

A background image of a pedestrian crossing at a street intersection. A white car is stopped at the crosswalk. A person is walking across the crosswalk. There are trees and a white fence in the background. A pedestrian crossing sign is visible on a pole in the foreground on the right.

VIRGINIA'S PEDESTRIAN SAFETY EFFORTS

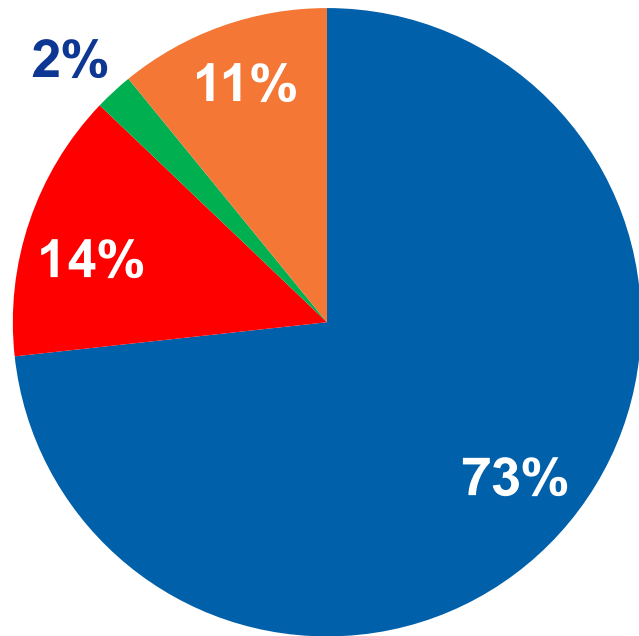
**Accelerating Active Transportation Change in Northern Virginia
George Mason University**

Mark A. Cole, PE, Virginia Department of Transportation

March 25, 2021

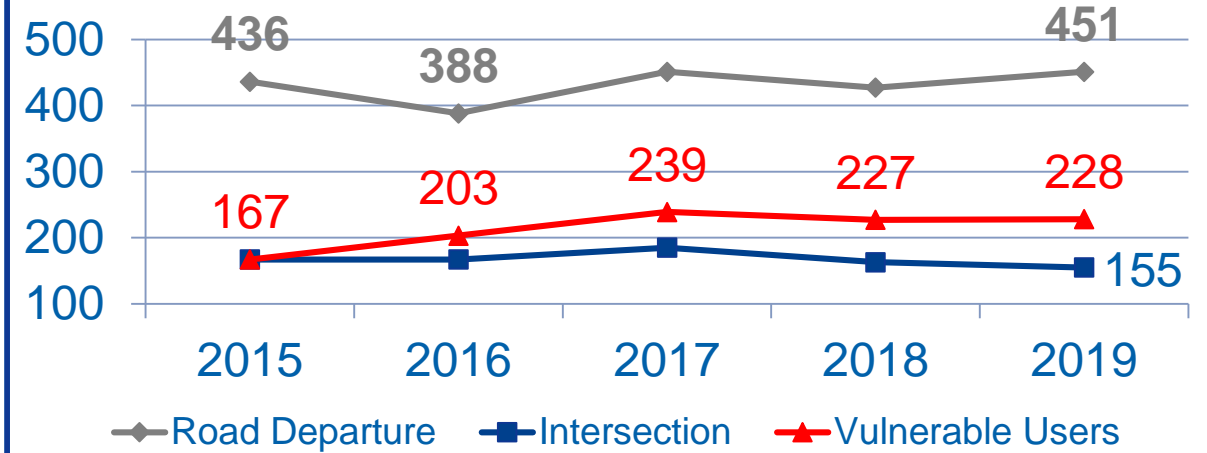
Virginia Traffic Death Trends (2015 – 2019)

Virginia Traffic Deaths By Traveler Type (%)

