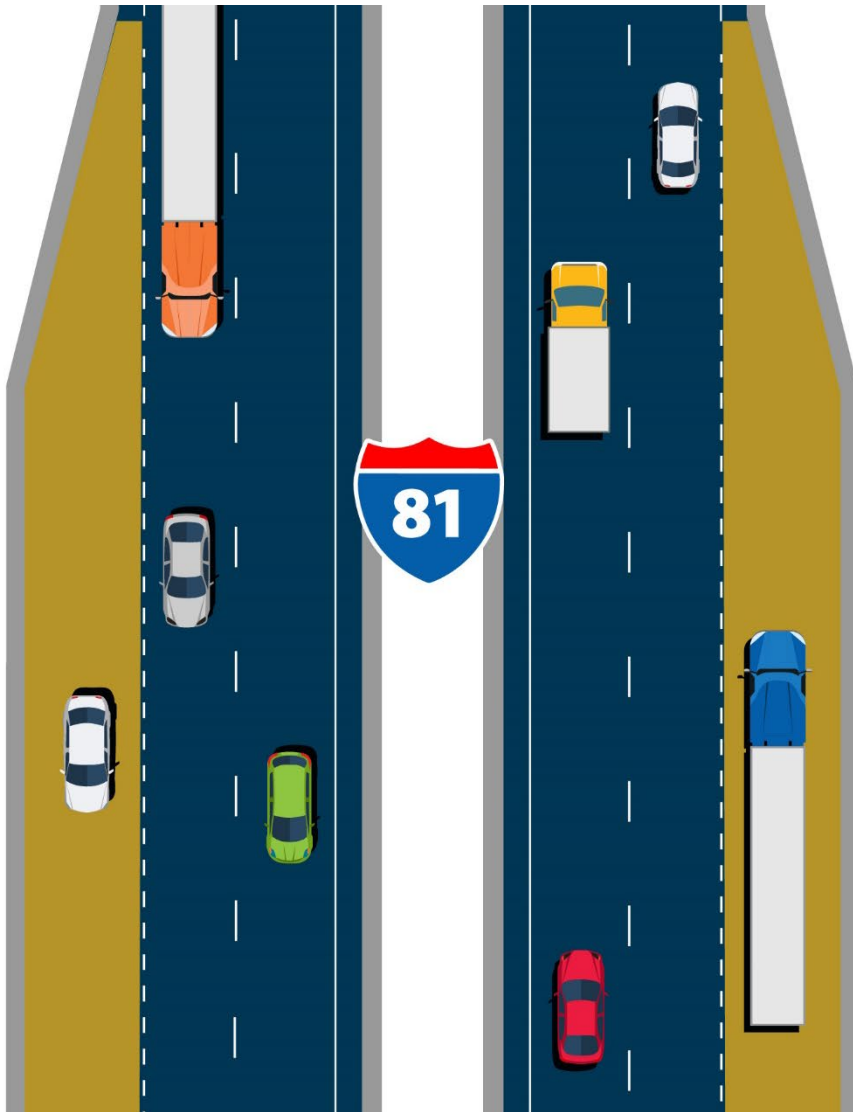


## Capital Improvement Projects

Widening +1

- 10 Improvements
  - 2 Projects Under Construction – Completion in 2026
  - 8 Future Projects – Completion by 2033 or earlier

