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[What do cyclists need to see to avoid single-bicycle crashes?](#)

With the 'Wiggins effect' in full swing after London 2012 and people taking up cycling for sport or recreation like never before, the safety of the country's cyclists has never been more important.

Crashes are an unfortunate fact of life for many travelling on our roads and bicycle paths, but how and why they happen is not always well understood. In the Netherlands alone, A&E Departments treat 46,000 injuries sustained in single-bicycle incidents each year, 6000 of which lead to hospital admission. Reducing the number of bicycle accidents is thus good for the public purse as well as for the cyclists themselves.

Faced with such figures, two Dutch academics, Paul Schepers and Berry den Brinker, set out to learn more about single-bicycle crashes. The resulting paper, 'What do cyclists need to see to avoid single-bicycle crashes?', has been awarded two prestigious prizes from insurers Liberty Mutual: 'Best Paper Published in the Journal *Ergonomics*' (54/4 2011, 315–327) and the '2012 IEA/Liberty Mutual Medal in Occupational Safety and Ergonomics'.

The researchers followed two approaches. The first was to 'study the relationship between the crashes and age, light condition, alcohol use, gaze direction and familiarity with the crash scene' in a set of accidents. The second used the 'image degrading and edge detection' (or IDED) method to investigate the visual characteristics of some crash sites.

What the authors found was that in those crashes where a single cyclist collided with a bollard, narrowed road or other obstacle, or rode off the road altogether, poor visibility and especially poor visual contrast played a significant part. Schepers and den Brinker also investigated how issues with a cyclist's 'focal' vision (seeing the 'far' road ahead to plan for future hazards) and 'ambient' vision (seeing the 'near' road to correct the bicycle's current position) can contribute to a crash.

As a result of their study, the authors question the common assumption that cyclists 'can do without a minimal level of guidance and conspicuity of (design-related) obstacles'.

They state that 'the visibility of critical information in the visual periphery is indeed important for safe cycling' and make several recommendations, including applying edge lines to the curves on bicycle paths, especially on those with high levels of cycling, no street lighting or a risk of glare from oncoming vehicles.

Schepers and den Brinker also suggest that adding warning centre lines to two-way cycle paths, increasing the visibility of bollards with contrasting colours, and using 'profiled' markings to alert a cyclist riding behind another to dangers ahead could all help prevent crashes.

This prize-winning study on accident prevention – which shifts the focus from road-surface issues and the visibility of cyclists to what the cyclists themselves actually see – is essential reading for urban planners, cycling promoters and anyone concerned with the safety of the thousands of people now taking to two wheels after the recent Olympics.

Read the article in full for free at:

<http://www.tandfonline.com/doi/full/10.1080/00140139.2011.558633>

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Ben Hudson, Engineering, Computer Science and Technology journals, Taylor & Francis

email: benjamin.hudson@tandf.co.uk