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A note on the central stories of fatal and other cyclist accidents in Adelaide

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Abstract

Cases in a routine (police) database and in an at-scene in-depth database were used to try to identify a central story for cyclist accidents. Four types of event accounted for 28 of the 37 fatal cases. These four types were same direction, motor vehicle into rear of cycle; same direction, side swipe; cyclist turned or swerved unexpectedly into path of motor vehicle; and cyclist emerged unexpectedly into path of vehicle from an intersection or footway.

Introduction

The present note summarises our findings from a recent report on cyclist (and pedestrian) crashes in Adelaide investigated in the period 2002 to 2005 [1]. In part of that report we aimed to identify a central story for 11 cyclist crashes from at-scene in-depth investigations conducted by the Centre for Automotive Safety Research (CASR), and a further 37 fatal cyclist crashes from the police database of routinely reported crashes (known as TARS) for 1994 to 2006.

Information about the databases is provided in our full report [1]. There are reasons why we would expect the in-depth and TARS-fatal databases to differ from each other. First, the at-scene in-depth investigations were largely of crashes occurring on Monday to Friday in daytime, and so crashes in darkness and alcohol-related crashes were very much underrepresented. Second, the descriptions of crashes in TARS, even of fatal ones, were very brief, and it is possible that if more details were known, many different categories would become evident. Thus, neither database presents a complete picture.

As introduction to the fatal series, we note that in South Australia a report on 106 fatal cycle crashes by Longo [2], based on Coroner's files (which rely heavily on investigations by police), identified the following most common types of cycling fatality:

(a) motor vehicle attempted to overtake cyclist: 27 cases, in 23 of which the motor vehicle rear-ended the cyclist
(b) cyclist turned or swerved unexpectedly into path of motor vehicle: 24 cases, in 21 of which the motor vehicle and the cyclist were travelling in the same direction
(c) cyclist ride-out into path of motor vehicle from an intersection: 17 cases
(d) cyclist ride-out into path of motor vehicle, from a driveway, footway or cycle path: 16 cases
(e) no other vehicle involved: 6 cases.

Longo's [2] report goes up to 1993, which is why 1994 was selected as the start date for the present series. This method of classification was helpful when going through the present series of fatal cases, though it was not followed exactly.

Turning to Australia as a whole, the Australian Transport Safety Bureau reported in 2006 on deaths of cyclists due to road crashes [3]. Table 6 of [3] classifies according to crash type 221 fatal cyclist crashes in the period 1996 to 2000. Crash types similar to (a), (c) and (d) above were found to be numerically important:

- cyclist and motor vehicle travelling in same direction in same lane, motor vehicle hit the cyclist from behind: 46 cases
- crash at intersection, cyclist and motor vehicle both travelling straight ahead in different directions: 24 cases
- cyclist leaving a footway or verge: 35 cases.

Crashes similar to (b) were not highlighted, except that a supplementary analysis of data for 2001 to 2004 drew attention to teenage cyclists veering sharply into the path of motor vehicles.

Cyclist fatalities in the TARS database

An examination was made of the textual descriptions in the TARS records of cyclist fatalities in the Adelaide Metropolitan Area for 1994 to 2006. There were 37 crashes in which a cyclist

was killed. Two cyclists were killed in one of these crashes. (In South Australia as a whole, there were 56 pedal cyclist fatalities in this period.) The description in the TARS text field seemed adequate to identify the significant features of what happened. However, as always with such a data source, it needs to be remembered that the cyclist is dead and cannot tell their side of the story. Police may not record contributing factors such as inattention or minor speeding by the motor vehicle driver. No attempt was made to seek other sources of information, such as a report prepared for the Coroner or a newspaper report.

The categories below were generated from the present series. The first two categories correspond roughly to (a) in Longo's list above, and the fourth corresponds roughly to (c) and (d). Having an 'other' category at the end means that the list is exhaustive:

- same direction, motor vehicle into rear of cycle: 7 cases (of which 6 were at night)
- same direction, side swipe: 4 cases (of which 3 involved a truck that was turning left, or was about to). In addition to these cases, there were others in which a truck was turning left, and/or the view to the nearside of a left-turning truck was possibly relevant, and/or the cyclist fell under the wheels of a truck
- cyclist turned or swerved unexpectedly into path of motor vehicle: 4 cases
- cyclist emerged unexpectedly into path of vehicle from an intersection or footway: 13 cases
- involvement of cyclist, or running over of cyclist, was secondary to something else: 5 cases
- single vehicle: 2 cases
- other: 2 cases.

Of the 37 crashes, 32 of them fall into one or more of the following four categories: children (0-15), elderly (60+), at night or truck turning.

There were a number of cases in which the motor vehicle driver had had a number of previous crashes, and it is tempting to surmise that he or she bore some responsibility for the crash. However, drivers with higher numbers of crashes may simply drive more, rather than necessarily being more dangerous drivers.

