



Virginia Safety Data and Target Setting Methods

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Stephen Read, P.E.
VDOT Traffic Engineering Division

Item 9

State Safety Target Setting METHODOLOGY

Federal Safety Performance Measures

FHWA and NHTSA Measures:

- **Fatalities and Fatalities/100M VMT Rate**
- **Serious Injuries**

FHWA Measures:

- **Serious Injuries/100M VMT Rate**
- **Non-Motorized Fatalities and Serious Injuries**

Federal Rule

- Final rule has significant “state” progress toward the targets was defined when four (of five) measures:
 - met target or
 - did not exceed the base year (e.g., 2016 for 2018)

Use Five-Year Average Rolling Data

- **Fatality Analysis Reporting System (FARS), HPMS (VMT), and State Data.**
- **FARS Lags two years behind DMV reported fatal crashes. VA preliminary 2016 data in Spring 2017**
- **Virginia (TREDS) Serious Injury Coded Crashes (MMUCC compliant)**

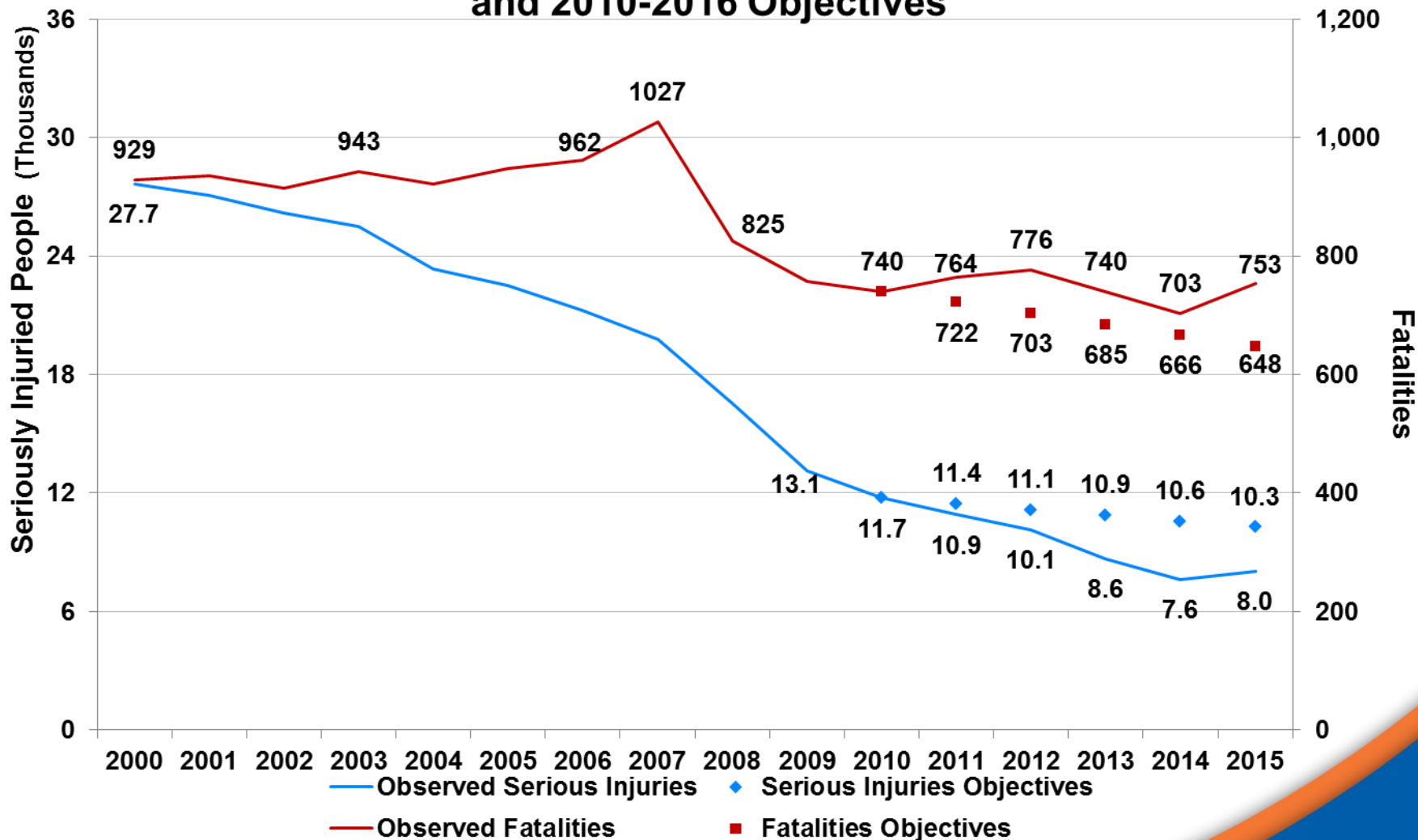
FARS Data Source - <https://www-fars.nhtsa.dot.gov/Main/index.aspx>