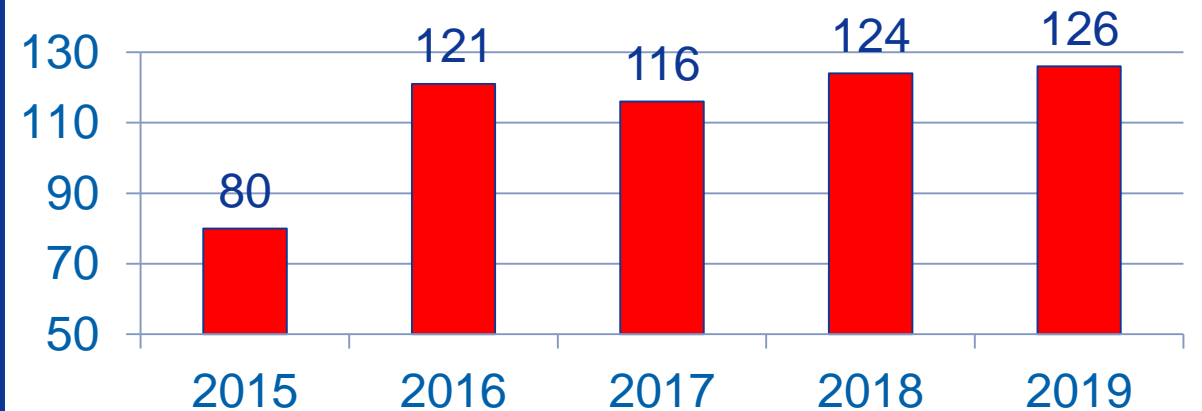


- Motorists
- Pedestrians
- Bicyclists
- Motorcyclists

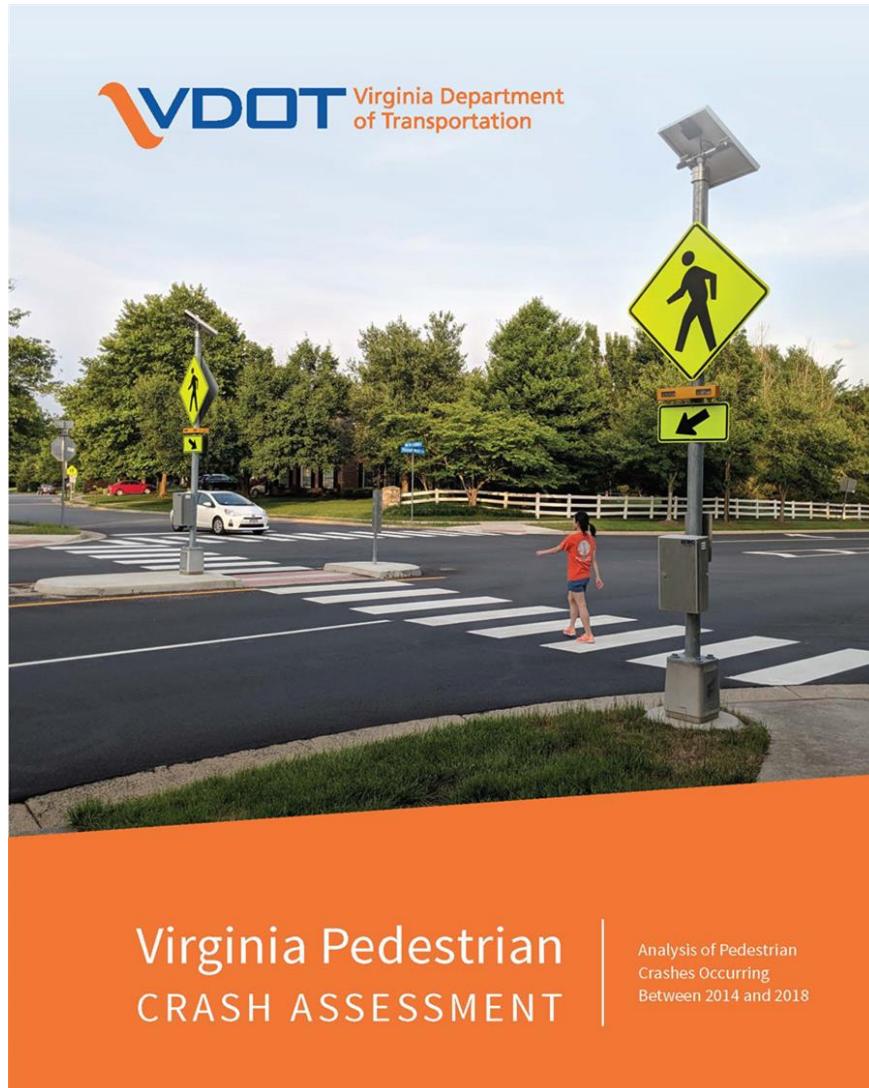
Deaths



Pedestrian Deaths



Virginia Pedestrian Crash Assessment



- Analyzes pedestrian crashes
- First published in 2016
 - updated in 2017 and 2020
- Uses a variety of data sources to:
 - Understand common factors among crashes
 - Identify crash trends across time



5 Big Things We Learned From the Crash Assessment

1. Over 90% of Pedestrian deaths Occur while Crossing the Street/Road

However, crossing infrastructure (including marked crosswalks) is not available most of the time.

