Item 7

VDOT

PARTNERING IN VIRGINIA
Working to Drive Deaths and Serious Injuries

Towards Zero on Our Highways

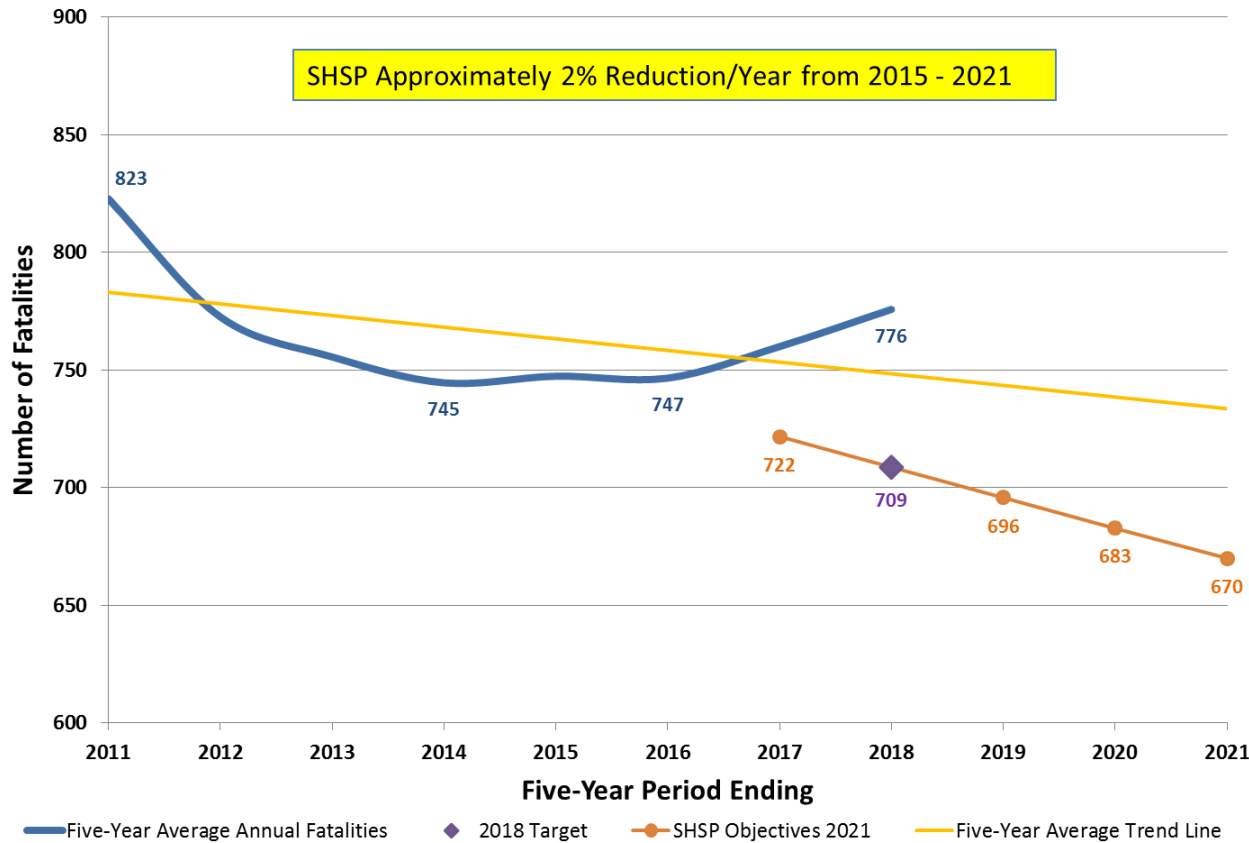**Stephen W. Read, P.E.**   **October 16, 2019**

