



Virginia Center *for* Transportation
**INNOVATION
& RESEARCH**

We bring innovation to transportation.

Innovative Pavement Markings to Facilitate Bicycle Travel



Virginia Statewide BPAC
January 27, 2015

Peter Ohlms, AICP
Research Scientist

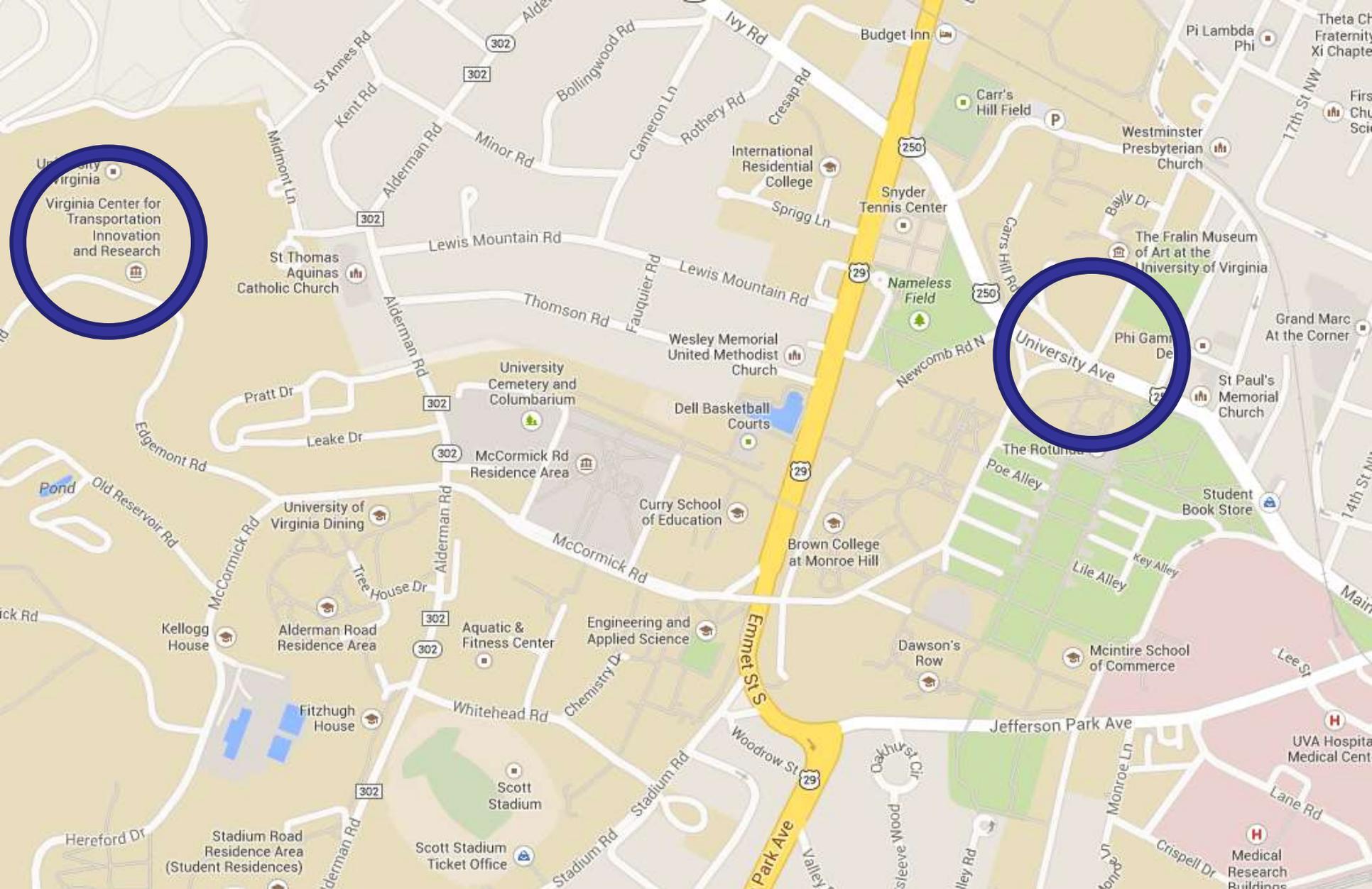


Image from Google Maps; Map data ©2013 Google



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*








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OF VIRGINIA
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1817, in the presence of
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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