

January 9, 2018



Virginia Interstate 81 Corridor Overview





Interstate 81- 325 miles in Virginia



I-81 CORRIDOR SIGNIFICANCE



11.7
MILLION TRUCKS/YEAR



\$312
BILLION IN GOODS/YEAR



42%
OF STATEWIDE
TRUCK TRAFFIC

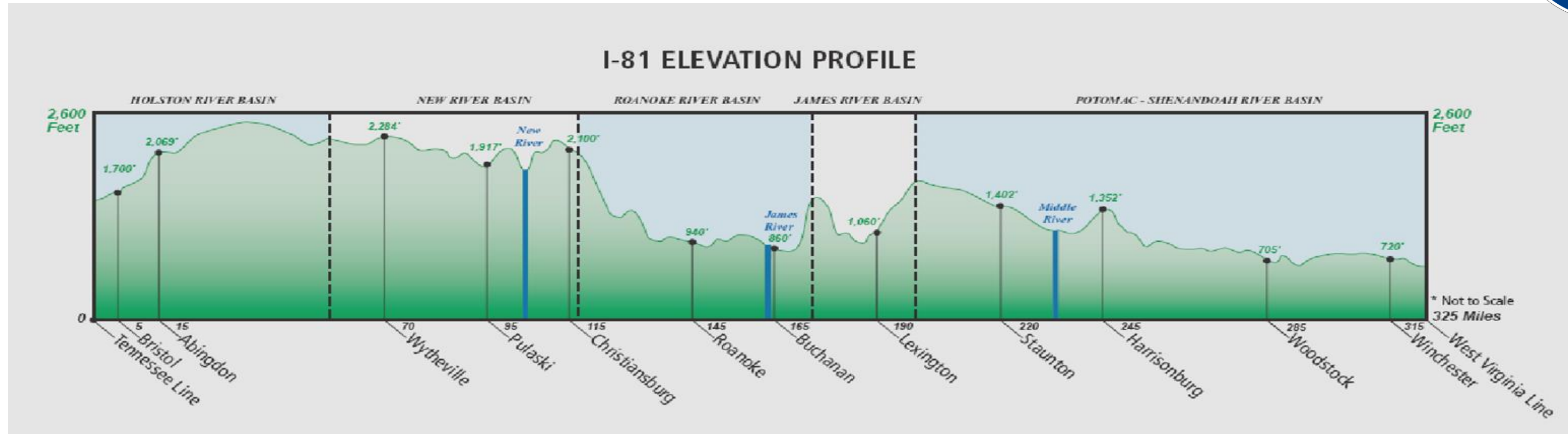


2,000
CRASHES/YEAR



30
CRASHES/YEAR
(WITH CLEARANCE TIMES
