

*Appendix A: Preliminary Capital Improvement Project Schedule*



*Appendix B: Improvements Summary Map and Table*

# I-81 CORRIDOR IMPROVEMENT PLAN

## RECOMMENDED IMPROVEMENTS

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

## SMART SCALE

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

## LEGEND

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

December 2021

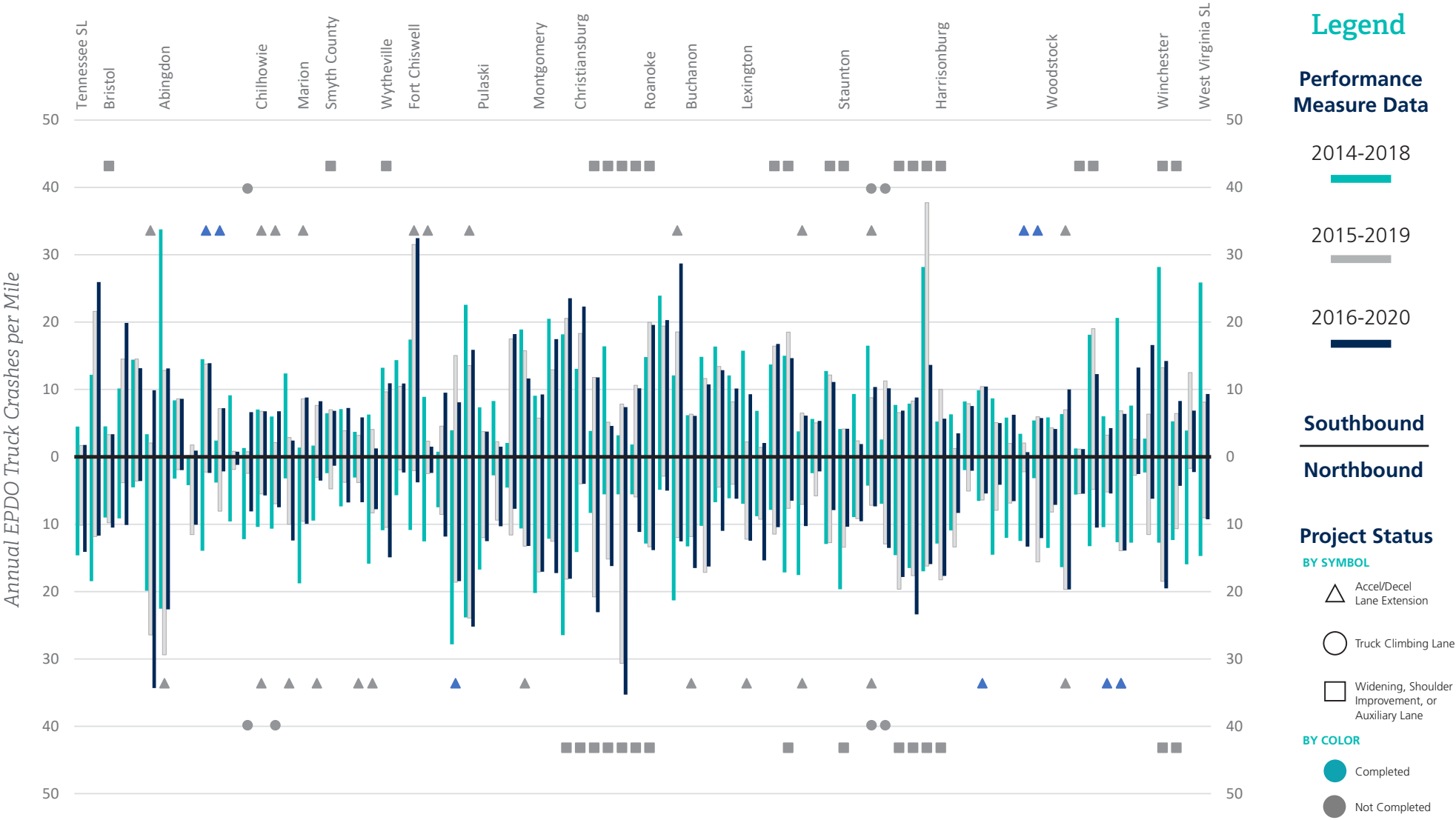


\* SS5 - Project is not depicted on map.



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

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



Source: Virginia Roadway Network System, 2021.

*Appendix D: April 2021 Commonwealth Transportation Board PowerPoint Presentation*

IMPROVE **81**

# I-81 CORRIDOR IMPROVEMENT PROGRAM

Commonwealth Transportation Board

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

April 20, 2021



# Program Benefits



## Enhanced Safety

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



## Reduced Congestion

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



## Economic Development

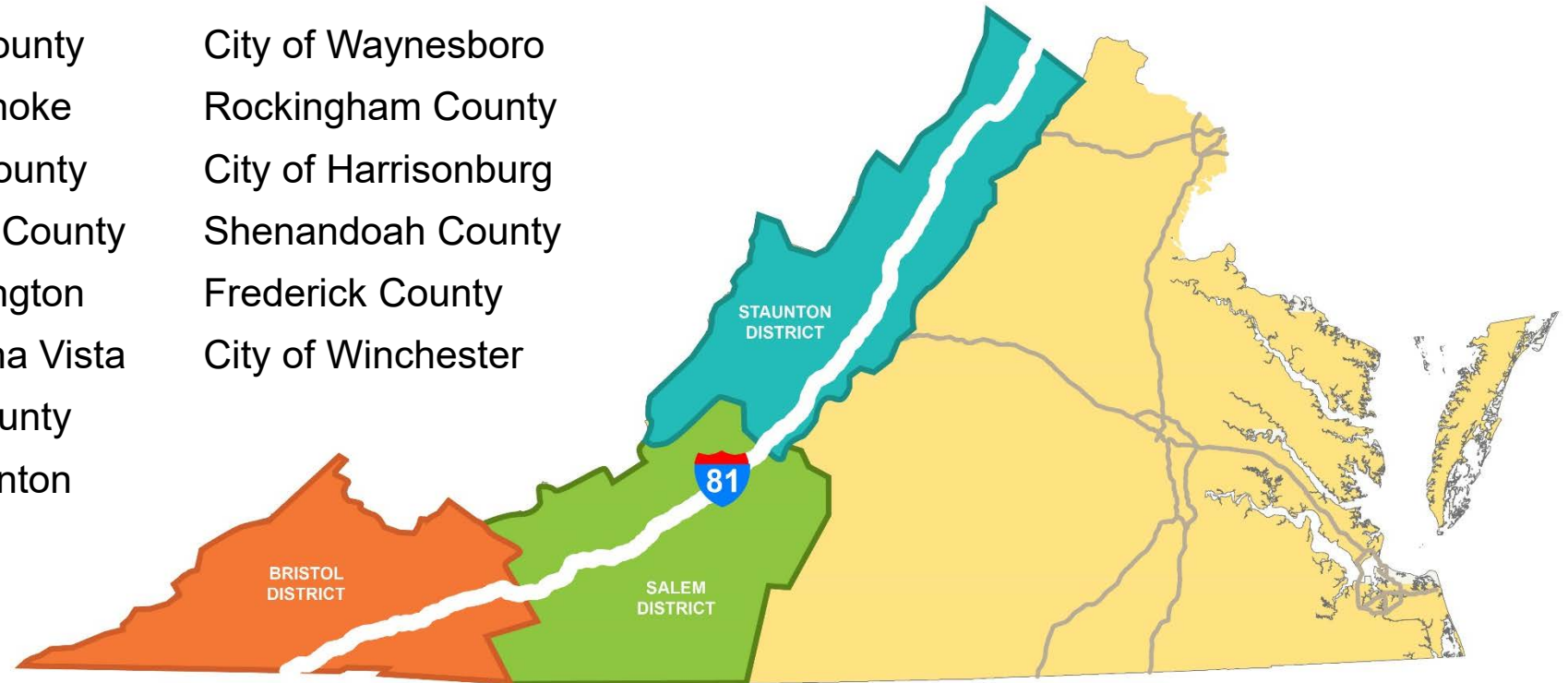
I-81 is the main corridor and key economic artery of western Virginia. These improvements will ensure that goods and services critical to our economy move safely and efficiently through and within the region.

# Planned Improvements









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

## Localities along the corridor include:

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



# Takeaway Scorecard

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

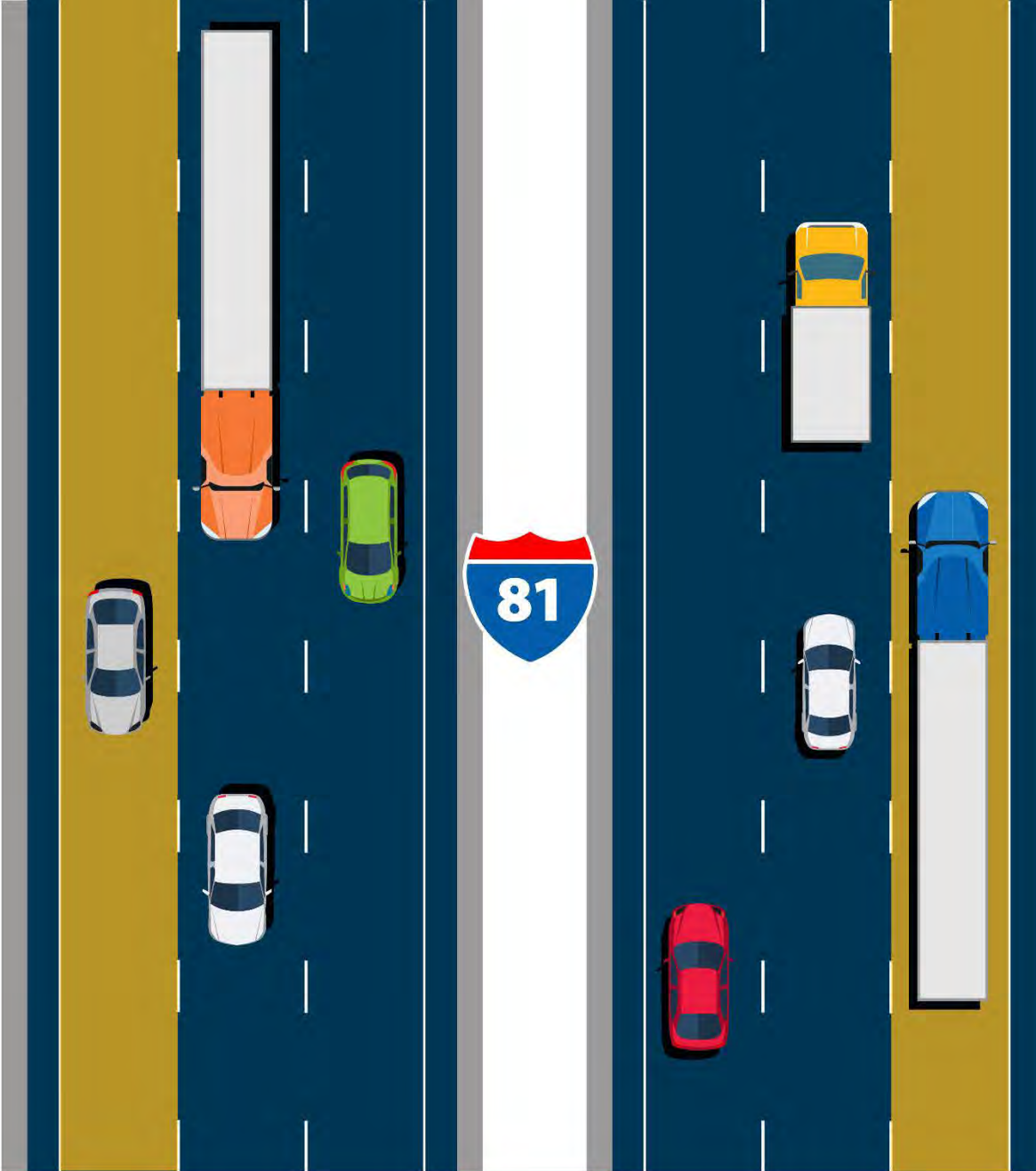
More than  
**64** Program  
Improvements

