



## COMMONWEALTH of VIRGINIA

### *Commonwealth Transportation Board*

Shannon Valentine  
Chairperson

1401 East Broad Street  
Richmond, Virginia 23219

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

### **MINUTES MEETING OF THE COMMONWEALTH TRANSPORTATION BOARD WORKSHOP MEETING**

July 14, 2020

9:00 am

Governor Ralph Northam declared a state of emergency in Virginia on Thursday, March 12 in response to COVID-19. In light of this action, the Workshop Meeting of the July 14, 2020 Commonwealth Transportation Board (CTB) was conducted using electronic communications in accord with Item 4-0.01.g. of Chapter 1289 (2020 Acts of Assembly), as the COVID-19 emergency makes it impracticable or unsafe to assemble in a single location. The purpose of the meeting was to discuss or transact the business statutorily required or necessary to continue operation of the CTB and the discharge of its lawful purposes, duties, and responsibilities.

All board members participated remotely using a Webex platform. Members of the public were able to witness the meeting online via live-streaming at the following internet link: [http://www.ctb.virginia.gov/public\\_meetings/live\\_stream/default.asp](http://www.ctb.virginia.gov/public_meetings/live_stream/default.asp) and were provided the opportunity to provide public comment telephonically at the outset of the meeting using a dial in number provided in the online meeting public notice.

The online internet public notice for the meeting noted that this meeting would be conducted using an electronic process due to the COVID-19 state of emergency and as a precaution to reduce the risk and spread of the novel coronavirus. The online meeting public notice also furnished the Agenda and Board materials as well as information regarding the availability of online live-streaming of the meeting at the noted link.

Online viewers were furnished a telephone number to call to notify staff of any interruption of the live streaming of the meeting in accordance with Item 4-0.01.g. of Chapter 1289 and Section 2.2-3708.2 of the Code of Virginia; and no interruption of the live streaming was noted during the meeting.

The Chair, Shannon Valentine, presided and called the meeting to order at 9:03 a.m. on July 14, 2020.

Present: Messrs. Brown, Dodson, Johnsen, Kasprovicz, Malbon, Miller, Rucker, Smoot, Stinson, Whitworth, Williams, Yates and, Ms. DeTuncq, Ms. Hynes; Mr. Brich, ex officio, Commissioner of Highways and Ms. Mitchell, ex officio, Director of the Department of Rail and Public Transportation.

Absent: None

Prior to taking up any agenda items Mr. Whitworth made the following motion:  
*In light of the continuing state of emergency declared by Governor Northam, where it is impracticable or unsafe to assemble a quorum in a single location, I move that we adopt this agenda to take action to discuss or transact the business statutorily required or necessary to continue operation of the Commonwealth Transportation Board. This motion was seconded by Mr. Rucker, a roll call vote was taken with all present voting aye, the motion passed unanimously.*

1. Cut Through Traffic Policy  
Proposed Revisions  
*Mena Lockwood, Virginia Department of Transportation  
Referenced by attachment of presentation.*
2. I-64/664 Corridor Improvement Plan  
*Ben Mannell, Virginia Department of Transportation  
Referenced by attachment of presentation.*
3. VTrans Mid-term and Long-term Needs  
*Nick Donohue, Deputy Secretary of Transportation  
Jitender Ramchandani, Office of Intermodal Planning and Investment  
Referenced by attachment of presentation.*
4. Transportation Performance Management,  
Mid-term Performance  
*Margit Ray, Office of Intermodal Planning and Investment  
Referenced by attachment of presentation.*

*The Chair suspended the meeting at 11:47 a.m. on July 14, 2020 to allow staff to attend a meeting as well as provide time for the Board to break for lunch.*

*The Chair reconvened the suspended meeting to order at 1:00 p.m. on July 14, 2020.*

5. Master Tolling Agreement Update  
*Stephen Brich, Virginia Department of Transportation  
This item was removed from the agenda and will be presented to the Board at a later date.*
6. Director's Items  
*Jennifer Mitchell, Virginia Department of Rail and Public Transportation*
7. Commissioner's Items  
*Stephen Brich, Virginia Department of Transportation*
8. Secretary's Items  
*Shannon Valentine, Secretary of Transportation*

Minutes  
Meeting of the Commonwealth Transportation Board  
Workshop Session  
July 14, 2020  
Page 3

**ADJOURNMENT:**

**Meeting adjourned at 1:10 p.m. on July 14, 2020**

Respectfully Submitted:

Carol Mathis,  
Assistant Secretary to the Board

**###**



# CUT THROUGH TRAFFIC POLICY

Proposed revisions to previous CTB Policy

 Mena Lockwood, P.E., Assistant State Traffic Engineer, Traffic Engineering Division

July 14, 2020

# Residential Traffic Management Programs



Traffic Calming  
Through Truck Restrictions  
\$200 Fine for Speeding Signs  
Watch for Children Signs  
Person with Disability Signs

## Cut Through Traffic Policy

- The objective is to identify and address issues of commuters cutting through residential areas
- Focus is on reducing cut-through volume not just speed or safety of the extra cars.
- Must have significant amount of cut through traffic, an alternate route, county support, neighborhood support and a public hearing must be held

# Background

- **Cut-Through Policy has not been updated since its CTB adoption in 1996, nor has it been heavily used.**
- **Widespread use of navigation apps have increased residential cut through traffic significantly over the past several years.**
- **Various aspects of the policy were outdated.**
- **Recent issues in implementation needed to be addressed.**

ADOPTED BY THE COMMONWEALTH TRANSPORTATION BOARD MAY 9, 1996

## POLICY AND PROCEDURES

### CONTROL OF RESIDENTIAL CUT-THROUGH TRAFFIC

#### POLICY ON RESIDENTIAL CUT-THROUGH TRAFFIC

It is Commonwealth Transportation Board policy that the Virginia Department of Transportation (VDOT) will recognize the problems associated with residential cut-through traffic and implement appropriate remedial measures wherever feasible.

#### INTRODUCTION

This policy and attendant procedures identify the specific responsibilities and requirements of VDOT and of the affected county/town in addressing concerns relating to cut-through traffic on local residential streets.

VDOT and the Counties/Towns are partners in the administration of these processes and procedures. A good working relationship between VDOT and the Counties/Towns is important for this partnership to function effectively.

#### DEFINITIONS

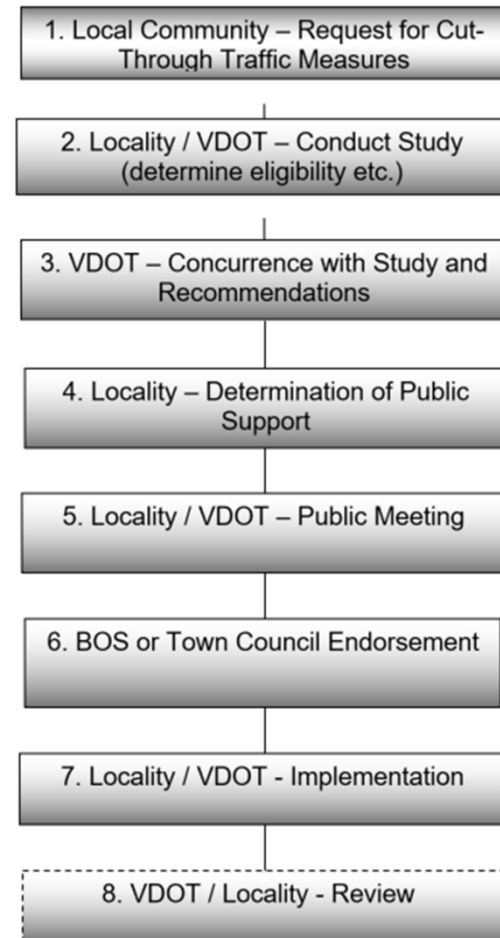
Residential Cut-Through Traffic is traffic passing through a specific residential area without stopping or without at least one trip end within the area. It is traffic that would be better served by the local street system intended for through traffic, but, for various reasons, uses the residential street system.

Local Residential Streets are streets within a neighborhood that provide direct access to abutting land uses and serve only to provide mobility within that locality.

## Major Updates:

- Streamlined the process with better definitions of terms, numbered steps, and clear responsibilities indicated for participants.
- Made more consistent with Traffic Calming and with Through Truck Restriction Process

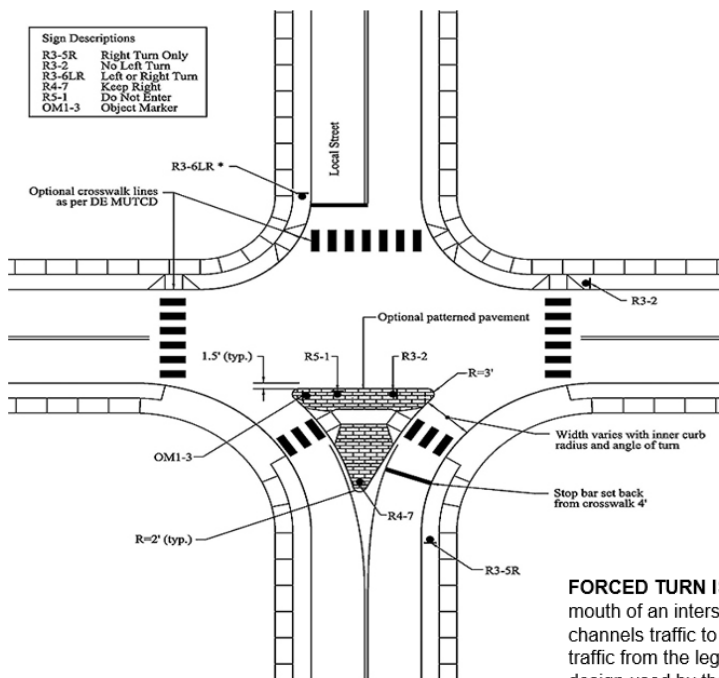
### THE CUT-THRU TRAFFIC PROCESS





# Major Updates

- Provided a separate guidance document with measures that can be used with policy



**FORCED TURN ISLAND** - Involves a raised traffic island, typically triangular in shape at the mouth of an intersection that blocks certain traffic movements approaching the intersection. It channels traffic to the right and blocks left and through movements and; prevents entering traffic from the leg opposite the island and left-turning traffic from the adjacent leg. The design used by the Delaware Dept. of Transportation per below provides access for bicycles and pedestrians.

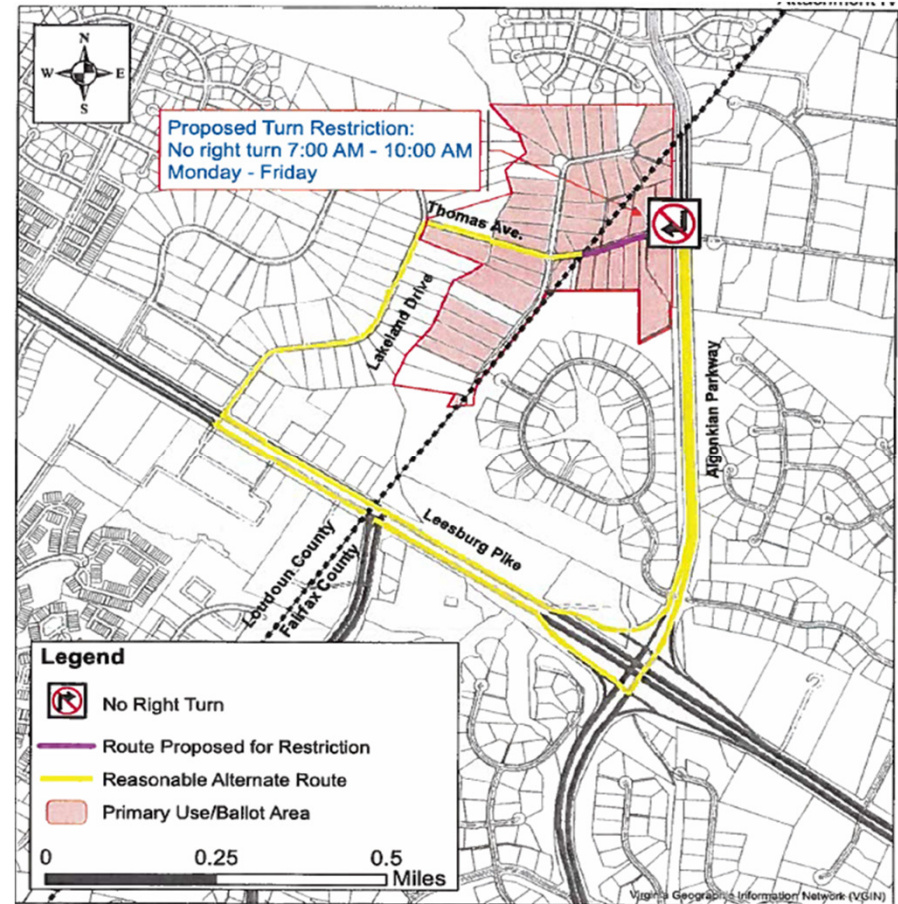


Regulatory Signs

Various regulatory signs placed appropriately at an intersection to prohibit certain traffic movements can be used to control cut-through traffic. Examples of such signs that may be used (there may be others as well) are below. To illustrate, where a cut-through traffic issue is due to left-turning traffic, a sign restricting left turns could be installed. Typically, such issues occur at specific times of the day therefore for these cases, a regulatory sign restricting left turns during the specified times of day would be installed such as shown below.

# Major Updates

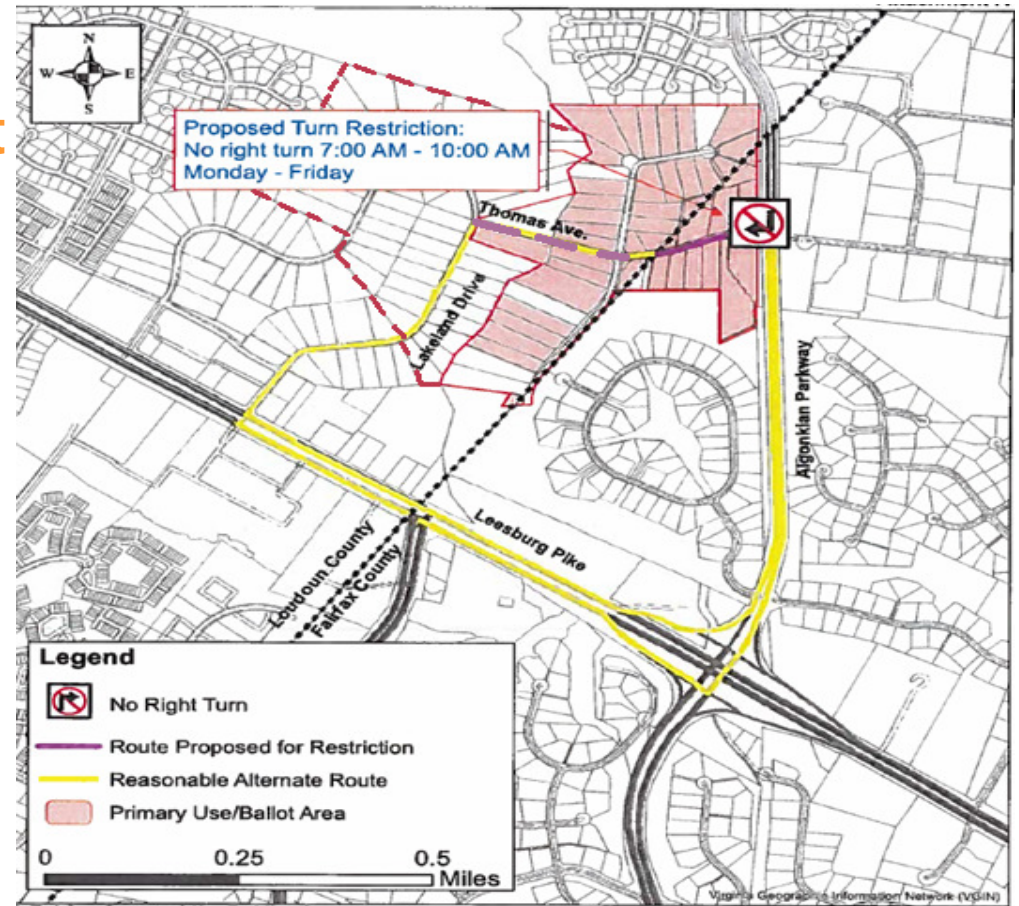
- Reduced the affected area support threshold to 2/3rd of residences from 3/4th.
- Revised the process to ensure adjacent localities are included
  - Cannot artificially terminate proposed route at jurisdiction line.
  - Consensus of adjacent locality required for proposed street termini, use area, measures and their operational impacts



## Example of Application of Update:

### New Policy:

- Proposed cut-through street (Thomas Ave) may not artificially terminate at adjacent locality (Loudoun) boundary
- Consensus of Loudoun County required for proposed street termini, primary use area, proposed cut-through measures and their operational impacts



## **Outreach for proposed policy**

**Goal: Ensure that all affected localities and VDOT staff have the opportunity to provide input on the revised policy**

### **Outreach plan:**

- **Revised policy distributed to each VDOT Resident Engineer and District Traffic Engineer who solicited input from their relevant localities.**
- **Comments were solicited from representatives in Loudoun, Fairfax, Arlington and Prince William counties where the cut-thru traffic policy is most often used**

# Comments Received and Addressed

## ~ 53 Written comments were received:

- # of households that must approve the proposal
- How to address interests of adjacent localities
- Clarify Process, roles and definitions
- Modernize the public outreach process
- Provide examples of measures that can be used
- If enforceability is required, mention a greater emphasis on the role of the police department
- **Allow the portion of the public using a street for cut-through to be included in the petition and/or ballot process.**
- **Allow residential collector streets to be considered for traffic calming measures through this process.**

# Questions?







COMMONWEALTH of VIRGINIA  
*Office of the*  
SECRETARY of TRANSPORTATION

## Interstate 64/664 Corridor Improvement Plan

Commonwealth Transportation Board Meeting  
July



# Agenda



- Overview of the I-64/664 Corridor Improvement Plan
- Significance of the I-64/664 corridors in Virginia
- Summary of data analytics
- Project schedule





