Journal of
the **Australasian College of Road Safety**

Formerly RoadWise — Australia's First Road Safety Journal

In this edition —

Contributed articles:
- For Whom Does the Budget Funding Toll?
- Singing it for road safety
- Road Safety Barrier Systems Standard AS/NZS 3845 being updated
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- Memorials for Road Crash Victims

Peer-reviewed papers:
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Managing Editor.

Cover photo: A Holden VZ Commodore Acclaim fitted with
Electronic Stability Control shows its paces on a test track. ESC will
be standard across the whole new Holden VE Commodore range.
(See Australian News)

Contents

From the Incoming President

Dear Members,

I would like to thank the Executive Committee for electing me as the new President of the College. Firstly, let me say what a privilege that is and how mindful I am of the wonderful heritage and high standard set by past Presidents. Harry Camkin, the President in 1994 and 1995 set a high bar, and subsequent Presidents have maintained that same drive and commitment to the College and to advancing road safety in Australasia. In this regard, special recognition should go to my predecessor, Raphael Grzebieta, who was the first person to serve as President for three years. In that time he maintained a high level of contact with the media that was far greater than anything achieved in the past. In addition, through his encouragement and efforts, the College Journal was revitalised and the Register of Road Safety Professionals was initiated. I look forward to having the support of Raphael in his role as 'Immediate Past President'.

My first involvement with the College was in 1994 (yes I am that old!), when I was given the role of first Executive Officer, of setting up the then new national office, of running conferences and of establishing State Chapters. At the recent and very successful Pedestrian and Cycling Conference held in Victoria, I mentioned that I remembered attending the inaugural meeting of the Victorian Chapter and that the enthusiasm evident at that meeting was still driving the Chapter today.

The same is true of the other Chapters. I recently met with Paul Simons and Chris Thomson in Adelaide and was impressed by the significant expertise on the SA Executive. This appears to be the case in all the Chapters.

We have a lot going for the College. We have a strong and dedicated National Executive Committee and Chapter Executives. We have sound policies and are increasingly asked by the media and parliamentary committees for our views on road safety issues. We run relevant and timely conferences and seminars at the national level and most of the Chapters run well-attended lunchtime or half day seminars on relevant local issues. We have a solid membership base of 362 members. So, where do we go from here?

I do not propose any radical changes to the way the College is constituted or run. Even if I had the power (which I don't – the College is first and foremost a collegiate organisation), radical changes just aren't necessary. The College is a members organisation – run by and for its members.

What I do propose is that we have a renewed focus on being both relevant AND representative. These two things are enshrined in our Constitution. The first two objectives of the College are:

1. To foster communication, cooperation and support among workers in road safety; and
2. To disseminate information on road safety and traffic communication.

By relevant I mean having a broad range of up-to-date policies that are available to researchers, the media and the public. I mean being the first organisation that parliamentary enquiries and government departments refer to when they want to know what is happening in road safety and what those working in road safety think about road safety issues. I mean a professional and highly credible voice that represents the interests of both members and the general public on road safety issues.

In practice this means sending copies of our policies to Federal, State and Local Government transport ministers and their opposition counterparts. It means sending these to the media. It means putting out media releases for National and Chapter conferences and seminars and providing College spokespeople when required. It could also mean writing up the outcomes and recommendations of conferences and seminars and sending these to the relevant road safety authority and minister.

The other key issue that I mentioned was a renewed focus on being representative. We need to use the considerable expertise of our members in smart ways. One of the many positives of the College is that we have a voice where a government department often can't for various reasons. It can be extremely useful to a government department for an independent but credible organisation to support a policy or program to the media and the minister. It is also useful for local community road safety organisations to refer to the College and its policies in putting in submissions for road safety initiatives and funding.

However we also need to think about being representative from the aspect of making sure that all relevant disciplines are included in the College membership and that when we are

making or revising policies, we refer to these members for their views. I work in injury prevention – specifically occupational health and safety – at the national level. Many of the deaths and injuries on the road are work-related. Research, policies and practices in fleet safety are a developing area and yet state work safety authorities are under-represented in College membership. I am sure that there are other such examples of where the College could target organisations and individuals for membership. But this needs to happen primarily at the jurisdictional level. This will ensure that the networking so necessary for the College is maximized.

I encourage all members and particularly the Chapters to discuss these ideas and get back to either me or your National Executive representative with comments and suggestions. As I stated, we are a collegiate organisation and therein lies our strength.

Finally, just a reminder of what is still left to do…

I heard from a young friend last night that recently her 17 year old brother hit a barrier and rolled his car. He was speeding and he had been drinking. He had serious concussion but instead of waiting for the ambulance that some of the witnesses had called, he left the scene, crashing into the car of someone who had stopped to help. His friends found him driving erratically and took him to someone's house until they thought his BAC was zero and then took him to the hospital. Thus far he has been charged with speeding and leaving the scene of an accident and has to pay to repair the barrier. More charges are likely.

We have a lot of work to do.

Kerry Fitzgerald

Incoming President

Diary

8th Australian Injury Prevention Conference – 'Working Together'

27 – 29 September 2006

The conference will be held at the Scientia Conference Centre, UNSW, Sydney. For futher information: www.aipn.com.au/AIPNconf2006/home.htm

International Traffic Medicine Association

16 -18 October 2006

The ITMA conference will be held at the Royal Automobile Club of Victoria conference centre in Melbourne. The congress will be of interest to anyone involved in preventing, treating or interpreting traffic injuries. It includes medical, engineering, legal, educational, political, policing and public health issues. One day of the congress will include a session wholly devoted to drugs and driving. Contact: ITMA 2006 Organising Committee Tel: (+613) 9887 8003; Fax: (+613) 9887 8773; Email: trafficmed@vifm.org .

Australasian Road Safety Research, Policing and Education Conference

25 - 27 October 2006

The Conference will be hosted by Queensland Transport, Land Transport and Safety Division, on the Gold Coast. With its theme of "Smarter, Safer", the conference will investigate how emerging technologies, and innovative education and enforcement practices can be applied to deliver improved road safety for all road users. The theme of Smarter, Safer is wide ranging and allows the program to accommodate a variety of presentation options. For further information visit:

http://www.astmanagement.com.au/rsrpe6/

QUARTERLY NEWS

Chapter News

Australian Capital Territory and Region

Plans are being developed to hold the College's Australasian 2005-06 series seminar on 'Recidivist Drink and Unlicensed Driving in Canberra later in the year. As reported in the Australian News section, we are also planning a joint seminar at which Robin Anderson will be speaking on the knowledge he gained on older driver road safety during the overseas research he conduced under the NRMA-ACTS Road Safety Trust – funded Churchill Scholarship earlier this year.

New South Wales (New England)

The Chapter successfully held two events in June 2006. The Traffic Safety Symposium 2006 'Learning and Driving in the Country' attracted 15 delegates to Armidale on 6 & 7 June to give presentations and hold discussions on a range of topics. These included:

- programs for young learner drivers in rural areas
- light vehicle drivers learning to share highways with heavy vehicles
- learning hazard perception skills specific to high-speed rural roads
- research conducted in hospitals into broad factors involved in specific crashes
- local government policy regarding roadside memorials

The 'Arrive Alive Young Driver Safety Expo' was held in Armidale over 5 - 7 June at the Armidale Traffic Education Centre. The event attracted 180 young drivers from as far away as Warialda and Tenterfield to learn about many aspects of safe car driving, including:

- the effects of speed on braking distance
- the imperative of the 'three second gap' when following a vehicle
- how inadequate air pressure in tyres reduces vehicle control
- impairment effects of alcohol
- crash consequences, including brain injury

The Chapter extends its gratitude to all those local individuals and organisations that made the Arrive Alive Expo possible. In particular, the Chapter sincerely thanks Richard Torbay, Member for Northern Tablelands, and Eric Roozendal, Minister for Roads, for providing State Government support for the Expo.

New South Wales

The Chapter Chair had the opportunity to make media remarks regarding The Easter road toll and actions that could be taken to improve road safety. Ms Janet Hogge, has been nominated by the Professional Association of Road Safety Officers (PARSO) to the Chapter executive, following a meeting with PARSO representatives in May to discuss ways and means for a partnership to better reflect the needs of local government road safety officers through College activities. The Chair has written a letter of introduction to the new Minister for Roads requesting a meeting to discuss road safety matters.
A conference ' Global Issues in Road Trauma' was held on 4 April 2006 and a seminar 'Parental Involvement in Road Safety'was held on 30 June 2006. The Executive has decided to respond to the more than 10% rise in the number of deaths in road crashes on NSW roads compared to an equivalent period in 2005. The Executive will identify 3-4 strategic areas in road safety where the Chapter might seek to make media comment to highlight the increase in the road toll.

Queensland

On 6 June 2006, the Queensland Chapter held a seminar focusing on rural road safety issues. The seminar featured three speakers. Professor Mary Sheehan and Mr Dale Steinhardt from CARRS-Q provided an overview of the Centre's large-scale rural and remote road safety study being conducted in North Queensland. This was followed by a presentation from Associate Professor Malcolm Vick from James Cook University entitled: 'Taking a cultural approach to rural road safety'. The seminar was attended by approximately 35 people and generated considerable discussion about the challenges facing road safety agencies in improving rural road safety. The next seminar of the Queensland Chapter will be held on Tuesday, 5 September 2006 at the Carseldine Campus of the Queensland University of Technology (QUT).

Victoria

The Victorian Chapter, in conjunction with the ACRS Head Office, held a national conference on "Pedestrian and Cyclist Safety" on June 9th. The conference was a great success with over 140 delegates attending, who heard very interesting presentations by Australian and international speakers. The College was also very pleased to host the Victorian Chief Commissioner of Police, Christine Nixon, who was the guest speaker at the Conference Dinner. The Victorian Chapter is currently developing a schedule of seminars for the coming year. Likely topics include driver distraction, vehicle safety and design and speed.

Western Australia

The Chapter now has a new Executive Committee with ten members covering broad aspects of road safety through their employment in government, the universities, police, the RAC, LGA, a local council and a consultancy. They held a breakfast meeting at Main Roads on June 28, with the next meeting planned for August 9.

Besides planning for future seminars that will include at least 1 half or full day seminar, the Committee is looking at a targeted membership drive in WA.

The Office of Road Safety is interested in the Chapter running seminars that align with the WA road safety strategy. The Chapter is extending a general invitation to any experts in other states or from overseas to indicate if they are interested in presenting in WA at an ACRS seminar on any topic, especially those that are key to the WA Road Safety Strategy, which is largely based on the national road safety strategy.

Head Office
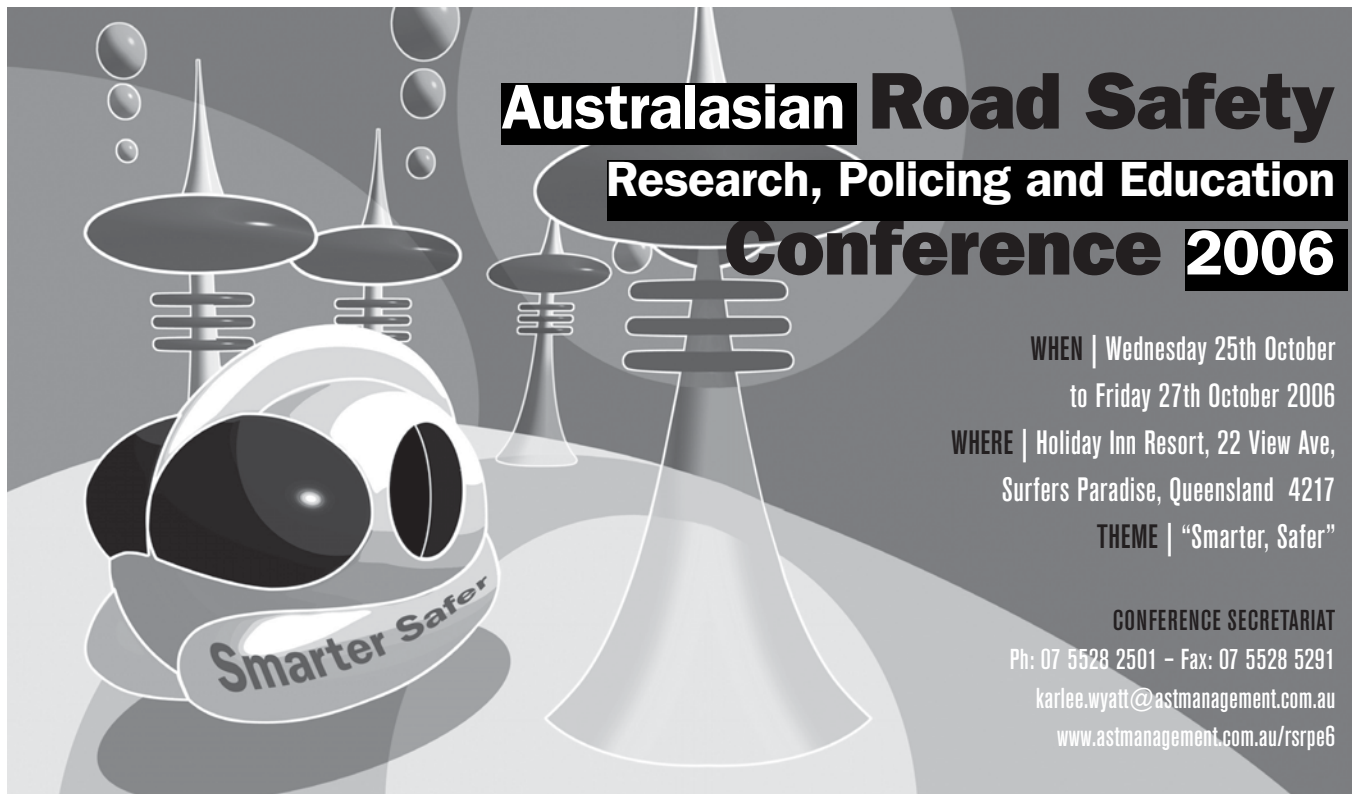
Some changes have been made to the conditions for applying to be listed on the ACRS Register of Road Safety Professionals to avoid permanently disqualifying members from the Register for what may have been merely foolish actions of youth. The questions relating to having no criminal convictions or driving convictions resulting in loss of licence now have the additional words " in the last ten years".

Also, the minimum academic qualifications for 'Road Crash Reconstruction' are now as follows:

"Relevant bachelor degree or equivalent in Engineering or Science, plus completion of an accredited crash reconstruction course. (The ACRS currently recognises the following courses: ACTAR - Northwest University Traffic Institute course; Society of Automotive Engineers (Australia) Crash Reconstruction course (Sgt Peter Bellion); and University of Florida and Institute of Police Technology Management Crash Reconstruction (Canberra) course (Paul Feenan). Other courses may be considered on application - please check with the Register Manager."

A copy of the revised application form for the Register of Road Safety Professionals is available at the end of this Journal.

Advertisement

Australian News

Australian Road Toll up 4% on previous year

Federal Roads Minister Jim Lloyd has expressed his disappointment and frustration at the continuing rise in the road toll, and committed the Commonwealth to work with the State and Territory governments to redouble efforts to curb the devastating road toll. Minister Lloyd made the call following the June Australian Transport Council meeting of Federal, State and Territory Transport and Roads Ministers from around Australia.

"In the twelve months to April 2006, there were 1,648 people killed in road crashes - this is 4 per cent more than in the previous year," Mr Lloyd said. "It is of great concern to me that fatalities have been on the rise since the end of 2004 despite increased spending on the Nation's roads, more advanced safety technology in vehicles and a greater focus on driver education. There is plenty of work to be done by all levels of Government - if every jurisdiction implements best practice measures, we'll be well placed to save many more lives each year and prevent thousands of serious injuries,"
(Source: Minister for Roads)

ESC to be standard on new Holden Commodore range

The Australian Automobile Association has welcomed Holden's decision to make Electronic Stability Control (ESC) standard on its new Commodore range. ESC technology has been hailed as one of the most significant safety advances since seat belts were introduced in the 1970s. Up to now ESC (designated Electronic Stability Program or ESP by Holden) has only been available on the more expensive cars in the Commodore range (see cover photo). AAA Executive Director, Lauchlan McIntosh said the move to have ESC as a standard feature on all Commodores ushered in a new era of driver safety for Australian motorists. Research from the University of Michigan in the US suggests that ESC can reduce the chances of fatal rollover crashes by 40% in passenger cars. "ESC is a major advance in vehicle safety and one which the AAA and Australia's motoring clubs have been calling for some time now," Mr McIntosh said. "It is great news to see Holden has taken this move, which we believe will now be followed by other Australian manufacturers to remain competitive." *(Sources: Holden GM Corporate Affairs and AAA June 2006)*

Australian Transport Council seeks to accelerate wider use of ESC

The ATC has asked the Department of Transport and Regional Services to develop a National Action Plan to accelerate the uptake of Electronic Stability Control (ESC) to all new vehicles sold in Australia. The plan would include working with vehicle manufacturers to encourage them to fit effective ESC systems to all their vehicle models and a national campaign to inform consumers and increase demand for this technology. The ATC is also referring the issue of ESC technology to a Technical Liaison Group to investigate and provide a report for the next ATC meeting in November. The Australian Automobile Association is currently conducting trials on ESC funded by the Australian Government, which will help increase consumer demand for the product. Commenting on these developments, Federal Roads Minister Jim Lloyd said: "I believe that by increasing consumer demand for the ESC, as has been done with ABS Brakes and airbags, the technology will penetrate the market more quickly than if we were to regulate it." *(Source: Minister for Roads)*

Newer Ideas For Older Drivers

Robin Anderson, the 2005 NRMA-ACT Road Safety Trust Churchill Fellow, has just completed his study program in USA, Europe and Britain to examine safety programs for older road users.

He focused on projects that target two areas:

- How to drive safely as the effects of ageing increase – and ultimately how and when to stop driving; and secondly
- The necessary follow-up of community transport programs, which provide personalised alternatives to driving or public transport.

Robin's key findings are that Australia is 'on track,' if not a leader, in terms of its older driver regulatory environment and safety initiatives. However more work should be undertaken on:

1. Improving road design (especially signage and lighting) for older road users (as per USA and Sweden);

2. Use of mobility safety information programs for both seniors and their support networks, ideally delivered in a 'healthy ageing' context (USA, Sweden, UK);

3. Developing an effective but very selective screening test to identify the very small percentage of dangerous older drivers (USA and UK);

4. Managing the transition out of driving as a gradual process - not a sudden traumatic event (Europe);

5. Providing viable post-driving mobility options. Expansion of volunteer driver programs (USA) and community transport (Sweden and UK) seem the most promising options for the Australian situation; and

6. Development of better seniors' pedestrian safety programs - there unfortunately seem to be few initiatives in this area.

Robin's findings will assist in developing new community programs for older road users through work with seniors groups and road safety organisations. He will be speaking at an older driver seminar in Canberra in late 2006 and has been invited by the ACRS Executive to be our Australasian Seminar Series speaker for 2007.

