



Virginia Department of Transportation

# **STATE OF HIGHWAY SAFETY IN VIRGINIA**

**Working to Drive Deaths and Serious Injuries**

**Towards Zero on Our Highways**

Item 10

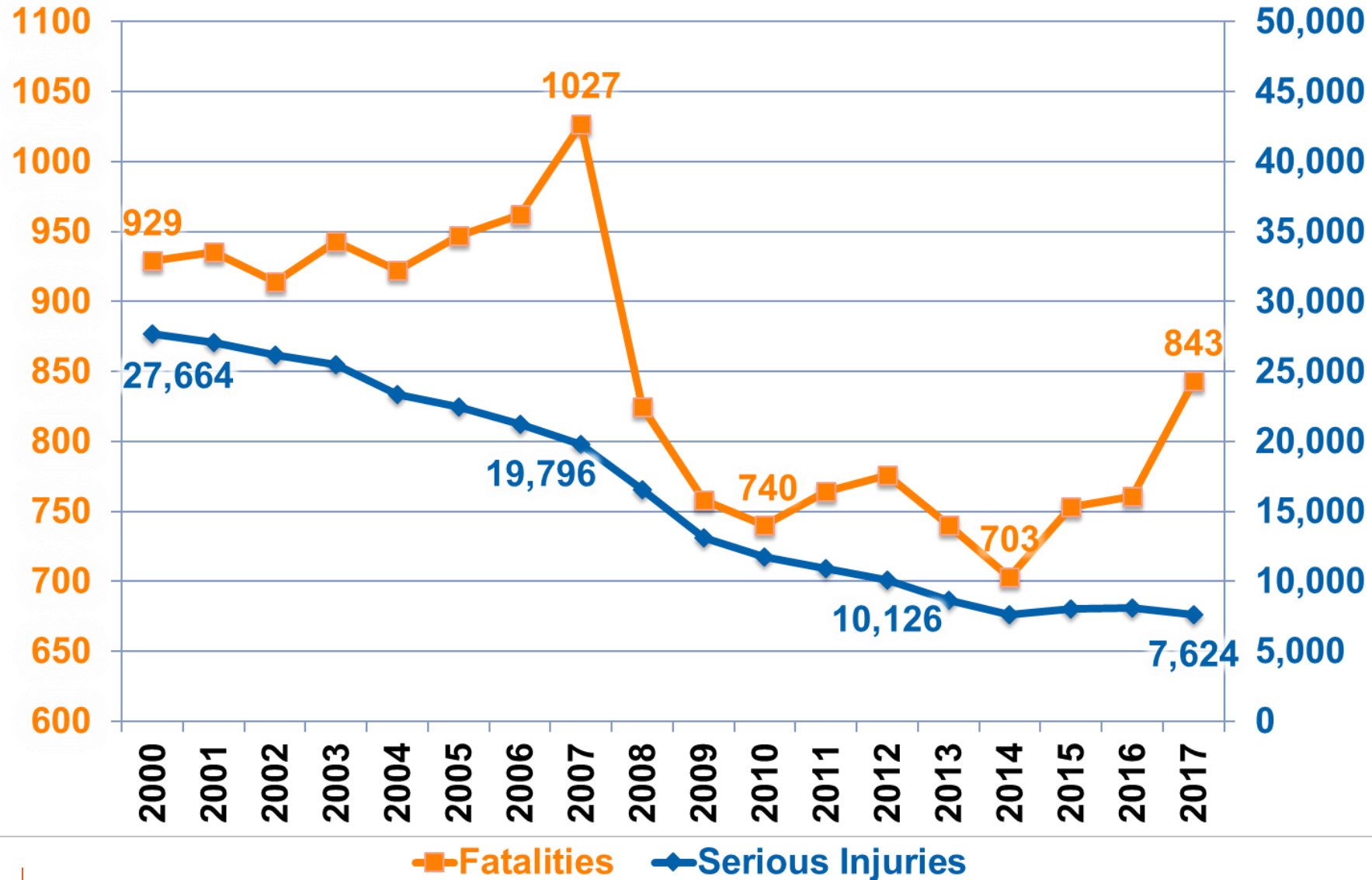
