



Australasian College of Road Safety

Patron: Her Excellency Ms Quentin Bryce AC

Governor-General of the Commonwealth of Australia

ACT & Region Chapter

Inquiry into Vulnerable Road Users

Submission by Australasian College of Road Safety ACT & Region Chapter

This submission to the Inquiry into Vulnerable Road Users aims to support the Inquiry by:

- providing the Chapter's views on the areas in which advances may be made in reducing the number and severity of injuries to vulnerable road users;
- highlighting research undertaken by the College and its members on this subject; and

Australasian College of Road Safety

The Australasian College of Road Safety (ACRS) is Australasia's peak membership association for road safety professionals and members of the public who are focused on saving lives and serious injuries on our roads.

Road Trauma is arguably the highest ranking public health issue we face as a nation today. Federal Government estimates put the annual cost of road trauma to our economy at \$27 billion. With 25 people dying and 600 being seriously injured each week in Australia, the ripple effect of road safety to families and the community is enormous.

The United Nations Decade of Action for Road Safety 2011-2020 underpins Australia's National Road Safety Strategy 2011-2020 (NRSS), and was praised by the Prime Minister as marking a 'turning point for global road safety, (working towards) sparing people from avoidable deaths and injuries that cause so much anguish and cost for our communities'. The primary aim of the College is to improve the outcomes of the NRSS.

The College provides a rich, collaborative environment, in which we promote communication, networking, professionalism & advocacy across all spheres of road safety – including policy, advocacy, research, application & dissemination.

Our current membership includes experts from across all areas of road safety: policy makers, academics, community organisations, researchers, federal, state and local government agencies, private companies and members of the public. We attract and retain these experts through the active and inclusive nature of our organisation, and we warmly invite all those interested in saving lives and serious injuries on our roads to be a part of our progressive organisation.

The ACT & Region Chapter of the College's activities cover the ACT and surrounding local government areas ranging from Eurobodalla on the coast to Queanbeyan and Yass. It is open for all other local shires and councils to join our activities.

ACRS nationally and in its Chapters aims to develop close relationships with all involved in the development of road safety policy and implementation as well as organisations representing specific road user groups. In the Federal sphere the ACRS has begun making annual presentations to Federal Parliamentarians encouraging greater coordination across federal portfolios. In the ACT the Chapter is re-establishing links with road user bodies.

National Perspective

Bureau of Infrastructure, Transport and Regional Economics

Road Deaths Australia: 2012 Statistical Summary

The following comments have been taken from this publication:

- Over the last decade, national annual fatalities decreased by almost 24 per cent, fatalities per population decreased by 34 per cent, and counts of fatal crashes decreased by 21 per cent. The decline in fatalities was weaker during the first half of the decade (7 per cent) but accelerated to 18 per cent over the last five years.
- Across jurisdictions, the strongest downward trends were achieved in New South Wales, South Australia and Tasmania. For the other jurisdictions, the trends are weaker (Figure 1). Over the decade Western Australia and the Australian Capital Territory showed increases.
- Passenger and pedestrian deaths have decreased at the fastest rates, with driver deaths also falling. In contrast, motorcyclist deaths show a marginally increasing trend.
- In this publication, crash type refers to single-vehicle crash (no pedestrian killed), multiple vehicle crash (no pedestrian killed) and pedestrian crash. All three types have declined consistently over the decade, however the percentage falls in pedestrian fatal crashes have been strongest.
- Per registered vehicle, the rate over the decade for vehicle occupant deaths has decreased by 43.7 per cent. The corresponding decline in deaths of motorcyclists per registered motorcycle is 46.4 per cent. The rate however, of motorcyclists' deaths per registered motorcycle remains at over five times higher than the rate of occupant deaths per registered 4-wheeled vehicle.

Australian Institute of Health & Welfare

Serious injury due to land transport accidents, Australia 2008-09

(<http://www.aihw.gov.au/publication-detail/?id=10737421997>)

The following comments have been taken from the summary of this publication:

- Land transport accidents accounted for 0.7% of all hospitalisations and 9.8% of all hospitalisations due to injury in Australia during 2008–09. There were 53,406 persons seriously injured due to land transport injury with a mean length of stay in hospital of 4.4 days.
Of those seriously injured, 63.9% ($n = 34,116$) were injured in traffic (on-road) accidents, while 25.9% ($n = 13,855$) were injured in non-traffic (off-road) accidents. For 10.2% ($n = 5,435$) of serious injury cases, the location was not specified. Car occupants accounted for 33.6% ($n = 17,937$) of all serious injury cases, followed by motorcyclists (27.1%, $n = 14,493$) and pedal cyclists (17.9%, $n = 9,572$).
- For traffic (on-road) accidents, 47.1% of those seriously injured were car occupants, 24.0% were motorcyclists and 15.4% were pedal cyclists.
- For those seriously injured due to traffic (on-road) accidents, 25.8% were judged to be suffering from injuries which were considered to be high threat to life.
- Motorcyclists had by far the highest rate of 1,346 serious injury cases per 100,000 registered vehicles. This was ten times the corresponding rate for car occupants (134 per 100,000).

- For persons with serious injuries that posed a high threat to life, the mean length of stay in hospital (11.8 days) was almost 2.5 times that of all seriously injured persons and was greater for all age groups.

ACT Road Safety

Since 1988, the ACT has recorded rates of persons killed per head of population and per vehicle kilometres of travel lower than the national average. Apart from 2005, the ACT's rate of persons killed per head of population has also been consistently the lowest amongst all Australian States and Territories.

Since 1991, the ACT has recorded the lowest rates of the cost of serious casualty crashes per head of population and per vehicle kilometres of travel (mainly because of the low number of serious casualty crashes) amongst all Australian States. These rates have also been lower than the national average (2012 Road Traffic Crashes in the ACT – Table 2.3).

The road toll in the Australian Capital Territory has averaged 834 casualties a year over the period 2010 2012– this includes an average of 12 fatalities, 170 hospital admissions and 652 requiring medical treatment.

The trend in the past ten years (2003-2012) has been an increase in total casualties. Fatalities have been relatively static, hospital admissions have increased by around 23 per cent and medical treatment crashes have approximately doubled in the period. There has been a noticeable increase in medical treatment casualties in the past three years but it is not known if this results from an actual increase or a change in the method of recording medical treatment crashes. (2012 Road Traffic Crashes in the ACT – Table 2.1)

In that ten year period (2003 to 2012), crashes involving property damage only have predominated (around 93.6%), with injury (6.2%) and fatality crashes (0.2%). (2012 Road Traffic Crashes in the ACT – Table 2.2).

It should be recognised that a considerable number of ACT road users are injured in crashes outside the Territory but these crashes are not necessarily pertinent to this Inquiry.

The numbers involved in ACT fatal and casualty crashes are relatively low and therefore the numbers can vary from year to year. Apart from judging the trends, perhaps this requires the data to be examined at the micro as well as the macro level in trying to determine causes of individual crashes. The studies undertaken by the NRMA-ACT Road Safety Trust in relation to specific aspects of road safety in the ACT play an important role in the detailed assessment of aspects of the various classes of traffic crashes in the Territory.

Vulnerable road users

The definition of vulnerable road users can vary depending on the context of the consideration of the subject. For the purpose of this Inquiry, the Chapter considers that the following categories should be examined:

- cyclists;
- motor cyclists and scooter operators;
- pedestrians; and

- older road users.

