VIRGINIA’S PEDESTRIAN SAFETY EFFORTS

Accelerating Active Transportation Change in Northern Virginia
George Mason University

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March 25, 2021

Virginia Traffic Deaths By Traveler Type (%)

- Motorists: 73%
- Pedestrians: 14%
- Bicyclists: 11%
- Motorcyclists: 2%

<table>
<thead>
<tr>
<th>Year</th>
<th>Motorists</th>
<th>Pedestrians</th>
<th>Bicyclists</th>
<th>Motorcyclists</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>436</td>
<td>167</td>
<td>116</td>
<td>80</td>
</tr>
<tr>
<td>2016</td>
<td>388</td>
<td>203</td>
<td>124</td>
<td>121</td>
</tr>
<tr>
<td>2017</td>
<td>451</td>
<td>239</td>
<td>116</td>
<td>116</td>
</tr>
<tr>
<td>2018</td>
<td>227</td>
<td>227</td>
<td>124</td>
<td>124</td>
</tr>
<tr>
<td>2019</td>
<td>228</td>
<td>228</td>
<td>126</td>
<td>126</td>
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</tbody>
</table>

Pedestrian Deaths

- Road Departure
- Intersection
- Vulnerable Users

Virginia’s Implementation of Pedestrian Safety Improvements
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.
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

<table>
<thead>
<tr>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Annual average daily traffic (AADT)</td>
<td>• Roadway geometry</td>
<td>• Pedestrian crash history</td>
</tr>
<tr>
<td>• Zero-vehicle households</td>
<td>• Employment density</td>
<td>• Proximity to a park</td>
</tr>
<tr>
<td>• Transit access</td>
<td>• Proximity to a school</td>
<td>• Population density</td>
</tr>
<tr>
<td>• Health Opportunity Index (HOI)</td>
<td>• Posted speed limit</td>
<td>• Urban/rural context</td>
</tr>
</tbody>
</table>

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:


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