**Stephen W. Read, P.E.**

**March 20, 2019**

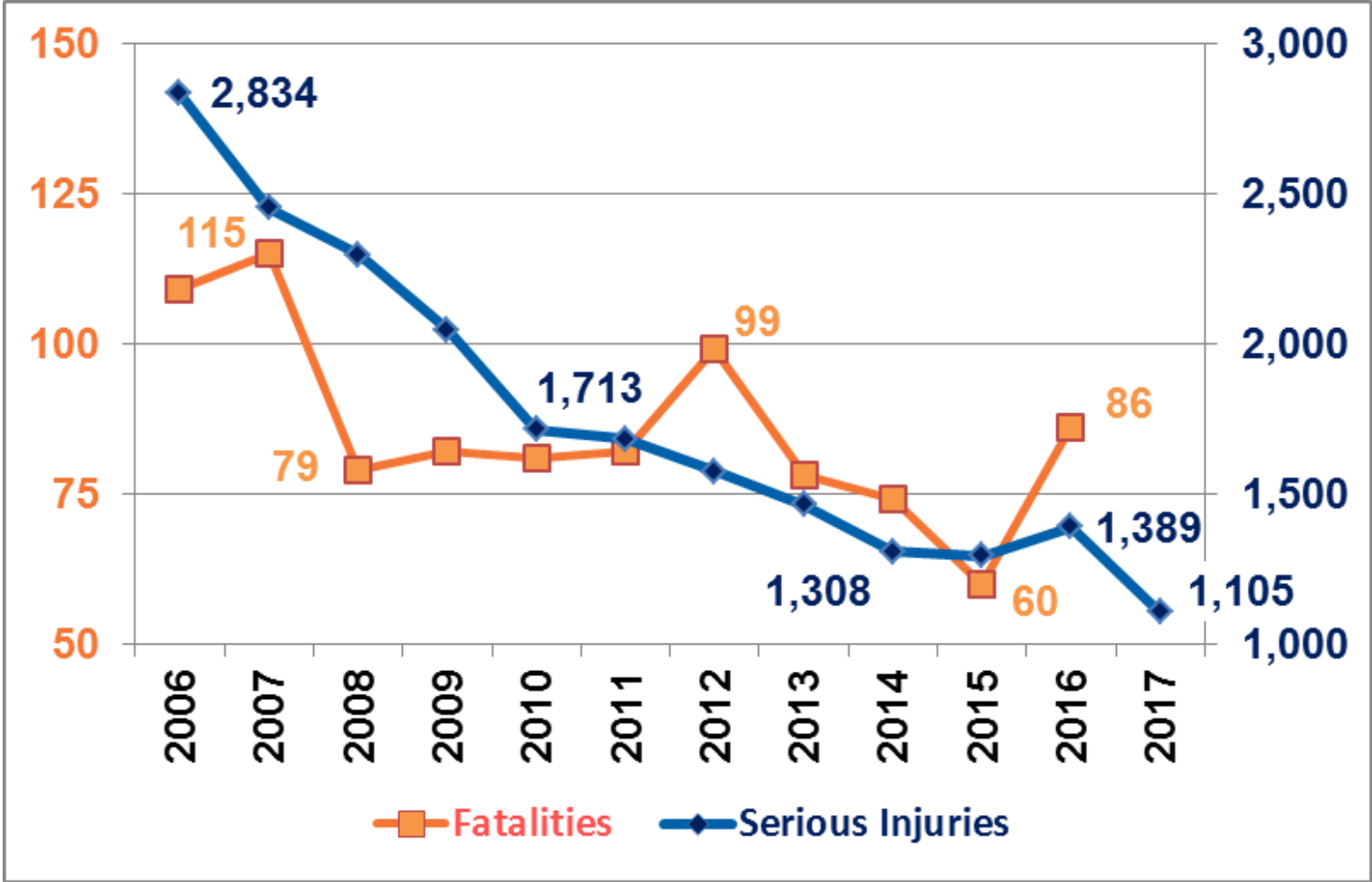
# Outline

- 1. Severe Crash Trends and Factors in Virginia**
- 2. Virginia's Safety Programs and Initiatives**
- 3. SMART SCALE Prioritization Safety Considerations**

