



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.

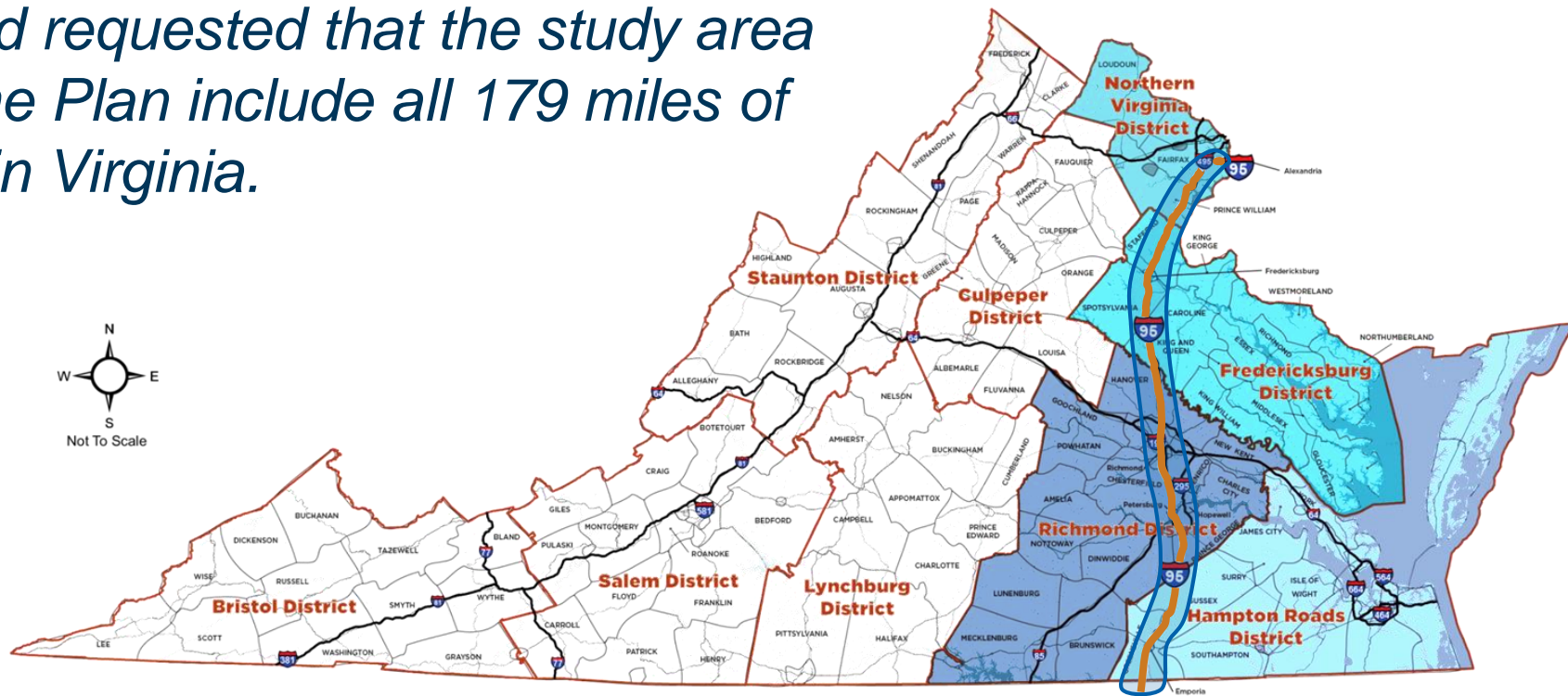
I-95 Corridor Improvement Plan

- **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, 2019**
- **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

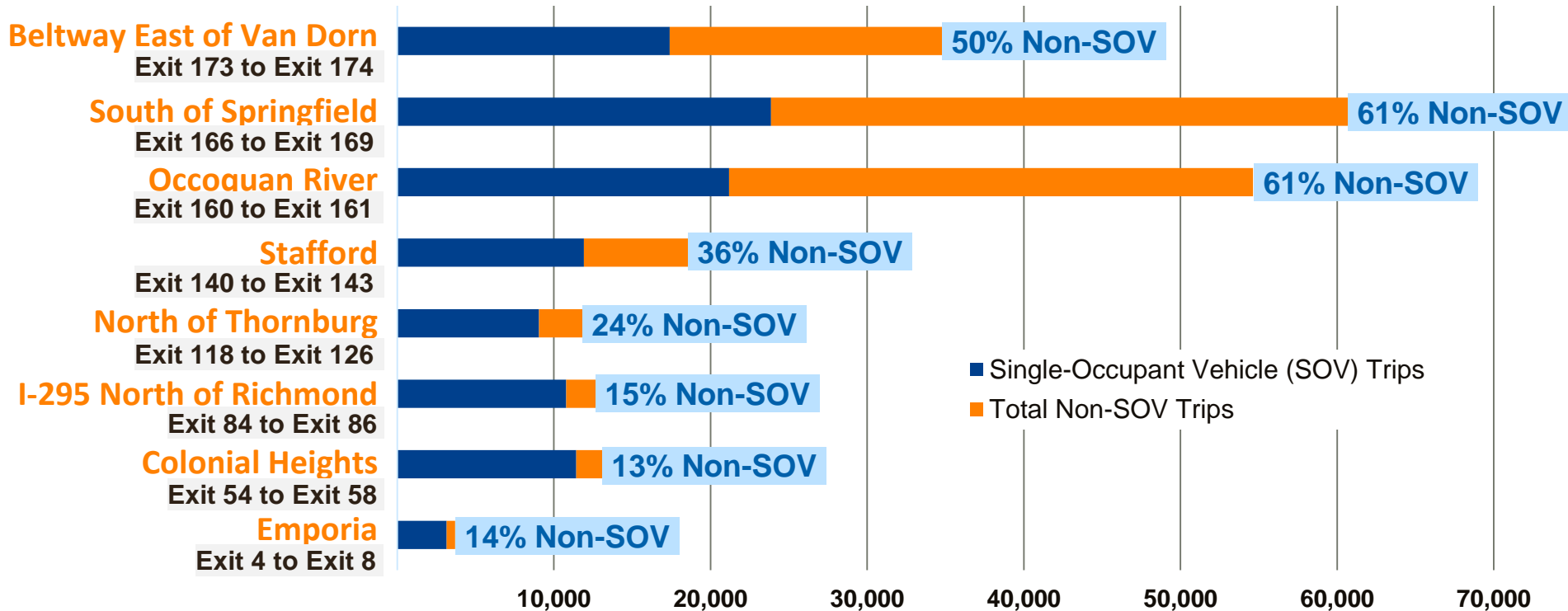
(With Average Clearance Times Almost 2 Hours)



