Yielding behavior at channelized right-turn lanes: Cyclists or drivers first?

Wouter van Haperen, Stijn Daniels, Tim De Ceunynck, Nicolas Saunier, Tom Brijs & Geert Wets

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### Types of crossing behaviour

<table>
<thead>
<tr>
<th>Priority ruling adhered to?</th>
<th>Crossing style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Offensive</td>
</tr>
<tr>
<td></td>
<td>Defensive</td>
</tr>
<tr>
<td>Taking</td>
<td>Getting</td>
</tr>
<tr>
<td>No</td>
<td>Forcing</td>
</tr>
<tr>
<td></td>
<td>Receiving</td>
</tr>
</tbody>
</table>

- **C (Zebra)**
- **Cyclist**
- **D (Zebra)**
- **Driver**
Informal traffic rule?

Crossing behaviour

- Driver (defensive): 72%
- Driver (offensive): 70%
- Cyclist (defensive): 75%
- Cyclist (offensive): 15%

- C (Zebra): 63%
- D (Zebra): 15%

- Cyclist: 11%
- Driver: 10%

- 0% to 100%
Influence on traffic safety

• \( \text{TTC_{min}} \)

<table>
<thead>
<tr>
<th>Severe conflicts</th>
<th>Left -&gt; Right [#]</th>
<th>Left &lt;- Right [#]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclist</td>
<td>19 (50%)</td>
<td>2 (40%)</td>
</tr>
<tr>
<td>Driver</td>
<td>16 (37%)</td>
<td>6 (86%)</td>
</tr>
</tbody>
</table>
What can we learn from this?

- Cyclist cross first more often, independent of the priority ruling (> 80%)
  - Similar observations found at an observation study at roundabouts, where in more than 70% of the cases cyclists crossed first (De Ceunynck et al, 2015)
  - Driver courtesy?

- No significant effect of the priority ruling on cyclists’ safety
  - Hints that crossing from right to left with motorist priority yields higher proportions of severe conflicts
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