

## Right Hook Accidents – Why they occur

Submitted by Pat McManus

Recently one of our club members was hit by a car making a right turn – i.e., a “right hook.” Fortunately, he’ll recover, but others are not so lucky. Recently two groups of researchers (one out of Toronto, the other here in Oregon) addressed this type of accident in an effort to more fully understand why they occur. Knowing the why’s may help road engineers design intersections that minimize the likelihood of a right hook, but until that happens, an understanding of the events leading up to a right hook, may help both bike riders and drivers approach intersections more safely.

### **The role of driver’s situational awareness (SA) on right-hook bicycle-motor vehicle crashes.**

M Jannat, DS Hurwitz, C Monsere, and KH Funk. This study was a collaboration between researchers at OSU and PSU. Published August 2018 in the journal of *Safety Science*. A driver’s situational awareness (SA) is complex and a mouthful: *“To safely accomplish the driving task, motorists need to perceive, identify, and correctly interpret the elements of the current traffic situation, including immediately adjacent traffic, road signs, route direction, and other inputs, while being vigilant for obstacles and making predictions of near-future traffic conditions to maintain control, guidance, and navigation of the vehicle.”* In other words – a heck of a lot is going on in the brain of the driver approaching an intersection! To measure SA, the researchers used a driving simulator (a fully functional 2009 Ford Fusion cab mounted on a motion system that allowed for acceleration and braking cues). Fifty-one participants each made 21 right turns and crash avoidance behavior was measured using a crash-likely scenario. Although this study offered additional insights into factors affecting SA, the bottom line for bike riders is that drivers often don’t see us, particularly when we are next to them or on approach from the rear. If we are in front of the driver, we represent a hazard and there is a better chance of being seen, but this awareness degrades if oncoming cars are making left turns in front of the driver. The authors admit that their study is in alignment with anecdotal evidence, but state that their results offer objective measures that are needed to go forward in improving intersections and reducing right hook accidents.

**Visual Attention Failures during Turns at Intersections: An On-road Study.** NE Kaya, S Ayas, CT Ponnambalam, and B Donmez; University of Toronto. This study was a presentation at a conference in Victoria, BC, in June 2018.

The University of Toronto study was performed on-road with 19 participants (ages of 35 and 54) who wore eye-tracking devices. “Eleven of the 19 participants had a tracking failure in at least one of the intersections; all failures related to checking for cyclists. . . The prevalence of attentional failures observed is alarming, especially given that our participants represented the lowest crash-risk age group.” Information can be found at this website: <http://uttri.utoronto.ca/news/more-driver-attention-needed-turning/>.

**We on the safety committee can’t overstate this, don’t assume the driver sees you! As mentioned in the September 2018 QR, consider use of bike lights, day and night, because in general bike lights increase your chances of being seen.**