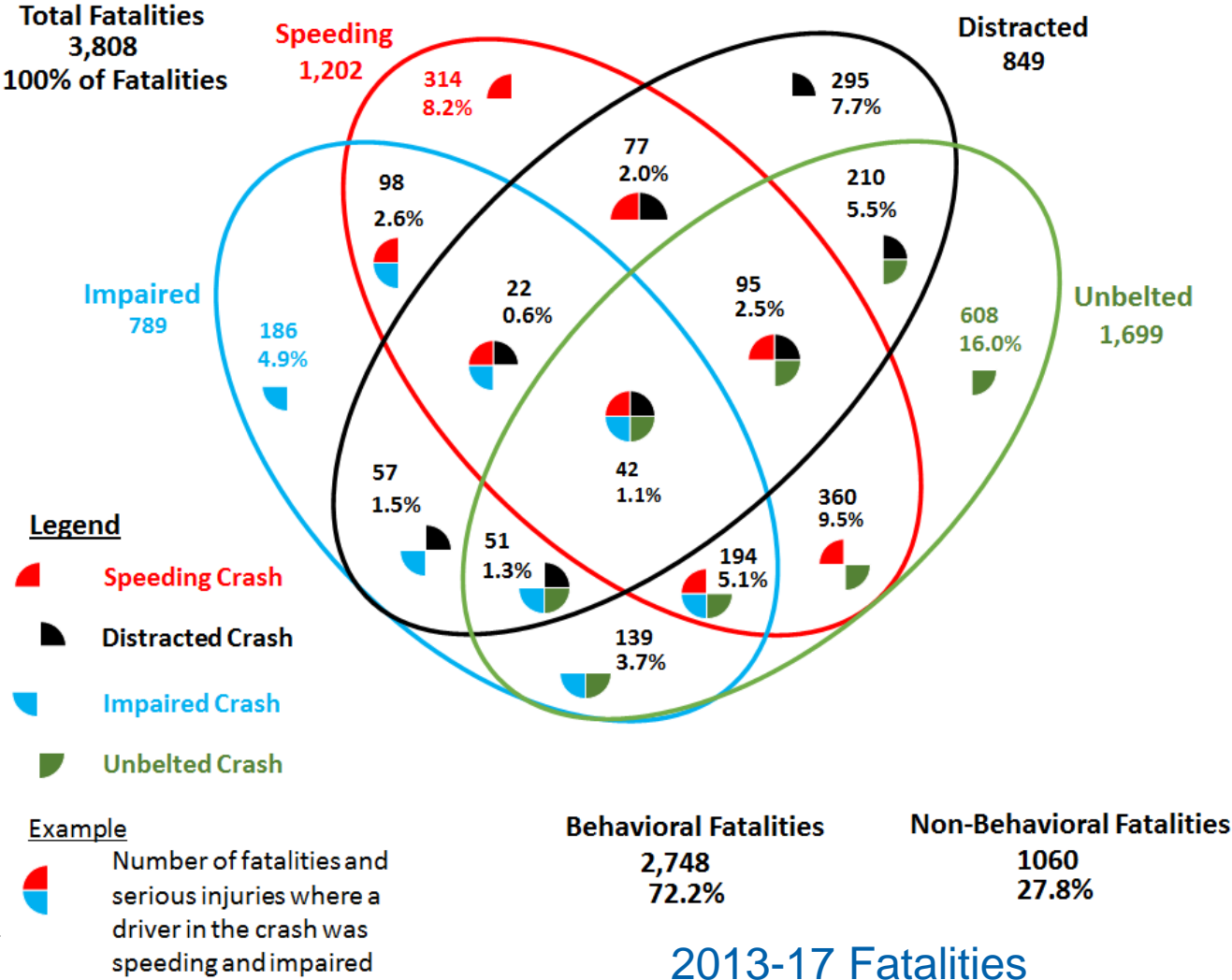
# Virginia Severe Crash Outcomes



# Northern Virginia Severe Crash Outcomes



# Critical User Behaviors in over 70% of Fatalities



Improving user behaviors remains crucial to reducing severe crashes and their outcome.

# Virginia's Safety Stakeholders

**STRATEGIC  
PLAN**

**Operations**  
**Infrastructure**

**VDOT**

**DRPT**

Virginia Department of Rail and Public Transportation

Transit

**Active  
Transportation**

Incident  
Response



**EMS**  
**Non-Motorized**  
**Driver Ed**



**SOL**

*Parents and  
Students*  
*Young  
Drivers*

*Occupant  
Protection*

**DMV**  
www.dmvNow.com

**Drinking & Drugged**

**Aging  
Drivers**



**VAEMSP**



**VIRGINIA ASSOCIATION  
of CHIEFS of POLICE  
& Foundation**



**SPEEDING**

**Motorcycles**



# Virginia's Highway Safety Implementation



2017-21 **Strategic Highway Safety Plan** contains Countermeasures and Actions for:

- Pedestrians and Bicyclists
- Intersections / Interchanges
- Roadway Departures
- Young Drivers
- Impaired Drivers
- Speeding
- Unbelted Occupants
- Incident Response and Management
- Connected & Automated Vehicles

VDOT **Highway Safety Improvement Program:**

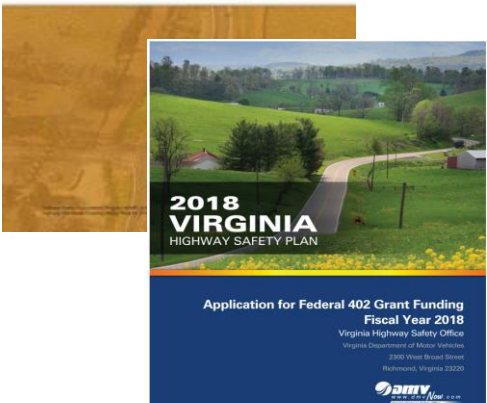
- Safety targeted and cost effective infrastructure treatments