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

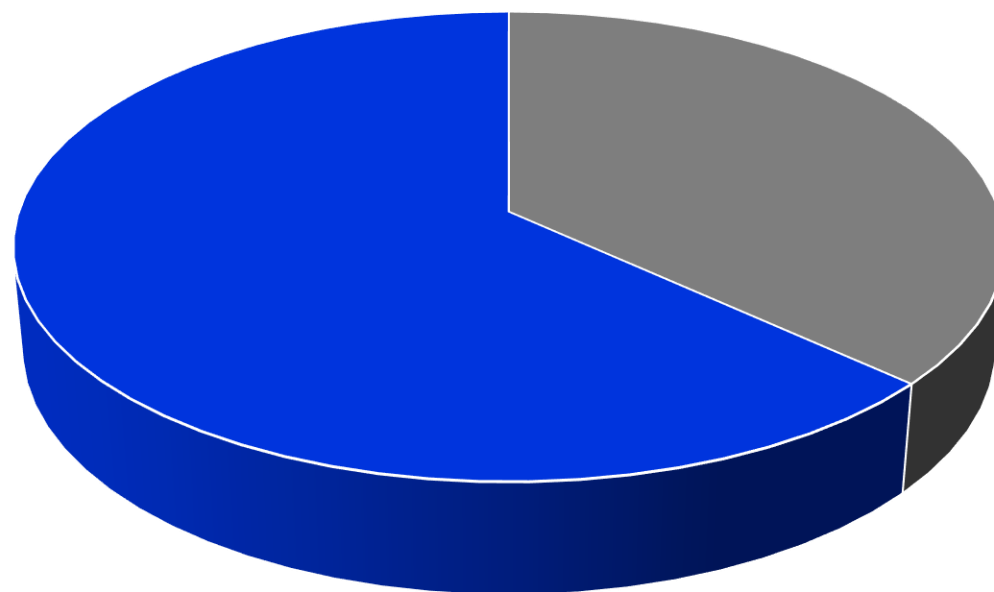


Total
Persons
Moved



Person Throughput in Express Lanes

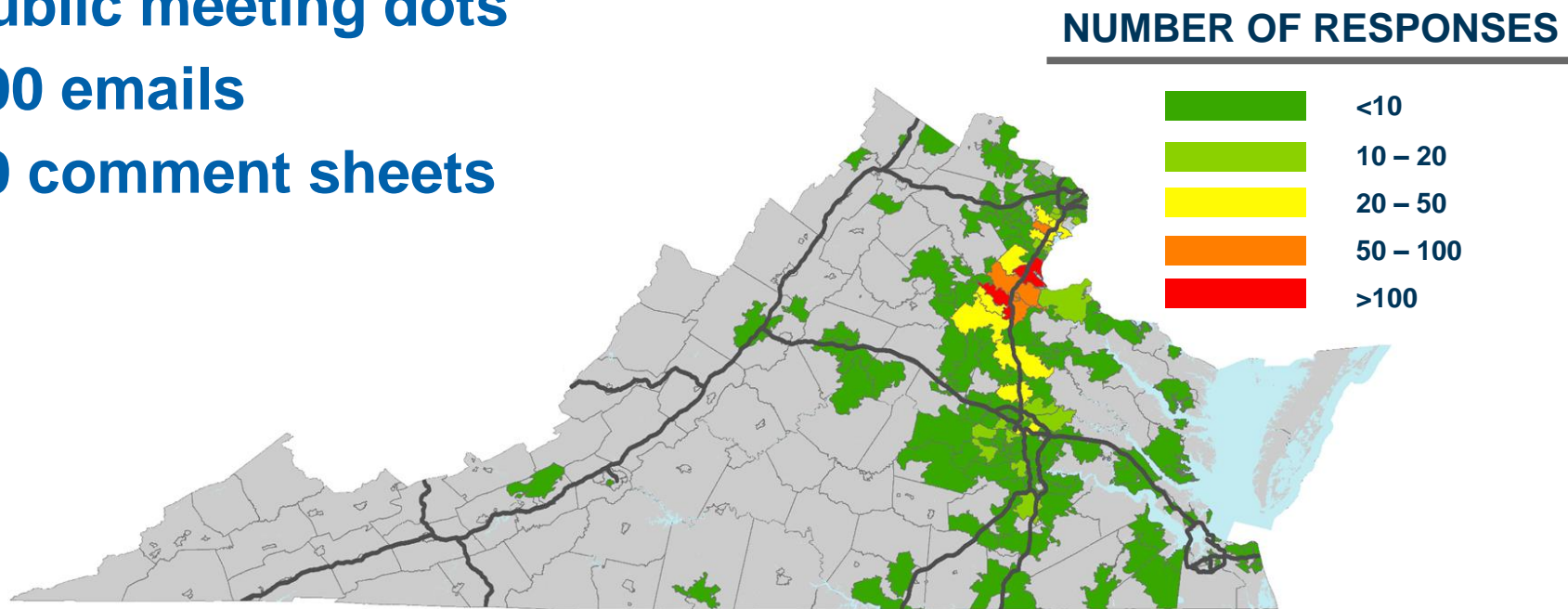
Express Lanes move more than twice as many people per lane as general purpose lanes northbound during the morning rush hours



■ General Purpose ■ Express Lanes

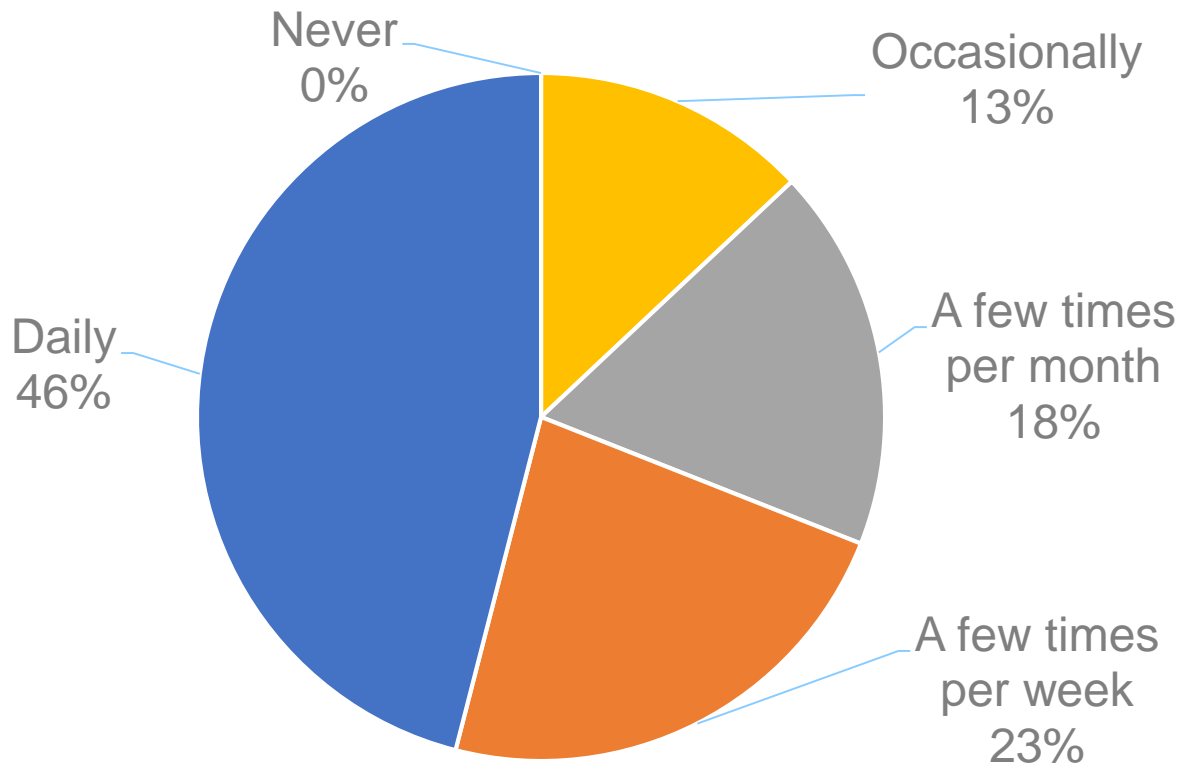
July Meetings Public Feedback and Survey Results

- **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

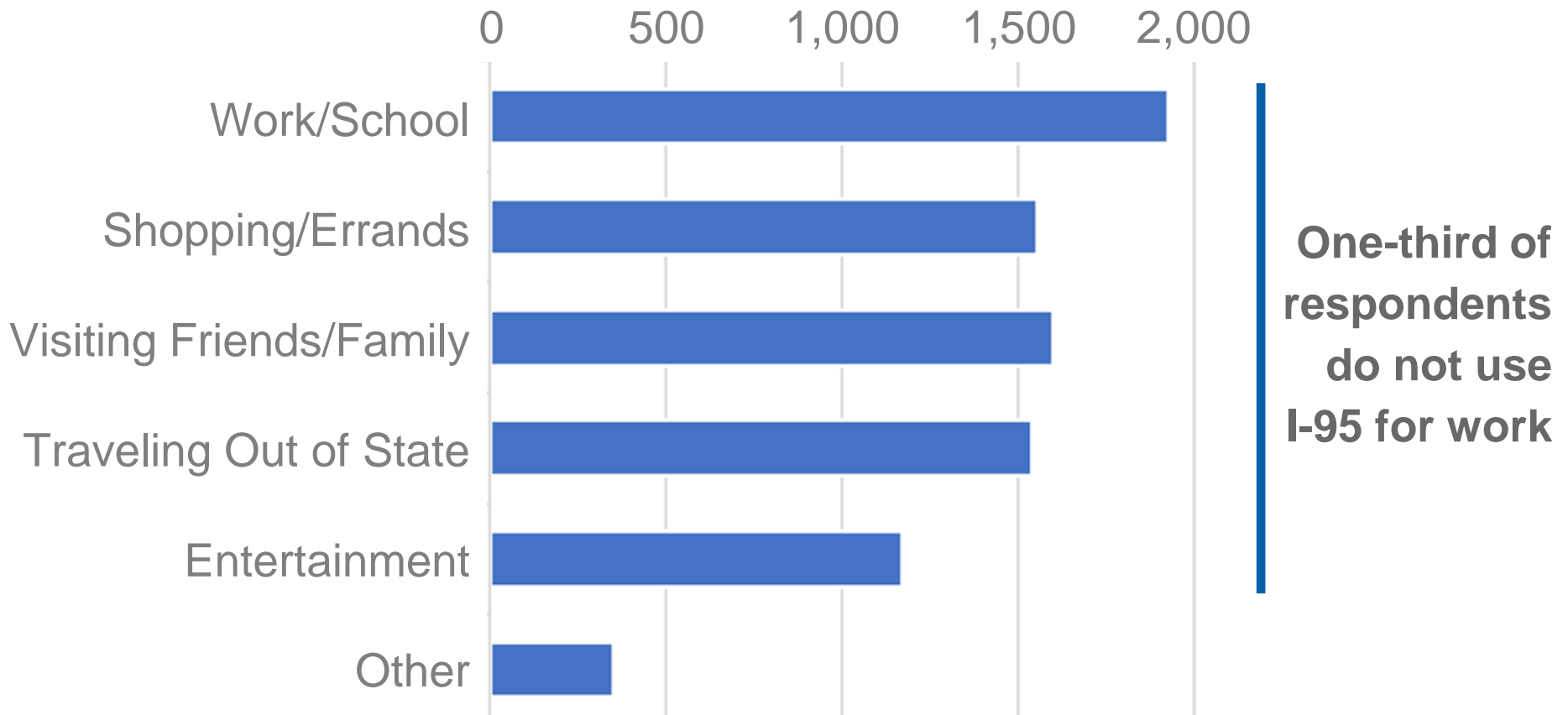
How often do you typically travel in the I-95 corridor?