Northern Territory Aboriginal Road Safety Program

The Northern Territory Aboriginal Road Safety Program recently held a road safety song competition, culminating in a play-off at the Barunga Festival in June 2006. The aim of the NT Aboriginal Road Safety Program is to reduce the over-representation of Aboriginal People involved in road trauma within the Northern Territory. A key objective of this program is to work more closely with Aboriginal communities and organisations to develop targeted and relevant educational campaigns and resources. See the 'Contributed Article' by Aaron Watson on the results of the Song Competition.

Queensland develops young driver policies

A young driver's discussion paper outlining possible changes to the licensing system and the effect they may have on young driver safety received over 2,000 submissions when feedback closed on 10 March 2006. Some of the ideas discussed in the paper included: Learner drivers must log 120 hours of supervised on-road driving experience; Increase the time spent as a learner driver to at least 12 months;

Minimum learner licence age reduced to 16 years; Peer passenger and late night driving restrictions introduced for some licence levels; and Provisional licence level divided into two phases (P1 and P2) with more restrictions and conditions in the first phase. *(Source: Queensland Government)*

Local government road safety initiatives encouraged in WA

Road safety initiatives by local councils in WA receive an annual boost through the encouragement of a joint initiative by the WA Local Government Association's RoadWise Program and the Institute of Public Works Engineering Australia (WA Division). The program was commenced in 2000 to acknowledge achievements by Local Government in the area of road safety. The Local Government Road Safety Awards seek to publicly recognise the significant progress Local Governments have made in the area of road safety and also to showcase examples of road safety initiatives to other relevant stakeholders and the community. The most recent Awards were presented in April at the Annual Roads Forum held in Geraldton, WA. *(Source: WA Local Government Association)*

South Australia commences testing drivers for drugs

On 1st July the SA Police began undertaking random roadside saliva testing for two drugs –THC (the active ingredient in cannabis) and methamphetamines, with a zero tolerance approach. The SA decision to introduce testing was made by the SA Parliament in December 2005, based on research that showed that a driver who has recently consumed cannabis or speed may be at the same risk of having a crash as a driver with a blood alcohol concentration above 0.05.

The THC in cannabis effects many skills required for safe driving: alertness, the ability to concentrate, coordination and reaction time. The active component can be detected up to 5 hours after smoking cannabis. Use of the stimulant methylamphetamine while driving creates an increased crash risk. The presence of methylamphetamine can be detected up to 25 hours after use. Stimulants like methylamphetamine are often mistakenly used to prevent falling asleep, when in reality they greatly increase the severity of sleep rebound crashes. Microsleeps and crashes caused by fatigue impairment are often the result of drivers using stimulants. In South Australia from 2003-2005 there were 281 drivers or riders killed, of which 230 had samples tested for the drugs methylamphetamine or THC. Just over 22 per cent (51) of these drivers and riders tested had detectable levels of either THC or methylamphetamine or a combination of the two. *(Source: SA Dept for Transport, Energy and Infrastructure)*

Victoria's new 'hoon' driver law

Drivers caught drag-racing, performing 'burnouts' or engaging in other dangerous 'hoon' acts face having their cars impounded, immobilised or permanently confiscated under new laws that came into force on 1 July 2006. Amendments to the Road Safety Act 1986 give police the power to immediately impound or immobilise the car driven by a person they reasonably believe has committed a hoon-related offence. If police have reasonable grounds for believing a motorist has committed a hoon-related offence, they will be able to seize that vehicle for 48 hours. Any driver committing a second hoon-related offence within three years may have their vehicle impounded for up to three months. A person found guilty of three hoon-related offences inside three years may forfeit their vehicle permanently. According to Victoria Police crash studies, hoon driving contributed to 41 serious crashes between January 2003 and November 2004, resulting in 28 deaths. *(Source: Victorian Government).*

Motorised Mobility Scooter (MMS) Injuries

A recent research study on 'Injury related to the use of motorized mobility scooters' in Victoria reported that there were 6 MMS fatalities and 151 hospital-treated injuries recorded over the five-year period 2000/01-2004/05. However, the study suggests that due to shortcomings in

current hospital-based injury surveillance systems, injuries may have been up to five times higher than indicated. None of the fatalities was due to a road crash, but all were due to falls. This was also true of around half the injuries. Half the hospital-treated injuries occurred in the road environment (roads and footpaths) and a further third in the home. The study makes a number of recommendations to the Victorian Government regarding design aspects, monitoring of product defects and user-device interface safety issues, MMS usage, MMS stability including rollover protection and more. The full report is available in 'Hazard' edition No. 62 Summer-Autumn 2006, published by the Victorian Injury Surveillance Unit, Monash University Accident Research Centre.

New Zealand

Road Toll Down

For the 12-month period to 5 April 2006 New Zealand had the lowest 'rolling 12-monthly road toll' at 378 lives lost since monthly recording was commenced in 1965. For the first quarter of 2006 the road toll was 99, down from 119 for the same period in 2005. The Government's aim is to reduce the road toll to 300 by the year 2010.

This recent trend is therefore encouraging and indicates that efforts put into road safety programs are working.

Wellington street scene

Focus on Railway Crossing Safety

The Police, in partnership with Toll Rail, have established an education campaign that aims to reduce the number of crashes and serious injuries at railway crossings. The campaign is fronted by New Zealand cricketer Chris Cairns, who lost his 18-year-old sister in 1993 when a cement truck collided with her train at Rolleston.

In order to identify drivers who are taking risks by racing trains to crossings, police officers from Central and Tasman Districts will travel in the trains alongside locomotive engineers

at random times, working in conjunction with a Highway Patrol vehicle. Inspector Neil Wynne, Central District Road Policing Manager, said, "By working closely with Toll Rail, in tandem with a wider education campaign, we believe we can reduce the number of crashes." The operation will be evaluated and recommendations considered, including the potential for video detection of offenders. *(Source: Ten-One Community Edition: 284. May 2006)*

South East Asian News

World Bank loan to Indonesia includes help for road safety.

The World Bank is providing Indonesia with US$208 million for a Strategic Roads Infrastructure Project to improve economic competitiveness by improving the capacity and quality of strategic national roads on the islands of Java and Sumatra, improving road safety and increasing the efficiency, quality and transparency of works procurement and implementation in Indonesia's Ministry of Public Works. For more information see http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:20985248~pagePK:34370~piPK:34424~theSitePK:4607,00.html *(Source: World Bank news)*

European News

Conspicuity a key issue for road safety

Conspicuity was the subject at the European Transport Safety Council's Transport Safety Lunch in Brussels on 26 March 2006. The following points were made by the speakers:

Conspicuity of road signals and road markings

Color, size and shape are all important elements to make a road signal visible during the day, but to be seen at night signs should be made of high brightness retro reflective materials that maximise the amount of light returned to the drivers.

Clear and visible road markings, coupled with a high level of maintenance, are essential to ensuring a high level of safety. Skid resistance should be as good as the adjacent road surface.

Visibility vests

Drivers, under various circumstances, might be forced to temporarily leave their vehicle at night. A retro reflective vest is in many cases the solution to increase the driver's conspicuity. Some European countries plan to make the use of visibility vests compulsory for drivers who have to leave their vehicle outside urban areas.

Conspicuity of pedestrians and cyclists

Without wearing something reflective, a pedestrian or cyclist is only likely to be visible 30 metres away in low beam headlights. By wearing something reflective they become visible at 150 metres away. In Germany, 70% of all pedestrians' and cyclists' deaths outside urban areas happened in twilight or dark hours. On urban areas this figure was lower but still very relevant and amounted to 50% of total pedestrians' and cyclists' deaths. This was why Germany campaigned to encourage pedestrians and cyclists (especially children and teenagers) to use retro reflective clothes and to equip their bikes with lamps.

Conspicuity of trucks

Crash investigations show that nearly 5% of severe truck accidents can be traced back to poor conspicuity of the truck or its trailer at night. Trucks can be rendered more conspicuous by marking their sides and rear using retro reflective marking tape. It was noted that there are no prescriptions at the international level regarding truck markings. However, a UN proposal was being developed mandating conspicuity markings on certain category of vehicles (lorries over 7.5 tons and longer than 6 metres and trailers and semi-trailers over 3.5 tons and longer than 6 metres). *(Source: http://www.etsc.be/Conspicuity.php)*

Retrofitting of blind spot mirrors

Plans are in hand to make blind spot mirrors compulsory on all trucks registered from 1998 on all European Union roads. This regulation would come into force from 2008. Research has demonstrated that the blind spot mirrors would need to be fitted to some 4 million vehicles, and would save about 1,300 people every year. On a cost benefit basis, the cost of fitting the mirrors, at between 100 and 150 euros a year per lorry, would provide 3.5 times the benefit in reduced road trauma costs. *(Source: ETSC Safety Monitor 64 May 06)*
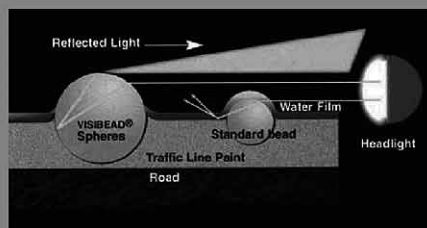
Debate continues on daytime running lights

Some European States are still doubtful about legislating for permanent daytime running lights. Nevertheless, the European Commission envisages making a formal proposal this year and to include in the legislation both new and existing vehicles. Member States' objections related mainly to concern for motorcyclists' safety. They fear that they would be less visible if the use of headlights during the day were widespread. However, a study has shown that if there were a negative impact on motorcyclists from daytime running lights, it could well be offset by the benefits motorcyclists would gain from seeing other vehicles more readily. Another concern is that important energy costs would result from the use of daytime running lights. Against this argument, current analysis has shown that the cost/benefit ratio of daytime running lights would be in the region of 1: 4.4, or if special economical headlight bulbs were fitted, 1: 6.4. *(Source: ETSC Safety Monitor 64 May 06)*

Moves for cyclist helmets in the UK

In spite of being among the world's leaders in road safety, the UK lags, like other European States, in the introduction of helmets for cyclists. However, some MPs are now pressing for the Road Safety Bill to include legislation making helmets compulsory for all young people under 16. [Ed: This seems a strange proposal, since one would have thought that older cyclists were just as vulnerable to head injuries if they crashed their bikes. Maybe the death and injury statistics for older cyclists are less horrific in the UK than for young ones, where in 2003 around 50 child cyclists were killed or seriously injured each month.] *(Source: ETSC Safety Monitor 64 May 06)*

Drink driving under attack

In Ireland, the government is considering new measures to crack down on drink driving, by introducing random breath testing of motorists. At present, the police have to show they have good reasons for suspecting a driver has consumed too much alcohol before a test can be demanded. Cyprus, also a member State of the EU, has recently reduced its legal blood alcohol level for drivers from 0.9mg/ml to 0.5mg/ml in line with the European average. In Britain's Parliament there are moves to introduce pilot alcohol ignition interlock programs for repeat drink drivers. *(Source: ETSC Safety Monitor 64 May 06)*

Seat belts – the campaign continues

In Europe the campaign to persuade drivers and passengers to wear seat belts and provide adequate safety for children continues. It is by no means 'won' except in a few member States. For example, in Spain the number of non-belted deaths dropped only slightly from 32.7% in 2004 to 30.5% in 2005. In Austria in March 2006 the government launched a campaign to encourage front seat passengers to wear their belts. A 2005 campaign focussing on child restraints resulted in an increased use of child seats from 75% to 90% and 100% on motorways. In Portugal, a 2005 study found that 20.7% of children between 0 and 12 years travelled without any protection. *(Source: ETSC Safety Monitor 64 May 06 and Enforcement Monitor April 06)*

Speed limit enforcement saving lives

Scotland has had great success with section control of the 29-mile section of the A77 road in Ayrshire. During the first six months of its operation there have been no fatalities and only one person has been seriously injured. This compares to a total of 20 people killed and 95 seriously injured between 2000 and 2004. Only 49 drivers have been caught speeding, whereas previously police would catch as many during one week. Speed has dropped by nearly 90% on the dual carriageway sections and by 80% on the single carriageway sections. *(Source: ETSC Enforcement Monitor April 06)*

Jaguar Adds Pedestrian Safety Feature

Jaguar has been awarded the 2006 World Traffic Safety Symposium's Traffic Safety Achievement Award in the Automaker Category in recognition of the new Jaguar XK's Pedestrian Impact Safety System. The XK's Pyrotechnic Deployable bonnet system - an all-new safety feature - was created to meet Phase One of the new European safety legislation. The new European standards for pedestrian safety are designed to help mitigate the severity of injuries to pedestrians in the event of a collision. In the unfortunate event of a pedestrian impact, the deployable bonnet on the new XK automatically 'pops' up a few inches, to increase space between the engine and the bonnet. This helps to isolate the pedestrian from hard points in the engine compartment – and takes place in less than a tenth of the time it takes to blink an eye. An advanced sensing system is mounted in the front bumper to help discriminate between a pedestrian collision and any other possible front-end collisions. Chris Sams, spokesperson for the World Traffic Safety Symposium said: "Jaguar deserves this honour for its commitment to pedestrian safety and for its innovation and technical excellence. "The judges were particularly impressed by the far-reaching, comprehensive nature of the Jaguar system." *(Source: Media.Ford.com)*

European News in Brief

(Source: European Transport Safety Council)

- The Czech Republic is running a nationwide campaign on changes in their Highway Code that came into force on 1 July 2006. The changes include the introduction of a penalty point system, daytime running lights and mandatory child restraint devices.

- At the end of 2005, some 8.2 million drivers were registered in Germany's central register of traffic offenders as having received penalty points.

- Sweden is introducing another 700 digital speed cameras that will be active at all times. The cameras will be connected to a central unit where the speed offences will be administered.
- Finland is planning to target coach passengers and professional drivers in a campaign on safety restraints and changes in the EU legislation.

North American News

Mobile Phone Use on the Increase in US

A report by the National Highway Traffic Safety Administration (NHTSA) states that mobile phone use by drivers in the USA has increased from 5% in 2004 to 6% in 2005. This means that 974,000 drivers are using hand-held phones at any given daylight moment. If hands-free mobile phone usage is included, the figure is 10% of all drivers at any given daylight moment. The biggest users of hand-held mobiles are in the 16-24 age group, 10% of whom are using their phones at any given daylight moment. Currently only three US States and the District of Columbia ban the use of hand-held mobile phones while driving. *(Source: NHTSA Traffic Safety Facts Research Note, December 2005)*

School Bus Seats for Infants

From April 1, 2007, all new Canadian school buses will be able to accommodate some infant and child seats. Between two and eight bench seats, depending on the size of the bus, will be fitted with user-ready tether and lower universal anchorages. The Minister of Transport, Infrastructure and Communities said that these days small children are riding more frequently on school buses, and while school buses provide a very safe way for children to travel, allowing the use of child seats will make it even safer for children weighing less than 18 kilograms."

Transport Canada also requires school bus seats to be made of energy-absorbing materials, which provide effective passive protection known as compartmentalization. However, special seats for young children will provide even better protection. *(Source: Transport Canada at www.tc.gc.ca - June 2006)*

Help for ageing drivers

It is estimated that by 2026, one in every five Canadian drivers will be over the age of 65. To meet the challenge of maintaining a high level of skill and safety among the over-65s, the Canadian Automobile Association has established a new web site (www.caa.ca/agingdrivers). The 'Helping Ageing Drivers' website provides advice to help ageing drivers drive safely and, when appropriate, know when to restrict or stop driving. Included in the website are a number of features. There is an on-line survey that seeks views on issues such as the need for mandatory testing of older drivers; CarFit, an interactive graphic guide to essential driving capabilities such as having an adequate view over the steering wheel; Tips for Older Drivers, with advice on the most common factors in crashes involving aging drivers; and How To Help an Older Person you love to recognise that they need to give up driving. *(Source: www.caa.ca/agingdrivers)*

2006 Model SUVs Have Improved Rollover Rankings

The U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced in May that rollover ratings for 2006 model sport utility vehicles (SUVs) available in the United States showed a marked improvement over 2005,. The rating results also pointed to an unprecedented number of SUVs with electronic stability control (ESC) in 2006.

For the 2006 model year, 39 SUVs (42 percent of those rated) earned four stars in NHTSA's rollover rating program. In 2005, 34 percent received four stars. For the 2006 model year, 57 SUVs (69 percent of all SUV models) offer ESC as standard equipment, up from 43 percent in 2005. Research by NHTSA has shown that ESC can reduce single vehicle crashes by 63 percent for SUVs. " We have worked hard to encourage automakers to install the kind of safety technology needed to make cars safer, prevent crashes and save lives," said Acting NHTSA Administrator, Jacqueline Glassman. Nearly all automakers now offer ESC on a total of 57 SUV models as standard equipment, and on six SUVs as an available option, up from 20 standard and 14 optional in 2003. NHTSA uses a five-star rating system, which ranks the likelihood of a rollover in a single vehicle crash. The top score is five stars, representing a rollover risk of less than 10 percent. *(Source: NHTSA media release, May 2006)*

World

Every year more than 1.17 million people die in road crashes around the world. The majority of these deaths, about 70 percent occur in developing countries. Sixty-five percent of deaths involve pedestrians and 35 percent of pedestrian deaths are children. Over 10 million are crippled or injured each year. It has been estimated that at least 6 million more will die and 60 million will be injured during the next 10 years in developing countries unless urgent action is taken.

The majority of road crash victims (injuries and fatalities) in developing countries are not the motorised vehicle occupants, but pedestrians, motorcyclists, bicyclists and non-motorised vehicles (NMV) occupants.

The Global Burden of Disease study undertaken by the World Health Organisation (WHO), Harvard University and the World Bank showed that in 1990, traffic crashes were assessed to be the world's ninth most important health problem. The study forecasts that by the year 2020 road crashes would move up to third place in the table of leading causes of death and disability facing the world community. *(Source: http://www.worldbank.org/transport/roads/safety.htm)*

Contributed Articles

For Whom Does the Budget Funding Toll?

Article contributed by **SaferRoads** www.aaa.asn.au/saferroads

The 2006/07 Budget was a watershed for infrastructure – and particularly for roads funding. The $2.3 billion of extra funds for roads in 2005/06 provides all governments with a unique opportunity to bring forward major road infrastructure projects that have languished for many years.

The extra funds will go to major works on the Pacific and Hume Highways in NSW, the Bruce Highway in Queensland, as well as projects in other States.

The challenge is for State and Territory Governments to respond to the Budget fillip – either by matching the road funds or more importantly by expediting infrastructure projects on the drawing board, on the back burner or even off the radar screen. The challenge is more difficult due to the long lead times required to undertake preliminary scoping, environmental impact assessments, tender processes and approvals - moving to the actual construction phase takes years.