DMV **Highway Safety Plan:**

- Behavioral educational and enforcement activities

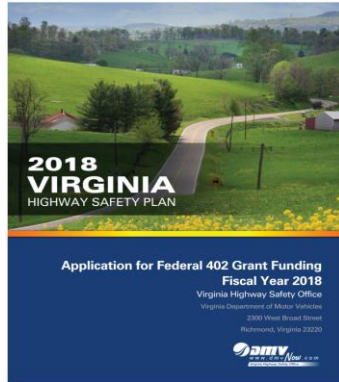
OIPI **SMART SCALE:**

- Multi-modal infrastructure and operational improvements





# Safety Improvement Funding



**\$20M Statewide**

**\$2M in NoVA**



**\$48M VDOT Statewide**  
**\$12M Local Statewide**

**\$6.5 - 7.5M on NoVA VDOT**  
**\$1.4 - 2M on NoVA Local**



**2 years funding**

**\$390M High Priority Program**  
**\$390M District Grants Program**

**\$varies NoVA High Priority**  
**\$88M NoVA District Grants**

# HSIP Focus Areas

Virginia.gov

Agencies | Governor

Search Virginia.Gov



Home

Dashboard

About



Deepak Koirala ▾

## Welcome to SMART Portal

Highway Safety Programs



Applications

About

Bike Pedestrian Safety



Applications

About

Rail Safety Improvements



Applications

About

Systemic Safety Improvements



Applications

About

# Spot & Corridor Highway Safety

- Identify high crash locations each year based on last 5 years crash and traffic data
- Focus on largest severe crash reductions per dollar spent
- Project types:
  - Turn lanes
  - Upgrading Traffic Signals
  - Roundabouts
  - Paving shoulders, adding rumble strips and guardrail
  - Bike lanes, sidewalks, multi-use trails

# Systemic Highway Improvements

## Roadway Departures:

- Curve warning signs
- Better lane markings
- Rumble Strips
- High Friction Pavement

## Intersections:

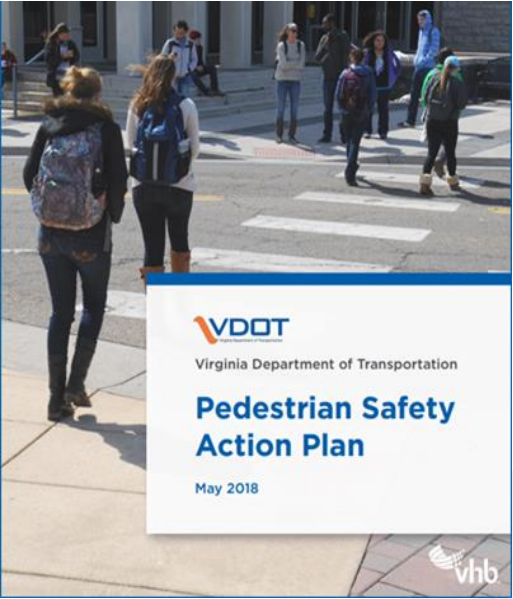
- Advance warning
- Reflective Backplates
- Flashing Yellow Arrow Signal
- LED Signals

## Pedestrians and Bicyclists:

- Warning and crossing signing
- Crosswalk marking
- Ped Signals
- Flashing Beacons