It could also incorporate children as vehicle passengers.

This submission will primarily relate to pedestrians, cyclists and motorcyclists.

General Principles

This section briefly examines the principles used in Australia to the consideration of the planned reduction of road trauma on Australian roads from a national level to the consideration of individual countermeasures.

Strategic planning

National Road Safety Strategy

Since the early 1990's, all Australian state and territory governments have jointly participated in the development of long term national road safety strategies and action plans. The Strategy normally covers periods of ten years with more frequent action plans.

The National Road Safety Strategy is approved by the Australian Transport Council of Ministers (ATAC). States and Territories develop their own strategies and action plans based on the national documents but targeted at the specific issues facing each individual jurisdiction. The targets incorporated in the Strategy are consistently monitored by ATAC throughout the period of each strategy.

The current National Strategy covers the period 2011-2020 and incorporates the recommended actions for the period to 2014. The actions are reviewed on a three yearly basis.

The Chapter strongly supports the concept of coordinated national and state/territory road safety strategic planning.

ACT Road Safety Strategy & Action Plan

The ACT, as part of this national initiative, develops its own strategy and actions. The ACT Road Safety Strategy 2011-2020 and the ACT Road Safety Action Plan 2011-13 are the current documents. A revised Action Plan is being prepared.

The Chapter supports the current ACT road safety strategy and action plan and the development of a new Action Plan.

Towards Zero & Safe Systems

An important change adopted in the current ACT strategy and action plan is acceptance of the "Towards Zero" principle to complement the "Safe Systems" principle adopted in the ACT Road Safety Strategy 2007-2010. These concepts are explained in the current ACT road safety strategy, and supported by the Chapter.

National Cycling Strategy

The National Cycling Strategy 2011-16 was approved by Ministers in November 2010.

The Strategy aims to double the number of people cycling in Australia by 2016.

This is Australia's third National Cycling Strategy (NCS). Since the first strategy was introduced in 1999, the Australian Bicycle Council has played a role coordinating, implementing and reporting on the strategy.

The Strategy has six key priorities and objectives.

- Cycling promotion: promote cycling as both a viable and safe mode of transport and an enjoyable recreational activity.
- Infrastructure and facilities: create a comprehensive and continuous network of safe and attractive routes to cycle and end-of-trip facilities.

- Integrated planning: consider and address cycling needs in all relevant transport and land use planning activities.
- Safety: enable people to cycle safely.
- Monitoring and evaluation: improve monitoring and evaluation of cycling programs and develop a national decision-making process for investment in cycling.
- Guidance and best practice: support the development of nationally consistent guidance for stakeholders to use and share best practice across jurisdictions.

The "National Cycling Strategy Implementation Report 2011" was released by The Standing Committee on Transport and Infrastructure (SCOTTi) .

Cost Effectiveness

The Chapter considers it is important from a community and government viewpoint to ensure that measures introduced to reduce the number and severity of road crashes are cost effective. This imposes those involved in the decision making processes to ensure priority is given to projects of highest need and also that the proposed solutions are cost effective.

Partnerships

Internal and external partnerships are important to the achievement of objectives in the field. Properly developed partnerships can assist the lead agency to maximise its outcomes by harnessing the collective knowledge and power of organisations within government and in external road user organisations whose activities encompass road safety objectives.

Similarly, the ACT roads and road safety directorates actively seek the views of a wide network of community, business, and academic organisations. Perhaps scope exists for extending these partnerships to not only provide advice on issues but also to assist in changing public and specific road user attitudes and unsafe actions in ways that may not traditional programs have not been able to achieve.

Cycling Safety

Public debate in relation to cycling tends to relate to questions of access and safety. This submission focuses on safety issues and does not make an assessment of the need for additional access for cyclists. That is a matter of policy and the community making decisions to increase the amount of cycling it wishes to undertake. The Chapter is of the view that access decisions should be taken in the context that additional cycling facilities are provided with safety being a primary issue for consideration.

ACT Statistics

ACT Road Safety Action Plan 2011-13

Bicyclists accounted for 9.4% of on-road ACT casualties in 2010, including two fatalities. Research by the ANU Medical School indicates that bicycle related road trauma is under-reported to police. Whereas most bicycling casualties involve persons aged less than 20, there is a peak in serious injuries among bicyclists aged 35 to 49 years.

Cyclists crashes by severity - on & off road (based on Table 5.2 ACT Road Crashes)

Type	2012	2011	2010	2009	2008	2007
Property	84	115	104	112	116	89
Injury	112	93	73	60	66	52
Fatal	1	0	2	0	0	0
Total	197	208	179	172	182	141

Cyclists Total Casualties (based on Table 4.2 ACT Road Crashes)

Type	2012	2011	2010	2009	2008	2007
Fatal	1	0	2	0	0	0
Admitted	26	19	11	18	12	12
Medical	83	91	62	42	51	40
Total	110	91	75	60	63	52

An examination has been made of the following research and data:

- Road Traffic Crashes in the ACT, 2007-2012;
- The Pedal Study: Factors involved with bicycle crashes and injury severity in the ACT, Final report July 2011: *deRome L, et al*, for NRMA-ACT Road Safety Trust;
- ACT Safer Cycling Strategy June 2012: *GTA Consultants* for NRMA-ACT Road Safety Trust;
- Amalgamation of Police and Hospital Data in the Australian Capital Territory 2001-2003 Final report 2008: *Richardson DB*, for the NRMA-ACT Road Safety Trust.

The primary findings that flowed from these reports appear to be:

- ACT has the highest rate of cycling per head of population in Australia;
- The level of cycling activity in the ACT is growing and as a consequence, exposure increases;
- The number of cycling crashes has increased over time;
- While the number of fatalities are low, the Pedal Study indicated (Table 12) that the majority of cyclists in the study (58.4%) sustained minor injuries, but more than a third had injuries rated moderately severe (AIS2) and 5.4% were seriously injured (AIS 3 or more);
- A significant proportion of crashes occur on arterial roads in commuter times and involve riders appearing to be travelling to and from work;
- Crashes tend to cluster in areas close to the city centre;
- Around half the cycling on road crashes occur at lights, give way signs or pedestrian crossings;
- There seems to be some discrepancy between police and hospital data on causal factors; of cycle crashes on roads;
- A broader perspective may need to be taken to cycl3e safety rather than just to focus on road incidents as a significant proportion of crashes occur off road (footpaths, shared paths and other areas);
- The "Amalgamation of Police and Hospital Data" study noted that "Bicycle-related road

trauma is grossly under-reported to the Police, even allowing for the high proportion of off-road incidents, but some incidents that are not strictly road trauma such as rally spectator injuries and private car park collisions are commonly reported to the AFP database).”

Discussion

The Chapter supports generally the recommendations of the Pedal Study.

- It also suggests that emphasis be given in the short term to addressing means of reducing crashes involving cyclists at lights, give-way signs or pedestrian crossings. This might be best achieved by contracting to an organisation such as ARRB Transport which has a combination of research and practical implementation skills and could bring to the table best practices in Australia and overseas.
- Public education programs could be implemented aimed at helping cyclists become more aware of the risks involved in cycling to and from work. This program may be able to be run in conjunction with major employers who are known to have a large number of staff cycling to and from work. It could be treated as an OHS issue and the assistance of unions and others in the OHS field could be invited to participate.
- The issue of crashes on shared paths also needs to be addressed perhaps by means of audits of the facilities and the inclusion of positive communications on the shared facilities most used or with the highest crash levels.