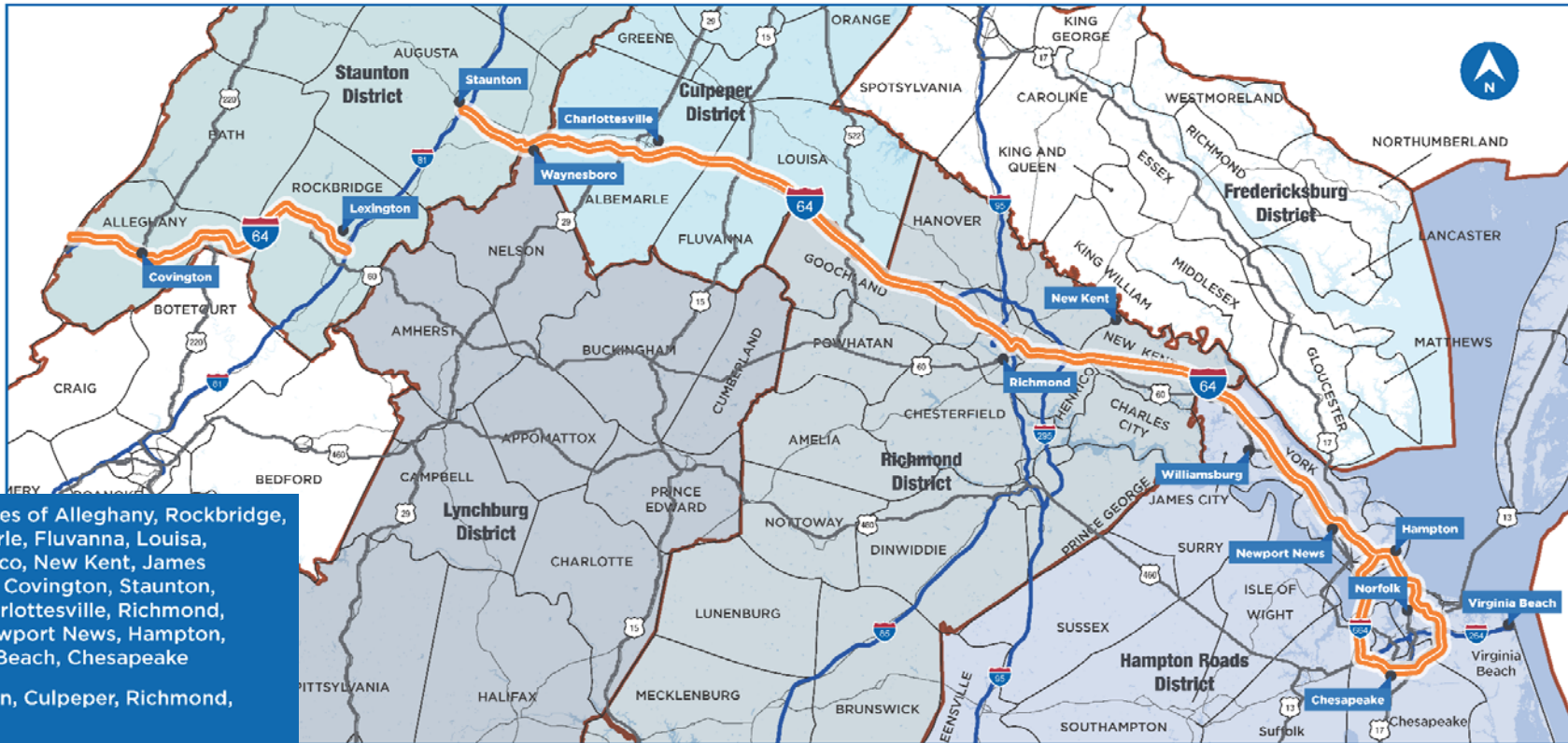
# Project Overview



- Interstate 64 corridor between WV and I-664 (~320 miles)
- Identify performance issues
- Targeted sets of improvements
  - Operations strategies
  - Arterial improvements for incident management
  - Multimodal solutions
  - Capital highway improvements
- SMART SCALE-like evaluation



# Study Area



**Localities:** Counties of Alleghany, Rockbridge, Augusta, Albemarle, Fluvanna, Louisa, Goochland, Henrico, New Kent, James City, and cities of Covington, Staunton, Waynesboro, Charlottesville, Richmond, Williamsburg, Newport News, Hampton, Norfolk, Virginia Beach, Chesapeake

**Districts:** Staunton, Culpeper, Richmond, Lynchburg, Hampton Roads

# I-64 Corridor Significance



**Critical East-West Corridor**



**Multimodal Corridor**

- Highway
- Park and Ride Lots
- Vanpools
- Commuter/Express Bus
- Carpools



**7.2 Million**

Trucks Per Year



**> 925 Incidents Per Year**

(With Average Clearance Times About 1.5 Hours)



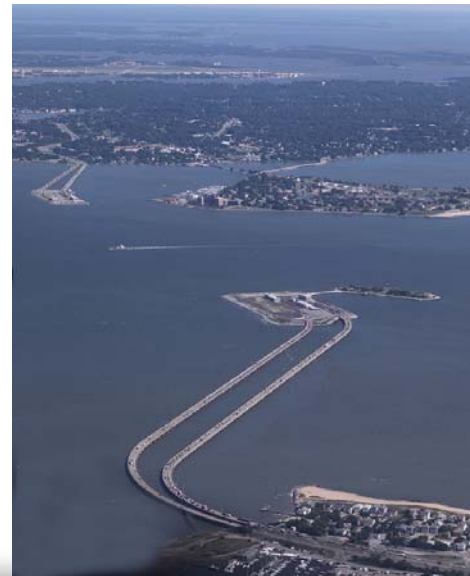
**~ 21,500**

Crashes Over 5 Years



**\$135 Billion**

in Goods Moved Per Year

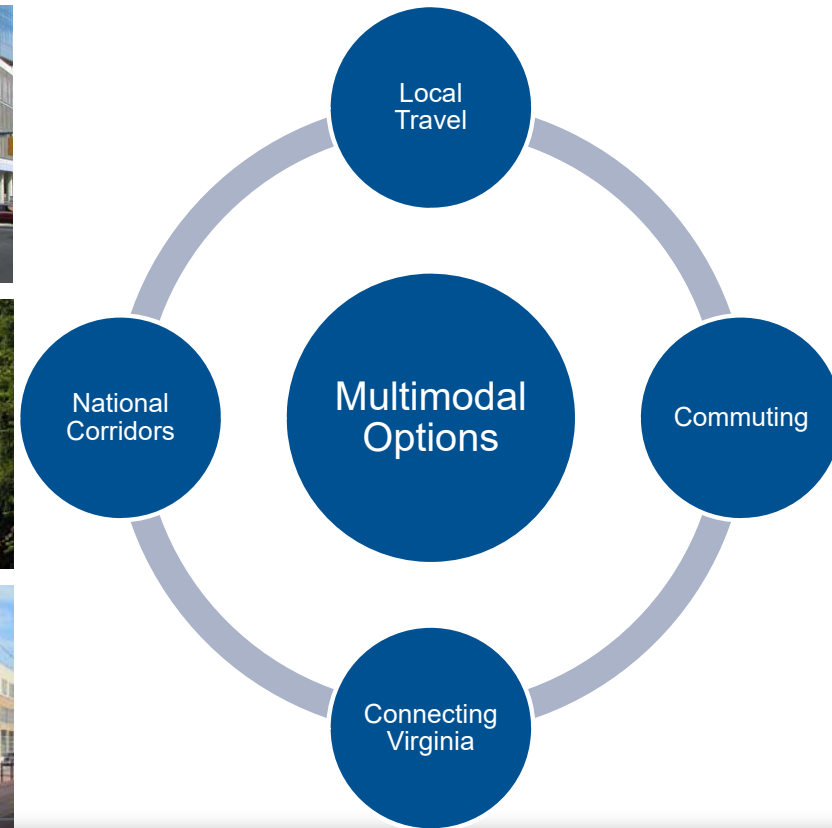




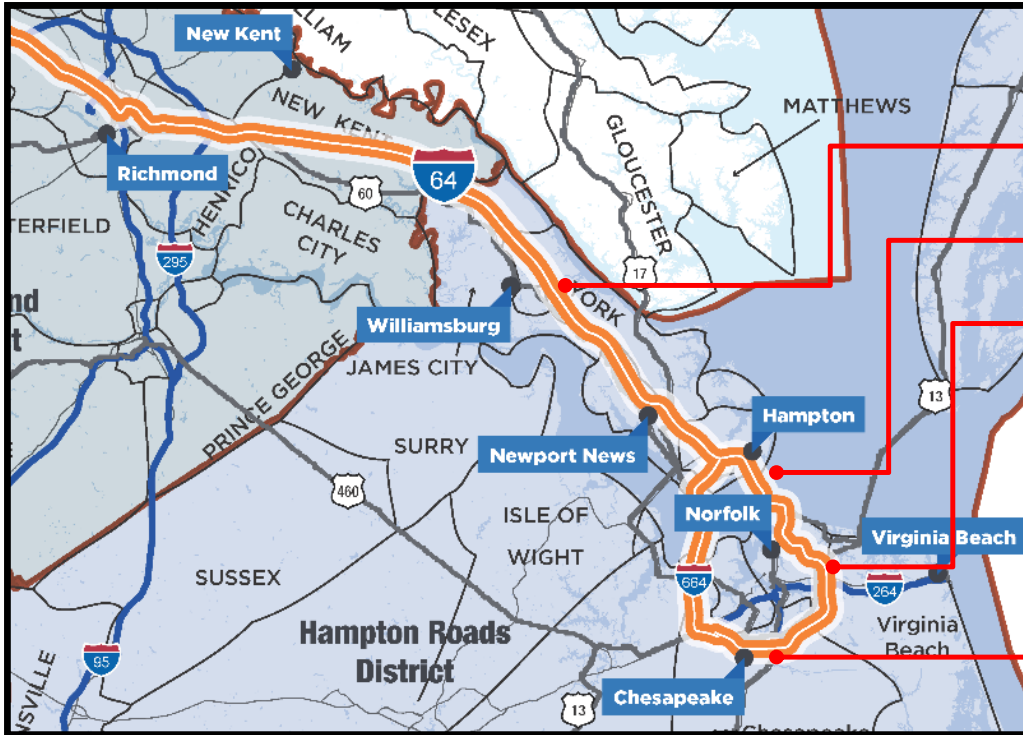
# A Multimodal Corridor



- Bus
- Passenger rail (Amtrak)
- Freight rail
- Park-and-Ride lots
- Carpooling and vanpooling
- Commuting information and incentives



# Current Investments in the Corridor



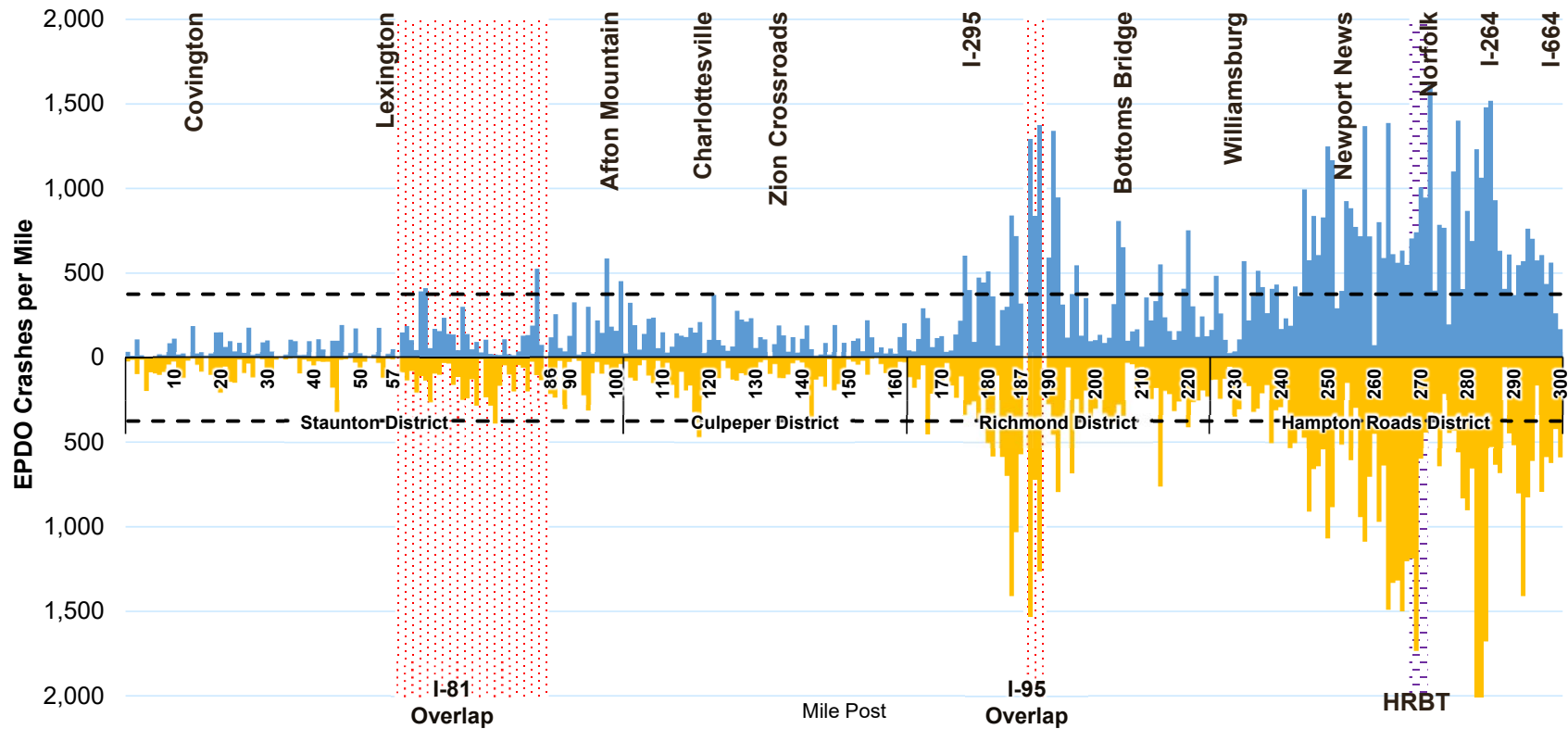
## Hampton Roads Capital Projects

- I-64 Widening Segment 3
- Hampton Roads Bridge Tunnel
- Hampton Roads Express Lanes
- High-Rise Bridge Improvements

**>\$5 billion  
in  
investment**



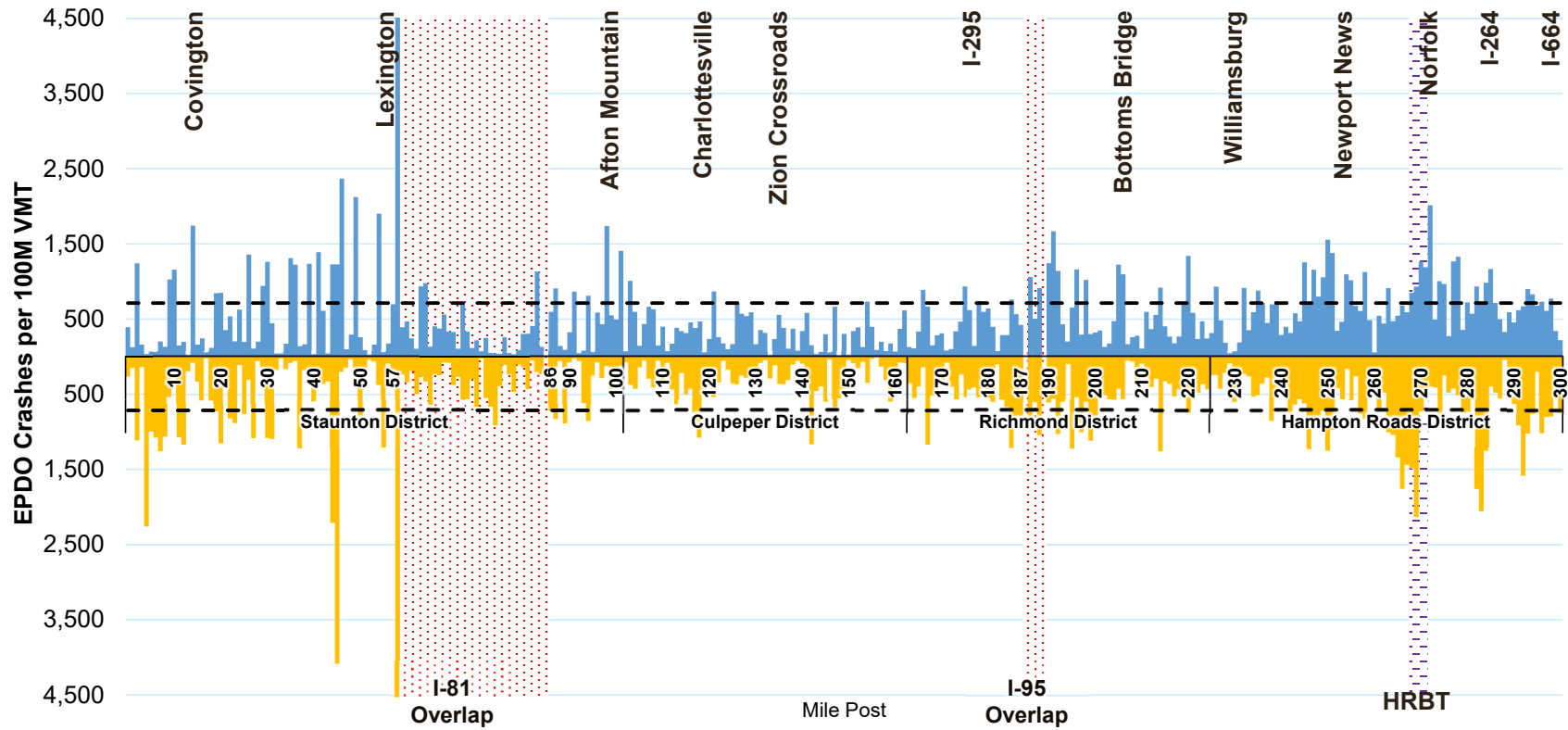
# I-64 Equivalent Project Damage Only (EPDO) Crashes Per Mile



2014-2018 Data

- - - HRBT    
 · · · I-81 and I-95 Overlaps    
 █ Westbound    
 █ Eastbound    
 - - - Top 25%