# Types of Projects



## Capital Improvement Projects

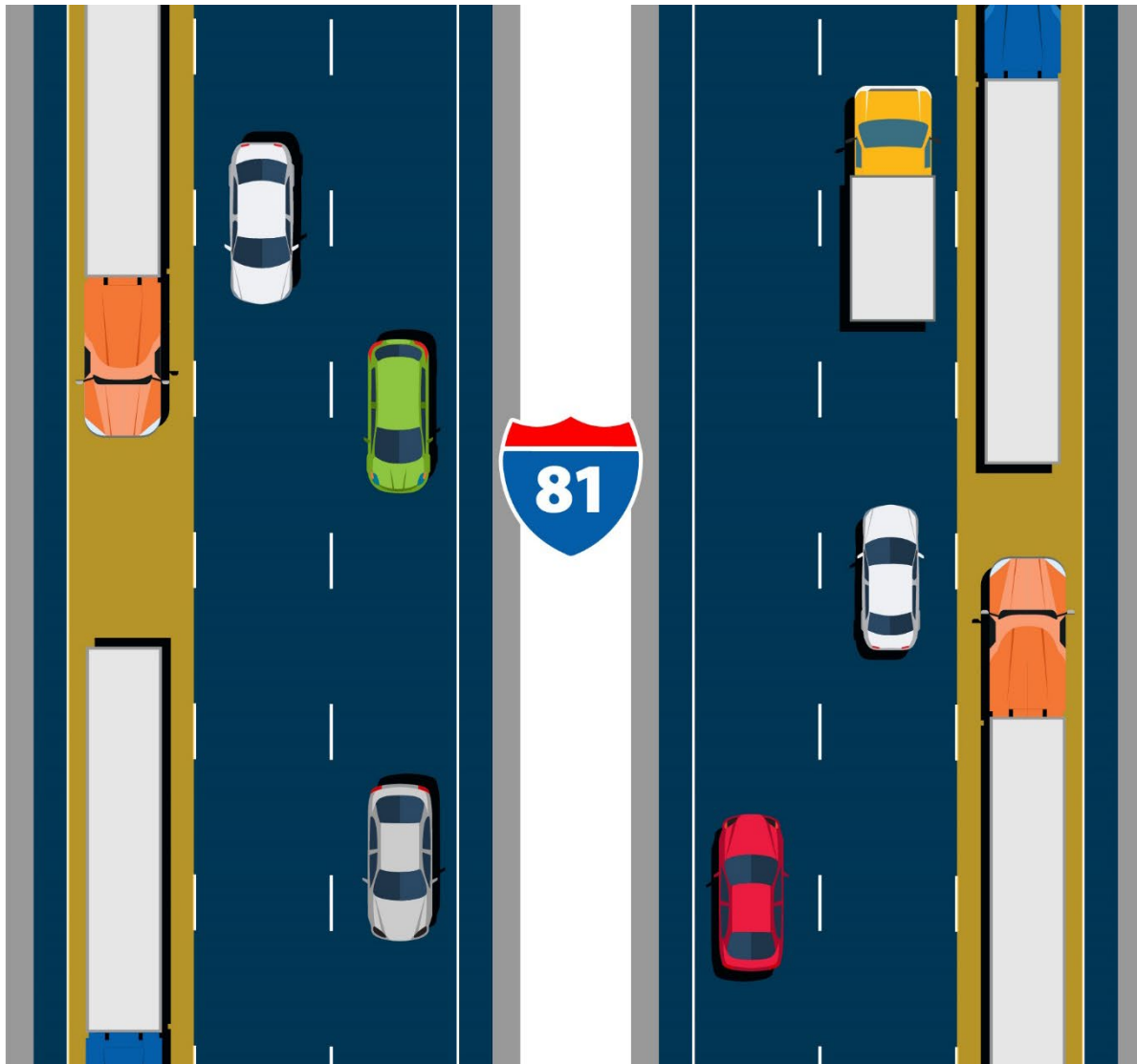
### Acceleration & Deceleration Extension



36 Improvements

- 15 Projects Complete
- 11 Projects Under Construction
  - 7 Complete in 2022
  - 4 complete in 2023
- 10 Future Projects – Completion by 2033