It will be interesting to see how the States and Territories respond to this challenge. One way is through the development of public/private partnerships (PPPs). PPPs can take many forms and can involve various combinations of designing, constructing, maintaining, operating, transferring and financing a range of infrastructure assets for, or on behalf of, the public sector. Some examples of recent PPPs include the Commonwealth's Defence Headquarters, the NSW Government's upgrade of train carriages for RailCorp's existing fleet, the Victorian Government's Royal Women's Hospital and the Royal Melbourne Showgrounds' redevelopment, the Queensland Government's TAFE redevelopment, the Western Australian government's Perth CBD Courts Project, and the South Australian project for a series of court houses and police stations.

Many governments around the world, including in Australia, have come to rely more heavily on the private sector to fund road infrastructure through the provision of toll roads, not just in major cities, but also on inter-regional highways. Privately financed toll roads can now be found in many countries.

PPPs have become fashionable, driven principally by the Federal and State Governments aversion to debt. As a result, PPPs for road construction and management have been used in three Australian states, with the private sector owning the road for a concession period of around 20-30 years and charging a toll. In Australia, the principal focus to date has been the urban network, although consideration is now turning to regional roads such as the Pacific Highway.

The Australian Government's policy on private sector involvement in roads was set out in the White Paper, AusLink (2004), where it was made clear that the Federal Government would like to see the private sector take on greater responsibility for funding Australia's road infrastructure. There is a common belief that this means introducing tolls to finance these roads. It will be interesting to see if the increased Budget funding represents a change in the Federal Government's view about PPPs and road tolls. Certainly, the NSW and Victorian Governments seem to be moving away from PPPs with their Budget announcements that they will increase borrowings to finance infrastructure projects.

The Australian Automobile Association and its Constituent motoring clubs – the NRMA, RACV, RACQ, RAA, RAC, RACT and AANT – have the following position concerning the use of PPPs and use of road tolls:

1. There should be no ad-hoc developments on road user pricing and tax reform; and

2. The Commonwealth needs to increase the proportion of fuel excise spent on roads, from 6 cents per litre to 12 cents per litre – an interim measure to address vertical fiscal imbalance and meet the existing infrastructure backlog.

The Budget funding announcements bring the level of Commonwealth funding to about 9 cents per litre.

The general position which motoring clubs have adopted on PPPs to date is that private sector involvement is supported as a last resort for dealing with the backlog of road projects, provided that where a toll is included as part of the project, the benefits must exceed the cost. Clubs have also taken the view that an alternative route should also be provided or available.

However, there can are some difficulties with these arguments. First, tolls roads can become a first resort for Governments with an increasing reliance on the private sector to fund roads. Second, requiring the existence of an alternative route can make the toll road less economically viable. Third, to what extent do Australian motorists already pay their way for road usage and infrastructure?

Motorists already pay a significant amount for the use of roads. They pay fuel excise, registration charges, stamp duty on registration of vehicles and, of course GST.

There are a number of social costs associated with motor vehicle use which motorists should pay for; these are costs imposed on road users and the broader community, which economists refer to as negative externalities and include:

- pavement wear or damage;
- pollution;
- crash costs not covered by insurance; and
- congestion.

Calculating the value of these social costs is not always easy and can depend on various assumptions which are often contentious – (eg: crash costs will depend on how the value of human life is determined; congestion costs will depend on how we value travel time; pollution costs will depend on their effect on human health).

Motorists pay a range of taxes (fuel tax, GST) and charges (eg: registration, driver's licence fees, fines, tolls). The question is to what extent should they cover the costs of road use? The answer will depend, in part, on whether fuel excise should be regarded as an efficient way of raising general revenue, or whether it should be regarded as a charge for road use.

The view the Australian Automobile Association has taken is that excise should be replaced by a charge to cover the social costs referred to above, and a tax at the GST rate of 10% should apply to all fuels.

Whether road users ' pay their way' is usually analysed in terms of city and country road users, and also in terms of vehicle type (heavy vehicles and passenger vehicles).

In Australia, a number of research studies have been undertaken on the assessment of social costs (eg: the Bureau of Transport Economics reported in 2000 that road trauma costs the community $15 billion a year in 1996 dollars; BTE (1999) estimated congestion costs of $13 billion per annum in 1995).

Austroads report that 99.9 per cent of pavement wear is caused by trucks. It is only fair then that trucks pay for this. An attempt has been made by the National Transport Commission (NTC) and its predecessor, NRTC, to develop a system of charging for trucks.

The so-called 3rd heavy vehicle charging determination is currently before Government. In brief, the charges are determined by assessing separable and non-separable costs, allocating them to the number of heavy vehicles in each class, and using average distance and average mass for each class to determine charges. The charges are further disaggregated into a registration charge and a fuel charge (current proposal is that this be 22 cents per litre).

Although there are many disadvantages arising from private ownership of parts of an urban network, there are some advantages. These emanate from the economies that can be obtained by linking decisions on finance with those relating to design, construction time and maintenance costs.

Because there are several trade-offs involved in road development, there is some evidence that combining all relevant elements of road development allows developers to optimise decisions.

The increased costs of rapid construction can be compared to the benefits allowed from an early commencement of positive cash flows. The costs of maintenance can be optimised with the costs of construction quality. Finance and hedging costs can be better controlled when decisions are integrated. While these benefits are real, available research does not indicate that these are sufficient to offset the costs of private ownership. And benefits can still be obtained by the use of sophisticated contracts between owners and construction companies.

In any event, even the private sector does not unify all activities in the one company. When privately owned roads are developed, it is common practice to use specialist companies to undertake different parts of the road development activity.

Whatever the view on PPPs, it appears clear that State and Territory Governments will need to enter into such agreements if they wish to take advantage of the available Budget funds.

But State and Territory Governments face an increasingly demanding public and media. Greater scrutiny and criticism of governments and their delivery of public services in infrastructure, transport, health, education, law, etc mean there is a consequent probity requirement in the planning, implementation and delivery of these services.

The challenge is for government to ensure the PPPs meet this criteria.

Singing it for Road Safety

by Aaron Watson
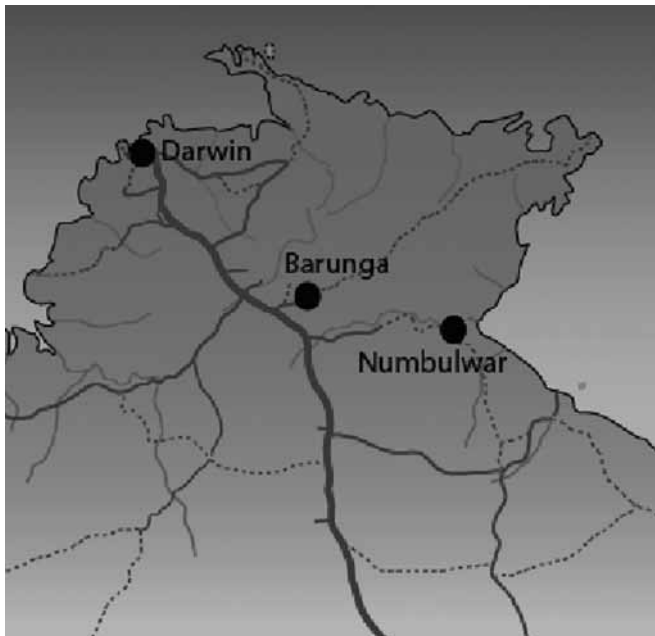
Aboriginal bands from across the Northern Territory will feature on a soon to be released compilation CD that promotes safe road use practices. A number of emerging bands took part in the inaugural Road Safety Song Competition at the 2006 Barunga Cultural and Sports Festival on the June long weekend. The Barunga community is located 80 km South East of Katherine.The winning road safety songs, recorded during the Festival, will feature on a compilation CD along with an exciting blend of traditional to contemporary music performed at Barunga.

In the NT, Aboriginal people make up nearly 30% of the total population, yet they consistently represent around 50% of road crash fatalities. The Road Safety Song Competition is in response to the challenges faced when delivering road safety messages across the large land mass of the NT, and aims to get the message out in a form that Aboriginal people really connect with.

The band, Sabata from Darwin won first prize of $2000 for the best song, Get Together, which promotes people thinking about getting around safely whether they are in town or in remote areas. The song is an easy listening reggae style track packed full of important road safety messages and funky tunes.

Broken Vision from Numbulwar came runner up with their song Alcoholic Driving which emphasises that alcohol and cars should never be mixed. A special commendation was awarded to the Barunga Community School for their "Rod Seifti song" which was sung in Pidgin English and featured costumes and hand signals.

The winning songs will be used for various educational and promotional purposes. It is hoped that Aboriginal radio stations will also play the winning songs on a regular basis. The Road Safety Song Competition has generated a great deal of interest at the community level and the Northern Territory Government plans to support it again in 2007.

For further details about the Road Safety Song Competition or the compilation CD visit the websites www.roadsafety.nt.gov.au or www.skinnyfishmusic.com.au.

Road Safety Barrier Systems Standard AS/NZS 3845 being updated

by Raphael Grzebieta

Roadside safety barriers are an integral part of the road safety protection engineering systems we have come to rely on to help reduce road trauma.

The current Australian and New Zealand joint standard AS/NZS 3845 is being reviewed by the CE33 committee made up of barrier and road safety experts. Representatives from road authorities, Austroads, councils, researchers, manufacturers and road users are considering a number of issues including:

i. Expanding the standard to provide consideration of European (EN 1317) and US (NCHRP 350) approved barriers that comply with Australian requirements

ii. Expanding the standard to consider other roadside furniture such as poles, sign gantries, bollards, signage and other road appurtenances.

iii. Terminology harmonisation and relationship of the current code to other advisory design guidelines and codes, e.g. bridge code.

iv. Legislation issues, i.e. should the standard be mandatory for road and bridge designers.

v. Whether or not to retain Test Level 0 requiring redirection of vehicles striking a temporary (e.g. plastic) barrier at 50 km/hr impact. There is a strong impetus to only allow barrier systems onto Australian roads that redirect vehicles at 70 km/hr as a minimum requirement.

vi. Whether or not to allow the systems that were developed prior to 1999 when AS/NZS 3845 was released, to be "deemed to comply" with the code. This is an issue that may have considerable financial ramifications for councils and jurisdictions if such systems now need to comply to the code. Most road safety barriers comply with the current test regime. However there are a number of older systems that may need replacing, i.e. guardrail systems that have no block outs between the posts and guardrail is one example, dangerous fish tale end terminals as shown below is another example.

vii. Should installers be required to undergo training and be registered.

viii. What are the minimum requirements in regards to maintenance of impacted systems. Should they be replaced within 24 hours, one week or when convenient.

ix. Should there be a national body, i.e. Australian Transport Safety Bureau that approves and regulates barrier systems as occurs in the USA, or is the current "State by State" control satisfactory.

It is expected that the review process will require a couple of years. Committee members are well aware that their deliberations and outcomes will be critical to the level of inherent safety within Australia's road infrastructure and its effect on road trauma.

Finally, the committee wants to see the interests of all road safety stakeholders, jurisdictions, manufacturers and road users represented and encourages any comments to be forwarded to either myself, Professor Rod Troutbeck from QUT who Chairs the committee or Mr. Eddie Go who is CE 33 Committee's Projects Manager (Eddy.Go@standards.org.au).

Road Safety Advice for Tourists

by Geoff Horne, ACRS

Where do you look for road safety advice if you are planning to drive a vehicle while you are overseas? Most of the tourist publications have some general road safety advice, but to get more specific advice, especially about road rules, it's not a bad idea to contact the road authorities in the countries you plan to visit. In the UK you can buy a copy of the 'Highway Code' at most newsagents. An alternative source of information is the Internet, where there is both official and unofficial advice for tourists.

If you are using a search engine on the Internet, quite a useful entry is 'Driving in…' followed by the country you are planning to visit. The last issue of this Journal had an article by Raphael Grzebieta on his observations of road safety in China. So perhaps that is a good example to start with. http://wikitravel.org/en/Driving_in_China points out that foreigners cannot drive in China without a Chinese driving licence, which is probably a very good thing, judging from other comments. The writer points out that it is probably best to hire a car with driver, as obtaining a licence is often very complicated. He then goes on to describe some of the problems: "Chinese traffic does seem to have rules. They generally manage to avoid accidents. However, the rules are quite different from those in other countries. To a foreigner, traffic looks chaotic and many drivers appear insane or suicidal. Do not assume that Chinese drivers will follow any rule you know. The concept of right-of-way does not apply, or at least is very different here. Cars do not stop for pedestrians, only swerve around them or honk at them to clear the way. Motorcycles and bicycles often do the same on sidewalks. Wide white bars, which a naive visitor might take for pedestrian crosswalks, are sometimes painted on roads. These have absolutely no effect on car or motorcycle traffic.

Making a left turn in front of oncoming vehicles is quite normal. Those vehicles will not stop. They will just swerve around you, even if this means going across the centre line and forcing whatever is behind you to swerve around them. As near as this befuddled foreigner can tell, the only general rule is 'Keep moving no matter what'. Cutting people off, swerving into the oncoming lane, driving on the shoulder, or the wrong way down a divided highway, are all fine as long as they keep you moving in the right general direction." Well, China visitors, plenty to think about there!

What about North America? Well, it seems to be a good place to go if you like driving. This is what someone called 'Simon' on (www.deletetheweb.com/simon/archives/000072.html) had to say about it: "I must say that driving here has been surprisingly pleasant. Other drivers are much less aggressive than in Europe. Where you would need to hurry up and get out of the way on a British road, people seem content to wait. Even

when I forget the right-turn-on-red rule people seem unbothered by it. People even slow down to let you change lanes, which in unheard of on a European motorway". That's all very encouraging. The main problem for Aussie visitors will be remembering to keep to the right. The Oregon Coast Visitors Association see their road safety advice as being in their own interests – they want visitors to survive so that they can return for another holiday! "We want our visitors making safe, round trips to and from Oregon's Central Coast. This is an admittedly self-serving message. We want travellers to see our winter storms, visit our many indoor attractions, stay overnight at our lodging properties, enjoy our restaurants and shops and make return visits. We want you coming back, AGAIN."

Some government organisation websites are openly critical of road safety conditions in other countries. This piece is in the Consular Information Sheet on France from the U.S. Department of State, Bureau of Consular Affairs, Washington: "Roads in France are generally comparable to those in the United States, but traffic engineering and driving habits pose special dangers. Usually, lane markings and sign placements are not as clear as in the United States. Drivers should be prepared to make last-minute manoeuvres, as most French drivers do. [What does that mean, I wonder?] The French typically drive more aggressively and faster than Americans and tend to exceed posted speed limits." That is being pretty frank and indicates some scary experiences by American drivers in France.

Here is some advice on driving in Hawai'i sourced from www.instanthawaii.com/cgi-bin/hawaii?Tips. "Safety in Hawai'i involves both safety in the environment (e.g., falling into lava) and safety on the road (a lot of nutty drivers out there). Until recently (a few years ago) Hawai'i did not require drivers' training for new drivers. Sure, you had to take the test, but there was no official training that was required. Couple that with the fact that the island is made up of people as well as visitors from a huge diverse world-wide area - each with their own driving habits, and you have an interesting driving experience."

"Island driving habits may be a little surprising to some. In places where it is marked 'slow traffic keep to right' you will see just about everyone going slow in the left lane. Often road signs are ignored - people will go slow on fast roads and fast on slow roads. Also, in the towns and cities, local drivers often give pedestrians the right-of-way, so be careful not to rear end the car in front of you. There is very little road rage in Hawai'i - you just go with the flow. However, on some highways it is customary for slow traffic to move into the shoulder (if space allows) to let people behind them go around. Generally a wave to the slower vehicle shows them your appreciation, as you pass them."

Maybe Hawai'i is not so bad after all, if they care about pedestrians, there's little road rage and slow drivers make way for those who want to pass. A report from the Dominican Republic is not so encouraging, however. According to

www.igougo.com, "As a whole, the Dominican population are very reckless, aggressive drivers. Alcohol consumption's also a large part of local culture; so assume that Driving While Intoxicated is, too! Practice ultra-defensive driving skills at all times keeping well below "guessable" speed limits and avoid needing to drive anywhere in Santo Domingo." Well, you have been warned! But would it be any safer walking in Santo Domingo if there are so many drunk drivers on the loose?

According to http://driving.drive-alive.co.uk/driving-in-spain.htm, there are encouraging road safety developments in Italy, Austria and Spain, where tourists are advised that it is a good idea to carry a 'Visibility Vest' in the car. If you break down without one and walk beside a motorway, you'll be breaking the law. Note, the vest must be "in the car" and not in the boot, and there should be one vest for each passenger as well.

Many Australians stop-over in Dubai on the way to Europe. There is some very frank advice for tourists in Dubai's own tourist guide 'Discover Dubai': "Whilst roads are excellent, the driving habits of some of the people using them leave a lot to be desired. This can be expected when there are so many people from different countries and hugely diverse cultures and driving experiences on the roads at the same time. Without wishing to sound like a scaremonger, it seems that certain drivers learned their skills from a couple of hours in front of a Play Station game…. If you intend driving out of Dubai to more remote areas, take care of camels wandering on to the road." Other tips include: "Always remember that indicators are considered a fashion accessory. Don't expect anyone to give you a clue of what they intend to do. If someone in front of you is driving erratically it will almost certainly be due to the fact that they are reading map directions, sending a text message and balancing an infant on their lap all at the same time. Don't worry you'll get used to it!"

Thinking of going to Africa for a holiday? Probably not a good idea to drive yourself, unless you are very adventurous. However, here are a few tips, from www.africaguide.com/traveltips/driving.htm: "Try to avoid driving at night as it can be very dangerous in Africa. Roads are often poorly lit, not in good condition and some other drivers have a tendency to drive without their lights on. In many countries, and particularly in rural areas, roads are often poorly maintained and it's not unusual to come across large domestic animals such as sheep and cattle …there can be few police in remote areas - drunk drivers are not uncommon and be very watchful for drunk pedestrians". I had a friend who knocked down and killed a drunk pedestrian at night during his first week in South Africa. So that last warning should be taken very seriously.

Now we come to Russia. The US Consular Service gives the following advice: "Severe weather and lack of routine maintenance make road conditions throughout Russia highly variable. Drivers should exercise extreme caution to avoid accidents, which are common place in Russia." Judging from some private accounts of motoring in Russia, that is advice

visitors would do well to heed. This comment came from http://www.drivers.com/article/156/: "Consider, for example, the painted line down the center of the road; in Russia one only rarely encounters it. And without that outward symbol of restraint, drivers often pass freely across the center quite regardless of oncoming traffic, blind corners or other annoyances." However, he continues, "This is not to say that all drivers in Russia are undisciplined or dangerous. In fact, the vast majority attempt to preserve life and limb by obeying the rules of the road. But those law-abiding citizens must contend with others who doubtless consider "The Road Warrior" a driving instruction film rather than a futuristic fantasy. "Perhaps that explains this anecdote in./http://dreamers1.com/russia/Practicalities/Russia_Mongolia_Practicalities.htm " Take care driving in Russia. Russian drivers can be aggressive; they can and do take risks. We pulled out to overtake a Lada only to find that another vehicle then overtook us. We did not feel comfortable at all with three vehicles on a two-lane highway and a truck coming in the opposite direction." I can understand the feeling.