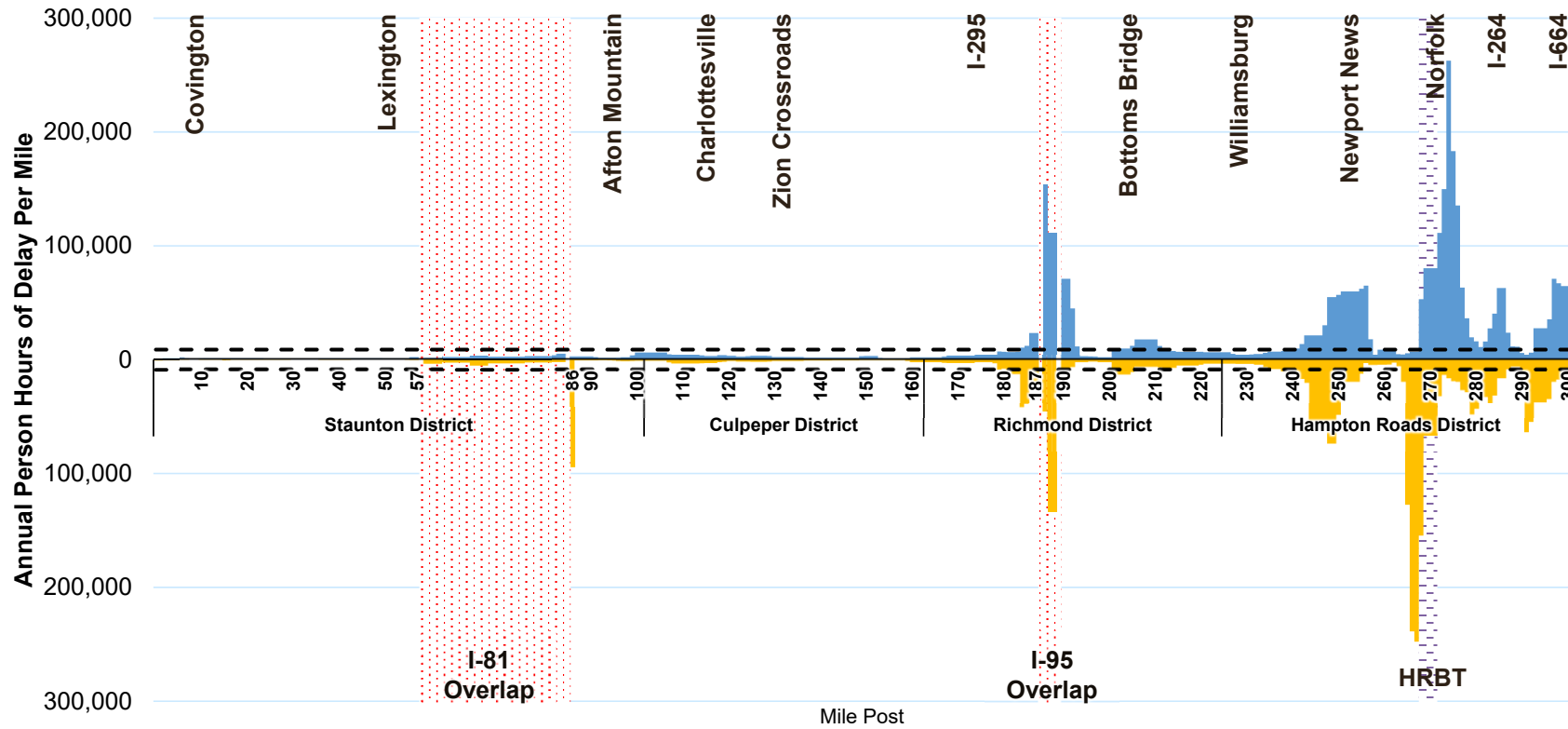
# I-64 EPDO Crashes Per 100M VMT



2014-2018 Data

- - - HRBT    
 - - - I-81 and I-95 Overlaps    
 █ Eastbound    
 █ Westbound    
 - - - Top 25%

# I-64 Annual Person Hours of Delay Per Mile

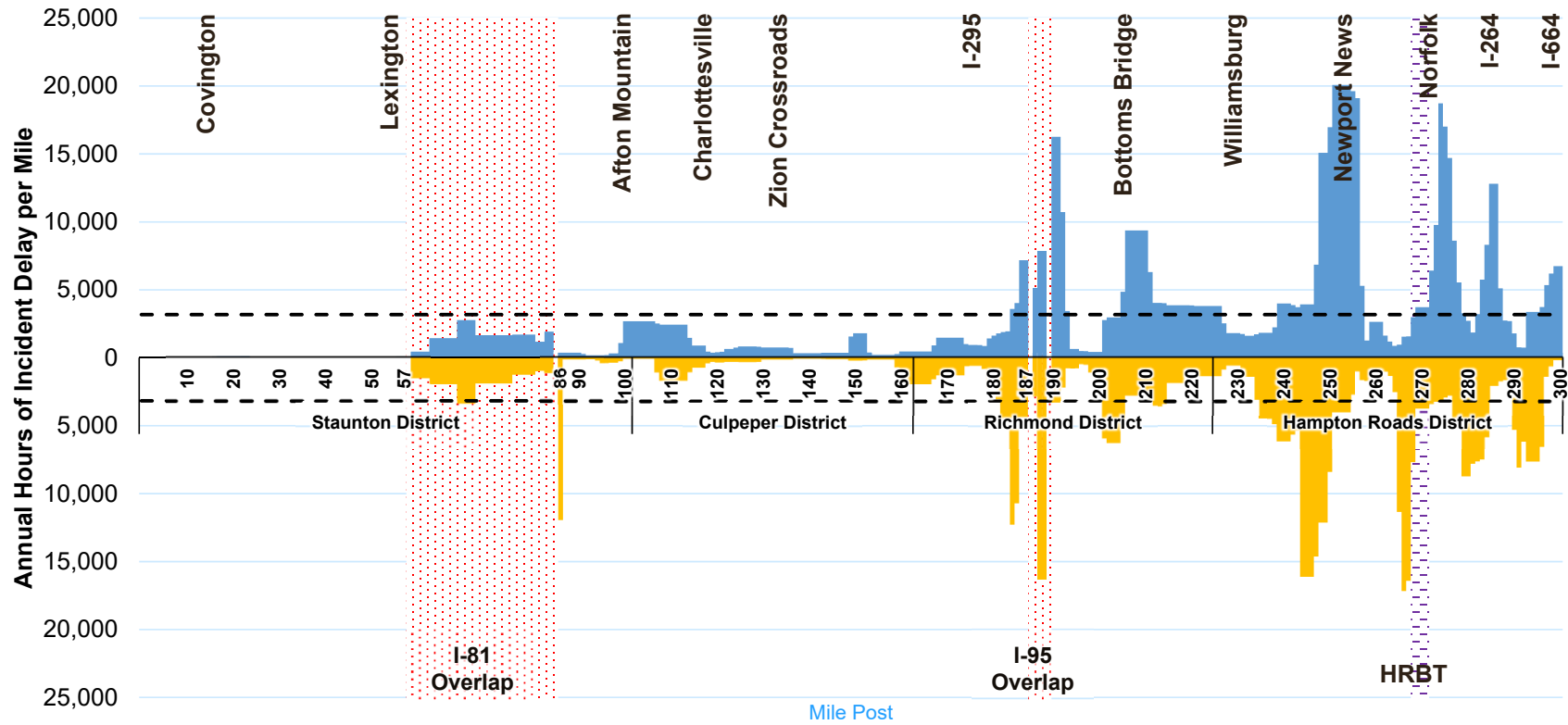


2014-2018 Data

--- HRBT   
 ... I-81 and I-95 Overlaps   
 ■ Westbound   
 ■ Eastbound   
 - - - Top 25%



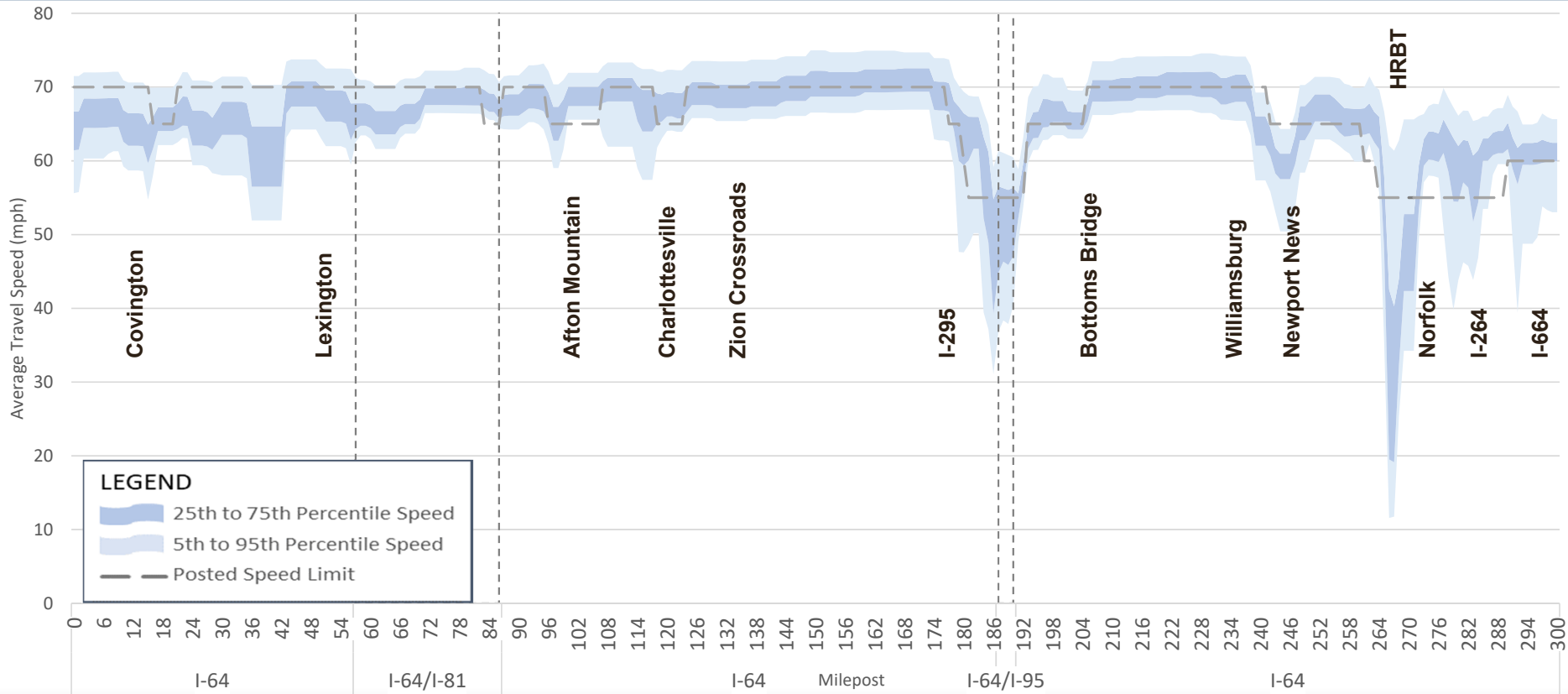
# I-64 Annual Person Hours of Incident Delay Per Mile



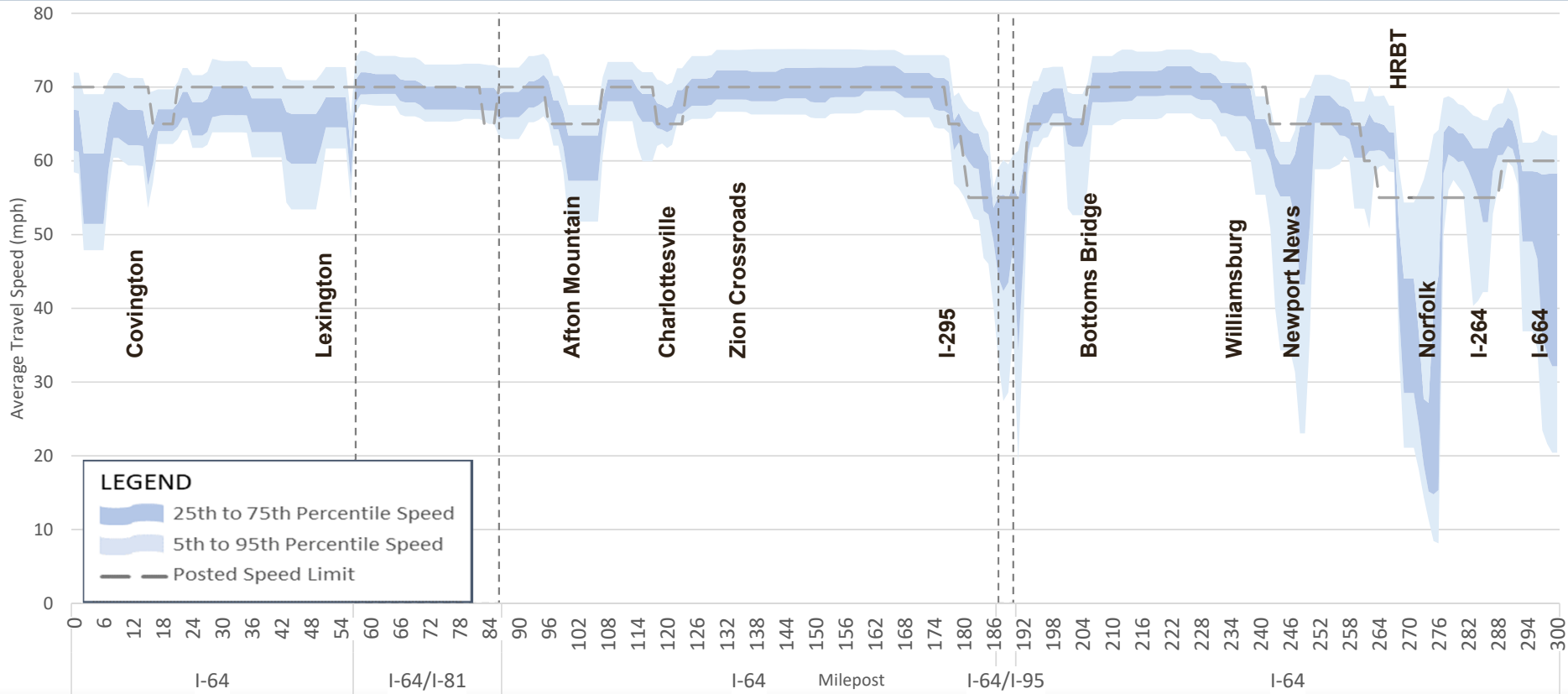
2014-2018 Data

- - - HRBT   
 · · · I-81 and I-95 Overlaps   
 ■ Westbound   
 ■ Eastbound   
 - - - Top 25%

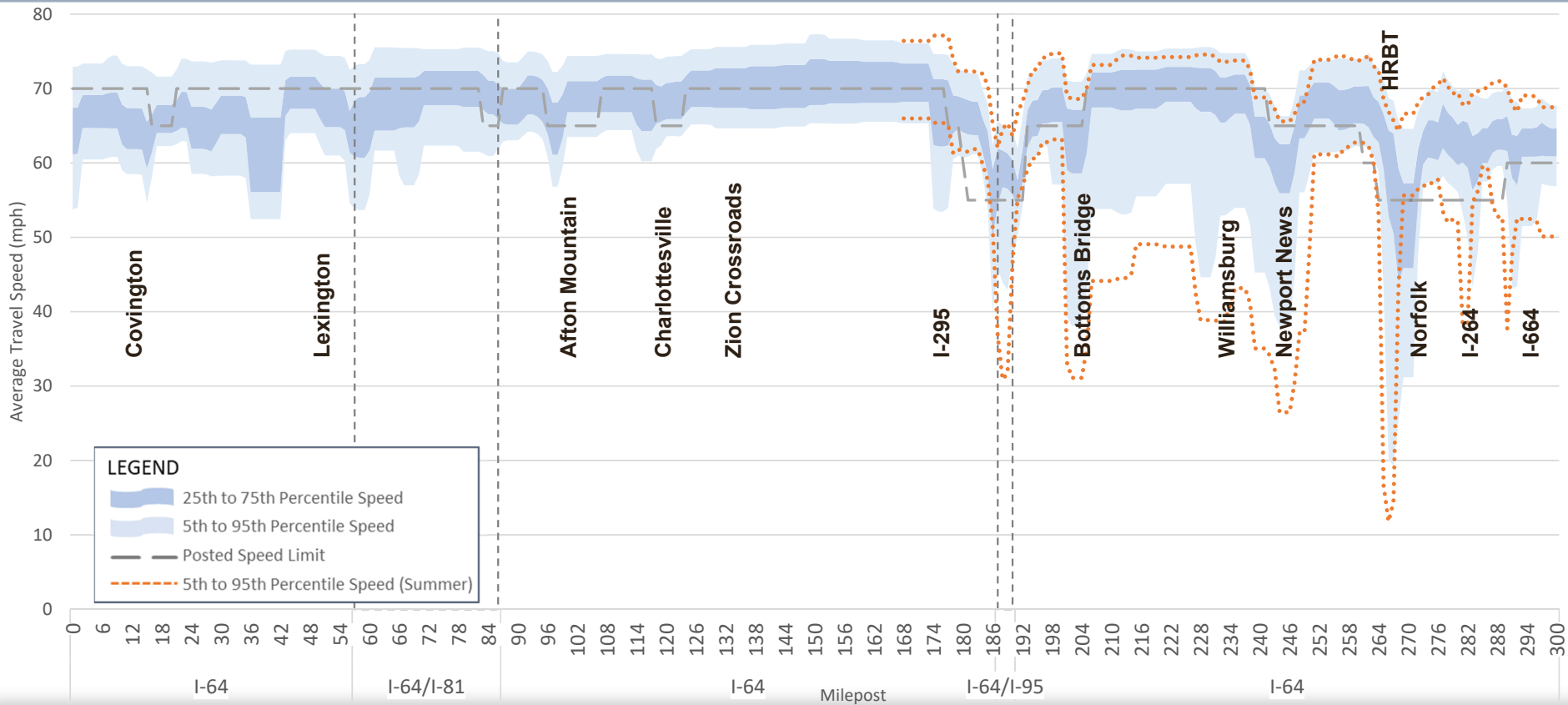
# Reliability of Eastbound I-64 Tuesday-Thursday (6:00 - 9:00 AM), 2018



