



COMMONWEALTH of VIRGINIA  
*Office of the*  
SECRETARY of TRANSPORTATION

# Interstate 95 Corridor Improvement Plan

Nick Donohue  
Deputy Secretary of Transportation  
October 2019



# I-95 Corridor Improvement Plan

## District Public Input Meetings

**WEDNESDAY, OCTOBER 9,**

### **FREDERICKSBURG DISTRICT**

James Monroe High School  
2300 Washington Avenue  
Fredericksburg, VA 22401  
6–8 p.m.

**THURSDAY, OCTOBER 17,**

### **NORTHERN VIRGINIA DISTRICT**

Freedom High School  
15201 Neabsco Mills Road  
Woodbridge, VA 22191  
6–8 p.m.

**TUESDAY, OCTOBER 15, 2019**

### **RICHMOND AND HAMPTON ROADS DISTRICTS**

Richmond Marriott Short Pump  
4240 Dominion Boulevard  
Glen Allen, VA 23060  
5–7 p.m.

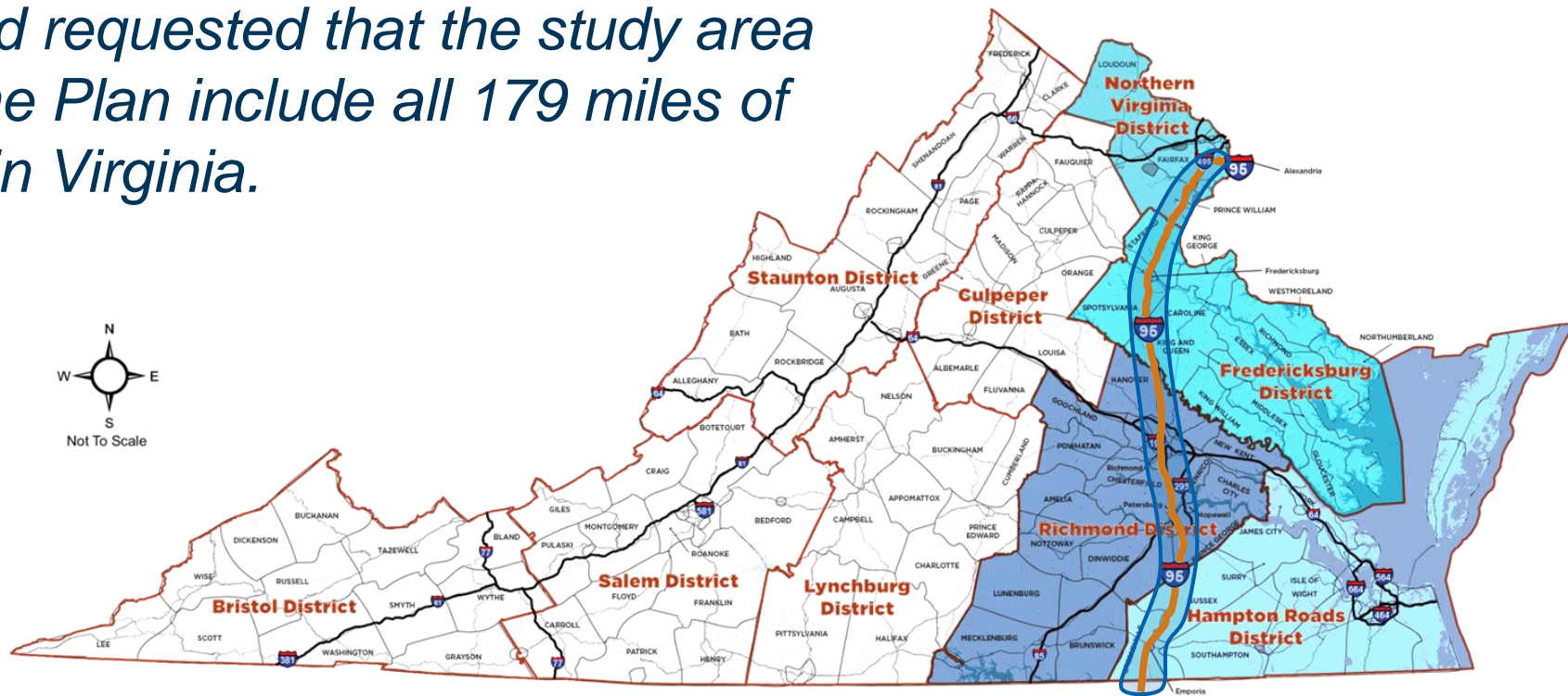
# I-95 Corridor Improvement Plan

- **General Assembly passed two resolutions (HJR 581 and SJR 276) requesting a study of I-95**
- **The I-95 Corridor Improvement Plan will:**
  - Identify key problem areas along the corridor
  - Identify potential solutions and areas for additional review and study
- **Public meetings will conclude by November 30**
- **Findings and recommendations reported to the General Assembly in 2020**

# Study Area

## I-95, Route 1, and Route 301 Corridors

*The Secretary of Transportation and the Commonwealth Transportation Board requested that the study area for the Plan include all 179 miles of I-95 in Virginia.*



# I-95 Corridor Significance



**9.0 Million**

Trucks Per Year



**Critical North-South Corridor**



**\$195 Billion**

in Goods Moved Per Year



**~ 21,000**

Crashes Over 4 Years



**> 3,700 Incidents Per Year**

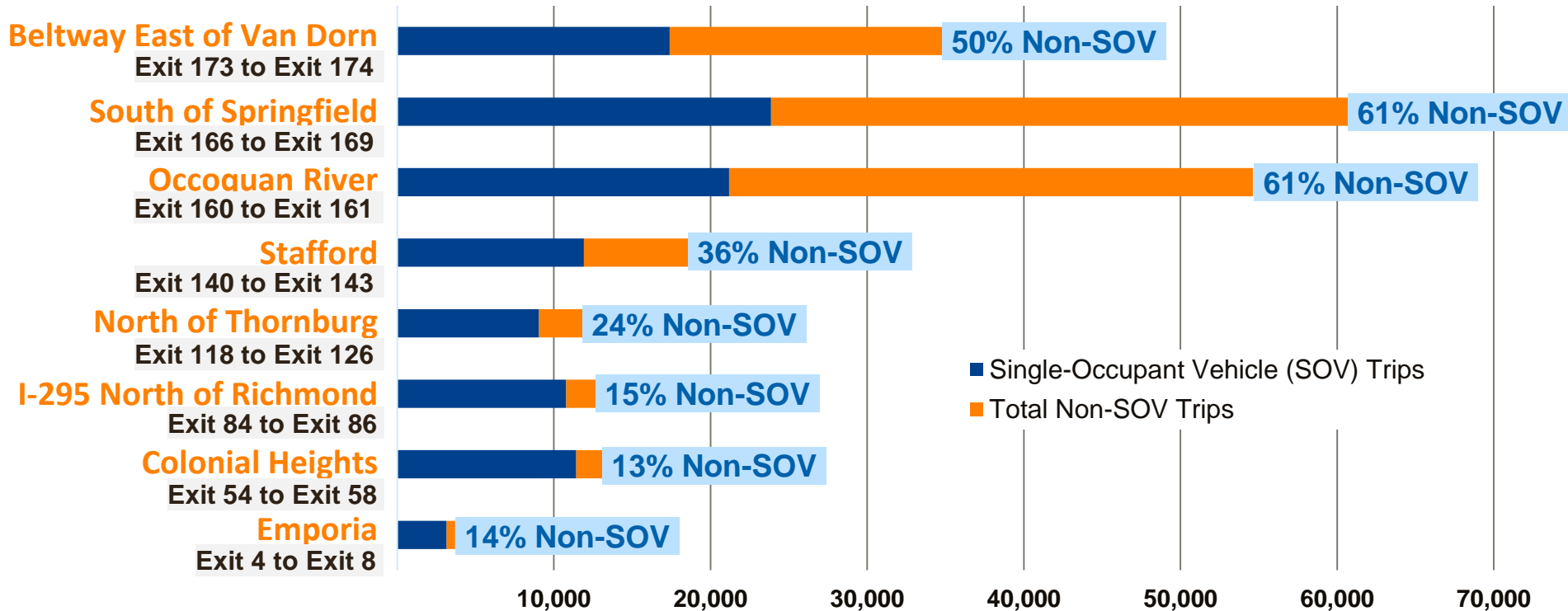
(With Average Clearance Times Almost 2 Hours)



## Multimodal Corridor

- Highway
- Metrorail
- VRE
- Vanpool
- Carpooling
- Slugging
- Commuter/ Express Bus
- Park and Ride Lots
- Amtrak