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

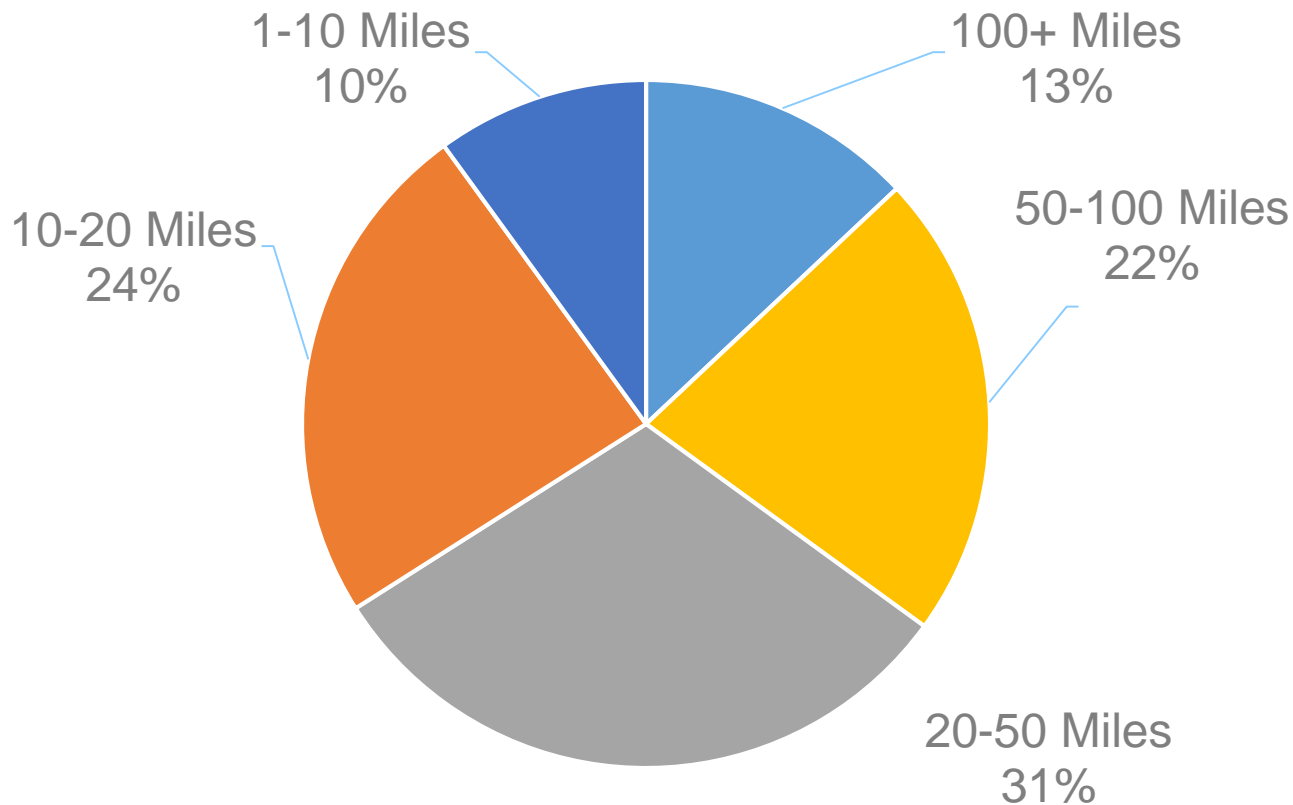
July Meetings Public Feedback and Survey Results

Where do your trips on I-95 take you?



July Meetings Public Feedback and Survey Results

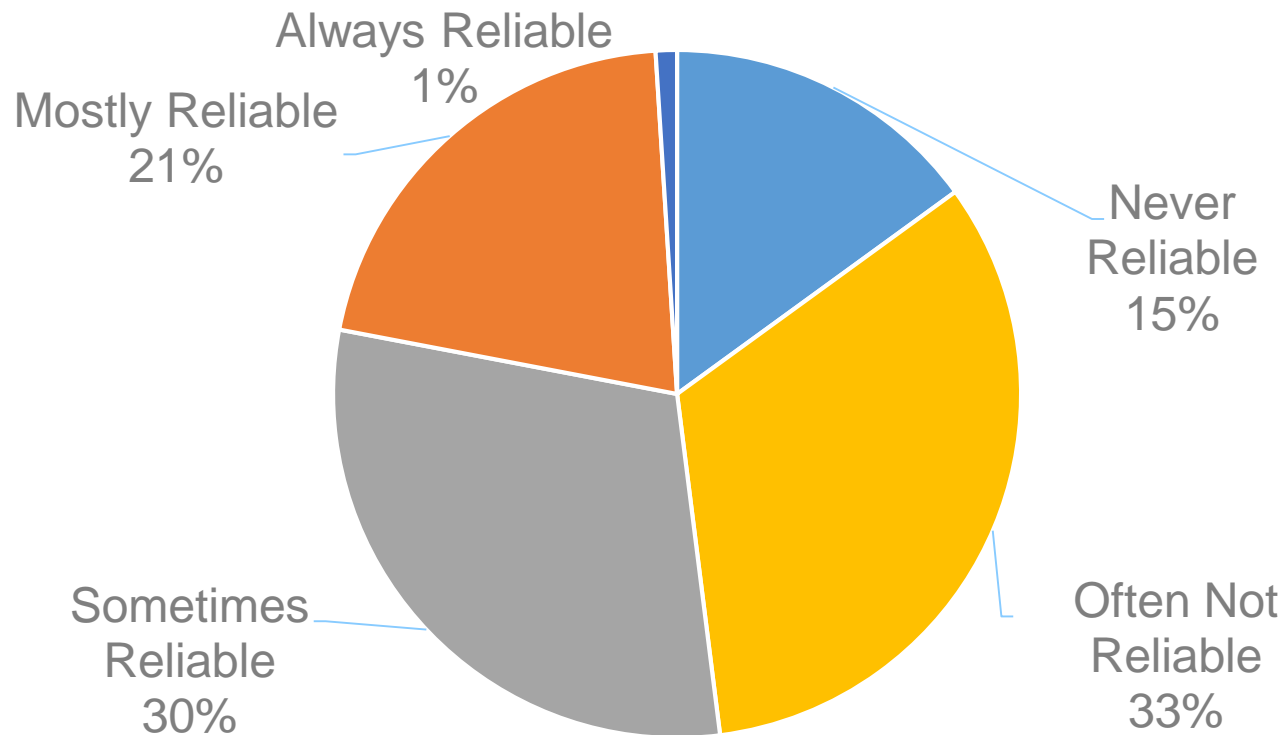
How far do you typically travel on I-95?



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

July Meetings Public Feedback and Survey Results

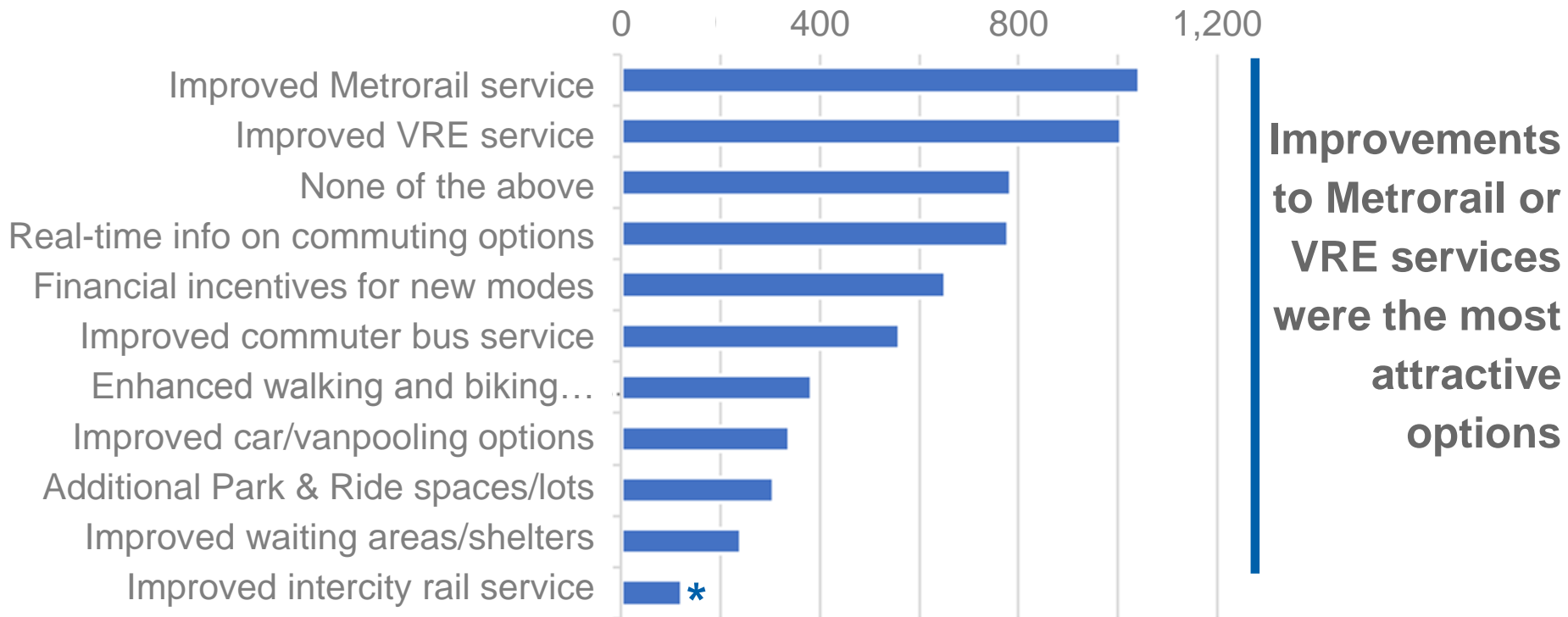
How reliable is your typical trip on I-95?