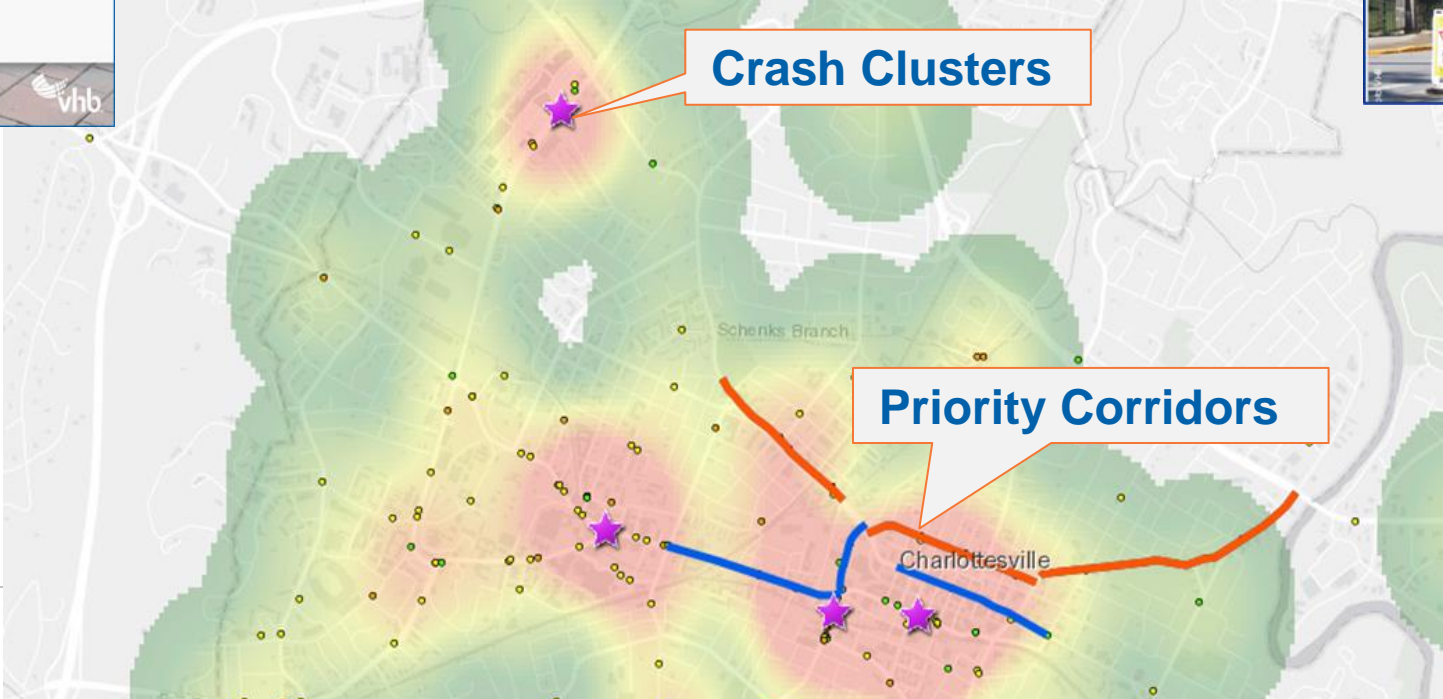
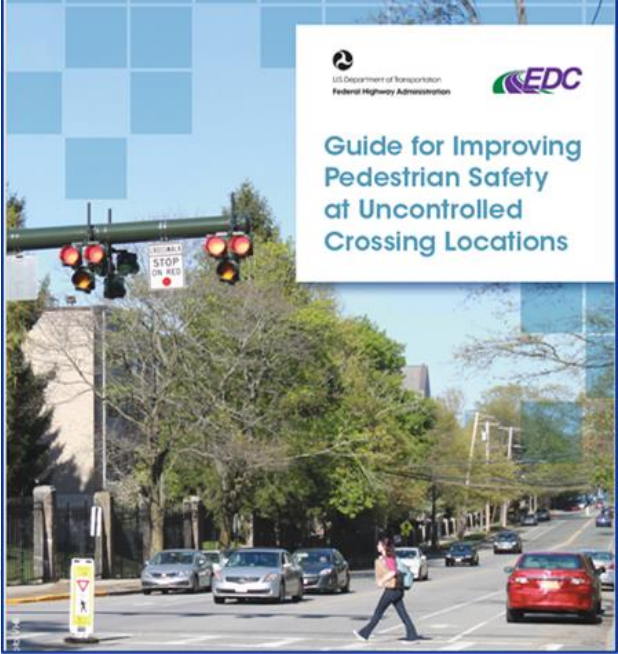
Low cost devices spread across the network

# Systemic Pedestrian Treatments



Identify target crash type and/or countermeasure with factors / environment contributing to risk

Prioritize corridors based on mix of crashes and factors

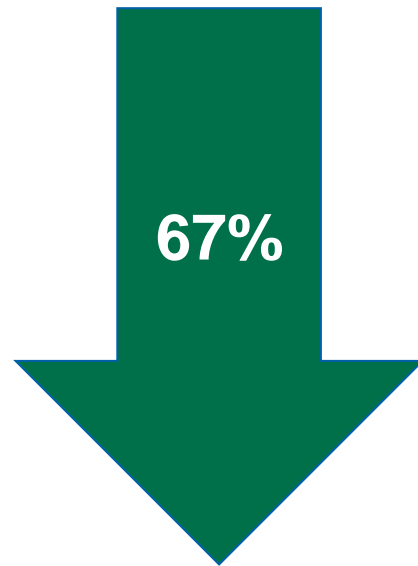


Funded \$1.6M projects in NoVA from \$8M for 2019 deployment

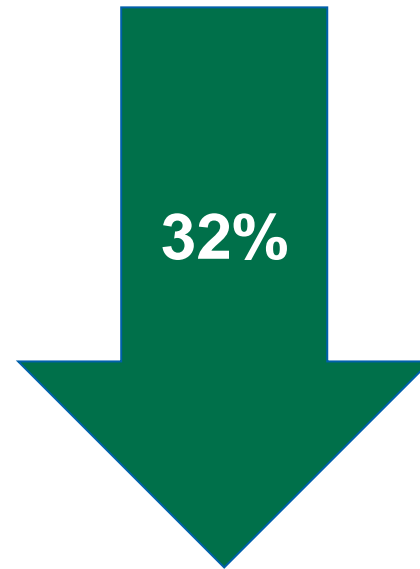
# Before-And-After Results: Targeted Crashes