2. Land Use Matters

79% of pedestrian deaths and 89% of injuries occur where pedestrian generating land uses are adjacent to the street/road.

3. Speed Can be Deadly

Chance of death on 45mph+ roads is almost 7 times greater than 25 mph or less roads

4. Visibility is Crucial

77% of pedestrian deaths occur in limited light conditions.

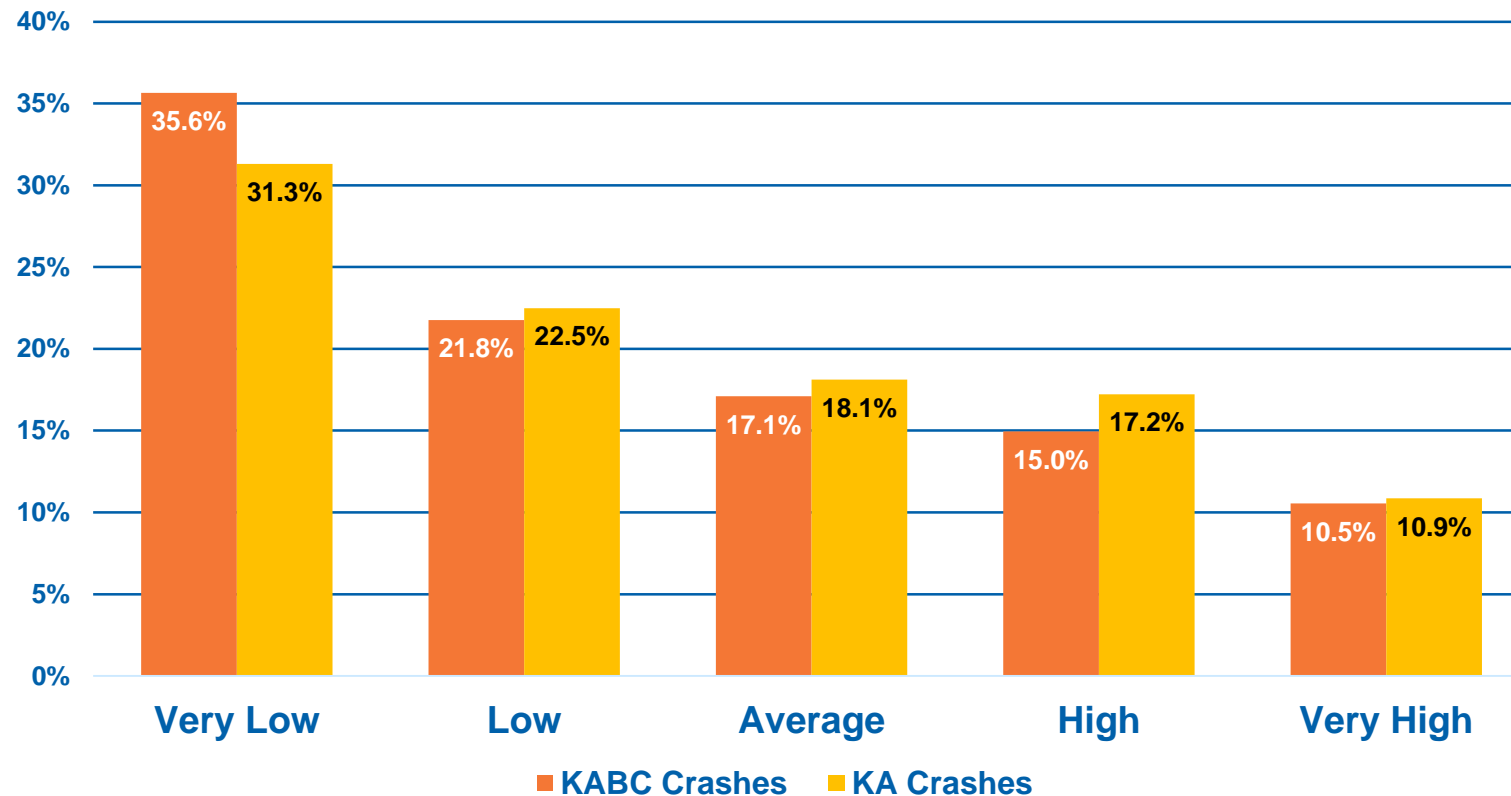
5. Healthy Communities Have Better Pedestrian Safety Outcomes

60% of pedestrian deaths & injuries occur in locations with low or very low health opportunity

5. Healthy Communities Have Better Pedestrian Safety Outcomes

Almost 60% of deaths and injuries occur in locations with VERY LOW or LOW Virginia Health Opportunity Index (HOI) Scores

**Distribution of Pedestrian Crashes by HOI Category
(2014-2018)**



Virginia Suburban Roads and Pedestrian Safety

Suburban road crashes are 26% of all pedestrian crashes BUT...