SHSP Virginia Objectives Setting

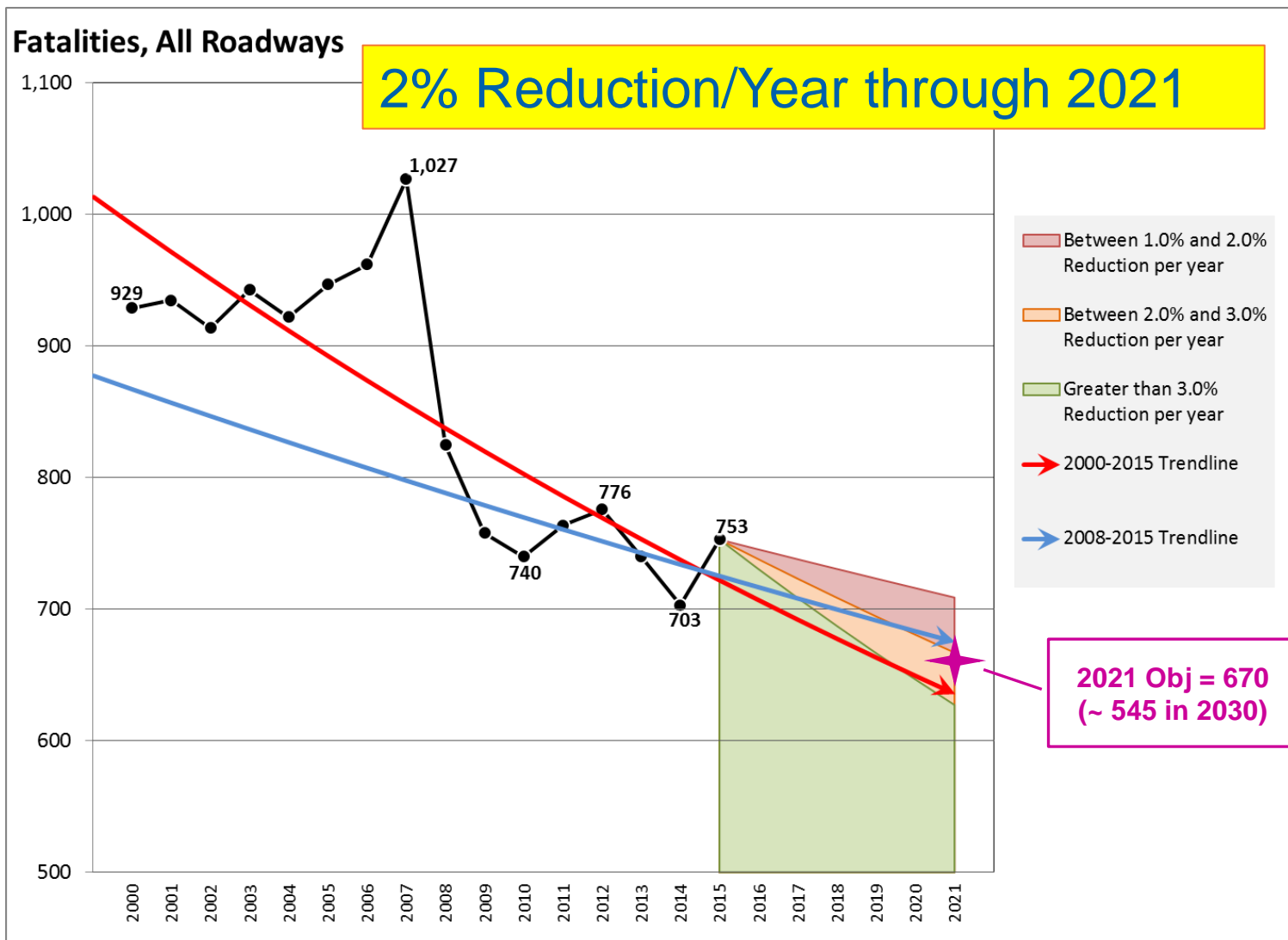
5 YEAR OBJECTIVES

Past SHSP Objectives

Annual Fatalities and Serious Injuries and 2010-2016 Objectives



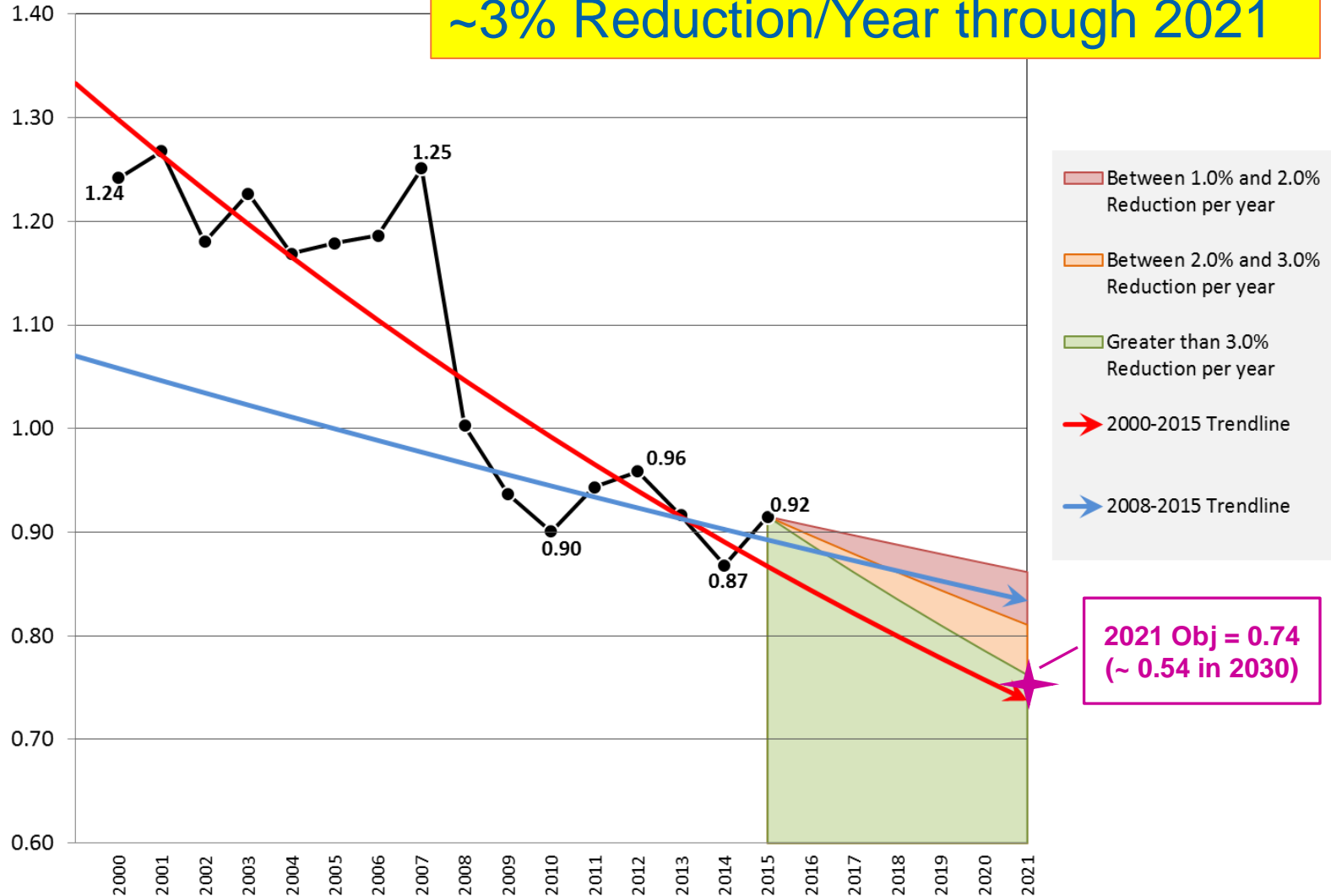
SHSP 2021 Fatality Objective



SHSP Fatality Rate 2021 Objective