Where 318 highway safety-funded projects have been deployed since 2004, Targeted Crashes have changed as follows:

**Fatal Crashes**



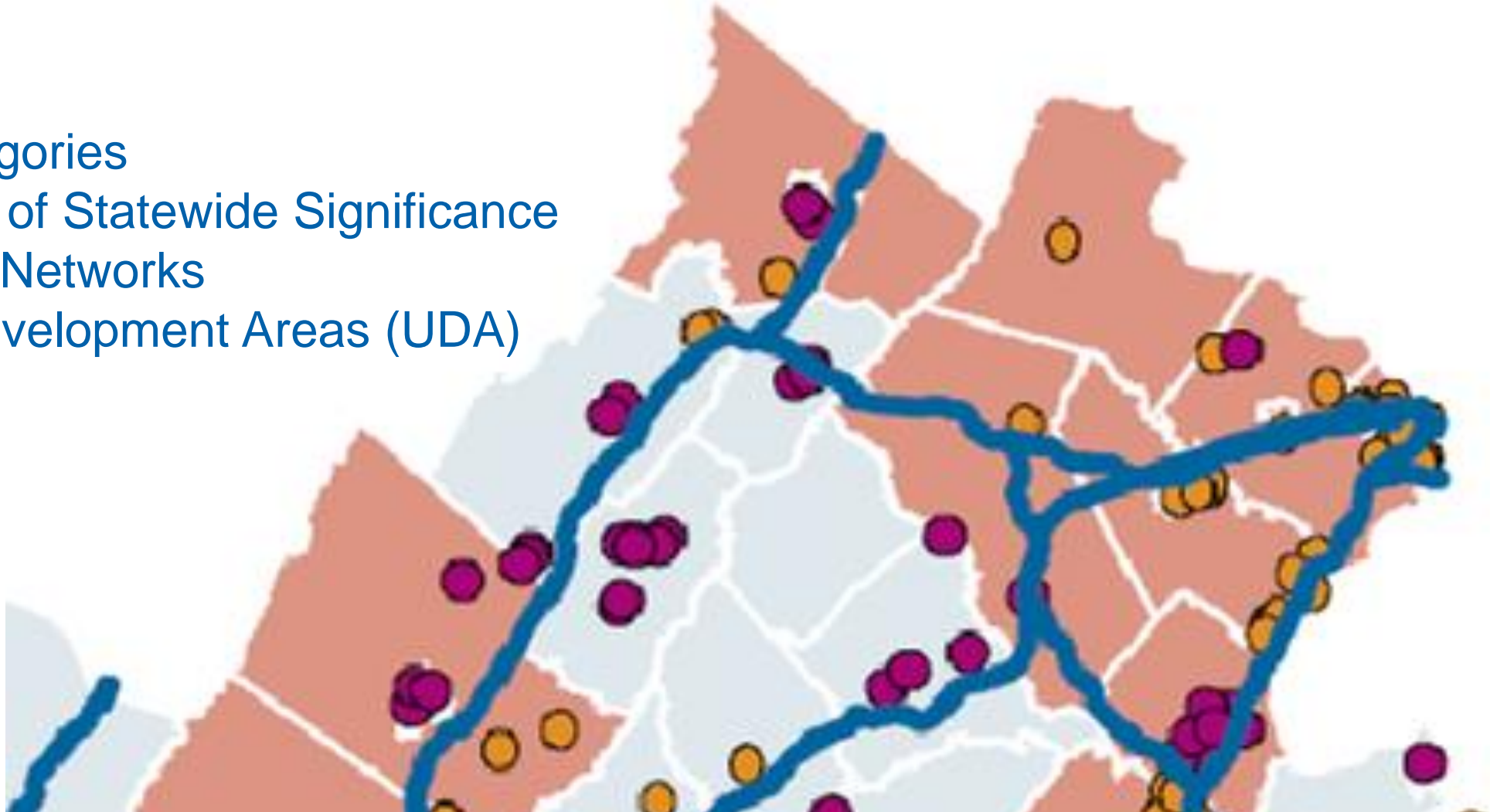
**Injury Crashes**



# VTrans - Needs Assessment

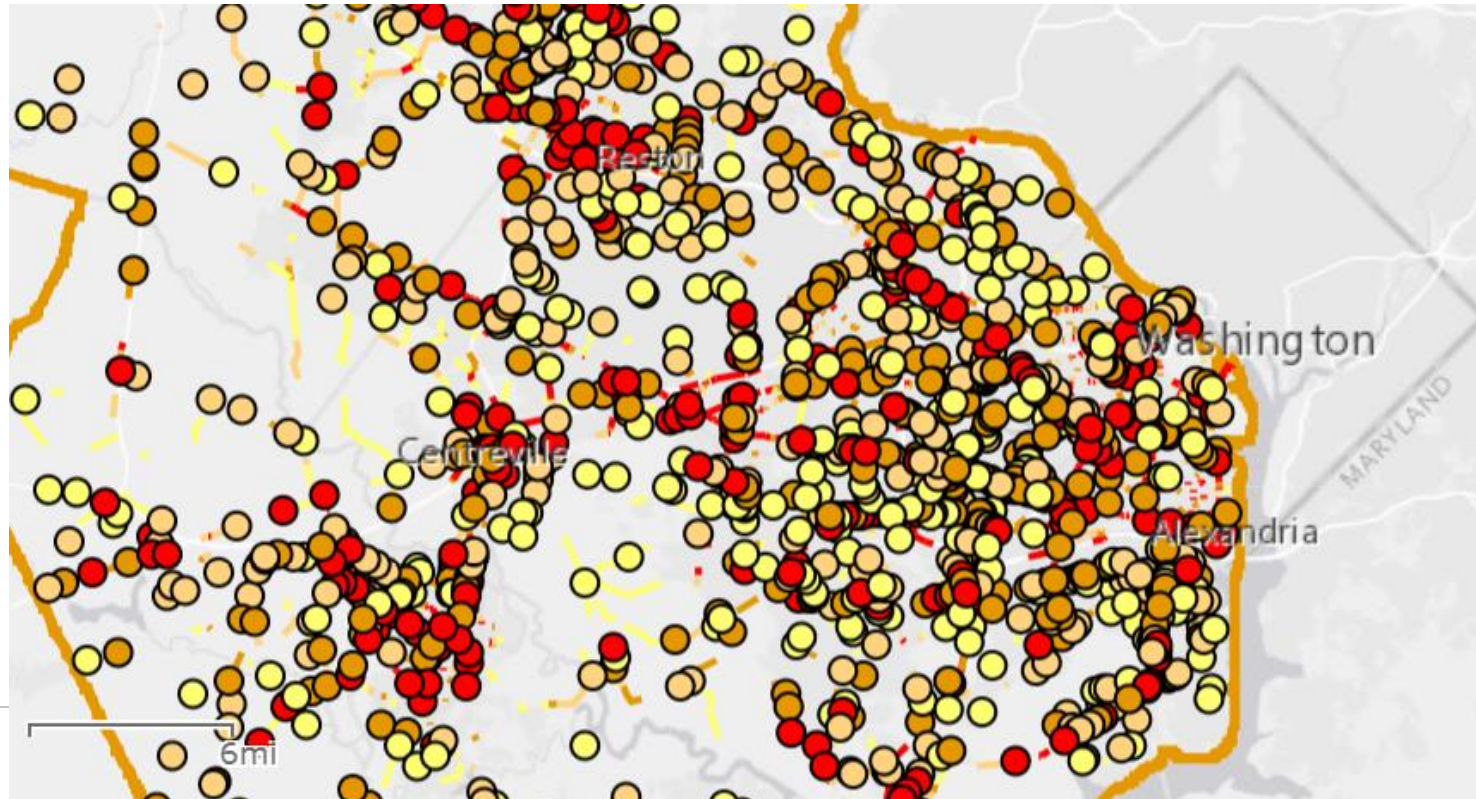
## 4 Need Categories

- Corridors of Statewide Significance
- Regional Networks
- Urban Development Areas (UDA)
- Safety



# SAFETY Needs

- Safety needs based on Potential for Safety Improvement (PSI) intersections and segments identified in each VDOT district, or
- Safety assessment of crash history or geometric deficiencies.