# Persons Moved on Northbound I-95 in the Morning



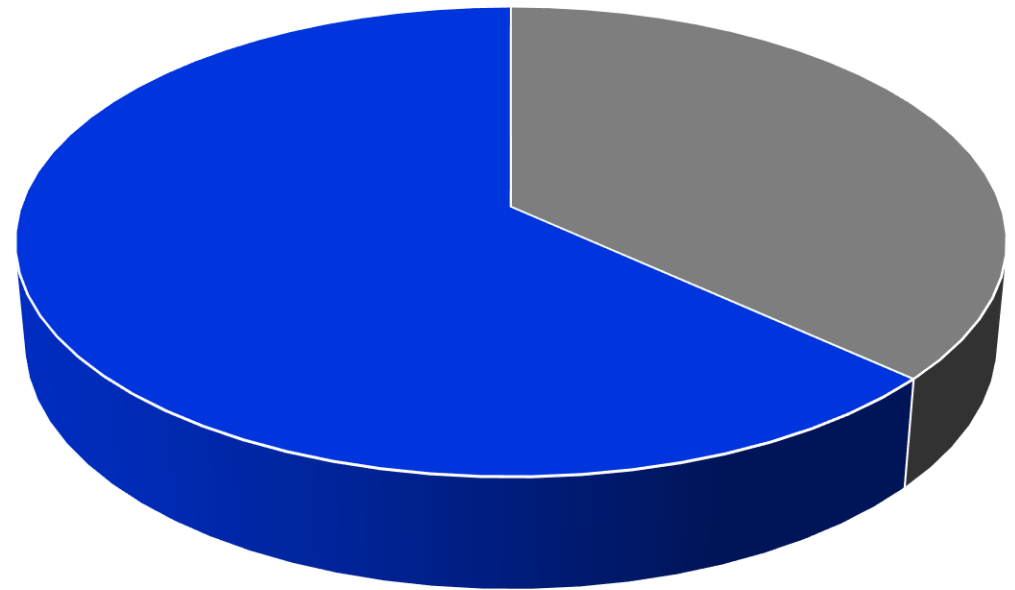
Total  
Persons  
Moved





# Person Throughput in Express Lanes

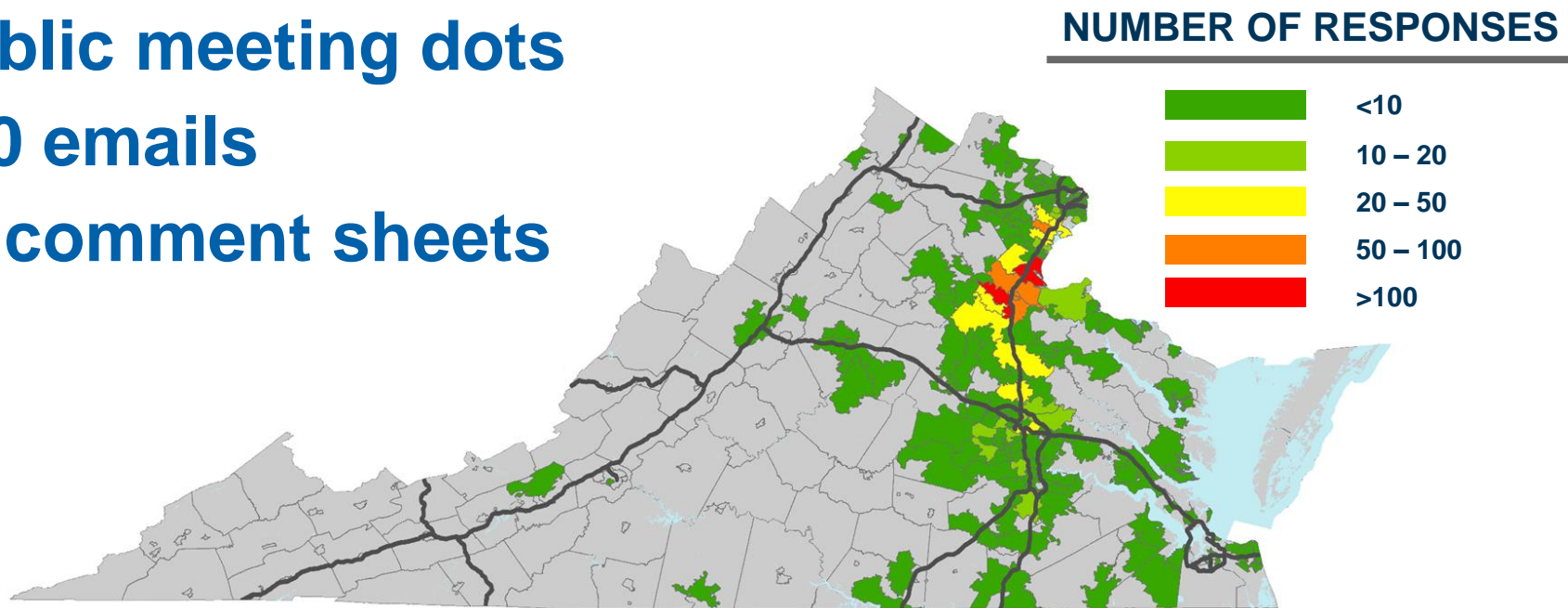
**Express Lanes  
move more than  
twice as many  
people per lane as  
general purpose  
lanes northbound  
during the morning  
rush hours**



■ General Purpose ■ Express Lanes

# July Meetings Public Feedback and Survey Results

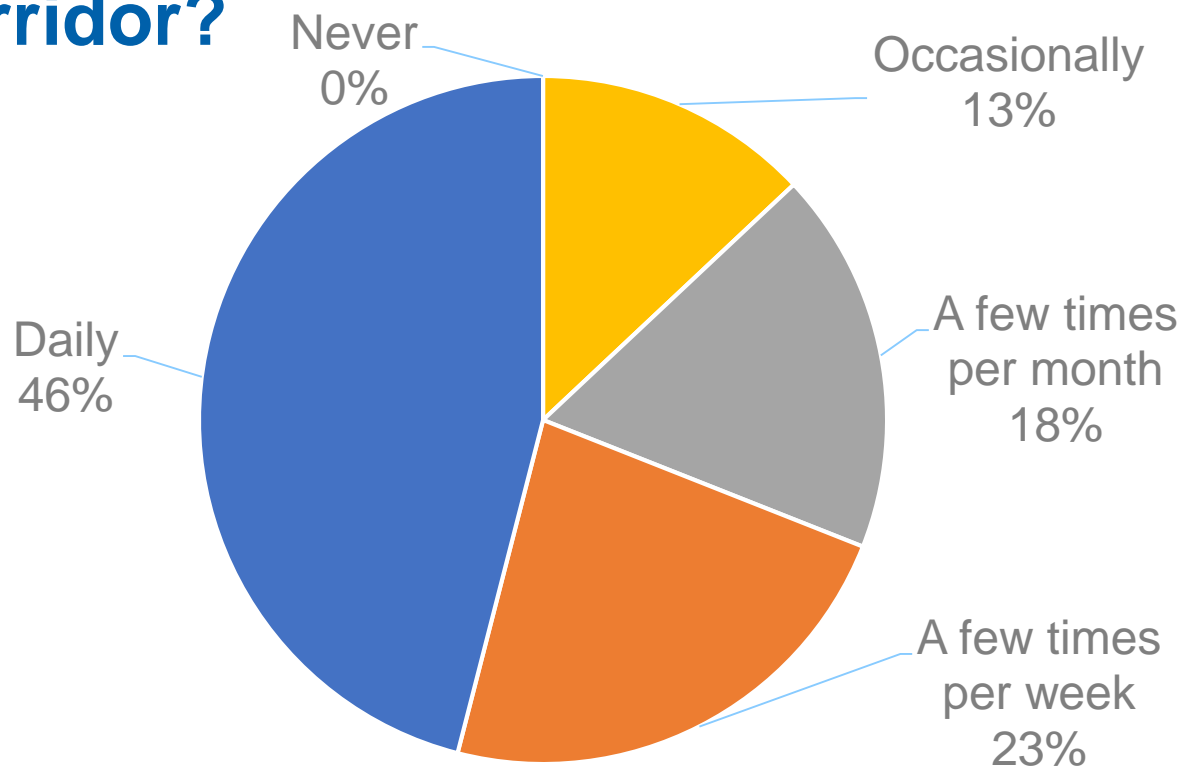
- **Online survey results (MetroQuest)**
  - 3,000+ responses
  - 11,700 map markers
- **Public meeting dots**
- **200 emails**
- **40 comment sheets**





# July Meetings Public Feedback and Survey Results

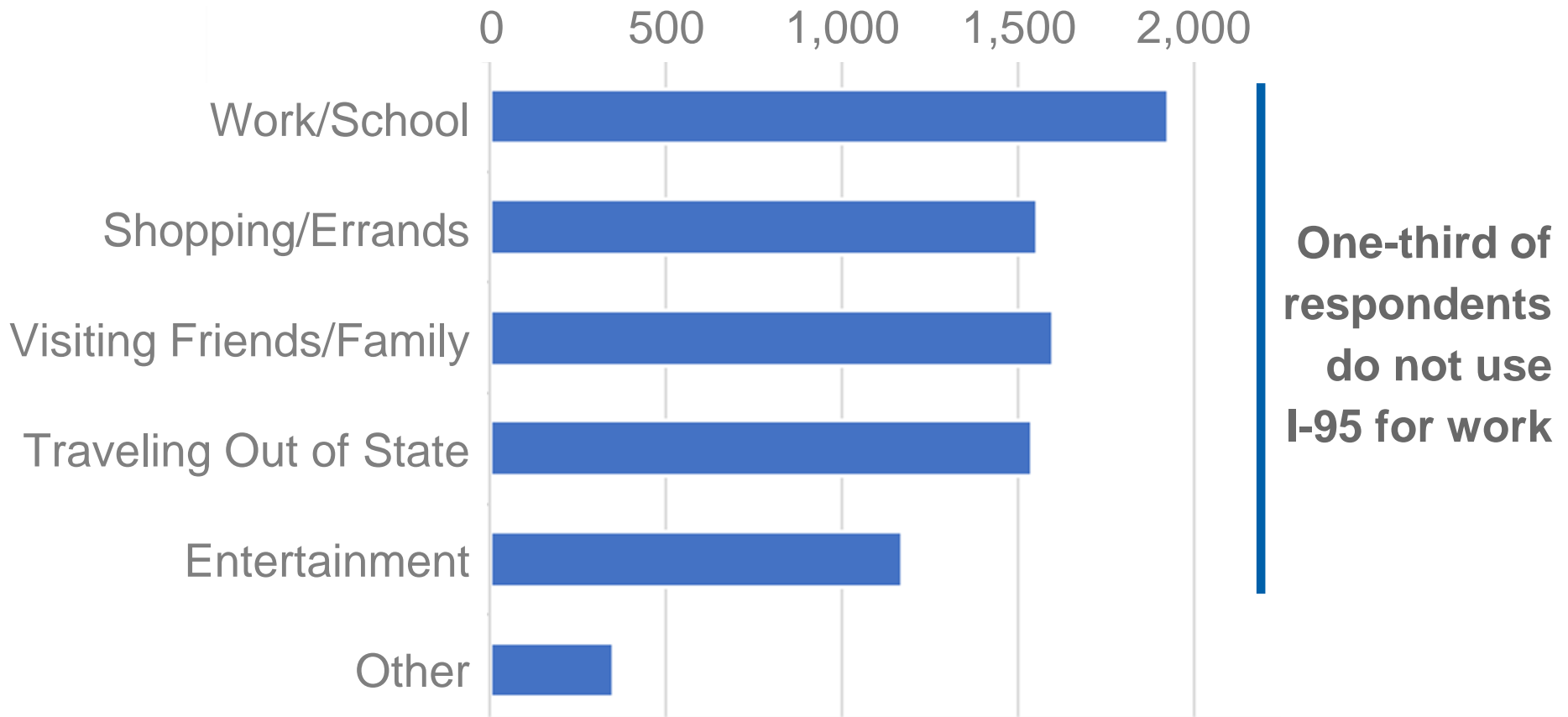
## How often do you typically travel in the I-95 corridor?