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



# Project Development Process (Capital Projects)

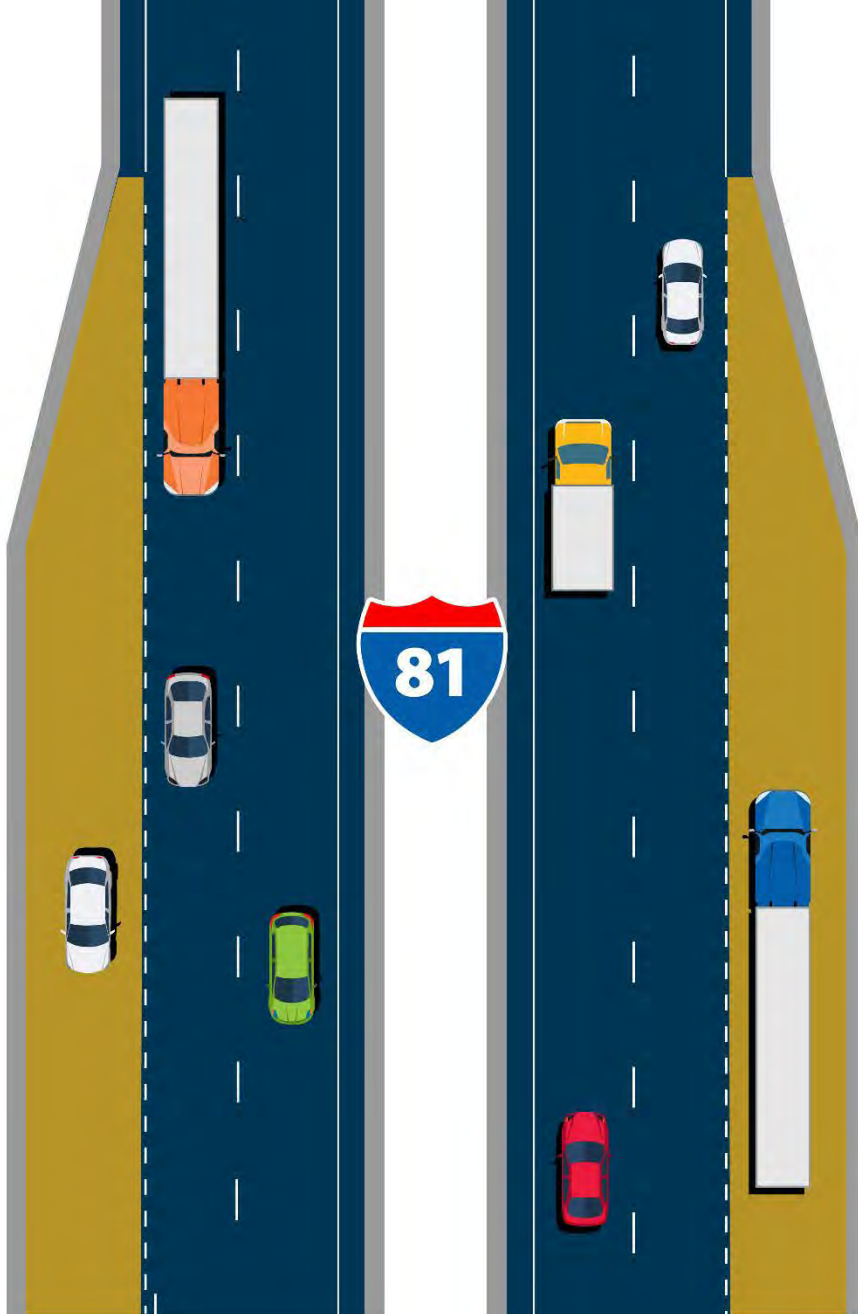




Infrastructure Improvements

Widening +1

10 Improvements Planned

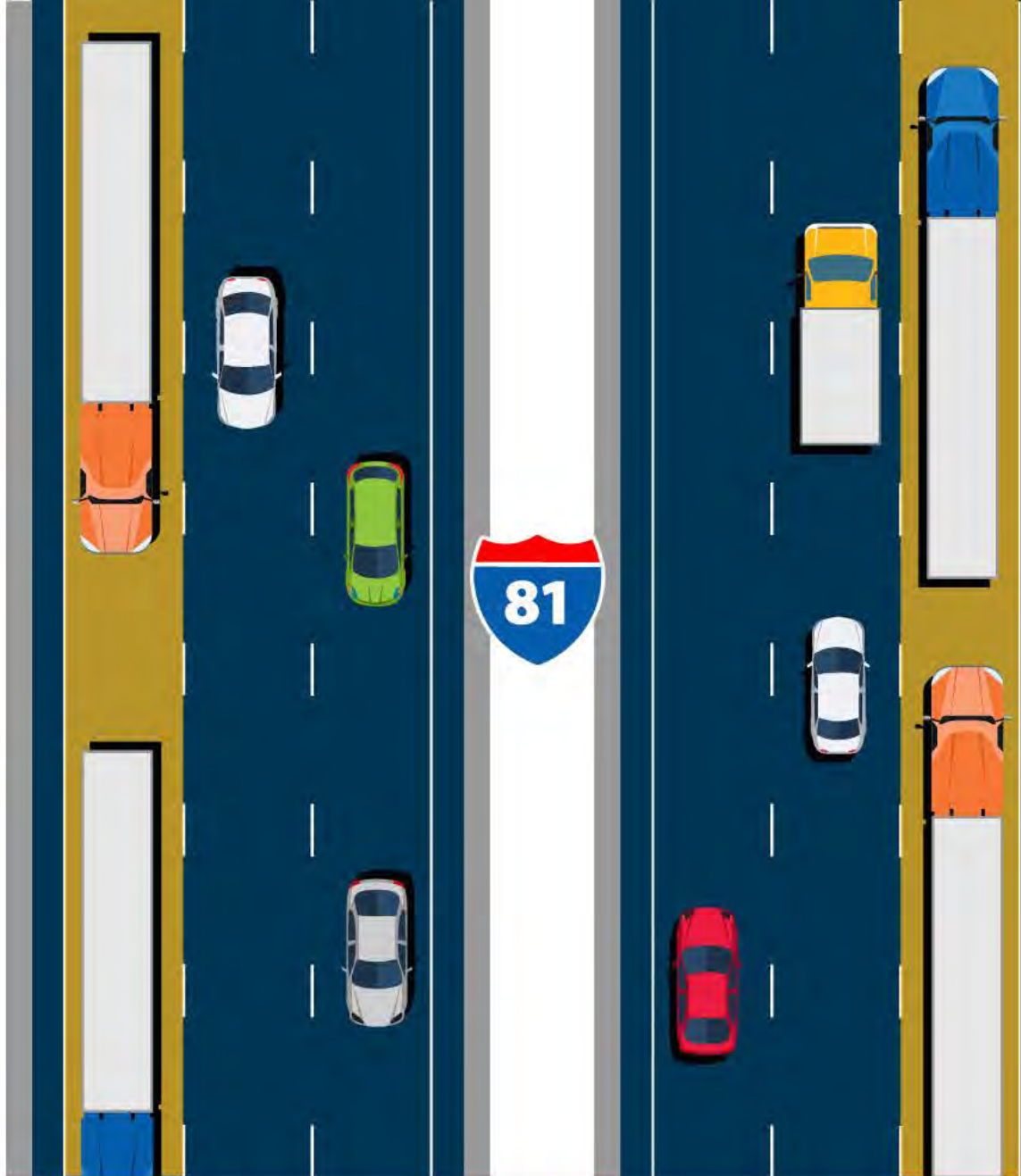


Infrastructure Improvements

Acceleration  
& Deceleration  
Extension



36 Improvements Planned



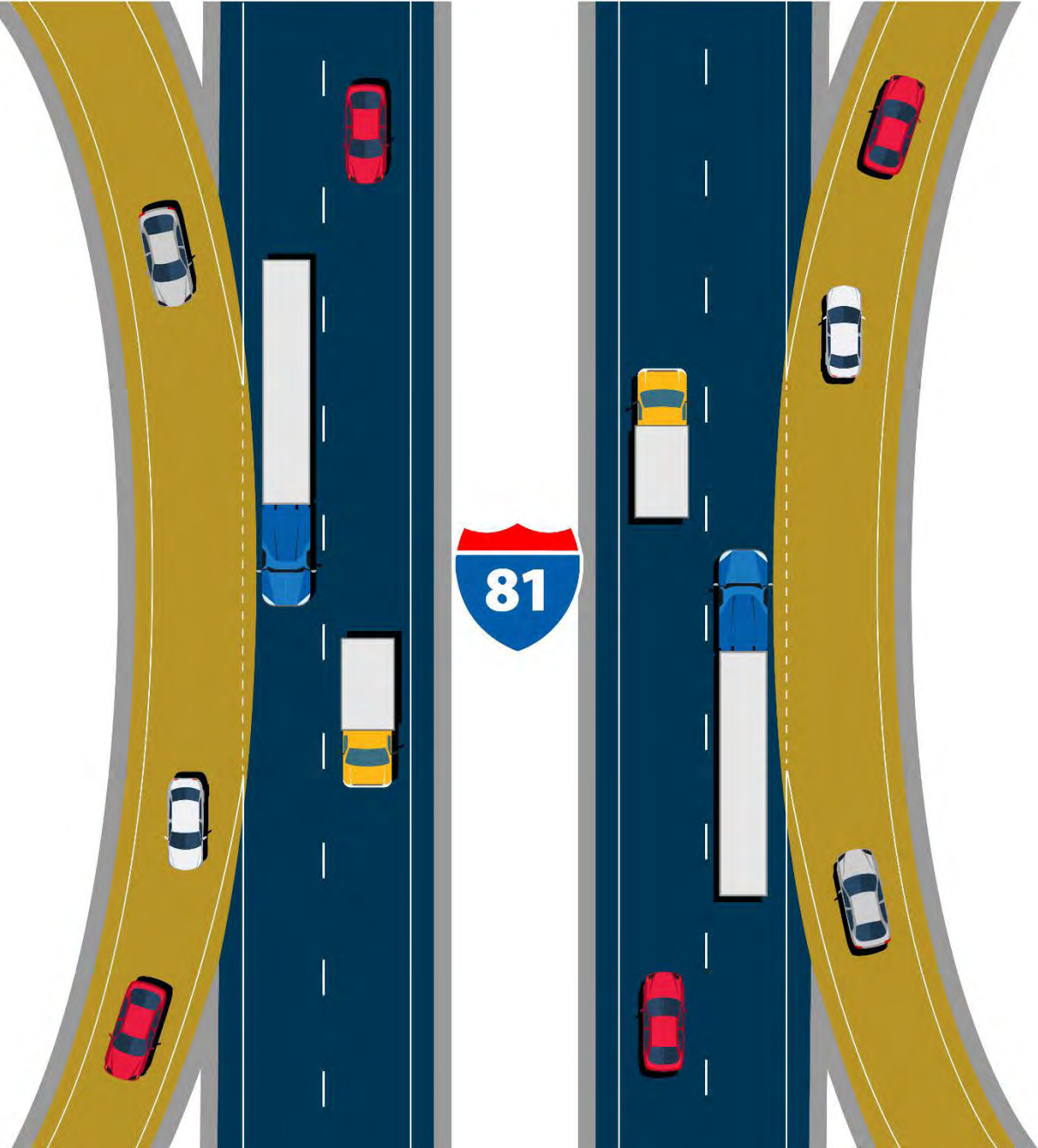
**Infrastructure Improvements**

**Truck Climbing Lanes**



**5 Improvements Planned**





**Infrastructure Improvements**

**Auxiliary Lane**



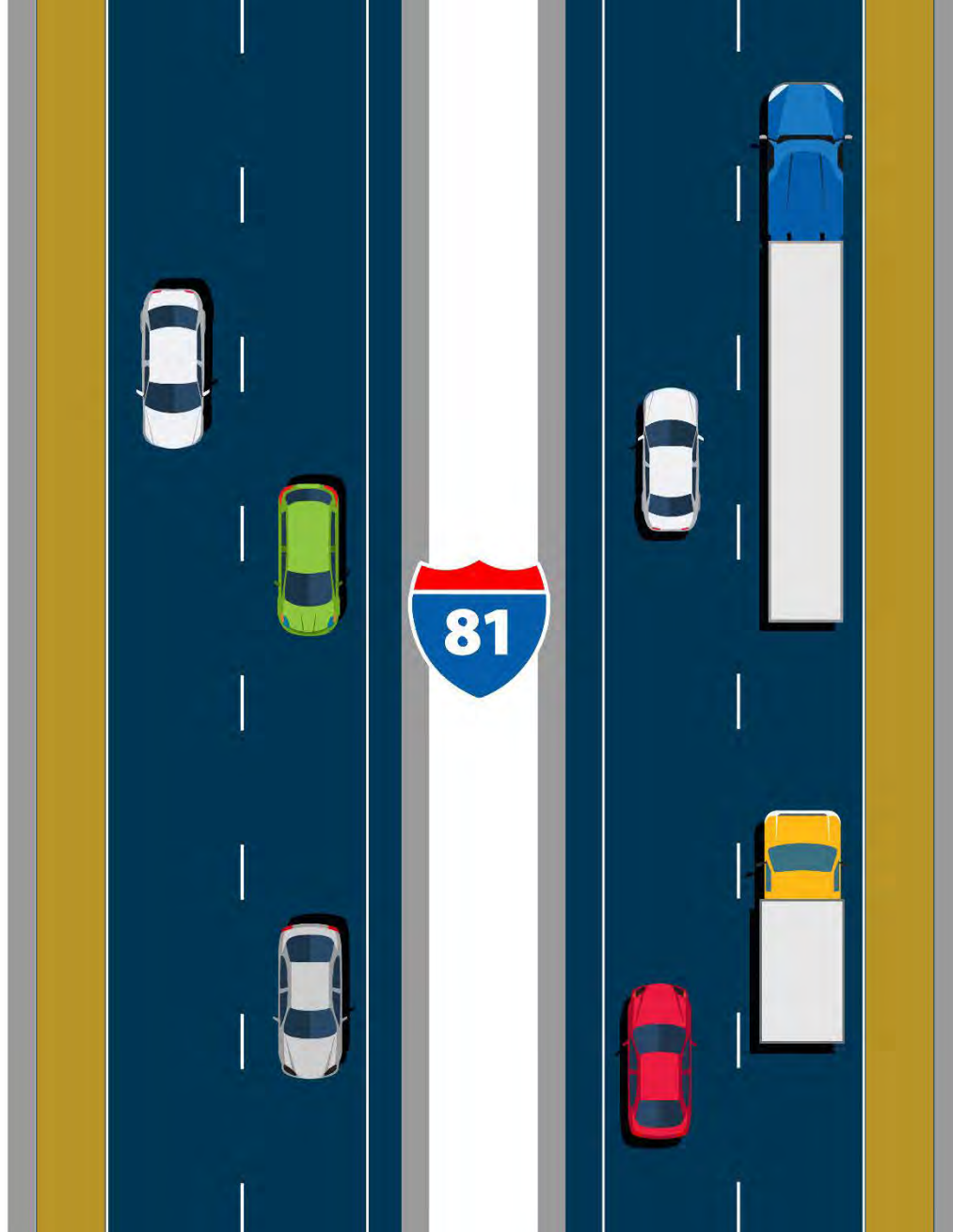
**4 Improvements Planned**

Infrastructure Improvements

Shoulder Widening

+S

1 Improvement Planned





New digital message signs



New traffic cameras



Extended safety service patrols



Detour route improvements



Improved incident clearance



Multimodal improvements



Curve improvements

### Infrastructure Improvements

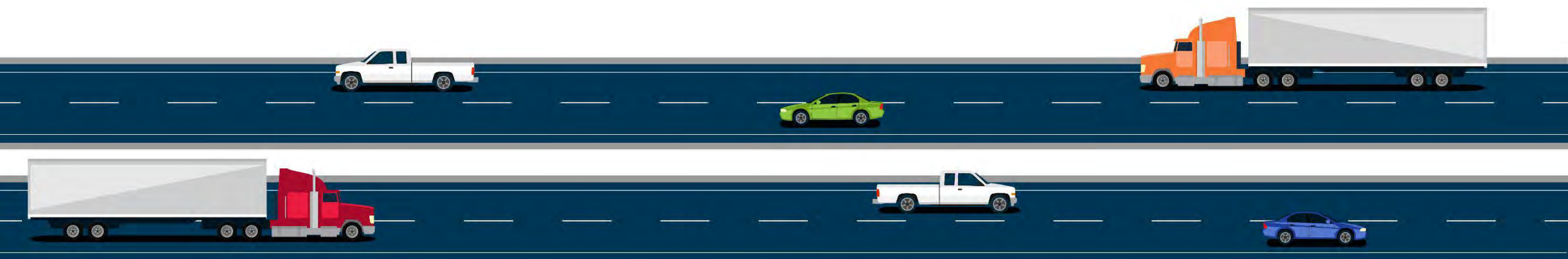