# Types of Projects



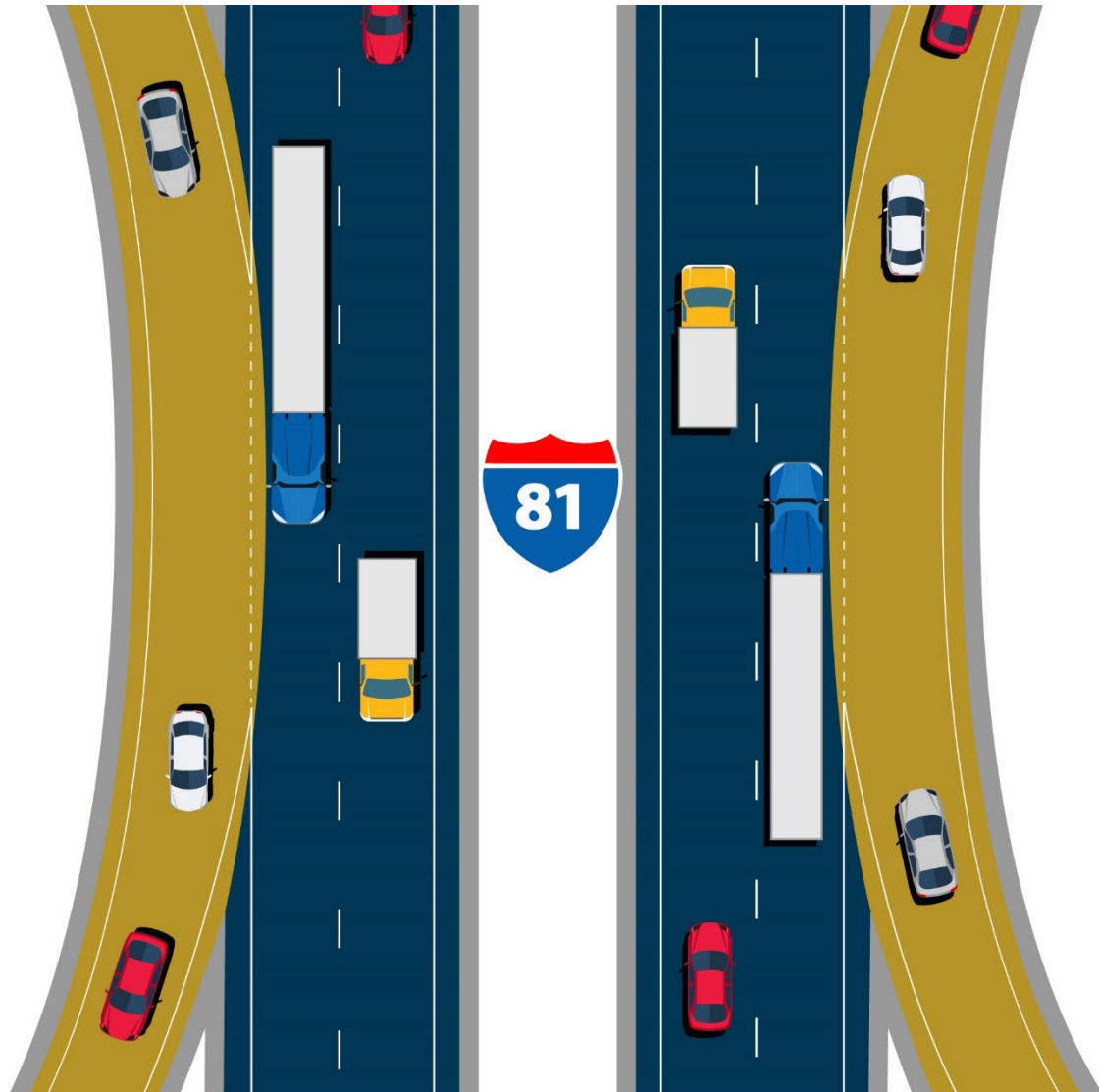
## Capital Improvement Projects

### Truck Climbing Lanes



- 5 Improvements
  - 1 Project Under Construction – Completion in 2024
  - 4 Future Projects – Completion by 2033