GREATER THAN 6 HOURS)

Interstate 81 in Virginia



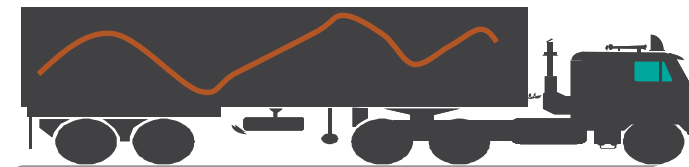
Level <2% grade



Rolling 2-3% grade

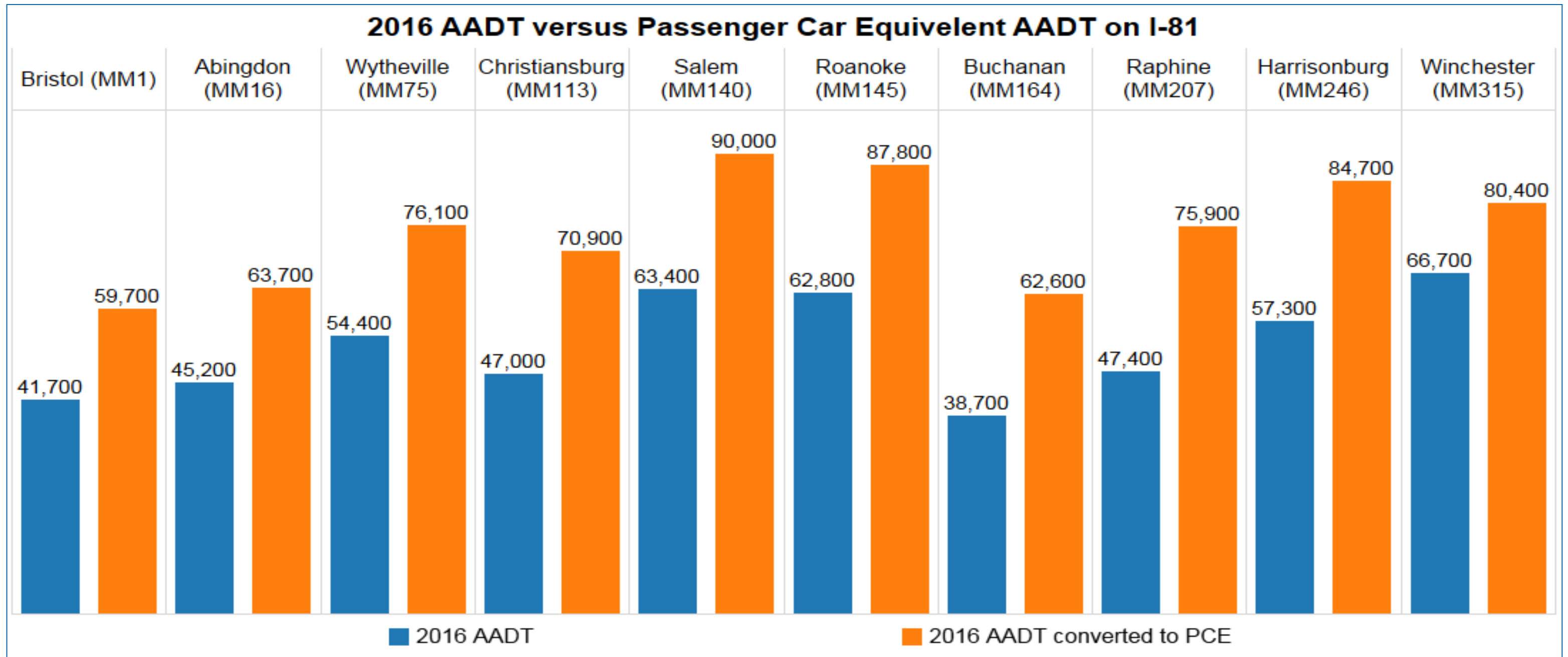


Mountain 3+% grade



48 MILES
OF I-81 HAVE
GRADES GREATER
THAN 3%

The Effect of Grade and Trucks on I-81

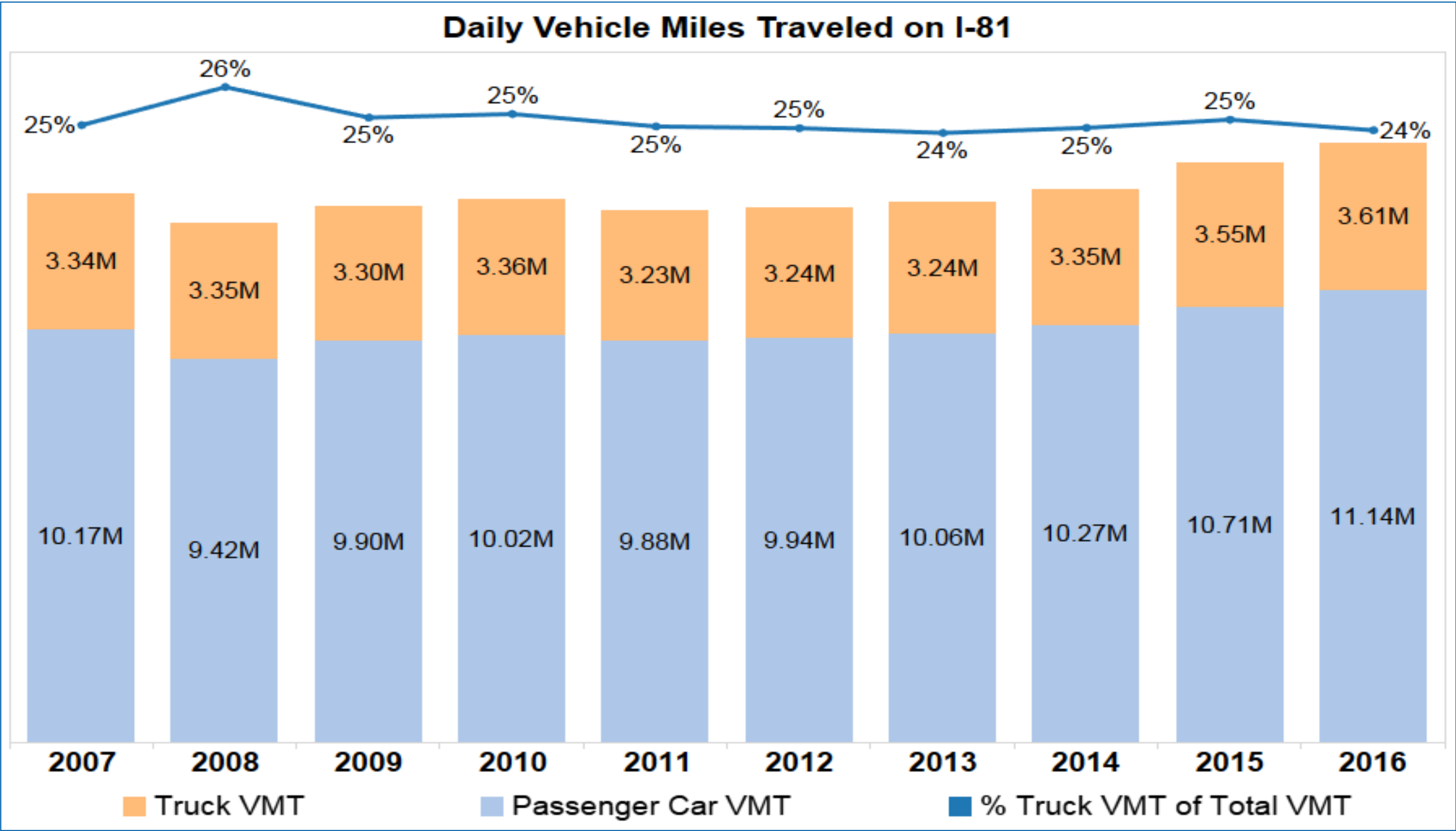