**Operational Improvements**



**5 Improvements Delivered**

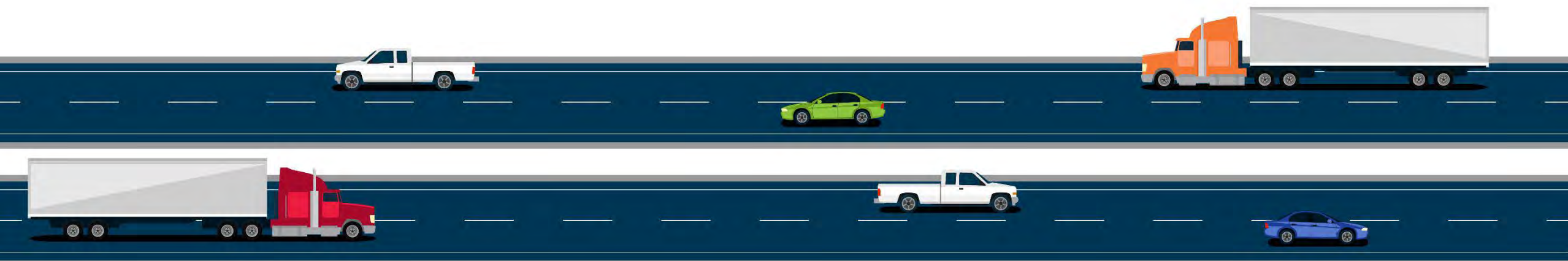
# 19 Program Improvement Initiatives

Completed through 2020



## Upcoming Program Improvements

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



# Planned Studies With Potential Future Improvements

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



## Truck Parking

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

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

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

# Studies With Potential Future Improvements

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



## Speed Enforcement

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



## Multimodal Improvements

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

# Website Implementation

Improve81.org





*Appendix E: October 2021 Commonwealth Transportation Board PowerPoint Presentation*