Motorcycling safety

Motorcycling contains inherently higher risk than car transport largely because of the motorcycle is not able to provide the same level of protection to riders and pillion passengers as a modern car. As a consequence the injury level for crashes of similar type tends to be more severe for the rider and passenger than for a driver and car passengers.

The safety objectives are to reduce the number of crashes and to minimise the level of harm to riders and passengers through better motorcycle design; improved training; and the production and wearing of protective gear.

Statistics and trends

ACT Road Safety Action Plan 2011-13

Motorcyclists face a fatal crash risk about 30 times higher than car occupants. The severity of injuries faced by motorcyclists is higher than for other road user groups. Data from all jurisdictions indicate that serious crashes involving motorcyclists have increased in recent years.³¹

Over the last five years (2006 to 2010), 17 of the ACT's 71 fatalities involved motorcyclists. Research by the ANU Medical School indicates that a large proportion of motorcycle injuries, even those occurring on roads, are not reported to the police.

There has been a growth in the popularity of motorcycling over recent years, which is reflected in the figures for national motorcycle sales and 25 registrations. There were some 7,500 motorcycles and motor scooters on the ACT register in January 2005, with this figure growing to 9,600 in January 2008 and 12,000 in January 2011.

National motorcycle crash rates, based on deaths of motorcyclists per 10,000 registered motorcycles, show a steady decrease in the same period, and indeed from 1980.³³ This indicates

that motorcycle crash rates are largely exposure driven.

The average number of motorcycle fatalities in the CARRSQ report for the 1997 – 2006 was 2.6 per year (Table 3.1). For the period 2007 – 2012 the average was 3.3.

An examination has been made of the following research and data:

- ACT Road Safety Action Plan 2011-13;
- Road Traffic Crashes in the ACT 2007-2012;
- AIHW 2012. Serious injury due to land transport accidents, Australia 2008-09;
- Identifying programs to reduce road trauma to ACT motorcyclists: CARRS Q, Greig, K et al 2008 for NRMA-ACT Road Safety Trust;
- Motorcycle Protective clothing: usage & benefits: deRome L, et al Presentation for NRMA-ACT Road Safety Trust.

Motorcycles crashes by severity (based on Table 5.2 ACT Road Traffic Crashes)

Type	2012	2011	2010	2009	2008	2007
Property	161	152	162	172	141	110
Injury	124	101	111	105	80	74
Fatal	3	3	5	2	4	3
Total	288	256	278	279	225	187

Motorcycles Total Casualties (based on Table 4.2 ACT Road Crashes)

Type	2012	2011	2010	2009	2008	2007
Fatality	3	3	5	2	4	3
Admitted	48	44	36	35	23	23
Medical	73	55	77	70	53	47
Total	124	102	118	107	80	73

This commentary is based on the data presented in the 2008 CARRSQ study, **Identifying programs to reduce road trauma to ACT motorcyclists** and from data incorporated in the **Road Traffic Crashes in the ACT 2007-2012**.

The average number of motorcycle fatalities in the CARRSQ report for the 1997 – 2006 was 2.6 per year (Table 3.1). For the period 2007 – 2012 the average was 3.3.

The CARRQ study also noted that “in 2005, there were 8 motorcyclists killed, 18 admitted to hospital and 46 received medical treatment”. This was a total of 72 casualties. In the following three years this total remained much the same but in 2009, it increased to over 100 and has remained above that figure since. Admissions have basically doubled and medical treatments have increased by over 50 per cent. It is recognised the overall numbers are small, but there seems to be a change in the trend.

There also seems to have been an increase in the total number of motorcycle crashes in the period

from less than 200 to around 270/280.

These could be a function of increased exposure from greater ownership or increased travel.

Other important information provided in the CARRQ study was:

- In 2006, fatal motorcycle crashes comprised 15% of the national road toll in Australia with 238 riders and pillioners killed (ATSB, 2007). However, motorcycles only comprised 3% of all registered motor vehicles (ABS, 2006);
- When compared on the basis of deaths per kilometres travelled, the risk of fatal injury from a motorcycle crash is 29 times greater than that of other vehicles (ATSB, 2002).
- **Overall**, 95% of motorcyclist fatalities are male, 29% aged 17-25 and 65% aged 26 to 59;
- The percentage of riders killed aged over 25 increased from 49% in 1991 to 68% in 2006 (ATSB, 2007);
- Despite the increases in older riders killed and the decrease in younger riders killed, younger riders are strongly **over-represented** in fatalities as a function of the amount of riding that is done by this group;
- Nationally, for traffic (on-road) accidents, 47.1% of those seriously injured were car occupants, 24.0% were motorcyclists and 15.4% were pedal cyclists (AIHW 2012);
- The serious injury (hospitalisation) rate for motorcyclists was thirty-four times that for car occupants (364 motorcyclists compared with 11 car occupants were seriously injured per 100 million vehicle kilometres travelled);
- The serious injury rate for ACT residents was lower than in other jurisdictions for both motorcycles and cars;
- Most persons who were seriously injured were hospitalised in the same state in which they resided; with the exception of the Northern Territory (85.3%) and the Australian Capital Territory (63.2%). A third of residents of the Australian Capital Territory were treated in New South Wales hospitals, and about 10% of Northern Territory residents were treated at a hospital in a bordering state. This information is not specific to motorcyclists, however;
- In the 12 months ended 31 October 2006, the ABS Survey of Motor Vehicle Use (ABS, 2007) showed that there were 8,027 motorcycles registered in the ACT, an increase from 7,055 the previous year (ABS, 2006);
- On average, each motorcycle in the ACT travelled only about 4,500 kms per year compared to about 13,300 kms per passenger vehicle per year;
- Less than 5% of ACT riders injured were not wearing a helmet and this rate has continued beyond the period of the study);
- Almost two-thirds (62.8%) of motorcycle and scooter crashes in the ACT were multiple vehicle crashes. The most common types of multi-vehicle crashes were rear-angle collisions and right-angle collisions. Single vehicle crashes most commonly involved a fall from a vehicle, on-carriage crashes and striking objects. Almost half of the motorcycle crashes occurred where there was no traffic control, a similar fraction to that for all vehicles. (These relative proportions appear to continue beyond the study).

Discussion

What does this data reveal about motorcycling? It is high risk because of the lack of protection to riders; the consequences of similar crashes seen in the case of other motor vehicles are intensified for motorcyclists as is the lack of new rider experience.

On the positive side, the wearing rates for motor cycle helmets are high, and while there does not seem to be any research, the voluntary use of "lights on" appears to be quite extensive. The first of

these is an important harm minimisation initiative and the second has been adopted to provide other road users with a visible means of identifying motorcycles in traffic.

