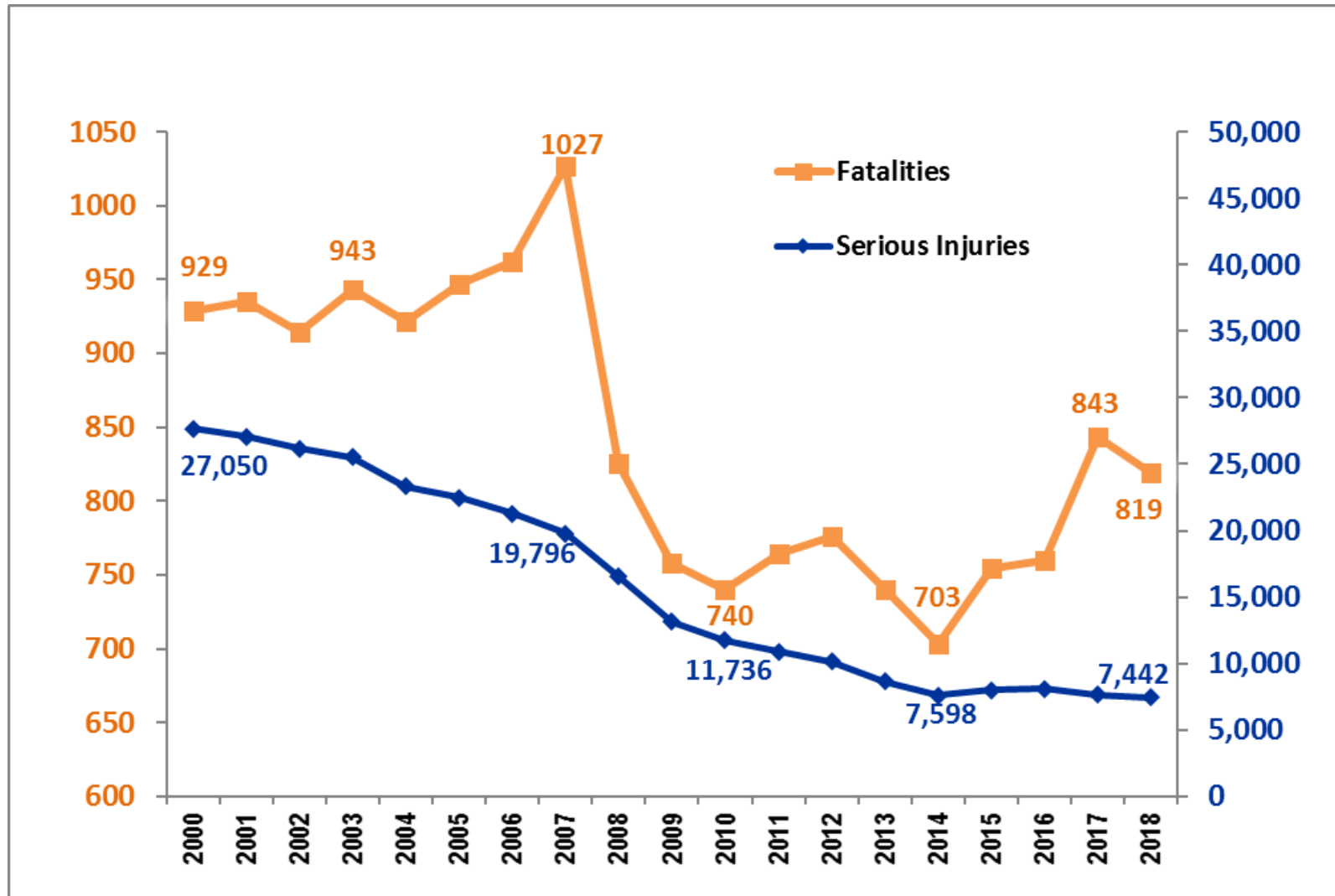


HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) SYSTEMIC SAFETY IMPLEMENTATION PLAN