Fatality Rate, All Roadways

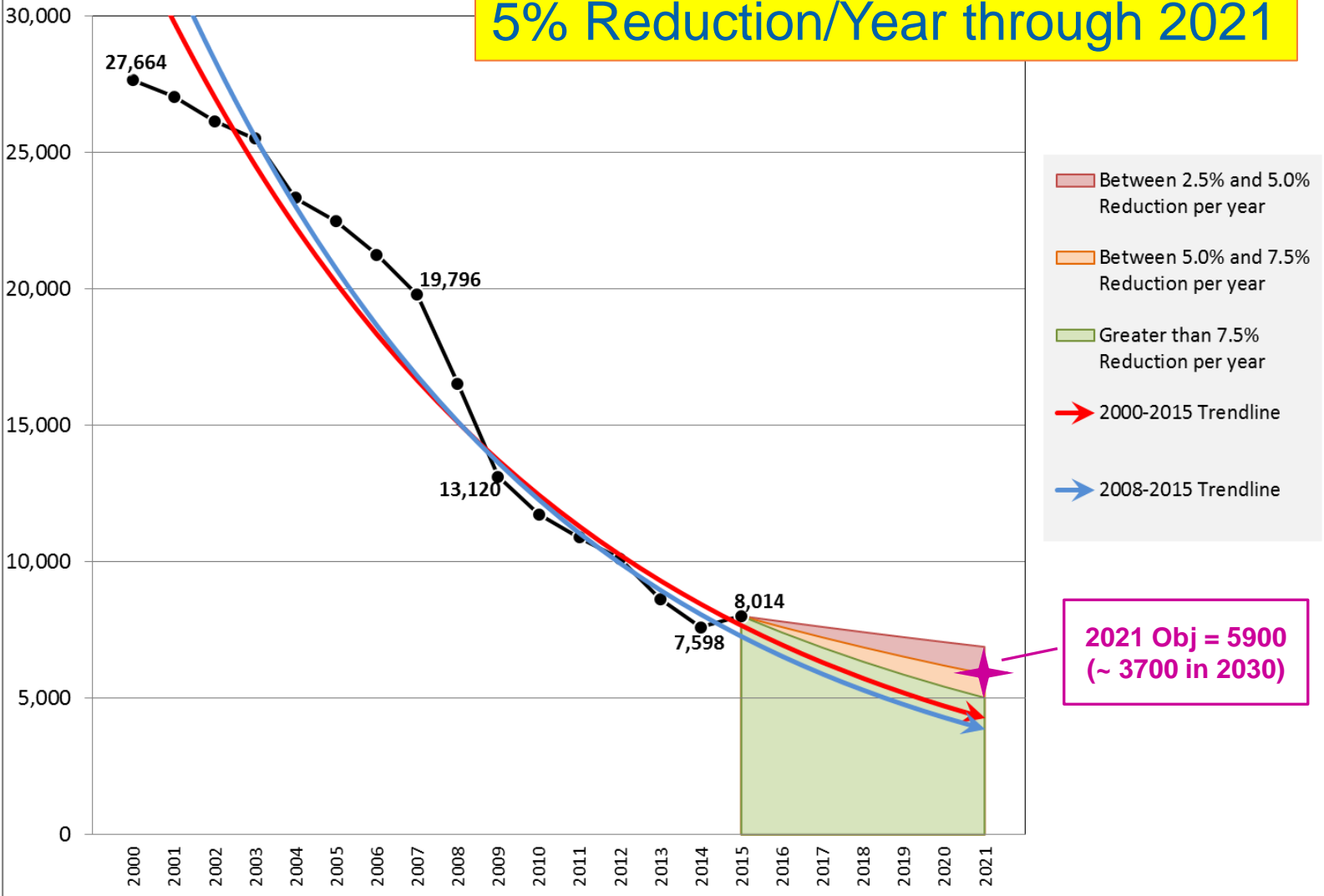
~3% Reduction/Year through 2021



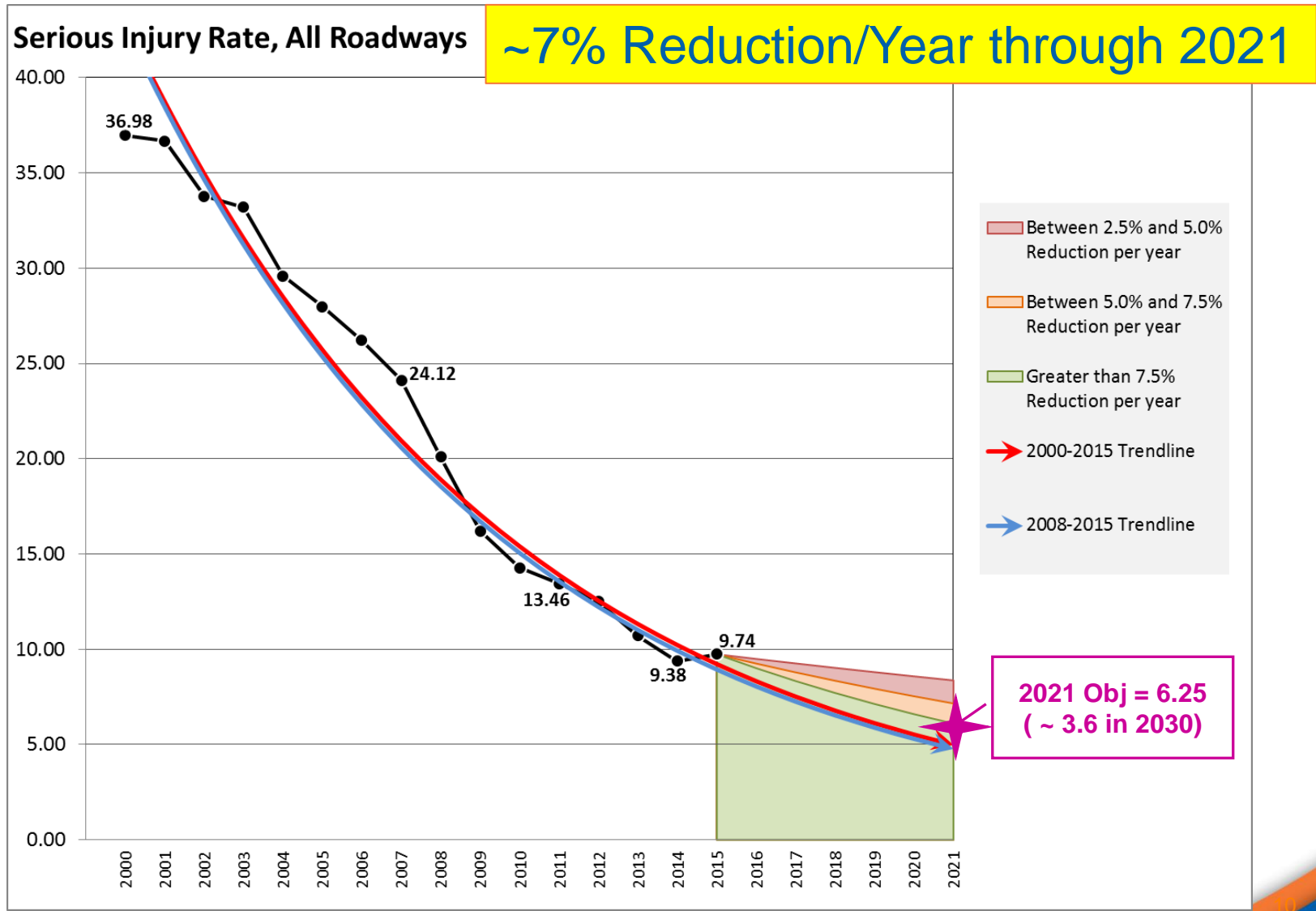
SHSP 2021 Serious Injuries Objective

Serious Injuries, All Roadways

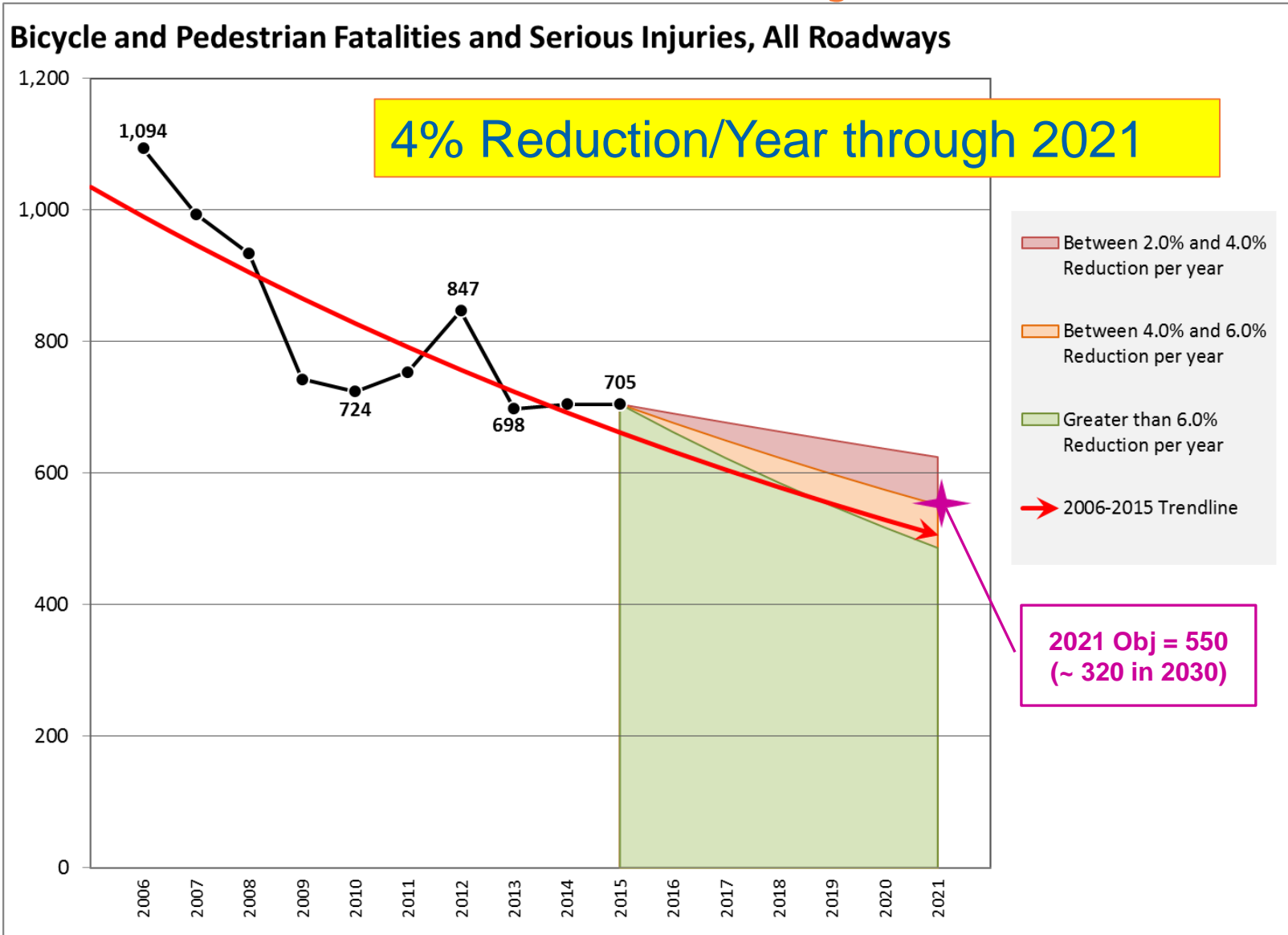
5% Reduction/Year through 2021



Proposed Serious Injuries Rate 2021 Obj.



SHSP 2021 Bicycle and Pedestrian - Fatalities and Serious Injuries



MPO/TPO Target Setting METHODOLOGY

MPO/TPO CHOICES

- 1. Support State's Targets**
- 2. Establish and Submit own measure targets**
 - a. For all public roads**
 - b. If rates targets are set, then VMT used and method to develop is to be submitted to state**

Multi-state MPOs support targets with each state.

Tableau Crash Analysis Tool (Workbook)

Filters

- MPO/TPO Boundaries
- PDC Boundaries
- Urban Areas
- Jurisdictions
- Bike and Pedestrian Crashes

Provides crashes and persons by KABCO scale of injuries.