Source: VDOT Continuous Count Stations, Statewide Planning System, Highway Capacity Manual 6

Description: Vehicle Volume that has been adjusted to take into account the effect of the number of trucks and type of terrain on highway capacity

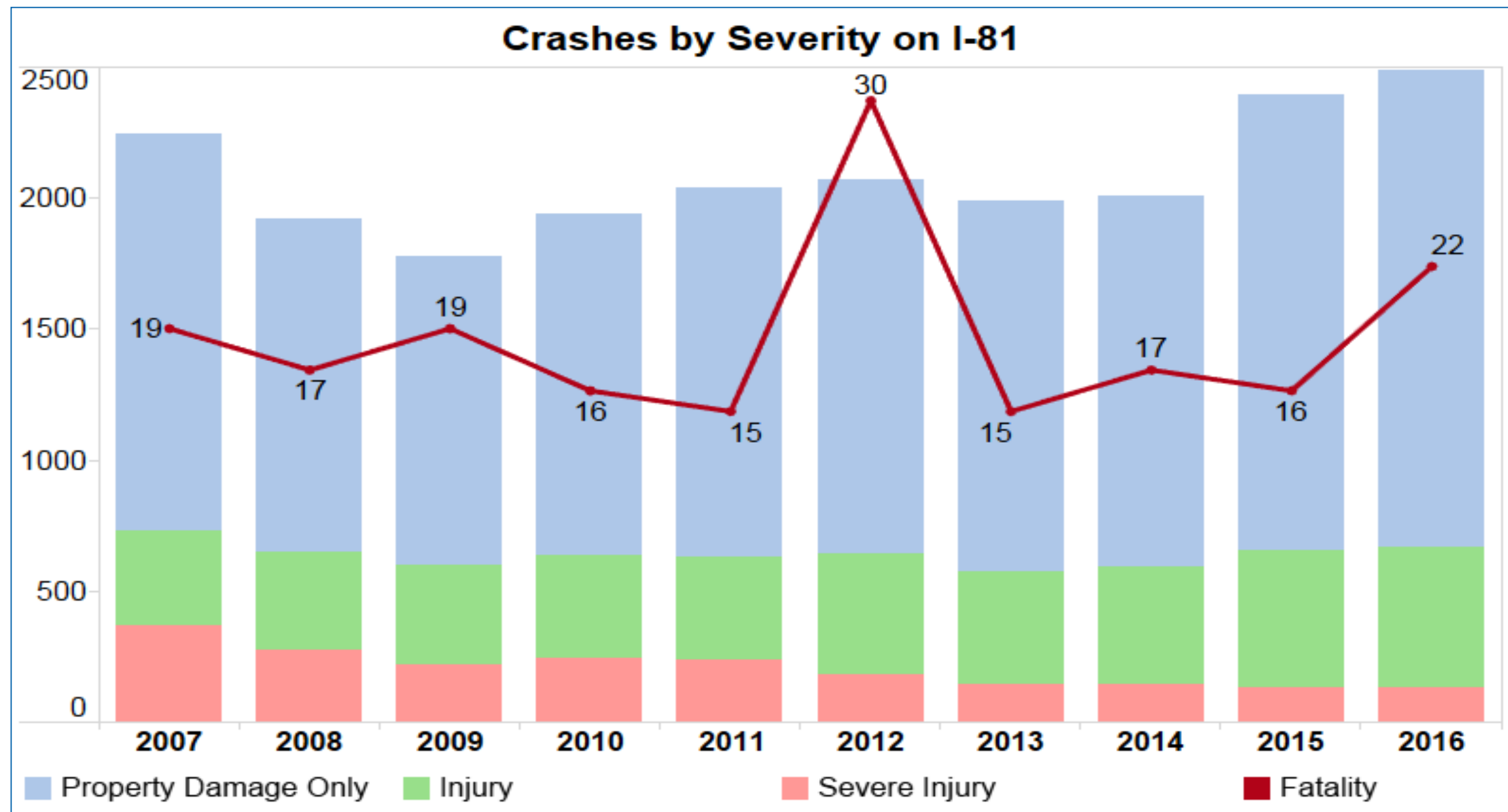
Definition: PCE = Passenger Car Equivalent