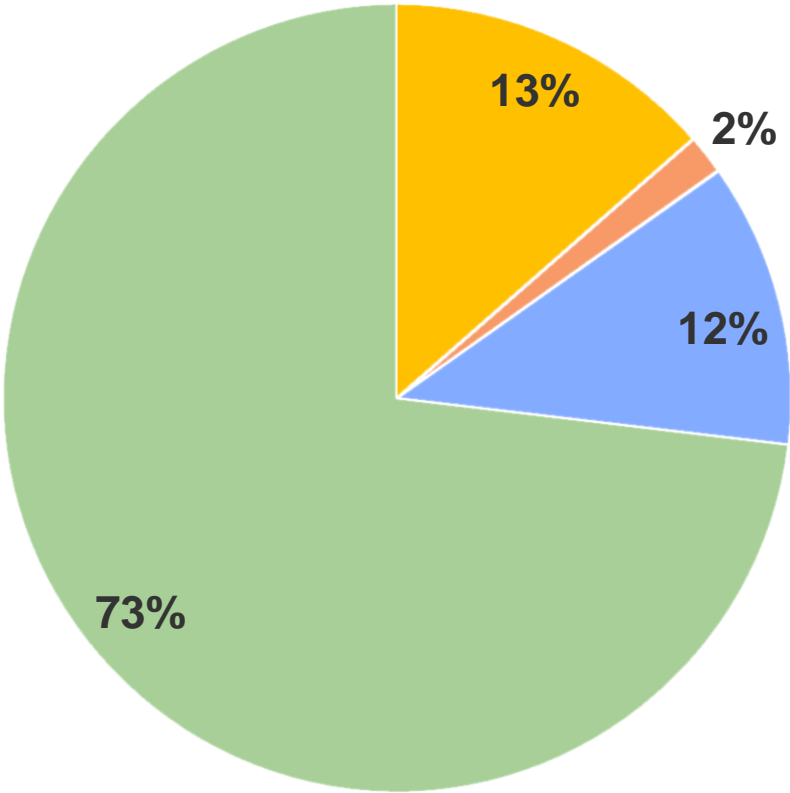
Mid-Atlantic Asphalt Expo & Conference

Virginia Highway Safety Trends (2000-2018)



Virginia Traffic Deaths by Roadway User Type (2014-2018)

In 2018,
231 vulnerable
road users died,
28% of
all traffic
deaths



■ Pedestrians ■ Bicyclists ■ Motorcyclists ■ Other Motorists

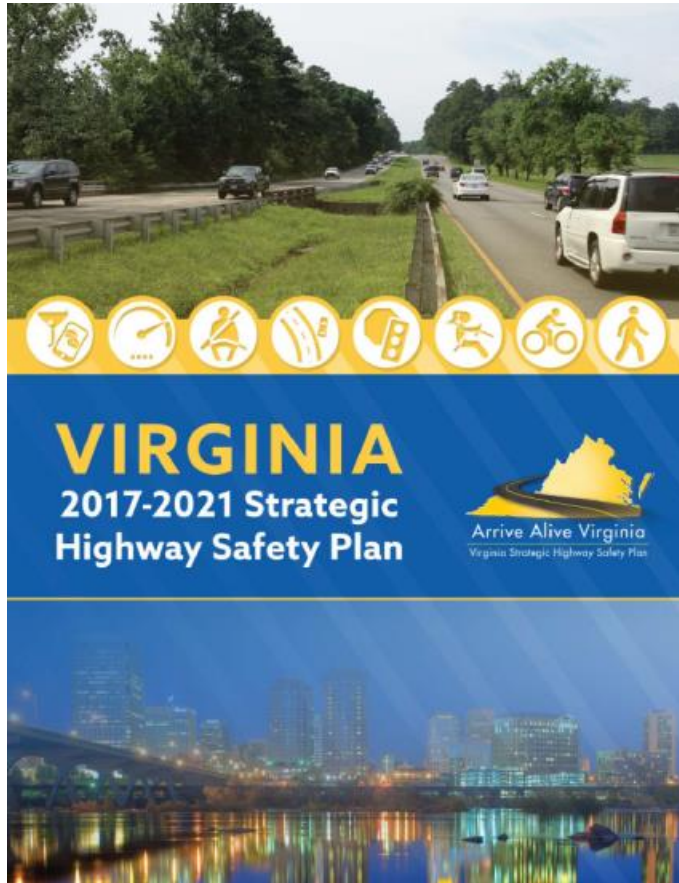
Traffic Safety Is A Public Health Issue

Between 2011 and 2015 in Virginia, traffic crashes were:

- the leading cause of death for ages 15-24
- The second leading cause of death for ages 25-29 behind drug overdoses
- Tied with heart disease and cancer for the second leading cause of death for ages 30-34. Drug overdoses is number one in this age group.

ARRIVE ALIVE VIRGINIA

Virginia Strategic Highway Safety Plan (SHSP)



Vision

Toward Zero Deaths

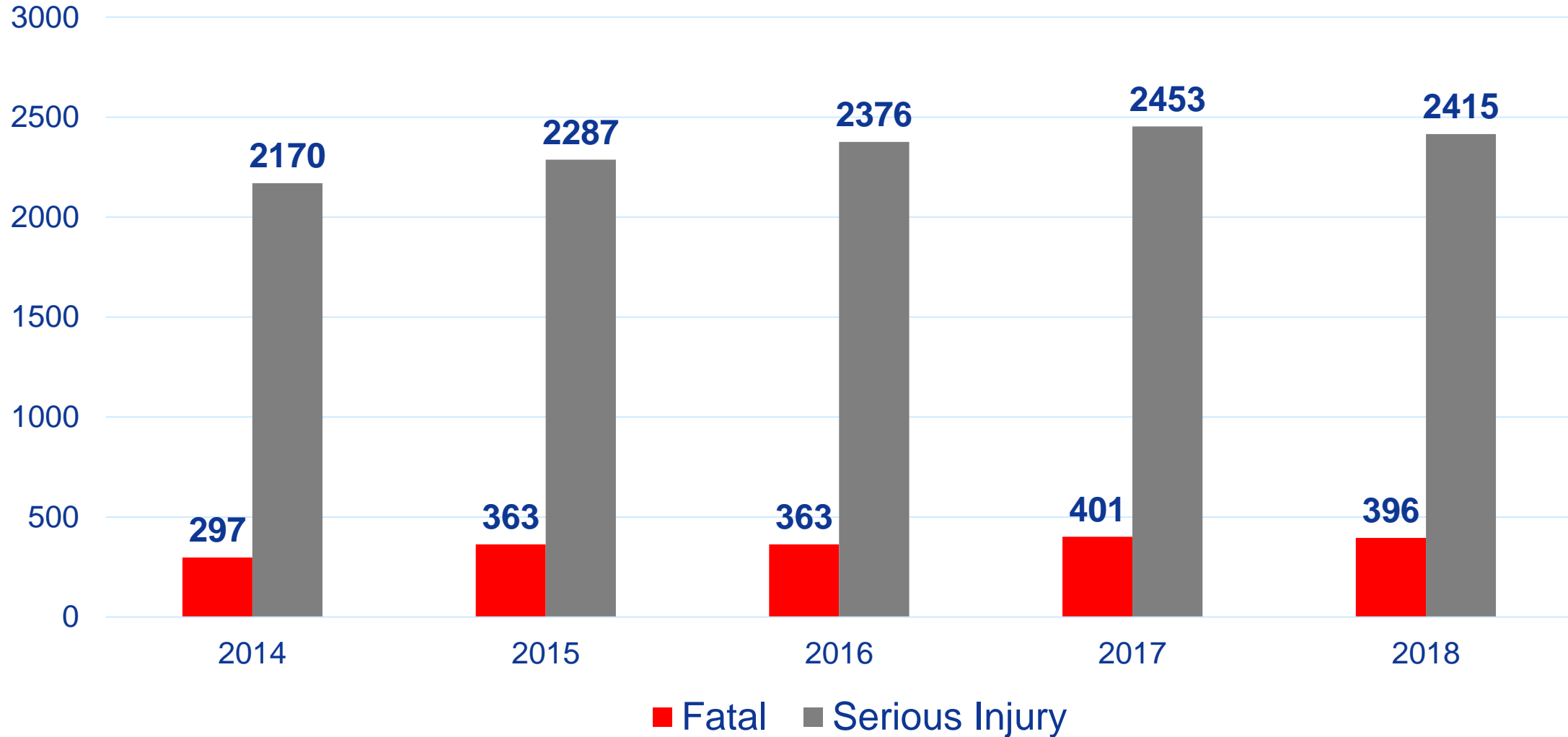
Mission

Save Lives and Reduce Injuries
through 4E's of:



http://www.virginiadot.org/info/resources/SHSP/VA_2017_SHSP_Final_complete.pdf

Virginia Fatal & Serious Injury Roadway Departure Crashes

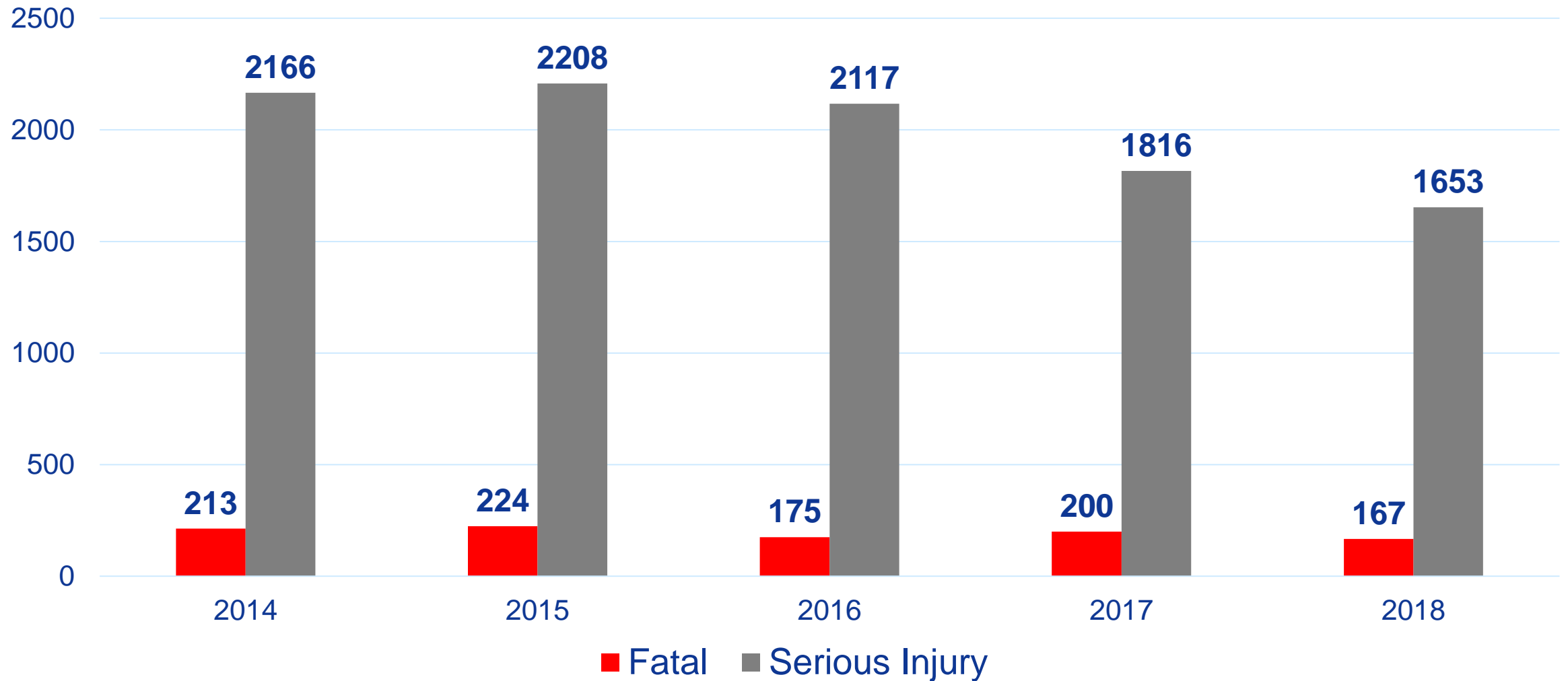


