

Interviews play a key role in understanding the events and causes of a crash, as physical evidence collected at-scene (e.g., tyre & scrape marks) can be insufficient to determine the motivations or behaviour of the individuals involved.

Thus the primary aim of an interview is to obtain a first hand account of the crash from the individuals involved, focusing on their actions and cognitive processes (e.g., perceptions and decision making). As such, the success of the interview is largely dependent on what the individual remembers of the crash and the interviewer's ability to elicit this information.

An individual's memory for a crash, as for any event, is dependent on the cognitive processes they engage that enable them to encode the event into memory. In order to create a complete and accurate memory of an event, the individual must first be aware that the crash is going to happen, recognise that they may need to create a memory of it, and attend to the stimuli that will form the basis of the memory. It is at this point that knowledge of what is important to remember plays a key role. Most people will largely be inexperienced when it comes to remembering a crash (as opposed to a birthday party) and this will influence the type of information that they remember. It is likely that aspects of the crash that stand out to the individual involved are different to those of interest to the investigator but this does not mean that no memory has been formed. With this in mind, consider the nature of a crash.

Crashes are largely unexpected events that typically have a short duration. As such, the individual often has very little warning to commence encoding the event into memory. Indeed, by the time

they reach this stage the crash itself may be over. Furthermore, certain aspects of a crash may attract more of the individual's attention such that they fail to attend to other aspects of the crash. This may result in some aspects of the crash being remembered more clearly than others, while some aspects of the crash are not remembered at all.

Thus, it is the role of the interviewer to facilitate the recall of information as accurately as possible. Fortunately, there are a number of strategies and techniques that can assist this process.

At the outset it is necessary to build some rapport and make the interviewee feel comfortable. It may also be necessary to reinforce guarantees of confidentiality to encourage honesty. The interviewer should be accepting of the interviewee's point of view to further encourage them to speak freely.

The first step in eliciting a full description of the crash is to get the interviewee to recall the event freely from their perspective without interruption. Memories are formed within the context of the event (i.e., what you are doing, where you are, how you are feeling, physical sensations, sounds, smells, etc.), thus it is useful to help the interviewee recreate the context of the crash by asking a series of questions that essentially set the scene for the crash. This both assists recall and provides a point from which the narrative can commence. The interviewer should then address individual aspects of the crash in a logical sequence prompting the interviewee for additional detail or clarification as necessary. This process is essentially walking them through their memory of the crash one step at a time and allows the interviewee to focus on unique aspects of the crash independent of the whole, which may bring to light facts that have been previously overlooked.

At the scene

Newsletter of the Centre for Automotive Safety Research

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CASR to host inaugural research forum



Directions in 2011 FORUM
Road Safety Research

Discussion / Inspiration / Dissemination

CASR is hosting the inaugural Road Safety Forum 2011– Directions in Road Safety Research at the Mercure Grosvenor Hotel, Adelaide on 12-13 May 2011.

There are a number of high quality road safety research organizations in Australia and New Zealand that operate relatively independently. Generally, the only way we hear of each other's research is when the research is completed and published.

The Directions in Road Safety Research Forum is designed to provide researchers the opportunity to present and discuss current research initiatives and explore common research issues through casual peer discussion.

Complementing the Australasian Road Safety Research, Policing and Education Conference that provides an excellent opportunity to disseminate completed research outcomes, it is anticipated the forum will facilitate:

- In-depth review and discussion of research in progress
- Networking with Australia's leading road safety professionals
- Possibilities for cooperation on future research projects
- Inspiration for future studies
- Ideas for future collaborative work
- Avoidance of unnecessary duplication of research studies
- Exploration of issues of research quality and data reliability.

Presenters are invited to spend 10 minutes providing an informal overview of current unpublished research, to be followed by 5 minutes of question/discussion time.

Presentations are encouraged from road safety research professionals in all disciplines.

We are confident this forum will provide an excellent networking and peer review opportunity for both established and early career researchers, postgraduate students and funding organizations.

To register please visit: <http://roadsafetyforum2011.com> or contact CASR on + 61 8 8303 5997 to request a brochure to be sent to you. Numbers will be strictly limited so please register early to secure your position.

For more information please contact **Leonie Witter**, leonie@casr.adelaide.edu.au

Older drivers – crash facts

- The crashes of drivers aged 75 years and older who live in rural areas of South Australia are more than twice as likely to be serious or fatal than those of their urban counterparts.
- Older drivers have fewer crashes than all other age groups but those are more likely to be serious or fatal.
- Rural drivers have fewer crashes than urban drivers but those are more likely to be serious or fatal.

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New publications

Motorcycling in South Australia: Knowledge gaps for research (CASR075)

The full report series can be accessed at:
<http://casr.adelaide.edu.au/publications/researchreports/>

If you would like to subscribe to the electronic mailing list for this newsletter or would like to be removed from the mailing list altogether please email library@casr.adelaide.edu.au



Message from CASR

At CASR we have had a busy and interesting 2010 and we are proud of our staff and our achievements. Our unique program of at-scene crash investigations has continued and demonstrated its value again through our recent investigation of barriers and clear zones. This work won the best paper award at the recent road safety researchers conference and has the potential to change the way we approach roadside design. Our ongoing work on getting benefits from vehicle technology is being followed throughout Australia and internationally and we expect our current research on the role of medical conditions will be of great interest when it is completed in 2011.

One of the highlights of our year has been working with Professor Fred Wegman of SWOV through his role as South Australian Thinker in Residence. This relationship is continuing as the new South Australian Road Safety Strategy is developed.