History of VMT on I-81



Source: VDOT Continuous Count Stations and roadway inventory
Description: Vehicle Miles Traveled & % Truck Traffic
Definition: Sum of miles travelled by all vehicles within a region over a period of time. Truck % refers to the percentage of total vehicle volume consisting of busses, single unit trucks and combination trucks

Crashes on I-81



Source: VDOT Roadway Network System

Description: Reportable crashes with more than \$1500 property damage and/or injuries since 2009. Prior to 2009 damage of more than \$1000 was reported

Definition: Fatality is death at the scene or within 30 days of incident. Serious Injury crash results in severe or significant injuries and are usually transported from the scene. Minor Injuries may be visible but are typically treated at the scene or claimed but not visible.

Average Crash Rates Virginia Interstates (2013-2015)



Interstate	Death Rate	Serious Injury Rate	All Injury Rate	All Crash Rate	Crash Density/Mile
I-81	0.37	3.73	18.22	43.02	3.3
I-64	0.48	5.61	33.81	76.79	7.29
I-66	0.19	2.88	34.25	92.56	12.29
I-77	0.6	2.84	19.93	44.75	2.17
I-85	1.08	7.3	24.43	52.38	2.43
I-95	0.33	4.51	32.76	79.76	13.95
All Interstates	0.39	4.02	29.42	72.68	n/a

Source: VDOT Roadway Network System

Description: Reportable crashes rates with more than \$1500 property damage and/or injuries per 100 Million VMT.

Definition: Fatality is death at the scene or within 30 days of incident. All injuries include Serious Injury and Minor Injuries. All Crashes include all severities and Property Damage Only crashes. VMT is on mainline Interstate routes.

Crash Heat Map on I-81 (2012-2016)



Source: VDOT Roadway Network System

Description: Sparse to closely spaced crashes in five year period.