Virginia Road Departure Crashes By Rural/Urban

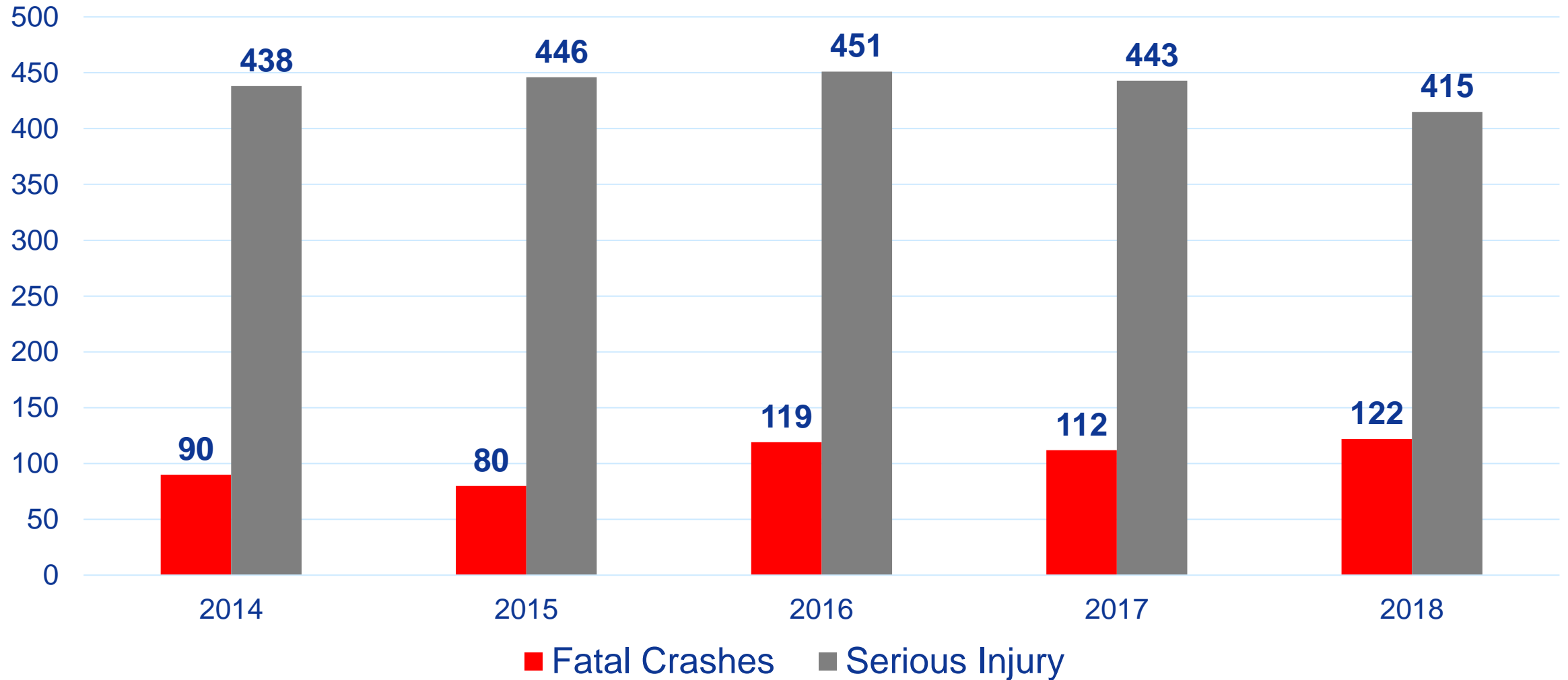
63% of Fatal and 55% of Serious Injury RD Crashes → Rural roads