COMMONWEALTH of VIRGINIA  
Office of the  
SECRETARY of TRANSPORTATION

# Interstate 81 Corridor Improvement Program and Fund Update

Commonwealth Transportation Board Meeting  
October 2021



# Agenda

**2019 Acts of Assembly**

**Performance Measures Comparison**

**Project Development Process**

**Assessment of Strategies**

**Annual Program Allocations and Financing Plan**

**Takeaway Scorecard**

# 2019 Acts of Assembly

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

# Performance Measures - Baseline Comparison

## Safety and Performance of I-81

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

# Performance Measures - Baseline Comparison

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

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

# Operational Improvement Project Status

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



# Arterial Improvement Project Status

## Corridor-wide Arterial Improvements

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



# Project Development Process - Capital Projects



# Capital Improvement Project Status - Bristol District

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



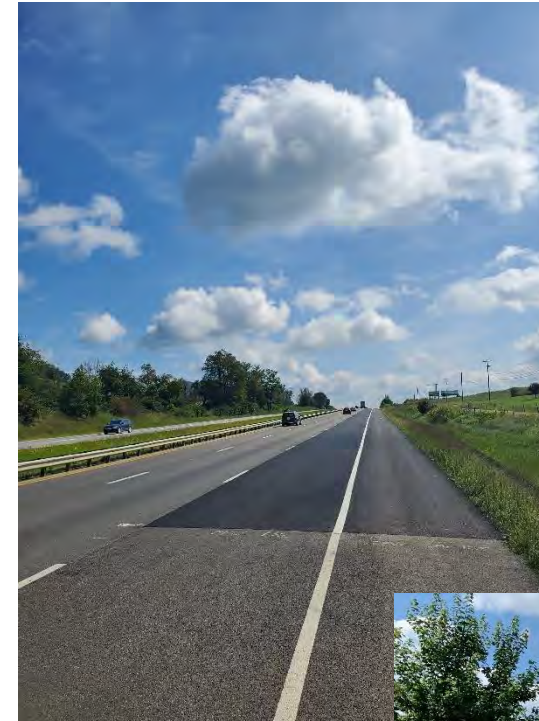
## Exit 26 Washington County

Southbound  
acceleration and  
deceleration lane  
extensions



# Capital Improvement Project Status - Salem District

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



## Exit 89 Pulaski County

Northbound  
deceleration lane  
extension



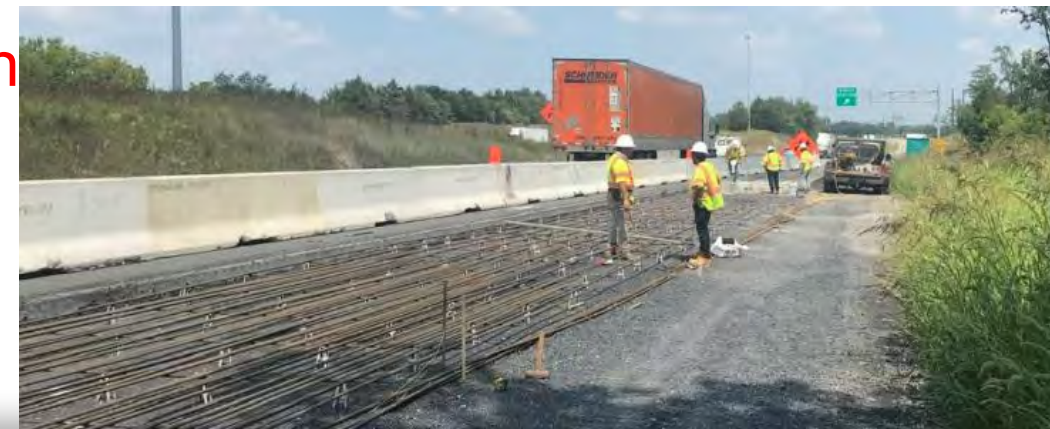
# Capital Improvement Project Status - Staunton District

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



**Exit 269 -  
Shenandoah  
County**  
  
**Northbound  
deceleration  
lane extension**

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



# Takeaway Scorecard

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

# Multimodal Project Status – Virginia Breeze Intercity Bus

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



# Multimodal Project Status – Western Rail Initiative

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



# Fiscal Year 2022-2027 Performance (in millions)

## Interstate I-81 Improvement Funding

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

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

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



# Study Website Improve81.org

IMPROVE 81



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## What Is The I-81 Improvement Program?

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



*Appendix F: December 2021 Commonwealth Transportation Board Resolution*



# COMMONWEALTH of VIRGINIA

## *Commonwealth Transportation Board*

Shannon Valentine  
Chairperson

1401 East Broad Street  
Richmond, Virginia 23219

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

*Agenda item # 10*

### **RESOLUTION OF THE COMMONWEALTH TRANSPORTATION BOARD**

**December 8, 2021**

#### **MOTION**

**Made By: \_\_\_\_\_ Seconded By: \_\_\_\_\_**

**Action: \_\_\_\_\_**

#### **Title: Approval of Interstate 81 Corridor Improvement Program Progress Report**

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

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

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

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

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

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

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

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

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

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

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

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

####

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

IMPROVE **81**

# I-81 CORRIDOR IMPROVEMENT PROGRAM

I-81 Committee Meeting

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

April 28, 2021

# Program Benefits



## Enhanced Safety

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



## Reduced Congestion

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



## Economic Development

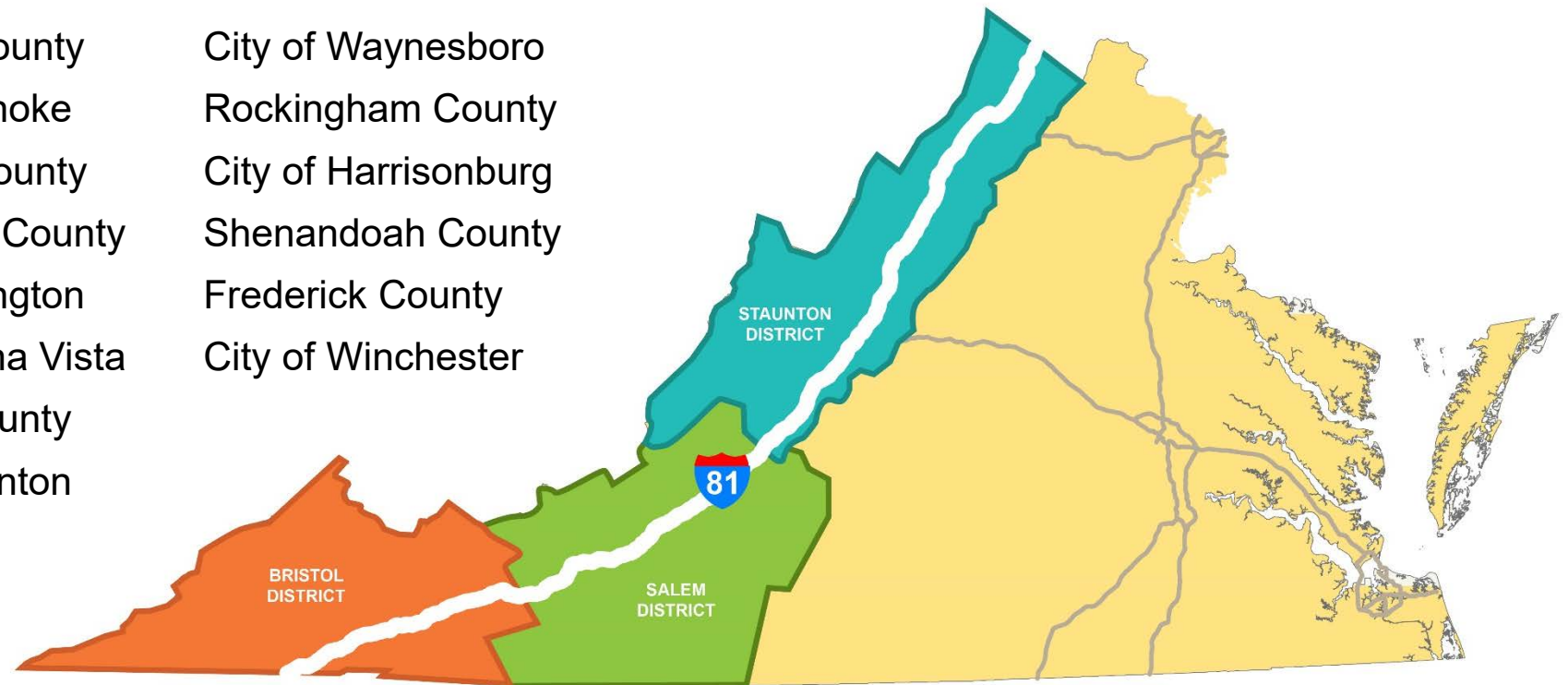
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# Planned Improvements

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









## Localities along the corridor include:

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





# Takeaway Scorecard

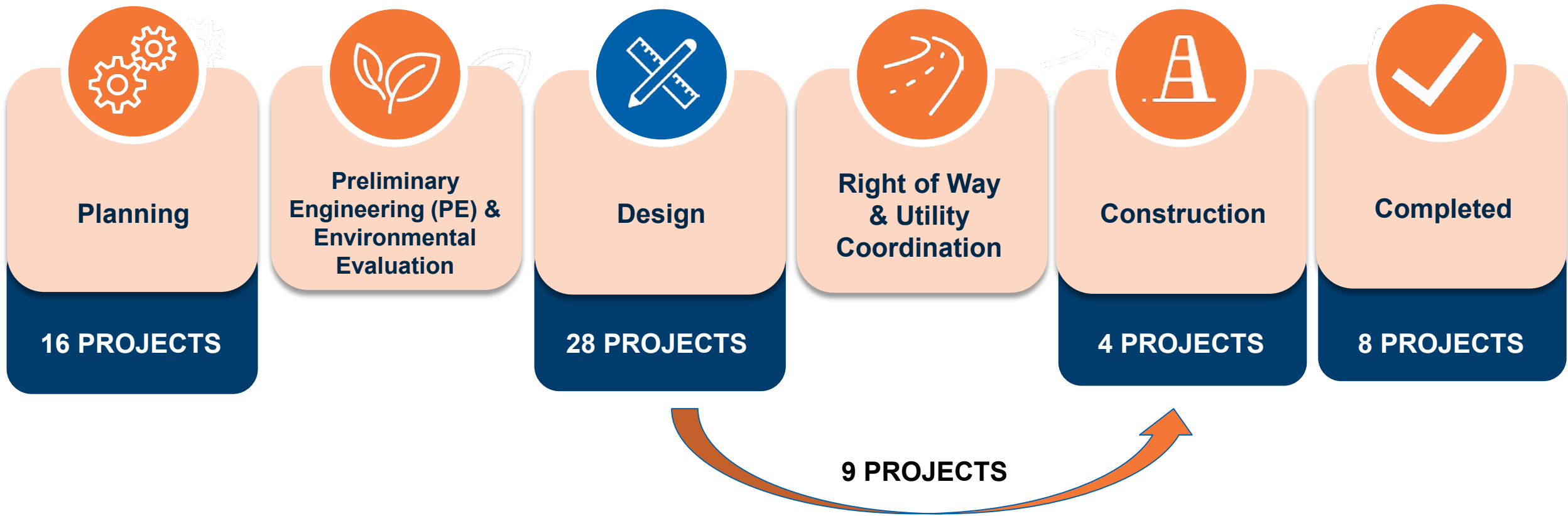
Activity	Status	Anticipated Completion
Curve improvements (8)	 Complete	Fall 2019
Initial accel/decel lane extensions (8)	 Complete	Fall 2020
Safety Service Patrol Expansion	 Complete	Summer 2019
Additional Cameras (51)	 Complete	Spring 2020
Additional Digital Message Signs	 Underway	Fall 2021
Arterial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