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?

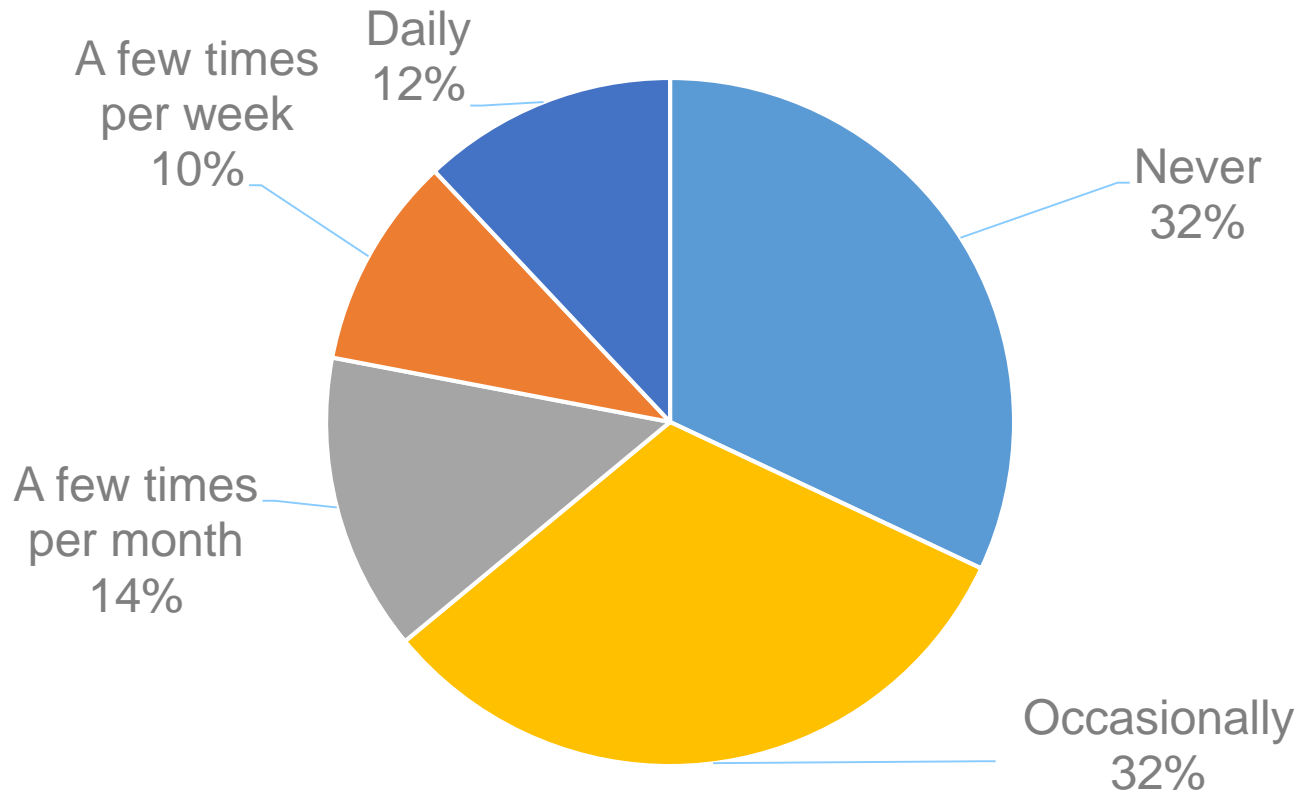


Improvements to Metrorail or VRE services were the most attractive options

* 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

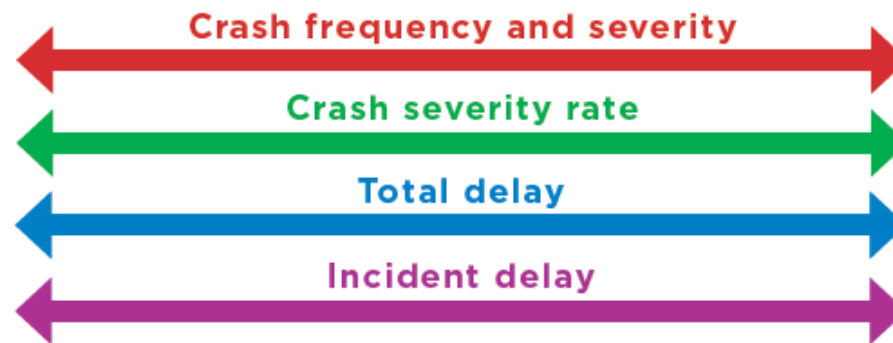
July Public Meetings

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

Current Investment & Anticipated Benefits

- Three major capacity improvement projects in Fredericksburg District open by 2023: investment of over \$800M for these three projects

Legend
 Increase 25-50% (time period)
 Increase >50% (time period)

Board #	Project Description	Projected Change in Travel Speed	
		Northbound	Southbound
11	Rappahannock River Crossing Northbound	 AM	N/A
11	Rappahannock River Crossing Southbound	N/A	 PM
11-12	I-95 Express Lanes – Fredericksburg Extension (Fredex)	 AM	 PM