Outline

1. Recent Safety Outcomes

2. 2020 Factor Driven Targets

3. Local and Regional Safety Partnership Opportunities

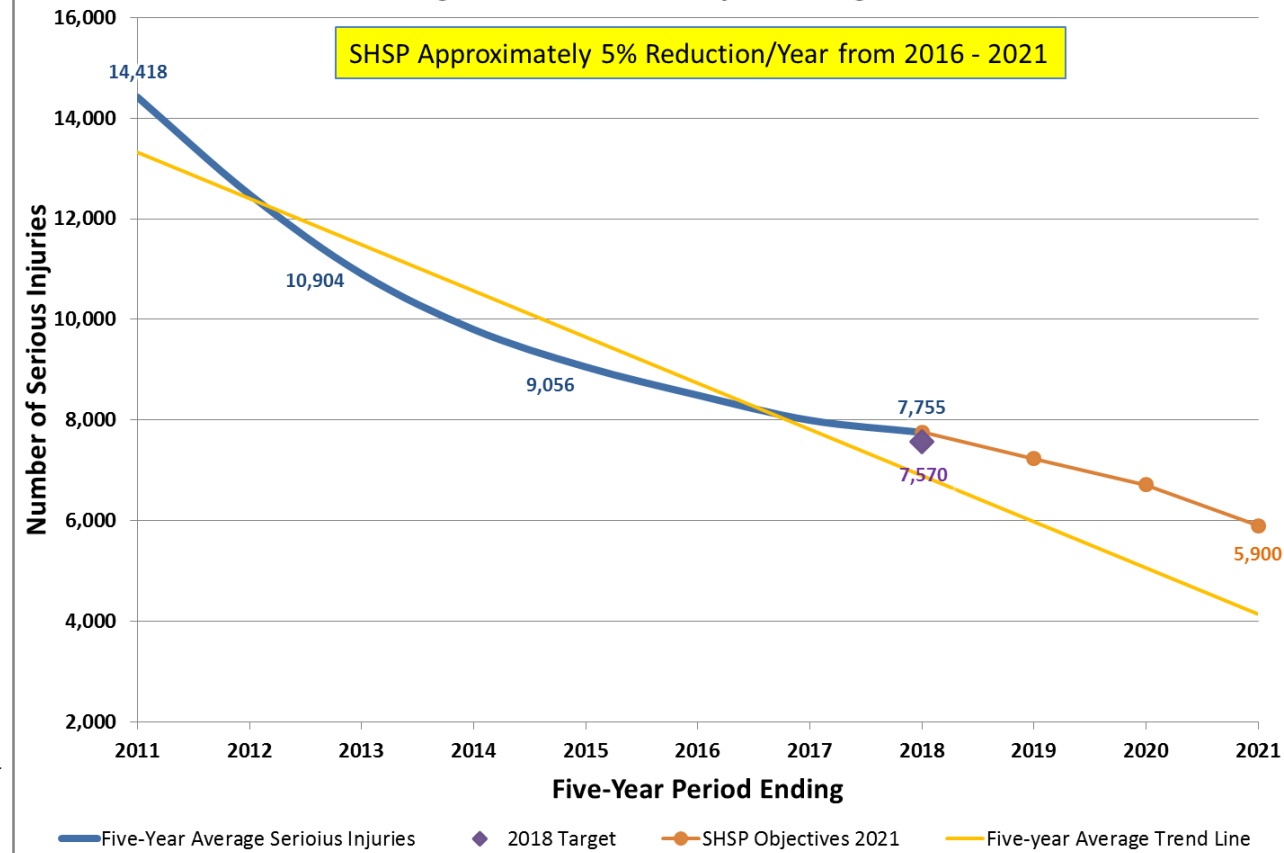# Virginia Severe Crash Outcomes – 2018 Targets

Virginia 2018 Fatalities Target

SHSP Approximately 2% Reduction/Year from 2015 - 2021

- 823
- 745
- 747
- 776
- 722
- 709
- 696
- 683
- 670

Number of Fatalities / Five-Year Period Ending

Legend: Five-Year Average Annual Fatalities · 2018 Target · SHSP Objectives 2021 · Five-Year Average Trend Line

Virginia 2018 Serious Injuries Targets

SHSP Approximately 5% Reduction/Year from 2016 - 2021

- 14,418
- 10,904
- 9,056
- 7,755
- 7,570
- 5,900

Number of Serious Injuries / Five-Year Period Ending

Legend: Five-Year Average Serioius Injuries · 2018 Target · SHSP Objectives 2021 · Five-year Average Trend Line

VDOT

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2020 Safety Measures Prediction Models

Assessed models for Fatalities and Serious Injuries using the following external factors