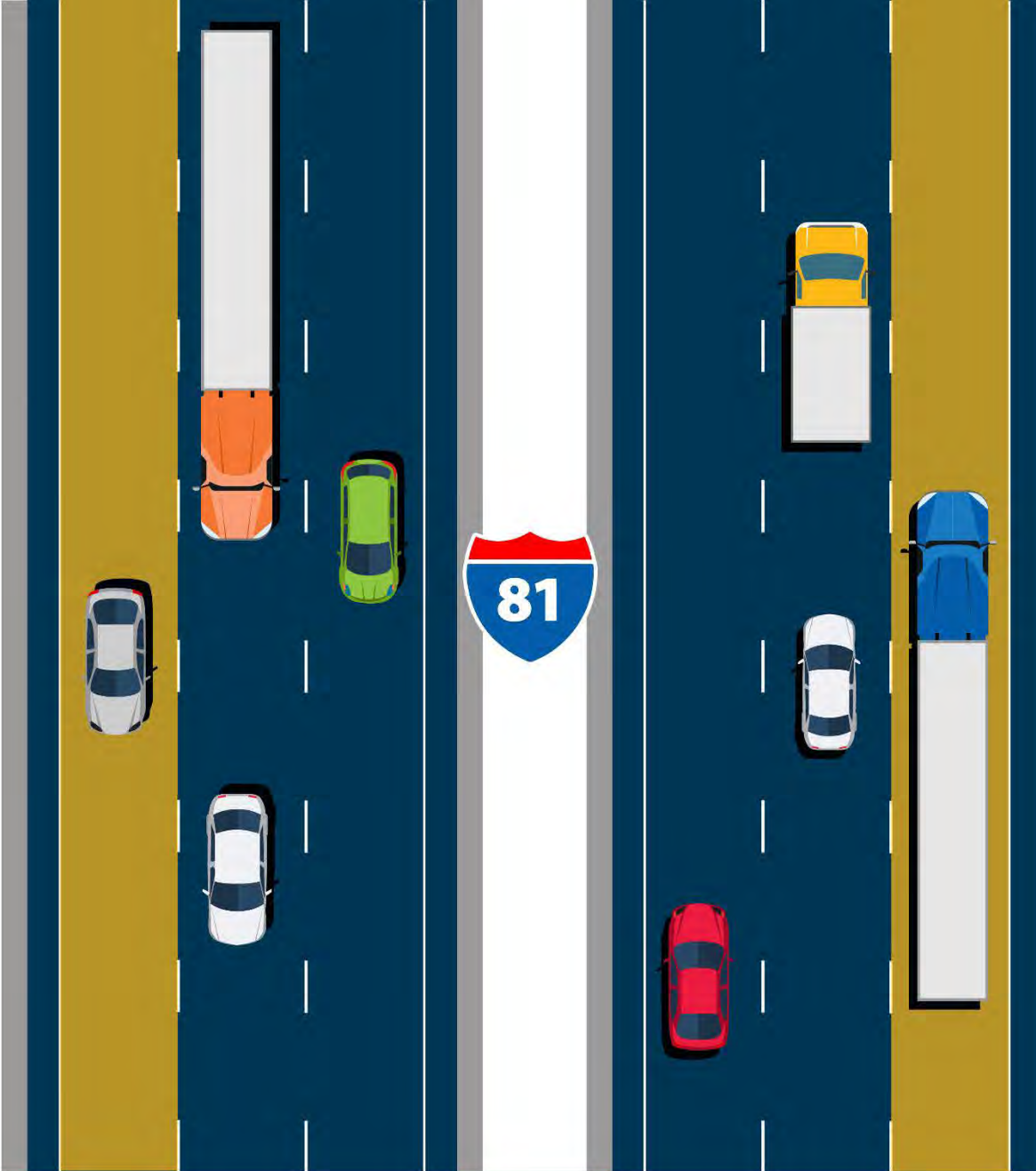
More than  
**64** Program Improvements

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



# Project Development Process (Capital Projects)

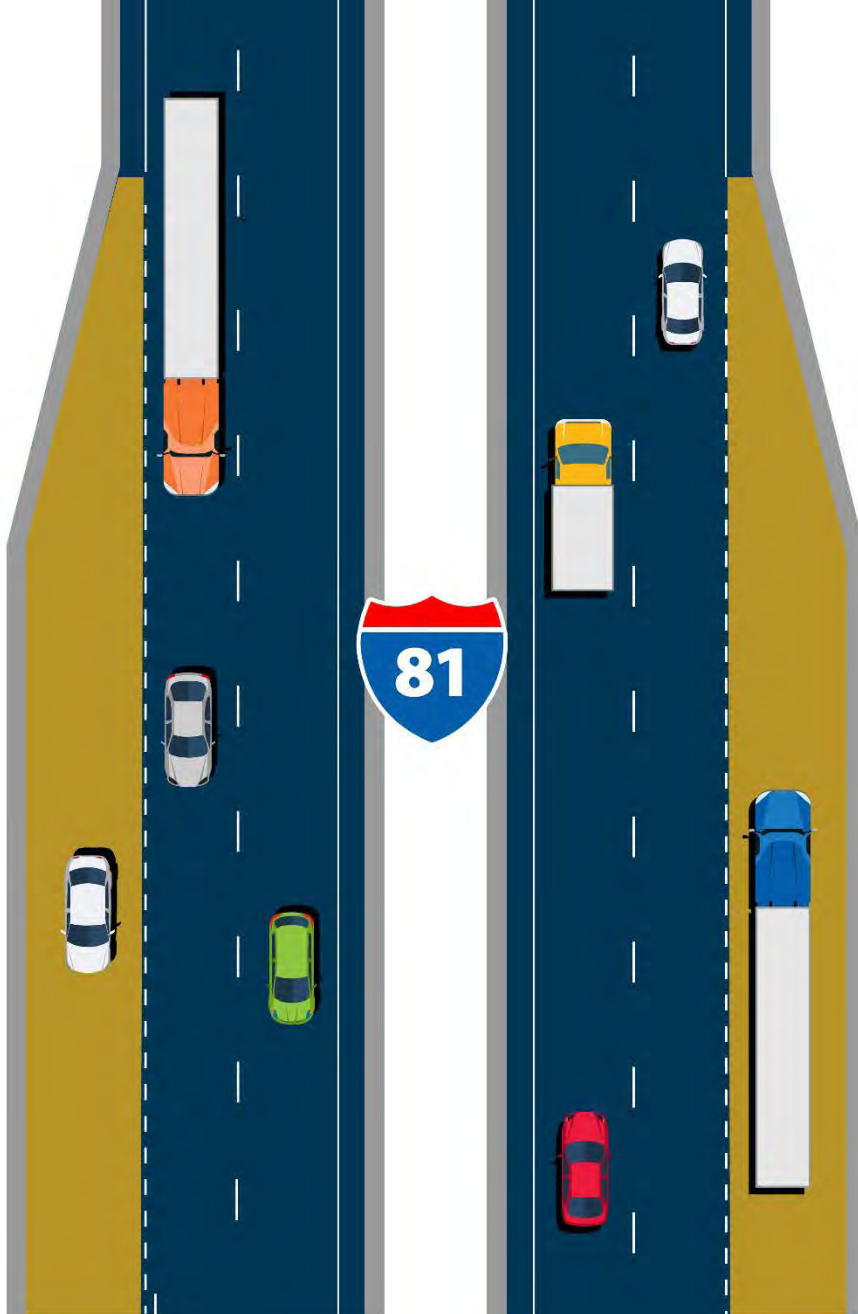




**Infrastructure Improvements**

**Widening +1**

**10 Improvements Planned**

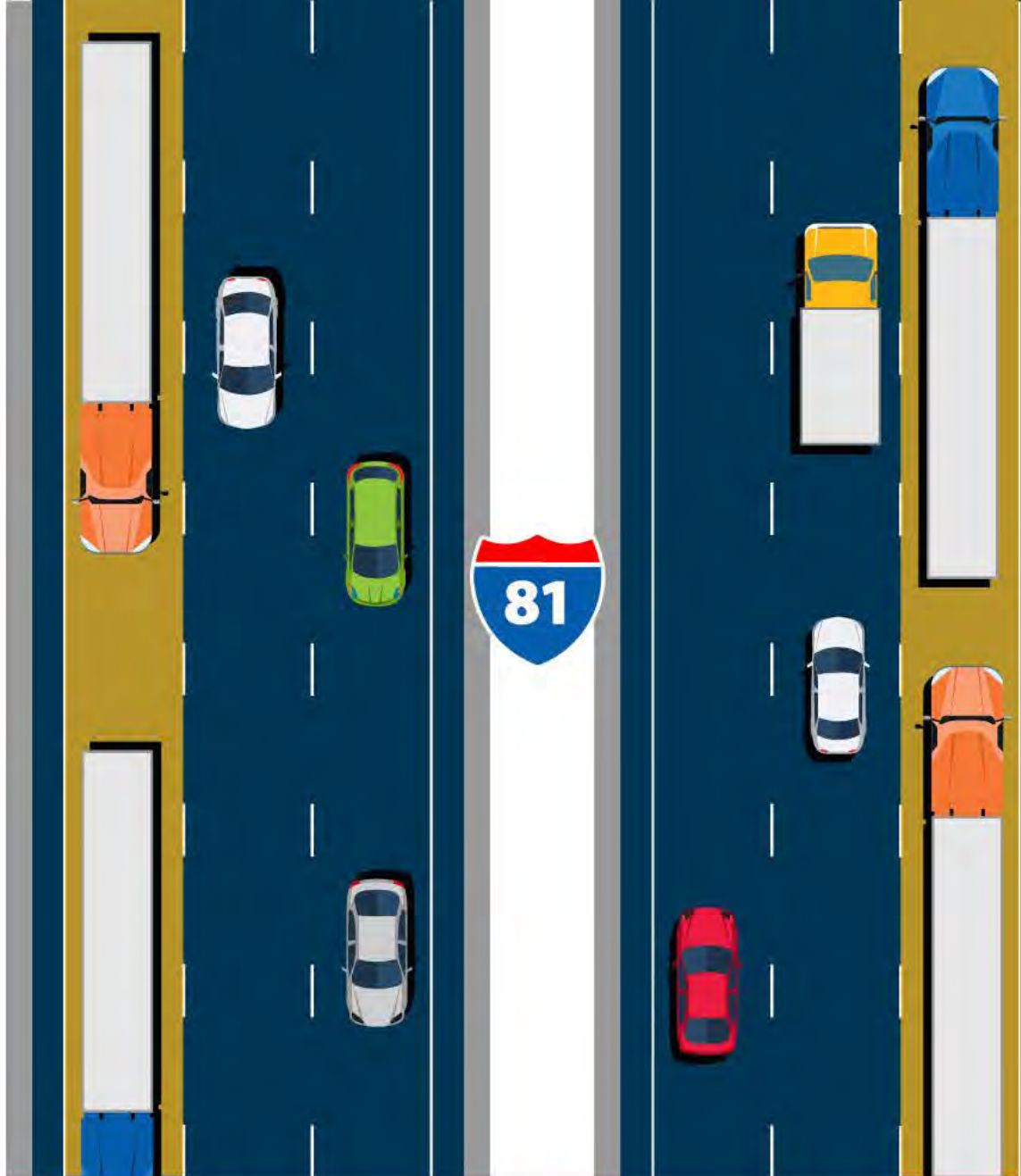


Infrastructure Improvements

Acceleration  
& Deceleration  
Extension



36 Improvements Planned

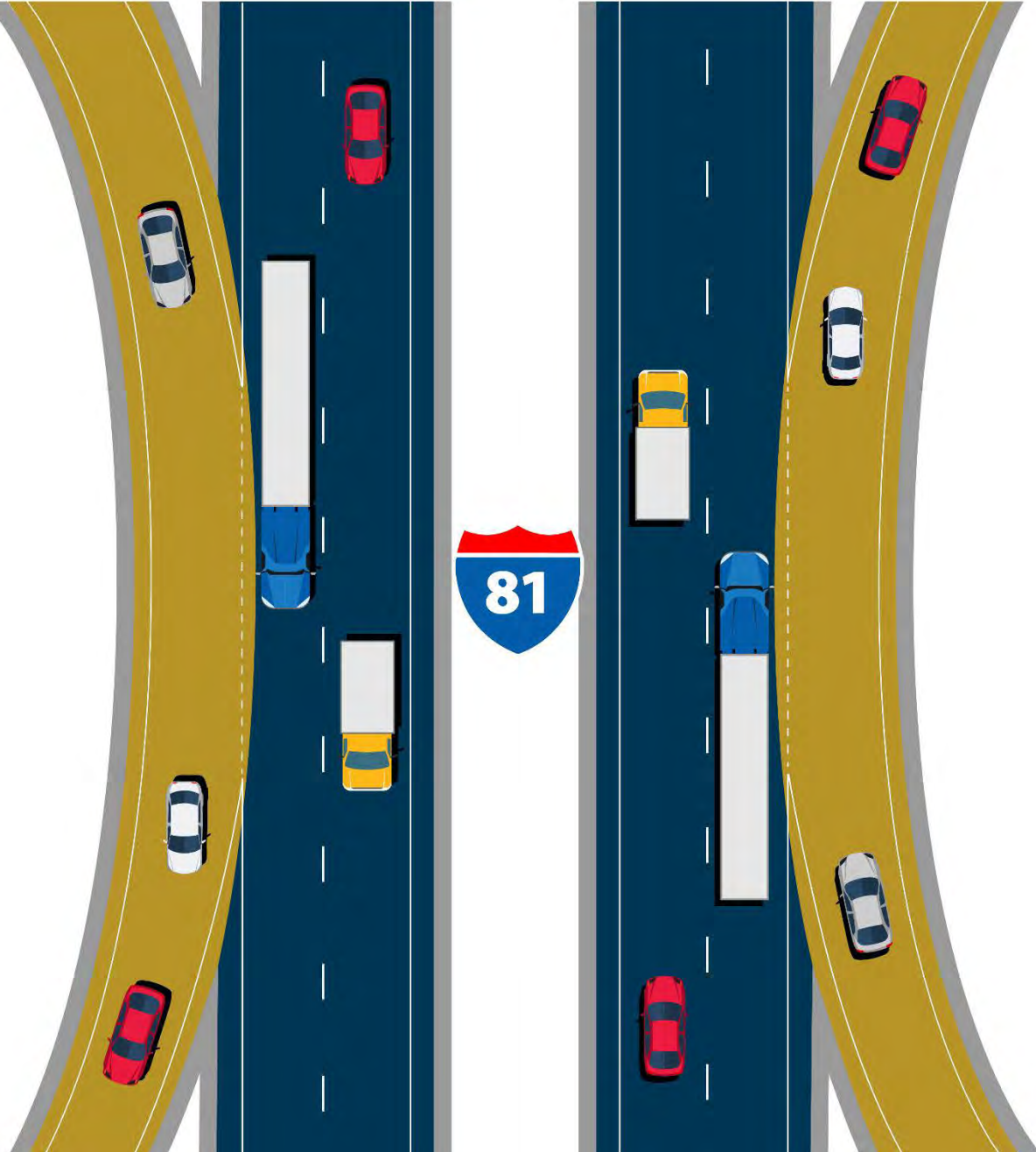


**Infrastructure Improvements**

**Truck Climbing Lanes**



**5 Improvements Planned**



**Infrastructure Improvements**

**Auxiliary Lane**



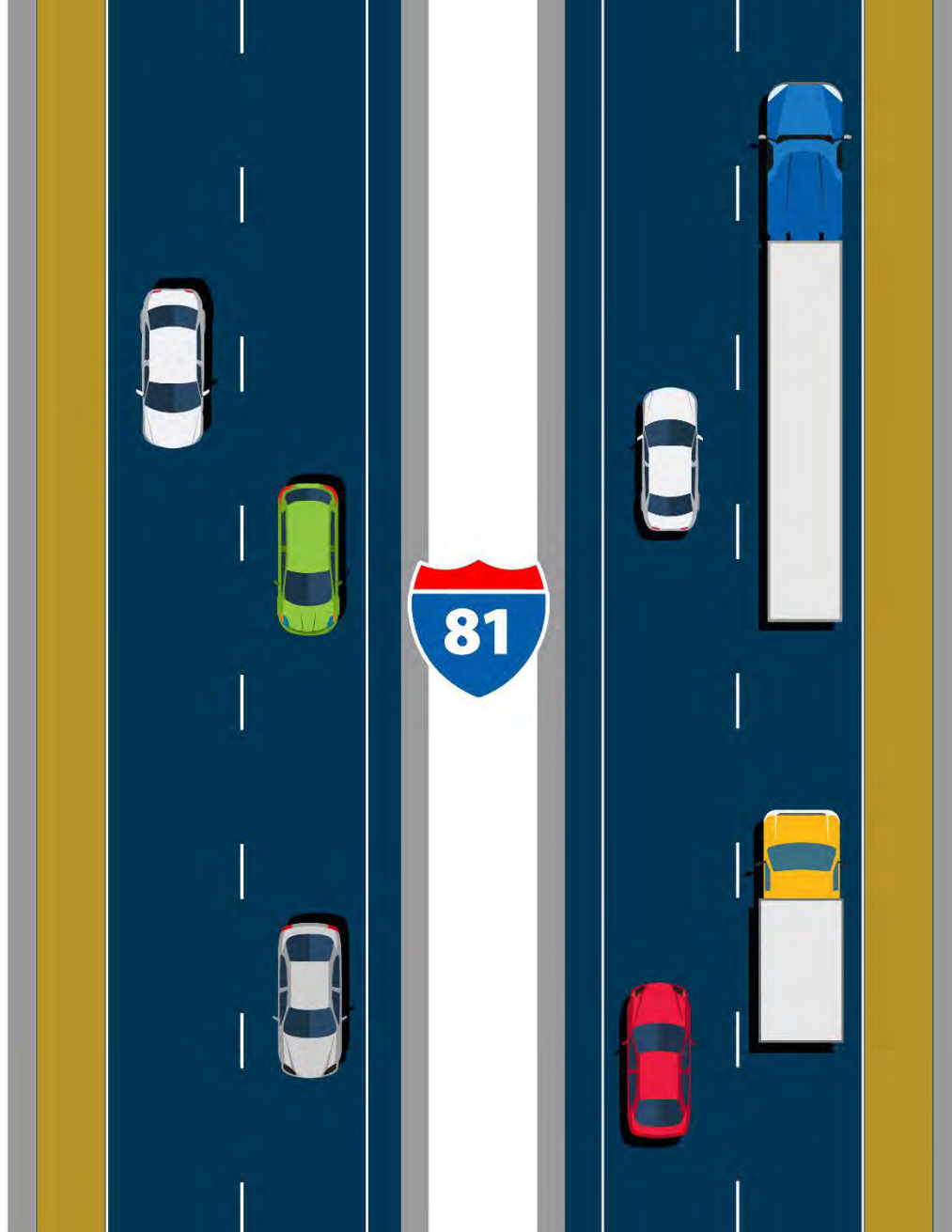
**4 Improvements Planned**

Infrastructure Improvements

Shoulder Widening

+S

1 Improvement Planned







New digital message signs



New traffic cameras



Extended safety service patrols



Detour route improvements



Improved incident clearance



Multimodal improvements



Curve improvements

Infrastructure Improvements