Cyclist accidents in the at-scene in-depth database

There were 11 crashes in the at-scene in-depth database, and narrative accounts are included in our full report [1]. We found that they fell into three groups, as follows:

- motor vehicle turning left: 4 cases
  - o bicycle from footpath into side of left-turning trailer of truck
  - o left-turning truck struck cyclist on its inside
  - o car turning left at an unexpected place struck cyclist on its inside
  - o left turn by van struck cyclist on its inside
- fast cyclist: 3 cases
  - o fast cycle into rear of parked car
  - o truck turned right across path of oncoming cyclist; visual obstruction; speed of cyclist
  - o fast cycle into rear of stationary car that had intruded into the bicycle lane
- others: 4 cases.
  - o car failed to give way to cycle at roundabout
  - o cyclist struck by towed caravan as they passed parked vehicle
  - o car moved to left at same time as cyclist moved to right
  - o cyclist acting as a pedestrian disobeyed red pedestrian light; visual obstruction.

It may also be noted that a visual obstruction was relevant in two cases.

Eleven crashes are rather too few to draw firm conclusions from, but the differences from the fatal series are rather more noticeable than the similarities. We suggest that a way of conceptualising these is that fatalities mostly resemble other accidents, except for (a) a bias towards circumstances in which the motor vehicle is travelling at high speed or the cyclist is frail, and (b) the occurrence of run-over cases (notably, involving trucks without side protection).

Comments

Both the report by Longo [2] and the present series of fatal cases suggest that only a limited number of types of crash need to be addressed. Note, though, that this is probably exaggerated, as we have chosen the central stories that were most frequent among the cases we happened to have; in a different series, random variation is likely to mean that these central stories will not be quite so frequent.

Routine police data on the many cycle crashes that are non-fatal also contributes to the understanding of how cycle safety may be improved in the future. See, for example, Hutchinson, Kloeden and Long [4].

The discussion in section 10 of our full report [1] draws upon the existing literature and includes pedestrian as well as cyclist issues. It examines some conventional countermeasures to pedestrian and cyclist accidents, concentrating on seven topics: night time, drunkenness of pedestrians, visual obstruction by traffic, visual obstruction by roadside objects, possible improvements to other details of the road, trucks (visibility from the cab and side protection), and speed. There is also consideration of the allocation of space to different types of road user (pedestrian, cyclist, motorcyclist, motorist). We emphasise that if society collectively wishes for transport that has the three features of being safe, environmentally friendly (like cycling and walking) and reasonably quick, there needs to be serious consideration given to which modes are compatible with which others and thus can share space, and how much space should be allocated to each.

Acknowledgements

This project was funded by the South Australian Department for Transport, Energy and Infrastructure (DTEI) through a Project Grant to CASR. The DTEI Project Manager was Peter Watts. CASR is supported by both DTEI and the South Australian Motor Accident Commission. The views expressed in this report are those of the authors and do not necessarily represent those of the University of Adelaide or the funding organisations.

This project relied heavily on the work of the CASR staff who conducted the at-scene in-depth investigations of crashes, and ultimately, on the cooperation of people who provided information about those crashes.

References

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Piloting a Safe Cycle education program

by Eddie Wheeler, Secretary/Manager, NRMA – ACT Road Safety Trust, GPO Box 2890, Canberra ACT 2601

An innovative cycling safety education program is being developed and trialled at Melba Copland Secondary School in the ACT with a grant of $11,980 from the NRMA – ACT Road Safety Trust. The aim is to prepare and deliver a school-based pilot program targeting Years 7 to 10 that will promote bicycling safety when using multi-user paths, on-road cycle ways and roads in the ACT.

The Safe Cycle program was launched at the junior campus of the school on 24 November 2009. As part of the event, Trustee Julie Thornton presented the Trust's ceremonial cheque for its grant to the School's Principal Michael Battenally (see Figure 1).

Figure 1. Eddie Wheeler (Trust Secretary/Manager), Julie Thornton (Trustee), Terry Eveston (teacher and project manager) and Michael Battenally (Principal) with the Trust cheque for $11,980 at the launch of the Safe Cycle Program

A key element of the program is the training of some Year 10 students as mentors to assist in delivering the program to Year 7 students. Mentoring is well recognised as an educational tool with the capacity to greatly influence awareness and behaviour. The project also aims to promote a culture of safety for those students undertaking the Road Ready novice driver program in Year 10.

The long-term goal is for the Safe Cycle program to be rolled out across the ACT Government school system as part of the physical education and outdoor education curriculum. Schools using the Safe Cycle program would administer the cost through normal school procedures.

The Safe Cycle pilot program is expected to take 18 months to complete. It is being developed in five stages:

- **Stage 1: Development of a pilot Safe Cycle program.** Staff with bicycle experience (Certificate IV competencies in cycling) will develop the program through consultation with bicycle educators (Cycle Education, Capital Bike Hire) and community organisations (Canberra Off-Road Cyclists). Regard will be given to the Victorian Bike Ed program, aspects of the Road Ready novice driver program and the called Switch-back Kids early intervention program for at-risk youth.
- **Stage 2: Training.** Teaching staff from Melba Copland Secondary School will be trained to deliver the Safe Cycle program. Selected Year 10 students will be trained as peer mentors to assist in the delivery of the program.
- **Stage 3: Delivery of the Safe Cycle program.** The Safe Cycle program will be delivered as a pilot program with the Year 7 cohort, through the physical education and outdoor education curriculum.
- **Stage 4: Evaluation of the success of the program.** Pre- and post-program testing of participants will be undertaken. Surveys of bicycle educator consultants, parents and students will be undertaken to gauge perceived achievements of the program's goals.