Definition: Relative density of mainline crashes along the I-81 corridor

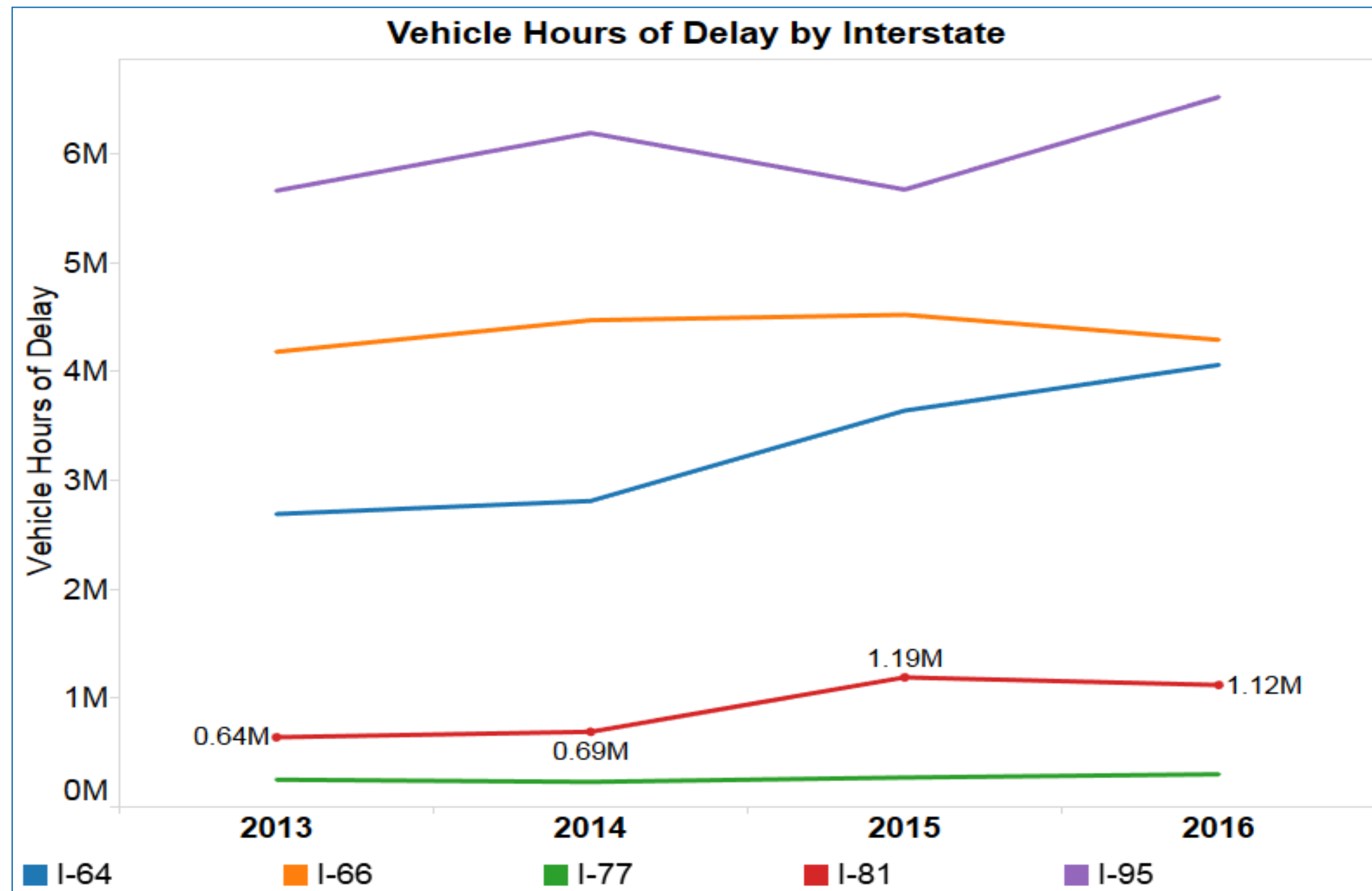
Crash Rates along the 81 Corridor



Urban or Rural Sections of 81	Crash Density/Mile
Urban	3.87
Rural	2.10

- There is roughly 65 miles of Urban roadway and about 260 miles of Rural Roadway on 81
- The above crash rates were generated using data from FY16 and FY17 of Crashes along the 81 Corridor