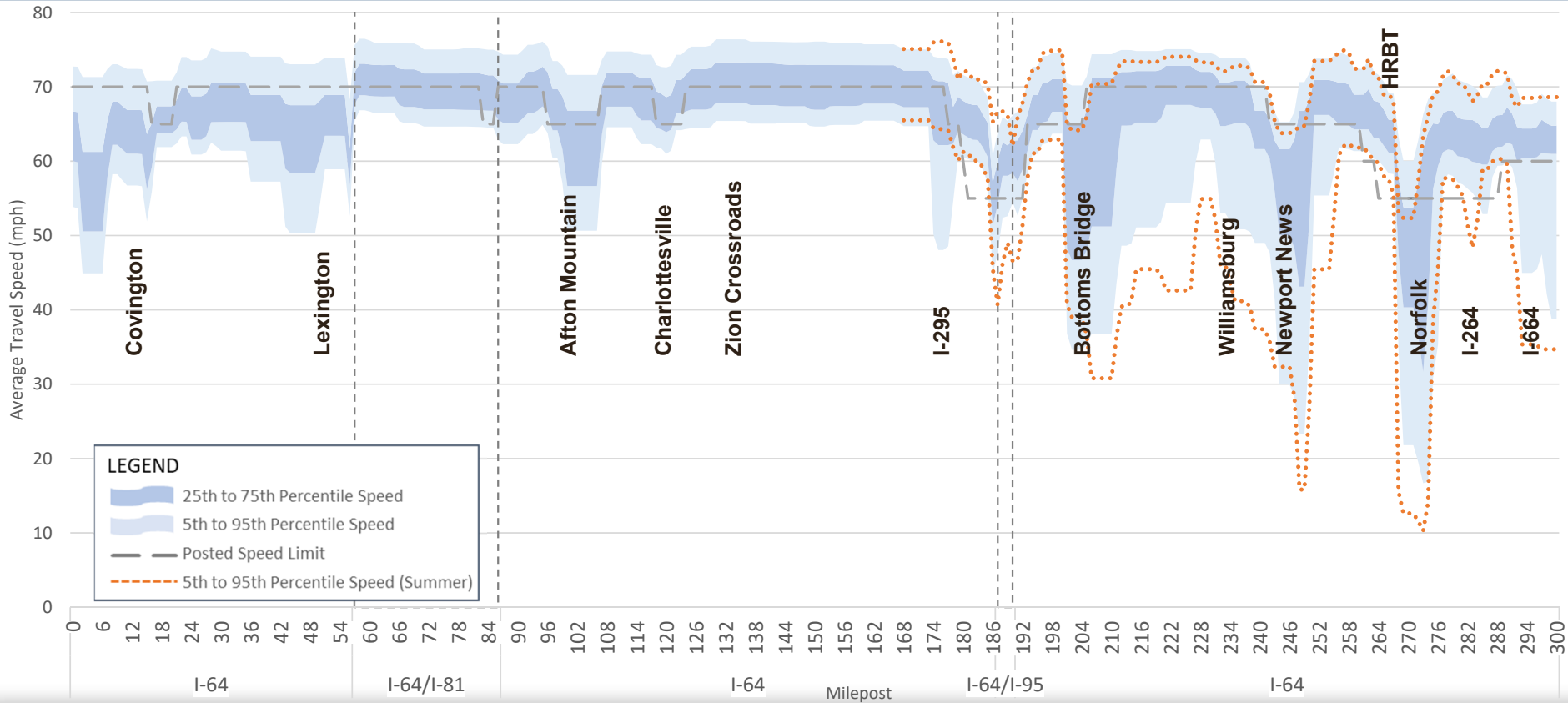
# Reliability of Westbound I-64 Tuesday-Thursday (3:00 - 6:00 PM), 2018



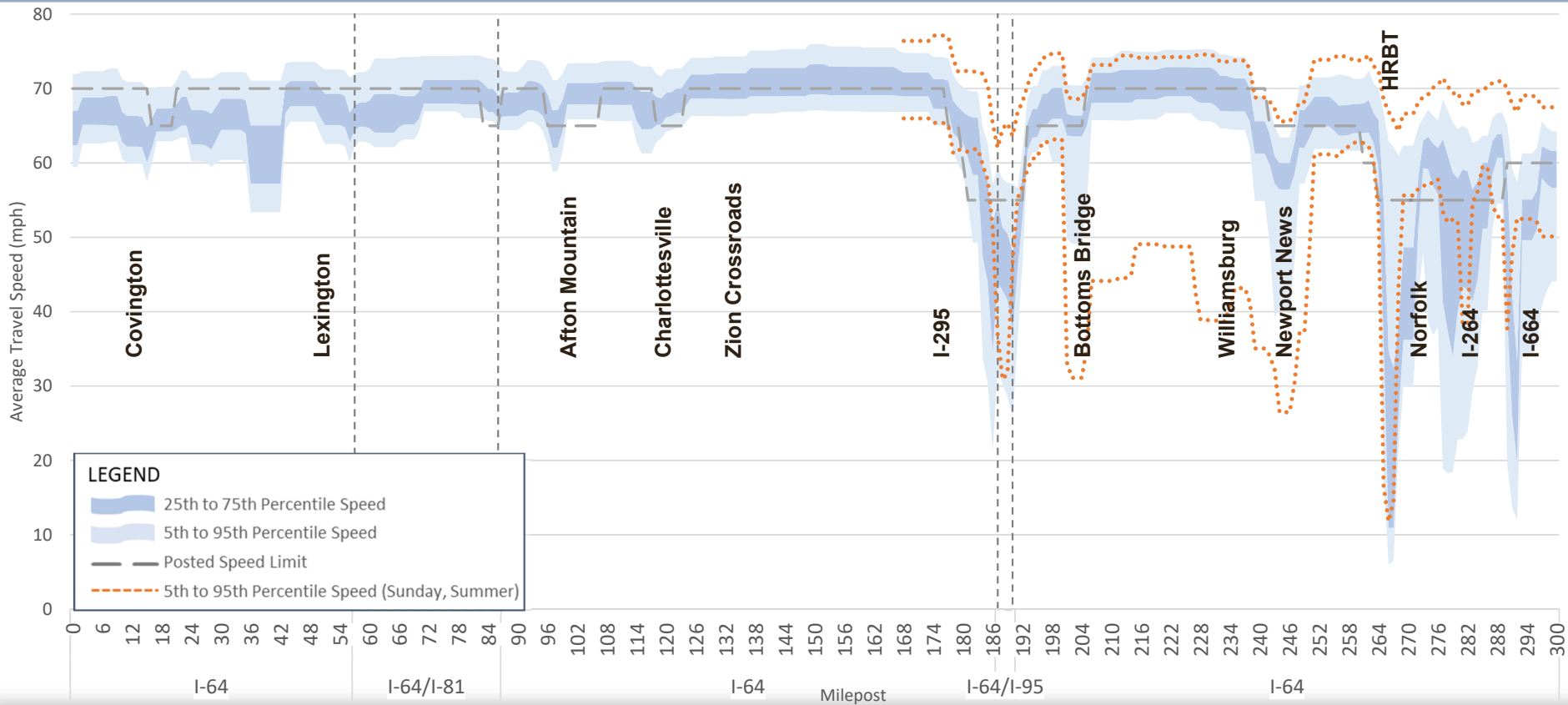
# Reliability of Eastbound I-64 Sunday (9:00 AM - 6:00 PM), 2018



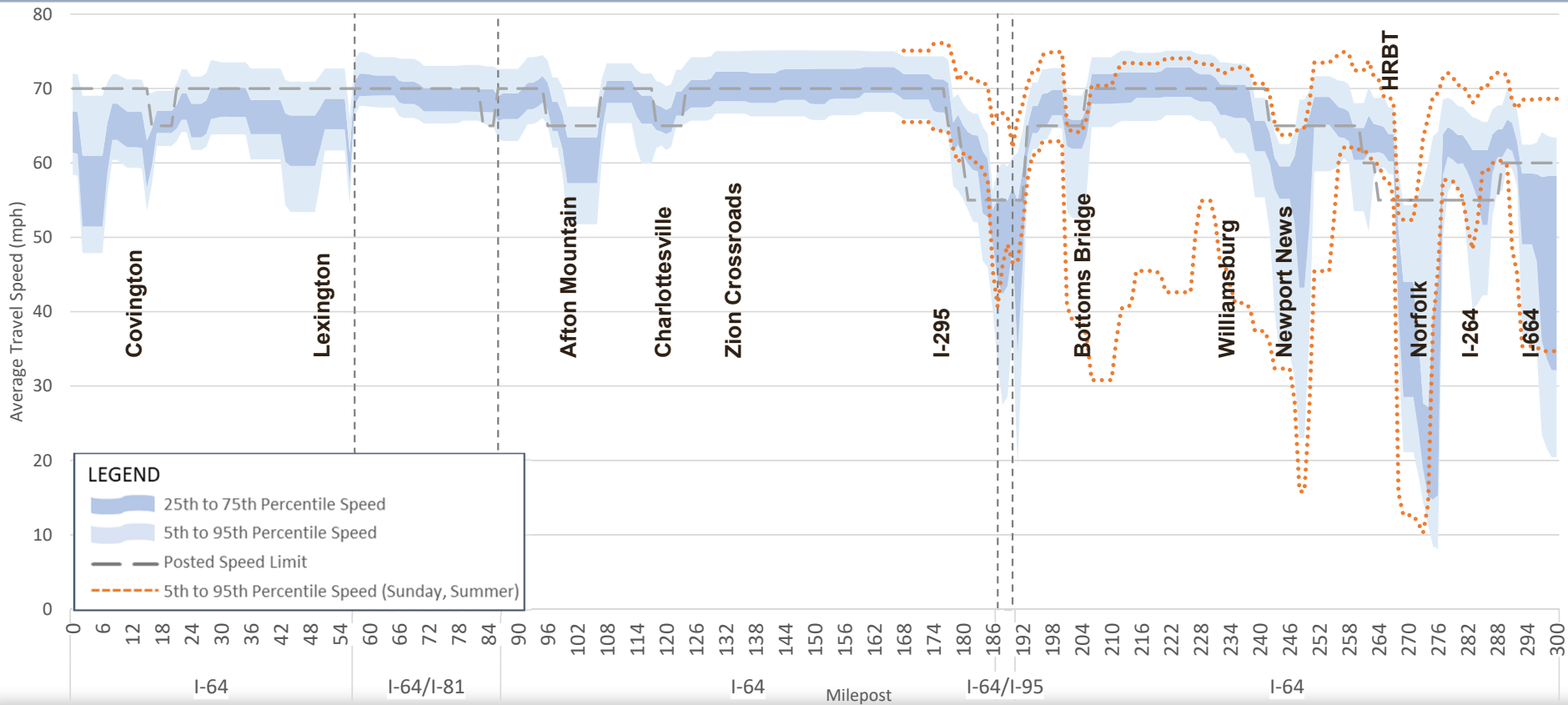
# Reliability of Westbound I-64 Sunday (9:00 AM - 6:00 PM), 2018



# Reliability of Eastbound I-64 Tuesday-Thursday (3:00 - 6:00 PM), 2018



# Reliability of Westbound I-64 Tuesday-Thursday (3:00 - 6:00 PM), 2018





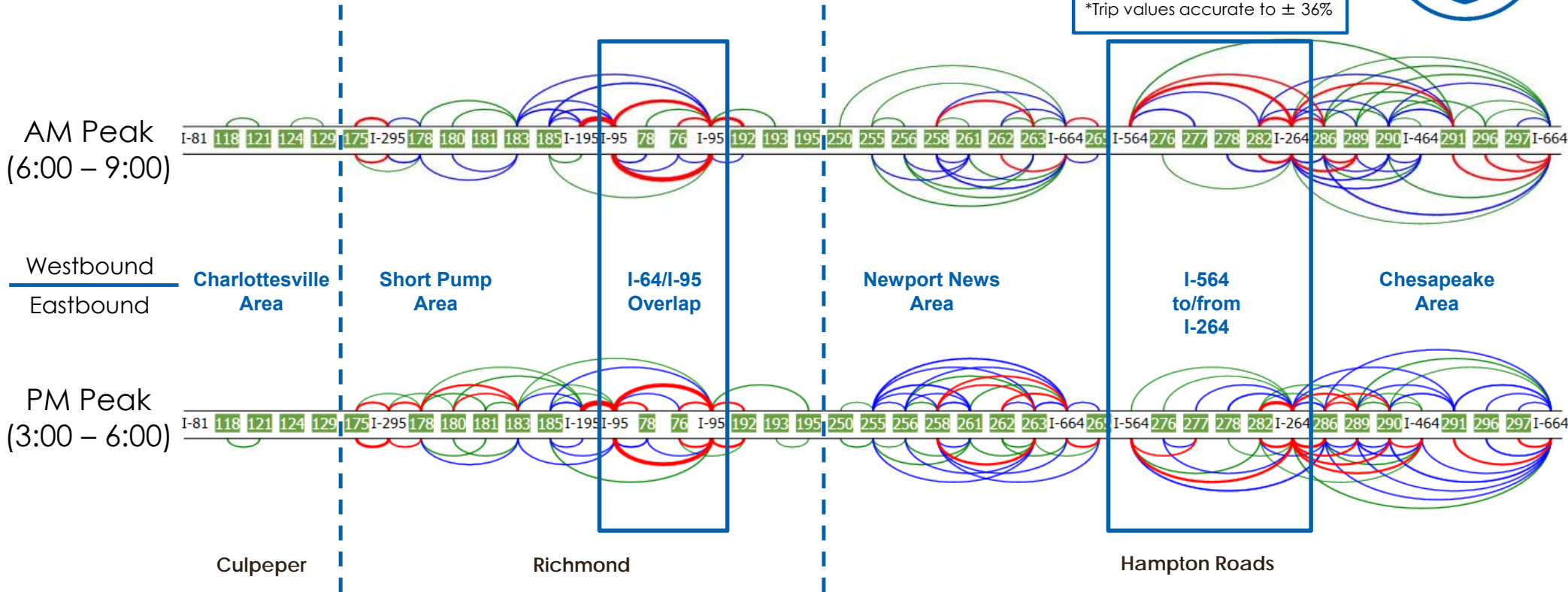
2018 Data

# I-64 Tuesday-Thursday O-D

**Legend**

- (no line) 0 to 750 trips\*
- 751 to 1,000 trips\*
- 1,001 to 1,500 trips\*
- > 1,500 trips\*

\*Trip values accurate to ± 36%



EXIT 118 US 29	EXIT 183 US 250 / Glenside Dr	EXIT 255 Jefferson Ave	EXIT 265 La Salle Ave	EXIT 289 Greenbrier Pkwy
EXIT 121 Scottsville Rd	EXIT 185 Staples Mill Rd	EXIT 256 Victory Blvd	EXIT 276 US 460	EXIT 290 Battlefield Blvd
EXIT 124 US 250	EXIT 186 W Laburnum Ave	EXIT 258 US 17	EXIT 277 Tidewater Dr	EXIT 291 US 17, Route 168
EXIT 129 Black Cat Rd	EXIT 192 US 360	EXIT 261 HR Center Pkwy	EXIT 278 Chesapeake Blvd	EXIT 296 US 17
EXIT 175 Route 288	EXIT 193 Nine Mile Rd	EXIT 262 Magruder Blvd	EXIT 282 US 13	EXIT 297 US 460
EXIT 178 US 250 (Short Pump)	EXIT 195 Laburnum Ave	EXIT 263 Mercury Blvd	EXIT 286 Indian River Rd	



2018 Data

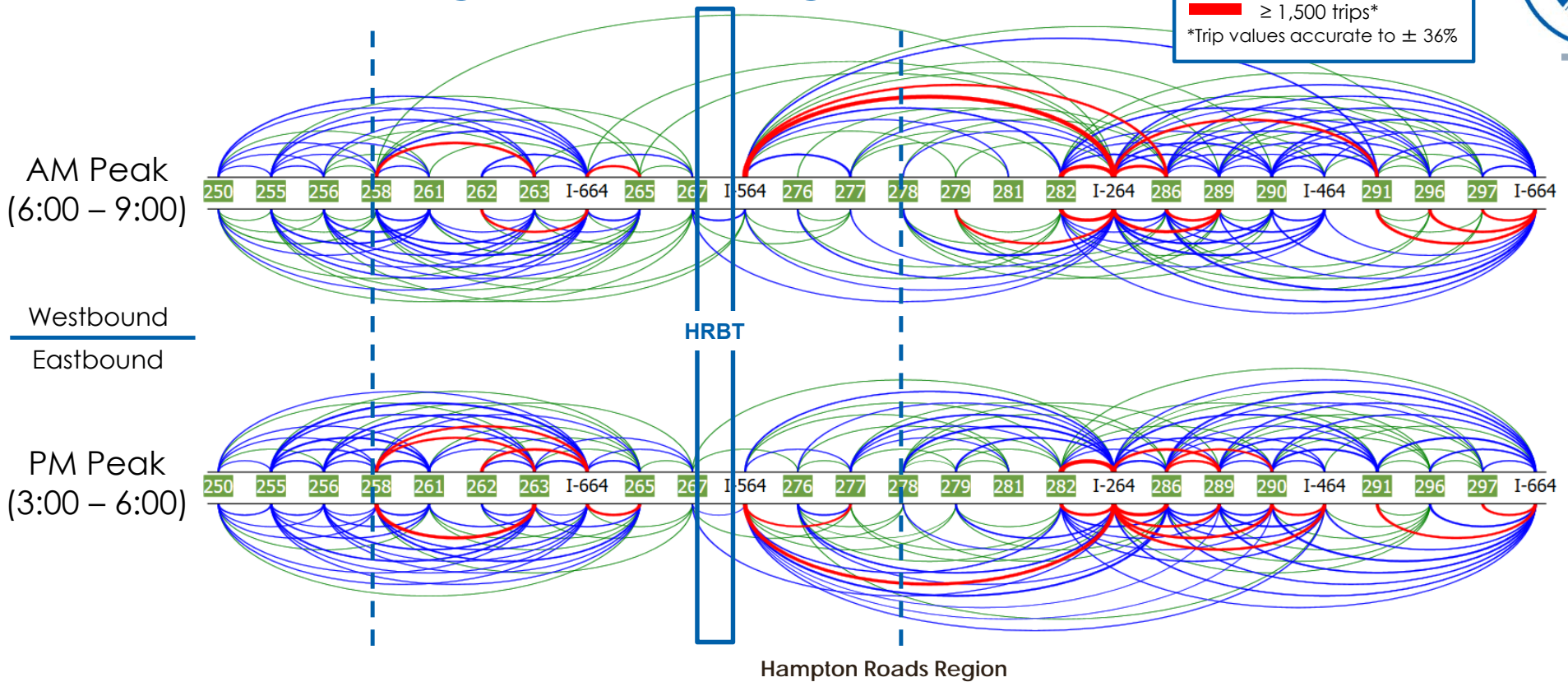
# I-64 Tuesday-Thursday O-D



**Legend**

- (no line) 0 to 249 trips\*
- 250 to 499 trips\*
- 500 to 1,499 trips\*
- ≥ 1,500 trips\*

\*Trip values accurate to ± 36%



EXIT 250 Ft. Eustis Boulevard	EXIT 261 Hampton Roads Center Parkway	EXIT 267 Settlers Landing Road	EXIT 279 Norview Avenue	EXIT 290 Battlefield Boulevard
EXIT 255 Jefferson Avenue	EXIT 262 Magruder Boulevard	EXIT 276 US 460	EXIT 281 Military Highway	EXIT 291 US 17, Route 168
EXIT 256 Victory Boulevard	EXIT 263 Mercury Boulevard	EXIT 277 Tidewater Drive	EXIT 282 US 13	EXIT 296 US 17
EXIT 258 US 17	EXIT 265 La Salle Avenue	EXIT 278 Chesapeake Boulevard	EXIT 286 Indian River Road	EXIT 297 US 460
			EXIT 289 Greenbrier Parkway	