**Majority of respondents travel on I-95 several times per week**

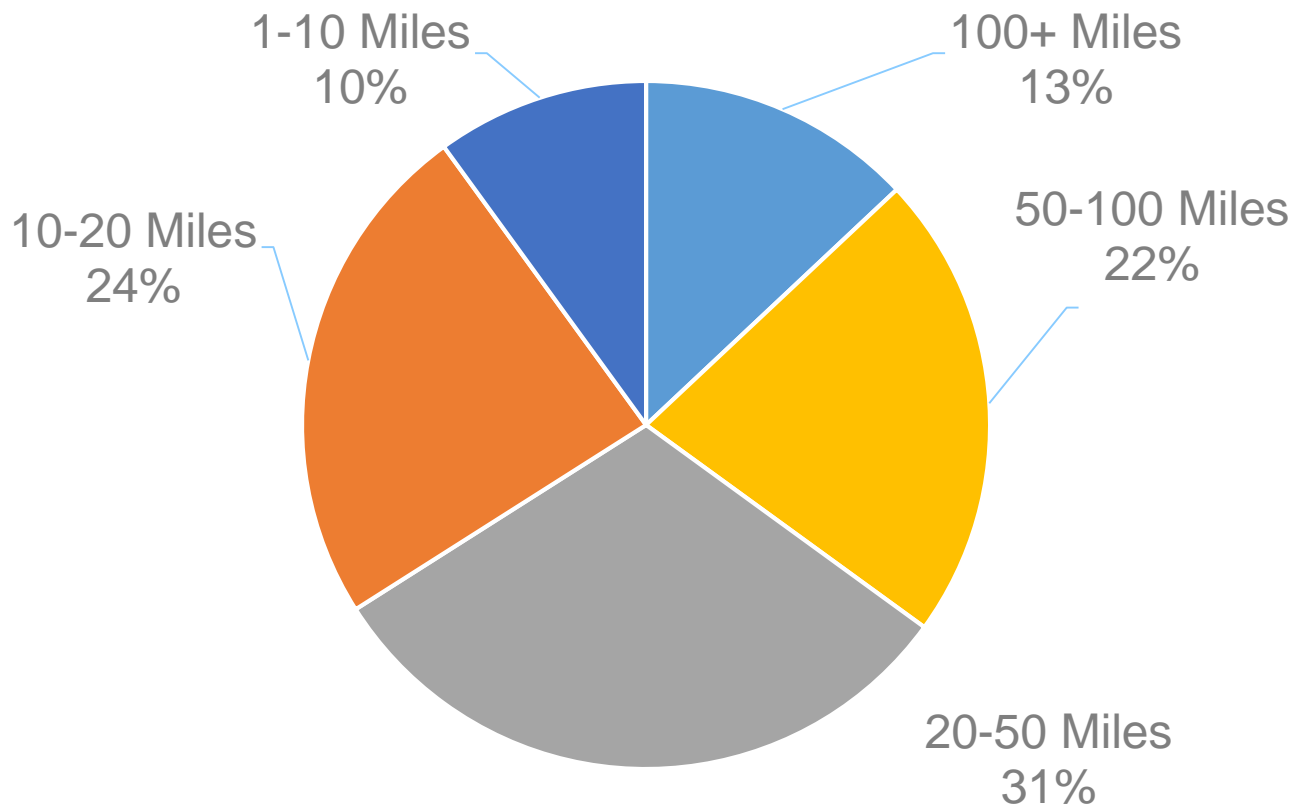
# July Meetings Public Feedback and Survey Results

## Where do your trips on I-95 take you?



# July Meetings Public Feedback and Survey Results

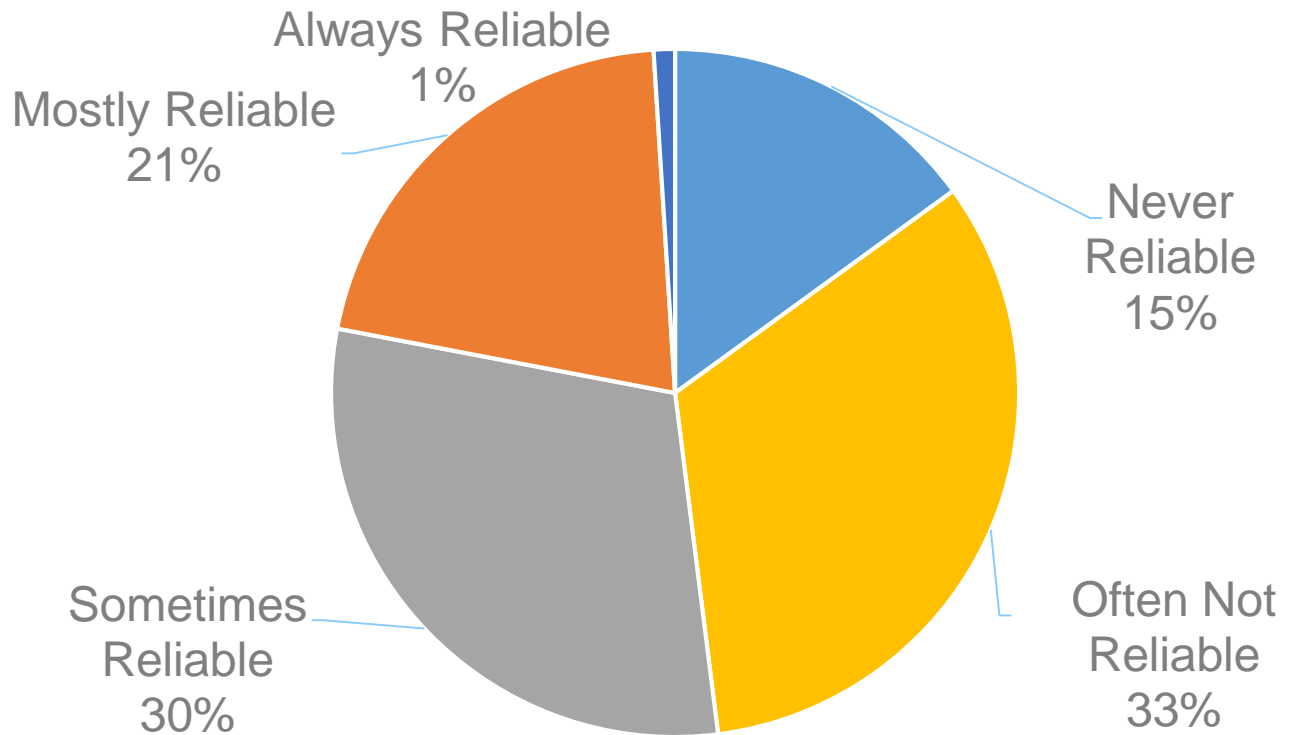
## How far do you typically travel on I-95?



**Nearly a quarter of respondents take trips between 50 and 100 miles**

# July Meetings Public Feedback and Survey Results

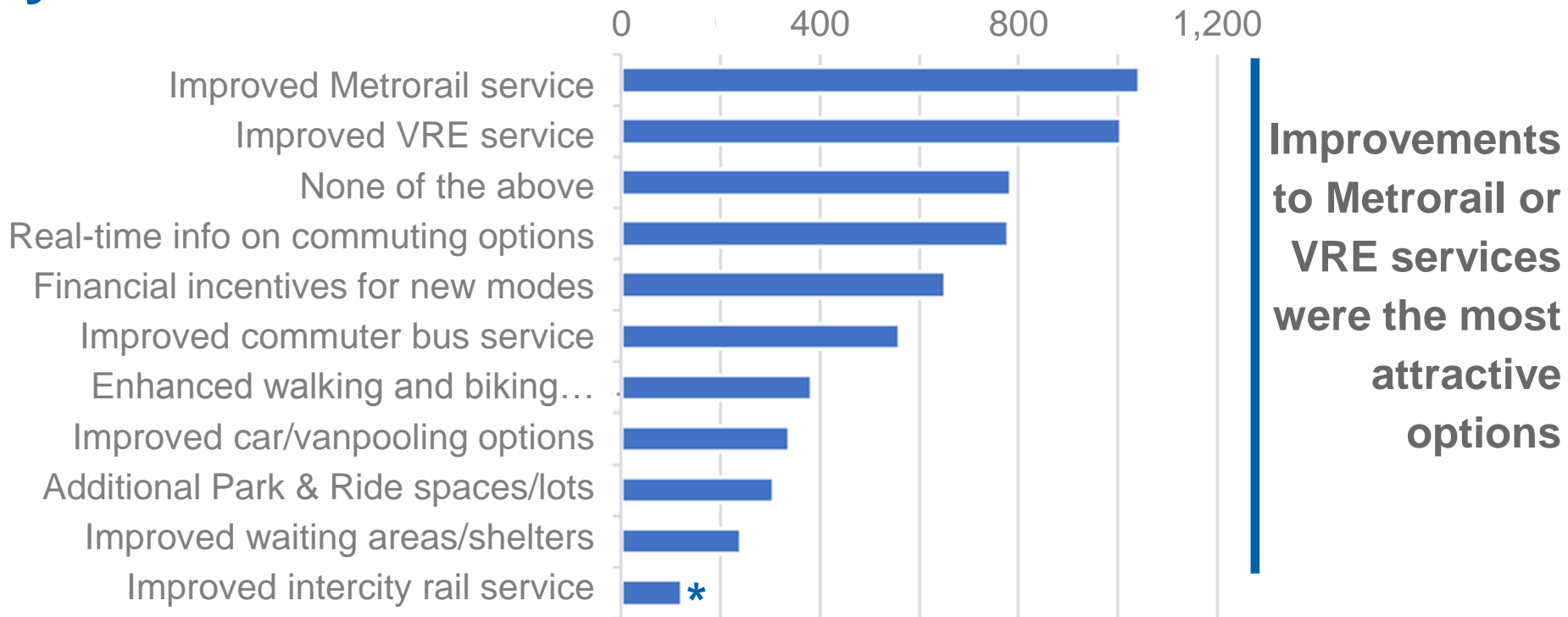
## How reliable is your typical trip on I-95?



**78% of respondents rate trip as sometimes reliable or worse**

# July Meetings Public Feedback and Survey Results

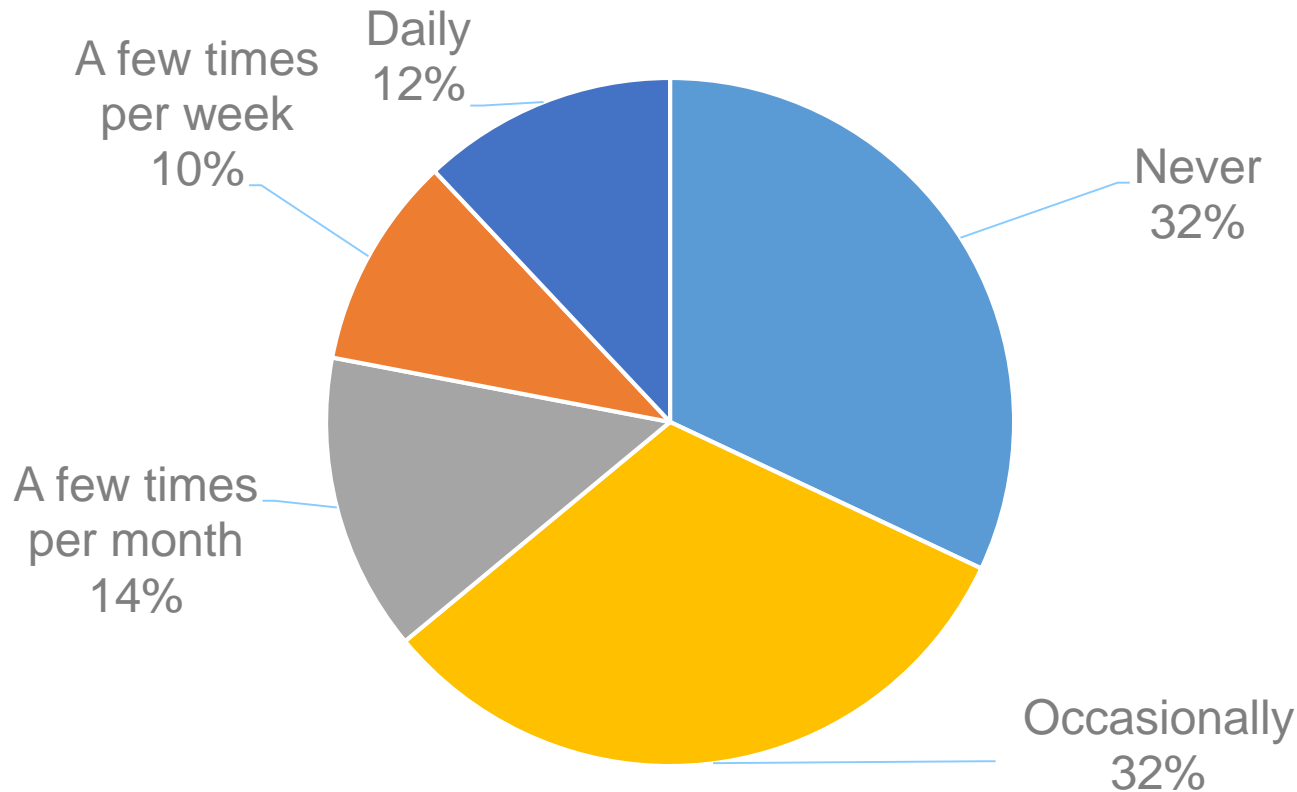
## What potential improvements would enhance your use of other modes?