# Types of Projects



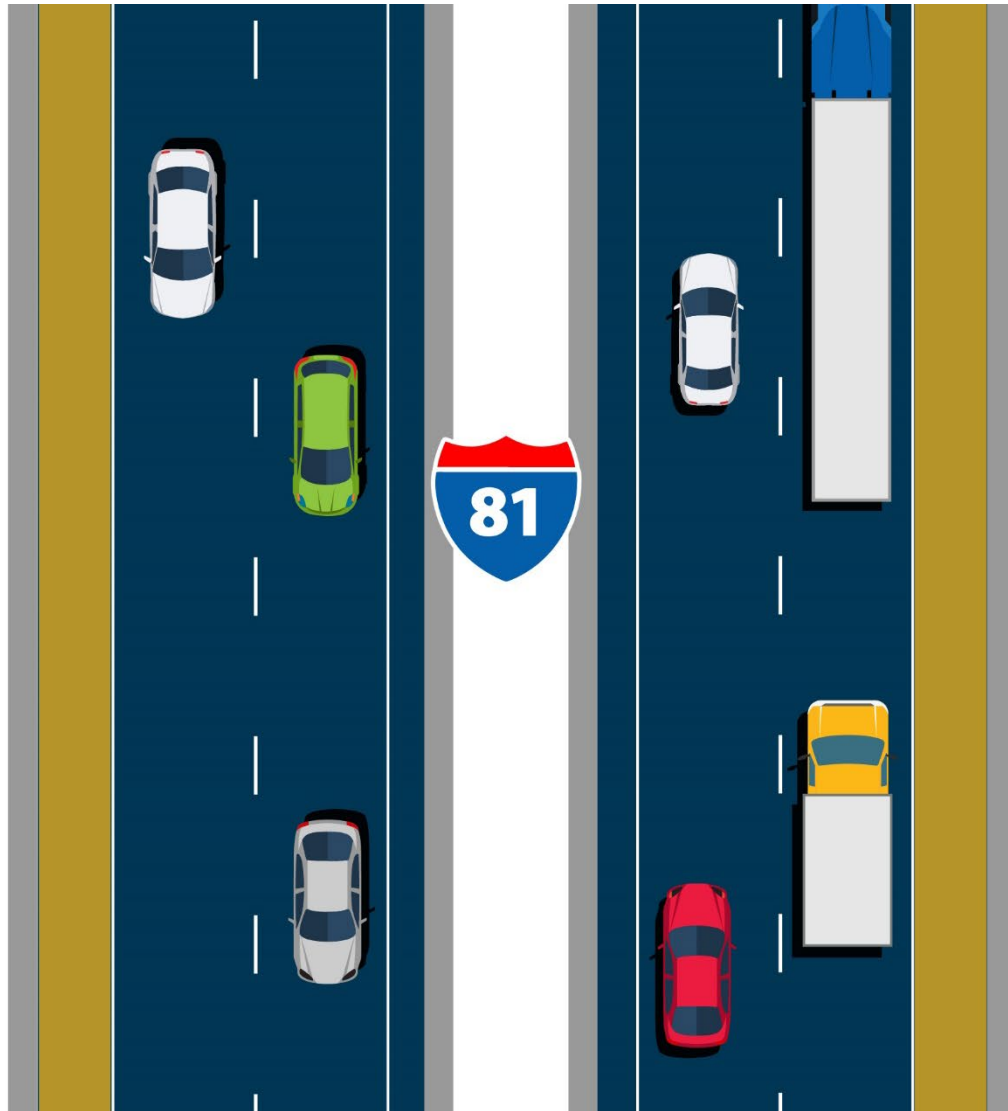
## Capital Improvement Projects

### Auxiliary Lane



- 4 Improvements
  - 1 Project Under Construction – Completion in 2022
  - 3 Future Projects – Completion by 2033

# Types of Projects



## Capital Improvement Projects

**+S** Shoulder Widening  
Curve Improvements 

- 1 Shoulder Improvement
  - 1 Projects – Construction to begin in 2026
- 8 Curve Improvements
  - All complete