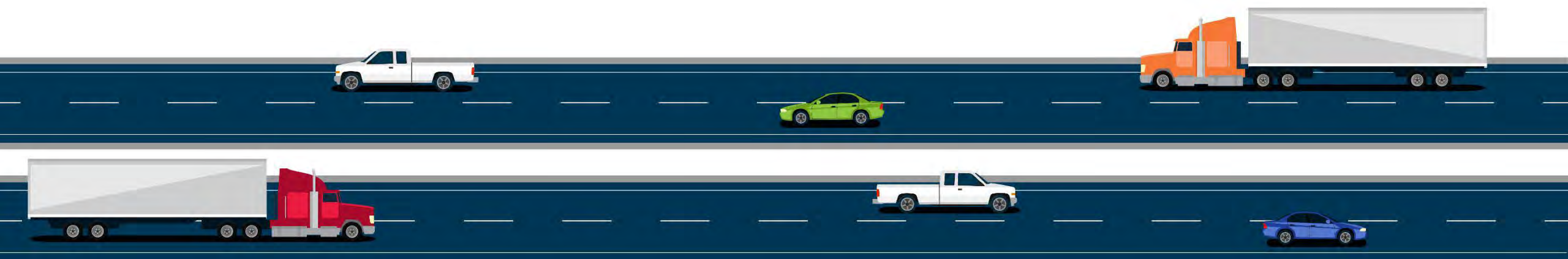
Operational Improvements



5 Improvements Delivered

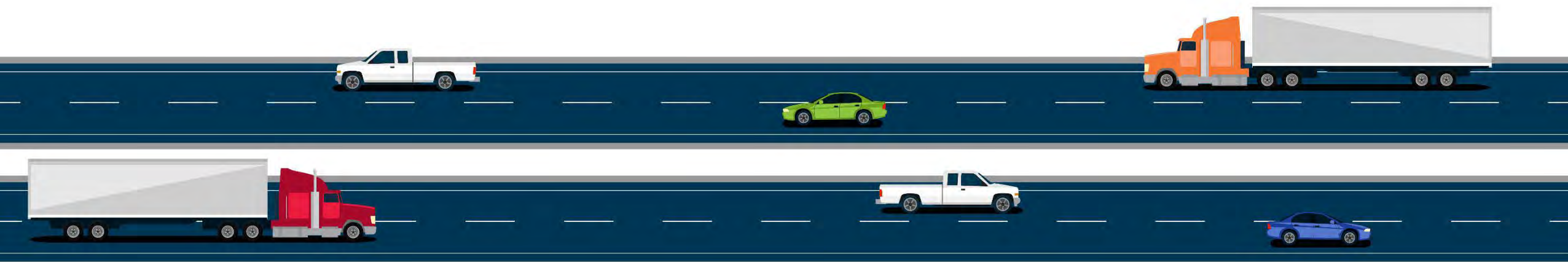
# 19 Program Improvement Initiatives

Completed through 2020



## Upcoming Program Improvements

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



# Planned Studies With Potential Future Improvements

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



## Truck Parking

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

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

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

# Studies With Potential Future Improvements

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



## Speed Enforcement

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



## Multimodal Improvements

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

# Website Implementation

Improve81.org





# I-81 Multimodal Improvements Funding Recommendations

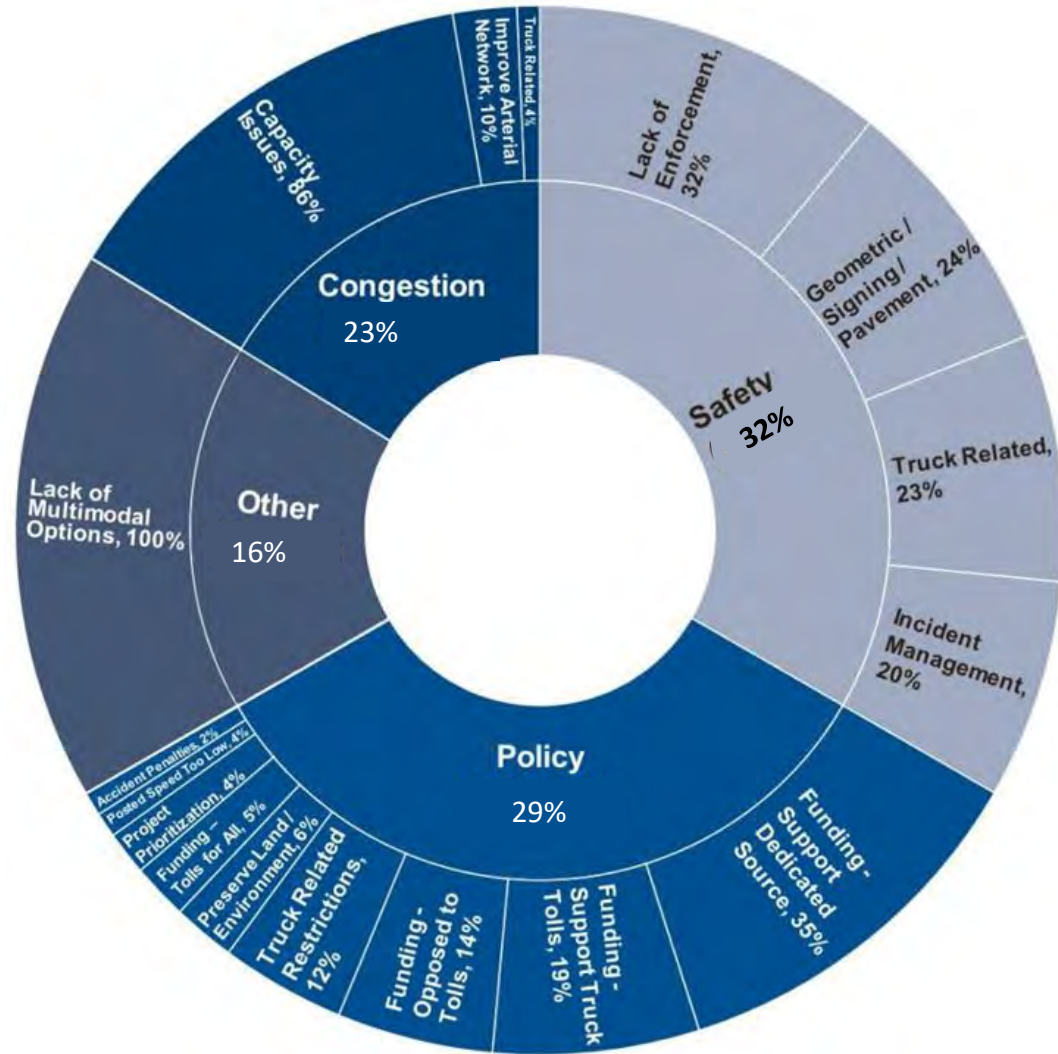
April 28, 2021

I-81 CORRIDOR  
IMPROVEMENT PLAN



