Innovative Pavement Markings to Facilitate Bicycle Travel

Virginia Statewide BPAC
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Research Scientist
Bike Boxes
Two-Stage Left Turn

1. Approaching on a green signal, proceed to designated bicycle waiting area.

2. Proceed across intersection when cross street has green signal.
Design and Experimentation

• Two-stage turn boxes and bike boxes are experimental under national standards
  – Experiment required permission from Federal Highway Administration and ongoing coordination
  – VCTIR is managing data collection and analysis
  – City is responsible for design, installation, and outreach (with U.Va.)

• Data collection: Automated counts, manual video review
  – 3 “before” counts in spring semester 2014 (complete)
  – 3 “after” counts in fall semester 2014 (complete)
  – 2 “after” counts in spring semester 2015
Project Status

- Request for Permission to Experiment and Data Collection Plan: Complete
- Collection of “Before” Data: Complete
- Pavement Marking and Signs (City): Complete
- Collection of “After” Data: Underway (3 of 5 counts complete)
- Data Analysis: Underway
- Reports: Underway
Analysis Notes

• Before
  – Relatively high number of illegal maneuvers per bicyclist
  – Relatively low number of observed conflicts involving bicyclists
  – Substantial discrepancies between reviewers about conflicts

• After (anecdotal)
  – Continuing illegal bicyclist maneuvers
  – Continuing low number of observed conflicts involving bicyclists
  – Bicyclists use the Rugby Road bike box more often than not
  – Often, bicyclists coming from McCormick advance to the McCormick turn box (incorrectly) instead of remaining at stop bar
  – Turn box on Rugby is being used, but bicyclists often proceed on the pedestrian signal before the traffic signal is green
Outreach and Education

- Info sheet e-mailed to various City and UVA distribution lists
- Info sheets posted at nearby on- and off-campus locations
- Info sheet mailed to nearby property owners and residents
- Brochure posted on city website; was made available at various events
- Intersection approach diagrams were posted at the intersection
- Cards with info for bicyclists and motorists were printed and given to partner organizations and handed out during the first week of classes
- Interior ads on city and university buses
- Two exterior bus ads on a city bus operating near the intersection
- Radio: Public service announcements and interviews
- News release (resulted in at least 3 news stories)
- A video is planned
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Technical Review Panel
John Bolecek, VDOT TMPD (co-champion)
Harry Campbell, VDOT TED (co-champion)
Ben Cottrell, VCTIR SOTE
Martha Kapitanov, FHWA Virginia
Jon Monceaux, UVA Parking & Transportation
Dan Painter, VDOT Culpeper
Amanda Poncy, City of Charlottesville

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