The College does not have adequate information to assess whether motorcycle crashes in the ACT are random or whether they tend to cluster in any way that could allow specific countermeasures to be undertaken. The Inquiry may be able to pursue this with the relevant Departments or other organisations.⁵

Apart from taking specific action to improve infrastructure needs that may arise from any systemic problems identified in relation to motorcycle crashes in the ACT, and the normal policing and education programs available for all road users, it would seem the six areas of most advantage could come from:

- *Providing world best practice in educating and providing experience for new motorcyclists* - in addition to a common introductory curriculum for all riders, it may be worth developing separate curriculum for younger and older new riders. Australia and the ACT have seen a growth in the number of older persons taking up motorcycling in their middle age;
 - perhaps the road craft aspects of the programs could be similar, but the attitudinal and the different experience needs might be quite different. It would be interesting for the Inquiry to pursue these concepts through a review of Australian and international literature;
 - the cost of extended training and education programs are always a matter of debate even where the “payoff” for individual and for the community as a whole are substantial. Some novel ways of sharing the costs and encouraging new riders to undertake training and education might be explored.
- *Encouraging the continuation of the learning processes through motorcycle rider organisations.* Although a large number of riders may not wish to join motor cycle organisations, the depth of knowledge and experience in some organisations should be tapped to provide ongoing support for new riders, even if it only during the first few years of riding while vital experience is being obtained.
- *Placing particular emphasis on ensuring that new riders purchase the appropriate motorcycle for their needs and experience.*
- *Encouraging riders to dress appropriately for riding.* The research is showing that a reduction in a large number of injuries can be avoided by the use of correct riding gear.
- *Requesting the Federal motor vehicle standards authorities, in conjunction with motor cycle manufacturers, or their Australian agents, to explore what developments are taking place in motorcycle design to improve the protection of riders in crash types that are known to result in deaths or serious injury.* The objective would be to assess if and when those advances could be incorporated in new motorcycle design for the Australian market. It is noted that a range of safety improvements have been incorporated in later model motorcycles such as ABS. However, in terms of “Safe Systems”, any engineering advancements to protect riders would provide a significant safety benefits.
- *Continuing public education programs to increase motorists’ awareness of the need to interact safely with motorcyclists on the road.* If it has not done so already, the ACT might wish to adopt similar successful programs developed in other states or overseas.

The Inquiry may wish to examine State and Territory road safety authorities’ websites dedicated to motorcycle safety.

Pedestrian Safety

ACT Road Safety Action Plan 2011-13

Pedestrians accounted for 5.4% of ACT casualties in 2010. Of these pedestrian casualties, 30.2% were less than 20 years old. Older pedestrian safety is also likely to become an emerging issue as the ACT population ages.

Pedestrian fatalities in the ACT have remained fairly static over the past 10 years with an average of two deaths a year. (BITRE)

Nationally, annual pedestrian deaths were around 500 a year in the early/mid 1980s and have fallen to around 180 in the last four years. Even in the past 10 years national pedestrian deaths have fallen from around 230 to around 180 at an annual reduction of 3.4 per cent a year with the largest reductions over the period in NSW and Qld. (BITRE)

In terms of ACT casualties, in the period 2007-2012, the annual number of pedestrian casualties was largely in the low 40s but did rise to 50 in 2012. . (Road Traffic Crashes in the ACT years 2007 to 2012 Tables 4.1 & 4.2) Ten fatalities occurred, 71 injured pedestrians were admitted to hospital and 147 received medical treatment over the six years.

Discussion

ACT's pedestrian safety record is relatively good. This has been achieved through a combination of planning and enforcement measures undertaken in the past. Despite that, the number of serious injuries could be reduced and care has to be taken to ensure that the past record is at least maintained, if not improved.

Increased traffic volumes or changes in planning requirements and changes in culture can influence pedestrian casualty rates if not anticipated and monitored.

Planning approvals for new subdivisions and schools should ensure that the safety needs of pedestrians are given priority. This is especially the case for new schools as there are some examples in newer suburbs where the parking provisions for parents dropping off or picking up children at schools is inadequate. A prime example is at Burgmann College, Gungahlin. At the same time programs introduced overseas encouraging the children to walk to school on safe pathways could be examined for possible introduction in the ACT.

The need for improving the interaction of pedestrian and bicyclists on shared paths is another matter that could be explored.

Traffic changes in new and old city centres also pose new and ongoing risks for pedestrians. The gradual introduction of reduced speed limits around town centres is a positive move in this regard.

The massive increase in the use of mobile phones has been recognised as a major concern in relation to the safety of drivers but the practice could also be a growing cause of pedestrian crashes at intersections or when crossing the road at uncontrolled sections of the road. The possible impacts on pedestrian safety could be explored in conjunction with other jurisdictions and through an examination of current overseas experience.

The Pedestrian Council of Australia has suggested that *"Incredibly, over 20% of pedestrians who are killed on our roads have a BAC exceeding .15%. Most of these people were so inebriated, they were sleeping, playing, crawling, and falling onto the road when hit."* If this is also the case in the ACT,

some special measures may need to be considered. They could include more intensive control of liquor laws, barrier protection around known recreational areas and appropriate advertising campaigns targeting drinking establishments, sporting clubs and student/young workers' facilities.

This also leads to the need to examine whether there is any clustering of pedestrian crashes in the ACT, and if so, developing countermeasures to minimise the number and severity of them. For example - how many pedestrian incidents occur on Northbourne Avenue? This is a densely trafficked arterial road in the daytime and a highly popular entertainment area at night. A casual view of the road sees people walking against the lights and crossing mid-block.

Older Road Users

ACT Road Safety Action Plan 2011-2013

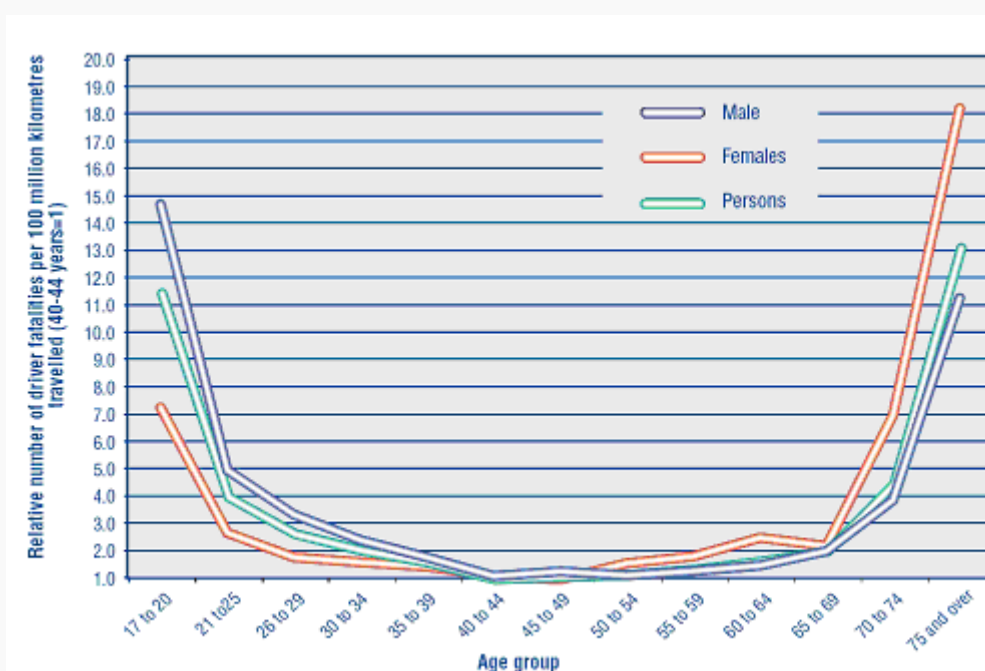
Older road users (drivers, passengers and pedestrians) are not overrepresented in ACT crash statistics at the present time. In terms of this group, persons aged 70 or more represented 6.6% of total casualties in 2010. In terms of ACT vehicle controllers, there were 638 casualties in 2010. Of these, 36 (5.6%) were controllers aged 70 years or older.

