Alcohol dependence and traffic accidents

This study looked at the impact of alcohol impairment for people that were hospitalised following a crash. The study linked data from multiple sources to present a comprehensive profile of the person, crash and licensing characteristics of a group of 1490 road users in crashes between 2008 and 2010.

An alcohol reading was known for 1204 of the 1490 cases. It was found that close to a quarter of the participants who were tested for alcohol were involved in their crash while alcohol impaired. Impairment was found across all road user types but was particularly noted amongst pedestrians (close to 60% of pedestrians that were tested) and drivers (25% of drivers that were tested). An established diagnosis of alcohol dependence was identified in 10% of the participants. Indigenous Australians were identified as a vulnerable group found to be at an increased risk of being involved in a crash as the result of alcohol impairment.

More than 40% of those who were identified as being alcohol impaired were found to have incurred at least one previous infringement that involved driving with an alcohol level above 0.05gm/100ml and were twice as likely to have had at least one period of licence disqualification when compared with those participants who were not impaired. Over 10% of the alcohol impaired participants had been involved in at least one previous crash whilst intoxicated.

The data presented here has the potential to inform those in the road safety community seeking to develop further targeted countermeasures.

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Rural road safety issues – disseminating knowledge

The first regional session in CASR's Knowledge Transfer Program was held in September at Murray Bridge. The session focused on how integrating Safe System thinking and practice contributes to the whole community working effectively to reduce deaths and injuries on our roads.

The session presented a profile of crashes in the region in which traditional perceptions of road safety were discussed along with the safety risks of rural roads and the important role of speed management. South Australia's Towards Zero Together road safety strategy was outlined, along with the key challenges it poses for those working in rural road safety. Two crashes typical of rural areas that CASR had investigated formed the basis of a concluding panel discussion. The 55 attendees included local council executives, planners and engineers, consultants and regional police.

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Publications

Anderson RWG, Doecke SD, Mackenzie JRR, Ponte G, Paine D, Paine M (2012) **Potential benefits of forward collision avoidance technology** (CASR106), Department of Transport and Main Roads, Queensland, Brisbane.

Anderson RWG (2012) **The safety attributes of registered passenger vehicles and vehicles involved in serious crashes in South Australia** (CASR081), Centre for Automotive Safety Research, Adelaide.

Baldock MRJ, Kloeden CN, Lydon M, Ponte G, Raftery SJ, Grigo JAL (2012) **Evaluation of the VicRoads community policing and education project: Final report,** VicRoads, Kew.

Doecke SD, Grigo JAL (2012) **Annual performance indicators of enforced driver behaviours in South Australia,** 2010 (CASR104), Centre for Automotive Safety Research, Adelaide.

Wundersitz LN (2012) **An analysis of young drivers involved in crashes using in-depth crash investigation data** (CASR101), Centre for Automotive Safety Research, Adelaide.

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

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At the scene

Newsletter of the Centre for Automotive Safety Research

Issue 13, December 2012

The young and the reckless?

There is a common perception that many young driver crashes are due to risk-taking behaviour. A new study by CASR found that the majority (70%) of young driver behaviour leading to crashes was not caused by risk-taking but due to young drivers making simple errors in which they failed to use routine safe operating practices.

Comprehensive information collected from CASR's in-depth crash investigations was used to examine the causes and contributing factors leading to young driver crashes. In-depth crash investigation provides valuable insight into specific risk factors and their interaction, that cannot be identified from aggregate police crash data. The crashes of 256 drivers aged between 16 and 24 years were investigated.

The effects of age (16-19 years, 20-24 years) and level of experience (Provisional licence <1 year, Provisional licence ≥1 year) were also examined in the study to determine whether specific driver errors varied over the first few years of driving and could account for the substantial decline in crashes during that time. "The study found less experienced drivers made significantly more vehicle operation errors, particularly failing to adequately control the vehicle while more experienced young drivers made more perception errors relating to visibility and observation" explains principal researcher Lisa Wundersitz. "These findings suggest vehicle control skills increase rapidly with experience while perceptual and decision making skills take more time to develop".

The study identified a number of system-wide solutions could be beneficial in reducing both the incidence and severity of young driver crashes. They include in-vehicle technology such as intelligent speed adaptation, electronic stability control and collision avoidance systems, and improvements to the graduated licensing scheme such as passenger restrictions.

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CASR welcomes new researcher

In September Trevor Bailey joined CASR as a Research Academic. Trevor previously worked as a Principal Policy Officer at the Department of Planning, Transport and Infrastructure. Trevor specialises in human factors and is working on projects concerning fleet safety, the knowledge transfer program and the connections between occupational safety and road safety.

CASR supports the **Decade of Action for Road Safety 2011-2020**

Message from the Director

Welcome to our final newsletter for 2012. It has been a busy but fulfilling year for all of us at CASR. In July our agreement with the Department of Planning, Transport and Infrastructure and the Motor Accident Commission was renewed for a further five years and we look forward to working with both organisations to reduce the level of risk on our roads.