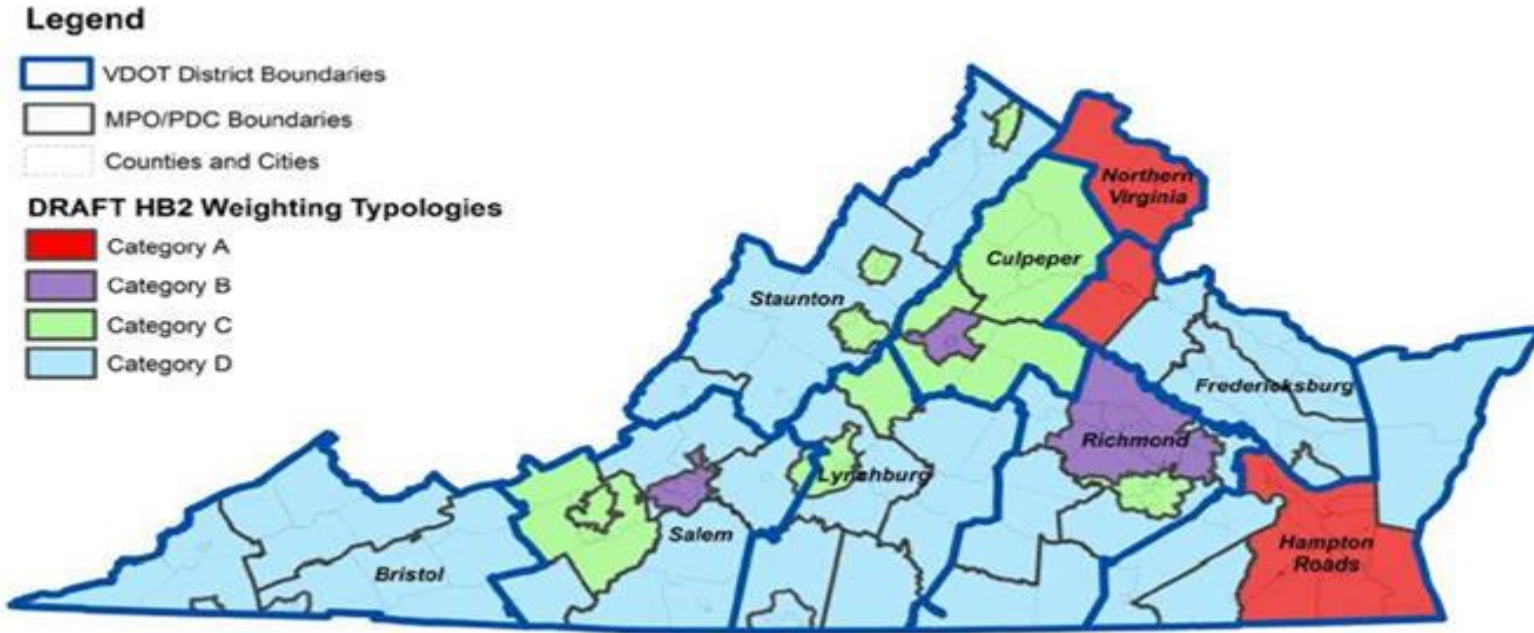




# SAFETY Benefits

- Benefits determined from published **crash reductions** for Roadway improvements or **changes in VMT (build/no-build)** for Transit/TDM and New Alignment benefits
- Maximize expected reductions by:
  - **minimizing** user **conflicts** with innovative intersections, interchanges and driveway management
  - providing more “*forgiving*” roadways with **non-motorized accommodations**

# Area Type Weighting



Factors >	Safety	Congestion Mitigation	Accessibility	Land Use	Environmental Quality	Economic Development
-----------	--------	-----------------------	---------------	----------	-----------------------	----------------------

<b>Category A (NoVA)</b>	<b>5%</b>	<b>45%</b>	<b>15%</b>	<b>20%</b>	<b>10%</b>	<b>5%</b>
------------------------------	-----------	------------	------------	------------	------------	-----------

# Virginia's Highway Safety Resources

**Towards Zero Deaths:** [www.tzdva.org](http://www.tzdva.org)

**Arrive Alive SHSP:** [www.virginiadot.org/info/hwysafetyplan.asp](http://www.virginiadot.org/info/hwysafetyplan.asp)

**VDOT HSIP:** [www.virginiadot.org/business/tes\\_app\\_pro.asp](http://www.virginiadot.org/business/tes_app_pro.asp)

**SMART SCALE:** <http://vasmartscale.org/>

**DMV Safety Programs:** [www.dmv.virginia.gov/safety/#grants/index.asp](http://www.dmv.virginia.gov/safety/#grants/index.asp)

**DOE Driver Education:**

[www.doe.virginia.gov/instruction/driver\\_education/index.shtml](http://www.doe.virginia.gov/instruction/driver_education/index.shtml)

**VDH EMS:**

[www.vdh.virginia.gov/emergency-medical-services/](http://www.vdh.virginia.gov/emergency-medical-services/)

**VDFirePrograms:**

[www.vafire.com/](http://www.vafire.com/)

**VA Statewide Traffic Incident Management:**

<http://vastim.org/>

## Contact :

**[Stephen.Read@vdot.virginia.gov](mailto:Stephen.Read@vdot.virginia.gov)**

**804-786-9094**