Current national crash rates suggest that older drivers may be overrepresented in serious injury and fatal crashes per head of population and distance travelled. It is thought that this relative increase in risk is largely due to different exposure patterns, such as more frequent short trips in an urban environment. Older drivers, passengers and pedestrians are also more fragile (prone to injury in a crash) than younger people.

There appears to be concern in Australia as a whole about the risks associated with older persons as drivers, pedestrians and cyclists. There are relatively few older drivers on the road compared to their younger counterparts and they tend to travel shorter distances. Research shows that taking into account distance travelled, their crash rates increase substantially, and especially those involving a fatal outcome. This is shown in the following graph:

Relative risk of death per kilometre travelled by age group

(Source: Australian Transport Safety Bureau)



The Chapter recommends that the Inquiry tests the position held in the ACT Road Safety Action Plan 2011-2013 to assess if the position is still reasonable. In any case, the Territory should continue to monitor closely any changes in the number, severity and rates of crashes involving older road users.

There is considerable research and reporting on the vulnerability of older road users, both in the ACT and elsewhere. Perhaps the **Report of the Victorian Parliamentary Road Safety Committee on the Inquiry into Road Safety for Older Road Users 2003** provides a detailed overview of the issues and possible means of reducing risks to older road users.

Conclusions

There is a view among some senior members of the ACRS that there is a significant lack of focus among road safety managers and others developing programs on pedestrians and two wheeled road users.

“Pedestrian facilities can be terrible. Bicycle facilities are usually designed for cars. The systems allow motorcycles to be less likely to be detected for speeding; they are very rarely accommodated with separate facilities; and are much more dangerous yet often inadvertently encouraged.”

This submission consistently advocates that a better understanding of the causes of vulnerable road user crashes be developed. This is in part because of the small number of crashes in the ACT and in part because of the lack of detailed data and practical analysis of individual and group crashes. Once the patterns of crashes in each area of vulnerable road users are known, risk management and road safety audits can be undertaken to assess the safety problems, but more importantly to find the appropriate solutions. Experience in other jurisdictions show this system works.

Recognise that road users make mistakes, try to identify common mistakes in vulnerable road user crashes and develop safe systems to avoid or mitigate the consequences.

Highway safety reviews are a multi-disciplinary team reviewing serious crashes and the entire road with a safe systems focus. Highway safety reviews work (better than black spot BCRs): on the Pacific Highway: 55 deaths per year down to 25 (& stayed below 30 since). Injuries also down. Princes Highway: 24 deaths to 4 and has stayed below 10. Injuries also down. (Source Dr Soames Job – presentation to ACRS seminar on A Culture of Speed, Canberra March 2012.

Ensure the ACT Road Safety Action Plan includes detailed rather than general actions in relation to vulnerable road users.

ACRS Literature

ACRS literature and presentations on vulnerable road users are attached for your consideration. Copies can be viewed under “Publications” on the ACRS website www.acrs.org.au

ATTACHMENT 1

SUMMARY OF ARTICLES RELATING TO VULNERABLE ROAD USERS
AUSTRALASIAN COLLEGE OF ROAD SAFETY JOURNAL 2005 – 2013

ATTACHMENT 2

ACRS NATIONAL CONFERENCES – PRESENTATIONS ON VULNERABLE ROAD USERS

ATTACHMENT 3

ROAD SAFETY RESEARCH, POLICING AND EDUCATION CONFERENCE 2013. PRESENTATIONS
RELATING TO VULNERABLE ROAD USERS

ATTACHMENT 1

SUMMARY OF ARTICLES RELATING TO VULNERABLE ROAD USERS AUSTRALASIAN COLLEGE OF ROAD SAFETY JOURNAL 2005 – 2013

May 2013 Vol 24 No 2

Associations between helmet use and brain injuries amongst injured pedal- and motor-cyclists:

A case series analysis of trauma centre presentations

- AS McIntosh, K Curtis, T Rankin, M Cox, TY Pang, P McCrory and CF Finch

August 2012 Vol 23 No 3

Understanding the fear of bicycle riding in Australia

– E Fishman, S Washington and N Haworth

A dim view of pedestrian safety: Raising awareness of the needs of vision-impaired pedestrians

– C Maplesden

Methods for measuring motorcycle speeds and their implications for understanding 'safe speeds'

– D Walton

May 2012 Vol 23 No 2

Special issue – Child safety

Contributed articles

Bicycle safety for children and young people: An analysis of child deaths in Queensland

– E Fraser, RS McKeever, L Campbell, K McKenzie

A review of evaluations of bicycle safety education as a countermeasure for child cyclist injury

– J Hatfield

Peer-reviewed papers

Understanding the challenges facing child pedestrian trauma in Victoria 2000-2010

– J Oxley, E Hoareau, B Corben, D Logan, A Devlin

Analysis of child pedestrian deaths and serious injuries in Malaysia

– J Oxley, A Jamaludin, M Johnson

Child occupant protection in Australia – J Brown, LE Bilston

A cross sectional observational study of child restraint use in Queensland following changes in legislation

– A Lennon

Age-based selection of child restraints – RWG Anderson, TP Hutchinson

Prevalence of mobile phone vs. child-related driver distraction in a sample of families with young children

– CM Rudin-Brown, S Koppel, B Clark, J Charlton

Vol 23 No 1, 2012

Vulnerable road users: Characteristics of pedestrians – Z Bakovic

May 2011 Vol 22 No 2

Understanding speeding in school zones in Malaysia and Australia using an extended Theory of

Planned Behaviour: The potential role of mindfulness – by S Abdul Hanan, MJ King and IM Lewis

Vulnerable road user safety: A comparison between a middle-income and high-income country

– by Jennie Oxley, Brian Fildes, Farhan Sadullah, Julie Lahausse and Stuart Newstead

Helmet use amongst injured and non-injured motorcyclists in Malaysia

– by Roszalina Ramli, Ng Leng Siang, Ng Fei Chi, Normastura Abdul Rahman and Jennie Oxley

November 2010 Vol 21 No 4

A prospective study on pedestrian injuries in an urban Australian population

– by Jenson CS Mak, Claire Law and Steven Faux

August 2010 Vol 21 No 3

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

- by TP Hutchinson and VL Lindsay

Piloting a Safe Cycle education program – by Eddie Wheeler

Encouraging safer cycling through the NSW BikePlan - by Lyndall Johnson and Matt Faber

Cycling safety in the Australian Capital Territory – by Peter Thompson

Cycling safety in Victoria – by staff of VicRoads, compiled by Juliet Reid

The Australian Bicycle Council and the National Cycling Strategy – by Fiona MacColl

The Amy Gillett Foundation ‘A metre matters’ campaign and other initiatives – by Tony Fox

The politics of cycling and cycling advocacy – by Ashley Carruthers

PEER-REVIEWED PAPERS

Crash prediction models and the factors that influence cycle safety

– by SA Turner, GR Wood, Q Luo, R Singh and T

Cycling injuries in Australia: Road safety’s blind spot? – by J Garrard, S Greaves and A Ellison

Child cyclist traffic casualties: The situation in South Australia

– by TP Hutchinson, CN Kloeden and AD Long

The effects of bicycle helmet legislation on cycling-related injury:

The ratio of head to arm injuries over time – by A Voukelatos and C Rissel

This article was later withdrawn.