We are also looking forward to moving into our new Impact laboratory in 2011. Our pedestrian impact testing has always been known for its technical excellence and accurate results but it will be rewarding to be in a location where we can more easily demonstrate our work to visitors from around the world. Our next newsletter will feature the role of vehicle design in pedestrian safety and the work of the Impact Laboratory. We will also be letting you know when you will be able to visit our new facility.

Finally this will be our last newsletter for 2010 so all of us at CASR wish you a happy and safe holiday season and a successful new year.

Mary Lydon, Director, mary@casr.adelaide.edu.au

Conference acknowledges work of CASR researchers

CASR staff won two awards at the Australasian Road Safety Research, Policing and Education Conference in Canberra in September.

Sam Doecke and Jeremy Woolley won the Peter Vulcan Award for Best Paper for the paper titled 'Effective use of clear zones and barriers in a Safe Systems context'.

James Thompson won the John Kirby Memorial Road Safety Award for Best Paper by a New Researcher for his paper 'Older drivers in rural and urban areas: comparisons of crash, serious injury, and fatality rates'.

Full text copies of both papers can be found on the CASR website or at www.rsconference.com.au

Left: Sam Doecke receiving the Peter Vulcan Award from Peter Vulcan

Right: James Thompson receiving the John Kirby Memorial Road Safety Award from Kerry Fitzgerald, a Trustee of the NRMA-ACT Road Safety Trust



Motorcycling Australia scholarship recipient to study the causes of motorcycle crashes



Adrian Weissenfeld commenced a PhD in August after receiving a scholarship from Motorcycling Australia to study a topic in the area of motorcycling safety. Adrian hopes to identify the causes of motorcycle crashes in Australia. His initial research will involve analyzing in-depth crash investigation data with the aim of developing a course of study that examines rider behaviour, attention and awareness.

CASR researcher invited to cross-examine Swedish thesis

Robert Anderson travelled to Sweden in September to cross-examine a thesis applicant. The thesis defence was made by a student at Chalmers University, Gotenborg on the topic of animal model of rotationally induced diffused brain injury. The student gave a seminar before Robert cross-examined her. She successfully defended her work and Robert was able to announce the decision of the grading committee to her in front of her friends and family.

While in Sweden, Robert also presented an overview of CASR work to staff at SAFER (a joint university/industry research centre in Göteborg) and gave a seminar at SWOV, the Institute for Road Safety Research, in the Netherlands.



CASR welcomes new staff member

Phil Jensen-Schmidt commenced with CASR in September in the role of Office Administrator. Phil is on secondment from the University's Electrical and Electronic Engineering School until December 2011 and brings a wealth of experience to the role.



In the spotlight – Matthew Baldock

Matthew began with CASR in 1996, taking the opportunity to use his background in psychology for applied research.

Designing safer roadsides – the use of clear zones

It is well documented that single vehicle collisions with fixed roadside objects such as trees and power poles represent a large proportion of serious and fatal injuries in Australia and around the world.

Crashes on rural roads tend to be more severe due to the relatively high travel speeds on these roads. The traditional engineering approach to making rural roads safer should a vehicle leave the road is to either adopt a clear zone or protect hazards with crash barriers. Past approaches to rural road design have tended to favour the use of clear zones over barriers.

Clear zones represent areas beside the road that are clear of hazards such as trees and poles. In theory, they allow a wayward vehicle to manoeuvre back onto the road without striking a fixed object. Usually, nine metres is regarded as the preferred clear zone width on straight sections of road. In practice, however, much narrower widths exist on the road network.

Collisions with hazardous objects such as trees and poles result in high injury severities because the force of impact is focussed on a very small area of the vehicle. Crash barriers spread the impact over a much larger area therefore reducing the forces on vehicle occupants and the consequent likelihood of injury.

CASR is conducting an exploratory study that is re-examining the use of clear zones as the preferred roadside safety treatment for collisions with fixed roadside objects as compared to barrier treatments.

An analysis of our in-depth crash investigations of single vehicle run off road crashes revealed that many vehicles travel beyond nine metres when they leave the road if they have not already struck a fixed object.

A number of these crashes were simulated using advanced computer techniques to determine the typical trajectory of vehicles when they leave rural roads out of control. The relationship between the speed of a vehicle and its lateral distance from the edge of the road throughout the departure event was investigated.

The simulations suggest that adequate clear zones to ensure impact speeds that do not cause injury cannot practically be provided in most situations. Instead, narrow clear zones used in combination with crash barriers may provide the most cost effective way to ensure that rural roadsides are safe for vehicles that leave the roadway.

For more information please contact **Sam Doecke**, sam@casr.adelaide.edu.au



His research began with the safety issues associated with the window tinting of cars but soon expanded to include child cyclists, roadside hazards, random breath testing, and graduated licensing. Matthew also participated in CASR's in-depth at-scene crash investigation program, investigating both metropolitan and rural road crashes.

In 2001, Matthew began his PhD study into the self-regulation of driving behaviour by older drivers. "This was a rewarding period of my work life, as it involved co-ordinating a multi-faceted study over a period of years, and being able to devote nearly all of my time to examining one issue very closely." Matthew continues to work in the area of ageing and transport, being a key member of the Safe, Sufficient, Sustainable Mobility Consortium with colleagues from Flinders University and the University of South Australia. His follow-up work, mostly with PhD student James Thompson, has also won a number of awards, including the 2008 Peter Vulcan Award.

Matthew's research has expanded to include drug driving, sleepiness and driving, the economic costs of road crashes, and medical fitness to drive. Matthew's main current interest is motorcycle safety. "It's a very interesting topic for research, as motorcycling is gaining in popularity. It is an area with very specific safety challenges that need to be addressed."