\* Improved intercity rail service option added in the middle of the survey: about 25% selected this option

# July Meetings Public Feedback and Survey Results

## How often do you use the I-95 Express Lanes?



**78% of respondents have either an E-ZPass or E-Zpass Flex**



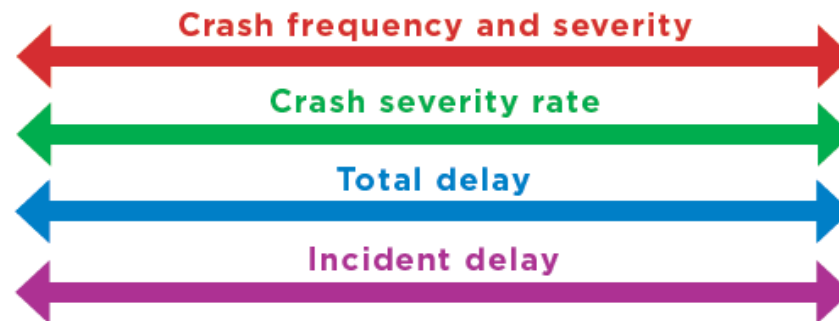
# July Public Meetings

## Problem Identification

### Reviewed entire I-95 corridor to identify areas for improvement based on identified problems

- Safety: crash frequency and severity
- Congestion: person-hours of delay
- Resiliency: incidents or crashes causing lane closures greater than one hour

#### PERFORMANCE MEASURES



# Suite of Improvements

## Focus Areas

**OPERATIONS ON I-95**

**PARALLEL FACILITIES** (Routes 1 and 301)

**CAPITAL PROJECTS ON I-95**

**MULTIMODAL** (rail, bus, carpool, park and ride)



**Data-driven approach incorporating performance measures**

## GOALS

To provide faster, safer, and more reliable travel along the I-95 corridor

# Sample Operational Improvements

## CCTV Cameras

Detect incidents and provide situational awareness of incidents

## Changeable Message Signs

Informs drivers of conditions ahead

## Safety Service Patrol

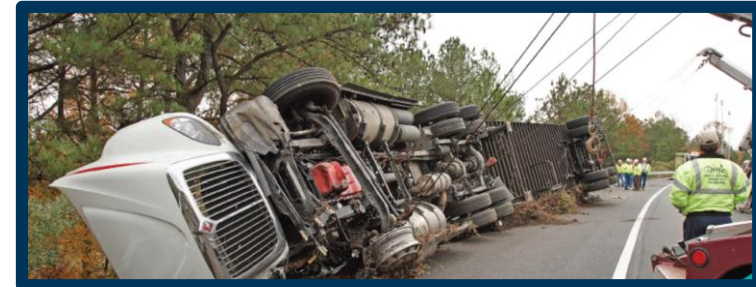
Provide incident scene support and help stranded motorists

## Quick Clearance Towing Programs

Contract towing services that are activated as incidents are detected

## Variable Speed Limits

Adjustable speed limits that change to reduce traffic congestion



# Operational Improvements

## Potential Benefits

### Quick Clearance Towing Program

Incident clearance times **reduced by up to 2 hours** per incident

### Safety Service Patrols

Incident duration **reduced by 25%** when SSP is on-site

### Variable Speed Limits

Reduce crashes **by 30%** and increase vehicle throughput by 7%

### Unmanned Aerial Systems (UAS)

Crash investigation time **reduced by up to 2 hours**

### Queue Warning System

Crashes **reduced by up to 44%**

### Ramp Metering

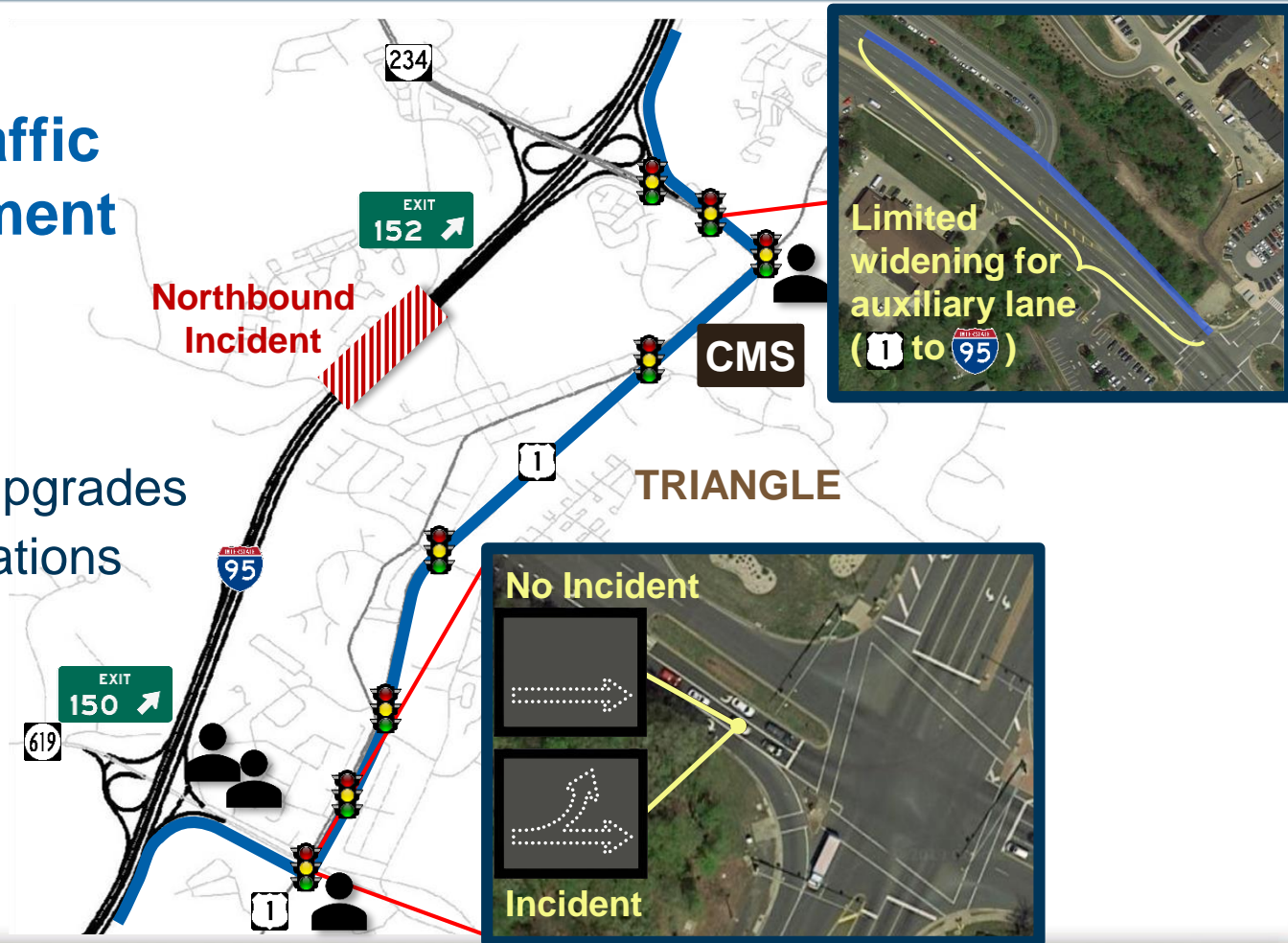
7% reduction in travel times on I-95



# Parallel Facilities Improvements

## Improvements considered for traffic incident management

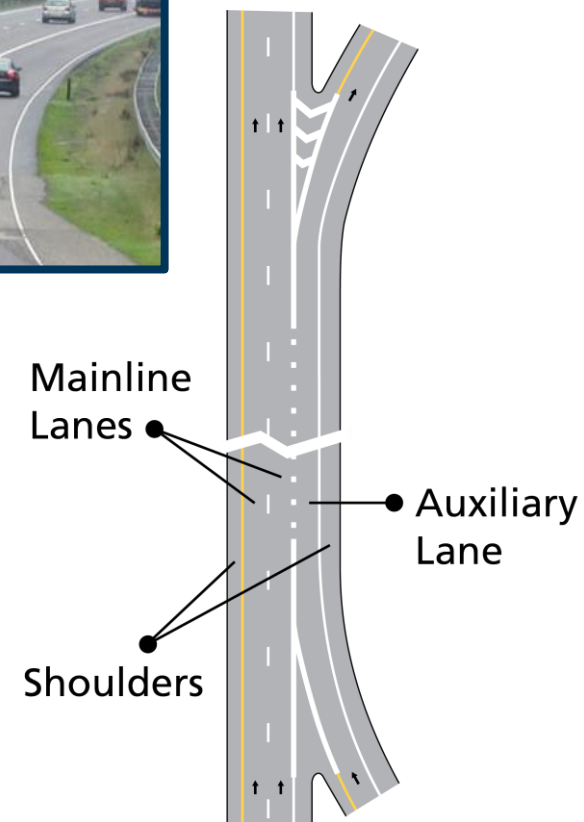
- Message signs
- Traffic control personnel
- Communications upgrades
- Traffic signal operations
- Intersection improvements
- Sign improvements



# Highway Capital Improvements

## Improvements considered

- Interchange modification and/or reconfiguration
- Acceleration/deceleration lane extensions
- Hard shoulder running lanes
- Auxiliary lanes
- Additional general purpose lanes
- Express lanes
- Ramp widening
- Shoulder widening
- Curve improvements
- Drainage improvements





# Multimodal Improvements



## Improvements considered

- Long Bridge
- Intercity passenger rail
- Commuter rail
- Commuter bus
- Park & Ride lots
- TDM strategies (carpooling, vanpooling, and slugging)