Cyclist visibility at night: Perceptions of visibility do not necessarily match reality

– by JM Wood, RA Tyrrell, R Marszalek, P Lacherez, T Carberry, BS Chu and MJ King

The role of traffic violations in police-reported bicycle crashes in Queensland

– by A Schramm, A Rakotonirainy and N Haworth

Painting a designated space: Cyclist and driver compliance at cycling infrastructure at intersections

– by Marilyn Johnson, Judith Charlton, Stuart Newstead and Jennifer Oxley

May 2010 Vol 21 No 2

The effect of traffic lane widths on the safety of cyclists in urban areas

– by A Schramm and A Rakotonirainy

February 2010 Vol 21 No 1

A New Strategic Approach to Advance Motorcycle Safety And Mobility In Victoria

- by Nicola Fotheringham

Motorcycle Route Safety Review – by Wendy Taylor

November 2009 Vol 20 No 4

Milestones in Motorcycle Safety - Australia 1976 – 2009 – by Ray Newland
Motorcycle Safety in Australia – Consulting with Riders and Jurisdictions

Working Together – by Shaun Lennard
A New Strategic Approach to Advance Motorcycle Safety and

Mobility in Victoria – by Nicola

Australian Road Safety Equipment Certification in Crisis? - by Tom Gibson

Roads and Motorcycling: Raising the Profile – by Chris Brennan

Effect of Past Black Spot Programs on Motorcycle Safety

– by J.H. Scully, S.V. Newstead, B.F. Corben and N.L. Candappa

Community Policing and Education to Reduce Motorcycle Trauma

– by Ray Shuey and Kevin

Motorcycle Crash Casualties and their In-hospital Management – observations from

St Vincent's Hospital, Sydney – by SG Faux, SG, L Donaldson and K J Brook

The Motorcycle Safety Research Program at the George Institute – by Rebecca Ivers and Liz de Rome

A Survey of Motorcycle Safety Programs Across Australasia - by N Haworth, K Greig and D Wishart .

Daytime Running Lights for Motorcycles – an Idea and Research Proposal – by Michael Paine

PEER-REVIEWED PAPERS

Overview of Motorcycle Crash Fatalities Involving Road Safety Barriers

– by R Grzebieta, H Jama, A McIntosh, R Friswell R, J Favand J, M Attard and R Smith

Motorcycle Rider Protective Apparel Wearing: Observational Study Results from

the Brisbane and Canberra Regions – by D. Wishart, B. Watson, and P. Rowden

August 2008 Vol 19 No 3

A Comparison of the Pedestrian Passive Safety Performance of the

New Vehicle Fleet in Australia, France and the United Kingdom - by Giulio Ponte et al

February 2008 Vol 19 No 1

Testing the Pedestrian Safety of Bull Bars: Methods and Results –

by R.W.G Anderson et al .

November 2007 Vol 18 No 4

Stay Safe Rangers Initiative at Balgowlah Heights Public School:

A model “kiss-and drop” program by Michael Paine et al .

Teaching Old Dogs New Tricks?: Training and Older Motorcyclists

by Narelle Haworth et al

August 2007 Vol 18 No 3

Car Restraints for the Child Over 12 Months by Dr Sam Tormey

Child restraint misuse: Incorrect and inappropriate use of restraints by children reduces their effectiveness in crashes by Julie Brown and Lynne Bilston

May 2006 Vol 17 No 2

Issues of Child Occupant Protection: A Literature Review - by Alexia Lennon

February 2006 Vol 17 No 1

Where Bikes are Many but Helmets are Few – by Colin Grigg

Motorcycle Safety – by Ian Faulks and Liz de Rome

November 2005 Vol 16 No 2

Motorcycle Safety - The Next Magic Bullet? - by Brian Wood

July 2005 Vol 16 No 1

Bicycle Safety – a reflection

Bicycle Education and Safety

Australian Bicycle Council

Local Government Road Safety Programs

Peer-reviewed Papers

Managing Risk in a Workplace Bicycle Pool

An Overview of Bicycle Crashes and Injuries in WA

Indigenous Youth, Bikes and Safety

ATTACHMENT 2

ACRS NATIONAL CONFERENCES – Presentations on Vulnerable Road Users

2012 ACRS National Conference – ‘A Safe System: Expanding the reach!’

PEER REVIEWED PRESENTATIONS

Anderson, C – Motorcycle safety barrier trials in South Australia: Case study – Adelaide Hills

Bailey, S – Paper: Discussion of road safety related trends influencing the Queensland 2010 road toll: the lowest since 1952; PowerPoint

Baldock, M – Paper: The use of protective clothing by motorcyclists in Victoria: evaluation of the Community Policing and Education Project, PowerPoint

Bilton, P – Paper: Pedestrian Risk Management during Urban Construction projects, PowerPoint

Court, S & Strang, P – Paper: Developing a safer cycling strategy for the ACT, PowerPoint

Cumming, B – Paper: Analysing and managing the cyclist-driver Interface using “conflict path analysis”, PowerPoint

Nikolin, S – Paper: Victorian family day care scheme providers’ knowledge of child restraint best practice; PowerPoint

Shaw, L – Paper: Exploring an application of the safe system approach to a set of self-report cycling crashes, PowerPoint

Wheatley, J – Paper: Risk factors for serious injury to child occupants 0-3 years in motor vehicle crashes, PowerPoint

Non peer-reviewed papers

Boyce, G – Orthopaedic injury patterns in motorcycle trauma in Victoria, Australia

de Rome, L – Post crash health outcomes for protected and unprotected riders

Harridge, M – Paper: Shared Paths – minor investments for major gains; PowerPoint

Horsnell, G – Paper: Towards survival on the road: a whole-of-life road safety programme of learning for all road users, PowerPoint

Job, S – Paper: Overcoming barriers to pedestrian safety, PowerPoint

Katz, R – Paper: Making bike safety research count, PowerPoint

Smith, G – Paper: Rural versus Urban Crashes, PowerPoint

Wood, J – Visual impairment and drivers’ ability to recognise pedestrians at night

2011 A Safe System: Making it Happen!

PEER REVIEWED PRESENTATIONS

Cumming B. – A bicycle friendly roundabout

Ellison A. et al – Speeding Behaviour in School Zones

Grzebieta et al – Pedestrian-Cyclist Collisions Issues and Risk

Non peer-reviewed papers

Frith, W. – Our ageing population-how will it effect future road safety action requirements

Hogate J. – Motorcycling and the Safe System

Lindner H. – Child restraints for children with additional needs

Reid J. – Market segmentation of cyclists – understanding attitudes toward safety

2009 Road Safety 2020: Smart Solutions, Sustainability, Vision

Non peer-reviewed papers

Robin Anderson, Rohan Clark An Information and Media Strategy for Older Road Users in the ACT

Leon Ebbelaar Silhouette Children: reducing driver speed near schools

Rachel Everison, Road Traffic Injuries in Children: Findings from WA's Childhood Injury Surveillance System

2008 High Risk Road Users

High Risk Road Users Motivating Behaviour Change: what works and what doesn't work?

