Traffic Engineering Update on Bike/Ped Topics

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Central Office Traffic Engineering Division

Bicycle/Pedestrian Advisory Committee | April 27, 2016
Agenda

• Introduction
• Share the Road / Bikes May Use full Lane Signs
• Bicycle Touring Routes
• DMV Drivers Manual Update
• Crosswalk and Pedestrian Accommodation Policies
• ADA Curb Cuts
• Miscellaneous
• Q&A
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  - Miscellaneous
- Q&A
Introduction | What T.E.D. Does

- Statewide signing and marking policies
- Standards and specifications (materials, sign supports, signal pole structures, etc.)
- Support VDOT’s five Regions
- Liaison to FHWA
- Liaison to DMV
- Review proposed General Assembly bills
• Manual on Uniform Traffic Control Devices (MUTCD)
• FHWA policy document
• Legally applies to all roads and shared use paths
• Sets policy for all traffic control devices (signs, markings, signals, work zones, RR Xings)
• Last updated in 2009
• Next edition not until 2018 or later
• Standard ("shall"): must be followed unless documented engineering study justifies otherwise
• Guidance ("should"): should be followed unless engineering judgment justifies otherwise
• Option - "may"
• Typically, existing nonconforming devices may remain until end of their useful life
• Expands on MUTCD
  • Modification to FHWA requirements
  • Virginia-specific signs
  • Explanation or implementation of Virginia Code
• Applies to all VDOT-maintained roads
• Last updated in 2013
• Design Standards, including:
  • Pavement marking placement
  • ADA curb cuts
  • Pedestrian pushbuttons

• Policy Memoranda, including:
  • Flashing Yellow Arrow signals
  • ADA curb cut policies
  • Speed limit policies
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• Miscellaneous Other Issues
• Q&A
• Shall only be used at isolated locations (not to communicate a general policy statement)
• Should only be used on roads with speed limit ≥ 40 mph
• May be used at locations like below examples (if routine bicycle use):
  • At ends of SUPs or bike lanes
  • Hazards such as narrow bridges
  • Locations with bicycle crash history
BMUFL Signs | Current VDOT Policy

- Shall not be used where on-road bike facilities exist (bike lanes or wide paved shoulders)
- Shall only be used where lane is too narrow for bikes and vehicles to operate side-by-side
  - “Too Narrow” = 14~15 ft
- Should only be used on roads with speed limit ≤ 35 mph
• Northern Virginia Region has additional policies:
  • Should not be used on low-volume roads (< 3,000 vehicles per day)
  • Should not be used on very high-volume roads (> 30,000 veh per day)
  • Where right-most travel lane + shoulder is > 10.5 ft in width (excluding gutter pan)
Recent study showed that sign message may be ambiguous
  - BMUFL signs were better understood

Signs may be confusing (drivers think sign is telling bicyclists to share the road with drivers)
  - STR plaque was historically used beneath tractor, horse-and-buggy, etc. signs

Two states (OR and DE) have discontinued its use, with support from local cycling groups

FHWA now discourages bicycle STR signs
• Option 1 – keep current policy
• Option 2 – Adopt Oregon DOT approach
  • Similar to current policy, but use “ON ROAD” plaque instead of “SHARE THE ROAD”
• Option 3 – Expand use of BMUFL signs (not recommended)
  • All BMUFL’s on roads with ≤ 35 45 mph speed limits
• All Options:
  • BMUFL signs should not be used on very low-volume or very high-volume roads
  • BMUFL signs shall not be used where bike lane or ≥ 4 foot paved shoulder is present
  • STR plaque can continue to be used beneath horse-and-buggy, golf cart, or similar signs
  • Shared Lane Marking (“sharrow”) policy remains unchanged
• Any policy changes do not affect existing signs
• Which option do you prefer?
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Bicycle Touring Routes | Introduction

- BTRs becoming increasingly popular
- Current MUTCD sign design uses green oval
- VDOT will also gradually phase in new US Bike Route sign design developed by FHWA
Bicycle Touring Routes | Issues

• Need to standardize sign design
• Desire to avoid over-proliferation or overlapping routes
• VDOT Regions need to approve routes
• Routes that cross from Cities into Counties
BTRs | Open Discussion

- Sign design?
- Criteria for qualifying as a BTR?
- Can localities/regions develop multiple numbered BTRs?
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• Explanation of shared lane markings
• Suggest to increase following distance when behind bicycle or motorcycle
• Do not park in bike lane
• Watch for bikes before opening car door
• New bicycle lane section
• Yield to pedestrians or bicyclists in crosswalks
• Clarify that bicyclists may ride in center of lane or on sidewalks
• Bicycle’s small size can make them easy to miss in your blind spot
• Expanded/corrected section on school zone speed limits
• Current language:
  - Generally, there are three types of pedestrians most often involved in crashes: children, the elderly and adults under the influence of alcohol or other drugs

• Proposed edit:
  - Pedestrians are especially prone to serious injury when struck
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Pedestrians | *Current Crosswalk Policy*