Functional Class	2018 Deaths	2018 Death Rate	2018 Serious Injuries	2018 Serious Injury Rate
Rural Interstate	44	0.21	385	2.42
Rural Principal Arterial	69	0.60	405	3.53
Rural Minor Arterial	108	1.45	492	6.23
Rural Major Collector	130	1.90	862	10.68
Rural Minor Collector	13	1.39	101	14.41
Rural Local	59	1.22	506	10.79
Urban Minor Arterial	94	0.35	1169	2.06
Urban Collector	50	0.54	475	3.69
Urban Freeways	13	0.15	153	1.47
Urban Interstate	62	0.22	743	2.07
Urban Local	11	0.04	137	0.55
Urban Principal Arterial	108	0.22	1115	1.34
Statewide Average		0.49		3.46

Virginia Fatal & Serious Injury Intersection Crashes

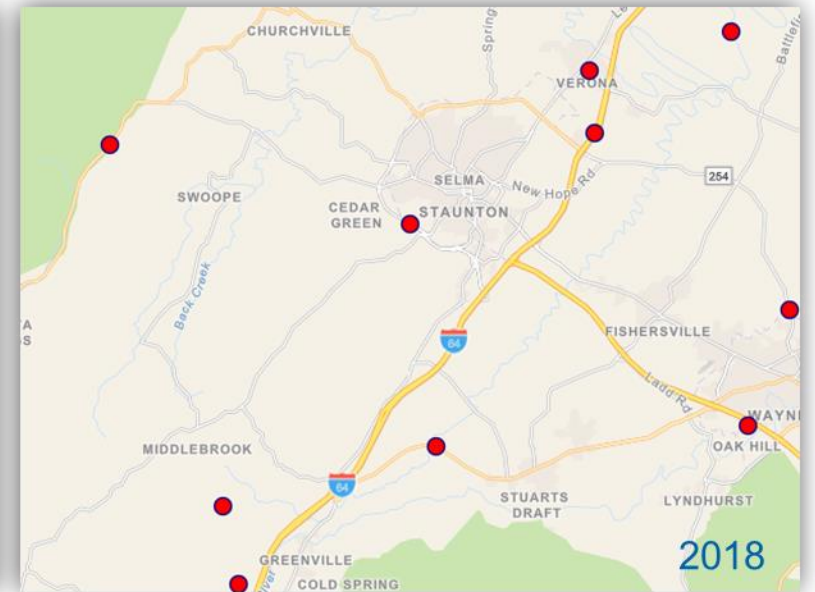
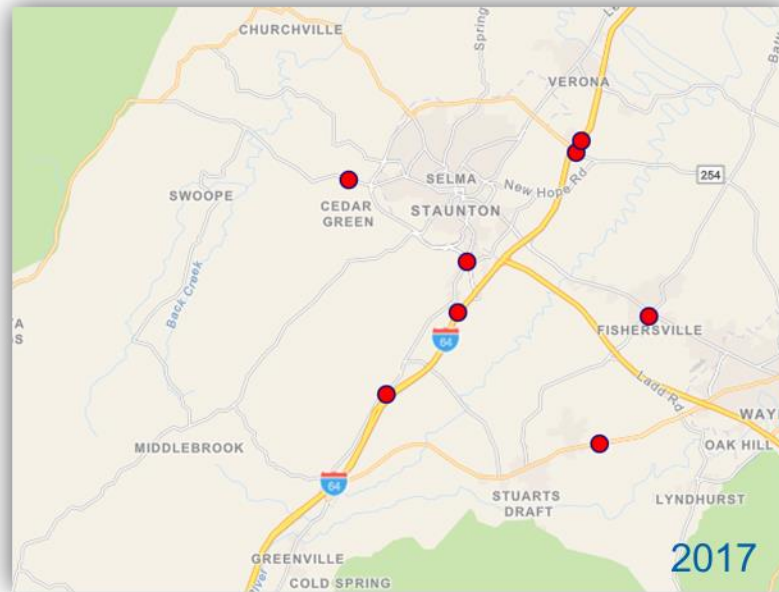
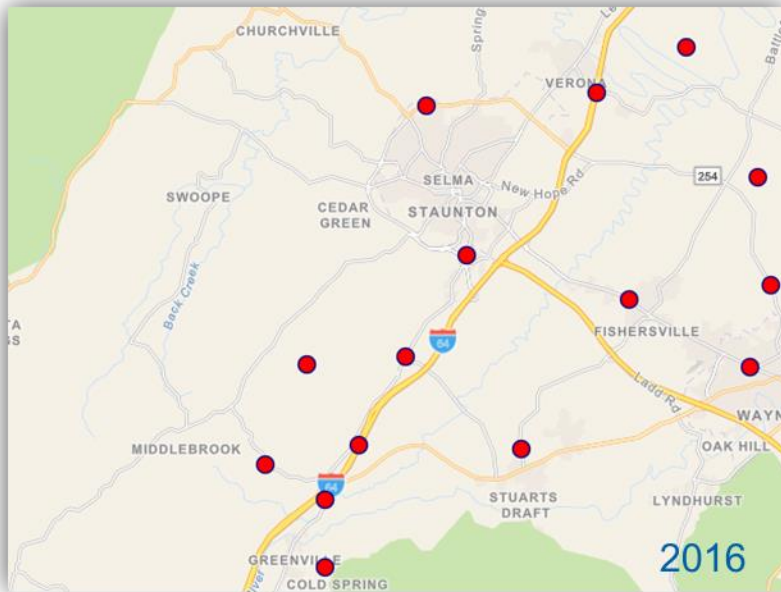