How much does disregard of road rules contribute to bicycle-vehicle collisions? Ms Amy Schramm

2007 Infants, Children & Young People and Road Safety

INFANTS, CHILDREN & YOUNG PEOPLE AND ROAD SAFETY

PEER REVIEWED PRESENTATIONS

simple and based on child age, with variation in child size accommodated by overlaps in restraint specifications? R. W. G. Anderson and T. P. Hutchinson, Centre for Automotive Safety Research, University of Adelaide, South Australia 5005

The Road Safety Situation for Children in Bangladesh, Tahera Anjuman, and Chowdhury Kawsar Arefin Siddiqui, Accident Research Center, Bangladesh University of Engineering and Technology

Improving child restraint design – upcoming changes in restraint standards and remaining challenges, Lynne Bilston and Julie Brown, Prince of Wales Medical Research Institute, UNSW

Inappropriate restraint use by child occupants – injury implications and factors in inappropriate use Lynne Bilston and Julie Brown Prince of Wales Medical Research Institute, UNSW

Misuse of Restraints by Child Occupants, Lynne Bilston and Julie Brown, Prince of Wales Medical Research Institute, UNSW

Road Safety in the First 1000 Weeks: The Big Picture, Commissioner Gillian Calvert, NSW Commissioner for Children and Young People and Convenor, NSW Child Death Review Team

Child safety at unacceptable risk to and from schools or do governments regard pupils as disposable? Leon Hain, Victoria

Motor scooters and mopeds – a growing attraction for young people, Narelle Haworth and Angela Nielson, Centre for Accident Research and Road Safety-Queensland University of Technology

Child bicyclist traffic casualties in South Australia, T. P. Hutchinson, C. N. Kloeden, and A. D. Long, Centre for Automotive Safety Research, University of Adelaide, South Australia

Identifying ‘at-risk’ child pedestrians and improving their road crossing skills, Jennifer Oxley, Melinda Congiu, Michelle Whelan, Angelo D’Elia & Judith Charlton, Accident Research Centre, Monash University, Victoria

Improving the safety of kiss and drop zones at schools: The Stay Safe Rangers at Balgowlah Heights Public School, Michael Paine, Vehicle Design and Research, Kathryn Henderson, Kids with a Voice and Ian Faulks, Safety and Policy Analysis International

Sydney 2030: A City Safe for Children, Cathy Rutter and Len Woodman, City of Sydney

From Preschool to Year 12, a preparation for Driving, Lyle Schefe, Department of Education Queensland

Parents’ knowledge and use of child restraints in regional and rural NSW: results from a survey, Trudy Stewart & Alexia Lennon Centre for Accident Research and Road Safety – Queensland (CARRS-Q)

City of Stirling Child Car Restraint Fitting, Installing and Demonstrations, Heidi Stewart, City of Stirling, WA

The Australian Child Restraint Evaluation Program, Basuki Suratno (a), Soames Job (a), Dan Leavy (a), Julie Brown (b), Michael Paine (c), Nimmi Magedara (c), Paul Kelly (d), Michael Griffiths (d), Jack Haley (e), Michael Case (f)

(a) NSW Centre for Road Safety, (b) Prince of Wales Research Institute (c) Vehicle Design & Research (d) Road Safety Solution (e) NRMA Motoring Services (f) Royal Automobile Club of Victoria (RACV)

2006 Pedestrian and Cyclist Road Safety Conference

Joint National conference held by the Australasian College of Road Safety and the Victorian Parliamentary Road Safety Committee, held at Parliament House, Spring Street, Melbourne Victoria

Speakers

Professor Raphael Grzebieta – Cycling: How safe is it?”

Tim Hughes – “Safer Walking and cycling in New Zealand”

Rob McGregor – “The role of technology in reducing death and injury to pedestrians and cyclists”

Drew Richardson – “Pushbike and pedestrian injuries in the ACT”

Tom Triggs – Behavioural Challenges and issues relating to Vulnerable Road Users: Pedestrians and Bicyclists”

Theme 1 Building our knowledge base and developing strategy

Bruce Corben MUARC

A/Prof Raphael Grzebieta DVExperts

A/Prof Drew Richardson ANU Medical School

Sergeant Peter Bellion, Victoria Police Professor Tom Triggs, MUARC

Theme 2 Capturing national and International experience

Matts-Ake Belin Swedish Road Administration

Iain Cameron, Executive Director, Road Safety WA

Rob McGregor, Bosch Australia

Tim Hughes, Land Transport New Zealand

Theme 3 The Way Forward – Debate and Discussion

David Healy – Australasian College of Road Safety

2005 Driver Distraction Conference

No presentations directly on these issues,

ATTACHMENT 2

ACRS NATIONAL CONFERENCES – Presentations on Vulnerable Road Users

2012 ACRS National Conference – ‘A Safe System: Expanding the reach!’

PEER REVIEWED PRESENTATIONS

Anderson, C – Motorcycle safety barrier trials in South Australia: Case study – Adelaide Hills

Bailey, S – Paper: Discussion of road safety related trends influencing the Queensland 2010 road toll: the lowest since 1952; PowerPoint

Baldock, M – Paper: The use of protective clothing by motorcyclists in Victoria: evaluation of the Community Policing and Education Project, PowerPoint

Bilton, P – Paper: Pedestrian Risk Management during Urban Construction projects, PowerPoint

Court, S & Strang, P – Paper: Developing a safer cycling strategy for the ACT, PowerPoint

Cumming, B – Paper: Analysing and managing the cyclist-driver Interface using “conflict path analysis”, PowerPoint

Nikolin, S – Paper: Victorian family day care scheme providers’ knowledge of child restraint best practice; PowerPoint

Shaw, L – Paper: Exploring an application of the safe system approach to a set of self-report cycling crashes, PowerPoint

Wheatley, J – Paper: Risk factors for serious injury to child occupants 0-3 years in motor vehicle crashes, PowerPoint

Non peer-reviewed papers

Boyce, G – Orthopaedic injury patterns in motorcycle trauma in Victoria, Australia

de Rome, L – Post crash health outcomes for protected and unprotected riders

Harridge, M – Paper: Shared Paths – minor investments for major gains; PowerPoint

Horsnell, G – Paper: Towards survival on the road: a whole-of-life road safety programme of learning for all road users, PowerPoint

Job, S – Paper: Overcoming barriers to pedestrian safety, PowerPoint

Katz, R – Paper: Making bike safety research count, PowerPoint

Smith, G – Paper: Rural versus Urban Crashes, PowerPoint

Wood, J – Visual impairment and drivers’ ability to recognise pedestrians at night

2011 A Safe System: Making it Happen!

PEER REVIEWED PRESENTATIONS

Cumming B. – A bicycle friendly roundabout

Ellison A. et al – Speeding Behaviour in School Zones

Grzebieta et al – Pedestrian-Cyclist Collisions Issues and Risk

Non peer-reviewed papers

Frith, W. – Our ageing population-how will it effect future road safety action requirements

Hogate J. – Motorcycling and the Safe System

Lindner H. – Child restraints for children with additional needs

Reid J. – Market segmentation of cyclists – understanding attitudes toward safety

2009 Road Safety 2020: Smart Solutions, Sustainability, Vision

Non peer-reviewed papers

Robin Anderson, Rohan Clark An Information and Media Strategy for Older Road Users in the ACT

Leon Ebbelaar Silhouette Children: reducing driver speed near schools

Rachel Everison, Road Traffic Injuries in Children: Findings from WA's Childhood Injury Surveillance System

2008 High Risk Road Users

High Risk Road Users Motivating Behaviour Change: what works and what doesn't work?