- **Guidelines for Installation of Marked Crosswalks** document
- Research document completed in 2005
- Similar to 2002 FHWA study

<table>
<thead>
<tr>
<th></th>
<th>≤ 9,000 ADT</th>
<th>&gt; 9,000 ADT to ≤ 12,000 ADT</th>
<th>&gt; 12,000 ADT to ≤ 15,000 ADT</th>
<th>&gt; 15,000 ADT</th>
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<tbody>
<tr>
<td></td>
<td>≤ 30 mph</td>
<td>35 mph</td>
<td>≥ 40 mph</td>
<td></td>
</tr>
<tr>
<td>2 lanes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 lanes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>++4 lanes,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>raised median</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>++4 lanes,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>no median</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Note: The table displays the appropriate crosswalk markings based on traffic volume and speed.
Pedestrians | Issues With Xwalk Policy

- Primarily focuses on midblock crosswalks; little guidance for stop-controlled approaches or at traffic signals
- Predates many recent federal & state policy changes (e.g. ADA, MUTCD)
- Technology changes
- Is not always clear in intent
- Lacks consistent, enforceable requirements for developers
Crosswalks | Issues With Policy
Crosswalks | Where we stand

- Two separate policy documents being developed:
  - Marked crosswalks at unsignalized intersections
  - Pedestrian accommodations at signalized intersections
- Policies will be developed during 2016
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• Policy is based on USDOT/USDOJ Agreements
• VDOT will assess curb cuts on any “alteration” project
• Curb cuts assigned functional rating of A-D
• Most VDOT Districts have “on-call” ADA curb ramp contracts
ADA Curb Cuts | Functional Rating

- Grade A – meets all current stds
- Grade B – functional (may have exposed aggregate surface instead of truncated domes)
- Grade C – substandard width, no detectable surface, and/or poor material condition
- Grade D – does not exist
## ADA Curb Cuts | *Current Status*

### Estimated Current Status (As of March 3, 2016)

<table>
<thead>
<tr>
<th>District</th>
<th>Inventory*</th>
<th>Assessments</th>
<th>Improvements Needed</th>
<th>Improvements Delivered</th>
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<tbody>
<tr>
<td>Bristol</td>
<td>551 (1.0%)</td>
<td>293</td>
<td>172</td>
<td>30</td>
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<tr>
<td>Salem</td>
<td>486 (0.9%)</td>
<td>304</td>
<td>205</td>
<td>24</td>
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<tr>
<td>Lynchburg</td>
<td>743 (1.3%)</td>
<td>455</td>
<td>291</td>
<td>76</td>
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<tr>
<td>Richmond</td>
<td>2,654 (4.7%)</td>
<td>849</td>
<td>554</td>
<td>46</td>
</tr>
<tr>
<td>Hampton Roads</td>
<td>1,334 (2.4%)</td>
<td>342</td>
<td>239</td>
<td>83</td>
</tr>
<tr>
<td>Fredericksburg</td>
<td>2,909 (5.2%)</td>
<td>246</td>
<td>69</td>
<td>53</td>
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<tr>
<td>Culpeper</td>
<td>972 (1.7%)</td>
<td>182</td>
<td>81</td>
<td>30</td>
</tr>
<tr>
<td>Staunton</td>
<td>1,372 (2.4%)</td>
<td>124</td>
<td>97</td>
<td>91</td>
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<tr>
<td>NOVA</td>
<td>45,038 (80.3%)</td>
<td>10,172</td>
<td>8,574</td>
<td>1,365</td>
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<tr>
<td>Statewide</td>
<td>56,059</td>
<td>12,967</td>
<td>10,282</td>
<td>1,798</td>
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<tr>
<td><strong>GOAL</strong></td>
<td><strong>8,500 / year</strong></td>
<td></td>
<td><strong>1,400 / year</strong></td>
<td></td>
</tr>
</tbody>
</table>

* excludes commercial entrances
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A 2013 FSU Study determined only 40% of study participants understood signs like the below:

- Many participants interpret the sign as requiring bicyclists to stay 3’ to the right of drivers.

Therefore, FHWA has advised states not to install such signs until a better sign design is developed.

Public outreach (bumper stickers, etc.) may be a superior method of “getting the word out”
• New VDOT policy released April 2016
• Goals
  • Provide for safety of children (on foot, on bicycle, in bus, in parents’ car)
  • Limit SZSLs to locations where necessary
  • Meet State Code
• Policy addresses:
  • How VDOT will evaluate SZSL requests
  • What value to set them at
  • Hours of operation
  • Signage design and placement

• Policy can be used to address existing noncompliant SZSLs in cooperation with School Board
• Some states/agencies have received requests for “active” ADA symbol
• FHWA has stated that only the standard International Symbol shall be used
• VA State Code requires that all accessible elements be denoted by the standard symbol in Uniform Statewide and Int’l Building Codes
• New sign design based on coordination with national bicycle advocacy groups
• VDOT has received “Interim Approval” from FHWA to use new sign design
• New sign design will be incorporated into next MUTCD
• Sign will be gradually rolled on VA’s USBR’s