Another safety problem for Australian drivers in Russia would probably be understanding the road signs, unless one was very well versed in the language. This is definitely a problem in Japan, where http://www.yokota.af.mil/PCS/Driving/ warns that "Driving in Japan is quite complicated and expensive. Those who cannot read the language will have trouble understanding road signs." At least the Japanese drive on the same side of the road as we do, which always helps.

Finally, what do other nations think about driving in Australia? Most seem pretty happy about it. This from www.bugaustralia.com/transport/drive.html: "Driving in Australia is easy. Traffic drives on the left and roads are generally well-maintained, but motorways are usually restricted to the approaches to major cities and heavily travelled routes such as Melbourne-Sydney and Sunshine Coast-Brisbane-Gold Coast. There are some very long and boring stretches of road in Australia [Don't we know it!] and fatigue is a big killer – make plenty of rest stops, drink plenty of coffee or cola and share the driving with someone else." That is sound advice that the motoring authorities here often remind us of. Here are some useful tips on outback driving: "Watch out for road trains if you're driving in the outback. These 50-metre-long semi-trailers can't stop as quickly as a regular car so keep out of their way and make sure that you allow plenty of room to overtake one. Also be alert if you're driving in the countryside around dusk – kangaroos are active at this time and are unpredictable – often jumping into the path of an oncoming vehicle." Here is a private American view: "There is not the infrastructure to make cross country motoring the effortless wonder Americans enjoy. Particularly frustrating is the lack of city freeways. To transit most major cities, you must drive in stop-and-go traffic on two lane roads." Yes, we know all about that! I'm not sure I agree with all of the following comment, however: "Australian drivers are reasonably skilled,

though timid. I've learned to almost never give anyone a break in traffic, since they won't take it!" Where did he see those timid drivers, I wonder?

Finally, here is some home-brewed Aussie advice to visitors of the back-packer variety, who do more walking than driving, provided by *Cheap Accommodation Australia -Australian Sunrise Lodge:* "Probably most people have heard of dangerous and scary things one might come across when travelling in Australia…There are highly publicised dangers like: crocodiles, sharks, deadly "Sea Wasp" box jellyfish, venomous snakes and the deadly "Sydney Funnel-Web spider". To put things in perspective, cheap Sydney accommodation visitors should consider the following government statistics:

Accidental causes of fatality in Australia for the ten years 1984 –1994: Spider bite 4; crocodile attack 8; shark attack 11; snake bite 28; and hornet, bee, wasp 31. The total of all these: 82, compared to PEDESTRIAN ACCIDENTS 4,973. So you can see that the most important time for cheap accommodation Australia visitors to take care is simply when crossing the road."

Memorials for Road Crash Victims

by Colin Grigg

Cold statistics for traffic deaths are alarming enough. But for each extended family involved, the impact is more than statistics. It is a period of stressful grief. This grief is expressed in many different ways. There is a growing international tradition to place memorials at the very site where death occurred. Other people express grief in other ways.

At the conference "Senses of Place" held on 6-8 April, 2006, at the University of Tasmania, Dr Jennifer Clark, a former Harkness Fellow and current member of the School of Classics, History and Religion at University of New England, was an invited speaker. She has a special interest in roadside memorials and convened the initial International Symposium on Roadside Memorials in 2004. She manages the online discussion group, "Memorial Culture Network".

The paper was based on extensive field studies of hundreds of roadside memorials in Britain, Europe, Australia and New Zealand and collaborative work in the U.S.A. The construction of place in the presentation combined visual images, text from the memorials, with an analytical commentary.

The paper, which she presented, examined the ways in which memorials for the victims of road trauma transform the roadside from 'passing-through' space into specially marked and claimed place. Memorial makers assume authority to identify, individualise, separate, protect and sacredly observe 'spots' by the roadside especially dedicated to ordinary individuals.

In this process values not normally associated with road travel or the roadside are given to these created places. For example, particular mention can be made of the way in which roadside memorials serve a spiritual function and can act to mark a change in direction from the earthly journey to the heavenly one. This spot then acts as an ongoing focus for a whole range of eclectic mourning rituals that the public and government authorities are forced to respect. The roadside memorial marks the place where the dead can be sensed and where communication with them can take place. Here is something much more than a physical space - it is a created place with protocols that cover the metaphysical as well.

The illustrated Power-Point presentation particularly focussed on the process of transformation. It examined issues related to ownership of the place, control of the memorial act and the defence of the right to memorialise in public. It examined the life of the place and attitudes to it, understandings of it and interactions with it. The roadside memorial marks out performance space. The roadside memorial phenomenon challenges the functional purpose of roadsides and highlights the importance of recognising the site of tragic and unexpected death. In so doing, roadside memorials alter the physical appearance of the roadside and create debate within the community about places and purpose. In particular, they stimulate debate about public versus private space; the suitability of memorialisation and protecting the sensibilities of those who see it; hierarchies of feeling; and the role of subliminal communication emanating from these newly created places of significance. Areas of argument and dispute can be highlighted as separate and sometimes competing voices.

Peer Reviewed Papers

It Starts with the Parents and Ends with the Parents

The attitudes, knowledge and practices of metropolitan parents in relation to teenage alcohol use

By Bernadette Ward[1], Pamela Snow[1], Geoffrey Munro[2], Melissa Graham[3], Virginia Dickson-Swift[1]

Abstract

Alcohol is the most popular recreational drug in Australia. Despite the fact that many people gain enjoyment from alcohol related industries, alcohol is also implicated in much personal trauma and social damage. Parents play a key role in influencing alcohol use and driver behaviour in young people. The aim of this study was to gain an understanding of the attitudes and concerns of parents in Melbourne in relation to their teenage children's use of alcohol and how they educate and/or provide role models for their adolescents with respect to alcohol usage. A convenience sample of parents with adolescent children participated in focus groups. Parents described patterns of alcohol use and perceived influences on consumption. They reported that they wanted to create safe environments for adolescents to consume alcohol but that they needed more support and information on which to base these decisions. There is an opportunity for public health policy makers to specifically address parents and enhance their role in alcohol related road safety.

Introduction

Alcohol is the most popular recreational drug in Australia. Most people begin drinking in their teenage years and 91% of the population aged 14 years and over report having tried alcohol at some time in their life[1]. Alcohol is a significant aspect of youth culture and drinking is a common activity both in itself and as a part of other activities. Australia's tolerance of drunkenness is mirrored in the level of binge drinking by adolescents. In 2004, 28% of adolescents aged between 14 and 19 years consumed alcohol in patterns that are risky/high risk to health in the short term [1].

Early access to alcohol has been correlated with early risky/high risk drinking which in turn is predictive of elevated alcohol consumption in later adolescence, problem drinking or health and social problems [2-4]. Access to alcohol has increased in Victoria in recent years due to the introduction of more liberal licensing laws as more businesses sell alcohol, and for longer hours. In addition there is an increased range of alcoholic drinks available. New, sweet alcoholic drinks, wine coolers and pre-mixed "ready to drink" spirits are popular with young people.

Parents act as information providers and as educators, even though they may not acknowledge or always actively seek to fulfill these roles [5]. Permissive parental attitudes and high levels of parental tolerance towards adolescent drinking are associated with an earlier onset of alcohol consumption among adolescent children with an escalation to higher levels of alcohol use [6, 7]. Adolescents report that parents play an important role in initiating young people to alcohol and influencing their level of drinking [8-10]. Because alcohol is both a legal and a widely used drug, young people typically first witness its use in the home environment, and may be permitted and/or encouraged to drink with or in the presence of their parents.

Short and long term alcohol related harm is associated with negative physical, emotional and social consequences [11]. Immediate harms due to risky/high risk drinking include road trauma, aggression, violence, assault, high risk sexual activity and drink driving [12]. Long term problems include chronic diseases (cardiovascular, cancer, liver cirrhosis, mental disorders) loss of personal relationships, disrupted family relationships, loss of employment, decreased scholastic and sporting performance and financial problems [13].

Despite the fact that many people gain enjoyment from alcohol related industries, alcohol is also implicated in much personal trauma and social damage. It is estimated that 41-70% of violent crimes are committed by people who are under the influence of alcohol [13]. Alcohol is a leading cause of preventable death with 6,590 alcohol-related deaths in Victoria between 1992-2000 [14].

Alcohol misuse is implicated in one third of all road accidents [13]. Young intoxicated drivers are more likely than other groups to drive at excessive speeds, and intoxication increases the probability of other risk-taking behaviours [15]. This is exacerbated by young drivers' lack of experience, limited

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ability and judgment, underestimation of risks and deliberate risk taking behaviour [16]. This has significant policy implications for reducing the use of alcohol by young people, who are over-represented in driver fatality statistics [17]. Young drivers (18-25 years old) represent only 14% of licence holders, but between 2000-04, accounted for 27% of driver deaths in Victoria [17].

Blood alcohol content readings (BAC) at or over 0.05 were present in 28% of all driver fatalities in the period 2000-04 [17]. Of driver deaths in the 18-20 year old age group, 23% had a BAC at or over 0.05. In contrast, of the driver fatalities in the 21-25 year age group, 58% had a BAC at or over 0.05 [17]. While young people are less likely to drive a vehicle following alcohol consumption, amongst those that do drink, relative inexperience with driving means that their risk of being involved in a crash is higher even at low BAC levels [18].

In Victoria, the graduated licensing system (GLS) is designed to introduce driving exposure gradually over time [16, 18]. Overseas models of GLS have been successful in reducing the risk of road crashes for young drivers and vary in their restrictions on key risk factors including inexperience, drink driving, number of passengers, vehicle power to weight ratio, late night driving and mobile phone use [16, 19-21]. In Victoria, the GLS includes a supervised learning phase, probationary licensing, zero BAC readings and compulsory display of P plates [16].

Parents are in a prime position to teach and supervise their adolescents' driving [22, 23] and parental monitoring of driving has been inversely linked to risky driving behaviours and motor vehicle crashes [24]. Young drivers are 22% more likely to be involved in a crash when their parents have been involved in three or more crashes [25]. Adolescents who have been passengers with alcohol-impaired parents are more likely themselves to drink-drive [26, 27]. US and Canadian research indicates that parents are supportive of GLS programs [18, 20] however 72% of known GLS violations were done with parental permission [28]. While parents are generally concerned about the risk taken by beginner drivers, they themselves are not fully aware of the nature of these risks and their role in promoting safe driving habits [22, 29]. Parents therefore, play a key role in influencing both alcohol use and driver behaviour in young people.

Despite the capacity of illegal drugs to occupy the headlines and "crowd out" alcohol as a drug of concern, research has found that parents of teenagers and young adults identified alcohol use as the third most important problem facing their children [5]. A study in rural Victoria found that parents do not feel well informed about alcohol use and how and when to use harm reduction strategies [30]. A study of this kind has not been conducted in Melbourne and it is not known if metropolitan parents have views about teenage alcohol use that are similar to those of rural/regional parents. The aim of this study therefore was to gain an understanding of the attitudes and concerns of parents in Melbourne in relation to their teenage children's use of alcohol and how they educate and/or provide role models for their teenage children with respect to alcohol usage.

Method

Descriptive qualitative methods were used. These methods provide the opportunity to learn about people's opinions, thoughts, feelings, attitudes or experiences and to obtain data about a given problem, service or other phenomenon [31-33].

A recruitment agency invited parents from an existing database to participate. In the rural study of a similar kind, the authors identified the recruitment of parents to be both time consuming and costly [30]. A sample of parents, from a range of socio-economic backgrounds, with children aged 12-17 years, who were attending secondary schools (government, Catholic or independent), were invited to participate. Postcodes were used as a proxy measure for socio-economic status (SES).

Sixty-five parents participated in seven focus groups. Two focus groups were held with participants from each (low, medium and high) SES group. One group was held which was open to participants from all SES groups. Five focus groups included parents of adolescents from all types of schools while two focus groups were allocated to parents whose children attended private schools only. Participation of parents from diverse backgrounds promoted discussion and exchange of ideas.

A semi-structured interview schedule developed from the current literature was used to guide the focus group discussions. This schedule was also used in the similar study that was conducted in rural Victoria in 2003 [30]. Data saturation was reached after the first five focus groups were conducted. In order to ensure that all SES groups and types of schools were covered and that all issues were elicited, a further two groups were conducted.

Data emerging from the focus groups was transcribed verbatim from audiotapes. The transcripts were then analysed using Nvivo [34] to identify and sort emerging themes. The researchers discussed both the major themes and the sub-themes and how these related until consensus was reached. Implications for policy makers across a range of sectors (health, education, transport, liquor licensing) were identified.

Ethics approval was received from La Trobe University, Bendigo. In recognition of the potential costs involved in attending such a group, all parents were offered payment of $40 for their participation.

Results and Discussion

Three main themes describe parents' attitudes, concerns, and educational practices in relation to their adolescent's use of alcohol. Each of the main themes and sub-themes was grounded in the parents' experiences. Each of the main themes and sub-themes is described in relation to the Australian context and the current literature. Direct quotes are used to illustrate the views expressed by parents.

1. Drinking patterns

Parents thought that adolescents generally consumed alcohol at home and on weekends. A few parents believed that teenagers thought alcohol was an essential ingredient for the success of a party. This is consistent with the thinking that alcohol is a significant aspect of youth culture and that consumption of alcohol is a common activity both in itself and as a part of other activities. Current measures of alcohol consumption patterns amongst young people further support this [1, 35].

Most parents agreed that sweet flavoured alcoholic drinks were very popular amongst adolescents. This is consistent with findings from Australian research that indicate there is an increase in the proportion of adolescent drinkers who are consuming pre-mixed drinks [36]. There has been a 200% growth in volume and value of sales of flavoured alcohol drinks in Australia in the period 1998-2003 [37].

Many parents indicated that they preferred that alcohol initiation occur in the home and generally, they thought adolescents were initiated to alcohol use at 13-14 years. The latest national survey of school students confirm that perception: 90% of adolescents have tried alcohol by the age of 14 [35].

Parents believed that adolescents consume alcohol to have fun, socialise, belong, be popular, gain confidence, experiment and relieve boredom. Consistent with previous Australian research, [5, 30] many parents indicated that they thought adolescents often drink 'to get drunk'.

> It's just not enjoying alcohol for the taste and for the sensation whatever it's actually to binge drink to a point of actually getting drunk or even throwing up and all that sort of stuff.

Many parents told stories of adolescents using alcohol as a way of coping with stress and sadness in their lives. This is summarised by the comments of one parent:

> One of the girls has said to me that she likes to drink because it makes her feel not as responsible for what; you know her teenage years and growing up it's all too hard; a form of escapism.

In the United States, a longitudinal study has identified both socialisation and coping as reasons for drinking amongst adolescents [38].

Some parents believed that adolescent drinking was part of 'rites of passage' and so it was seen to be a 'normal' part of adolescent development.

> I think it is just a thing that they do, that they go through. It doesn't matter where they come from or you know, what sort of background they come from.

Paradoxically, a number of parents observed that some adolescents do not drink. It was suggested by several parents that a commitment to a sport was protective against drinking. This may however be a myth as Victorian research has identified that harmful patterns of alcohol consumption are common amongst amateur football club members [39, 40].

Some parents also suggested that adolescents can be fearful of the consequences of alcohol misuse. In particular, they suggested that there were fears about the associated violence and sense of being 'out of control'. These finding are consistent with previous Australian research that indicates that some adolescents choose not to drink for reasons including fear of negative consequences, family issues and religious reasons, dispositional risk (including physical ailments and a family history of drinking problems) and a dislike of alcohol [41]. Abstinence may be one of many harm reduction strategies that are aimed at reducing alcohol-related harm for communities or particular individuals [42]. Some parents may mistakenly perceive this to be a 'zero-tolerance' approach instead of one component of a policy that includes supply and demand reduction and harm reduction strategies.

2. Influences on adolescent drinking

Many parents believed that society is "immersed" in alcohol advertising that is strongly targeted at adolescents and has a major influence on adolescent drinking patterns. Whilst several parents believed that advertising was "clever", they also thought that alcohol advertising was somewhat deceptive and that it did not promote responsible drinking amongst adolescents. One parent said:

> The girl….. she doesn't have a glass as such, there is this bottle and she is in… a skimpy bikini and the way the photo is taken … what the story is saying is that it is trendy to glog from the bottle.

Australian research has identified that young people believe that alcohol will contribute to social and sexual success and a decrease in stress and enhanced relaxation will occur following consumption [12]. These parents' concerns are consistent with evidence that suggests that the alcohol industry has shifted its focus by targeting adolescents and young people via the internet [43, 44]. A formal review of alcohol advertising commissioned by the Ministerial Council on Drug Strategy in 2003 found that much advertising failed to comply with the relevant code of practice which states alcohol advertisements "must not have strong or evident appeal to children or adolescents" and must present a "mature, balanced and responsible approach to drinking"[45].

Parents considered alcohol to be relatively inexpensive and felt that this strongly influenced adolescent drinking patterns. A recent study of expenditure on alcohol by underage teenagers in Melbourne and regional Victoria found that 39% of young people aged 13-17 years paid for alcohol and spent 37% of their income on the product. The average amount spent was $22 with one fifth spending more than half their income on alcohol [46]. These patterns of expenditure indicate that price is not a barrier to alcohol purchase and consumption.

Many parents talked about the strong influence of peers on their adolescent's drinking habits and some parents accepted this as inevitable. Overseas, peer influences and low parental monitoring have been identified as strong risk factors for

advancement to heavy (5 drinks or more on one occasion) drinking patterns amongst adolescents [47, 48]. One way of accounting for the role of peers is the theoretical framework provided by Reputation Enhancement Theory (RET) [49]. RET was proposed as a way of explaining how the self is influenced by and presented to a community of peers. In some groups of adolescents, RET has been shown to predict risky substance use [50-52] by virtue of the fact that adolescents seem to strategically adopt behaviours (such as licit or illicit drug use) which they see as being consistent with their identified and desired reputation. The views of parents interviewed for this study seem to lend support to RET as a way of explaining the importance of peer influence in some decisions to drink and/or drink to excess.

Several parents suggested that it was important that parents role model responsible drinking behaviours but recognised that this was not always the case. Several studies have found that parental role modeling has a strong influence on adolescent drinking patterns [53-55] and that adolescents whose parents are heavy drinkers are more likely to have been initiated to alcohol early (<14 years of age) and report more frequent alcohol consumption than other adolescents [3]. Several studies have shown that parental support and monitoring is positively associated with the prevention of alcohol misuse amongst adolescents [6, 56].

Many parents believed that alcohol use is normalised in Australian society and that it is expected that "everyone drinks alcohol".

> It is as though, if you are not a drinker in Australia there is something wrong with you. It is OK to be a drinker, but not the other way around.