In 2012 the program of work funded by our agreement with the South Australian Government included our ongoing crash investigations activity and research into safe roadside design, reducing drink driving, understanding bicycle crashes and new vehicle technology. We also carried out a year long Knowledge Transfer program aimed at bringing the latest road safety knowledge to practitioners and policy makers.

This year we have also carried out important research projects with a variety of clients and in a wide range of areas. Our clients included Austroads, VicRoads, Queensland Transport and Main Roads, the RACV, SafeWork and the Department of Infrastructure.

Our relationship with ANCAP has continued to grow and our vehicle testing laboratory is performing the role, envisaged by ANCAP, of promoting and explaining the importance of vehicle design in pedestrian safety. Early in the year we were honoured to receive the Governor of South Australia, His Excellency Rear Admiral Kevin Scarce and the Honourable Jennifer Rankine, Minister for Road Safety. Other visitors during the year included representatives from Fleet SA, Adelaide City Council, the RAA and David Morgan, of the Confederation of Australian Motor Sport. We have also hosted a number of international visitors, representatives of manufacturers and most recently the National Vehicle Safety Research Group.

Early in 2012 we signed a Memorandum of Understanding (MOU) with Monash University Accident Research Centre (MUARC) and last month we partnered with MUARC to present an intensive Road Safety Leadership course. The course attracted a wide range of participants and was well received by all. We look forward to further cooperative enterprises in the future.

I would like to take this opportunity to thank the Chair of our Advisory Board, Mr Tom Phillips, for his help and support during the year and all the members of the Board for their interest and support of CASR.

Top to bottom:

Robert Anderson demonstrating vehicle safety features to representatives of Fleet SA, CASR staff with members of the various automobile clubs of Australia and with visitors from the Adelaide City Council.

Pedestrian expertise tested in Japan

LEFT: Andrew van den Berg (CASR) with staff of the Japanese Automobile Research Institute (JARI) and Hideki Okuri of the Toyota Technical Development Corporation (TTDC).

The CASR Vehicle Impact Laboratory Manager, Andrew van den Berg, recently spent time in Japan at the Japanese Automobile Research Institute (JARI) assisting the Australasian New Car Assessment Program (ANCAP) with pedestrian testing of the new Toyota Corolla. Whilst in Japan Andrew also attended the Inaugural Global NCAP Technical Working Group closed meeting where directions for future NCAP protocols were discussed. The Global Technical Working Group was attended by representatives from EuroNCAP, JNCAP, Latin NCAP, ASEAN NCAP, Global NCAP and ANCAP.

Conference acknowledges work of CASR researchers

Robert Anderson and Giulio Ponte won the prize for Best Research Paper at the recent ACRS conference 'A Safe System: Expanding the reach'. The winning paper was titled 'Contribution of structural incompatibility to asymmetrical injury risks in crashes between two passenger vehicles'.

The safety benefits of autonomous emergency braking

Autonomous emergency braking (AEB) is an emerging advanced driver assistance system that autonomously brakes the vehicle when an impending collision is detected.

CASR was recently commissioned by the Queensland Department of Transport and Main Roads and the Federal Department of Infrastructure and Transport to examine the potential benefits of AEB in Australia. The study made use of data from CASR's in-depth crash investigation, "Having such detailed data was invaluable as it allowed us to take the precise circumstances of a real world crash and see what the outcome would have been had the vehicle had AEB", said Sam Doecke. The crashes were simulated using ground breaking new software specifically designed for testing advanced driver assistance systems know as PreScan. The study found AEB to have the potential to reduce injury crashes by 30 to 50% and fatal crashes between 20 and 40%. "The potential of AEB to reduce injury and death on our roads is substantial" Sam said, "Organisations interested in road safety should be actively encouraging the uptake of this exciting new safety technology"

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In the spotlight: Paul Hutchinson

Paul has worked at CASR for nine years. His background is in psychology and data analysis. Paul studied psychology at the University of Cambridge and University College London (road safety and transport more broadly). Before coming to CASR, he taught statistics in the Department of Psychology at Macquarie University in Sydney.

He likes working on a variety of subjects, and particularly the cooperative research with different colleagues at CASR. In the past two years Paul has published work on mass media campaigns, intoxicated pedestrians, blackspots, the impact of car size and age on crashworthiness and pedestrian headform testing.

Indeed, perhaps the greatest change in road safety that Paul has noticed over recent years is the attention given to the important effect of even small reductions in impact speed. For this reason, he regrets that the road safety world seems relatively uninterested in vehicle brakes and tyres (and he predicts that will change).

'Road safety is very much an empirical subject' Paul believes, 'however theory is required to connect laboratory experiments and behavioural observations with the effects of interventions on safety in the future'. Paul also believes that advances can be expected and 'with several thousand people dying every day in road accidents worldwide, they are certainly needed'.