

# **HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) SYSTEMIC SAFETY IMPLEMENTATION PLAN**

Commonwealth Transportation Board

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September 17, 2019

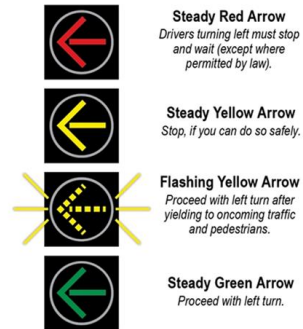
# 8 Systemic Safety Items

## 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

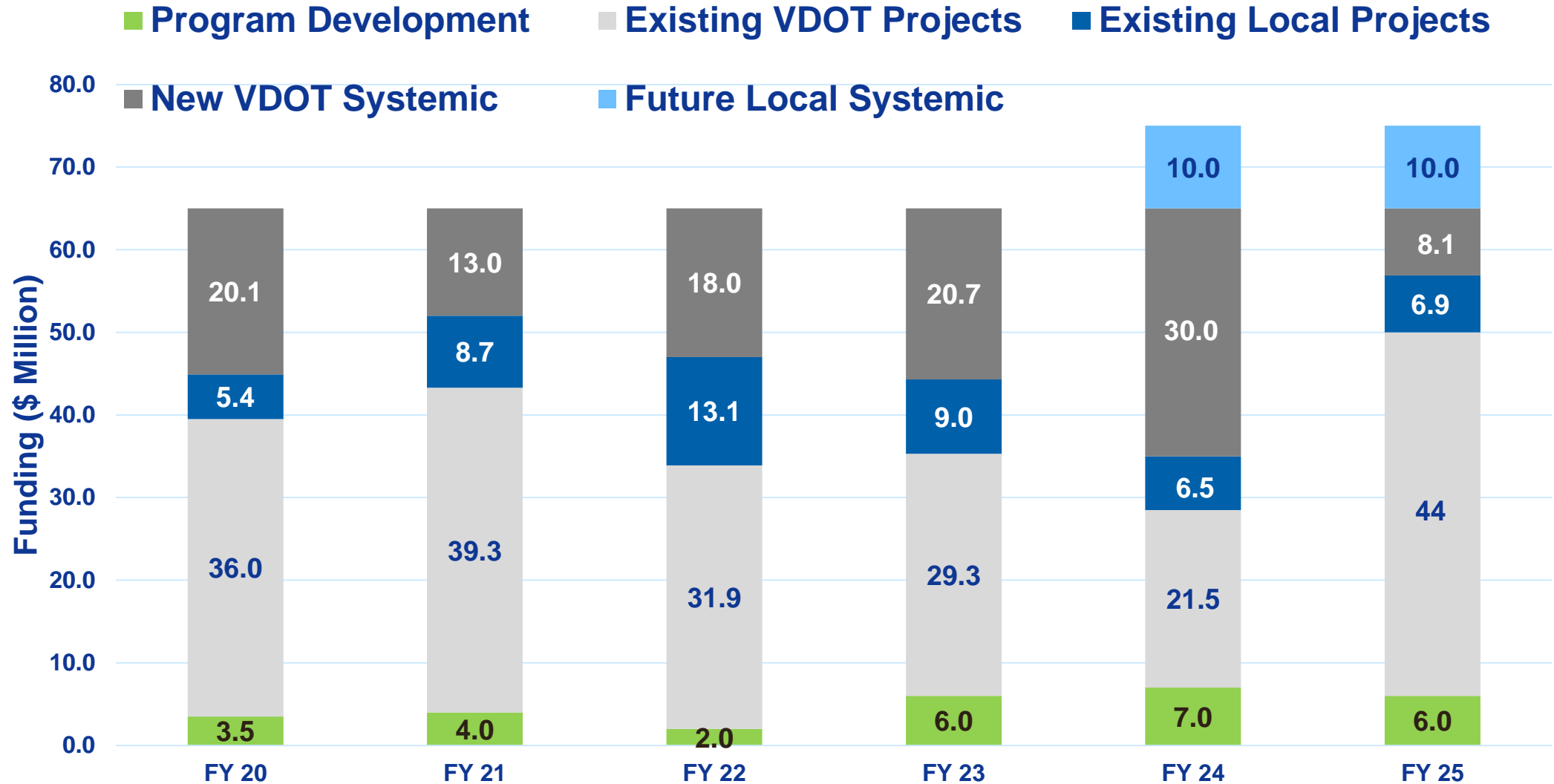


Up to 50% crash reduction

# 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**

# HSIP & Open Container\* DRAFT Funding Plan FY20 – FY25



# DRAFT Implementation Plan for 8 Systemic Treatments

PE & CN
PE
CN

Source	HSIP Funding Through FY 25 (\$M)	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	Schedule (Calendar Year)
High-Visibility Backplates (VDOT) <sup>1</sup>	15.2	8.8	2.4	4				Complete by July 1, 2021
Flashing Yellow Arrows (VDOT) <sup>2</sup>	17	7.4	1.95	7.65				Complete by July 1, 2021
Curve Delineation (VDOT) <sup>3</sup>	29	1.8			12	15.15		Complete 2024
Pedestrian Crossings (VDOT) <sup>4</sup>	22	2.2	2.3	3	3.3	6.9	4.75	Complete 2025
Unsignalized Intersection (VDOT) <sup>5</sup>	8.35	3.35	3		2			PE 2020, CN Start 2021. \$17M still needed
Shoulder Wedge (VDOT) <sup>6</sup>	Maintenance funds							Resurfacing Cycle - 15 yr
CL Rumbles - Primaries (VDOT) <sup>7</sup>	3.1	1.35	0.35	0.35	0.35	0.35	0.35	Resurfacing Cycle - 15 yr
Edge Rumbles - Primaries (VDOT) <sup>8</sup>	21.6	2	3	3	3	7.6	3	Resurfacing Cycle - 15 yr
<b>Total</b>	<b>116.7</b>	<b>26.9</b>	<b>13</b>	<b>18</b>	<b>20.7</b>	<b>30</b>	<b>8.1</b>	