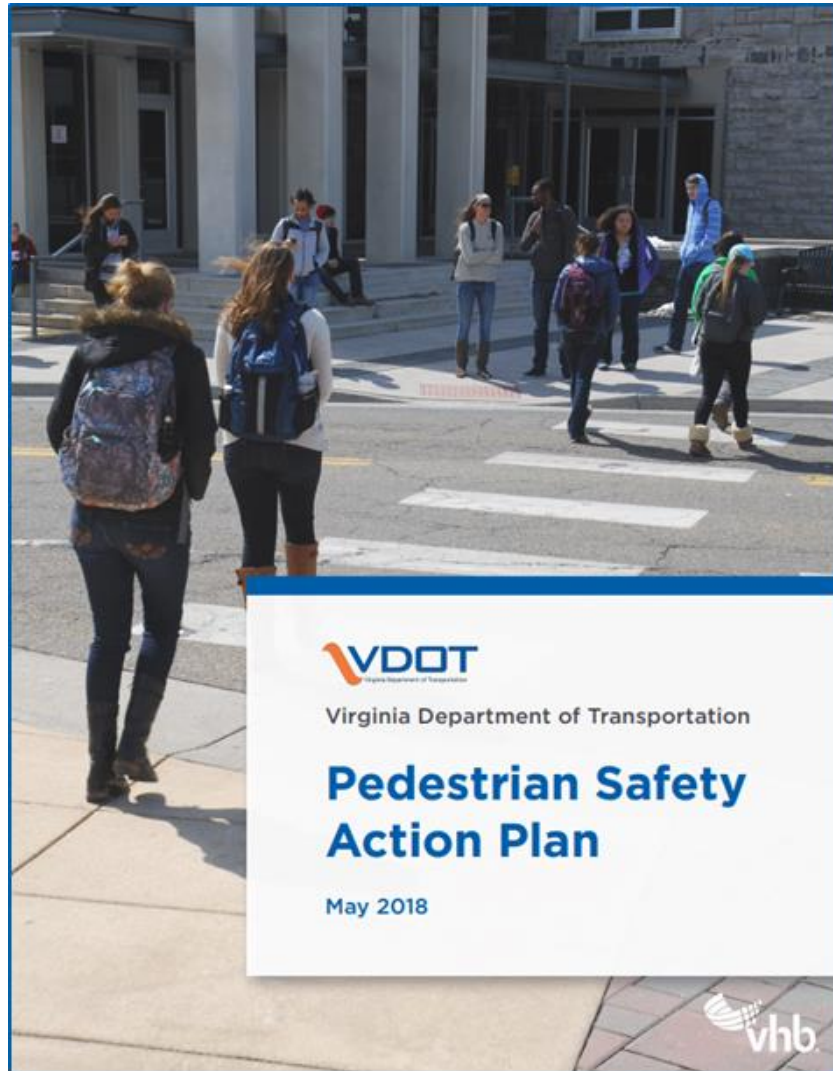
46% of all pedestrian fatalities

If struck on a suburban road, a pedestrian is

2.5 times more likely to die

when compared to other roads in Virginia.

Virginia Pedestrian Safety Action Plan (PSAP)



3 Major Components:

- 1 – VDOT Policy Recommendations to ensure pedestrian safety
- 2 – Safety Analysis to determine which specific road locations pose the greatest risk for pedestrians
- 3 – Pedestrian safety countermeasure toolbox

