

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) SYSTEMIC SAFETY IMPLEMENTATION PLAN

Commonwealth Transportation Board

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September 17, 2019

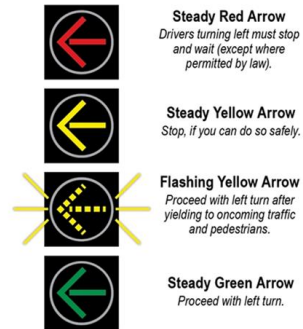
8 Systemic Safety Items

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 Stripes



Up to 60% crash reduction

Edgeline Rumble Strips

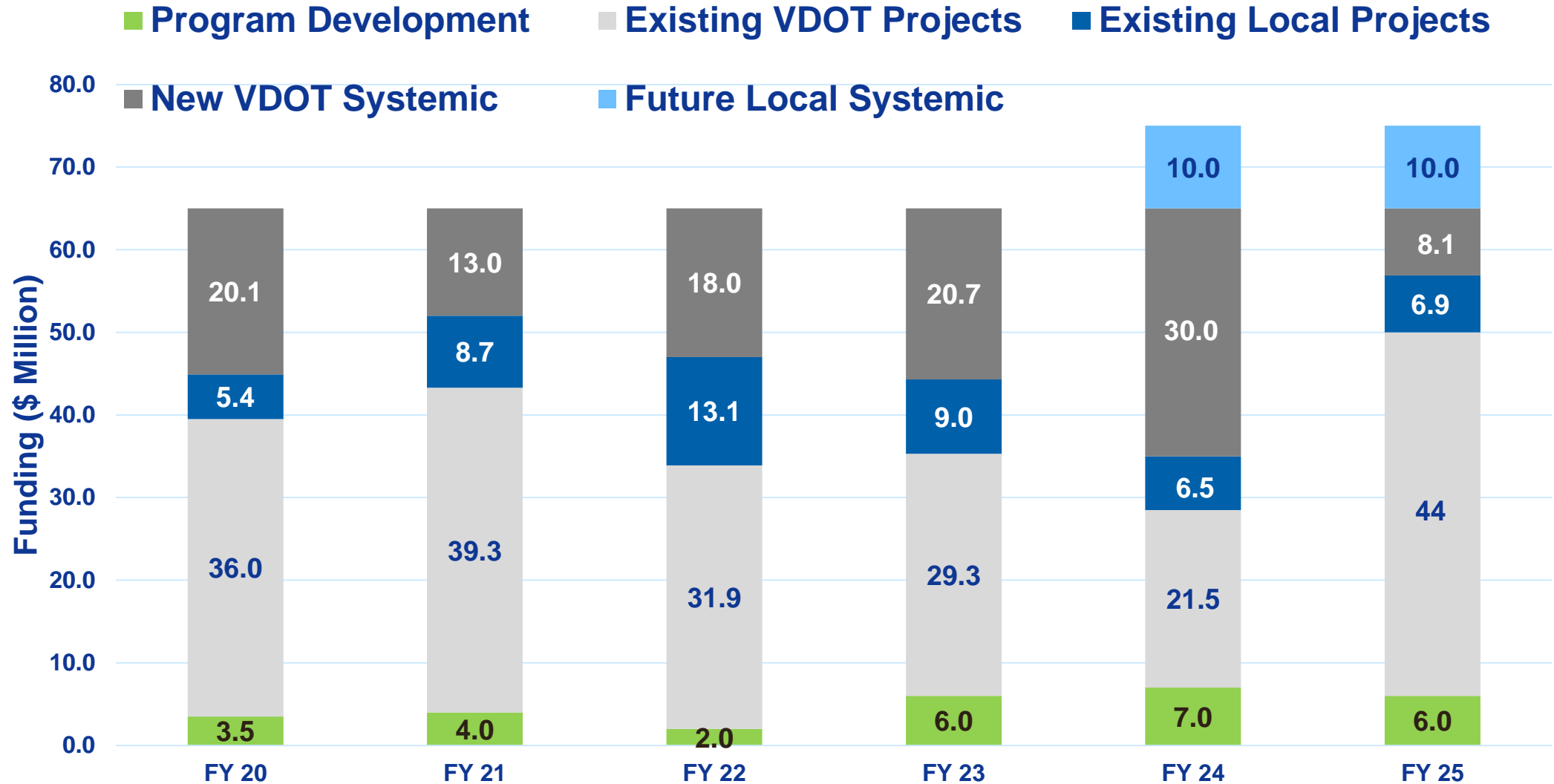


Up to 50% crash reduction

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) ¹	15.2	8.8	2.4	4				Complete by July 1, 2021
Flashing Yellow Arrows (VDOT) ²	17	7.4	1.95	7.65				Complete by July 1, 2021
Curve Delineation (VDOT) ³	29	1.8			12	15.15		Complete 2024
Pedestrian Crossings (VDOT) ⁴	22	2.2	2.3	3	3.3	6.9	4.75	Complete 2025