Virginia Fatal & Serious Injury Pedestrian Crashes



Systemic Versus Spot Safety Projects

“Rather than managing risk at individual locations, a systemic approach takes a broader view and evaluates risk across an entire roadway system.” - FHWA



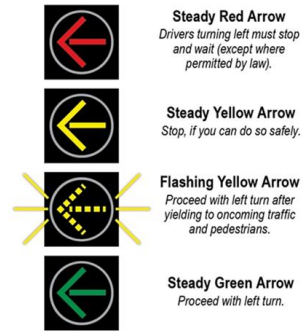
8 Systemic Safety Items

High-visibility Backplates



Up to 15% crash reduction

Flashing Yellow Arrow



Up to 20% crash reduction

Curve Signs



Up to 40% crash reduction

Pedestrian Crossings



Up to 56% crash reduction

Unsignalized Intersections



Up to 10% crash reduction

Shoulder Wedge



Up to 20% crash reduction

Centerline Rumble Strips



Up to 60% crash reduction

Edgeline Rumble Strips



Up to 50% crash reduction

Implementation Plan Development

- **Identified \$136.7M in potential funding through FY 2025 for a systemic safety plan by:**
 - **Earmarking unprogrammed HSIP funds in FY 2020-2025 SYIP - \$60M**
 - **Optimizing funds on existing safety project to better align with schedules - \$15M**
 - **Earmarking \$11.7M in FY 20 and 10M per year in future Open Container funds through FY 2025 - \$61.7M**
- **Developed DRAFT plan to deploy 8 systemic safety countermeasures in Virginia**
 - **All 8 countermeasures are lower-cost/high-benefit**
 - **All 8 countermeasures have proven safety results in Virginia or other states**
 - **DRAFT schedules and estimates have been prepared to deploy each item**
- **\$20M of \$136.7M proposed to be set aside for local systemic projects in FY 2024 and 2025**
 - **Amount for local roads is consistent with current formula which divides safety funds between VDOT and locally-maintained roads based on the proportion of traffic deaths on each system**