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%**

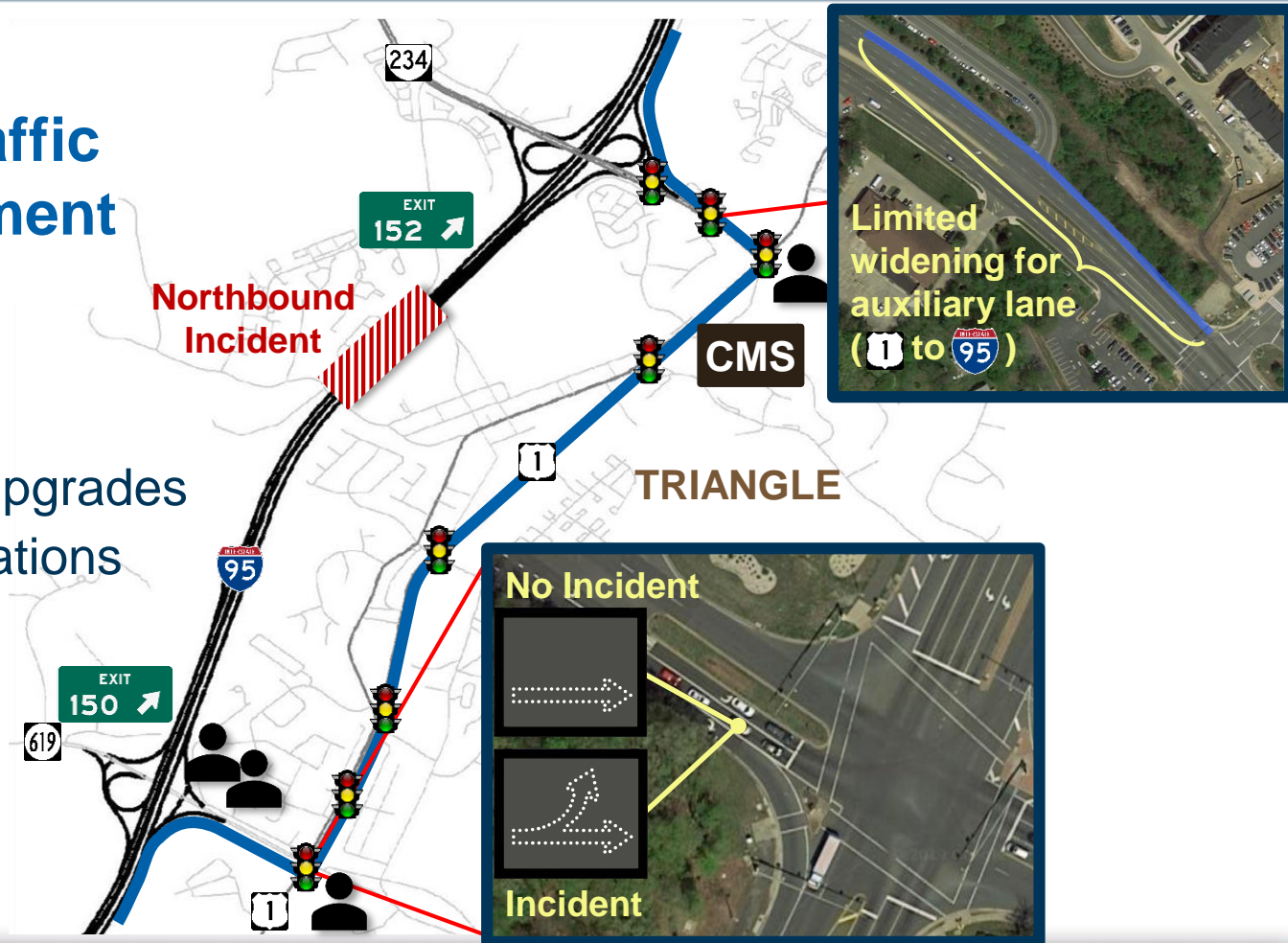
Ramp Metering

7% reduction in travel times on I-95

Parallel Facilities Improvements

Improvements considered for traffic incident management

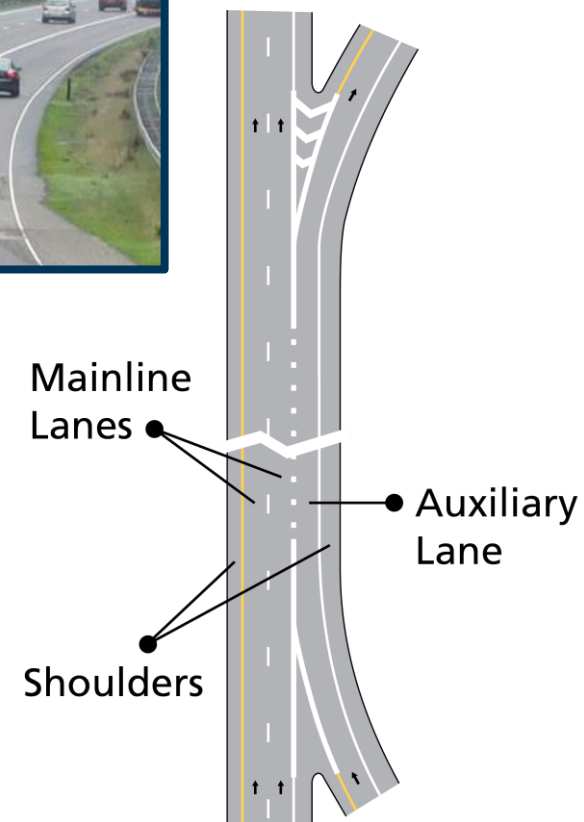
- Message signs
- Traffic control personnel
- Communications upgrades
- Traffic signal operations
- Intersection improvements
- Sign improvements



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

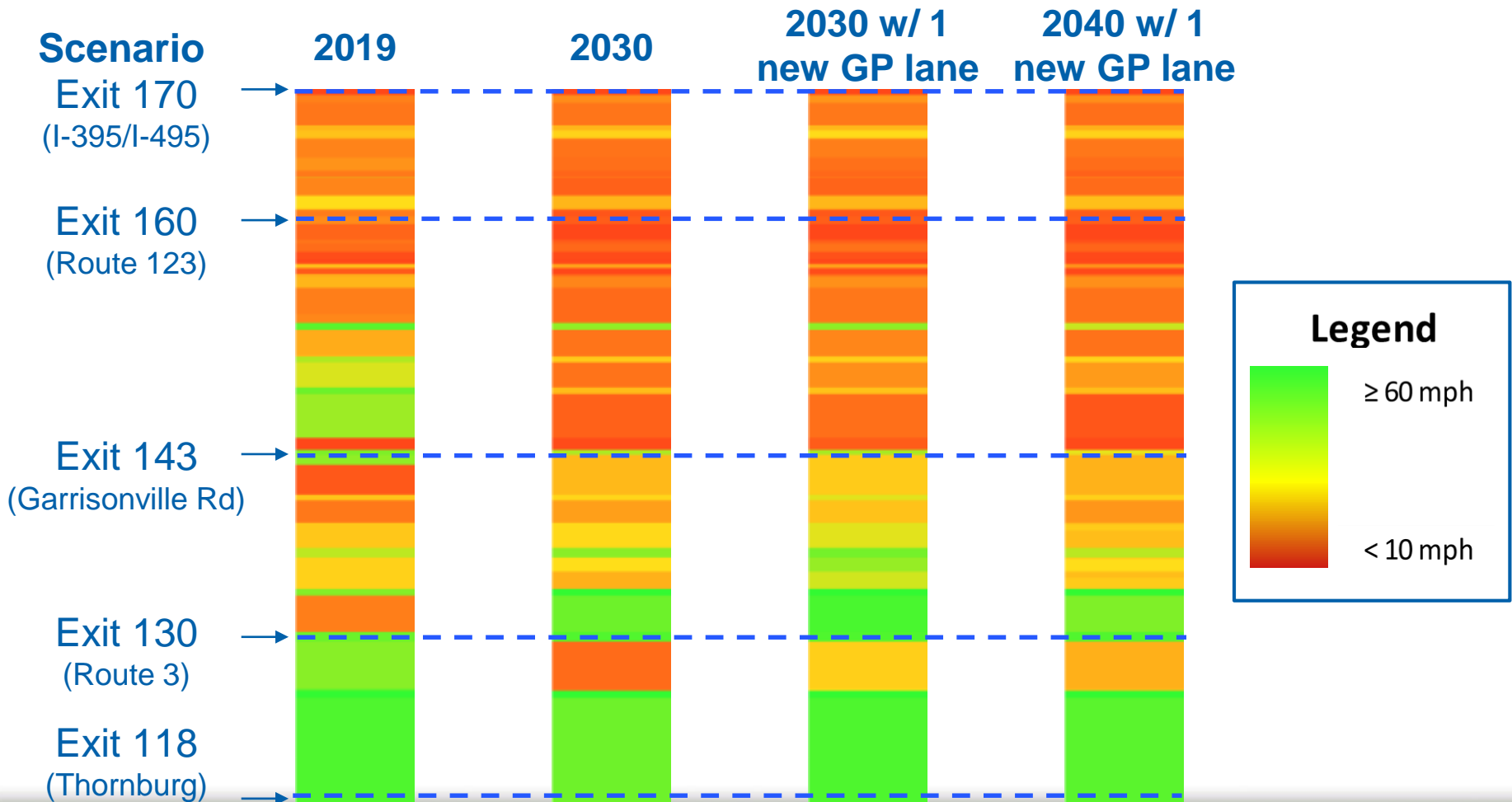


Highway Capacity Improvement Scenario Analyses (Exit 118 to Exit 170)