Unsignalized Intersection (VDOT) ⁵	8.35	3.35	3		2			PE 2020, CN Start 2021. \$17M still needed
Shoulder Wedge (VDOT) ⁶	Maintenance funds							Resurfacing Cycle - 15 yr
CL Rumbles - Primaries (VDOT) ⁷	3.1	1.35	0.35	0.35	0.35	0.35	0.35	Resurfacing Cycle - 15 yr
Edge Rumbles - Primaries (VDOT) ⁸	21.6	2	3	3	3	7.6	3	Resurfacing Cycle - 15 yr
Total	116.7	26.9	13	18	20.7	30	8.1	

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

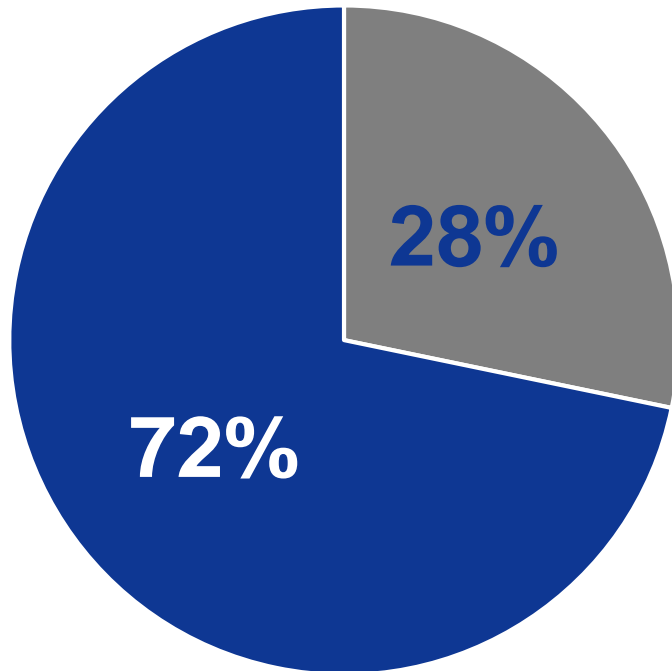
8 - Funds for edge line rumble installation in coordination with resurfacing each paving season. Does not include shoulder widening

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
	Total	61	1174	1235

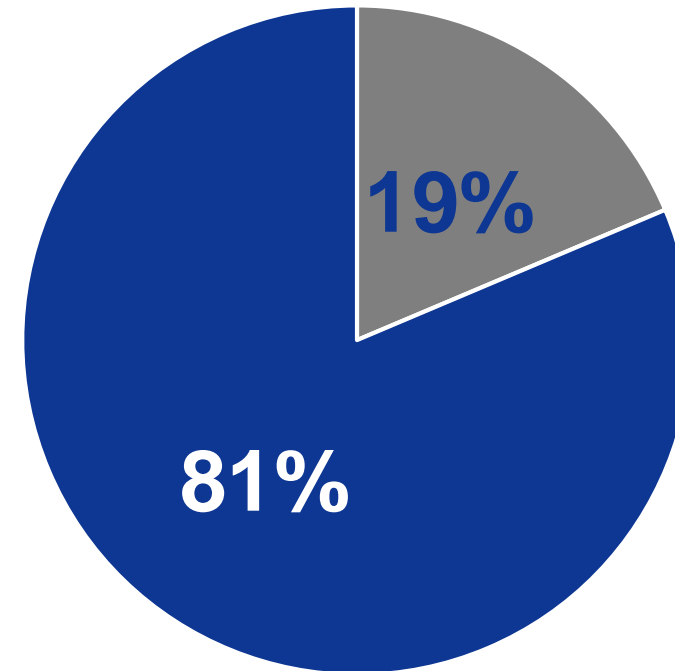
Funding Distribution Before and After Changes FY20 – FY25

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**

Questions?