History of Congestion (Delay) on I-81

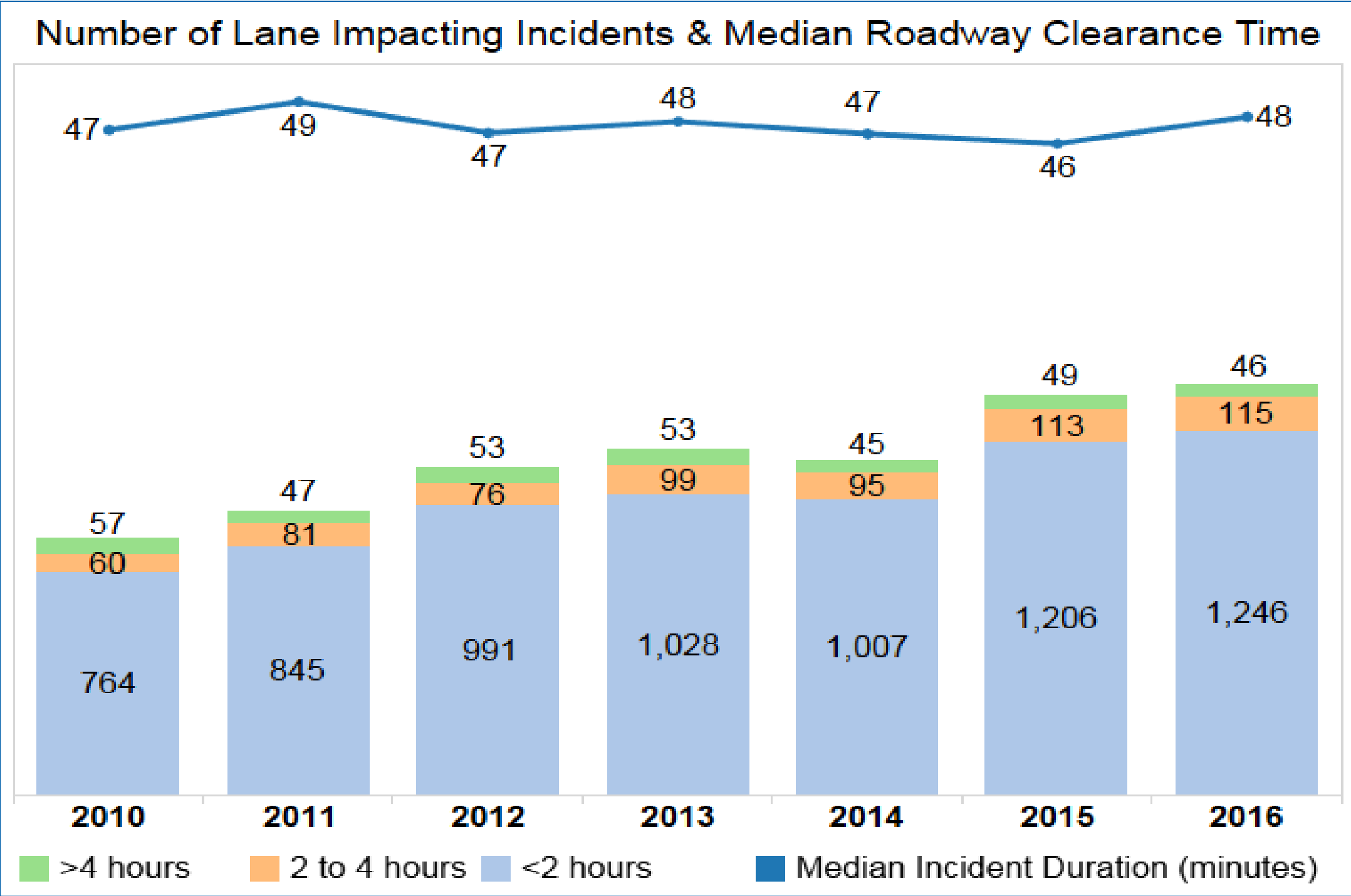


Source: Calculated in RITIS using INRIX observed speed data and historical VDOT volume data.

Description: Total vehicle hours of delay

Definition: The threshold for determining delay is 20 miles per hour below free flow speed

History of Incidents on I-81



Source: VDOT VaTraffic, 2009 is the first full year of archived data
Description: Crashes and Disabled Vehicles that impact one of more travel lanes.
Definition: Roadway Clearance Time is measured from the start of the incident to the time that all travel lanes are clear