# Types of Projects



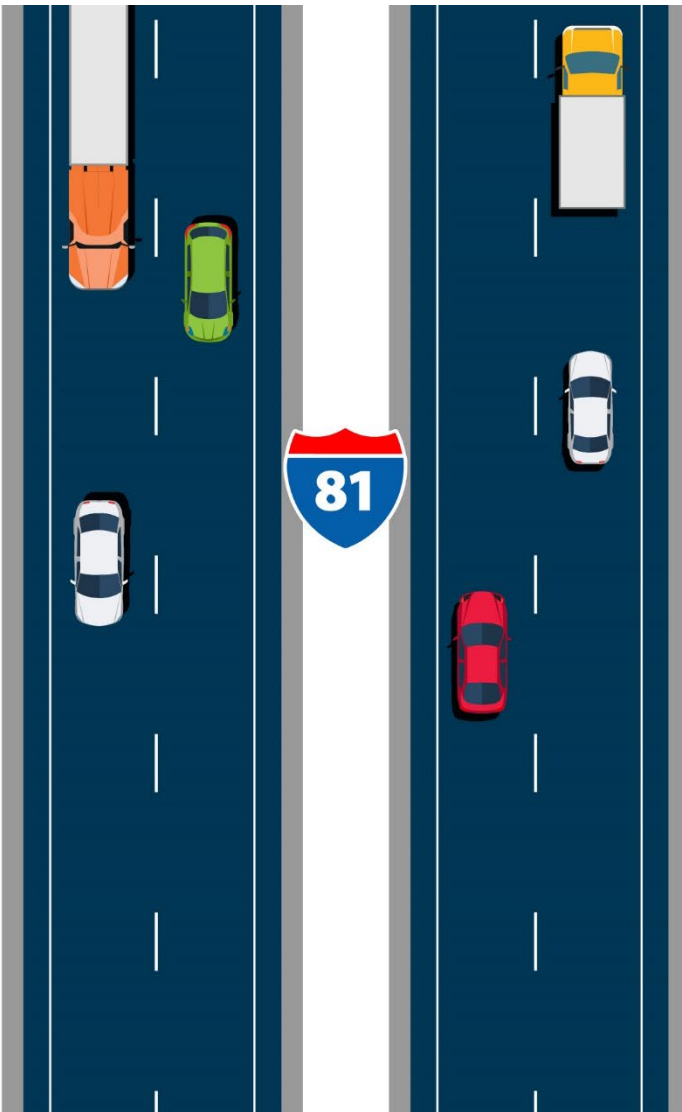
New digital message signs



New traffic cameras



Extended safety service patrols



Detour route improvements



Improved incident clearance

## Operational Improvement Projects

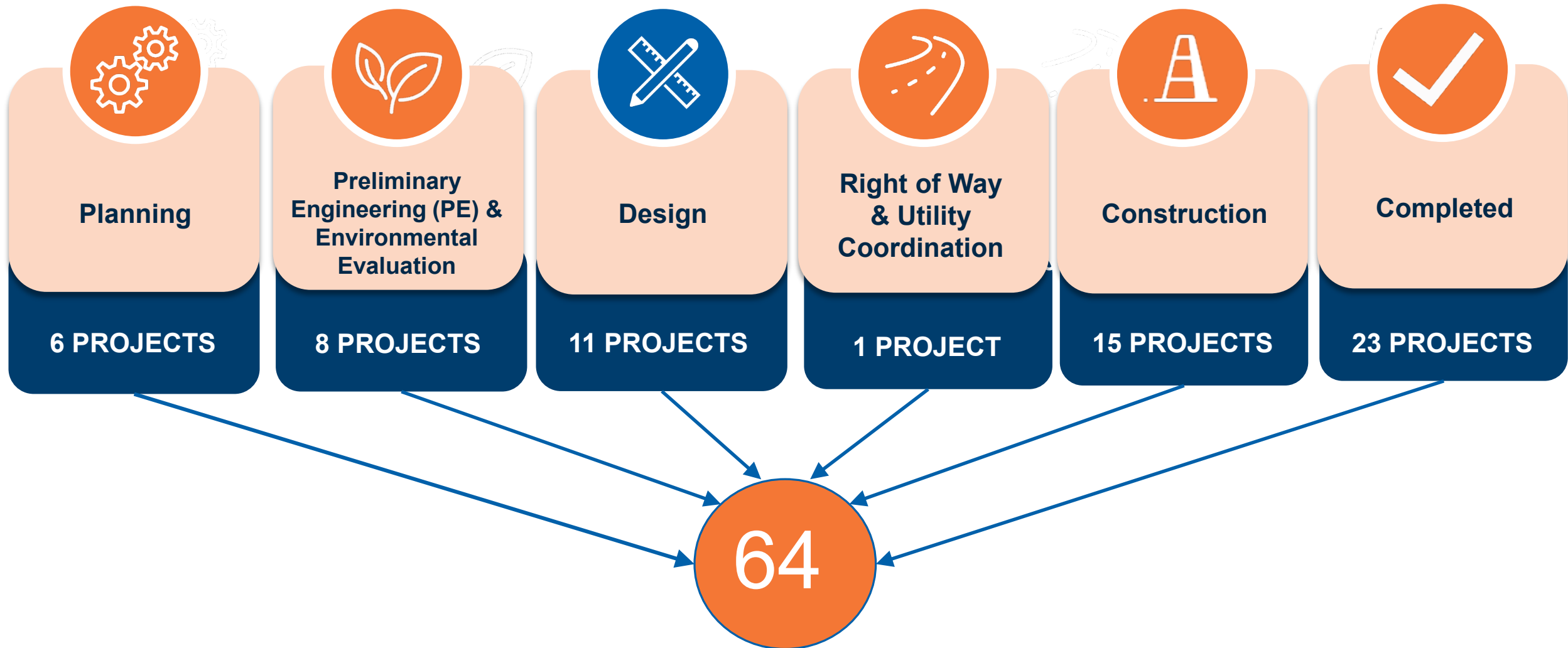
### Operational Improvements



5 Improvements

- VDOT systems complete
- Locality systems will be complete by 2025

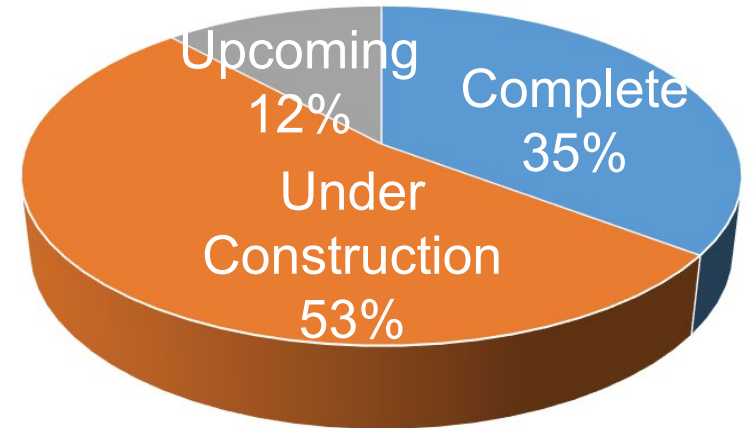
# Project Development Process (Capital Projects)



# Bristol District Project Status (Capital Projects)

## Completed Projects:

- Shoulder strengthening contract (schedule) for 5 projects
- Exit 26 SB Acceleration Lane Extension (Emory)
- Exit 26 SB Deceleration Lane Extension (Emory)
- Exit 67 Deceleration Lane Extension (South of Wytheville)
- Exit 19 Deceleration Lane Extension (Abingdon)
- Exit 84 SB Deceleration Lane Extension (North of Fort Chiswell)



## Projects Under Construction:

- Bundle project (Exit 39 NB Decel, Exit 47 SB Accel, Exit 39 SB Decel, Exit 43 SB Accel)
- Exit 39 SB Acceleration Lane Extension (Seven Mile Ford)
- Exit 47 NB Acceleration Lane Extension, single phase DB (Marion)
- Exit 17 SB Acceleration Lane Extension (Abingdon)

