Bicyclists at Roundabouts: State of the Practice

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Michael Ronkin and John Ciccarelli
There once was a designer with clout
who designed a two-lane roundabout
On its big debut
a cyclist came through
He got in but he couldn’t get out
Roundabouts: 
Designing to accommodate Bicyclists
Bicycles at Roundabouts: Issues

- Single lane vs. Multilane
- Bike lane treatments at roundabouts
- How do “vehicular” cyclists traverse roundabouts?
- What if cyclists don’t want to use the roundabout
- Details to get right
### Single lane vs. Multilane

<table>
<thead>
<tr>
<th></th>
<th>Single lane</th>
<th>Multilane</th>
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<tbody>
<tr>
<td><strong>Circulating speed</strong></td>
<td>Can be designed to be bike-compatible (12-20 mph)</td>
<td>Typically faster than bike speeds (20-30 mph)</td>
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<tr>
<td><strong>Cyclist travel</strong></td>
<td>In line with cars No lane changes</td>
<td>May be passed Must change lanes if making left turns</td>
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Single lane:
Bike-compatible speeds
Multilane:
Higher speeds, need to choose a lane
Bike Lane Treatment at Roundabouts

- Drop bike lane on entry with appropriate taper and dashes, (indicates that merging is expected)
- Resume bike lane on exit, after crosswalk
- No bike lane on the circulatory roadway (would put through cyclist to right of exiting traffic)
How do “Vehicular” Cyclists Traverse Roundabouts?
Entering single lane roundabout: “single up”
Entering single lane roundabout: “single up”
Drop bike lane on entry, before crosswalk
(indicates that merging is expected)
Cyclist entering lined up with other vehicles
Circulating: “Take the lane” in single lane
Circulating: “Take the lane” in single lane
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Circulating: “Take the lane” in single lane
Circulating: “Take the lane” in single lane
Circulating: Taking the right lane
Circulating: Taking the shortest route
No bike lane on the circulatory roadway
Cyclist still in the lane preparing to exit
Cyclist still in the lane on exit
Cyclist still in the lane on exit
Upon exiting, cyclist moves out of the travel lane
Upon exiting, cyclist moves out of the travel lane
Resume bike lane on exit, after crosswalk
Skater takes the lane
Skater going the wrong way
Videos of Cyclists Traversing Roundabouts
What if a cyclist doesn’t want to enter the roundabout?
Ramp can be provided
Using the crosswalk like a pedestrian
Using the splitter island like a pedestrian
Ramp back to the bike lane

No detectable warning!
This cyclist went clockwise on the sidewalk is now transitioning from the sidewalk to the roadway
Roundabout Guide Bike Ramp Detail

- Sidewalk
- Landscape strip
- Bike lane
- Shared path
- Ramp down for bicycle
- Ramp up for bicycle
- 15 m (50 ft) taper
- 15 m (50 ft) min.
35° angle; 1:8 taper, located after taper starts
Oregon DOT Bike Ramp Detail

1.8m or more desirable
1.2m min.

Normal sidewalk width

1:8 Taper (min.)

1.75m norm.

Buffer Strip

1.8m

Bike Lane

Direction of traffic
Photo of Ramp With ODOT Design
45° angle; 15m (50°) taper, located at angle point
Wallwork Bike Ramp Design

45° angle; short taper, located in taper
Bike Ramp Issues

- Design to give bikes the option (left or right)
  - Dash for 50’ to 200’
  - Bike ramp not in line with bike lane
- Use appropriate taper – ~1:8 or ~50’ (WS²/60)
- Proved angled ramps (about 45°)
- Design to limit confusion for pedestrians with visual impairments (angle, distance, no DW)
- When should bike ramps be used?
  - May not be needed on slow-speed, single-lane
  - More important on multi-lane roundabouts
Putting it all together

- Bike lane ends
- Angled bike exit ramp
- Neckdown cues vehicular cyclist to merge
- Cyclist "takes the lane"
- Angled bike merge ramp
- Bike lane resumes
Weaver Blvd @ UNC-Asheville
Main Entrance
Questions?

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