2018 Data

# I-64 Sunday O-D

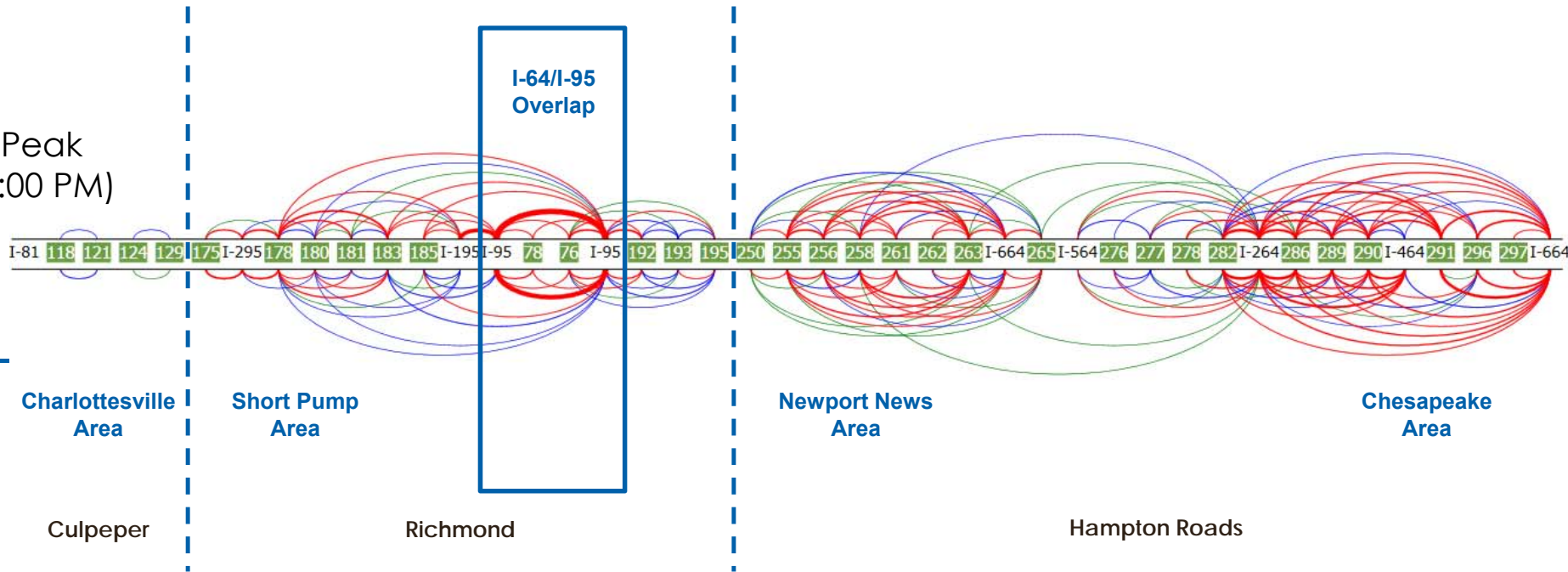
**Legend**

- (no line) 0 to 750 trips\*
- 751 to 1,000 trips\*
- 1,001 to 1,500 trips\*
- > 1,500 trips\*

\*Trip values accurate to ± 36%



Weekend Peak  
(9:00 AM – 6:00 PM)



EXIT 118 US 29	EXIT 183 US 250 / Glenside Dr	EXIT 255 Jefferson Ave	EXIT 265 La Salle Ave	EXIT 289 Greenbrier Pkwy
EXIT 121 Scottsville Rd	EXIT 185 Staples Mill Rd	EXIT 256 Victory Blvd	EXIT 276 US 460	EXIT 290 Battlefield Blvd
EXIT 124 US 250	EXIT 186 W Laburnum Ave	EXIT 258 US 17	EXIT 277 Tidewater Dr	EXIT 291 US 17, Route 168
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EXIT 178 US 250 (Short Pump)	EXIT 195 Laburnum Ave	EXIT 263 Mercury Blvd	EXIT 286 Indian River Rd	

# Key Conclusions from Data Analytics

- Richmond and Hampton Roads Districts have the highest number of fatal and severe injuries per mile
- Staunton District has the highest rate of fatal and severe injuries per mile
- Hampton Roads District and the I-95/I-64 overlap in Richmond have the highest annual person-hours and incident-related delay per mile

# Key Conclusions from Data Analytics, Cont.

- Travel time reliability in parts of the corridor is an issue
  - Between Richmond and Hampton Roads on weekends
  - In Richmond to the west of the Bryan Park interchange and in the I-95/I-64 overlap
  - In Hampton Roads on the I-64 and I-664 loop during the week in the peak periods

## Key Conclusions from Data Analytics, Cont.

- Hampton Roads origin-destination (OD) analysis findings
  - Limited significant OD pairs for water crossings – Newport News Shipbuilding is an outlier
  - Key travel challenge in the region: trip data indicates dispersed employment centers and workforce
- Hampton Roads OD analysis and travel speeds analysis indicate the need for the HREL network on Peninsula and Southside

# Tentative Schedule



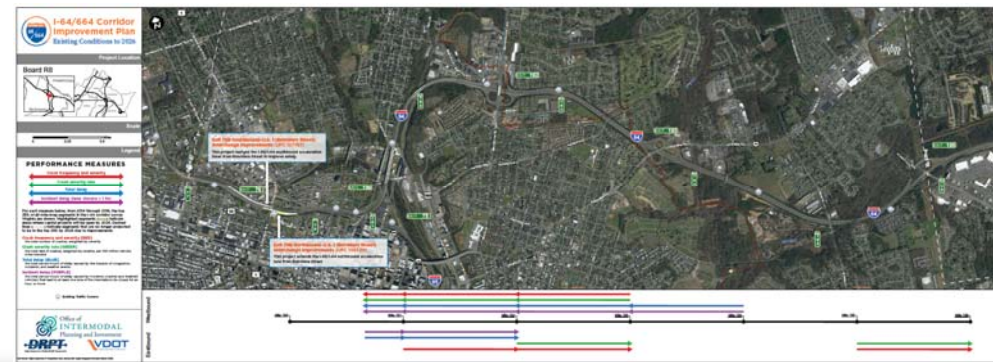
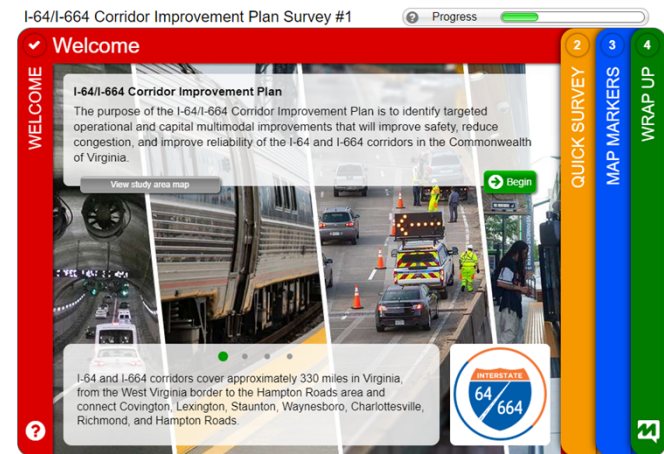
- July
  - CTB briefing
  - Virtual public meeting (review existing conditions)
- July/August: Finish draft potential improvements
- August: SMART SCALE-like analysis
- September-November: schedule next two public meetings
  - Second: review potential improvements
  - Third: review refined improvement recommendation packages



# Virtual Public Meetings



- MetroQuest survey
- Narrated overview presentation
- Reference materials
  - Performance measures aerial boards
  - Operations boards
  - Multimodal boards
- FAQs from public questions



# Study Website

## VA64Corridor.org



## Interstate 64 Corridor Improvement Plan

### What's Happening

The Commonwealth Transportation Board (CTB), supported by the Office of Intermodal Planning and Investment (OIP), the Virginia Department of Transportation (VDOT), and the Department of Rail and Public Transportation (DRPT), will study Interstate 64 (I-64) from the West Virginia state line to I-664 in Chesapeake to initiate a data-driven analysis for the development of the I-64 Corridor Improvement Plan (CIP) which will:

- Identify key problem areas along the corridor, and
- Identify potential solutions and areas for additional review and study.

As directed by the CTB, the study team will identify targeted improvements and incident management strategies for the corridor.

### Public Briefings

The CTB will receive briefings during the study time frame.

- April 2020 CTB presentation briefing – Coming Soon
- View the CTB's study launch announcement

**Study Duration:** February-September 2020

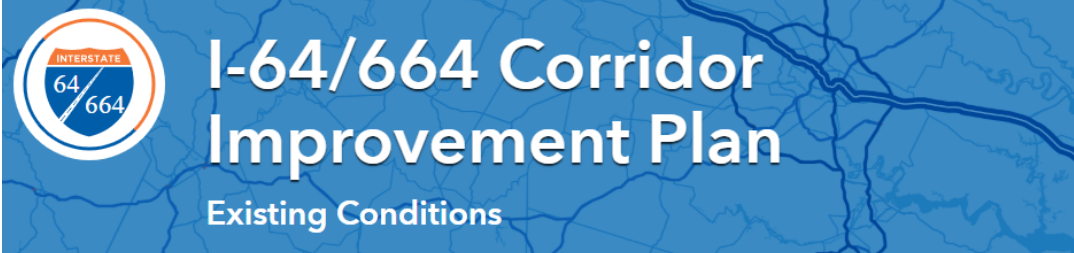
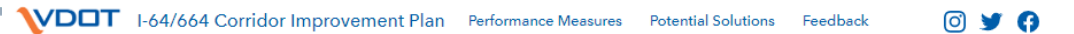
**Localities:** Counties of Alleghany, Rockbridge, Augusta, Albemarle, Fluvanna, Louisa, Goochland, Henrico, New Kent and James City, and cities of Covington, Staunton, Waynesboro, Charlottesville, Richmond, Williamsburg, Newport News, Hampton, Norfolk, Virginia Beach and Chesapeake

**Districts:** Staunton, Culpeper, Richmond, Hampton Roads

**Contact:** Ben Mannell, project manager

# Public Meetings Website

## I-64-664PublicInfo.com



### Welcome!

Thank you for joining us to learn more about the I-64/664 Corridor Improvement Plan existing conditions. This website is intended to introduce you to the study and give you an opportunity to provide input to the study team. Please begin by listening to the 3-minute project introduction video below.

On the top and bottom of this page, there are links to additional pages with information for you to review. The **Performance Measures** page describes the measures used in this study and then shows you where the study team is focusing its attention as they start to develop targeted improvements at the locations of greatest safety and congestion need. The **Potential Solutions** page shows many of the potential improvements that could be implemented in this corridor.

**Most importantly, we are looking for you to provide feedback to the study team using the survey on the Feedback page.** We know that data does not tell the whole story of congestion and safety in the corridor, which is why we are looking for your input. Using the survey, please take time to identify any issues you experience in the corridor and provide us with some of your recommended solutions to fix them. The study team will use this input as they develop potential solutions in the corridor including operations, multimodal, and highway capital improvements.

As we receive comments and questions, we will be developing a list of frequently asked questions with corresponding responses. We will be adding information to this website as the study progresses, so please stay connected with us.





COMMONWEALTH of VIRGINIA  
Office of the  
SECRETARY of TRANSPORTATION

## VTRANS PROJECT PIPELINE AND LONG-TERM NEEDS

### Commonwealth Transportation Board

Nick Donohue, Deputy Secretary of Transportation  
Jitender Ramchandani, AICP, PMP

July 14, 2020



## PURPOSE OF TODAY'S UPDATE

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- Provide updates on the following VTrans-related tasks
  - VTrans Multimodal Project Study Pipeline
  - Approach to the Identification of VTrans Long-term Needs



## PURPOSE OF TODAY'S UPDATE *(CONT.)*

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	Mid-Term Needs	Long-Term Needs
<b>Planning Horizon</b>	<ul style="list-style-type: none"> <li>• 7 - 10 years</li> </ul>	<ul style="list-style-type: none"> <li>• 10 – 25 years</li> </ul>
<b>Purpose</b>	<ul style="list-style-type: none"> <li>• Screen SMART SCALE applications</li> <li>• Prioritize VDOT Revenue Sharing applications</li> <li>• Forms the basis of VTrans Multimodal Project Study Pipeline</li> </ul>	<ul style="list-style-type: none"> <li>• Inform policy to prepare for gradual and systematic change</li> </ul>
<b>Board Action</b>	<ul style="list-style-type: none"> <li>• Adopted in January 2020</li> </ul>	<ul style="list-style-type: none"> <li>• Requested in 2021</li> </ul>



## VTrans Multimodal Project Study Pipeline

## PRIORITIZATION OF VTRANS MID-TERM NEEDS | CONTEXT AND SIGNIFICANCE

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- **VTrans Multimodal Project Study Pipeline**

- In January 2020, the Board directed OIPI to prioritize the identified 2019 Mid-term Needs
- In May 2020, Deputy Secretary Donohue presented the following overarching approach:



- The purpose of this section of the presentation is to provide more details

- **Significance of This Work**

- This work informs VDOT and DRPT investments for various types of studies

# PRIORITIZATION OF VTRANS MID-TERM NEEDS | STEPS

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## 1. Define Extent

- **Statewide Prioritization:** Needs along Corridors of Statewide Significance (CoSS)
- **District-level Prioritization:** Needs within Regional Networks (RN), Safety, and Access to Industrial Sites



# PRIORITIZATION OF VTRANS MID-TERM NEEDS | STEPS

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1. Define  
Extent

- **Statewide Prioritization:** Needs along Corridors of Statewide Significance (CoSS)
- **District-level Prioritization:** Needs within Regional Networks (RN), Safety, and Access to Industrial Sites

2. Evaluate

1. Severity of the Need
2. Number of Users Affected
3. Co-located Investments (capacity, safety, state-of-good repair, maintenance)
4. Risk Associated with Flooding and Sea-level Rise

# PRIORITIZATION OF VTRANS MID-TERM NEEDS | STEPS

1. Define  
Extent

- **Statewide Prioritization:** Needs along Corridors of Statewide Significance (CoSS)
- **District-level Prioritization:** Needs within Regional Networks (RN), Safety, and Access to Industrial Sites

2. Evaluate

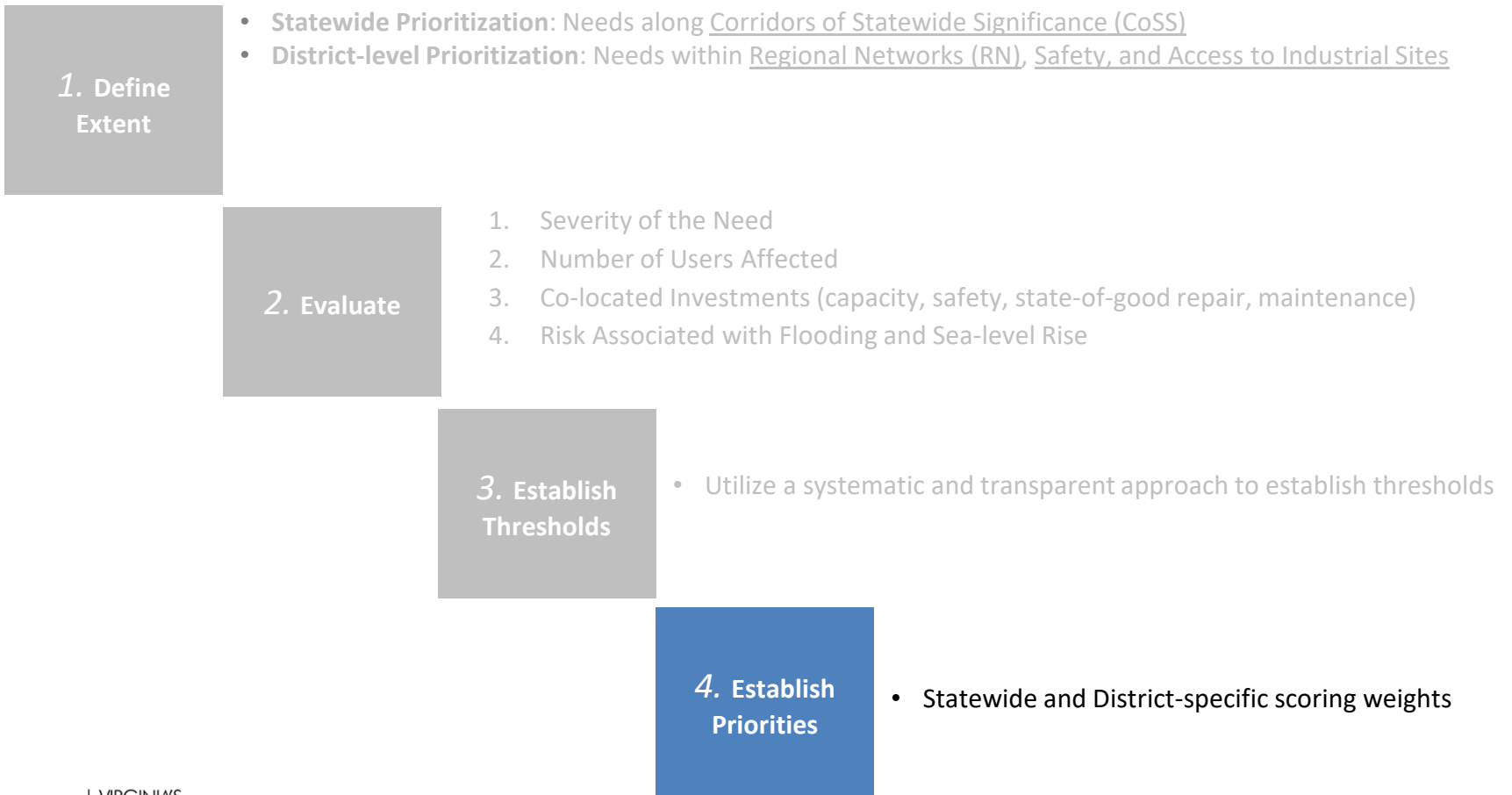
1. Severity of the Need
2. Number of Users Affected
3. Co-located Investments (capacity, safety, state-of-good repair, maintenance)
4. Risk Associated with Flooding and Sea-level Rise