A few parents talked about some European cultures and the practice of introducing alcohol from an early age.

> Coming from a European background alcohol isn't an issue, it's always been on the table, have a little bit of wine or grandpas done this or there is no mystery in our house.

It seemed that some European practices influence a number of parents about initiating their children to alcohol. However, it appears that parents do not consider the broader social context of these European settings and changing cultural practices. Traditionally, in the southern areas of Europe, it is thought that alcohol was more integrated into daily life and that governments had fewer restrictions on alcohol consumption. However, young people in southern Europe are changing their drinking practices and adopting drinking patterns that are more like their western counterparts [57]. The northern areas of Europe are more like the western cultural contexts in terms of the use of alcohol. In addition, a comparison of alcohol consumption between adolescents in the United Kingdom (UK) and France identified that French parents are more likely than UK parents to closely monitor their adolescents' whereabouts [58] and such monitoring is associated with lower rates of alcohol related harm in young people [59].

3. Harm minimisation and reduction

Many parents talked about the importance of good communication. The comments of one parent reflect the discussion:

> I think all the information is out in the world, but if you are not willing to talk to your kids about it, it doesn't matter what's out there.

The nature of relationships between adolescents and their parents appeared to be diverse. While some parents talked about their adolescent being more of a 'friend', others indicated that regardless of their adolescent's age, they remained the parent. A number of parents indicated that they did not want to be unpopular with their children and so reluctantly, allowed and tolerated access to alcohol. They also wanted their children to be 'popular' and 'happy' and so often gave them what they want. I don't want to say yes and I don't want to say no, I don't want to be the "baddy." It is unclear if parents who see themselves as 'friends' have abdicated their roles as educators and socialisers or if they continue to maintain a sense of responsibility for the wellbeing of their children. Whilst this may be a popular notion, large scale studies have found that the majority of adolescents continue to seek approval and validation from their parents when they continue in parental roles [60].

A number of parents reported that they believed they have a responsibility to educate their adolescent about responsible alcohol consumption. The comments of one parent were typical of this view:

> It helps if they have some education in school and things but…, it starts with the parents and ends with the parents. I just see it as being a natural part of every day life and it's the same as any thing else whether it's smoking or driving a car or drugs or whatever they all learn basically from the home.

The content of what parents were teaching their adolescent seemed to differ widely. Parents varied in their approach from zero tolerance, to harm reduction, to acceptance of regular alcohol use.

For example:

> I mean my theory is if you're under age you shouldn't have alcohol at the party. I'm old fashioned but [when] I was under age there was no alcohol at my parties.

> I always try to talk to them when I pick them up drunk from wherever they have been, which is sometimes 2[am], I pick them up and I really do I try to talk to them.

In the United States, longitudinal studies have identified a link between parental disapproval of adolescent alcohol use and a lower incidence of later adolescent drinking [47, 61]. Parental values and rules about alcohol can influence adolescent drinking patterns [10]. However, it is not clear whether communication alone between parents and their adolescent has a protective value against misuse of alcohol. What is known is that parents' own drinking patterns do influence what they communicate to their adolescents [62].

Parents varied widely in the amount and content of communication with other parents. Some parents

communicated with other parents for monitoring purposes while others seemed to use this communication as a behavioural management strategy. Several parents indicated that when it came to alcohol, they felt responsible for other people's children who were at their home.

Many parents discussed the issue of adolescents drinking in a supervised environment. Several parents thought that it was parents' responsibility to decide when their children should have access to alcohol and "not the role of government". It would seem that these parents might be resentful or unaware of the existing role of government in legislation regarding access to alcohol. A number of parents believed that introducing alcohol in the home meant that adolescents were being supervised and were safe. It seemed that some parents encouraged initiation to alcohol in this setting.

> We want our kids to bring their friends home to us. If they want to have a drink then yes, if it's under a controlled environment where I know my husband and I will control how much they drink.

Several parents discussed adolescents' parties and how they believed that, despite the amount of alcohol being consumed, this was safe. For example:

> If I am there and I know he is in a safe environment for him to over indulge and see what it's like the next morning to have a hangover and see how bad you feel and see how he handles it.

It seems that parents use these strategies in an attempt to provide some safety for their adolescents whilst monitoring their adolescents' drinking behaviour. However, these comments reflect a tension between parents wanting their child's approval and creating a safe environment. This sends mixed messages to young people who are often unsure of safe drinking habits. The more challenging path from a parenting perspective involves parents risking disapproval through clear limit setting.

Whilst numerous studies have found that parental monitoring reduces the chance of adolescents being involved in problem behaviours [63, 64], other studies have found that low parental monitoring promotes strong peer orientation and deviant behaviour [8, 65]. However, it is not clear that what these parents describe can actually be translated into 'parental monitoring'. It may be that some parents believe that they have adequate knowledge to create safe drinking environments for their adolescents. However, studies in the United States and in Australia have shown that parents and other community members enhance their knowledge after attending educational programs or participating in community programs that are designed to reduce alcohol related harm [66, 67].

A number of parents were concerned about adolescents' legal initiation to alcohol at 18 years of age coinciding with obtaining a motor vehicle licence. For example:

> I don't mind people drinking, but I'd prefer my child to learn about drinking before he starts driving so at least he knows how he's going to behave when he's been drinking.

It may be that some parents are not familiar with the rationale for the use of the three stage GLS in Victoria. Crash risk is higher for beginner drivers irrespective of their age when they obtain their licence [18]. However, this risk is even higher amongst young people who are more likely than older people to demonstrate risky behaviour whilst driving [18]. Risky driving leads to hazardous situations and the combination of alcohol and inexperience exacerbates the risk [18]. Young people are less likely than adults to drink drive, but when they do, their crash risks are higher [68]. The GLS is designed to address the age/inexperience factors that are exacerbated by risky behaviour, including the use of alcohol [18]. Parental involvement and monitoring in GLS programs has been associated with lower levels of risky driving [24, 69].

A few parents were supportive of policy that reduces alcohol access for young people (<18 years) and questioned why the community appears more concerned about selling cigarettes to people who are underage than they are about access to alcohol.

> The attitudes of people say it is OK for them to have their 14 and 15 year olds in the backyard, all drinking …. I won't do if for my kids, I did it once and that was enough.

> I've got to the stage where I've got little supervision over my children because of other parents' slackness in that area. The community [support] penalties [that] apply to the milk bar man selling cigarettes but they don't feel like the penalties apply to people allowing children to purchase alcohol or even helping them. It's up to the parents, I wish there [were] stronger community support.

This might suggest that while alcohol consumption is an accepted part of Australian life, some parents feel unsupported in their efforts to promote harm reduction strategies for their children.

There was a sense that it was the 'norm' for parents to purchase alcohol for their children. This often included unrestricted access to alcohol at home parties. A number of parents indicated that they were sometimes reluctant to buy alcohol for adolescents but suggested that, in contrast with the evidence, [70] this strategy would protect their children from drink spiking; "at least you know what they're drinking". Some parents also thought that if they did not buy alcohol for their children, then the children would recruit people around bottle shops to buy it for them. Several parents thought that this would expose their adolescents to other risks.

One parent even bought alcohol for someone else's child because she "felt sorry" for him:

> I could see what the other kids had and I went and bought it for him; he was a boarder. I felt really sorry for him because he didn't have someone to go and buy it … and then I was thinking all night, oh my God, what have I done?

Hence, it would appear that in a number of settings, parental attitudes and practices are contributing to the 'normalisation' of alcohol consumption amongst young people. Again, it appears that parents are unsure of their approach to education regarding adolescent alcohol use and that there is ambivalence regarding parents supplying alcohol to young people.

Parents varied in what they thought about the impact of school based education programs. In general, it seemed that while parents thought that information sessions were useful, programs that were interactive or engaged a role model or peer educator had more value.

My daughter and another girl in Year 11 actually gave a talk to Year 7 … they did it quite seriously and it had quite an impact on the younger year level that these girls were quite honest about that they had got drunk and been sick. I think it had a better impact on the Year 7 kids than the teachers doing it.

Whilst systematic review supports the use of role models in school drug education programs, the evidence regarding peer educators is not as conclusive [71]. There is a risk that older peer educators may actually glamorise alcohol misuse and make it seem like a rite of passage to younger students.

My son says the education programs they have … have footballers coming in and talking to them about responsible drinking, drugs and things like that. It depends on who is giving the message if it is someone they respect and admire, then they will take notice.

Meta-analyses of school based education programs have revealed that smaller interactive programs are more effective in reducing alcohol related harm [72]. However, most programs are only effective in producing a short-term delay in the onset of substance use by non-users and a reduction in the use by current users [73]. Most of the studies included in meta-analyses of this kind were based overseas. In Australia, it has been identified that effective school-based programs should begin before initiation to drug use and that content should include social skills and resistance training. In addition, community values, societal contexts and information about drug related harm need to be included [74].

Conclusion

Parents in this study perceived that adolescents often drink to get drunk and that adolescent drinking patterns are strongly influenced by peer and parental role modeling. Alcohol advertising and relatively cheap alcohol were also thought to be strong influencing factors. Many parents indicated that they want to create safe environments for adolescents who consume alcohol but ironically many of the practices of these parents may in fact be contributing to the normalisation of alcohol use and hence contributing to ongoing harm. Parents indicated that they need more information on which to base decisions and that sometimes they feel unsupported in their decision making. Parents have an important role in enforcing GLS programs but often do not understand driving risks well and the importance of role modeling safe driving practices. There is an opportunity for public health policy makers and practitioners to specifically promote the role of parents in promoting alcohol related road safety.

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Choice of licensing method and crashes of young drivers

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This paper was originally presented at the November 2005 Australasian Road Safety Research, Policing and Education Conference in Wellington, New Zealand.

Abstract

Five years of data (1998-2002) were used to examine whether there was a relationship between the method of driver licensing - Competency Based Training (CBT) or Vehicle On-Road Test (VORT) - and the subsequent crash experience of young drivers, using logistic regression analysis.

The main findings of this study were:

Statewide, choosing the VORT was associated with a 6% increase in the odds of having at least one crash in the first 180 days. In one year, if those who chose VORT had an equivalent crash risk to those who chose CBT, there might have been 20 fewer non-casualty and 10 fewer casualty crashes in new drivers' first six months of driving. The choice of licensing method was less important than the variables: area of residence, sex, age and the period spent on a learner's licence.

However, choosing VORT rather than CBT could easily be due to factors (amount of travel, personality, social habits) that are also associated with a greater likelihood of crashing. For example, we found that choosing VORT rather than CBT was associated with a 25% increase in the odds that the driver had been involved in a crash as a driver prior to the issue of a P licence. This means that there is a real possibility that the slight increase in the odds of having at least one subsequent crash (noted in 1. above) is not due primarily to any characteristic of the VORT test itself but rather something about the drivers who chose to take the VORT.

We therefore found no clear evidence that any differences between the VORT and CBT methods of licensing are related to subsequent crash experience.

In separate analyses, we found no evidence that the choice of examiner for the VORT, or the instructor for the CBT test, has any significant influence on subsequent crash outcome.

Keywords: Young drivers, risk factors for crash involvement, licensing methods, driving instructor, logistic regression, data linkage

Introduction

This paper describes the findings of a study, prepared to assist Sir Eric Neal in his review of driver licensing in South Australia. We have constructed and analysed a dataset consisting of the records of young (18-25 year old) newly-licensed drivers, including whether each had a road crash within 180 days of getting their licence. The data include all drivers in that age range in South Australia who gained their P licence in the years 1998 to 2002. We examined whether certain characteristics of the drivers influenced the probability of crashing. These characteristics were: age, sex, area of residence in South Australia, method by which they obtained their licence, and the period spent on a learner's (L) licence

There are two methods of obtaining a driving licence in South Australia. These will be called the vehicle on-road test (VORT) and competency-based training (CBT). For the drivers obtaining a licence by VORT, we know the examiner who certified that they passed the test. For the drivers obtaining a licence by CBT, we know their instructor.

We concentrate on three issues: a comparison of drivers obtaining their licence by VORT and by CBT, whether the VORT examiners differ in the crash records of their examinees, and whether the CBT instructors differ in the crash records of their students. Some analyses are reported for the whole of South Australia, and some for the geographically compact area of postcodes 5000 to 5099 (roughly, within 15 km of central Adelaide).

Materials and Methods

We are grateful to Transport SA for supplying us with the records of drivers obtaining their P licence. This information included the age, sex, and postcode of residence of the drivers, the period they had spent on an L plate, the method by which they gained their licence (VORT or CBT), a code referring to who their examiner (for VORT examinees) or instructor (for CBT students) had been, and their licence number. For each of these drivers, we interrogated the database of traffic crashes in South Australia that we maintain at the Centre for Automotive Safety Research (and which is derived from police reports via processing by Transport SA), and used the licence number to determine whether or not they had had a crash within 180 days of getting their P licence. We then attempted to relate the probability of their having had a crash to such variables as age, sex, and method of licensing.

Logistic regression

Logistic regression is a statistical technique that attempts to predict the probability of something happening when influenced by some independent variables. In our case, we are trying to predict the probability of a crash within 180 days of obtaining a licence, and the independent variables include sex and age of driver, postcode of driver and so on.

Results are expressed in terms of the odds ratio. The odds of an event occurring are the number of times it occurred divided by the number of times the event did not occur. The relevant event is having at least one crash within 180 days, so the odds are the number of drivers who had at least one crash divided by the number of drivers who had no crashes. The odds have a different meaning from the *probability* of an event occurring. The probability is the number of times the event occurred divided by the number of times it *could* have occurred. The odds ratio is the ratio of the odds of an event in one group (e.g. VORT drivers) divided by the odds in another group (CBT drivers). The odds ratio is very close to the relative risk when the chances of the event are small (such as having a crash within 180 days) and so, the odds ratio may be considered a good approximation of relative probability in this report.

Dependent variables

As mentioned previously, we examined any crash in the first 180 days. Crashes were any crash reported to the Police and could range in severity from a property damage only accident to a fatality. There are alternatives: we could choose a different time period, certain severities of crash, or certain types of crash (e.g. rear-end). In the course of this project, we have examined some of these, and believe that our chosen definitions are appropriate for revealing the effects of the factors examined.

Independent variables

Independent variables include Age, Sex, Method (CBT or VORT), Postcode (grouped into Regions), Period on L plate, Examiner (VORT) or Instructor (CBT). Certain independent variables are the subject of regulation: Method, Period on an L plate and Age of licensing are such variables. Others are not (Sex and Region). The variables amenable to regulatory intervention are highlighted in the results. An important independent variable that is not available is the amount of travel of drivers (their exposure to risk). Some individuals are likely to travel more than others due to their geographic location and/or propensity to drive, and others near border regions may regularly travel in adjacent states, so some crashes may occur outside SA's borders. Other variables that are not available and which might be important are ones related to temperament and social habits. It is possible that the choice of licensing method reflects these and that they also might affect risk of crashing.

While each independent variable may take on several values (age, for example) the essential effect of each was determined by categorising the variables into as few appropriate categories as possible, while maintaining the integrity of the analysis. This has been done to overcome computing difficulties and for clarity of the presentation of results.

Limits of interpretation

The chief aims of the analysis are to determine whether the method of licensing, the examiners (of VORT students) and instructors (of CBT students) have any effect on the crash risk of young drivers. However, it should be noted that an experiment has not been carried out: the young drivers have not been randomly assigned to one method or another, nor one examiner/instructor or another, but have themselves selected these things. The distortion that this may introduce is known as *self-selection* bias. So, if, for example, drivers who chose VORT are found to be more likely to crash than those who chose CBT, it may be that the drivers who chose VORT are more likely to crash for reasons unrelated to VORT per se. This means that if we find that the choice of method of licensing has an important influence on the odds of crashing, we cannot go further and say that the reason is the method itself, as it could be characteristics of the driver that are associated with the choice (although, if so, it must be above and beyond the ones that have already been taken into account – age, sex and region of residence).

Statistical inference

One important additional statistic is produced by the logistic regression: the statistical significance of each result. This is used as a tool to decide if the result should be considered reliable. We have used a statistical significance limit of 0.05; that is, there is less than a 5% probability that the odds ratio observed could be obtained by chance if no difference between the categories actually exists.

When several independent variables are included in the logistic regression, the regression will determine odds ratios for every category of each independent variable. It is, therefore, possible to use these to compare odds ratios over different driver characteristics. In Table 1 we have several independent variables, and each variable has two categories. The first category of each variable is our reference category relative to which the odds for the other categories are expressed. The odds ratio of the other category is then the odds of crashing for the second category over the odds of crashing for the first category. For example, males have 1.47 times the odds of crashing than females. Now, we can compare the odds of crashing for any driver compared to our baseline (reference) driver who is: female, aged 18-26, living outside the greater Adelaide area, who undertook the CBT method and had an L licence for more than 6 months. All these categories are our reference categories, and so we can simply set this driver's relative odds to one. Our comparison driver is a 16-17 year old male, living within greater Adelaide, who was licensed using the VORT, and had his L licence for less than 6 months. The relative odds of these two drivers for crashing are 1.64 x 1.47 x 1.29 x 1.15 x 1.06. That is, our second driver has 3.79 times the odds of crashing in the first 180 days than our baseline driver.

Comparison of VORT and CBT

The focus of this analysis is the comparison of VORT and CBT, but we have found that other variables have important effects on the odds of crashing, and these need to be taken into account. These were:

a) the age of the driver at the date of issue of the P licence,

b) the sex of the driver,

c) the length of time spent on an L plate, and

d) the region in which the driver resided at the time of issue of the P licence.

Additionally, certain categories of each variable were found in preliminary analyses to have similar effects on the odds of crashing. For example, drivers from the postcodes 5000 to 5199 (approximately the Adelaide Statistical Division) are quite distinct in that respect from those in more regional areas. Similarly 16 and 17 year olds were distinct from those 18 and older in terms of their risk of crashing.

Results of the analyses for the whole of South Australia

The influence of the variables discussed above on the risk of a crash of *any severity* is described in Table 1 below. The results of the logistic regression show that the most important predictor of crash involvement is living in the greater Adelaide area (postcodes 5000 – 5199). This result is largely uninteresting as it is likely to reflect the higher traffic densities and potential traffic conflicts that exist in the urban environment. Sex, age and period on L plate were all more strongly associated with crashing than method (CBT or VORT) – but method was predictive, with drivers who chose the VORT system of licensing being 6% more likely to have at least one crash in the first 180 days following the issue of their P licences.

Table 1 Odds ratio of involvement in a crash of any severity in the first 180 days by specified independent variables, in descending order of influence.