I-81 Projects Overview

Staunton District

Summary of Project Costs

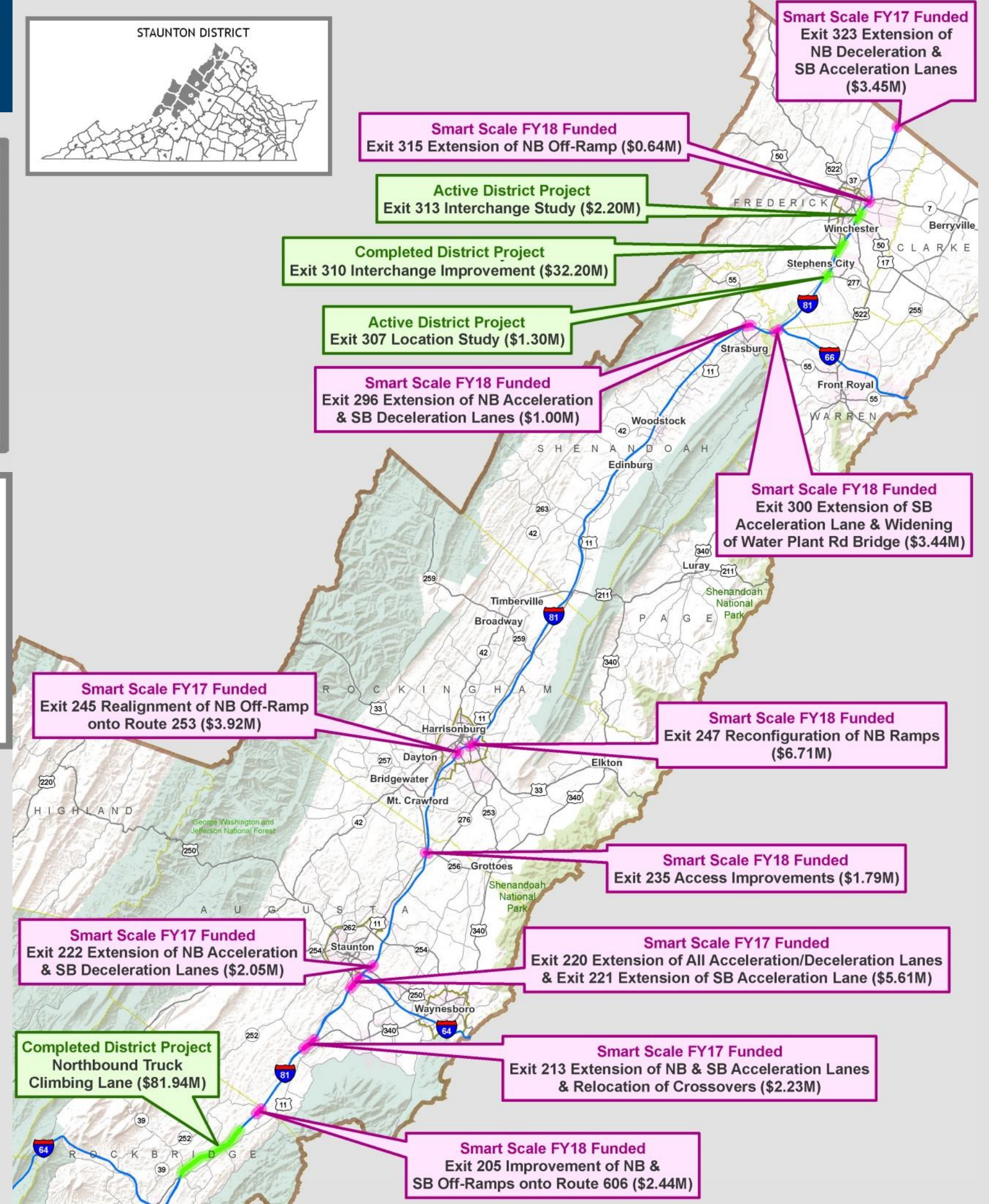
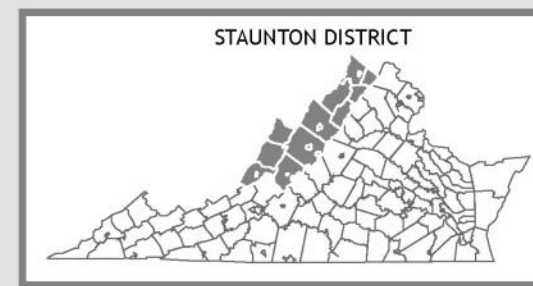
3 Active or Completed District Projects at \$117.7M

5 Smart Scale FY17 Funded at \$17.3M

6 Smart Scale FY18 Funded at \$16.0M

Active/Completed Operations Projects

- Quick Clearance Pilot Using Contract Tow & VDOT Responder (Completed)
- Safety Service Patrol (SSP) Route Expansion (Completed)
- Instant Tow Dispatch (Active)
- Changeable Message Sign (CMS) Expansion (Active)
- Truck Parking Management System (Active)