3. Establish  
Thresholds

- Utilize a systematic and transparent approach to establish thresholds

# PRIORITIZATION OF VTRANS MID-TERM NEEDS | STEPS

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# PRIORITIZATION OF VTRANS MID-TERM NEEDS | STEPS

1. Define Extent

- **Statewide Prioritization:** Needs along Corridors of Statewide Significance (CoSS)
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2. Evaluate

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3. Co-located Investments (capacity, safety, state-of-good repair, maintenance)
4. Risk Associated with Flooding and Sea-level Rise

3. Establish Thresholds

- Utilize a systematic and transparent approach to establish thresholds

4. Establish Priorities

- Statewide and District-specific scoring weights



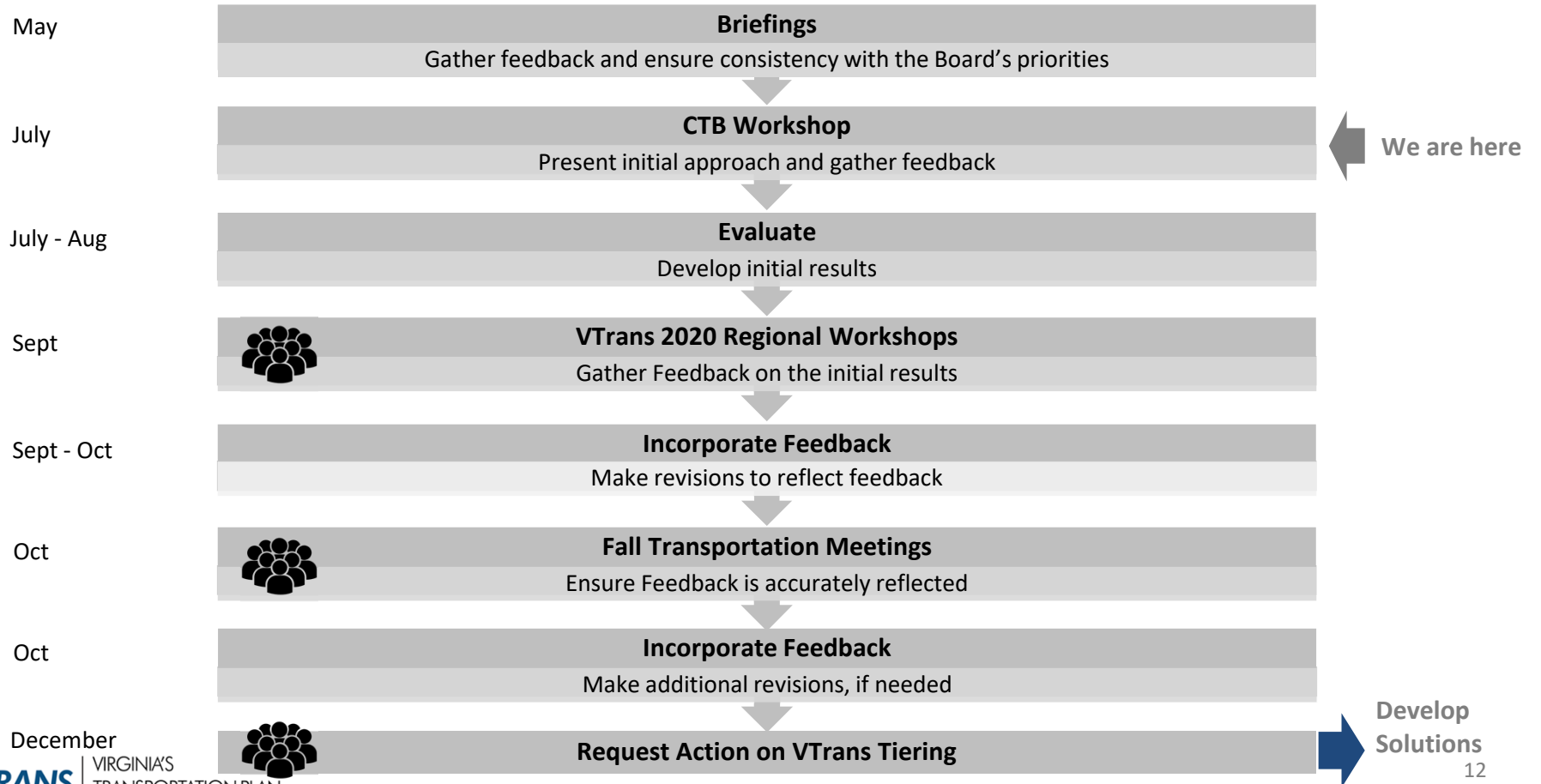
Iterative development based on feedback from local and regional agencies

# PRIORITIZATION OF VTRANS MID-TERM NEEDS | NEXT STEPS

- Conduct Initial Analysis
- Gather feedback from CTB members to identify Statewide and District-specific priorities to weigh different types of Needs

VTrans Need Categories for Prioritization
• Congestion
• Reliability
• Transit Access
• Non-motorized Access
• Safety
• Capacity Preservation
• Transportation Demand Management
• Access to Industrial and Economic Development Sites

## PRIORITIZATION OF VTRANS MID-TERM NEEDS | NEXT STEPS





## Identification of VTrans Long-term Needs

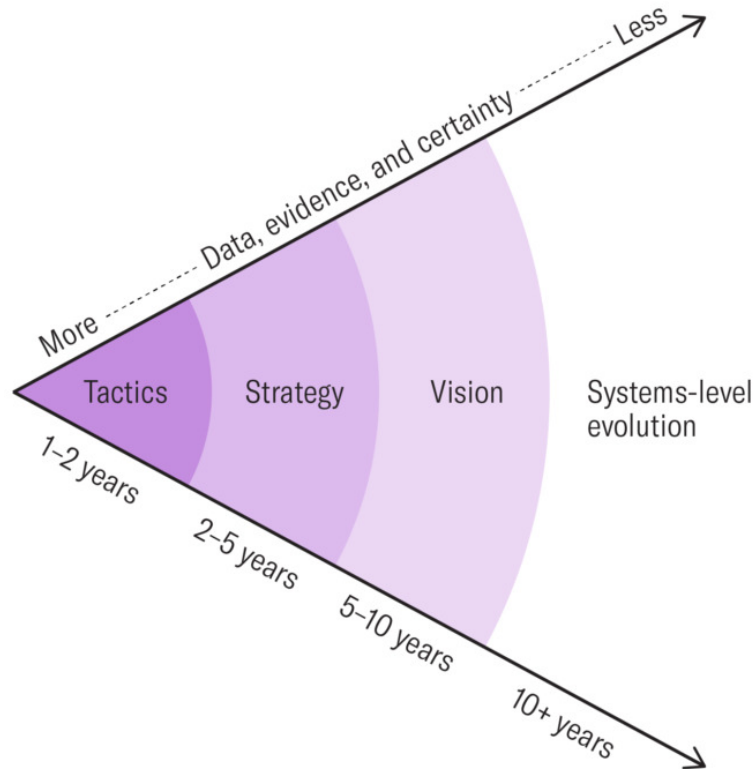


## IDENTIFICATION OF LONG-TERM NEEDS | CONTEXT

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- In [January 2020](#), the Board also directed OIPI to **develop scenarios to assess the impacts of divergent trends to identify Long-term Needs**

## IDENTIFICATION OF LONG-TERM NEEDS | SIGNIFICANCE



“First identify highly probable events for which there’s already data or evidence, and then work outward. Each section of the cone is a strategic approach, and it encompasses the one before until you reach major system-level evolution....”

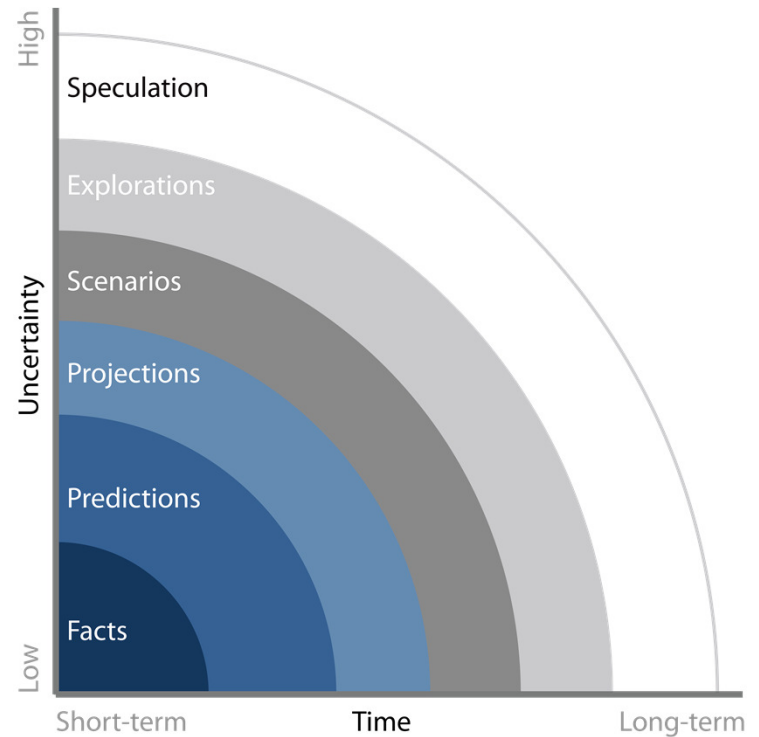
Amy Webb, [How to Do Strategic Planning Like a Futurist](#), July 30, 2019, Harvard Business Review

Source: Amy Webb, Future Today Institute

HBR

## IDENTIFICATION OF LONG-TERM NEEDS | SIGNIFICANCE

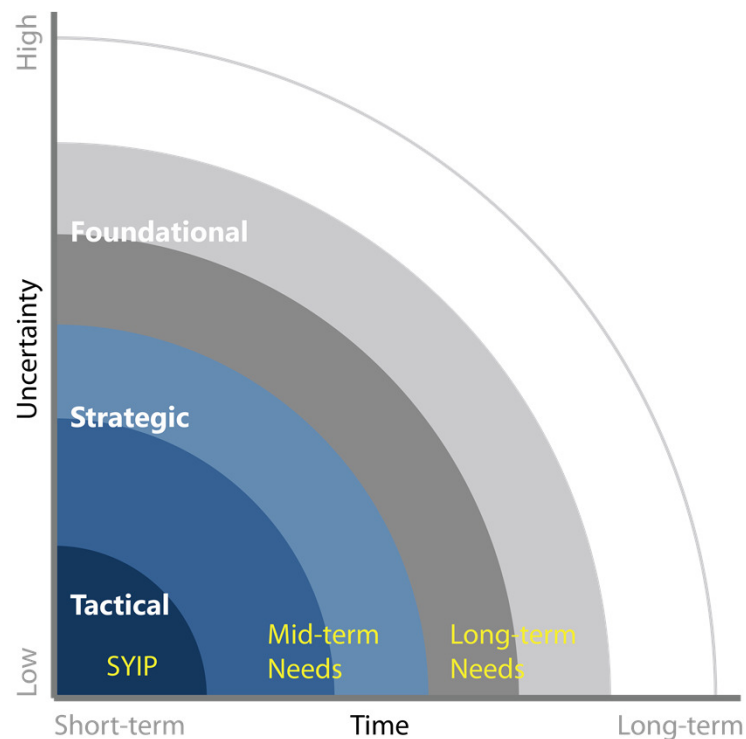
- **Long-term (10-25 years)**
  - Planning to prepare, not predict
  - Evaluate impact of the following external factors:
    - Technology trends
    - Vulnerability associated with flooding and sea-level rise
    - Economic trends
    - Demographic and land use trends
  - Develop three (3) scenarios and associated **impacts and mitigation needs**



[From the Kick-off CTB Presentation of the VTrans Update, October 2018](#)

## IDENTIFICATION OF LONG-TERM NEEDS | SIGNIFICANCE

- **Long-term (10-25 years) address foundational items such as:**
  - Role and Responsibilities of Organization
  - Focus of Organization
  - Major Risks and Opportunities



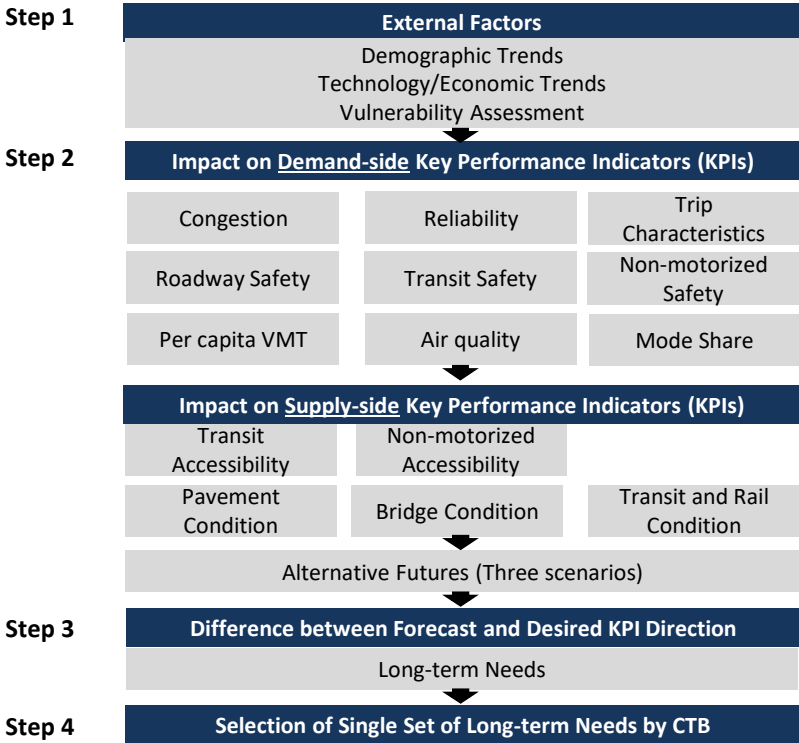
[From the Kick-off CTB Presentation of the VTrans Update, October 2018](#)

## IDENTIFICATION OF LONG-TERM NEEDS | STEPS

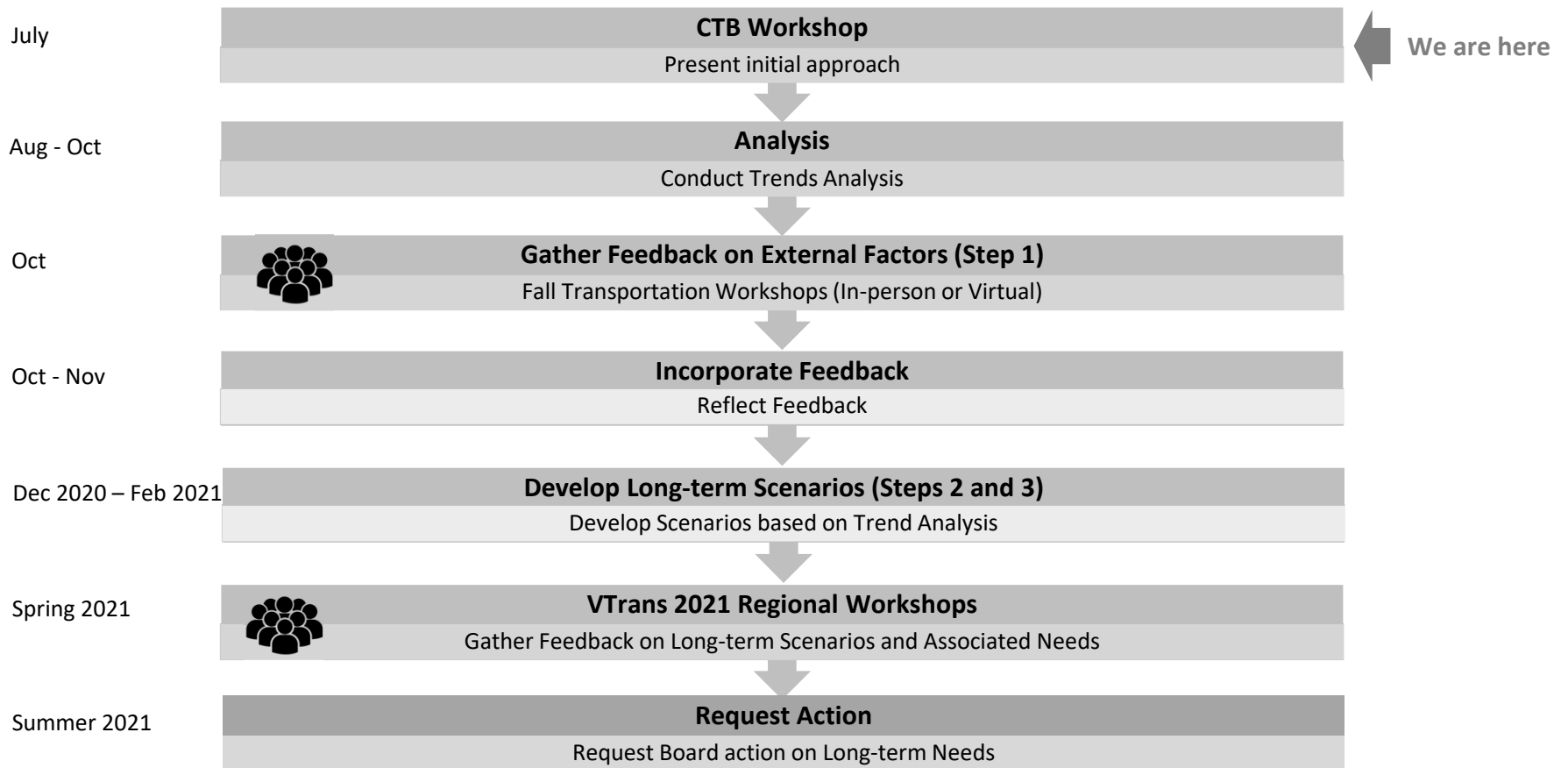
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# IDENTIFICATION OF LONG-TERM NEEDS | STEPS



## IDENTIFICATION OF LONG-TERM NEEDS | STEPS





**Thank you**





COMMONWEALTH of VIRGINIA

Office of the

SECRETARY of TRANSPORTATION

# Transportation Performance Management Mid-Term Performance

Margie Ray

Office of Intermodal Planning and Investment

July 14, 2020



# Performance Management Background

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- **MAP-21 Federal Law – Established performance targets for:**
  - **Asset Condition: Pavements and Bridges**
  - **System Performance**
  - **Congestion**
  - **Air Quality**
  - **Safety**
- **HB2241/SB1331 (2017) – Board to establish performance targets for surface transportation**

