Update on Several VDOT Highway Safety Initiatives

Virginia Statewide Bicycle and Pedestrian Advisory Committee
Fall Meeting
October 28, 2015

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Highway Safety Programs
Talking Points/Agenda

1 – Rumble Strip(e) Revisions
2 – Statewide Pedestrian Crash Analysis
3 – Ped/Bike Work Zone Guidance Document
Virginia Highway Crash Types 2010-2014

Total Crashes (%)
- Rear End: 33%
- Sideswipe: 19%
- Overturned: 6%
- Angle: 8%
- Ped/Bike: 5%
- Animal: 3%
- Head On: 2%
- Others: 2%
- Fixed Object Off Road: 3%

Fatal Crashes (%)
- Fixed Object Off Road: 44%
- Angle: 18%
- Head On: 14%
- Others: 6%
- Ped/Bike: 5%
- Animal: 9%
- Overturned: 8%
- Sideswipe: 5%
- Rear End: 0%
Roadway Departure Crashes (2010-2014) By Maintenance and System

% of Crashes
- VDOT Interstate: 24%
- VDOT Secondaries: 30%
- Other Locally-Maintained Roads: 21%
- VDOT Primaries Maintained By Locality: 5%
- VDOT Primaries: 20%

% of Fatalities
- VDOT Interstate: 5%
- VDOT Secondaries: 34%
- Other Locally-Maintained Roads: 16%
- VDOT Primaries: 12%
- VDOT Primaries Maintained By Locality: 33%

% of Injuries
- VDOT Interstate: 6%
- VDOT Secondaries: 32%
- Other Locally-Maintained Roads: 20%
- VDOT Primaries: 19%
- VDOT Primaries Maintained By Locality: 23%
Road Departure Crashes

- Non-Interstate Routes
  - 79% of Crashes
  - 81% of Injuries
  - 84% of Fatalities

- Serious Injuries & Fatalities are randomly dispersed across network

- Limited toolbox of roadway departure countermeasures that can be widely deployed
Six Year Plan Roadway Departure Prevention

• 30-50% crash reduction

However,
• VDOT rumble strip options limited
• Very few rumble strips other than interstate
• Primary and Secondary routes need more rumble strip design options

Rumble Strips

Curve Delineation
DRAFT Rumble Strip(e) Revisions
Shoulder Less Than 4 ft wide

- Would include intermittent gaps
- 8-9-inch wide rumble stripe placed in last foot of asphalt
- 3/8’ deep rumble
- Not recommended in urban area
DRAFT Rumble Strip(e) Revisions
Shoulders Greater Than 4 ft wide

- Would include intermittent gaps
- 8-12-inch wide rumble stripe placed between travel lane and shoulder
- 3/8’ deep rumble
- Not recommended in urban area
Virginia Pedestrian Crash Assessment
Virginia Pedestrian Crash Assessment 2012-2014

Ongoing Task Order with Kimley-Horn includes:

- Review of all fatal pedestrian crashes and sample of injury crashes
- Detailed review of crash document and Google Street View to determine
  - Whether crash was mid-block or at intersection
  - Adjacent land uses
  - Presence of infrastructure such as sidewalk, crosswalk, pedestrian signals
  - Other relevant characteristics of each crash
- Purpose is to help inform future discussion and decisions surrounding policies to provide pedestrian infrastructure and consideration.
Pedestrian Actions in Fatal Crashes 2012-2014

- Crossing (not at an intersection) – 33%
- Crossing (at intersection against traffic signal) – 20%
- Walking in roadway – sidewalks not available – 14%
- Standing/lying/playing in roadway – 13%
- Not in roadway – 5%
- Crossing (at intersection with signal) – 2%
- Walking in roadway – sidewalks available – 2%
- Working in roadway – 2%
- Other/unknown – 9%
Some Initial Findings

**Location of Fatal Crash**
- Intersection: 27%
- Mid-Block/Other: 73%

**Predominant Land Use Fatal Crashes**
- Agricultural/Rural: 35%
- Commercial: 40%
- Residential: 22%
- Recreational: 3%

**Light Condition Fatal Crashes**
- Daylight: 37%
- Darkness - Road Lighted: 27%
- Darkness - Road Not Lighted: 30%
- Dawn/Dusk: 5%
- Other/Unknown: 1%
Some Initial Findings (Continued)

<table>
<thead>
<tr>
<th>Presence of Crosswalks</th>
<th>Fatal Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crosswalk Present</td>
<td>13%</td>
</tr>
<tr>
<td>No Crosswalk Present</td>
<td>87%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PED Location when Crosswalk Present</th>
<th>Fatal Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Crosswalk</td>
<td>54%</td>
</tr>
<tr>
<td>Outside Crosswalk</td>
<td>46%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PED Action at Signal when Crosswalk Present</th>
<th>Fatal Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crossing With Signal</td>
<td>73%</td>
</tr>
<tr>
<td>Crossing Against Signal</td>
<td>17%</td>
</tr>
<tr>
<td>Other</td>
<td>10%</td>
</tr>
</tbody>
</table>
VDOT Work Zone Pedestrian & Bicycle Guidance Document
Document Discusses:
- ADA requirements
- Typical pedestrian devices
- Determining Appropriate access for work zones
- Checklist
- Examples of work zone layouts that provide for pedestrians and cyclists

Document provided to John Bolecek for distribution and comments by November 24th
Questions?

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