1 - Only backplates that can be installed without pole upgrades will be funded with this effort

2 - Only flashing yellow arrows (FYA) that can be installed without pole upgrades will be funded with this effort. Permissive or Protected Permissive to FYA

3 - Includes chevron installation to meet MUTCD requirement

4 - Includes pedestrian countdowns, marked crosswalks at signalized intersections on Pedestrian Safety Action Plan (PSAP) priority corridors (VDOT system)

5 - Includes pavement marking and signage improvements per VTRC-19-R5, August 2018

6 - Cost for shoulder preparation and additional asphalt will be funded by Maintenance resurfacing funds

7 - Funds for Centerline (CL) rumble installation in coordination with resurfacing each paving season

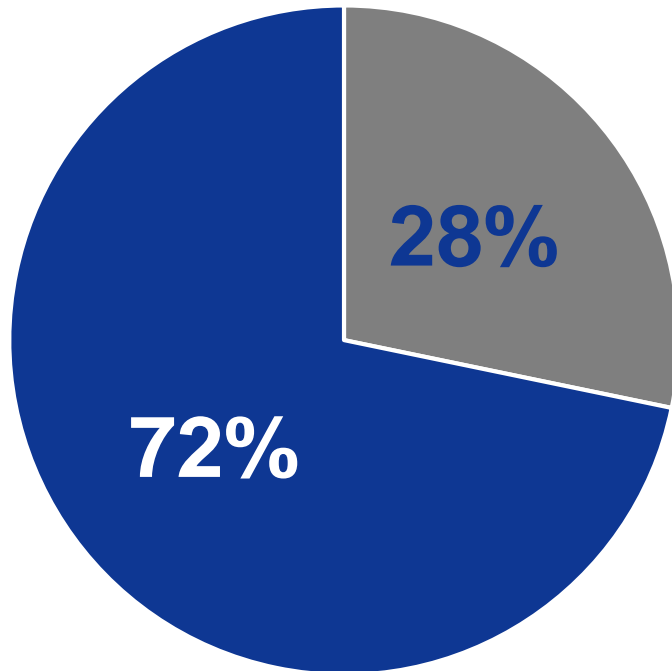
8 - Funds for edge line rumble installation in coordination with resurfacing each paving season. Does not include shoulder widening

# 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		
		Deaths	Injuries	Total
High-Visibility Backplates (VDOT)	9.0	1	106	107
Flashing Yellow Arrows (VDOT)	12.6	1	90	91
Curve Delineation (VDOT)	1.7	6	104	110
Pedestrian Crossings (VDOT)	8.9	3	85	88
Unsignalized Intersection (VDOT)	1.3	2	62	64
Shoulder Wedge (VDOT)	17.0	13	281	294
CL Rumbles - Primaries (VDOT)	40.0	13	115	128
Edge Rumbles - Primaries (VDOT)	29.8	22	331	353
	<b>Total</b>	<b>61</b>	<b>1174</b>	<b>1235</b>

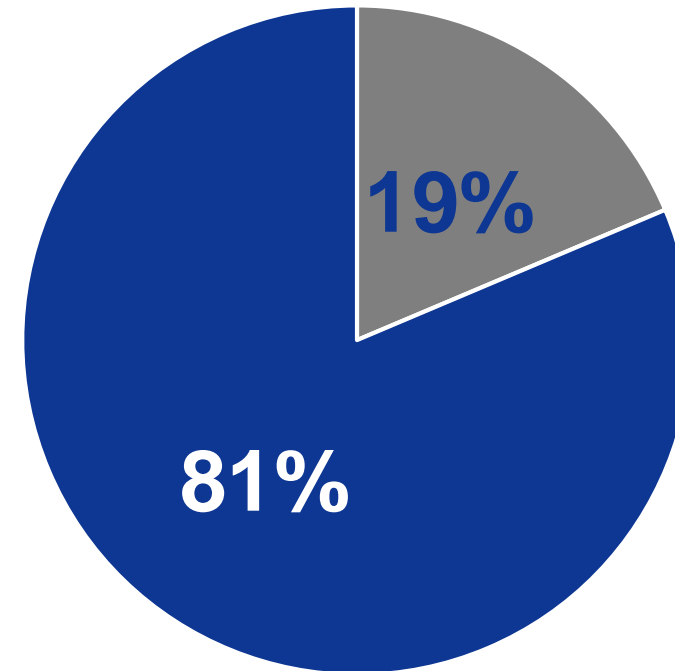
# Funding Distribution Before and After Changes FY20 – FY25

## BEFORE



■ Spot ■ Systemic/Hybrid

## AFTER



■ Spot ■ Systemic/Hybrid

# Next Steps

- **September 18, CTB Meeting**
  - **Approve amendment to FY2020-2025 SYIP to fund projects and initiate systemic implementation plan**
- **VDOT move forward with systemic projects per plan**
  - **Coordination between Central Office, Districts, and Localities**
- **Continue HSIP funding policy development in Fall 2019**