# Performance Management Background - Federal Requirements

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- **Baseline Performance Period is CY 2017**
- **State establishes 4-year targets (CY 2021) for all measures and 2-year targets (CY 2019) for some measures**
- **Baseline Performance Report submitted October 1, 2018**
- **Mid-Term Performance Report due October 1, 2020**
  - States have the opportunity to adjust 4-year targets
  - Requires explanation for 2-year targets not achieved and what will be done to achieve the 4-year targets
- **FHWA Determination of Significant Progress**
  - **If significant progress is not made, state must:**
    - Document actions to achieve targets
    - Depending on performance measure, may have funding and/or reporting impacts

# Asset Condition Performance Management Performance Measures

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<b>Asset Condition Measure</b>	<b>Scope</b>
Percentage of Pavement in Good Condition	Interstate
Percentage of Pavement in Poor Condition	Interstate
Percentage of Pavement in Good Condition	Non-Interstate NHS
Percentage of Pavement in Poor Condition	Non-Interstate NHS
Percentage of Deck Area of Bridges in Good Condition	NBI on NHS
Percentage of Deck Area of Bridges in Poor Condition	NBI on NHS

NHS - National Highway System  
NBI - National Bridge Inventory

# Asset Condition Performance Management Background

- Focus on the National Highway System (NHS) - limited portion of the network (<15%) for which VDOT is responsible
- Measures relate only to pavement and bridges in Good and Poor condition
- Targets initially established based on trend analysis and modeling
- Federal Targets were adopted by the CTB in September 2018



# Asset Condition Performance Management Background - Maintenance and Operations Comprehensive Review

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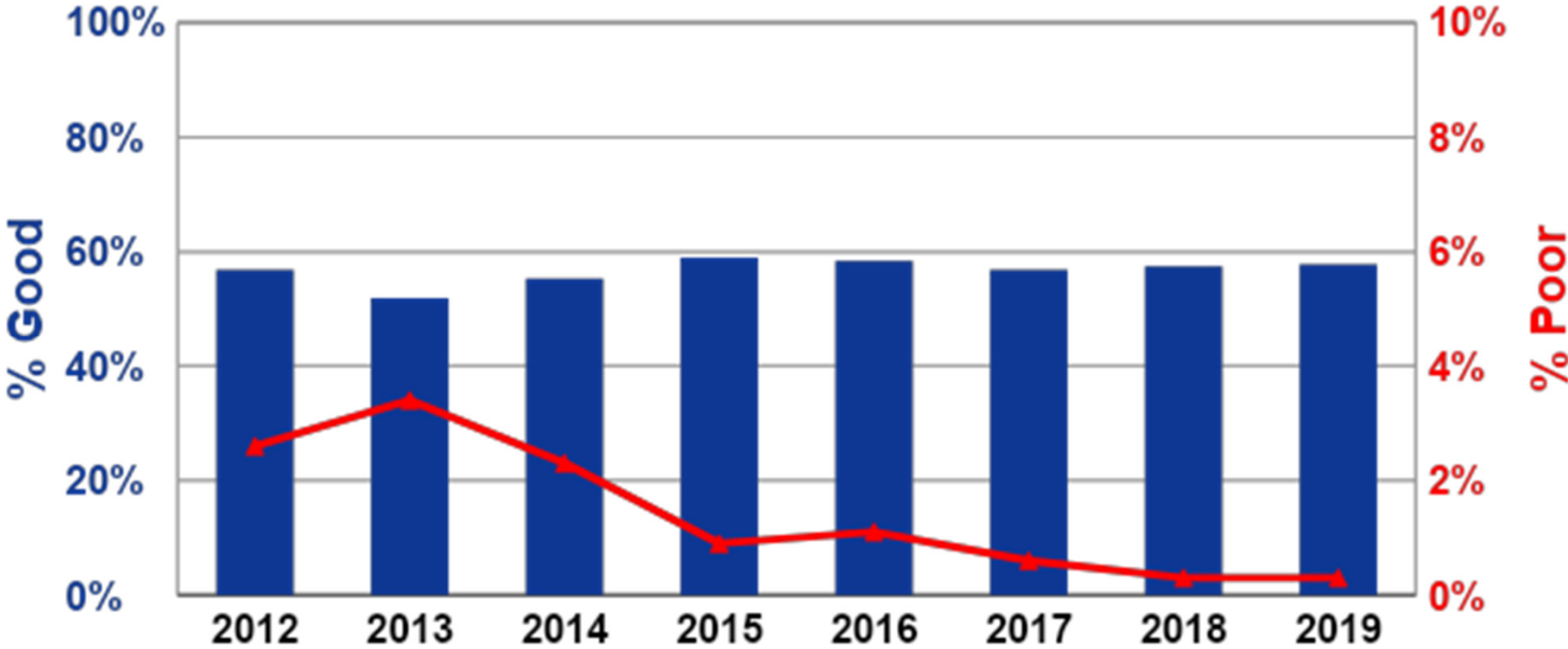
Pursuant to 2019 Acts of Assembly, Enactment 2 of Chapters 83 and 349, VDOT conducted a detailed analysis to establish long term sustainable performance targets for pavements, bridges and Special Structures

- Focused on network funded by VDOT's Maintenance and Operations and State of Good Repair Programs to include, Interstate, Primary and Secondary systems
- Established new statewide performance measures and targets
  - Pavement measures based on Critical Condition Index and % sufficient, includes thresholds based on traffic volume (AADT) for primary and secondary roads
  - Bridge measures based on General Condition Rating and % not Structurally Deficient
- Modified investment strategy to be more comprehensive and strategic resulting in a more balanced approach to asset management

**Statewide Performance Measures and Targets adopted by CTB in  
December 2019**

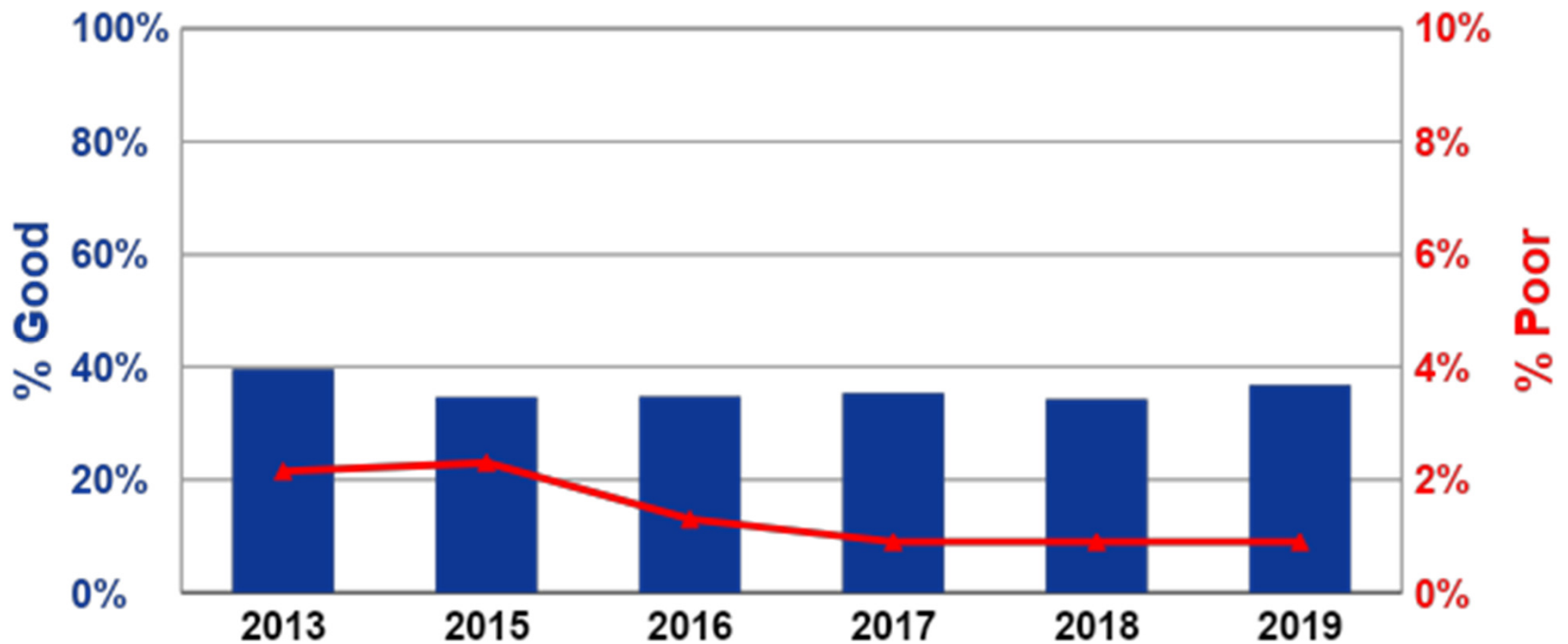
# Interstate Pavement Performance Management

## How are we doing?



# Non-Interstate NHS Pavement Performance Management

## How are we doing?





# Pavement Performance Management

## How are we Doing?

Measure (Percent)	CTB Adopted Targets (percent)		Performance (percent)			Trend / Target Achievement
	2-yr	4-yr	2017	2018	2019	
Pavement in Good Condition (interstate)	45.0	45.0	57.8	57.5	57.9	Improving/ Meeting Target
Pavement in Poor Condition (interstate)	<3.0	<3.0	0.6	0.3	0.3	Improving/ Meeting target
Pavement in Good Condition (non-interstate NHS)	25.0	25.0	33.5	34.8	36.7	Improving/ Meeting target
Pavement in Poor Condition (non-interstate NHS)	<5.0	<5.0	0.9	0.9	0.9	Improving/ Meeting target

# Pavement Performance Management

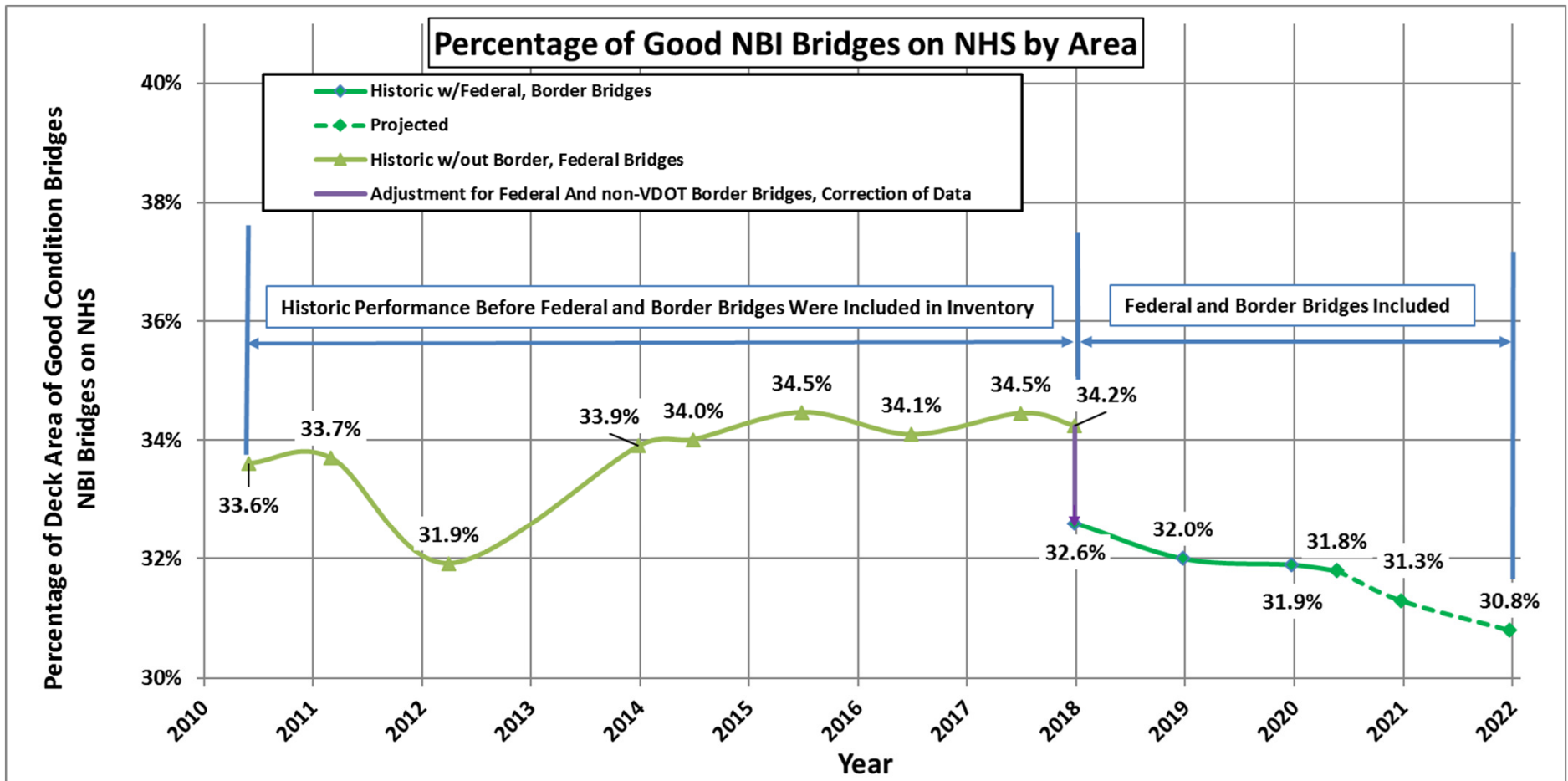
## Discussion on Performance

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- **Based on work conducted through the Comprehensive Review and modified investment strategies it is projected that 4-year targets can be achieved**
- **No change to CTB adopted 4-year targets are proposed**

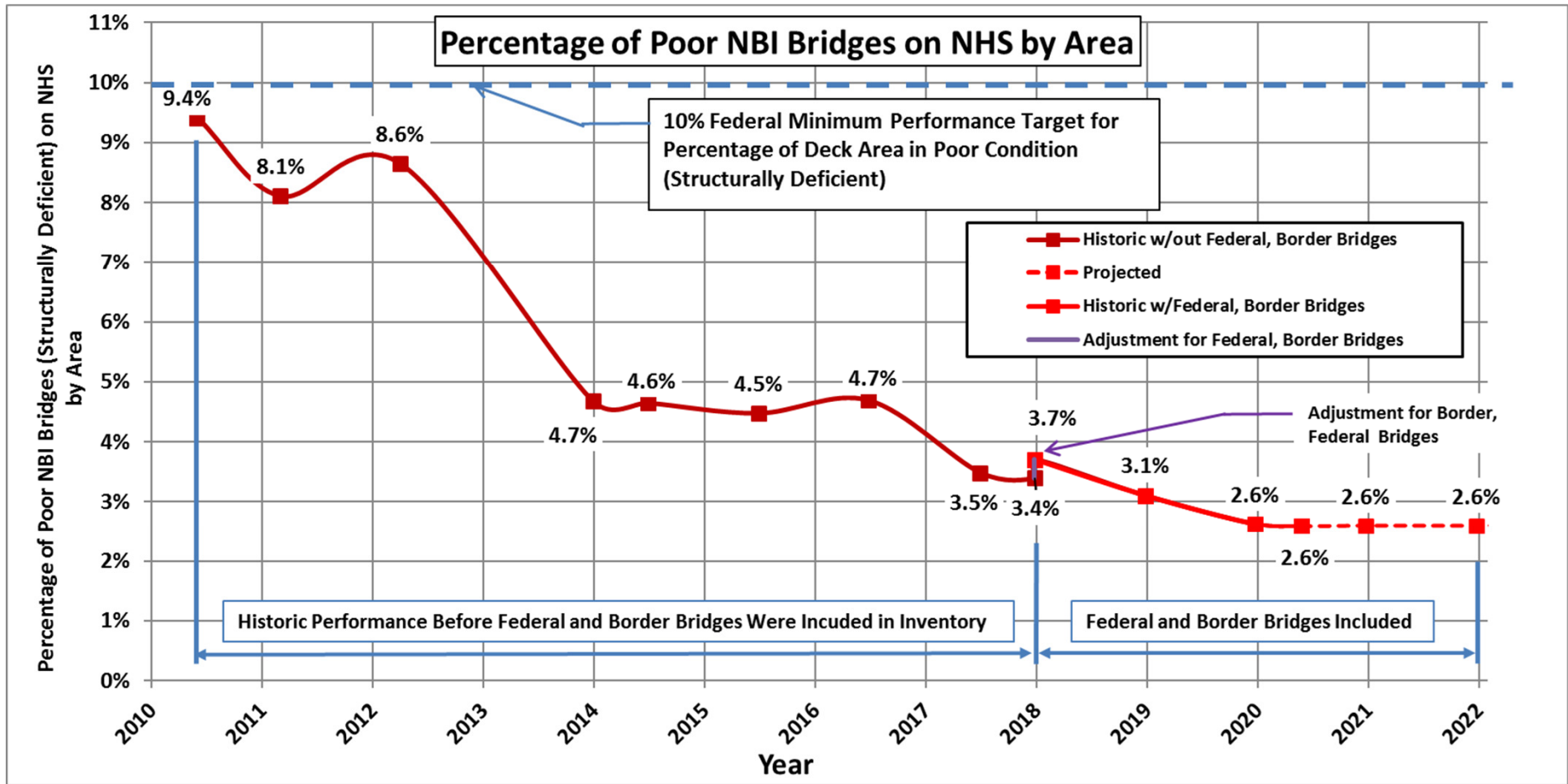
# Bridge Performance Management

## How are we doing?



# Bridge Performance Management

## How are we doing?



# Bridge Performance Management

## How are we Doing?

Measure (Percent)	CTB Adopted Targets (percent)		Performance (percent)*			Trend / Target Achievement
	2-yr	4-yr	2017	2018	2019	
Deck Area of NHS Bridges in Good Condition	33.5	33.0	34.3	32.6	32.0	Declining/ Not Meeting Target
Deck Area of NHS Bridges in Poor Condition	3.5	3.0	3.4	3.7	3.1	Improving/ Meeting Target

\*Performance Year in this table correlates to data that is formalized in the following year. Accordingly, data provided in this chart for a particular year corresponds to the data shown for the following year in the bar charts provided in the previous two slides

# Bridge Performance Management Targets and Anticipated Performance

Bridge Targets and Anticipated Performance			
Performance Measure	Target period	Target	Anticipated Performance
Percentage of Deck Area in Good Condition	2 yr target	33.5%	31.8%
	4 yr target	30.5%*	30.8%
Percentage of Deck Area in Poor (Structurally Deficient) Condition	2 yr target	3.5%	2.6%
	4 yr target	3.0%	2.6%

\* Proposed change to the 4-yr target for percentage of deck area in Good condition.