Social Economic Data

- District Annual Total Population
- Annual Labor Force
- Annual Unemployed
- Median Household Income
- Statewide Annual GDP
- Statewide Annual Alcohol consumption
- Liquor Licenses by Type
- ABC Stores – Gallons Sold
- Average Gas Price

Veh. Miles Travelled

- Urban and Rural VMT

Transportation Spending

- VDOT Infrastructure Programs
- DMV HSO Behavioral Spending
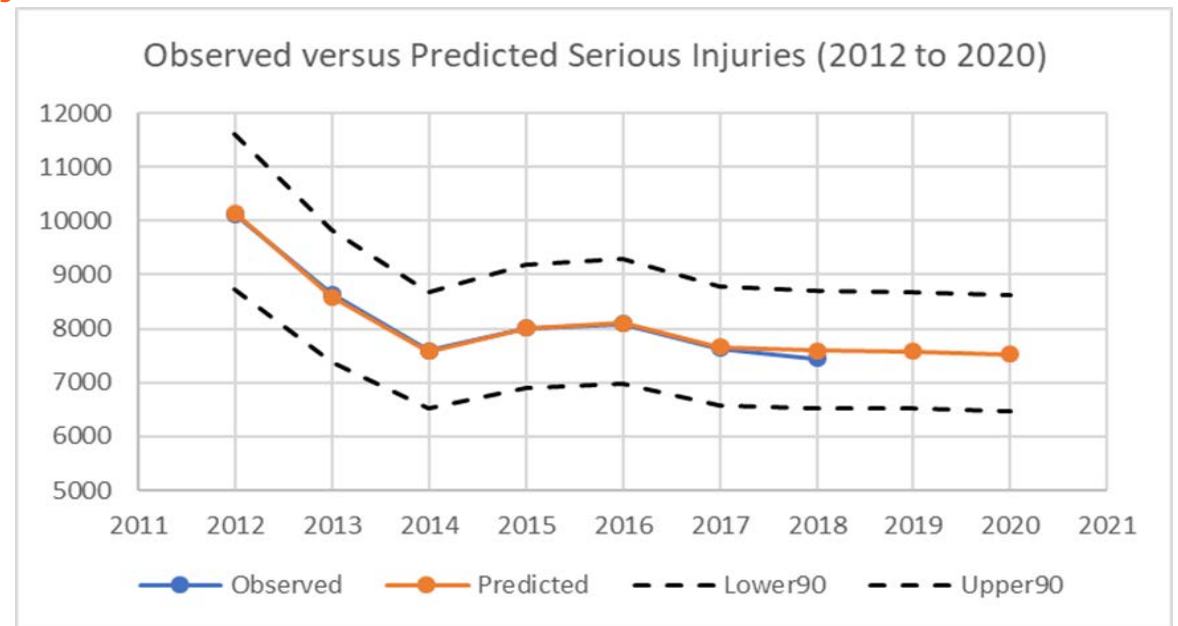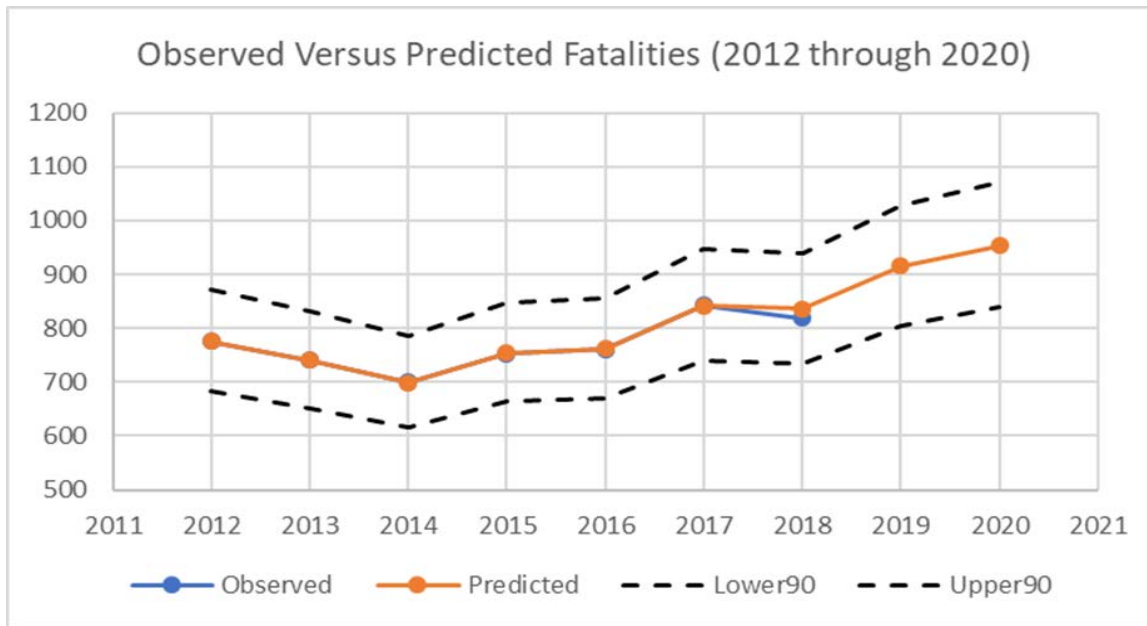
Weather