Tableau PDC/MPO/TPO Crash Tool

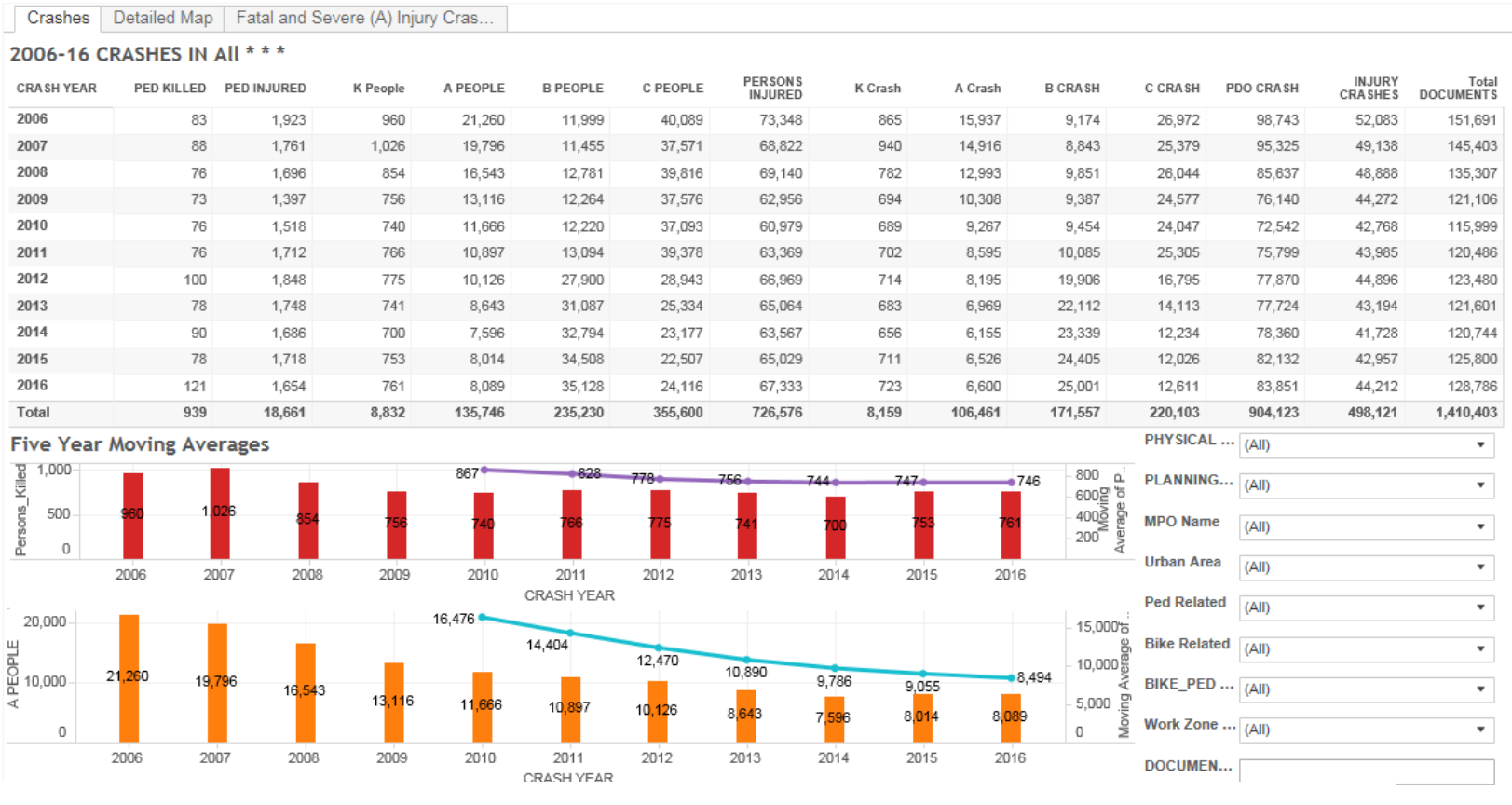


Tableau Workbook Page:

https://public.tableau.com/profile/tien.simmons#!/view/home/MPO_CRASHES/Crashes

FARS (Fatality) Data Through FHWA Site



MPO/TPO VMT Estimates

VDOT is testing methodology using:

- **MPO/TPO Boundaries**