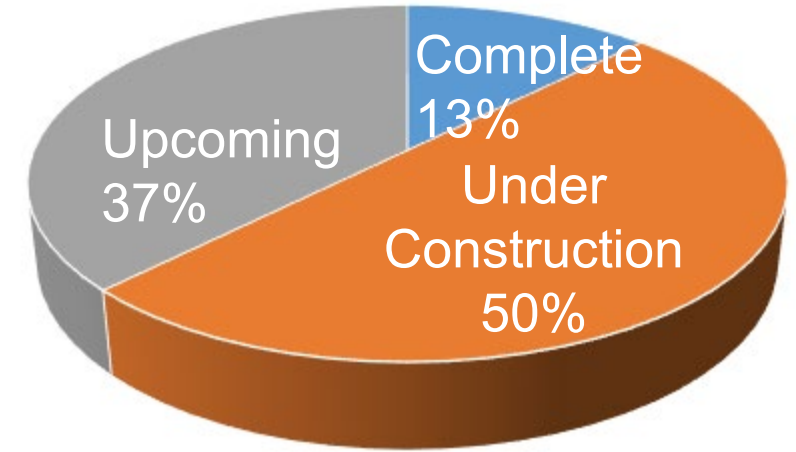
# Bristol District Project Status (Capital Projects)

- **Exit 39 NB Entrance Ramp – MM 40.6 NB Truck Climbing Lane**
- **Exit 54 SB Auxiliary Lane - (South of Rural Retreat)**
  
- **Upcoming Projects:**
  - **Exit 72 NB Decel Extension and I-77 Exit 41 to I-81 SB Exit 72 Auxiliary Lane – Design-Build with RFQ expected next year. (Wytheville)**

# Salem District Project Status (Capital Projects)

## Completed Projects:

- Exit 89 NB Acceleration Lane Extension (Pulaski)



## Projects Under Construction:

- Exit 137 to Exit 141 Widening NB and SB (Design Build, 2 projects bundled) - Salem
- Troutville Rest Area SB Entrance and Exit Extension (2 projects) - Troutville

## Upcoming Projects:

- MM 116 to Exit 128 Widening NB Only – Construction 2027 (Christiansburg to Ironto)
- Exit 128 to Exit 137 Widening NB Only – Construction 2027 (Ironto to Salem)
- Exit 143 to Exit 150 Widening NB & SB – Construction 2026 (Roanoke to Troutville)

# Staunton District Project Status (Capital Projects)

## Completed Projects:

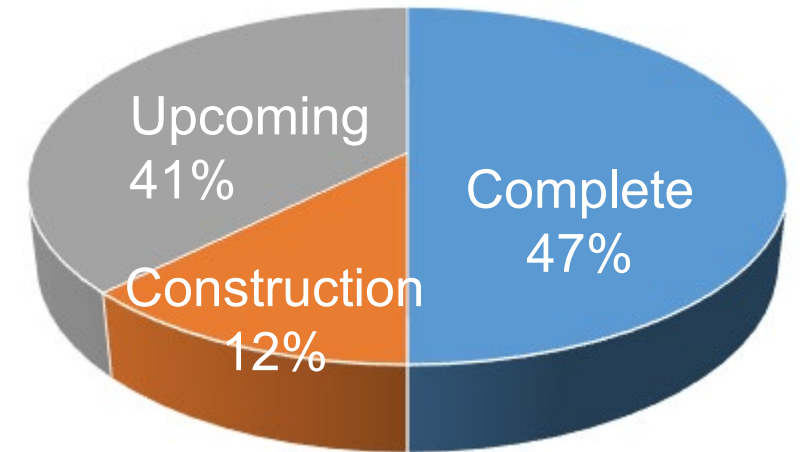
- Exit 302 NB Accel, Exit 302 SB Decel, Exit 283 SB Accel,
- Exit 269 NB Decel, Exit 279 SB Accel
- Exit 291 NB Accel, Exit 296 SB Accel, Exit 304 NB Accel

## Projects Under Construction:

- Exit 205 SB Accel, Exit 205 NB Accel (Raphine)