- Average Precipitation
- Average Snowfall

Findings From the Prediction Models

Factor	Effect on Fatal Crashes	Effect on Serious Injury crashes	Effect on Bike/Ped crashes
VMT growth	↑	↑	↑
Increasing local functional class % of VMT	↑	↑	↑
Increasing young population (15-24)	↑		↑
Increasing aging population (75+)	↑	↑	
Liquor licenses			↑
Increased highway resurfacing spending	↓		
Increased emergency/incident management spending	↓		
Increased total behavioral programs spending	↓		
Increased roadway maintenance spending		↓	
Increased roadway construction spending			↓
Increased average snowfall per moth		↓	
Increased rural functional class % of VMT			↓
Increased non-motorized behavioral program spending			↓
Increased gas prices			↓

Baseline Predictions

2020 Model Predictions

- Fatalities = **954**

- Serious Injuries = **7,520**

- Bike/Ped Fatalities + Serious Injuries = **714**

Observed Versus Predicted Fatalities (2012 through 2020)

Observed versus Predicted Serious Injuries (2012 to 2020)

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2020 Data-Driven Targets: Inc. Project Benefits

Combined the baseline predictions with the expected SMART SCALE and HSIP project benefits to establish data-driven targets

Description	Fatalities	Fatality Rate	Serious Injuries	Serious Injury Rate	Ped/Bike Fatalities + Serious Injuries
2020 Baseline Model Prediction	954	1.08	7,520	8.52	714
Expected Project Reductions	- 3.6	-	- 47.4	-	- 3.4
Final 2020 Targets	**950**	**1.07**	**7,473**	**8.45**	**711**
2019 Targets	**840**	**0.94**	**7,689**	**8.75**	**714**

Virginia's Local Safety Partnership Efforts

Infrastructure (Engineering)- More systemic safety treatments

Virginia's Local Safety Partnership Efforts

Infrastructure- Construction (SMART SCALE), Maintenance & Developer Projects

Intersections:
- Innovative Designs– reduce conflicts and speed
- Access Management – consolidate and interconnect

Bicycle and Pedestrian :
- Master and site planning for land-use and non-motorized accommodations
- Add accommodations and ADA accessibility to projects

Corridors:
- User context sensitive – multi-modes (expand transit), design for target speed, roadside safety
- Update infrastructure – signals, signs, markings, guardrail, pavement friction, shoulders

Virginia's Local Safety Partnership Efforts

Enforcement, Education, and Emergency Response – Collaboration, Committees and Coalitions

Safety Plans:

- Jurisdictional or Regional safety plans – identify issues, locations, and actions

4-Es Working Together:

- Form local Safety Committees, such as Blue Ridge Transportation Safety Board
- Incorporate Enf, Edu, and ER into engineering safety assessments, e.g., Roanoke Co Police
- Consider crime and traffic safety data driven enforcement collaboration
- Engage Regional DUI Task Force
- Include public health initiatives, such as active transportation efforts

Coalitions:

- Use social media with safety partners – VDOT/DMV, Drive Smart, AAA, WRAP
- Promote safety campaigns with business partners
- Consider highway safety in school curriculums
- Coalesce on common sense legislation

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