# Background

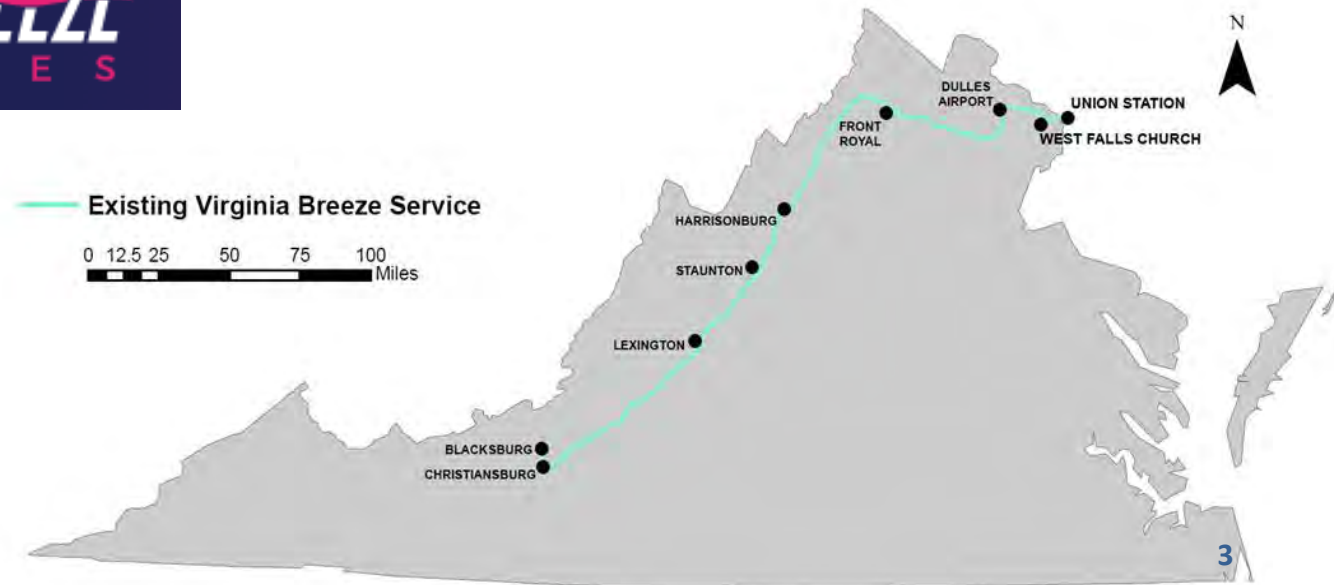
- Over 300 comments from I-81 Corridor Improvement public meetings referenced lack of multimodal options
- DRPT has identified potential transit and rail improvements, taking into account existing gaps in service
- DRPT briefed the I-81 Advisory Committee on technical study in October 2020





# Virginia Breeze Expansion

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



# Virginia Breeze Expansion

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

\*All costs shown are 2022 YOE

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



# Western Rail Initiative

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



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

# Western Rail Initiative Funding

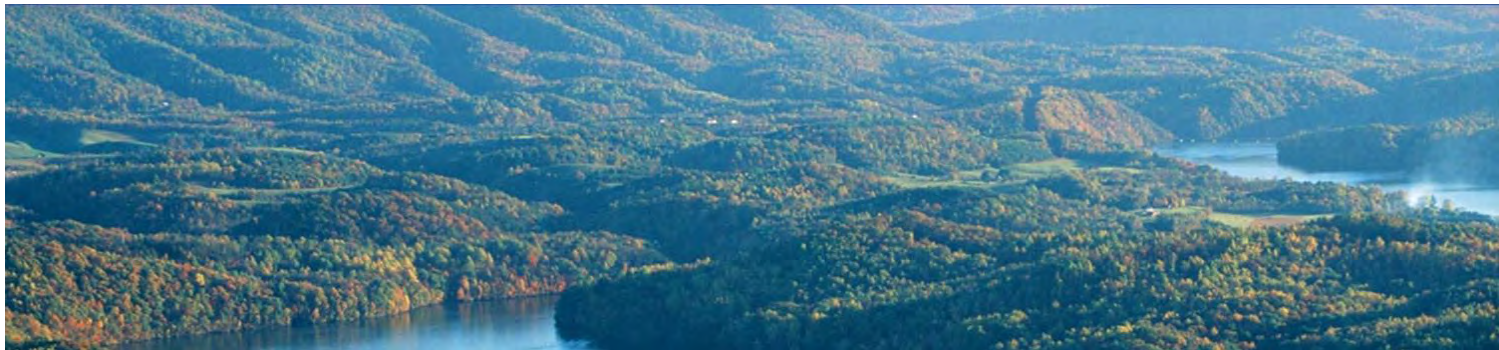
- Budget Bill Passed General Assembly in March (\$83.5M)
- I-81 Multimodal Funding (\$100M)
- SMART SCALE (application submitted by CTB for \$50M)
- SYIP and Commonwealth Rail Fund Allocations