Independent variable	Category	Odds ratio
Region	5200 and above **5000 – 5199**	1.00 1.64
Sex	Female **Male**	1.00 **1.47**
Age of driver	18-25 **16-17**	1.00 **1.29**
Period on L plate	6 months or more **1–5 months**	1.00 **1.15**
Method	CBT **VORT**	1.00 **1.15**

Notes:
Bold categories are more predictive of crashing
Shaded variables are amenable to some regulatory intervention
All results shown are statistically significant

Similar analyses were conducted for more severe crashes only: casualty (injury and fatality crashes), and just fatalities. The results for casualties are shown in Table 2. Neither the method of licensing nor the period spent on an L plate were statistically significant predictors of crash involvement at this level of severity. No results are shown for fatalities, as no variable used was reliably predictive of fatal crash involvement. We presume this is due to the (fortunate) rarity of fatal crashes and the consequent low power of the statistical analysis.

While the odds ratio for casualty crashes by method of licensing was not statistically significant, it is in broad agreement with the odds ratio estimated for crashes of all severities (Table 1). There is no reason to think that casualty crashes would be

affected differently from all crashes. Therefore, we will assume that the estimate of a 6% increase in the odds of being involved in a crash for drivers who chose the VORT system of licensing is likely to apply to casualty crashes as well.

The small elevated level of crashing among VORT drivers approximately equates to 27 drivers more than would otherwise be expected experiencing a crash of any severity in the first 180 days, out of each year's population of 18,400 new licensees (aged 16-25). About 7% of the drivers who crashed at least once, crashed again within the 180 days; so these 27 drivers had approximately 30 crashes. If we assume that the estimate of the odds ratio for VORT drivers experiencing a casualty crash is correct, 10 of these surplus crashes would have been casualty crashes. Therefore, the choice of VORT was associated with an average of 20 non-casualty crashes and 10 casualty crashes greater than would otherwise be expected in the first 180 days of driving, in each of the five years that we analysed. For reference, about 1700 new drivers, aged 16-25, reported at least one crash in their first 180 days of driving. Of these, 390 report a casualty crash.

Table 2 Odds ratio of involvement in a casualty crash in the first 180 days by specified independent variables, in descending order of influence

Independent variable	Category	Odds ratio
Region	5200 and above	1.00
	5000 – 5199	**1.44**
Age of driver	18-25	1.00
	16-17	**1.18**
Sex	Female	1.00
	Male	**1.13**
Method	CBT	1.00
	VORT	**1.08***
Period on L plate	6 months or more	1.00
	1–5 months	**1.06***

Notes:

* "Method" and "Period on L plate" were not statistically significant Refer also to notes for Table 1

As was previously discussed, the difficulty in interpreting this kind of result is that the data used in this report were not generated from an experiment: we must consider whether students who take the VORT are different in any way from CBT students (beyond age, sex and region of the State, which we have controlled for). We strongly suspected that self-selection bias would be operating in the data. In other words, drivers who chose VORT may be different in important respects from those who chose CBT. We checked this by examining the odds of a crash occurring prior to the issue of a

P licence. It is unlikely that method of licensing would affect the odds of having a crash prior to licensing (when time spent on an L plate is allowed for), therefore if the choice of VORT is associated with a pre-licensing crash, we must assume that the difference between VORT and CBT in terms of post-licensing crashes is not causal. That is, it should not be assumed that if these drivers had taken CBT rather than VORT, their crash risk would have been reduced correspondingly. The results of the regression of pre-P licence crashes on the independent variables show that persons who chose VORT were 25% more likely to have had at least one reported crash prior to the issue of the P licence. This indicates that, while we can control for Region, Age, Sex and Period on an L plate, there are further distinctions between drivers who chose VORT and drivers who chose CBT that we cannot account for, and hence the association between VORT and a 6% increased odds of crashing post-licence should not necessarily be viewed as causal.

A further problem of interpretation is that because the two categories of region used in the analysis encompass large areas with distinct geographies, we may be inadequately capturing the effect of geography in this categorisation. A better coding of geographical location would assist the analysis, but we have instead, in the absence of such coding, focussed on a geographically compact region (postcodes 5000 to 5099, corresponding to areas within 15 km of the Adelaide GPO) and repeated the analysis.

Results for Adelaide inner-metro (postcodes 5000 to 5099)

Crashing in the first 180 days was regressed on the variables Age, Sex, Period on L and Method (CBT or VORT). The calculated odds ratios for age, sex, period on L were almost identical to those calculated for the whole State (refer to Table 1). However, the odds of crashing associated with the choice of VORT were somewhat higher than for the whole State. In the inner Adelaide metropolitan region, choice of VORT was associated with a 14% increase in the odds of crashing. This is consistent with the notion of self-selection bias. The bias might be expected to operate most strongly in areas in which most choice of licensing method exists. It is reasonable to assume that student drivers residing in Adelaide have more choice about licensing method than students in more remote regions where CBT instruction may not be convenient.

Effect of VORT examiner

The analysis of the influence of the VORT examiner on crashes was an extension of the analyses of crashes presented above, with the addition of a new independent variable – Examiner. In this analysis we are only discussing drivers who undertook the VORT.

Results of the analyses for the whole of South Australia

The analysis of all examiners in the State is computationally challenging, and so we chose to look at examiners who have passed at least 200 students in the 5 year period (39 examiners) with all other examiners being grouped together in an "other" category.

As in the analysis reported in Table 1, residing in the greater Adelaide area, being male and 16-17 are all associated with increased odds of crashing. The computed odds were similar to those reported in Table 1. Choice of examiner affected the odds of crashing: this variable was statistically significant. As with CBT instructor (below) we consider that there probably is no true effect, as indeed was found for the area defined by postcodes 5000 to 5099 (see below).

We believe that the apparent effects of VORT examiner and (below) CBT instructor are misleading results that derive from not fully accounting for geographical region in the analysis. For example, students of instructors/examiners who operate near the border of the State may have crashes over the border, which, of course, do not appear in the statistics analysed. More generally, it is likely that the large geographical areas that we used in the analysis encompass students with quite different crash risks and exposures (amount of driving). Consequently, effects that would be attributed to geography, if the analysis accounted for this in sufficient detail, are instead mistakenly attributed to instructor/examiner. Hence we now report on an analysis of a geographically compact region (Adelaide postcodes 5000 – 5099), and we regard this latter analysis as preferable.

Results for Adelaide inner-metro (postcodes 5000-5099)

As with the analysis for the State as a whole, computational considerations meant that the number of examiners had to be restricted in the analysis. The 32 examiners who had passed more than 100 students in areas covered by postcodes 5000-5099 were chosen, with all other examiners placed in an "other" category. When this was done, the choice of examiner was non-significant, while all other variables were, with computed odds ratios almost identical to those reported in Table 1. The results showed that the variation in the odds of crashing of students of particular examiners was well within what might be expected due to chance.

Conclusion

These results show that choice of examiner in the VORT system does not have a significant bearing on the post-crash experience of drivers: if variation exists, we might expect it to reveal itself in the Adelaide region (postcodes 5000 – 5099) where 40% of newly licensed drivers reside. As mentioned previously, the apparent influence of individual examiners on drivers' crash experience when the whole State is examined must be treated with caution due to unaccounted-for geographical influences in the data.

Effect of CBT instructor

The analysis of the influence of the CBT instructor on crashes was similar to that of the VORT examiner. In this analysis, we are only discussing drivers who undertook CBT. As with the analysis of VORT examiners, we had to choose a limit on the number of CBT instructors in the analysis. By choosing a instructors who had passed 500 or more drivers in the five years we analysed 30 instructors and an "other" category into which all other instructors were placed. The results showed that Region, Age and Sex were all significantly associated with crashing, with odds ratios very similar to those reported in Table 1. Additionally, choice of CBT instructor was statistically significant. However, as with VORT examiner, we consider this likely to be misleading, deriving from not fully accounting for geographical region in the analysis. Hence we now report on an analysis of Adelaide postcodes 5000 – 5099, and we regard this latter analysis as preferable.

Results for Adelaide inner-metro (postcodes 5000-5099)

As with the analysis for the State as a whole, computational considerations meant that the number of examiners had to be restricted in the analysis. Instructors who had passed more than 100 students in areas covered by postcodes 5000-5099 were chosen, with all other examiners placed in an "other" category. CBT instructor was now not statistically significant.

Conclusion

Thus, as with VORT examiner, we conclude that choice of instructor in the CBT system does not have a significant bearing on the post-crash experience of drivers. Again, the apparent influence of individual examiners on drivers' crash experience when the whole State is examined must be treated with caution due to unaccounted-for geographical influences in the data.

Effect of pass rate of VORT examiner

In the course of this investigation, it was brought to our attention that certain VORT examiners had a very high pass rate, with over 90% of VORTs conducted by them being recorded as a pass. The average pass rate of all examiners is approximately 60%. There was some concern that the drivers passed by examiners with high pass rates were below acceptable standard.

We identified two examiners who had passed a large number of students, whose pass rate was over 90%. In the results of the analysis of the effect of VORT examiner in the inner Adelaide region (above), we were able to identify their students' relative odds of crashing. One examiner's students were about 8% more likely to crash in the first 180 days than the average of all newly licensed young drivers in the State, and the other examiner's students were about 15% less likely to crash than the average, and neither of these differences were statistically significant.

Figure 1 shows the odds ratios of the students of different examiners, plotted against the number of students (from postcodes 5000 – 5099) that that examiner has passed in the last 5 years. The two examiners in question are highlighted. We would expect that the more students an examiner passes, the less random variation there would be in their students' odds of crashing: for those examiners with few students, one less or one more student who crashed would make a large difference to the odds ratio for the group as a whole. As an examiner passes more students, one student more or less who crashes will not be as influential on the odds ratio of the group. Therefore the scatter should be greatest to the left of the graph and least to the right, which is what is apparent. It is also apparent that the two examiners in question are not distinguished by particularly different odds of their students crashing than that of the average of all students (odds ratio = 1.00).
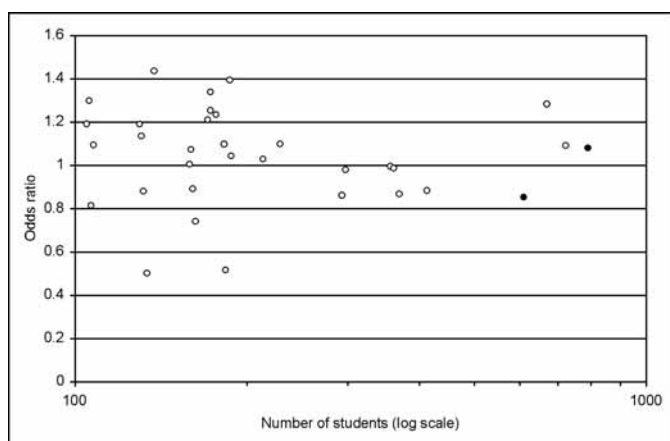

Figure 1 The odds ratio for crashing at least once in the first 180 days for VORT students who reside in postcodes 5000-5099, by specified examiners. The average odds ratio of all students is 1.0. Each point represents the odds ratio of crashing for one examiner's students compared with the average odds of at least one crash in the first 180 days for all students. The students of two examiners with particularly high pass rates and who have passed many students in the 5 years (1998-2002) are represented with solid markers

Summary

We could detect no differences between CBT and VORT drivers in the odds of being involved as a driver in at least one casualty crash in the first 180 days of licensure. A small difference was apparent when all crashes were considered. Drivers who chose VORT were 6% more likely than those who chose CBT to crash at least once in the first 180 days. However, there are reasons to believe that the groups of drivers entering the VORT and CBT systems appear to be different in certain important respects, and so we cannot assign the differences in crashes in their post-licensure period solely to the inherent differences between CBT and VORT. For example, drivers who chose VORT were more likely to have been involved in at least one crash prior to being issued with a P licence.

Our interpretation of the evidence is that choice of examiner and instructor do not affect the odds of crashing in the first 180 days. This is based on an analysis of students who resided in postcodes 5000-5099 (representing 40% of the students in the State). Furthermore, an analysis of pass rates showed that VORT instructors with high pass rates did not appear to produce drivers with increased odds of crashing. We have carried out several variations on the analyses reported here, and there are many more that it would be valuable to carry out in future in order to check specific ideas about what might be happening. The reader may feel that the choices behind the analyses presented were subjective, and other people may have made different ones, and obtained different results. To that we say "yes", analysis of a complex dataset does involve the exercise of judgment. However, we began the analysis with an open mind, and tried to remain faithful to wherever the results of analyses led us. We believe our conclusions to be broadly correct.

Acknowledgements

Driver and rider licensing provisions for clients who are d/Deaf

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Abstract

A significant potential population of d/Deaf** drivers and riders exists both in Australia and internationally. As yet, no systematic investigation of the services available to aid this group in becoming licensed to drive or ride has been completed. The current investigation reviewed the level of services made available through Australian licensing authorities to aid d/Deaf drivers and riders. A search of publicly available licensing information together with direct surveying of customer service representatives in each jurisdiction was used to gain the information. Results indicate that the level of services available varies considerably within Australian licensing authorities. The results are discussed in relation to relevant international licensing practices and possibilities for enhancing available services for d/Deaf clients.

Introduction

Licensing provisions for drivers and riders who are d/Deaf have not yet been the subject of published research. There are a number of difficulties for the d/Deaf in obtaining a licence that have implications not only for the d/Deaf but also the wider road user community. The aim of the current paper is to review the provisions that are currently in place in Queensland and other Australian States to assist drivers and riders who are d/Deaf to be licensed. Although colloquial evidence has pointed to the existence of problems with the completion of the theory test for clients who are d/Deaf, a systematic investigation of the services provided by each licensing organisation has yet to be undertaken. An analysis of existing best practice internationally for presenting the driving theory test to drivers and riders who are d/Deaf is also included within this paper as an indication of steps that have been taken elsewhere to address the issue of providing an equitable system.

Despite commonly expressed concerns, hearing impaired individuals and those who are profoundly deaf are permitted to hold a full driving licence in Australia and many other overseas jurisdictions [1, 2]. The limited research completed into the driving ability of hearing impaired or deaf drivers has in fact indicated that deaf drivers have fewer reported driving violations than hearing drivers [3]. Several underlying reasons have been suggested as to why this is the case. Although the driving task has been identified by Songer et al [4] as relying on a combination of the auditory, visual, tactile and olfactory systems, vision is suggested to be the dominant factor, accounting for over 90% of driving actions [5]. Anecdotally, suggestions have been made which indicate deaf drivers accommodate for any shortcomings in their driving by being more careful or vigilant on the road [4]. Research has also noted consistently greater visuospatial skills among people who use sign language as opposed to people that rely on spoken language only [6].

A significant proportion of the Australian public can be classified as either deaf or hearing impaired to a degree that would otherwise require they use alternative methods of communication. The Australian Bureau of Statistics (ABS) estimates that approximately 1 in 10 Australians directly experience some degree of hearing impairment [7]. Estimates of the Australian Deaf signing population vary between figures as low as 6,500 [8] and as high as 15,000 [9] residents who use Australian Sign Language (Auslan) as their primary language.

Difficulties associated with d/Deaf driving and licensing are not unique to Australia, with a significant population of d/Deaf who are eligible to drive existing worldwide. There are currently over 100,000 deaf UK citizens between the ages of 16 and 60, with an estimated 40,000 British Sign Language users. In the US, it is estimated that there are between 100 thousand and half a million American Sign Language users. There is also a significant population on the European mainland, with 8,000 Swedish signers, between 50 and 100 thousand French signers, 50 thousand deaf Germans and 20 thousand users of Dutch Sign Language [10]. As indicated by Internet sites such as http://www.deafmotorcyclelinks.com, there is a significant and growing community of deaf motorcyclists. The site lists 15 countries where specifically deaf motorcycle clubs exist, with a number of countries having several constituent groups for each state or region.

Language Differences

Hearing impairment or deafness can often require certain services designed for hearing individuals be adapted, to ensure that information from the surrounding environment, both in terms of social and general interaction, is received at a comparable level. Auslan, like similar sign languages used in Britain and America, does not attempt to imitate English, and is recognised by both Deaf organisations and government bodies as being a separate and unique language with its own grammar and syntax [11-15]. It is important that Deaf signers are considered as equals and as intelligent as hearing individuals, regardless of any written or spoken language difficulties.

Learning to read is not a parallel process to signing that is easily picked up without a first-hand knowledge of the spoken form of the language [16]. For an individual who uses Auslan as their primary language, learning to read and write English or another written language is akin to someone from the dominant hearing population learning an entirely new second language. Opportunities for effective communication experiences for deaf children can also be limited if they are born to hearing parents or are not able to access sufficient assistance during their schooling [16]. As a consequence of such difficulties, signing Deaf students typically leave school with very low literacy skills [17]. This should not be taken as a reflection of the person's intelligence, but rather of the inherent language difficulties imposed by societies that are largely not tailored to these populations [18].

Providing a dedicated signing service is not only a matter of including Deaf individuals in communication. It can also serve a higher purpose as an indication of a greater respect within the organisation for deaf individuals [19]. It can come down to a matter of making sure that deaf people are seen as equal citizens and given the same opportunities that are presented to hearing people.

Existing Legislation and Responsibilities

The current investigation is supported by existing policies and acts, which are aimed to encourage the provision of equal levels of service regardless of language or communication method used by an individual. In the words of the Queensland Government's Language Services Policy, organisations should ensure that their policies are "...designed to enable clients to access services fairly and equitably and to ensure that service delivery is responsive and of high quality" [12, p5].

> "Queensland Government agencies are committed to implementing this Policy by: acknowledging clients' entitlement to the services of a professional interpreter or to linguistically appropriate information in situations of communication difficulty" [12, p5].

Australian legislation such as the Disability Discrimination Act [20] and the Federal Discrimination Law [21] also stipulate that it is illegal to discriminate against someone on the basis of a disability or requirement of a translator or interpreter. Over and above this legal requirement, there is also a moral obligation on behalf of licensing departments to provide an equal level of service to all groups within the community. The benefits of providing this level of service have been outlined by a number of researchers. Having an environment that acknowledges and uses sign language and appropriate communication methods is not only beneficial in terms of a purely functional or linguistic sense, but also as a sign of respect, value and inclusion [19]. Clients who are deaf commonly cite access to information and resources as a key concern. Participation without additional prior planning on behalf of these clients is seen as a goal [22]. These are key issues that need to be addressed before people become disillusioned or opt not to be involved in the formal system [23]. It is therefore not only a goal clearly stated through State and Commonwealth laws to provide efficient language services but also in the interest of serving the community of drivers or riders who are d/Deaf.

Method

To assess the level of services that are made publicly available to allow drivers or riders who are d/Deaf to undertake the theory test, several processes were used. A thorough search was undertaken of the official transport and licensing departments' websites and handbooks for information relating to services provided specifically for clients who are d/Deaf or for those that require assistance with language. Where made publicly available, this information was recorded.

Further to published information, a brief email survey of the licensing agencies was initially conducted in mid-2004 for each State and Territory, apart from the Australian Capital Territory (ACT). Emails were sent to the standard customer service contact email address provided on each organisation's website. The text of the original email is presented below.