I-81 Projects Overview

Salem District

Summary of Project Costs

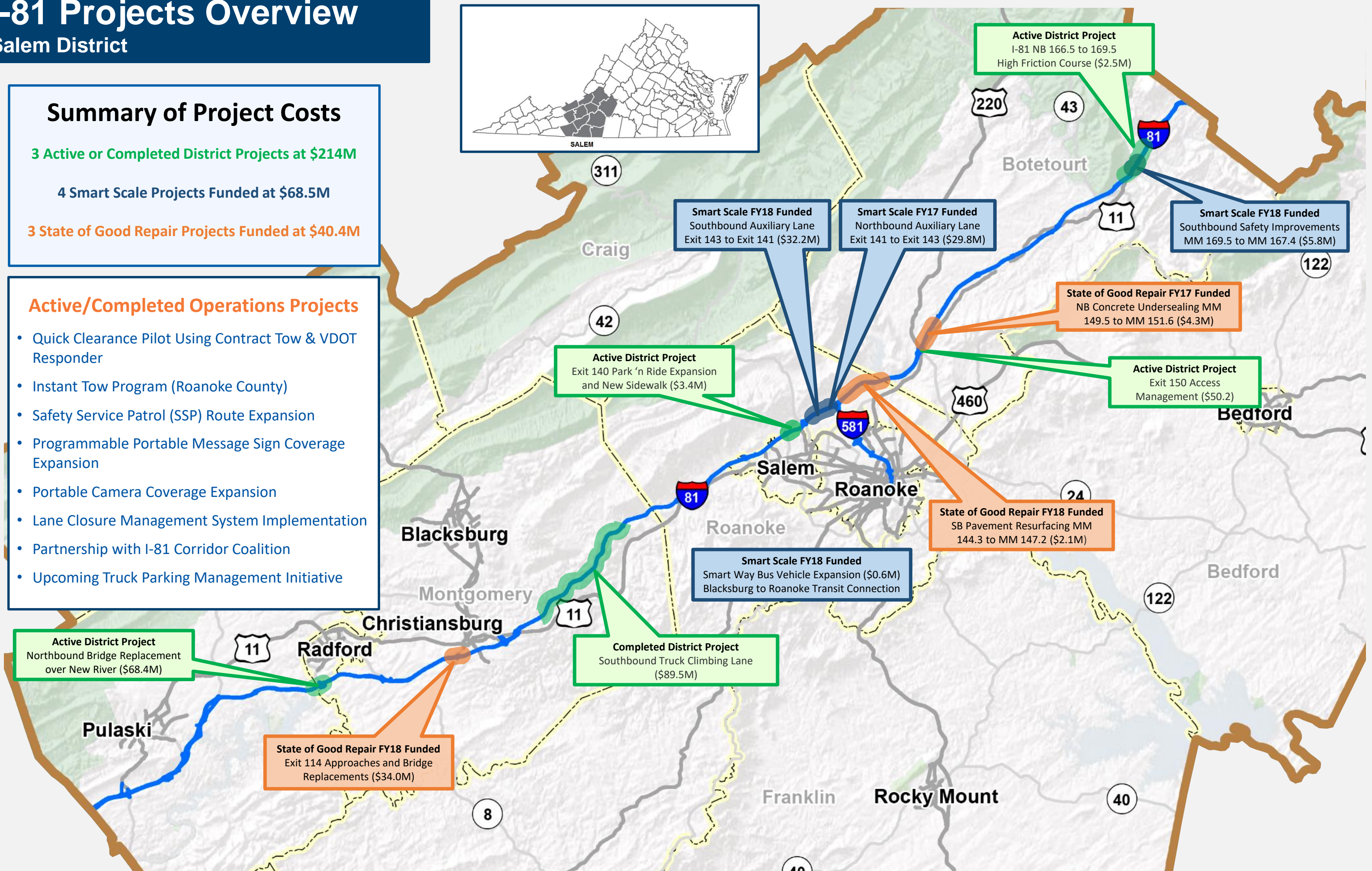
3 Active or Completed District Projects at \$214M

4 Smart Scale Projects Funded at \$68.5M

3 State of Good Repair Projects Funded at \$40.4M

Active/Completed Operations Projects

- Quick Clearance Pilot Using Contract Tow & VDOT Responder
- Instant Tow Program (Roanoke County)
- Safety Service Patrol (SSP) Route Expansion
- Programmable Portable Message Sign Coverage Expansion
- Portable Camera Coverage Expansion
- Lane Closure Management System Implementation
- Partnership with I-81 Corridor Coalition
- Upcoming Truck Parking Management Initiative



I-81 Projects Overview

Bristol District

Summary of Project Costs

8 Active District Projects at \$122.7M (\$57M Under Construction)

4 Smart Scale FY17 Funded at \$45.9M

1 Smart Scale FY18 Funded at \$2.5M

Active/Completed Operations Projects

- Quick Clearance Pilot
- Safety Service Patrol (SSP) Route Expansion
- Congestion Mitigation Strategies Implementation for Summer Travel Periods
- Partnership with I-81 Corridor Coalition
 - After Action Reviews and Incident Management Exercises with Tennessee