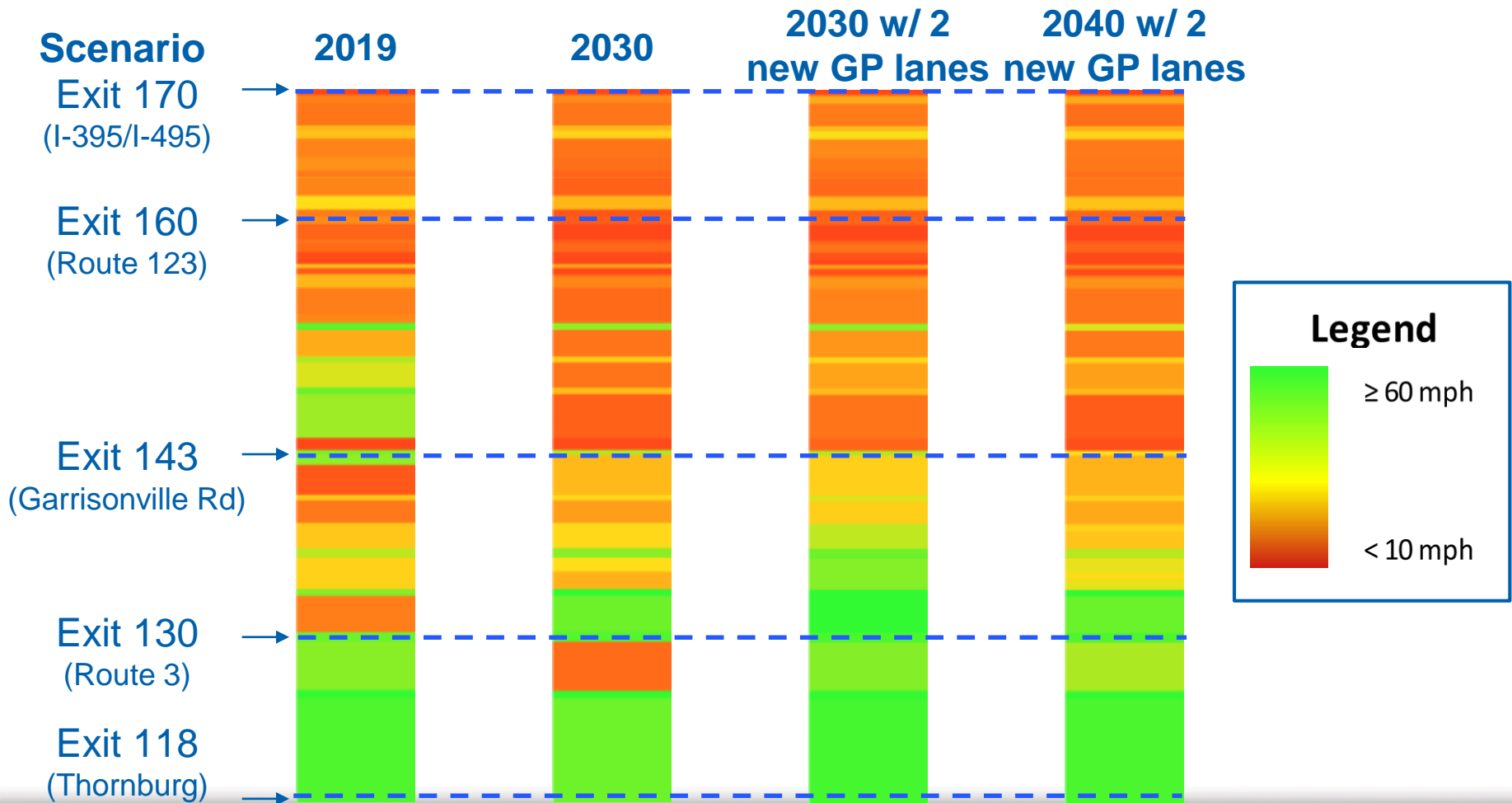
Analysis Summary

- 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

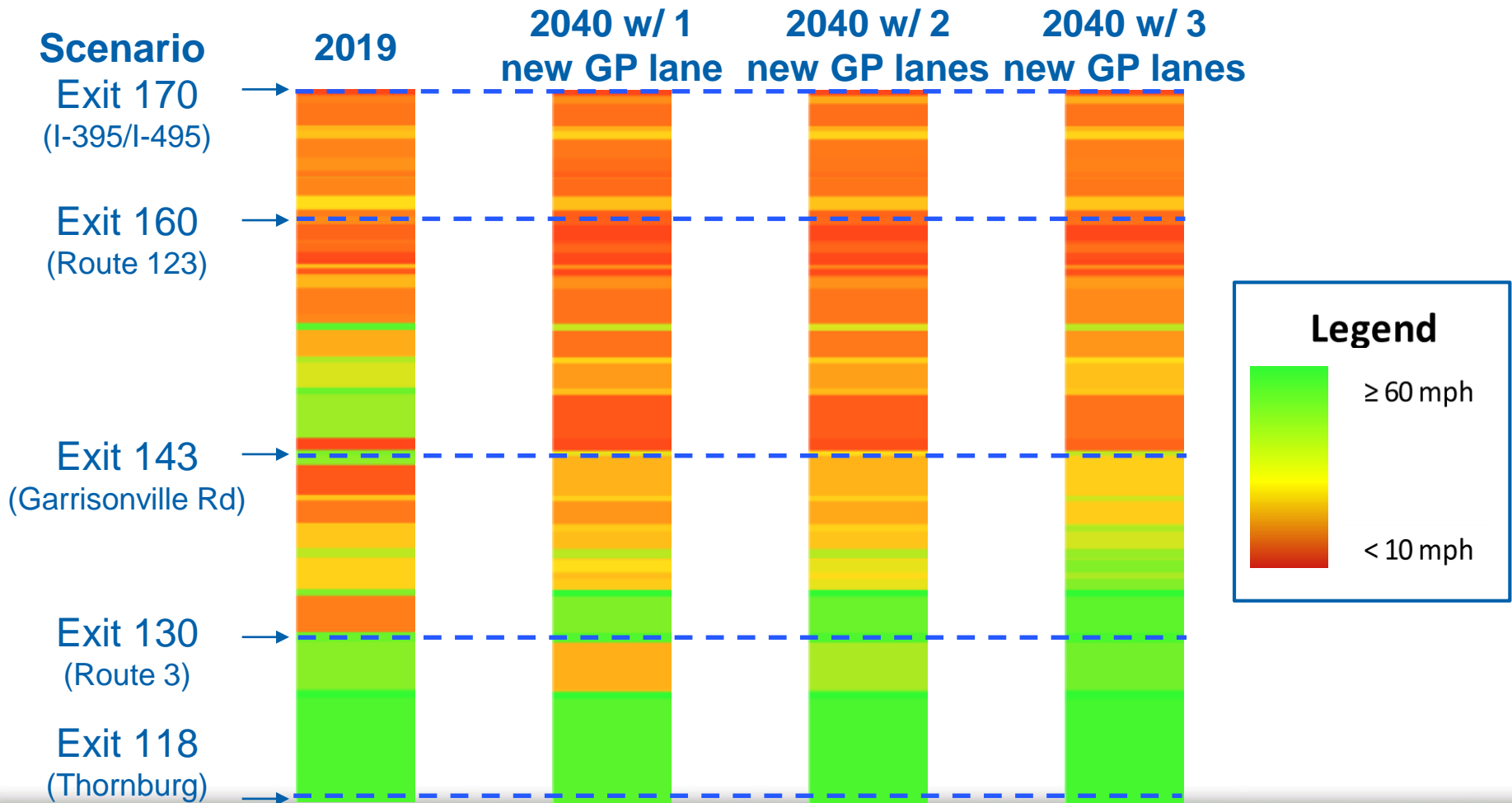
Peak Period Speed Results after Widening



Peak Period Speed Results after Widening

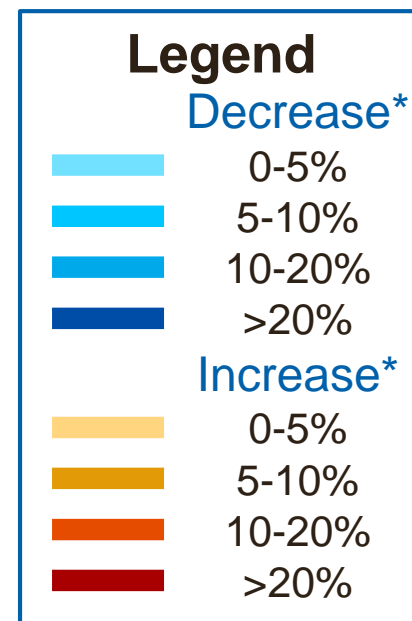
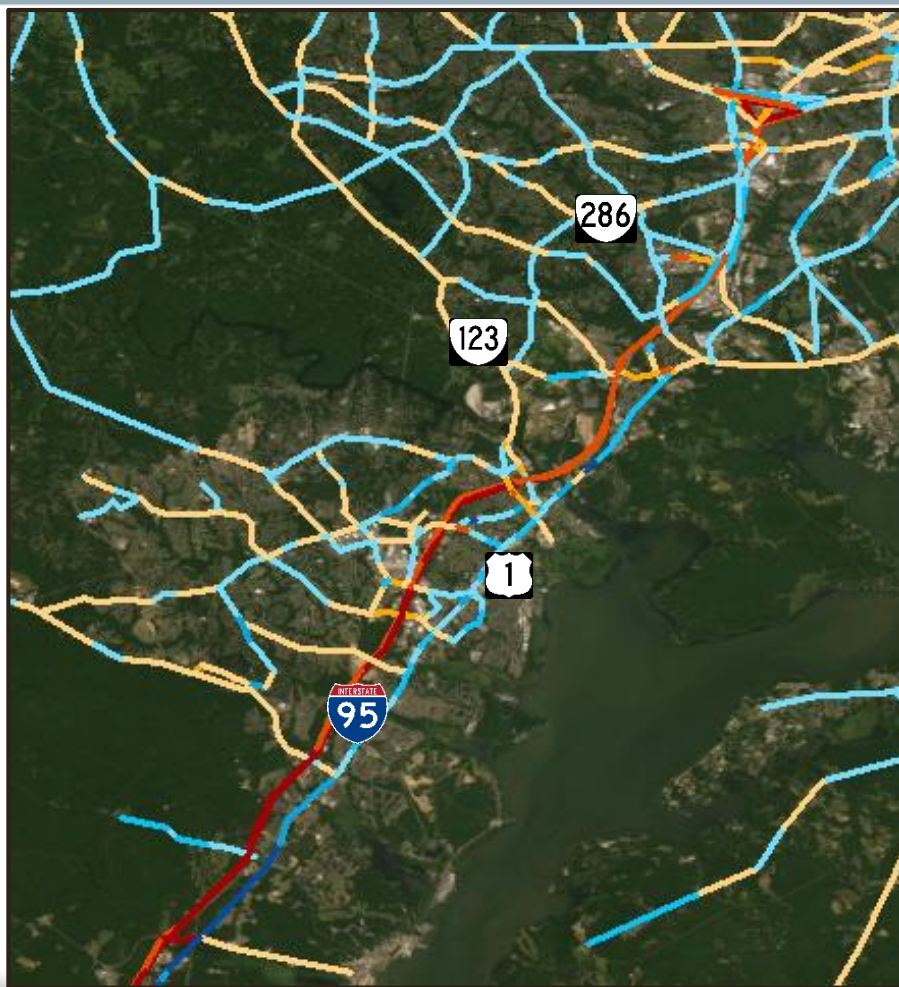


Peak Period Speed Results after Widening



Latent Demand

Change in Daily Volume with 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