> I have recently been undertaking some research into the services that are provided for deaf drivers/riders during the initial theory licence testing process (learner's test) as part of a literature review, and am in the pursuit of some more detailed information. I was hoping you could clarify for me what interpreter services are currently provided, and in what capacity. I would ultimately like to know if in practice...

> - an interpreter for sign language / Auslan is available on request?

> - if the sign-interpreter costs are at the expense of the test-taker, or covered by the licensing department?

> - if the sign-interpreter is available for pre-test instructions only, or can be used during the actual theory test?; and

> - if any other services (eg - a video of the test featuring sign-language) are made available to assist deaf test-takers?

A representative of each organisation provided a written response directly back to the researcher outlining what services

were available. A follow-up email was sent to each organisation over a year later in 2005 including the text of the response received in answer to the initial email. Each contact was asked to make any adjustments to the information provided previously to ensure accuracy and currency of the data. As the ACT had not been previously consulted in 2004, phone discussions with the respective client services and licensing departments were used to collect similar information at this later date.

Results

The results of the consultations with each of the licensing agencies are presented below in Table 1. There were no reported changes in the services provided as in the second round of emails sent in 2005, and as such the details of these responses has not been tabled here. Additional comparative information on services available in international jurisdictions is provided as Table 2.

Table 1: Information provided by consultation with Australian
licensing agencies concerning licensing for clients who are d/Deaf, 2004[a]

Jurisdiction	Provided Services
New South Wales	TTY service provided for calls. An audio induction loop is present in offices for those with minimal hearing and a hearing aid. Interpreters are available on request. [24] Interpreter services are not made available for the computer knowledge test as it is a visual test as opposed to aural (RTA, personal communication, June 28, 2004).
Queensland	An interpreter is requested through the Queensland Deaf Society at the cost of Queensland Transport. The interpreter is able to assist the applicant with pre-test instructions as well as during the test (M Bailey, personal communication, June 30, 2004)
Victoria	A VicRoads officer who signs in Auslan can help applicants both prior to and during the test, though she is not a qualified interpreter. An Auslan interpreter can otherwise be arranged on request through "Victorian Interpreter and Translating Services" [22, A Murnane, personal communication, June 25, 2004]
Tasmania	Interpreter services from the Tasmanian Deaf Society are made available on request at the cost of the Registration and Licensing Branch [25] (M Ferguson, personal communication, June 25, 2004).
Western Australia	TTY available for calls [26]. Interpreters are accessible in general, but are not permitted to assist during the computerised theory test as it can be read and must be completed alone. An interpreter can be arranged for orally presented theory tests such as the truck licence. (Department for Planning and Infrastructure, personal communication, July 16, 2004)
South Australia	No interpreting services are made available through Transport SA for deaf people undertaking the theory test. Private providers could be utilised if an interpreter was needed (H McDonald, personal communication, June 24, 2004). A language interpreter is provided free of charge for the first attempt at the test, with subsequent tests charged to the applicant [27].
Northern Territory	The theory test can be conducted verbally with the assistance of an interpreter if the need be [28]. An interpreter can be made available on request, with the cost covered by the signing organisation. The interpreter could assist for the whole test if supervised by a licence testing officer (B Fussell, personal communication, June 25, 2004).
Australian Capital Territory	An interpreter can be organised at the time of the license test at no cost to the examinee (ACT Road User Services, personal communication, 20th September, 2005). The prerequisite "Road Ready" education course in the ACT can be completed through the Canberra Institute of Technology Solutions with a course specifically tailored to deliver to deaf clients.

a – The data from the ACT is sourced from phone conversations in 2005 as stated in the method section

Table 2: Review of theory test licensing provisions for clients
who are d/Deaf in international jurisdictions[b]

Jurisdiction	Provided Services
Northern Ireland	Driver Vehicle and Testing Agency provides interpreters as well as an accompanying British Sign Language version of the theory test presented on the screen [29]
Ireland	An Irish Sign Language video version of "Driving Test Theory" is provided [30].
United Kingdom	Minicom (similar to TTY) and interpreters provided, along with an accompanying British Sign Language version of the theory test presented on the screen [31, 32].
Ontario	Provides an interpreter for sign language on request [33, 34].
United States	
- New Jersey	An interpreter who is approved by the National Registry of Interpreters for the Deaf (NRID), or otherwise recognised as a professional interpreter, will be provided at the cost of the Motor Vehicle Commission [35].
- Pennsylvania	A TDD (Telecommunications Device for the Deaf) is made available for phone bookings.If suitable testing dates are provided when booking, the agency will be able to provide an interpreter from the four choices of: American Sign Language, Pidgin Sign Language, Signed Exact English or an oral interpreter (lip reader) [36].
- Louisiana	"Hearing impaired applicants are allowed to write notes of inquiry with regard to testing instructions or rules and the administering officer may respond in writing. The Office of Motor Vehicles may pay for interpretive services, provided such service is rendered by one of the Deaf Action Centers under contract with the department" [37].
New Zealand	For those applicants who have trouble reading English, you are permitted to bring an "interpreter who is competent in English" [38] to assist with the theory test.

b - this is not an exhaustive list, but is rather representative of the information that is made freely available concerning deaf licensing services

Australia

This brief report set out to identify the level of services that are openly made available to d/Deaf clients within the official driver and rider licensing departments in each Australian state. As can be seen from the above tables, the services specifically provided in Australia to aid drivers or riders who are deaf in undertaking the theory test are limited. No dedicated interpreting services are provided within licensing departments, apart from a VicRoads officer who is unofficially able to provide signing assistance. This may well reflect the low volume of deaf clients that present for testing to each licensing centre. A response from the Northern Territory licensing authority noted that a d/Deaf applicant who is unable to read sufficiently to take the theory test has never presented themselves in their knowledge (B Fussell, personal communication, June 25, 2004). Having said this, each of the five States of Queensland, Victoria, Tasmania, South Australia and the Northern Territory are willing to arrange a professional interpreter at no cost to the applicant.

Encouragingly, responses from the Northern Territory, Victorian and Queensland licensing agencies indicated they would permit an interpreter to assist a Deaf driver both prior to and during the theory test. An opposing response was true of New South Wales' Roads and Traffic Authority (RTA) and Western Australia's Department of Planning and Infrastructure (DPI). Representatives of both licensing regulators responded that interpreters are not made available as the theory test is presented visually in text and not in an auditory form.

International Licensing Practices

The current best practice in providing a varied solution to meet the needs of deaf drivers and riders are the systems in place in the UK and Northern Ireland. These agencies not only provide interpreters when requested for both the theory and practical test, but also provide the theory test in a multimedia British Sign Language format [31, 32]. This system works by having

an "on-screen signer" [39, p1] who appears next to the touch screen on which the written questions are shown. Applicants can choose to repeat the sign-language video of the question as many times as required. Each written answer may also be displayed on the screen in British Sign Language (BSL), if the client chooses.

Also worth particular mention are the services provided in the US State of Pennsylvania. Not only are interpreters provided, but also they are made available in a choice of three dialects as well as lip reading. This is worth noting given that sub-groups within the deaf or hard of hearing population prefer to use either verbal or sign-based communication methods [40].

Discussion

The current study aimed to provide a succinct review of those services that are made openly available to clients who are d/Deaf wishing to become licensed as a driver or rider in Australia. Although this review should not to be considered as an in-depth examination of all services that are or can be made available, it does provide a representation of the services that are reported as available if a potential client were to contact the centres. As such, the current review not only takes into account the official organisational policies displayed on department websites or brochures, but also the information provided directly through customer service representatives.

Those responses from the New South Wales Roads and Traffic Authority and Western Australia's Department for Planning and Infrastructure that stated they do not allow assistance with test taking are not in line with existing evidence, which has indicated that Deaf signers can experience significant difficulties with the comprehension of written language. It should be noted however that the RTA theory test uses a simple level of language in both its questions and answers that would minimise issues related to written language comprehension [41].

The potential implications of a licensing system that does not cater for clients who are d/Deaf can be serious. Schiffman [42] reports on a legal case in which a Spanish speaking U.S. citizen was denied an opportunity to take the learner driver test in Spanish. Rather than take a test she knew she would fail, she continued to drive unlicensed. Although there is no direct evidence that similar situations have occurred in the deaf community, it is a possible outcome of using tests that are not easily understood. Increased rates of unlicensed driving have been linked with literacy problems impacting on an individual's ability to successfully take the learner's test [43, 44]. It is therefore important to ensure that the theory test is perceived as fair and not variably difficult to the degree that any one group will be unable to pass the test [45].

The development of new visually presented sign language versions of theory tests, or adaptations of existing computer-based theory tests to include such features, would be of

significant advantage in encouraging and assisting drivers and riders who are d/Deaf to be licensed. Such a process would seemingly reduce the need to rely on an interpreter to be present for the whole session. Whether it can be considered a replacement for the detailed information available through an interpreter would need to be considered. A feasibility study assessing the benefits of whether such a system could be offset against the costs of its development and implementation would also be of benefit.

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Road Safety Literature

New to the College Library

Western Australian Department for Transport, Energy and Infrastructure, Safety Strategy Series:

'Differences in Motor Driving Instructors' Approaches to Teaching'

By T J Bailey ISBN: 07590 00972 March 2006

This study explores qualitative and quantitative differences in driving instructors' approaches to teaching, in relation to a short literature review on the nature of driving, driver training and the approaches teachers use.

Recent Publications

'Traffic Law Enforcement across the EU: An Overview', published by the European Transport Safety Council is available on ETSC's website: http://www.etsc.be

The report stems from ETSC's 'Traffic Law Enforcement Program'. It focuses on police enforcement in the fields of speeding, drink driving and seat belt use and examines the implementation of the European Commission's Recommendation on Traffic Law Enforcement. In this Recommendation EU countries were asked to apply in a national enforcement plan what is known to be best practice in the enforcement of speed, alcohol and seat belt legislation. The Overview is in two parts, the first providing an impression of the main emerging trends across the EU including recommendations for EU decision makers on how to further progress. The second part covers enforcement practices and progress in each of the EU's 25 Member States including recommendations for improvement.

'Traffic Control at Work Sites Manual', published by the NSW Roads and Traffic Authority, February 2006. This edition follows the publication of the 2002 edition of the Australian Standard 1742.3 and brings it up to date with developments made in traffic control practice since 1998. The Occupational Health and Safety Act 2000 requires that an employer must ensure the health, safety and welfare of its employees, contractors, visitors and the public at its work sites. The application of the principles outlines in this new version of the Traffic Control at Work Sites Manual will ensure that road users will be able to travel through, past or around road and bridge work sites in safety, and ensure the safety of workers at work sites. Available from Bookshop NSW for $44 plus postage and handling – contact www.bookshop.nsw.gov.au

Baldock MR, Mathias JL, McLean AJ, Berndt A, 2006, **"Self-regulation of driving and its relationship to driving ability among older adults", Accident Analysis and Prevention.**

(School of Psychology and Centre for Automotive Safety Research, University of Adelaide)

It is known that older drivers limit their driving. However, it is not known whether this self-regulation is related to actual driving ability.

A study was conducted using a sample of 104 older drivers, aged between 60 and 92. The respondents completed a questionnaire about driving habits and attitudes. A measure of self-regulation was derived from drivers' self-reported avoidance of difficult driving situations. Ninety of these drivers also completed a structured on-road driving test. This test involved a standard assessment used to determine fitness to drive. Driving test scores for the study were based on the number of errors committed in the driving tests, with weightings given according to the seriousness of the errors.

The most commonly avoided difficult driving situations, according to respondents, were parallel parking and driving at night in the rain, while the least avoided situation was driving alone. Poorer performance on the driving test was not related to overall avoidance of difficult driving situations. Stronger relationships were found between driving ability and avoidance of specific difficult driving situations. These specific driving situations were the ones in which the drivers had low confidence and that the drivers were most able to avoid if they wished to do so.

Burns NR, Kremer SM, Baldock MRJ, 2005, **"Development of peripheral vision tests for driver assessment"**, The full document is available online at http://casr.adelaide.edu.au/reports/CASR019.pdf (Department of Psychology and Centre for Automotive Safety Research, The University of Adelaide).

In the interests of identifying older drivers at higher risk of crashing, with a view to restricting their driving, fitness to drive tests require development and validation. One particular test that makes claim for inclusion in any battery of fitness to drive tests is the Useful Field of View test (UFOV). UFOV subtests appear to depend heavily on speed of visual processing, and on indexing crowding in peripheral vision. However, UFOV is a proprietary instrument and other custom software is available for measuring speed of visual processing and crowding in peripheral vision.

Sixty participants aged over 60 years completed UFOV. They also completed inspection time (IT), a measure of the speed of

visual processing, and crowding across the visual field (CAVF), a measure indexing effects of strength of crowding in peripheral vision. Thus, the current study compared performance on UFOV, inspection time (IT) and crowding across the visual field (CAVF).

The main outcomes here were that

(a) the IT and CAVF measures had high test-retest reliability over a period of about one week and did not exhibit statistically significant practice effects.

(b) By way of contrast, although UFOV measures were also highly reliable, two of three UFOV measures, "Divided Attention" and "Selective Attention", showed practice effects.

(c) the third measure, Processing Speed, showed severe range restriction in the current sample of healthy older adults. Correlations between CAVF, IT and UFOV Selective Attention were very high. These outcomes suggests that IT and CAVF together may well prove appropriate and useful as part of an assessment of fitness to drive. This suggestion needs to be validated by research investigating whether these tests predict crash risk in the same way that UFOV does.

Doran CM, Gascoigne MB, Shakeshaft AP, Petrie D, 2006, **"The consumption of alcohol by Australian adolescents: A comparison of revenue and expenditure", in Addictive Behaviors**. (School of Population Health, and School of Economics, University of Queensland)

The aim of the study was to estimate:

(a) Australian government taxation revenue collected from the consumption of alcohol by adolescents

(b) the amount spent by the government on interventions aimed at educating adolescents about the potential dangers of alcohol use.

Findings of the study were based on Australian secondary data analysis.

The study showed that Australian adolescents (aged between 12 and 17 years, inclusive) spent approximately $217 million on alcoholic beverages in 2002, netting the Australian government approximately $112 million in tax revenue. This resulted in an average of $195 earned in tax per adolescent drinker. It is estimated that the Government spent approximately $17 million on adolescent drinking interventions in 2002, equating to an expenditure of about $10.51 per adolescent on the delivery of alcohol interventions. For every dollar spent on alcohol interventions aimed at adolescents, it is estimated that the government receives around $7 in alcohol tax revenue.

Then study led to the conclusion that substantial disparity exists between the amount of tax revenue received by the Australian government from adolescent drinkers and the overall amount spent in attempting to prevent and relieve some of the problems associated with adolescent problem drinking.

Gough J, Cheng ES, Pegg SP. Burns, 2006, **"Ten-year Brisbane experience in petrol burns: A preventable health burden"**, Journal of the International Society for Burn Injuries

(Royal Brisbane Hospital, Brisbane)

Petrol is one of the most widely used and freely available fuels in use in developed countries today. This study examines the clinical details and demographics of adults with petrol burns over a 10-year period with a view to identifying any trends. The majority of petrol burns were due to human error and thus theoretically preventable. This study determined that the young male (aged 16-25) is most at risk, mainly through the misuse of petrol. The best method of prevention of these burns might be education targeting this group of population. This study provides a basis upon which effective intervention programmes can be designed.

Kinzel V, Skirving AP, Wren MN, Zellweger R, 2006, **"Sideswipe injuries to the elbow in Western Australia"**, pp. 447-50, Medical Journal of Australia , Vol. 184 No.9.

The objective of the study was to examine the conditions leading to sideswipe injury of the upper limb in motor vehicle accidents and to highlight the severity of these injuries.

The investigation involved prospective study of upper-limb sideswipe injuries in patients admitted to Royal Perth Hospital, Western Australia, between August 2003 and January 2005. The participants were eleven patients sustaining sideswipe injuries to the upper limb. An observation was made to record the main outcome measures:

• Accident pattern,

• type of injury,

• surgical management,

• complications, and

• functional and employment implications.

The results of the study showed that ten patients required open reduction and internal fixation for open fractures of the humerus, ulna and radius, and nine underwent additional surgical procedures including nerve, artery and tendon repair, and free flaps and split-skin grafting. The injury severity scores ranged from 9 to 25. The severity of injuries led to extensive functional deficits in eight patients, affecting employment prospects in seven.

It was concluded that appropriate educational programs, legislation and improvements in traffic conditions, especially in rural areas, as well as changes in current car design, could contribute to preventing these devastating and complex injuries.

Thomas H, Somers RL, Anderson RWG, 2004, **"South Australian primary schools bicycle helmet usage survey"**. The full document is available online at http://casr.adelaide.edu.au/reports/CASR006.pdf
(Centre for Automotive Safety Research, University of Adelaide)

This was a school-based survey that was conducted to assess bicycle helmet compliance rates amongst South Australian primary school students riding to school. 32% of South Australian primary schools chose to participate in the survey. The total number of students surveyed in the participating schools accounted for approximately 42% of all primary school children. It was estimated that 4% of primary school children ride their bicycle to school. Of the students riding a bicycle to school, 92% wore a helmet. The highest rate of helmet-compliance was reported in Catholic and independent primary schools (100%). Geographically, the lowest rate was reported in the metropolitan Adelaide region (89%).

Baldock MRJ, McLean AJ, 2005, **"The economic cost and impact of the road toll on South Australia"**,

The document is available online at http://casr.adelaide. edu.au/reports/CASR009.pdf (Centre for Automotive Safety Research, The University of Adelaide).

The Bureau of Transport Economics (BTE) released a report in 2000 that documented the economic costs of road crashes across Australia in 1996. The present report used the BTE analyses and crash data from 2002 to estimate the annual economic costs of road crashes in South Australia, stating all figures in Australian dollars. It was found that the annual cost to the state is approximately 1.18 billion dollars. The savings to the South Australian economy associated with a relatively modest reduction in road crash injuries (10 fatalities, 100 serious injuries, 1,000 minor injuries) were calculated to be in excess of 60 million dollars.

Connelly LB, Supangan R, 2006, **"The economic costs of road traffic crashes: Australia, states and territories"** in **Accident Analysis & Prevention**

(Mayne Medical School, The University of Queensland)

The paper presents detailed data on road traffic crash casualties, in categories of severity, for each of the eight state and territory jurisdictions in Australia. The data is used to estimate and compare the economic impact of road traffic crashes throughout these regions. It is estimated that the annual cost of road traffic crashes in Australia, in 2003, was approximately $17 billion, which is approximately 2.3% of the Gross Domestic Product (GDP). Importantly, though, there is remarkable intra-national variation in the incident rates of road traffic crashes in Australia and costs range from approximately 0.62 to 3.63% of Gross State Product (GSP). There are two fundamental conclusions from this study:

(a)it provides a detailed breakdown of estimated road traffic crash casualties, by state and territory regions in Australia, and

(b)it presents the first sub-national breakdown of road traffic crashes costs for Australia. The authors offer these contributions to assist policy-makers to understand more clearly, the sub-national variations in the road toll. They encourage further research on the causes of the marked

differences between road traffic crash outcomes across the states and territories of Australia.