Implementation Plan for 8 Systemic Treatments on VDOT System Roads

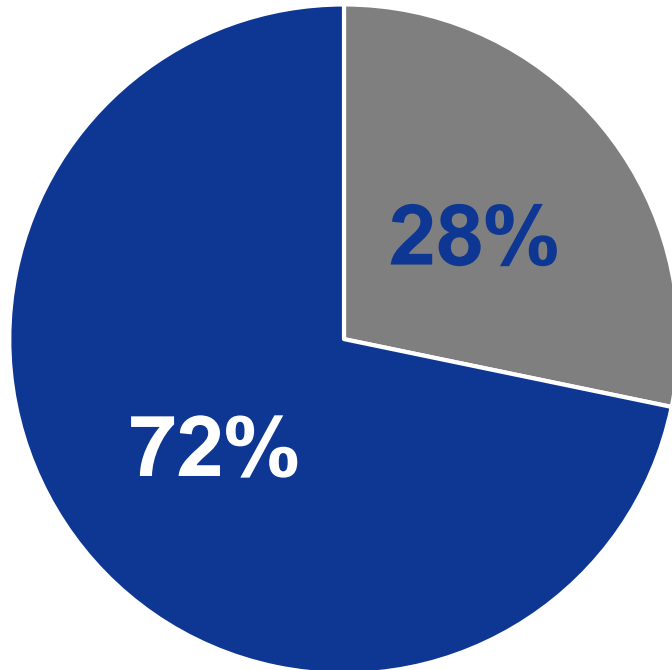
Treatment	HSIP Funding (\$M)	Complete By	Comments
High-Visibility Backplates	15.2	2021	
Flashing Yellow Arrows	17	2021	
Curve delineation	29	2024	To meet MUTCD
Pedestrian Crossings	22	2025	At select VDOT signals
Unsignalized Intersections	8.35	TBD	Partially funded through 2025
Shoulder Wedge	Maintenance	2035	
Centerline Rumble Stripes	3.1	2035	Funded through FY 2025
Edge line Rumble Strips	21.6	2035	Funded through FY 2025
Total	\$116.7M		

Estimated Lives and Injuries Saved Per Year After Full Deployment

Systemic Safety Improvement	Benefit/Cost Ratio	Lives and Injuries Saved Per Year Once Fully Deployed			Full Deployment Date
		Deaths	Injuries	Total	
High-Visibility Backplates (VDOT)	9.0	1	106	107	2021
Flashing Yellow Arrows (VDOT)	12.6	1	90	91	2021
Curve Delineation (VDOT)	1.7	6	104	110	2024
Pedestrian Crossings (VDOT)	8.9	3	85	88	2025
Unsignalized Intersection (VDOT)	1.3	2	62	64	TBD
Shoulder Wedge (VDOT)	17.0	13	281	294	2035
CL Rumbles - Primaries (VDOT)	40.0	13	115	128	2035
Edge Rumbles - Primaries (VDOT)	29.8	22	331	353	2035
	Total	61	1174	1235	

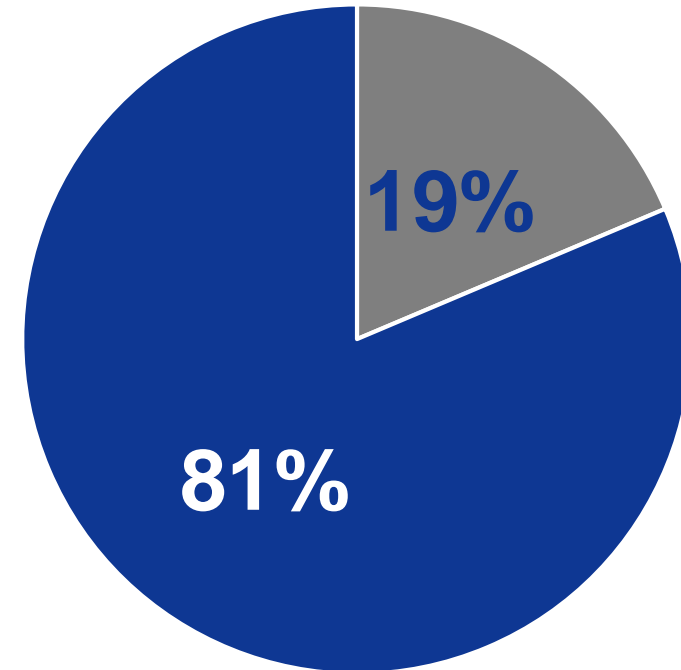
Funding Distribution Before and After Changes FY20 – FY25

BEFORE



■ Spot ■ Systemic/Hybrid

AFTER



■ Spot ■ Systemic/Hybrid

Questions?