4th 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



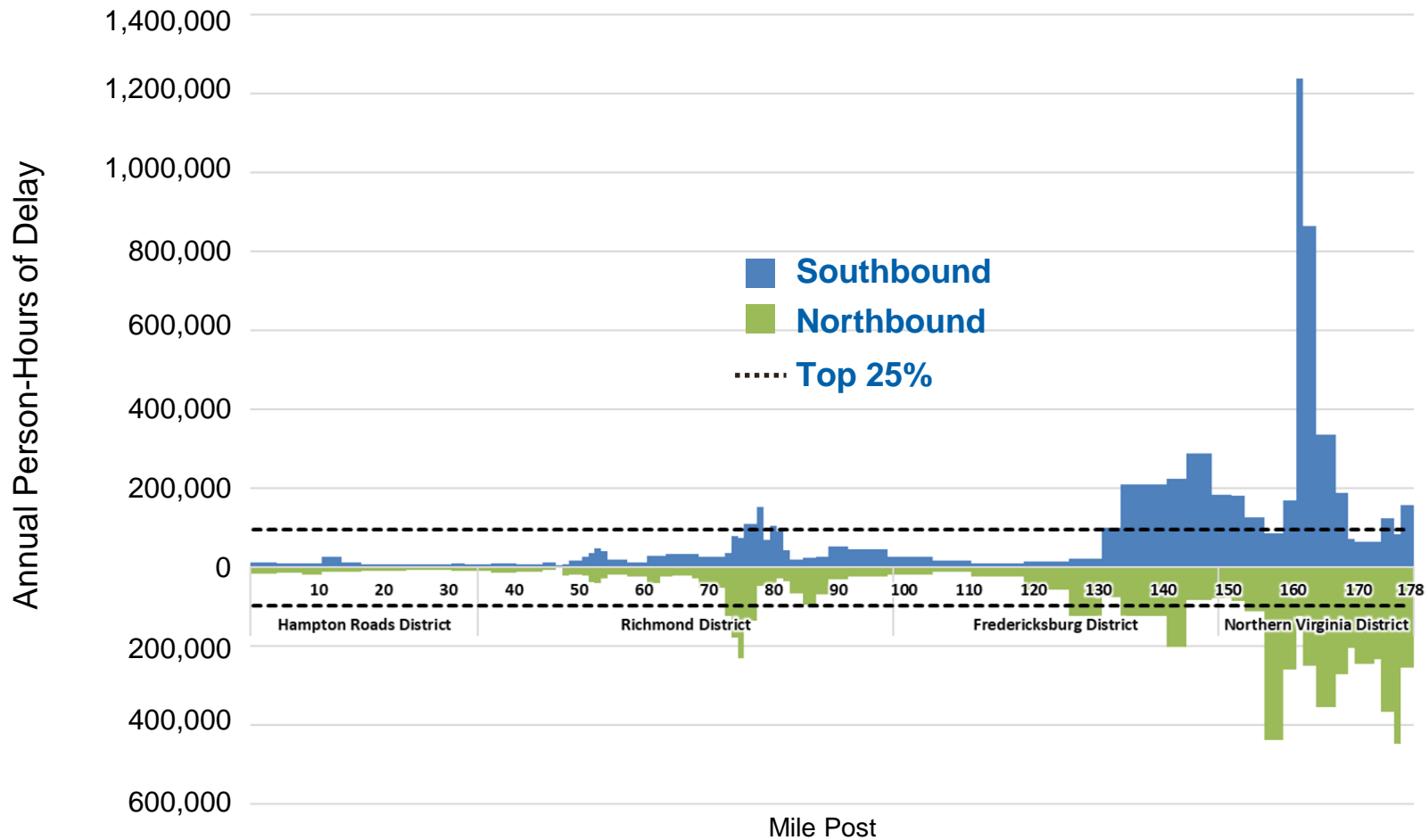
Specific Focus Areas

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

Focus Area: Occoquan

2015-2018 Annual Delay Summary

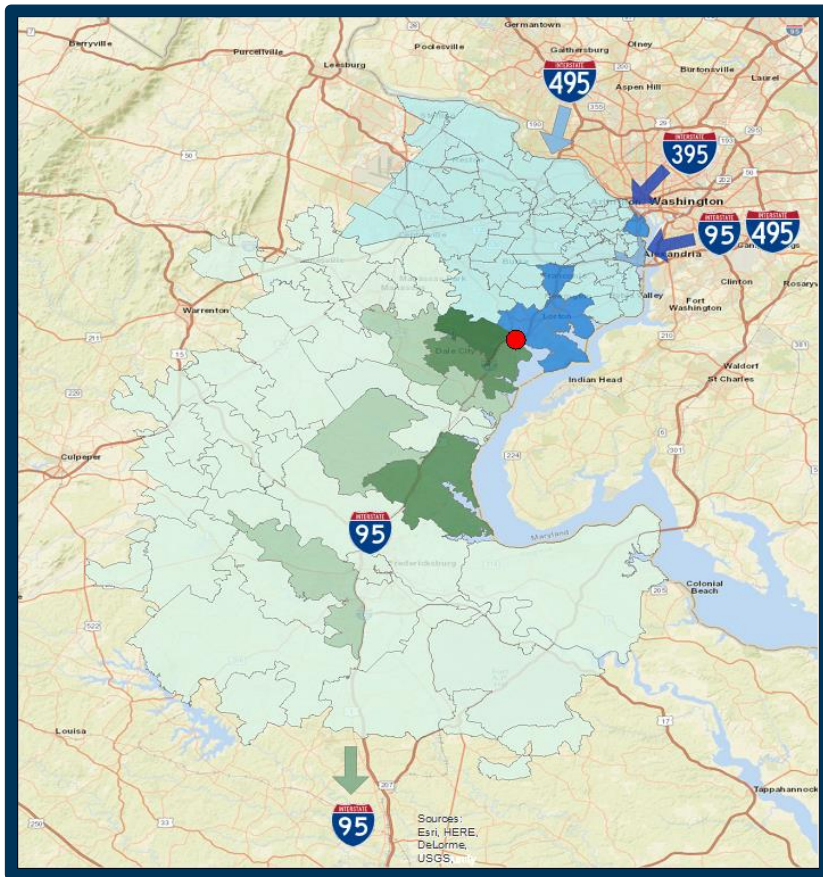
One-Mile Segments



Focus Area: Occoquan

Southbound Origins and Destinations

Tuesday-Thursday PM Peak Period



Top 3 Origins

1. Southbound I-395 from D.C.
2. Southbound I-95/495 from Maryland
3. Fort Belvoir

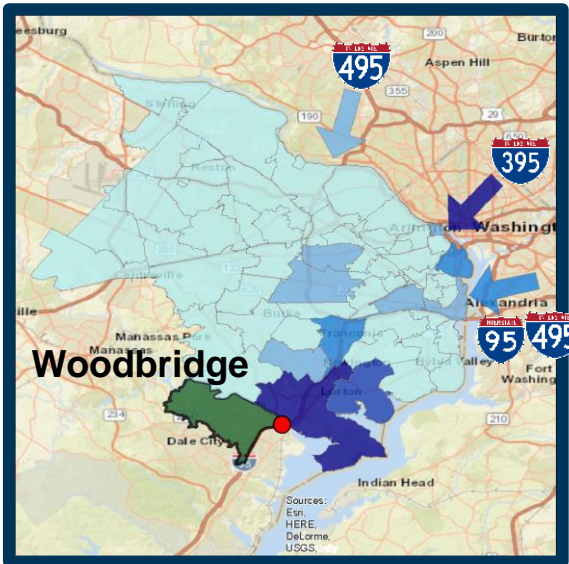
Top 3 Destinations

1. Woodbridge
2. Dale City
3. Stafford

Focus Area: Occoquan

Top 3 Southbound Destinations

Tuesday-Thursday PM Peak

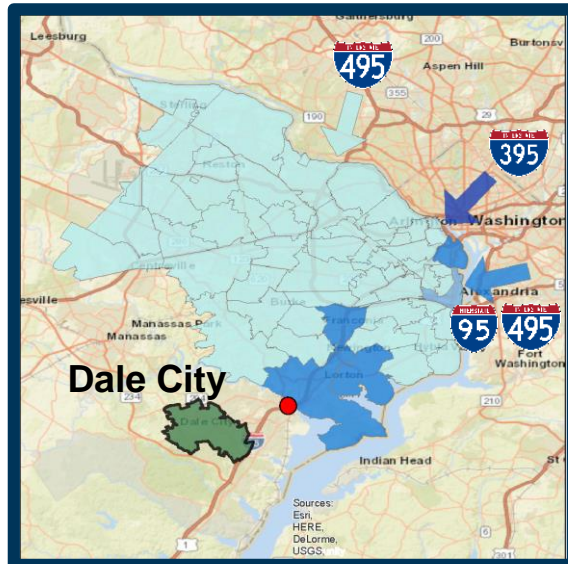


Top 3 Origins to Woodbridge

1. Lorton
2. Southbound I-395 from D.C.
3. **Fort Belvoir**

Legend

 Occoquan River



Top 3 Origins to Dale City

1. Southbound I-395 from D.C.
2. **Fort Belvoir**