The US Journal of Social Psychology, 1 April 2006

Effects of Driver Cell-Phone Use on Driver Aggression

By McGarva, Andrew R; Ramsey, Matthew; Shear, Suzannah A

This paper discusses how anger and road rage may increase in drivers whose progress on the road is inhibited in any way by other drivers visibly using mobile phones. The paper reports on a series of on-road experiments that were conducted to observe the reactions of affected drivers, based on secret filming of their facial reactions. The researchers justify the secret filming with the following statement at the end of the paper: "We neither told drivers that they were involved in an experiment nor debriefed them about it. On the other hand, drivers unknowingly involved in this and similar research placed themselves on public roadways to engage in normal daily behavior with no real expectation of privacy. Researchers do not identify these participants individually and do expose them to typical roadway situations. Researchers may therefore argue that informed consent is unnecessary in such experiments." (The paper can be viewed at www.aaafoundation.org -Traffic Safety News)

Duma O, 2005, **"Present consequences of road traffic accidents worldwide"**, pp. 611-5, Rev Med Chir Soc Med Nat Iasi, Vol.109, No.3.

The paper presents mortality, morbidity and socio-economic consequences of road traffic injuries in the world.

World Health Organisation data show that, during the year 2002, there have been recorded 1.2 million deaths and nearly 20 million injured or disabled people, as a result of road traffic crashes. Low and middle-income countries have reported most of them.

The World Health Organisation data shows that road traffic crashes accounted for 2.1% of all global deaths and ranked as the 11th leading cause of death. The economic impact of these injuries/deaths on individuals, families, communities and nations is enormous, costing countries between 1% and 2% of their gross national product.

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Holland AJ, Ross FI, Manglick P, Fahy FE, Cass DT, 2006, **"Driveway motor vehicle injuries in children: a prospective review of injury circumstances"**, p. 311, Medical Journal of Australia, Vol. 184 No.6.

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Versteegh SL, Anderson RWG, 2006, **"Using crash information to improve the treatment of crash injuries"** at http://casr.adelaide.edu.au/reports/CASR006.pdf (Centre for Automotive Safety Research, The University of Adelaide).

Australian Transport Safety Bureau Reports

1. CR Reports

CR 224: Community Attitudes to Road Safety - Community Attitudes Survey Wave 17, 2004

This report documents the findings from the Australian Transport Safety Bureau's latest survey of community attitudes to road safety. The 2004 Community Attitudes Survey is the seventeenth in the long running survey program, the main purpose of which is to monitor attitudes to a variety of road safety issues, evaluate specific road safety countermeasures, suggest new areas for intervention and identify significant differences between jurisdictions. The in-scope population for the survey was persons aged 15 years and over. Interviewing, using Computer Assisted Telephone Interviewing (CATI) technology, was conducted in March and April 2004. The sample comprised private dwellings across Australia listed in the Electronic White Pages telephone directory. A total of 1,665 interviews were conducted with an average interview length of 14 minutes. A disproportionate stratified sampling methodology was utilised to ensure adequate coverage of the population by age, sex, state/territory and capital city/other locations. The response rate (completed interviews divided by all contacts, excluding those 'away for survey period') was 64%. Approximately one in six interviews were conducted as a result of some form of response maximisation activity. Publication Date: 15/05/05
ISBN: 0 642 25528 8   ISSN: 1445 4467

CR 225: Australian Indigenous Road Safety: 2005 Update

In implementing one of the recommendations to come out of the 2004 Indigenous Road Safety Forum and Working Group, the ATSB commissioned ARRB Group to update the indigenous road safety scoping study that they had completed in 2003. The literature review and consultation process was revisited in an attempt to identify the current state of indigenous road safety in Australia. The data analysis was not revisited although the results of the original analyses are presented within this report.

The literature review identified data sources and limitations, such as difficulties defining 'indigenous status' and estimating base populations. Secondly, the review highlighted indigenous road safety trends in Australia, focusing specifically on known risk factors. Initiatives that have been, or are currently being, undertaken to address indigenous road safety issues (including community development, licensing, alcohol, restraint wearing, and vehicle purchasing) were identified during the consultation process. Eleven recommendations for future research and priority areas for indigenous road safety in Australia were derived from the literature review and consultation processes. Publication Date: 30/06/06
ISBN: 0 642 25539 3

CR 226: A pilot study of the effects of macrotexture on stopping distance

This pilot study was undertaken to investigate whether presently available methods were capable of generating useful information on the relative contribution of microtexture and macrotexture to stopping distance at different speeds. All trials were conducted using the same late model Holden Commodore Station Wagon fitted with anti-lock braking (ABS), a Global Positioning System (GPS), an accelerometer and a computer. Testing was carried out at four sites with different combinations of macrotexture and skid resistance. Data were analysed using a full factorial Analysis of Variance (ANOVA) design., i.e. four levels of site x four levels of speed x two levels of conditions, with five replications at each site. Significant effects were found for all speed variables, all two-way interactions and the three way interaction. However, it was clear that by far the largest effect was speed, based on the mean squares and the Partial Eta Squared statistic. The next largest effect was the three way site x speed x condition interaction, which is probably due to the large increases in stopping distance in wet conditions at site 3, which only occurred at higher speeds. Site 3 had low macrotexture and was the only site to have low skid resistance. It may have been possible to obtain better combinations of skid resistance and

macrotexture for testing purposes if the minimum length specified for sites (300 metres) had been shorter. The test results suggest that 80 metres of road with consistent surface characteristic would be sufficient. Further investigation of the relation between crash occurrence and road surface characteristics, taking into account geometric characteristics and travel would seem to be the most productive direction for the immediate future. Publication Date: 06/04/06   ISBN: 0 642 255296   ISSN: 1445 4467

CR 227: Community Attitudes to Road Safety: Community Attitudes Survey Wave 18, 2005

This report documents the findings from the Australian Transport Safety Bureau's latest survey of community attitudes to road safety. The 2005 Community Attitudes Survey is the eighteenth in the long running survey program, the main purpose of which is to monitor attitudes to a variety of road safety issues, evaluate specific road safety countermeasures, suggest new areas for intervention and identify significant differences between jurisdictions. The in-scope population for the survey was persons aged 15 years and over. Interviewing, using Computer Assisted Telephone Interviewing (CATI) technology, was conducted in March and April 2005. The sample comprised private dwellings across Australia listed in the Electronic White Pages telephone directory. A total of 1,690 interviews were conducted with an average interview length of 14 minutes. A disproportionate stratified sampling methodology was utilised to ensure adequate coverage of the population by age, sex, state/territory and capital city/other locations. The response rate (completed interviews divided by all contacts, excluding those 'away for survey period') was 73%. The issues examined include: perceived causes of road crashes, exposure and attitudes to random breath testing, attitudes to speed, perceptions of police enforcement, mobile phone use while driving, reported usage of seat belts, involvement in road crashes, and experience of fatigue while driving.

CR228: A Content Analysis of Australian Motor Vehicle Advertising

The 'Advertising for Motor Vehicles Voluntary Code of Practice' (herein referred to as 'the Code') was introduced by the Federal Chamber of Automotive Industries (FCAI) to govern the content of motor vehicle advertisements. The Code applied to new advertisements from the 8th of August 2002 and all advertisements from 1st of December 2002. The Code provides guidance to advertisers on themes and driving practices appropriate to depict in motor vehicle advertising. A revised version of the Code has since been developed and presented to the Ministers of the Australian Transport Council, coming into effect on the 1st of July, 2004.

The current project, coordinated by CARRS-Q in consultation with the Australian Transport Safety Bureau and Queensland Transport, aimed to evaluate the effectiveness of the Australian code and its subsequent revision in regulating the content of motor vehicle advertising.

The study examined and compared advertisements:

a. Prior to the Code's introduction (Pre-code)

b. After the Code's introduction (Post-code)

c. After the 2004 revision (Post-revision)

The content analysis coding framework was adapted from Ferguson, Hardy, & Williams (2003) study which had analysed U.S. TV advertisements for cars and minivans broadcast in 1988, 1993 and 1998. Some adjustments were made to make the sub-themes more relevant to Australia. Three trained coders analysed a set of 444 advertisements broadcast on Australian TV between 1999 and 2004.

The most encouraging result was that the occurrence of the primary themes of Performance and Exciting/Fun to drive, both of which have sub-themes which could be interpreted as encouraging unsafe driving, have diminished significantly since the code was introduced. Performance themes are still highly represented across all time periods, but showed a marked decrease since the revision of the Code in July 2004. Acceleration, Speed and Traction themes did not increase in occurrence over the period reviewed, though the Power performance sub-theme did increase. Themes relating to general driving safety are represented in a very low proportion of advertisements. A gradual increase has occurred in the specific safety features such as Airbags and ABS since the Code's introduction and revision. 'Personal Experience' and 'Performance Experience' themes, related to the thrill or pleasure of driving decreased. Incentives/Sales themes, related to discounts and additional feature offers, increased gradually and significantly across all three time periods. This may represent a movement away from other previously mentioned driving-based presentation methods.

The researchers also compared the messages identified in the content analysis of a selection of advertisements with those perceived by males aged 18-25 by asking groups of young people to report on messages they perceived. This was assessed through showing groups of young people a sample of the advertisements that had been used in the main project, and asking them to report what messages they perceived in the advertisements. Advertisements chosen were two advertisements with strong safety themes, two with strong performance themes and three advertisements with no particular emphasis. There was a high level of agreement between the coders and test groups regarding the perceptions of primary and secondary themes. Publication Date: 30/06/06

2. Monographs

Monograph 18 Driveway deaths of child pedestrians

Every year, a number of young children in Australia are killed as a result of low-speed impact with a motor vehicle, often as a consequence of a parent or family friend unwittingly driving a motor vehicle over a child in their yard or driveway. These collisions have a devastating and lasting impact on the whole family. Prevention of driveway deaths and injuries requires an understanding of their circumstances and causal factors and increased public awareness.

This monograph presents a summary of driveway deaths of child pedestrians during the period 1996–2001. It incorporates data from earlier Australian Transport Safety Bureau (ATSB) published research covering the period 1996–1998. Publication Date: 12/05/06

3. Research and Analysis Reports

Beliefs and Attitudes about Speeding and its Countermeasures: Julie Hatfield and R.F. Soames Job (15/05/06)

Speeding substantially reduces road safety, and despite efforts to reduce speeding it remains the norm. This research surveyed licensed drivers in metropolitan Sydney, regional NSW, and rural NSW on their attitudes, experience and behaviour in relation to speeding. A significant group (24.0%) of respondents reported being likely to speed "under typical conditions in the middle of the day". Self-reported speeding was less likely under poor conditions and near schools and more likely in situations where it has clear benefits and is perceived as unlikely to result in crashing or being booked. Self-reported speeding was more likely amongst respondents who were male, younger, more educated, and single, and who had held their license for a shorter period. Respondents recognized that speeding poses a threat to safety, and acceptance of current speed limits and penalties for speeding was relatively high. The research recommends that campaigns aim to identify that speeding is likely to result in crashing or being penalised, and encourage social disapproval of speeding. In particular, campaigns should address the perception that speeding can be safe under any circumstances.

Information on the ACRS Register of Road Safety Professionals

The Register of Road Safety Professionals was established at the 2005 Annual General Meeting of the College. Fellows and Associate Fellows of the College are eligible to apply for listing on the register. Selection for the register involves 1) a written application by the applicant; 2) careful assessment by a panel with expertise in the same discipline as the applicant following agreed assessment criteria; 3) a recommendation from the panel to the ACRS Postnomial Committee: and 4) a recommendation from that Committee to the ACRS Executive Committee. Applicants who fail to gain panel approval can appeal to the Executive Committee for re-appraisal.. Registered status is subject to an annual renewal process involving the professional providing written evidence of how the currency of their expertise has been maintained. Applicants for the register pay an initial fee of $200 (including GST) for assessment for the register and an annual fee of $100 (including GST) to remain on the register. These fees are in addition to the normal annual subscription for College membership. If an application is unsuccessful, half the initial fee will be refunded. Entrance on the register entitles the applicant to use the letters RRSP (Registered Road Safety Professional) after their name and to be listed under their specific discipline on the ' Expert Register' page of the ACRS website, with an electronic link to their email address or business website.

Code of Professional Conduct

All members of the ACRS are expected to abide by the ' Code of Professional Conduct' that is provided to members on joining the College. In addition, the following regulations apply to members listed on the Register of Road Safety Professionals:

1. A Road Safety Professional convicted of a driving offence for which the penalty includes suspension or loss of driving licence will forfeit their right to continue on the Register.

2. A Road Safety Professional convicted of any criminal offence will automatically have their registration as a Road Safety Professional reviewed by the ACRS Postnomial Committee.

3. A Road Safety Professional who fails to provide annual evidence of currency of their expertise will automatically have their registration reviewed by the ACRS Postnomial Committee.

4. A Road Safety Professional who is reported to have breached the ACRS Code of Professional Conduct will automatically have their conduct investigated by the ACRS Postnomial Committee. If a breach is proven, registration will be reviewed by this Committee.

Registered Road Safety Professionals have the right of appeal to the ACRS Executive Committee against decisions of the ACRS Postnomial Committee to de-register them.

APPLICATION TO BE REGISTERED AS A ROAD SAFETY PROFESSIONAL

(Note: Applicants must be current Fellows or Associate Fellows of the College)

Full Name	
Postal Address	
Telephone No.	( ) - Facsimile No. ( ) -
Email address	
Academic qualifications	(Provide documentary evidence of qualifications)
Current work position	
Name of employer	
Work experience relevant to road safety	(Note: Be sure to include details of any specific tasks as listed in the 'Minimum Standards' table, attaching a separate sheet if necessary)
Your publications	(Attach a separate sheet if necessary)
and/or presentations on road safety	
Other essential minimum standards	(Address any other essential minimum standards referred to in the table for your field, attaching a separate sheet if necessary)
Driving record	Have you had a driving conviction resulting in suspension/loss of licence in the past ten years? **Yes No** Circle correct answer and if 'Yes' give details on a separate sheet
Criminal record	Have you been convicted of a criminal offence in the past ten years? **Yes No** Circle correct answer and if 'Yes' give details on a separate sheet

Referee No.1 contact details	Name:	Address:	Telephone No: ( ) -
Referee No.2 contact details	Name:	Address:	Telephone No: ( ) -

My application to become a Registered Road Safety Professional is in the field/s of (circle as appropriate):

Administration/Policy	Audit	Driver Education	Enforcement	Engineering
Medicine	Occupational Health and Safety		Psychology	
Research/Evaluation	Road Crash Reconstruction		Road Safety Education	

Signed _____   Date _____

Please post this form to: The Register of Road Safety Professionals, ACRS, PO Box 198, Mawson, ACT 2607 together with a payment of $200 (inclusive of GST). Note: Half the application fee is refundable if the application fails.

Do you require a tax invoice? (circle as appropriate)   Yes   No

Please circle method of payment: CREDIT CARD   CHEQUE   MONEY ORDER   Payable to: 'Australasian College of Road Safety'.

Card Holder's Number (circle which card is being used):   Bankcard   MasterCard   Visa

☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐   Expiry date _____ / _____

Cardholder's name _____   Cardholder's signature _____

ACRS Register of Road Safety Professionals Minimum Standards for Applicants

(Note: Applicants must already be a Fellow or Associate Fellow of the ACRS and have a minimum of five years experience in their field)

Discipline	Minimum academic qualification	Are there specific tasks that should have been undertaken and, if so, how many times?	Publication of papers or presentations at seminars/conferences	Other essential minimum standards
Administration/ Policy	Bachelor degree	5 policies or programs	5 reports on significant matters	
Audit	Transport or civil engineering degree or post-graduate studies in traffic accident investigation, road design and construction	Successful completion 2-3 day course in recognised road safety auditing or participation in at least 5 road safety audits	Not essential, but useful	Should already be working as an auditor hired by government or industry and accredited as an auditor by any state authority
Driver Education	Cert IV in Workplace Training and Assessment or equivalent or a bachelor degree	Submission of government-sanctioned driver related paper; 3 major consulting/training programs with large wheel fleet operators or high school driver training operations	3 conference papers	Successful employment of instructors/contractors; completion of a road safety course;
Enforcement	Tertiary level highly desirable – Diploma or BA Police Studies or Criminal Justice	Current or recent appointment to middle management level, two examples of developing enforcement strategies/programs; ability to identify and analyse trends; provided training to law enforcement practitioners	3 papers	Good driving record, recognised expert in the field with a global view of the subject
Engineering	Civil or Mechanical Engineering degree	Has participated in design of roads, barriers or vehicles where safety systems were involved and/or road safety policy related	Minimum 3 papers	
Medicine	Bachelor of Medicine or Surgery or registration as a medical practitioner or related health science professional	Working directly in road trauma area or research or biomechanics	At least one peer-reviewed publication and 4 presentations at seminars, etc	

Occupational Health and Safety	Bachelor degree in Arts or Science in related discipline and extra qualifications in OHS & related science desired	Initiate, draft or implement at least 5 road safety policies or programs of some significance	Minimum of 3 papers or presentations	Demonstrated understanding of how to use data/research to inform policy development
Psychology	Bachelor degree in Psychology	Substantial body of work, programs, papers and research; road safety data analysis, report writing, road behaviour recording	Not essential but useful	
Research and Evaluation	Academic/tertiary qualifications that are internationally recognised	Undertake and publish research and provide policy advice	Essential – 3 evaluation-related reports, PhD focused evaluation, or peer reviewed papers	Peer esteem – contribution to the field, publications in peer reviewed journals
Road Crash Reconstruction	Relevant bachelor degree or equivalent in Engineering or Science, plus completion of an accredited crash reconstruction course*	At least 5 formal written reports on reconstruction of vehicle accidents, to a standard acceptable to criminal/civil or magistrate proceedings	Not essential, but useful as it assists verifying applicants minimum academic qualifications. Peer reviewed papers would carry more weight	Demonstrated above 'normal' crash reconstruction expertise in related area eg. Simulations, surveying, crash analysis, etc.
Road Safety Education	Bachelor degree in Social or Behavioural Science, Education or Related Field	Conducted broad or state wide campaigns or programs, or community road safety education; should consistently engage with educational field and have developed RSE curriculum/ resources/pedagogy at least annually; or two major reviews of a TSA program or significant teacher resource	3 papers minimum	Active participant on road safety committees or organisations

* The ACRS currently recognises the following Road Crash Reconstruction courses: ACTAR - Northwest University Traffic Institute course; Society of Automotive Engineers (Australia) Crash Reconstruction course (Sgt Peter Bellion); and University of Florida and Institute of Police Technology Management Crash Reconstruction (Canberra) course (Paul Feenan). Other courses may be considered on application - please check with the Register Manager

Australasian College of Road Safety Inc.

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