

ITEM 7 – Information

October 16, 2019

Activities to Address Safety Challenges in the Region: VDOT

Background:

In January, the board approved Resolution R11-2019 to set performance-based planning and programming (PBPP) highway safety targets for 2019. As part of the resolution, the board requested that member DOTs report quarterly on their efforts to improve safety. This second briefing from the Virginia Department of Transportation (VDOT) will provide an overview of the statewide 2020 highway safety targets, suggest actions TPB member jurisdictions can take to reduce fatalities, and describe how VDOT is working with other state DOTs and sharing best practices.



PARTNERING IN VIRGINIA

Working to Drive Deaths and Serious Injuries Towards Zero on Our Highways

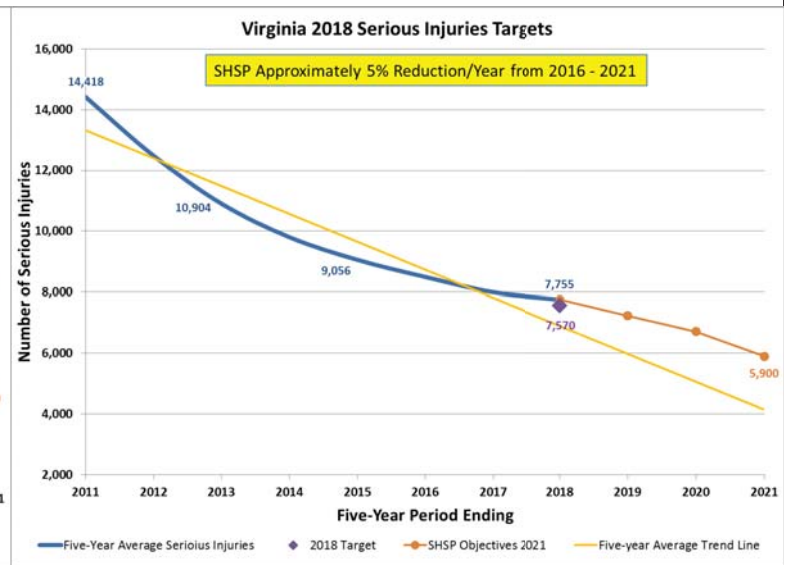
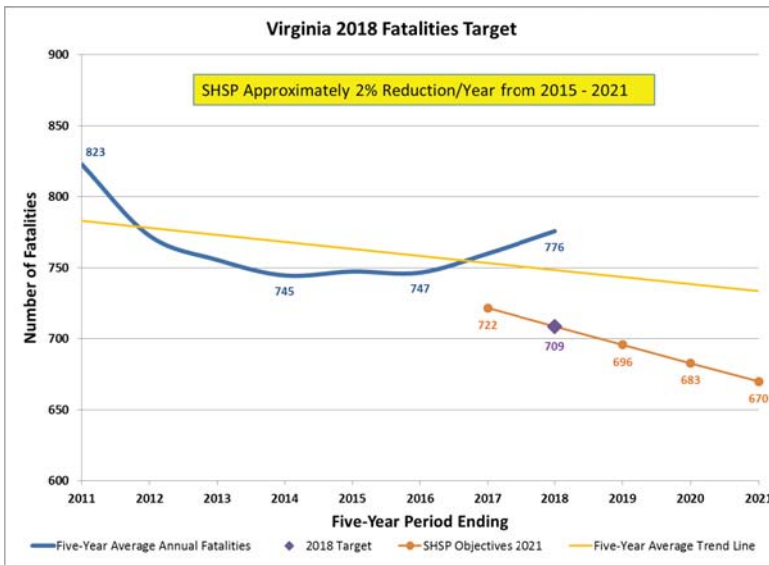
Stephen W. Read, P.E.

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Outline

1. Recent Safety Outcomes
2. 2020 Factor Driven Targets
3. Local and Regional Safety Partnership Opportunities

Virginia Severe Crash Outcomes – 2018 Targets



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

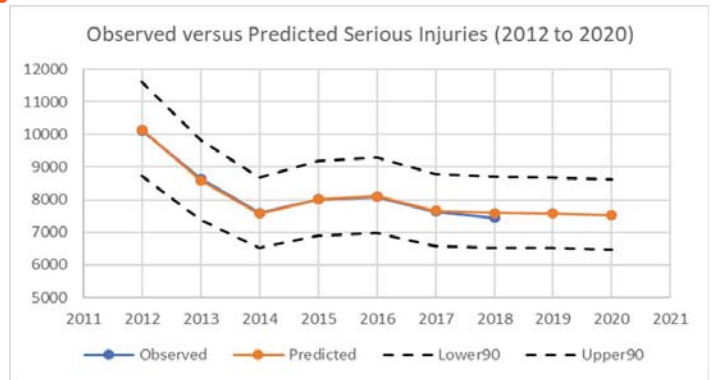
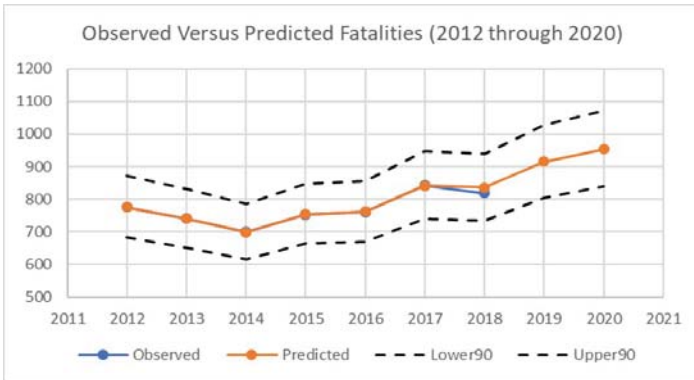
Findings From the Prediction Models

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**



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

<p>High-visibility Backplates</p>  <p>Up to 15% crash reduction</p>	<p>Flashing Yellow Arrow</p>  <p>Up to 20% crash reduction</p>	<p>Curve Signs</p>  <p>Up to 40% crash reduction</p>	<p>Pedestrian Crossings</p>  <p>Up to 56% crash reduction</p>
<p>Unsignalized Intersections</p>  <p>Up to 10% crash reduction</p>	<p>Shoulder Wedge</p>  <p>Up to 20% crash reduction</p>	<p>Centerline Rumble Stripes</p>  <p>Up to 60% crash reduction</p>	<p>Edgeline Rumble Strips</p>  <p>Up to 50% crash reduction</p>

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

Contact :

Stephen.Read@vdot.virginia.gov

804-786-9094