# Commute!VA

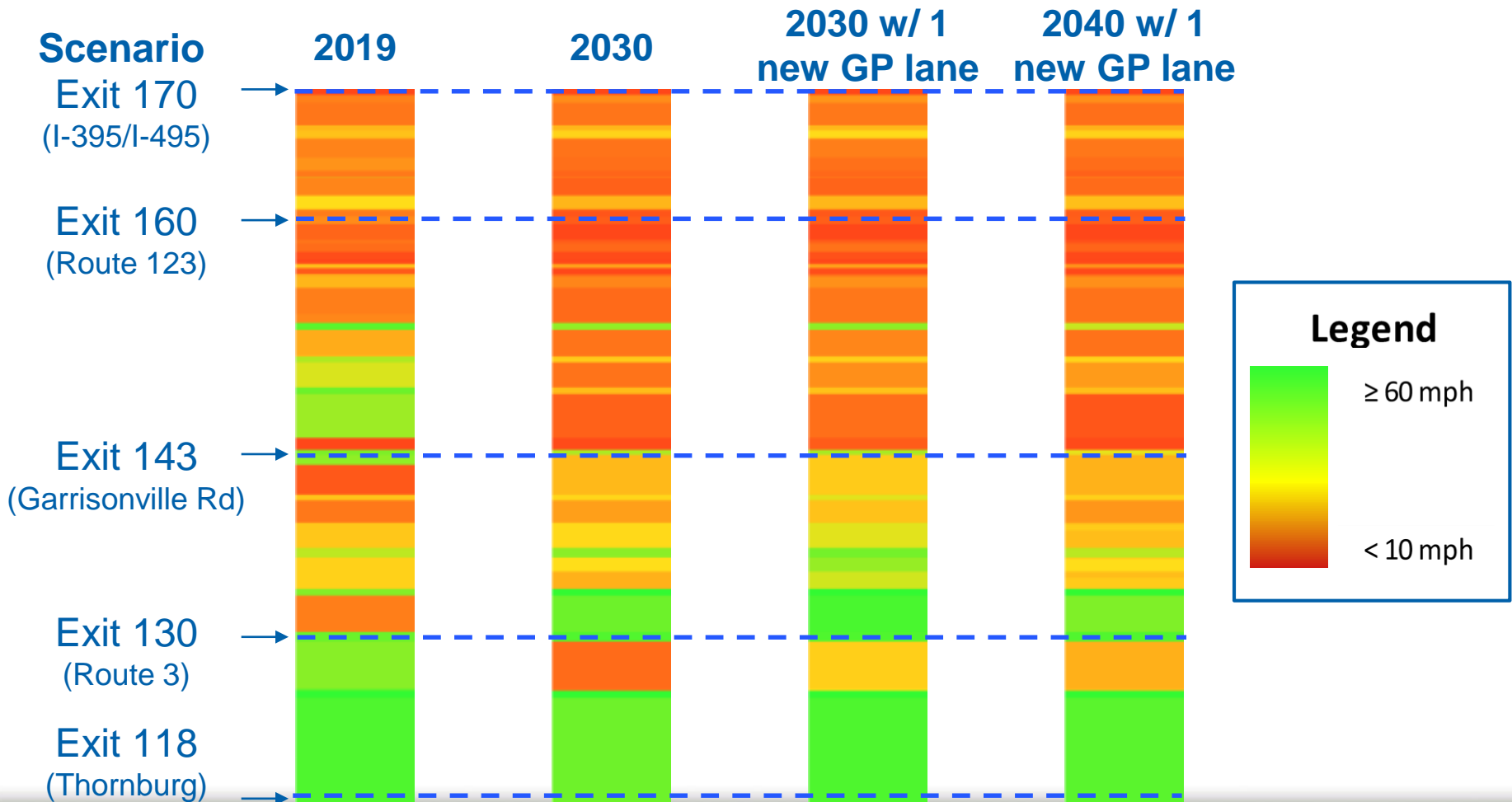


# Highway Capacity Improvement Scenario Analyses (Exit 118 to Exit 170)

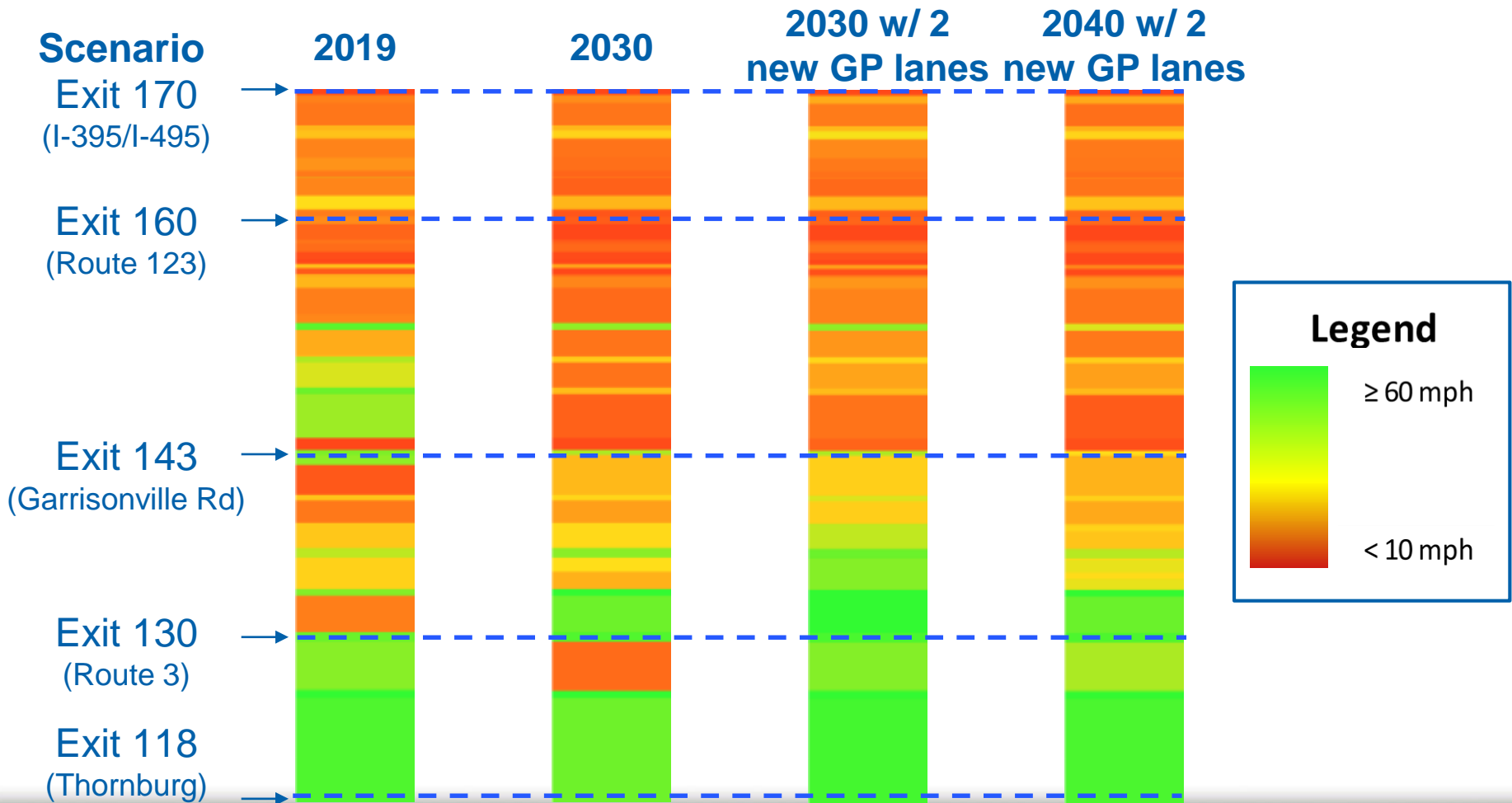
## Analysis Summary

- Adding one, two, and three additional general purpose lanes in each direction
- Used regional travel demand model for analysis
- Assumed open to traffic in 2030
- Analyzed performance through 2040
- Analyzed speed change along the 52-mile corridor

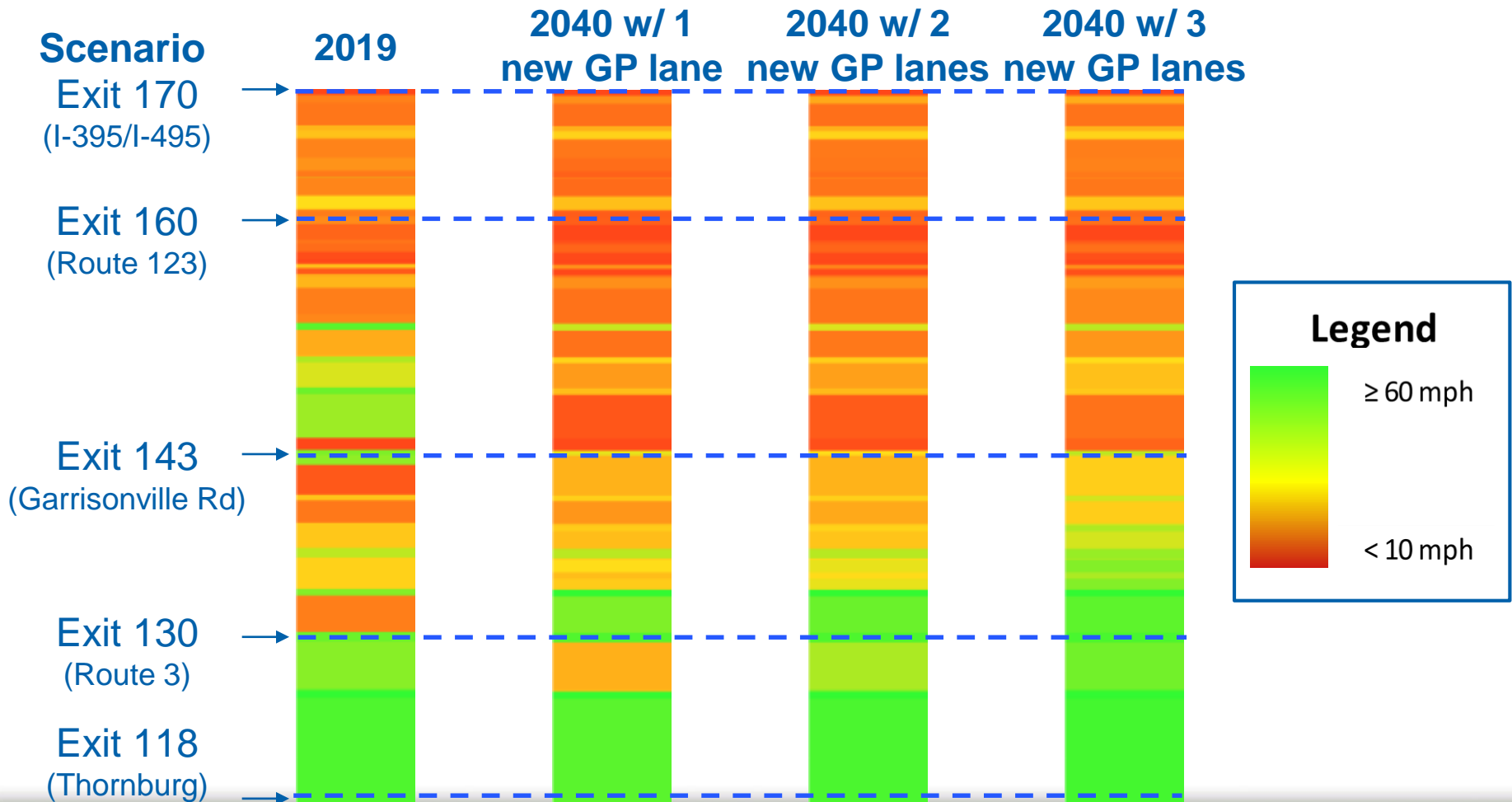
# Peak Period Speed Results after Widening