3. Lorton



Top 3 Origins to Stafford

1. Arlington
2. Southbound I-395 from D.C.
3. **Fort Belvoir**

Potential Improvements

GOALS

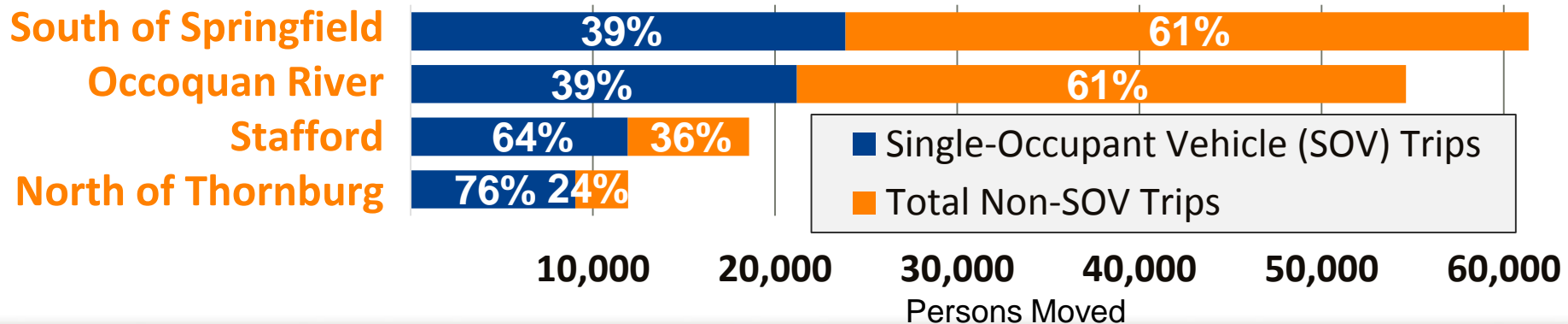
To provide faster, safer, and more reliable travel along the I-95 corridor

- **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
 - 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

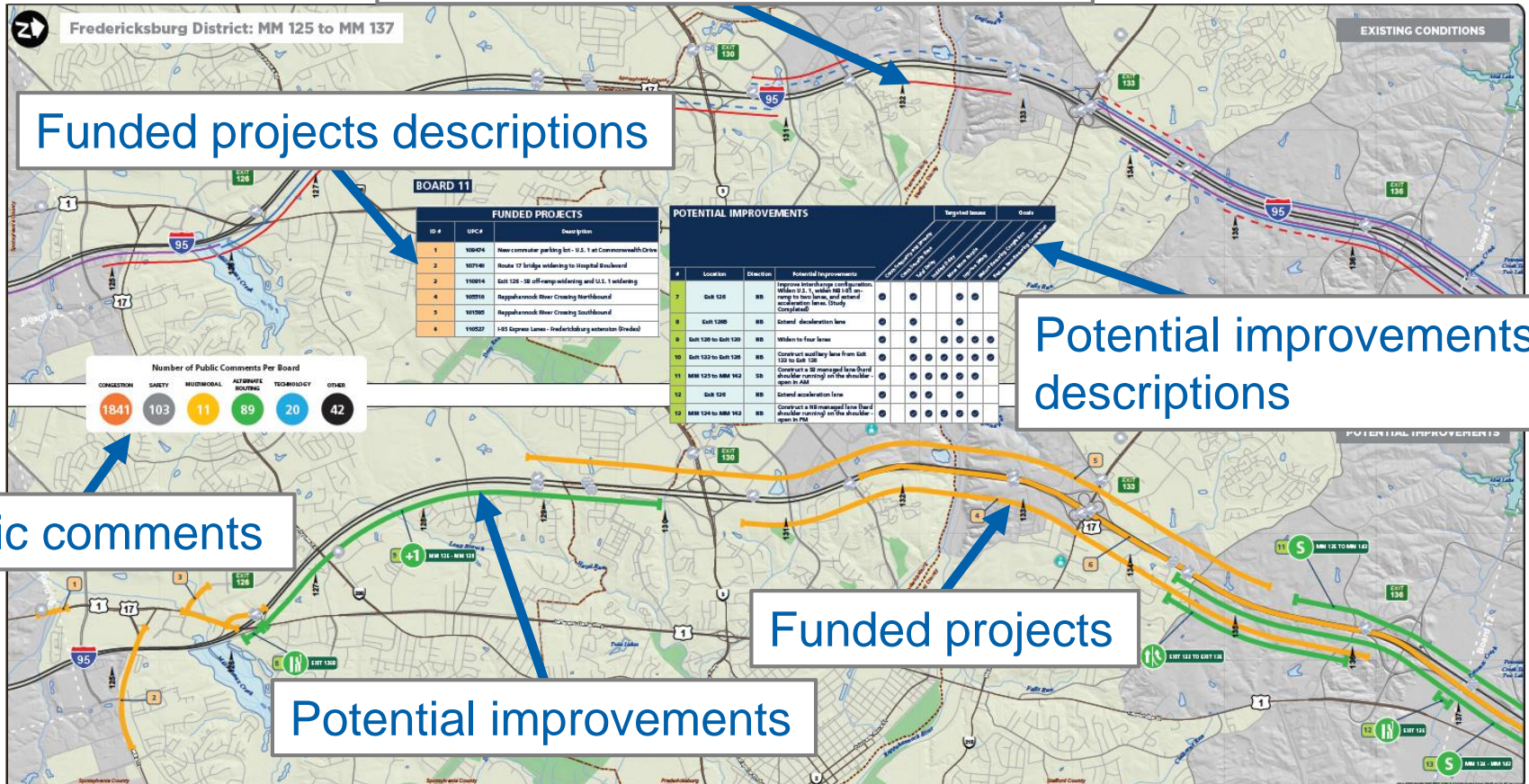
= ~3,500 people per hour



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

Potential Improvements Boards

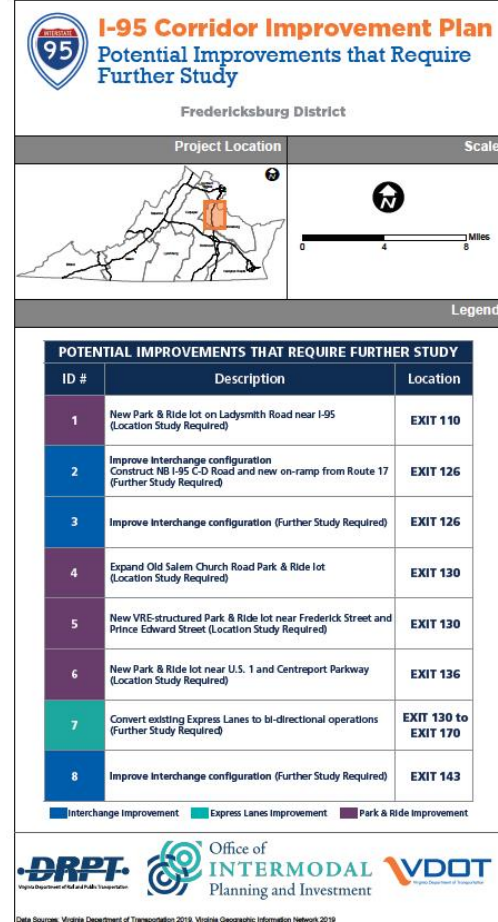
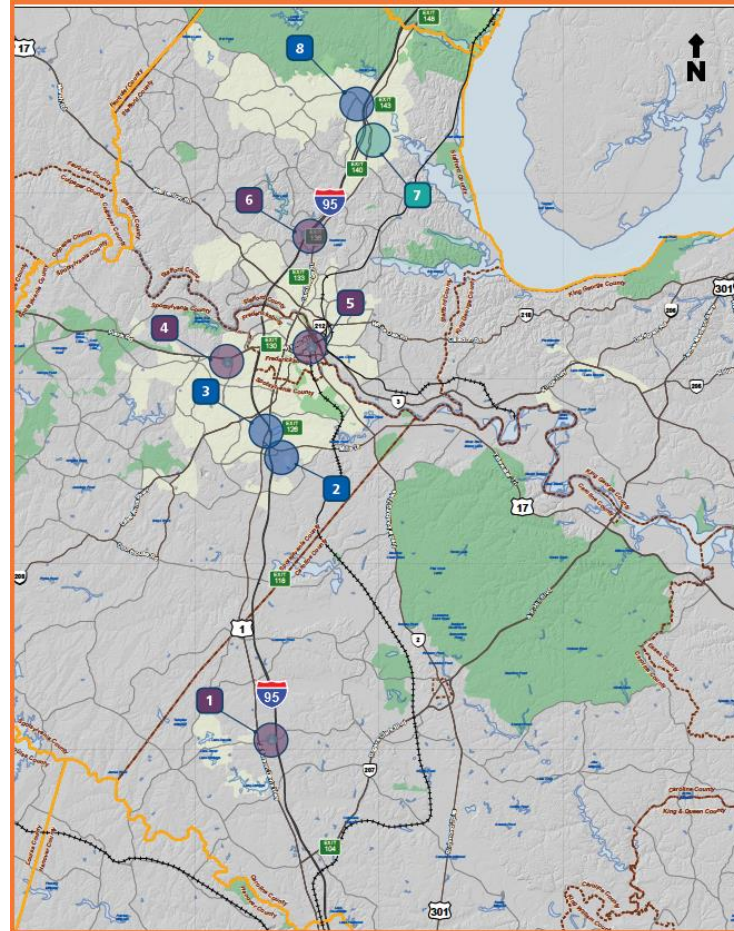
Existing performance measures



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



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



Virginia Commonwealth Transportation Board

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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