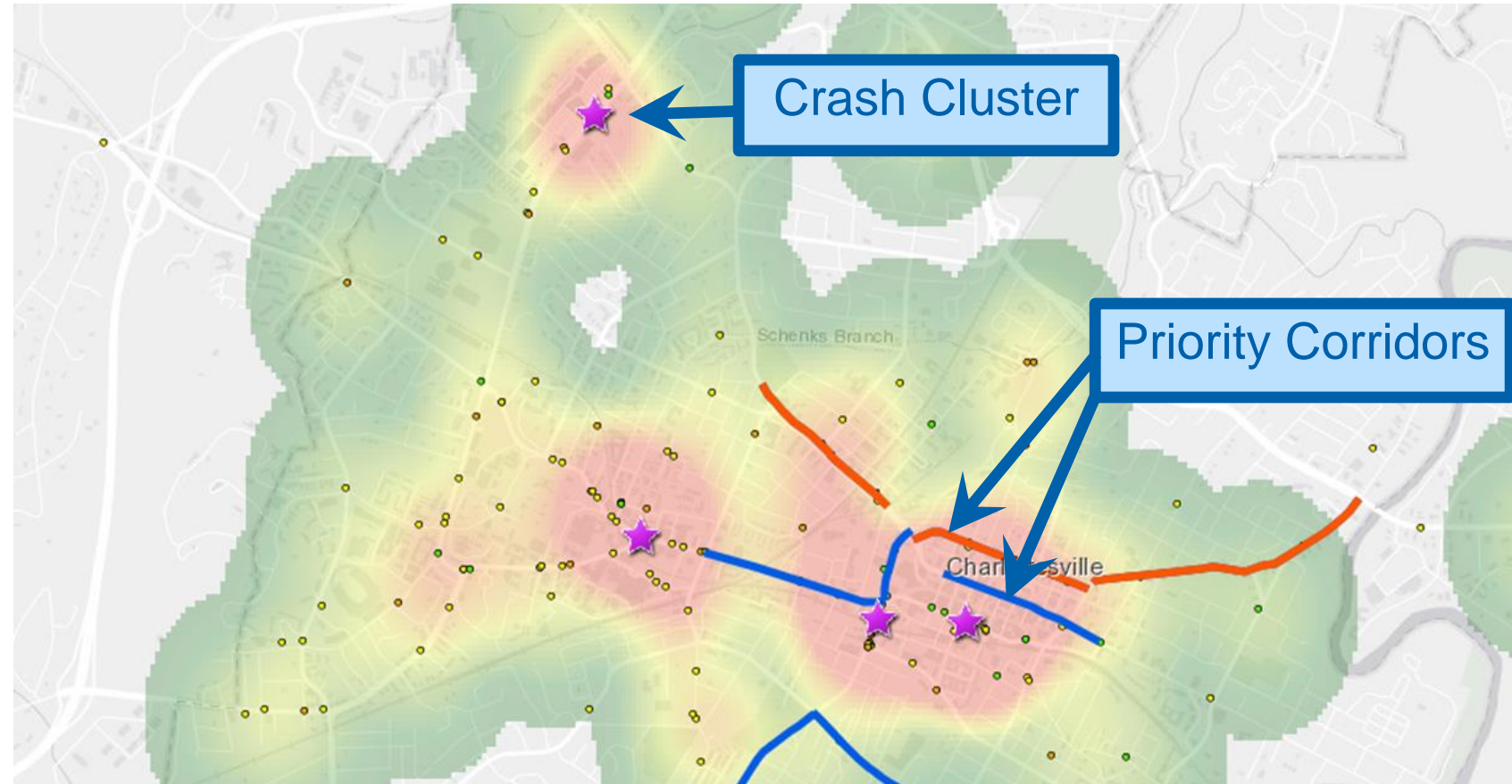
Safety Analysis – Crash Clusters and Priority Corridors

Crash clusters

- Density map of actual crash locations
- Look back

Priority Corridors

- Top ranked corridors based on scoring criteria that used various data sources indicating pedestrian presence or risk
- Predictive



Priority Corridor Criteria

2019 PSAP Corridor Scoring Factors

High	Medium	Low
<ul style="list-style-type: none">• Annual average daily traffic (AADT)• Zero-vehicle households• Transit access• Health Opportunity Index (HOI)	<ul style="list-style-type: none">• Roadway geometry• Employment density• Proximity to a school• Posted speed limit	<ul style="list-style-type: none">• Pedestrian crash history• Proximity to a park• Population density• Urban/rural context

PSAP Pedestrian Safety Infrastructure Projects

- **Fall 2018 – Initial \$8M for ped crossing projects at 25 PSAP locations**
- **Fall 2019 – Additional \$25 Million approved for PSAP improvements**
 - **All VDOT signals on PSAP priority corridors will receive crosswalks and ped countdowns over a five –year period**
- **Summer 2021 – Pedestrian Pilot Project on Suburban Arterials**
 - **5 to 10 locations Total**
 - **Screening Criteria:**
 - PSAP corridors
 - 40 mph plus posted speed
 - 15,000 plus AADT
 - 4 or more lanes

Potential Pilot Treatments

- Dwell on Red
- Side-Mounted Pedestrian Hybrid Beacons
- Pedestrian Gateway Treatments
- Dynamic Crosswalk Lighting
- Left and Right-Turn Hardening
- Danish Offset



Thanks!

For more information, view VDOT's Pedestrian Safety Action Plan (PSAP) report and map tool at:

https://bit.ly/VDOTPSAP_V2

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