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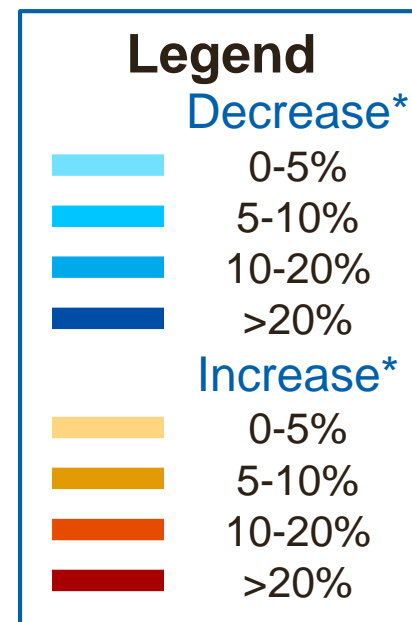
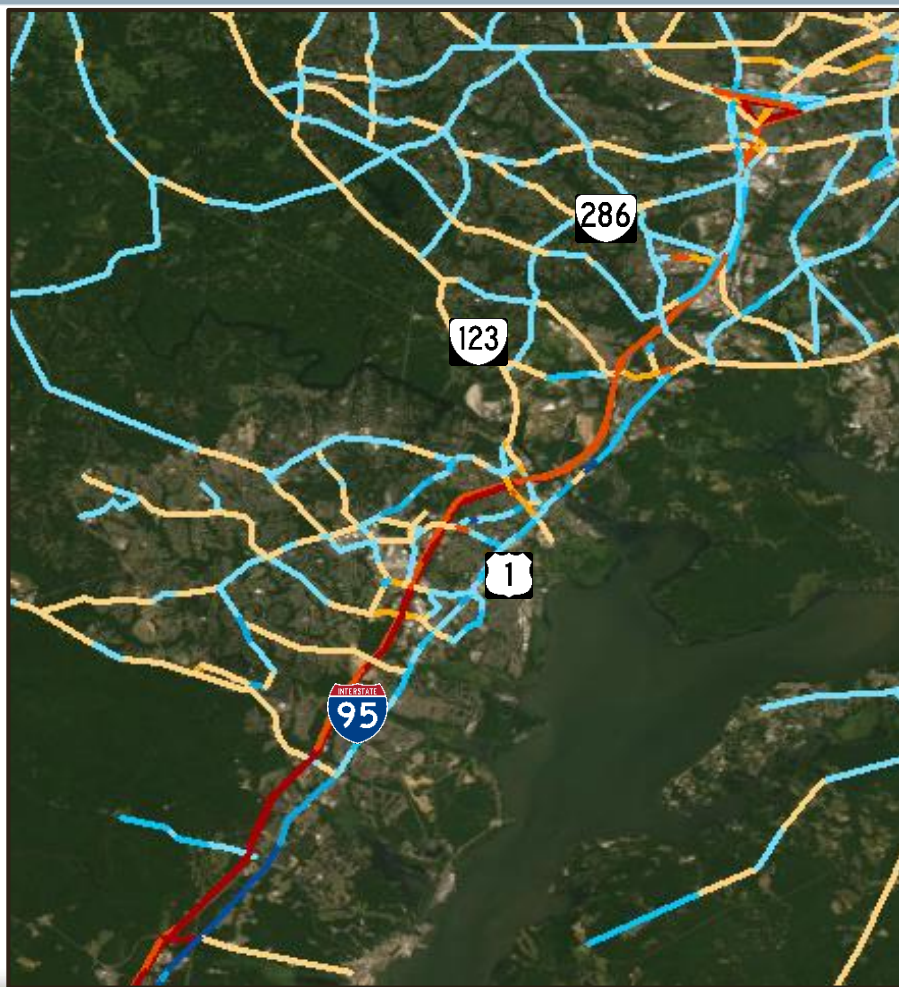


# Peak Period Speed Results after Widening



# Latent Demand

## Change in Daily Volume with an Additional Lane



\*Percent change in daily volume from the 2030 No-Build scenario to the 2030 scenario with one additional lane on I-95



# Fourth Lane Project Exit 166 to Exit 160



## 4<sup>th</sup> Lane Widening Project

- I-95 was widened to four lanes in each direction in 2011
- Average travel speeds in 2018 were down 7.5% compared with 2009
  - 22.3 mph (2009) versus 20.6 mph (2018)



# Improvement Highlights



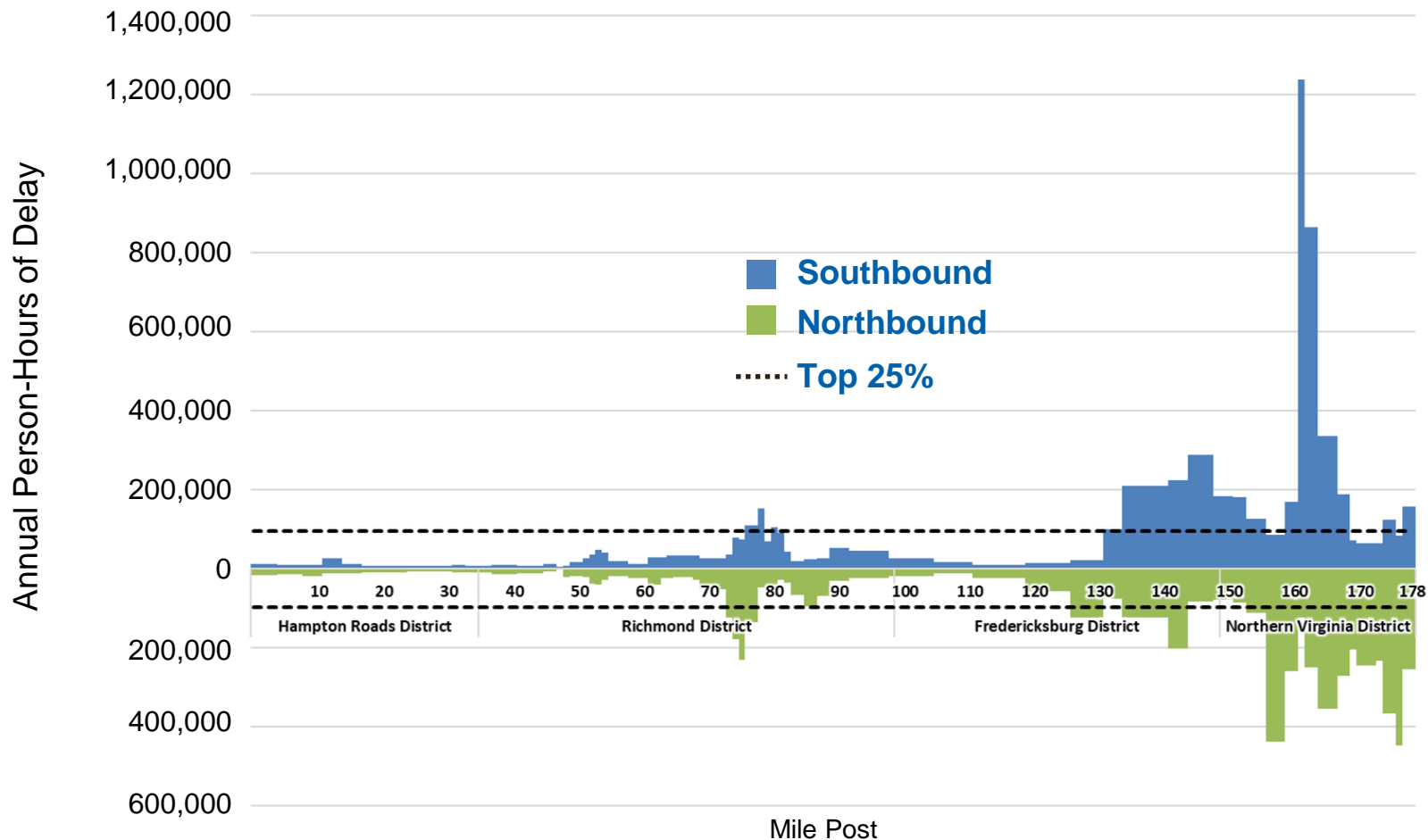
## Specific Focus Areas

- Occoquan (near Exit 160)
- I-95/I-64 overlap (Richmond)
- Multimodal improvements