# Percentage of Deck Area in Good Condition

## Discussion on Performance

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### Reasons for Lower than Anticipated Good Deck Area Performance

- **The 2018 baseline percentage should have been approximately 1.6% lower**
  - Database did not include all border and federally-owned bridges
  - Data inconsistency issue (e.g. bridge width as 4,000' vs. 40')
- **Programmed projects based on the prior established performance measures and reducing the number of Poor bridges**
  - State of Good Repair funding is only available for poor bridges
  - Most replacement bridges since 2018 have been on Non-NHS routes
  - Focused on preservation, restoration, rehabilitation of Fair and Poor bridges

**The target adjustment is recommended to align targets with current best estimate of performance.**

# Percentage of Deck Area in Good Condition

## Discussion on Performance

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### Factors affecting the 4-year percentage of deck area in good condition projections:

- **Funding continues at current levels**
- **On-time completion of several large and P3 projects with new bridges entering the inventory**
  - Construction completion dates in late 2021 so slight acceleration or delay in schedule could affect good deck area
- **Bridge deterioration rates continue at historical trends**



# Asset Condition Performance Management Discussion on Performance

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## Comprehensive Review included several key assumptions

- General decline of “Good” performance to allow for a long term sustainable outcome
- Pavement program requires additional investment
  - 2020 General Assembly passed legislation and Governor signed into law to provide additional funding for pavements and special structures
- No increased funding necessary for the bridge program (excludes special structures)
  - Changes to § 33.2-369. *State of good repair* required for bridge preservation approach
    - Current language limits use of funds for reconstruction and replacement of structurally deficient bridges and reconstruction and rehabilitation of deteriorated pavement on the Interstate and primary systems
    - No changes made in 2020 General Assembly session

# System Performance Management

## Performance Measures – Reliability, Congestion and Air Quality

System Performance Measures	Scope
Percentage of Person-Miles Traveled that are Reliable	Interstate
Percentage of Person-Miles Traveled that are Reliable	Non-Interstate NHS
Truck Travel Time Reliability Index	Interstate
Annual Hours of Peak Hour Excessive Delay Per Capita*	NHS
Percentage of Non-SOV Travel*	NHS
Total Emission Reductions for Volatile Organic Compounds (VOC)	CMAQ Projects
Total Emission Reductions for Nitrogen Oxides (NOx)	CMAQ Projects

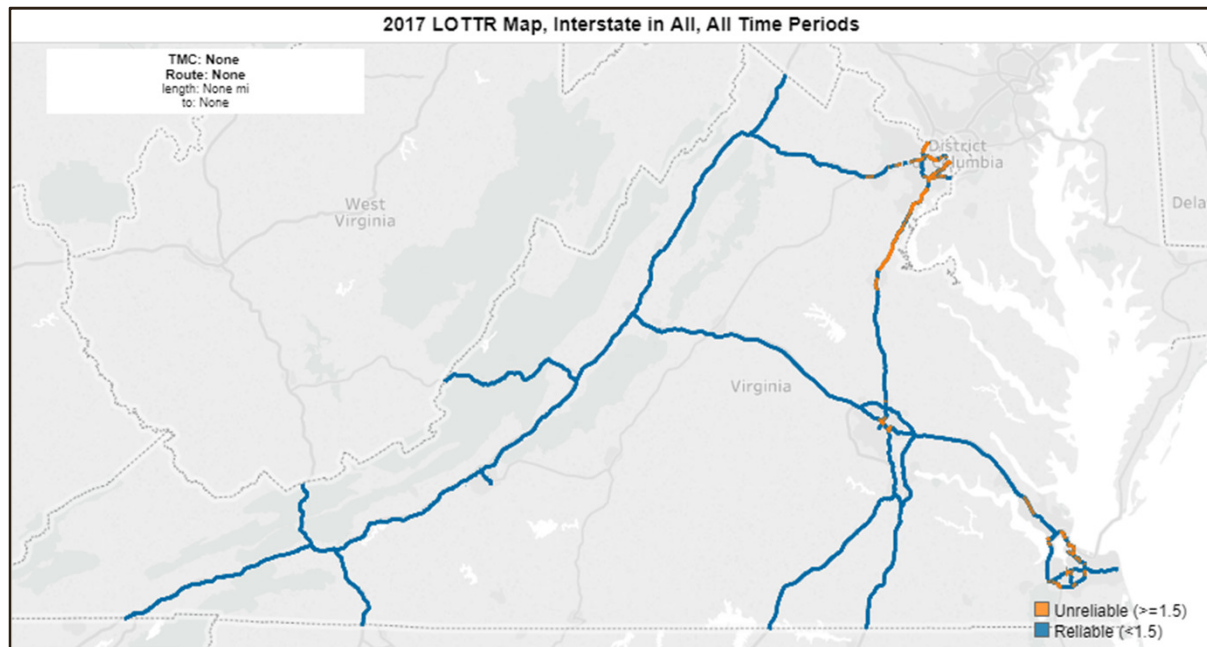
# System Performance Management

## Travel Time Reliability - Background

### Percent Reliable Person Miles Traveled

#### Interstate / Non-Interstate NHS Travel Time Reliability Measure:

- Level of Travel Time Reliability (LOTTR): 80<sup>th</sup> % TT/ 50<sup>th</sup> % TT
- A segment is reliable if all time periods are reliable (<1.5)



#### Weekdays:

6am - 10am  
10am - 4pm  
4pm - 8pm

#### Weekends

6am-8pm

# System Performance Measures

## Travel Time Reliability - Background

### Truck Travel Time Reliability (TTTR) Index

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- **Examines each segment of the Interstate during five time periods**
  - Weekdays 6a to 10a; 10a to 4p; and 4p to 8p
  - Weekends 6a to 8p
  - Overnight (all days) 8p to 6a
- **Objective is to improve reliability for trucking industry in order to predict buffer time needed for “on-time delivery”**
  - Measure looks at the ratio of the truck travel time for the 95<sup>th</sup> % TT to 50<sup>th</sup> % TT
  - utilizes the maximum (worst) TTTR for the 5 time periods for each interstate segment multiplied by the segment length / total length of the interstate

# System Performance Measures

## Travel Time Reliability - Background

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**Measures relate only to the worst time period for a roadway segment**

- **all person miles from a road segment are considered unreliable even if only one of the four time periods is unreliable**
- **utilizes worst truck travel time for each segment from five time periods**
- **time periods may not best represent peak travel conditions**
- **not sensitive to the types of projects, strategies, or policies we want to evaluate**
  - **Improving from 3.2 to 1.7 would still be considered unreliable and not reflective of the improved reliability**

**More time and data are necessary to better understand the measure**

# System Performance Management

## How are we Doing?

Measure	CTB Adopted Targets		Performance			Trend / Target Achievement
	2-yr	4-yr	2017	2018	2019*	
Person-Miles Traveled that are Reliable - Interstate	82.2%	82.0%	82.2%	82.4%	83.5%	Improving/ Meeting Target
Person-Miles Traveled that are Reliable - Non-Interstate NHS**	n/a	82.5%	86.8%	88.0%	88.9%	Improving/ Meeting Target
Truck Travel Time Reliability Index	1.53	1.56	1.48	1.58	1.53	Challenging/ Meeting Target
Annual Hours of Peak Hour Excessive Delay Per Capita***	n/a	26.7	23.0	24.2	23.0	No Change/ Meeting Target
Percentage of Non-SOV Travel***	36.9%	37.2%	36.6%	36.6%	n/a	No Change/ Not Meeting Target

\* Estimated performance

\*\* Source of data is from 2019 OIPI Biennial Report

\*\*\* Northern Virginia only, 2019 Percentage of Non-SOV Travel unavailable until Fall 2020

# System Performance Management Performance Discussion

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- **Percentage Non-SOV Travel performance measure is not meeting targets**
- **No changes are proposed to the CTB adopted 4-year targets for reliability measures and PHED**
- **Data utilized for calculation of reliability measures has been determined to have inconsistencies from year to year**
  - **Inconsistencies in the data and mapping may result in only small changes to the metrics, but these can alter the direction of the trend**
  - **Data quality is improving and variability decreasing**
- **Limited ability to conduct trend analysis**
  - **no historical context**
  - **data availability and variability**

# System Performance Management - Reliability Performance Discussion

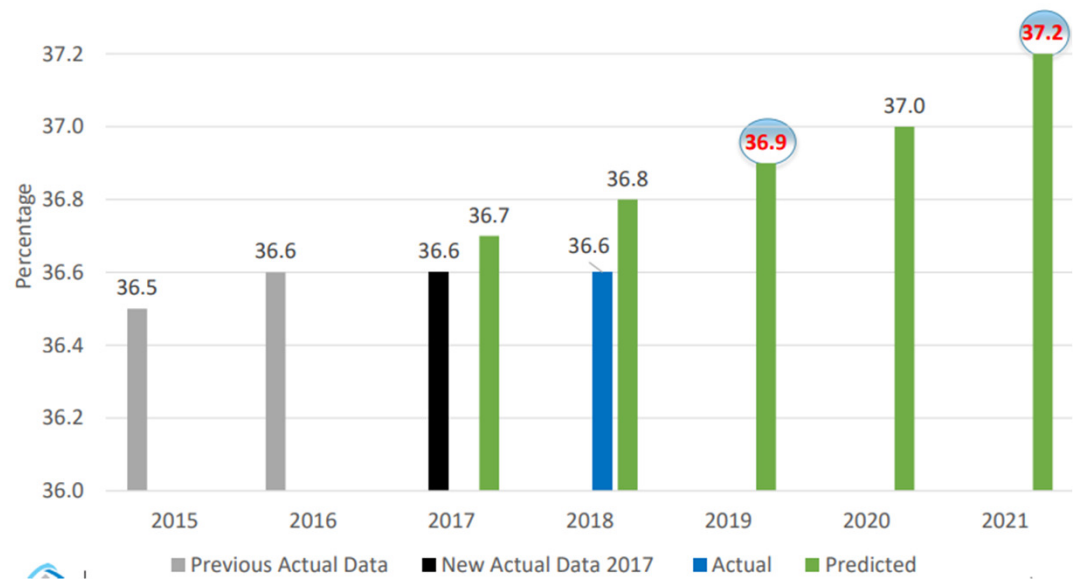
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- **VDOT monitoring and actively managing incidents, workzones and other events to minimize travel time variations.**
- **Research underway to better understand**
  - **causes of unreliable conditions**
  - **investment strategies that can improve reliability**
  - **where performance changed and why**
  - **better predict future performance**
- **Continued work to identify other measures which may be more reflective of desired outcomes**



# System Performance Management - Non-SOV Travel Performance Discussion

- Gas prices have fallen and stayed low, which encourages driving.
- Car ownership is up; particularly for low-income households now having access to at least one vehicle.
- While trends in public transportation ridership appeared to be recovering, ridership had been below projections at WMATA and other transit systems.
- TNC/ride-hailing services have affected transit ridership, these drivers may be adding to SOV travel while in between customers.

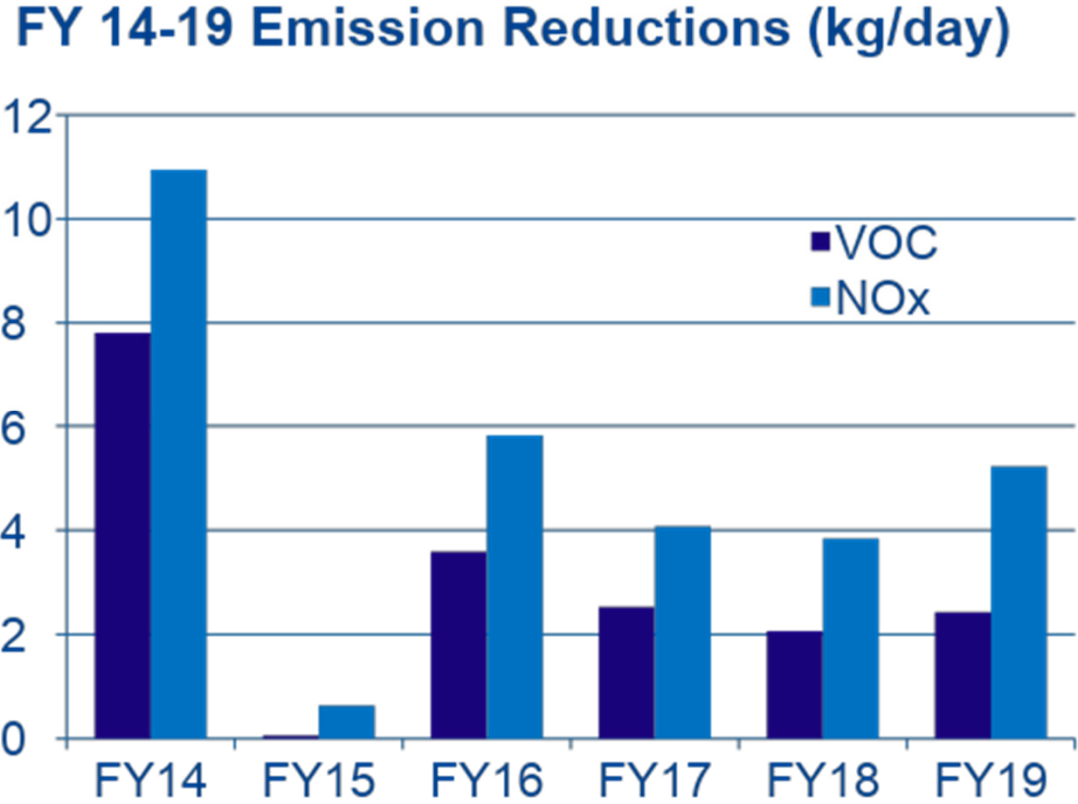


# System Performance Management - Air Quality CMAQ Emissions Reduction Measure

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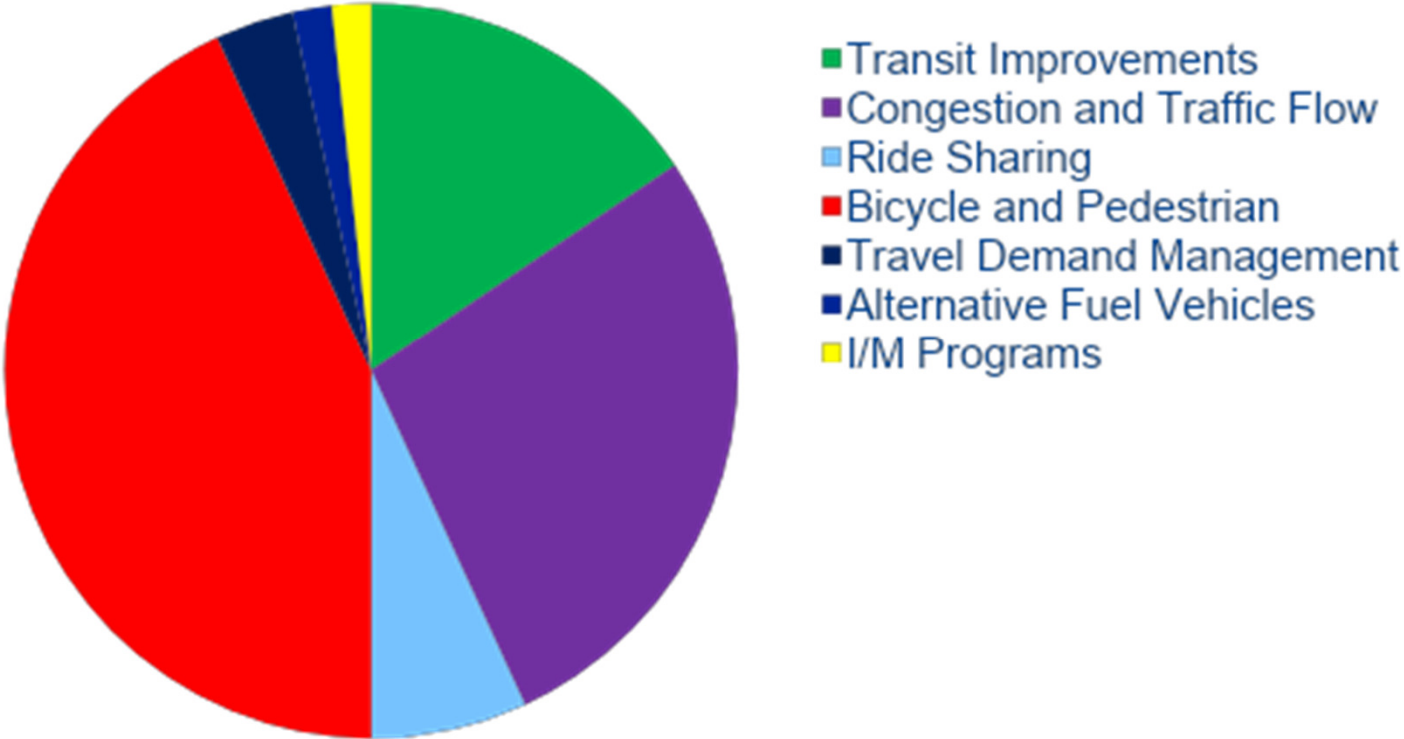
- **Total Emissions Reduction is the cumulative 2-year and 4-year reported emission reductions for:**
  - **All programmed projects using CMAQ funds**
  - **Applicable criteria for pollutants and or their precursors**
    - Only applies to Northern Virginia (TPB)
    - Applicable Pollutants: volatile organic compounds (VOC) and nitrogen oxides (NOx)
- **Applicable State DOTs and MPOs must coordinate and collectively establish a methodology for developing targets**

# System Performance Management CMAQ Emissions Reduction How are we Doing?



# System Performance Management CMAQ Emissions Reduction Measure Baseline

FY 14-17 Project Types



# System Performance Management - Air Quality

## How are we Doing?

Measure	CTB Adopted Targets*		Performance				Trend / Target Achievement
	2-yr	4-yr	Baseline* *	2017	2018	2019	
Total Emission Reductions for Volatile Organic Compounds (VOC)	1.721	1.985	3.499	2.532	2.061	2.430	Improving/ Meeting Target
Total Emission Reductions for Nitrogen Oxides (NOx)	3.744	4.230	5.369	4.074	3.843	5.225	Improving/ Meeting Target

\* Based on CMAQ Programmed Projects in Northern Virginia

\*\* Baseline conditions represent average emission reductions for FY 2014-2017

## Next Steps

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- **Provide feedback on proposed target adjustments**
  - Percentage of Deck Area in Good Condition for Bridges
- **Provide update on potential target adjustments**
  - Percentage Non-SOV Travel
- **Adopt changes to targets at the next meeting**
- **Evaluate travel impacts to targets and report back to the CTB, especially as to changes in**
  - meeting adopted targets and
  - affecting performance
- **Evaluate impacts to performance and targets based on implementation of new legislation**



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