# Next Steps

---

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





# I-81 Multimodal Improvements Funding Recommendations

April 28, 2021

I-81 CORRIDOR  
IMPROVEMENT PLAN





# I-81 Project Finance Update

## Series 2021 Authorization

 Laura Farmer  
Chief Financial Officer

April 20, 2021

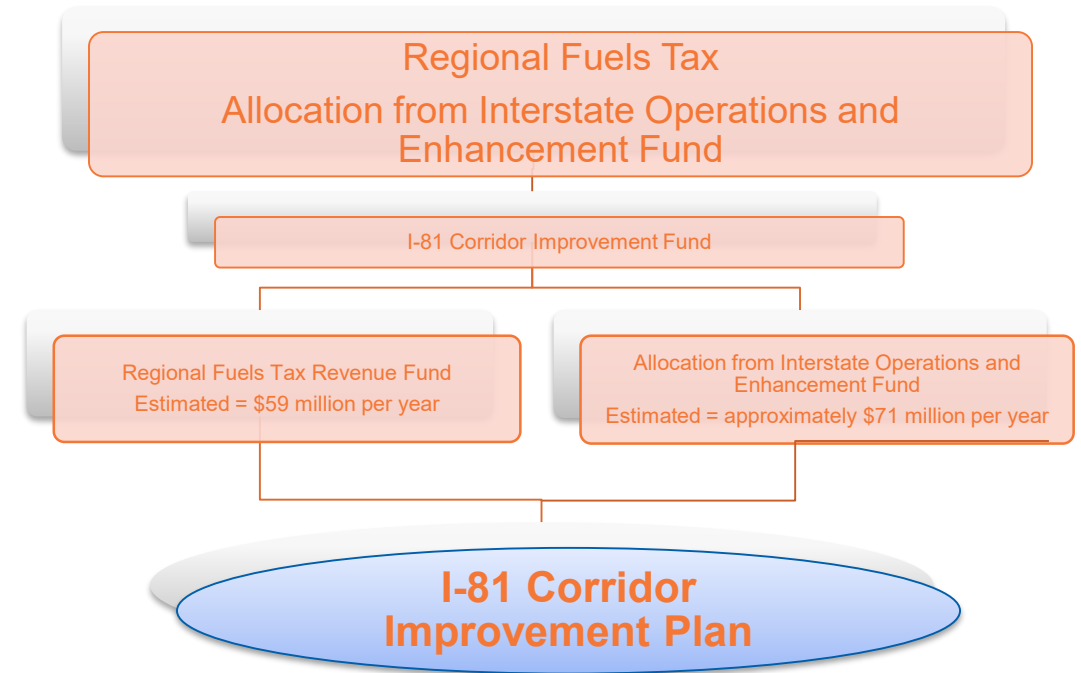


# Legislative Background

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

# Funding Sources and Structure

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



# Revenue Performance and Projections

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

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

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

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

# I-81 Corridor Program – Project Costs

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

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

\* Preliminary and subject to change

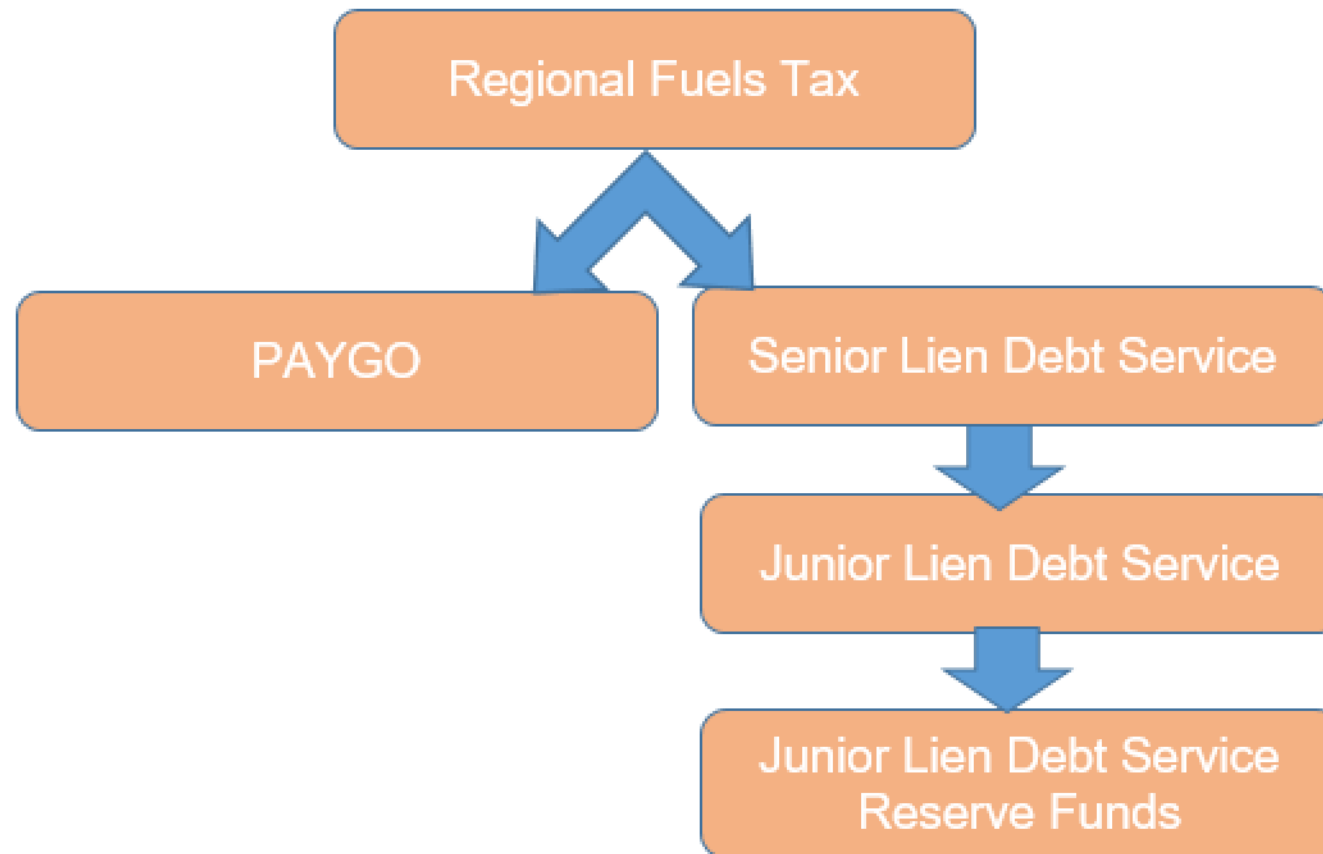
# Debt Issuance Plan

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

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

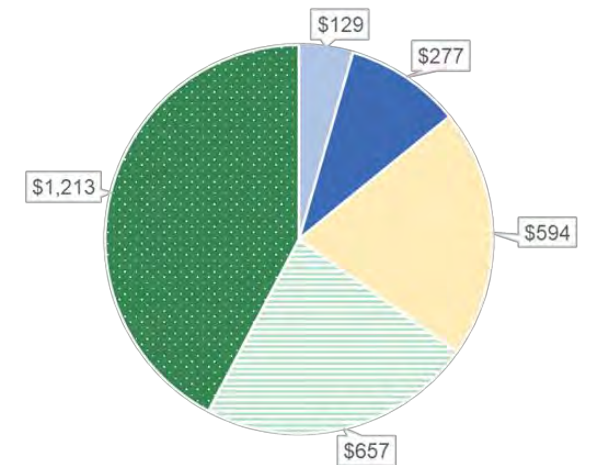
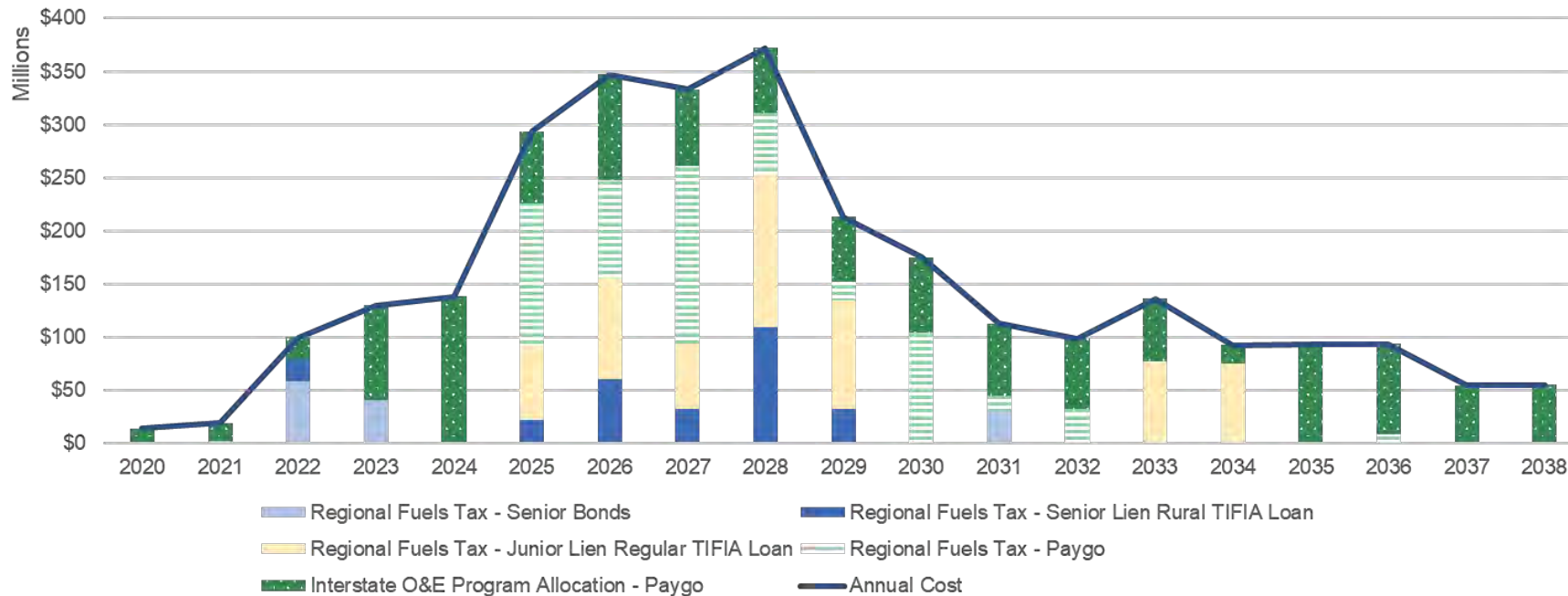
\* Preliminary and subject to change

# Planned Use of Regional Fuels Tax



# Preliminary Funding by Year and Source

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



# Inaugural Municipal Bond Offering – 2021 Series

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

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

\* Preliminary and subject to change



# Series 2021 Bond Sale –Schedule\*

April 2021

- Request confidential indicative ratings
- Present financing plan to CTB

May 2021

- Request CTB approval to issue Series 2021

June 2021

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

July 2021

- Bond pricing
- Closing

\* Preliminary and subject to change

# Transportation Infrastructure Finance and Innovation Act (TIFIA) Loan

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

# TIFIA Debt Issuance Approach

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

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

\* Preliminary and subject to change

# 2022 TIFIA – Projects\*

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

\* Preliminary and subject to change

# 2022 TIFIA Loan – Schedule\*

June 2021 through  
August 2021

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

September 2021

- Present TIFIA plan of finance to CTB

October 2021

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

November 2021

- Request Treasury Board approval
- Submit TIFIA loan application

February 2022

- TIFIA loan execution

\* Preliminary and subject to change