# Focus Area: Occoquan

## 2015-2018 Annual Delay Summary

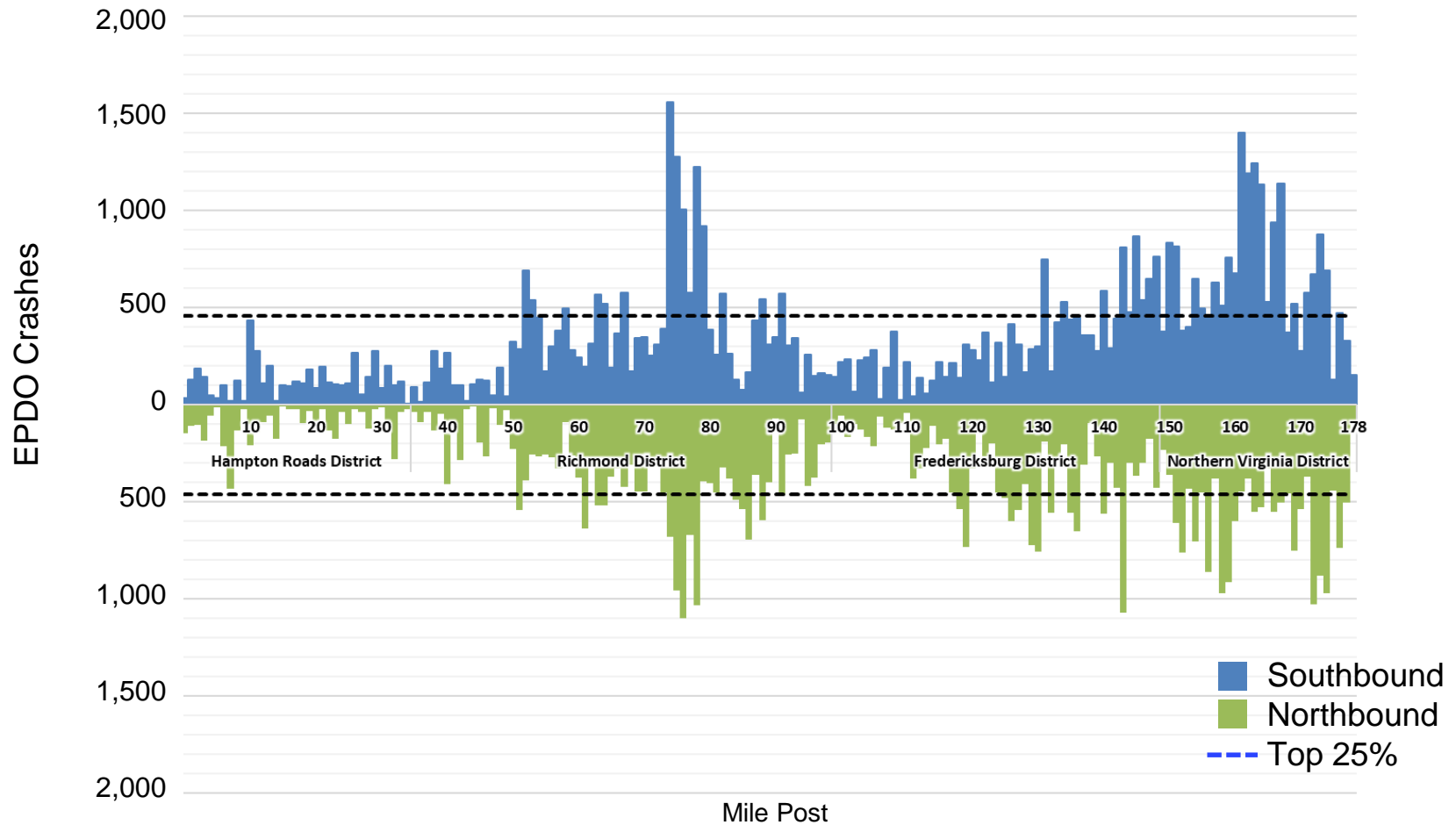
### One-Mile Segments



# Focus Area: I-95/I-64 Overlap

## 2015-2018 Crash Frequency/Severity Summary

### One-Mile Segments





# Focus Area: I-95/I-64 Overlap

## Proposed Improvements



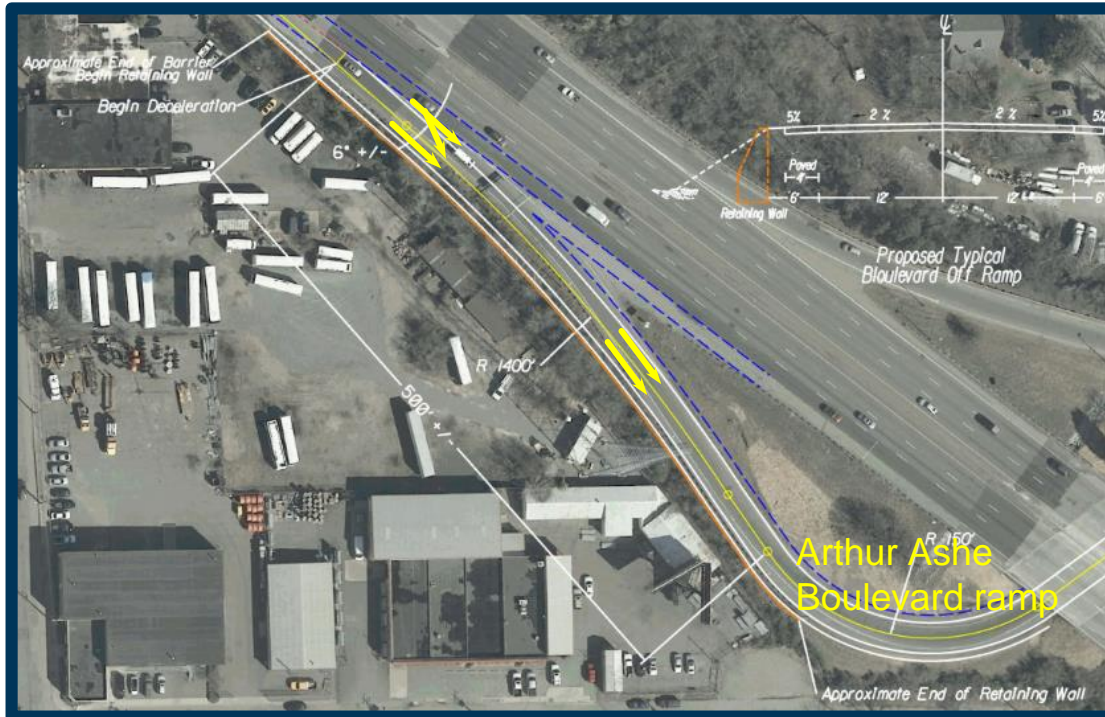
# Proposed New Ramp: Laburnum Avenue to I-95 Northbound



- New access to I-95 N from W Laburnum Avenue
- Close Arthur Ashe Boulevard on-ramp to I-95 N to eliminate weave on I-95 N
- Create dual-lane exit to I-64 W
- I-95 N reduced to 2 lanes between I-64 W off-ramp and I-64/I-195 on-ramp



# Proposed Lane Reconfiguration: I-95 South to Arthur Ashe Boulevard



- Dual-lane exit from I-95 S onto Arthur Ashe Boulevard ramp (Exit 78)
- I-95 S reduced from 3 to 2 lanes between Exit 79 and I-64/I-195 on-ramp
- Expected to decrease rear-end crashes

# Proposed Reconfiguration: 7<sup>th</sup> St. @ I-95/I-64 E Interchange



- Alternate access from both I-64 E and I-95 N into downtown Richmond and VCU Hospital, a major traffic generator



# Proposed Ramp Reconfiguration: I-95 N @ Exit 74C & Oliver Hill Way



- Separates I-95 N to I-64 E traffic eliminating a weave
- I-95 N dual-lane off-ramp to Broad Street
- All current movements maintained
- Eliminates major weave area on I-95 N and expected to reduce weaving crashes

# Potential Improvements

## GOALS

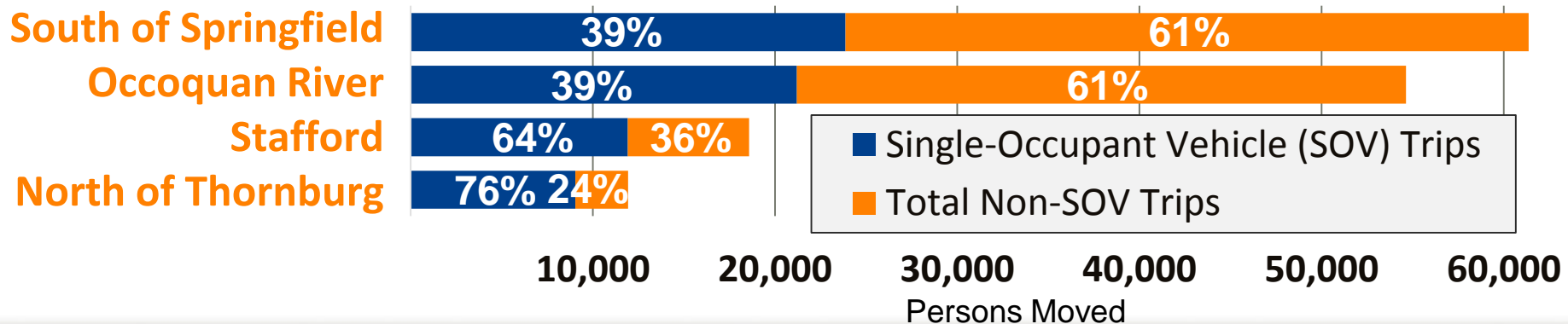
To provide faster, safer, and more reliable travel along the I-95 corridor

- **Additional general purpose lanes do not address these goals on the I-95 corridor**
- **Recommending a multifaceted, multimodal approach**
  - Suite of operational upgrades
  - Additional VRE service/ Amtrak and rail upgrades
  - Additional commuter bus service
  - Expansion of and/or new park and ride lots
  - Rideshare programs: partner with DOD, specifically Fort Belvoir
  - Hard shoulder running off-peak period (Exit 133 to Exit 160) in both directions
  - Studies to make I-95 express lanes bi-directional, adding express lanes between I-495 and Woodrow Wilson Bridge, and interchange improvements



# Opportunities to provide fast and reliable trips along the 95 Corridor

- Transit and carpooling offer best opportunities
- Today over 60% of persons moved between Occoquan and I-495 are SOV
- 20-25% increase of transit and carpooling between Spotsylvania County and Dumfries would help improve I-95 performance





# Persons Moved Summary



One new general purpose lane

= 2,200-2,400 people per hour



New bus service

2 new VRE trains

= ~2,000 people per hour



New bus service

4 new VRE trains

= ~3,500 people per hour

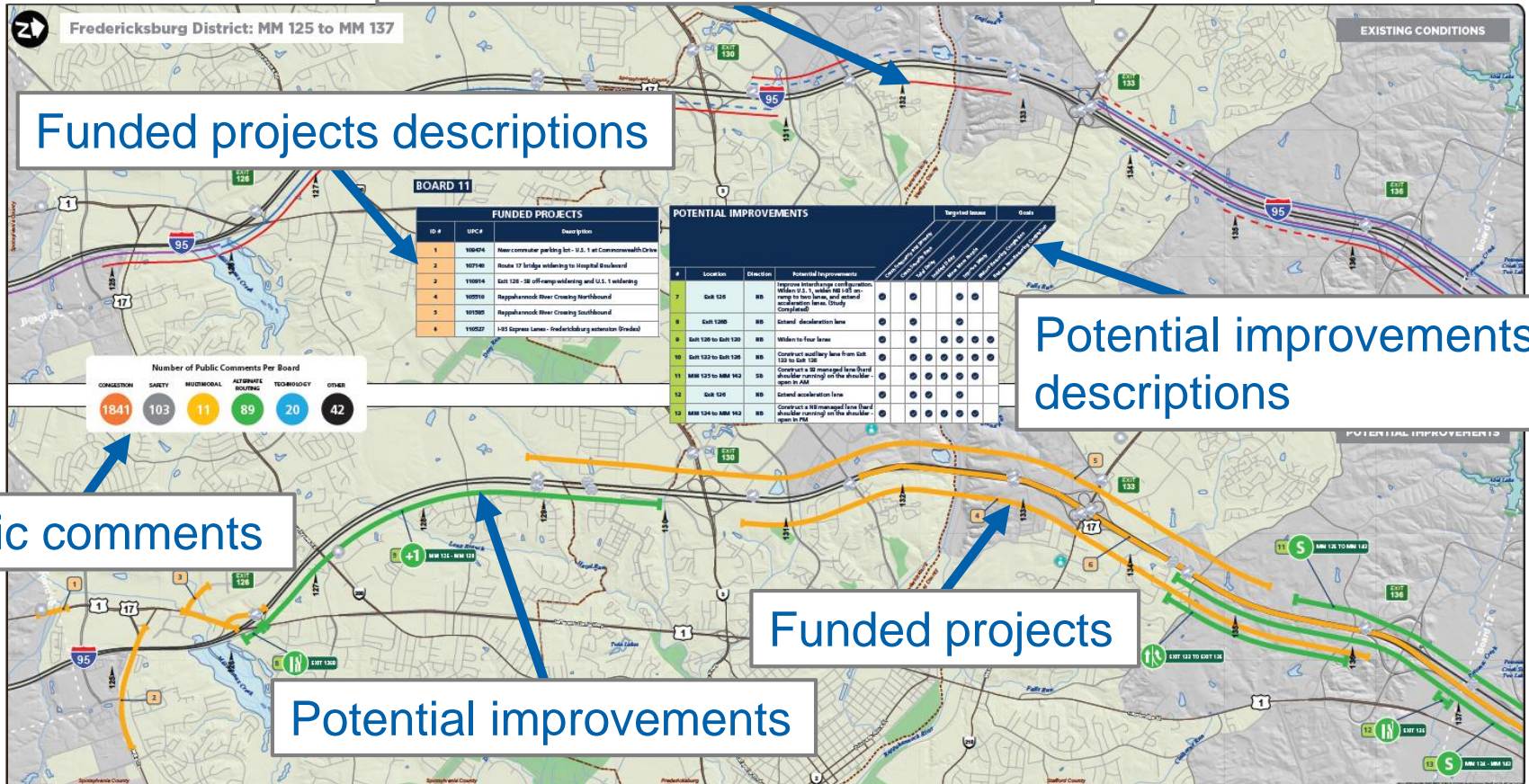


- **Multimodal solutions offer opportunities to address peak period conditions at lower cost than large-scale widening of the I-95**