- **VDOT Roadway Network System (GIS-LRS)**
- **VDOT Traffic Monitoring System**
- **HPMS reporting methods**

Goal is to prepare and share VMT estimates by summer of 2017

MPO/TPO Target Setting Template

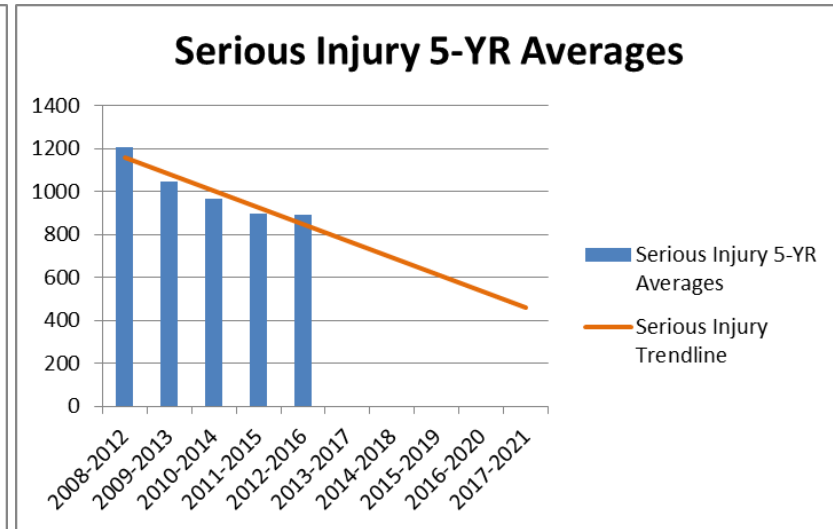
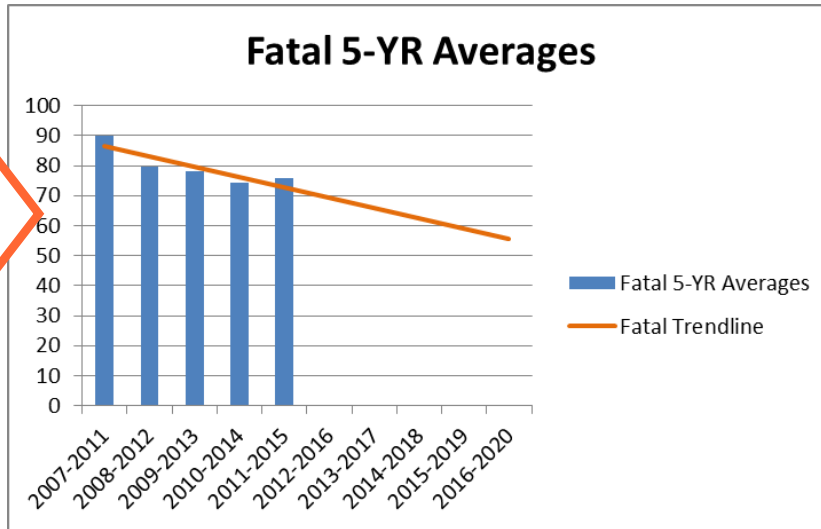
Using MS-Excel workbook template to provide:

- **Import of Tableau and FHWA MPO/TPO Boundary Crashes and Persons**
- **Separate sheets for All K+ A crashes and for Bike+Ped K+A crashes**
- **Annual VMT to be entered by user**
- **Calculates “trend lines” and percent reductions**

Goal is to prepare and share workbook by summer of 2017

Trends Testing

5-YR
average
linear
projection



Projected Historical Trendline Summary (Based off of 5-YR Averages)	2016	2017	2018	2019	2020	2021	Yearly Change	Average Percent Change
Fatal	73	69	66	63	59	--	-3.40	5.0%
Fatal Rate	0.66	0.63	0.60	0.56	0.53	--	-0.03	5.4%
Serious Injury	--	769	692	614	536	459	-77.64	12.1%
Serious Injury Rate	--	6.80	6.02	5.24	4.47	3.69	-0.78	14.1%

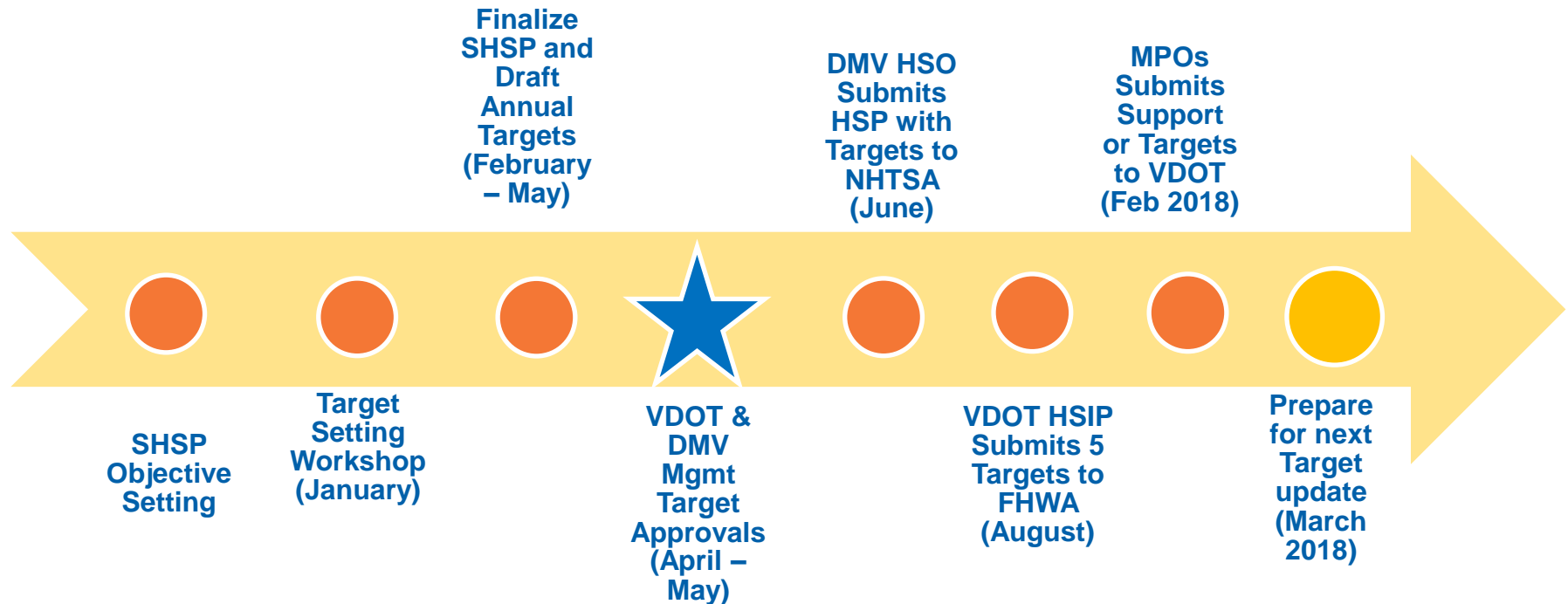
3. Set Future Target Reduction

Fatality Reduction	3.0%
Serious Injury Reduction	12.0%
VMT % Increase	1.0%

Review Historical Percent Changes

Input Test Percent Change for Future Targets

SHSP Update and Safety Reporting



VDOT Web-based Outreach to PDC/MPO/TPO

Summer 2017 on State Targets, Methods and Template Resources

Fall 2017 on Targets, Resources, and Intake of MPO/TPO submissions

Highway Safety Programs



Stephen Read, P.E.
Stephen.Read@vdot.virginia.gov
Phone: 804-786-9094

Discussion