## Upcoming Projects:

- Exit 221 to Exit 220 SB Auxiliary Lane – Construction Fall/Winter 2023 (South of Staunton)
- Exit 221 to Exit 225 NB and SB Widening – Construction Spring/Summer 2023 (Staunton)
- Weyers Cave NB and SB Truck Climbing Lanes – Construction Spring 2025
- Exit 242 to Exit 248 NB and SB Widening – Construction Summer 2025 (Harrisonburg)
- Exit 299 to Exit 296 SB Widening – Construction Fall/Winter 2024 (Strasburg)
- Exit 313 to Exit 317 NB and SB Widening – Construction 2027 (Winchester)



# Operational Project Status (Corridor-wide)

## Completed Projects:

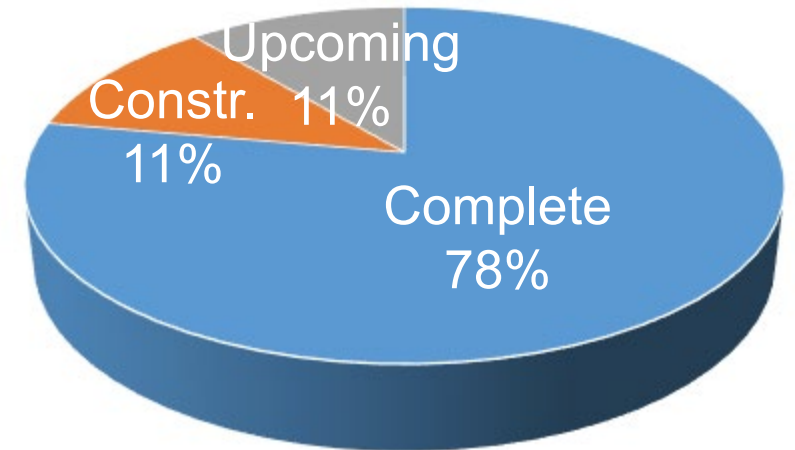
- Curve Improvements (Static And Flashing Chevron Signs)
- Safety Service Patrol Enhancements
- Lift and Tow Devices on SSP Vehicles
- Towing and Recovery Incentive Program (TRIP)
- Traffic Camera Installations (51)
- Digital Message Sign Installations (30)
- Arterial Intersection Improvements (3)

## Projects Under Construction:

- Arterial Improvements (VDOT signal system upgrades)

## Upcoming Projects:

- Arterial Improvements (Locality signal system upgrades)



# Capital Project Advancement (Funding & Delivery)

## • Bristol District **Funding** Advancement:

- Exit 81 SB Deceleration Lane Extension (\$15.5M)
- Auxiliary Lane Exit 73 to Exit 72 SB (\$21.2M)
- Exit 72 NB Deceleration Lane Extension (\$37.5M)
- Auxiliary Lane from I-77 SB to I-81 SB (Exit 40 on I-77 to Exit 72 on I-81) – (\$34.2M)
- Exit 45 NB Extend Deceleration Lane (\$24.7M)

## • Salem District **Funding** Advancement:

- Exit 128 to Exit 137 NB Widening – Funding advanced by 18 months (\$265.3M)

## • Staunton District **Delivery** Advancement:

- Staunton Area Widening advanced with decision to deliver as design-build project (delivery), accelerated by 12 to 18 months.

• **Total Funding Advancement To Date: \$398.4M**



# Communications – Videos, Podcasts, Newsletters



Safety Service Patrol



Troutville Rest Area



Traffic Operations Center/  
Customer Service Center



Exit 205



Exit 137 to Exit 141  
Widening



Digital Message Signs



Wytheville Interchange  
Improvements



Harrisonburg Widening



Staunton Area  
Auxiliary Lane



Arterial Improvements



Picking the Projects



Bristol District Truck  
Climbing Lanes



Strasburg Area Widening



Troutville Rest Area  
Temporary Closure



Staunton Area Widening

## Published to date

- 15 videos
- 16 podcasts
- 6 newsletters

# Program Specific Website – Learn More!

Improve81.org