# Potential Improvements Boards

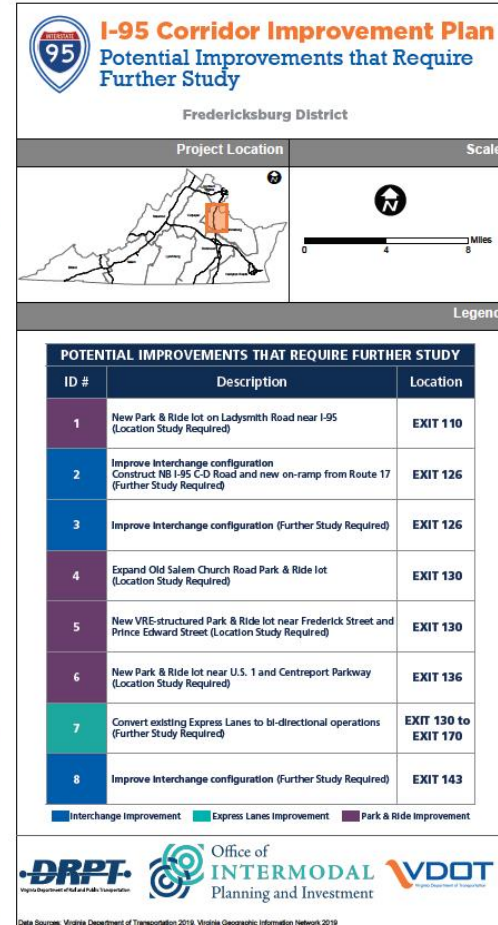
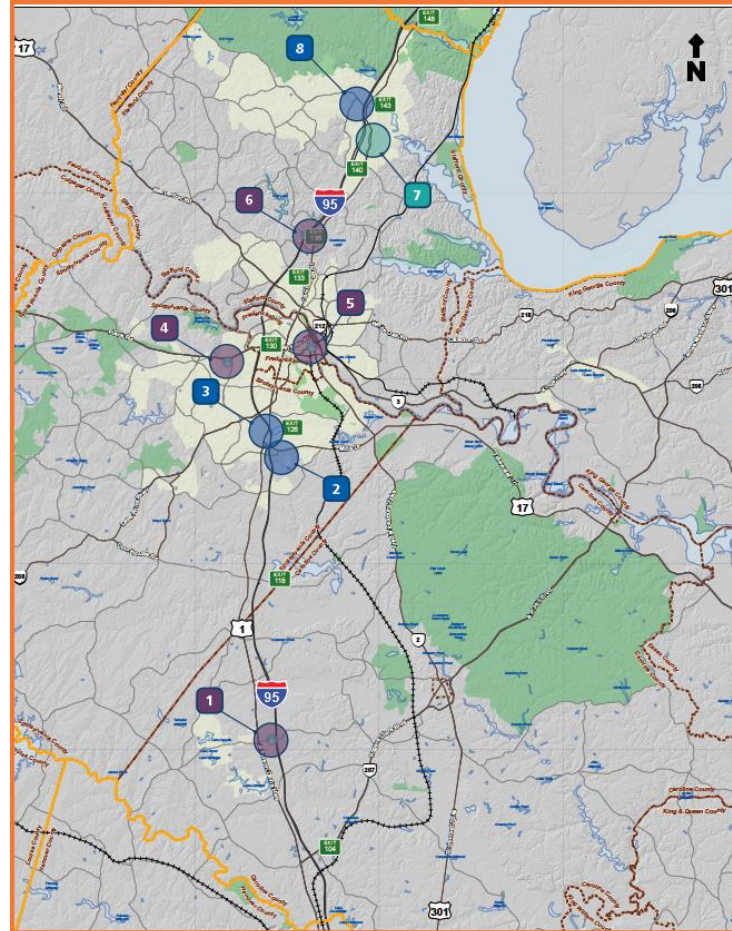
## Existing performance measures



# Potential Improvements that Require Further Study Boards

## Project types

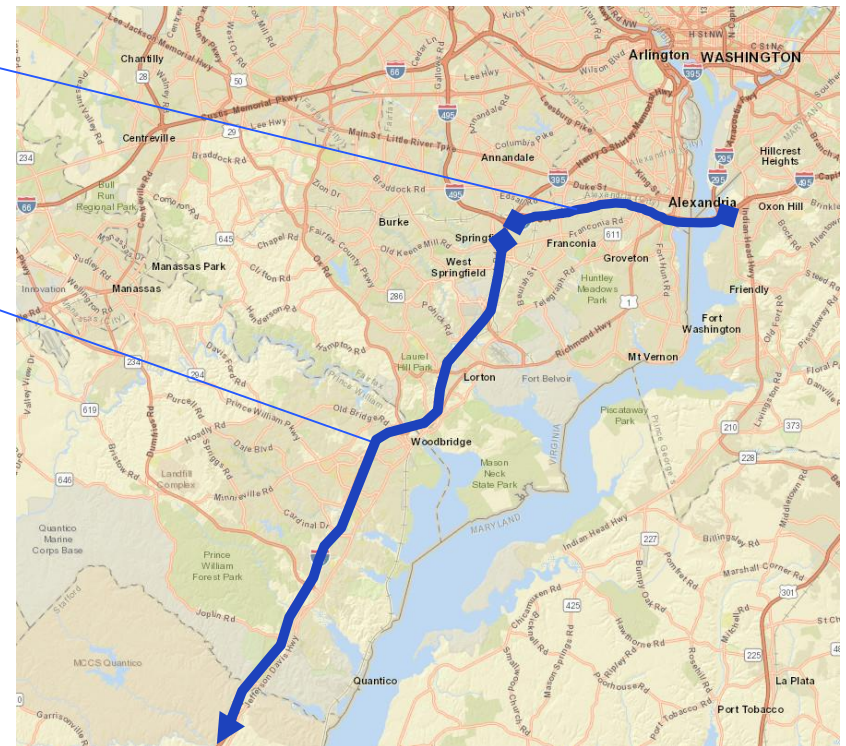
- Interchange improvements without sufficient operational and safety analyses
- Bi-directional express lanes
- Park and ride lots requiring a location study





# Other Major Improvement Recommendations Requiring Further Study

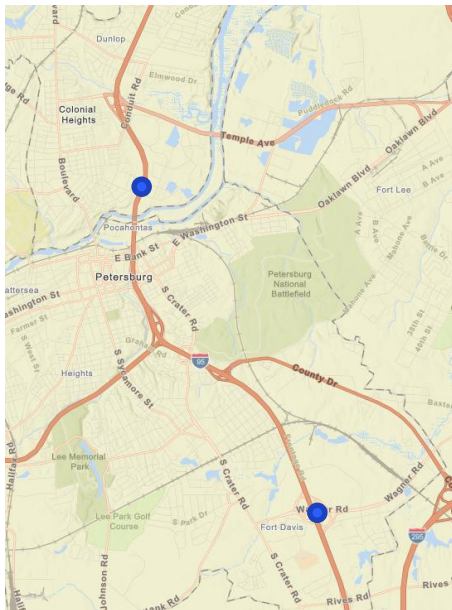
- **I-95/I-495 express lanes**
  - Between Exit 170 and Woodrow Wilson Bridge
- **Bi-directional I-95 express lanes**
  - Between southern terminus and Exit 170
- **Sample interchange evaluations**
  - Exit 160 (Occoquan)
  - Exit 156 (Dale City)
  - Exit 143 (Garrisonville)
  - Exit 126 (Massaponax)



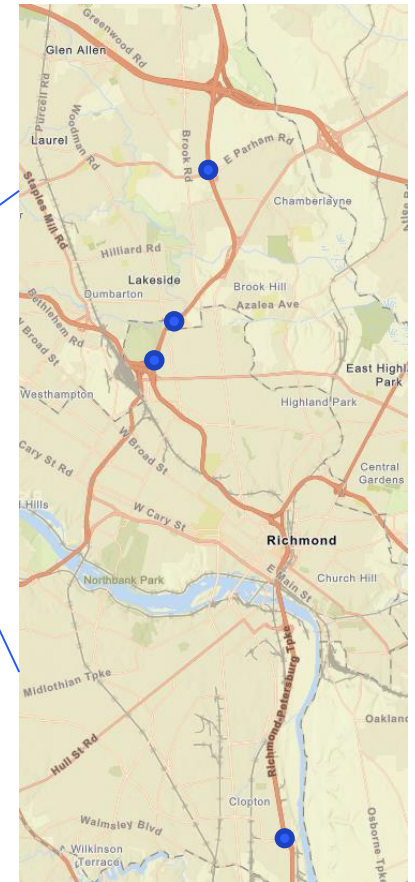
# Other Major Improvement Recommendations Requiring Further Study

## Sample interchange evaluations

- Exit 83 (Parham Rd)
- Exit 80 (Hermitage Rd)
- Exit 79 (I-64 W)
- Exit 69 (Bells Rd)



- Exit 53 (Southpark Blvd)
- Exit 48 (Wagner Rd)
- Exit 11 (Emporia)



# Additional Boards

## Operations

- Operational and Freeway Improvement Strategies
- Quick Clearance Towing and Safety Service Patrol Coverage
- Arterial Strategies to Improve Incident Management

## Multimodal

- Potential Multimodal Improvements
- Long Bridge Project Summary
- DC2RVA Intercity Passenger Rail Improvements

# Next Steps

- **Commonwealth Transportation Board updates**
- **October public meetings**
  - Review improvement recommendations
- **November public meetings**
  - Review refined improvement recommendation packages



# Providing Feedback...VA95Corridor.org



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## Interstate 95 Corridor Improvement Plan

### What's Being Done

The Commonwealth Transportation Board (CTB), supported by the Virginia Department of Transportation (VDOT), the Department of Motor Vehicles, and the Virginia State Police, will study Interstate 95 (I-95) to identify priorities as well as potential revenue sources that could be dedicated to improvements.

As directed in [Senate Joint Resolution 276](#) and [House Joint Resolution 581](#) during the 2019 General Assembly, the study team will identify targeted improvements and incident management strategies for the corridor, as well as financing options for suggested projects.

The Commonwealth Transportation Board (CTB) will receive briefings during the study time frame.

View the first CTB [presentation briefing](#), held in April 2019.

View the CTB's study launch [announcement](#).

**Begin date:** April 2019

**Localities:** Counties of Caroline, Chesterfield, Fairfax, Greensville, Hanover, Henrico, Prince George, Prince William, Spotsylvania, Stafford, Sussex and cities of Alexandria, Emporia, Fredericksburg Colonial Heights, Petersburg and Richmond

**Districts:** Northern Virginia, Fredericksburg, Richmond and Hampton Roads

**Contact:** [Ben Mannell](#), project manager