How much does disregard of road rules contribute to bicycle-vehicle collisions? Ms Amy Schramm

2007 Infants, Children & Young People and Road Safety

INFANTS, CHILDREN & YOUNG PEOPLE AND ROAD SAFETY

PEER REVIEWED PRESENTATIONS

simple and based on child age, with variation in child size accommodated by overlaps in restraint specifications? R. W. G. Anderson and T. P. Hutchinson, Centre for Automotive Safety Research, University of Adelaide, South Australia 5005

The Road Safety Situation for Children in Bangladesh, Tahera Anjuman, and Chowdhury Kawsar Arefin Siddiqui, Accident Research Center, Bangladesh University of Engineering and Technology

Improving child restraint design – upcoming changes in restraint standards and remaining challenges, Lynne Bilston and Julie Brown, Prince of Wales Medical Research Institute, UNSW

Inappropriate restraint use by child occupants – injury implications and factors in inappropriate use Lynne Bilston and Julie Brown Prince of Wales Medical Research Institute, UNSW

Misuse of Restraints by Child Occupants, Lynne Bilston and Julie Brown, Prince of Wales Medical Research Institute, UNSW

Road Safety in the First 1000 Weeks: The Big Picture, Commissioner Gillian Calvert, NSW Commissioner for Children and Young People and Convenor, NSW Child Death Review Team

Child safety at unacceptable risk to and from schools or do governments regard pupils as disposable? Leon Hain, Victoria

Motor scooters and mopeds – a growing attraction for young people, Narelle Haworth and Angela Nielson, Centre for Accident Research and Road Safety-Queensland University of Technology

Child bicyclist traffic casualties in South Australia, T. P. Hutchinson, C. N. Kloeden, and A. D. Long, Centre for Automotive Safety Research, University of Adelaide, South Australia

Identifying ‘at-risk’ child pedestrians and improving their road crossing skills, Jennifer Oxley, Melinda Congiu, Michelle Whelan, Angelo D’Elia & Judith Charlton, Accident Research Centre, Monash University, Victoria

Improving the safety of kiss and drop zones at schools: The Stay Safe Rangers at Balgowlah Heights Public School, Michael Paine, Vehicle Design and Research, Kathryn Henderson, Kids with a Voice and Ian Faulks, Safety and Policy Analysis International

Sydney 2030: A City Safe for Children, Cathy Rutter and Len Woodman, City of Sydney

From Preschool to Year 12, a preparation for Driving, Lyle Scheffe, Department of Education Queensland

Parents’ knowledge and use of child restraints in regional and rural NSW: results from a survey, Trudy Stewart & Alexia Lennon Centre for Accident Research and Road Safety – Queensland (CARRS-Q)

City of Stirling Child Car Restraint Fitting, Installing and Demonstrations, Heidi Stewart, City of Stirling, WA

The Australian Child Restraint Evaluation Program, Basuki Suratno (a), Soames Job (a), Dan Leavy (a), Julie Brown (b), Michael Paine (c), Nimmi Magedara (c), Paul Kelly (d), Michael Griffiths (d), Jack Haley (e), Michael Case (f)

(a) NSW Centre for Road Safety, (b) Prince of Wales Research Institute (c) Vehicle Design & Research (d) Road Safety Solution (e) NRMA Motoring Services (f) Royal Automobile Club of Victoria (RACV)

2006 Pedestrian and Cyclist Road Safety Conference

Joint National conference held by the Australasian College of Road Safety and the Victorian Parliamentary Road Safety Committee, held at Parliament House, Spring Street, Melbourne Victoria

Speakers

Professor Raphael Grzebieta – Cycling: How safe is it?”

Tim Hughes – “Safer Walking and cycling in New Zealand”

Rob McGregor – “The role of technology in reducing death and injury to pedestrians and cyclists”

Drew Richardson – “Pushbike and pedestrian injuries in the ACT”

Tom Triggs – Behavioural Challenges and issues relating to Vulnerable Road Users: Pedestrians and Bicyclists”

Theme 1 Building our knowledge base and developing strategy

Bruce Corben MUARC

A/Prof Raphael Grzebieta DVExperts

A/Prof Drew Richardson ANU Medical School

Sergeant Peter Bellion, Victoria Police Professor Tom Triggs, MUARC

Theme 2 Capturing national and International experience

Matts-Ake Belin Swedish Road Administration

Iain Cameron, Executive Director, Road Safety WA

Rob McGregor, Bosch Australia

Tim Hughes, Land Transport New Zealand

Theme 3 The Way Forward – Debate and Discussion

David Healy – Australasian College of Road Safety

2005 Driver Distraction Conference

No presentations directly on these issues.

Road Safety Research, Policing and Education Conference 2013
Presentations relating to vulnerable road users

Pedestrians

Md. Mazharul Hoque

Bangladesh University of Engineering and Technology

Safe System for sustainable pedestrian safety in Bangladesh

Hafez Alavi *MUARC*

Factors driving intersection pedestrian crash risk in concentrated urban environments

Jennifer Oxley *MUARC*

Reducing pedestrian collisions in Melbourne's Central Business District

David Logan *MUARC*

A model for star rating school walking routes

Protecting Motorcycle Riders

Mike Lenne *MUARC*

Increasing road user conspicuity: Design and assessment of interventions to enhance rider safety

Lauren Meredith *Neuroscience Research Australia*

Validation of test protocols for assessing motorcycle protective clothing using real world crash investigation

Jessica Truong *Transport Accident Commission*

Motorcycle protective clothing: Outcomes from a pilot testing program (Part II)

Vanessa Beanland *Australian National University*

An international study of the factors associated with the acceptability of advanced rider assistive systems for powered two-wheelers

Motorcycle Rider Characteristics

Liz De Rome *Neuroscience Research Australia*

Characteristics of motorcycle riders in NSW

Jodi Page-Smith *Transport Accident Commission*

Monitoring Victorian motorcycle riders

Ross Blackman *CARRS-Q*

Identifying and characterising crashes of returning riders: A new approach

Cyclists

Paul Salmon *University of the Sunshine Coast*

Investigating the factors influencing cyclist awareness and behaviour: An on-road study of cyclist situation awareness

Jake Olivier *University of NSW*

On the use of empirical bayes for comparative interrupted time series with an application to mandatory helmet legislation

Dan Leavy *NSW Centre for Road Safety, Transport for NSW*

Amending the definition of power assisted pedal cycles to allow more powerful yet safer versions to be used in Australia

Vulnerable Road User Treatments

Wendy Taylor *Road Safety Action Group, Inner Melbourne*

Motorcycle route safety review: Inner Melbourne

Mike Bambach *Transport and Road Safety Research*

Severity indices for motorcyclist collisions with roadside hazards and barriers

Margaret Prendergast *Transport for NSW*

Breakdown Safety Strategy: For improved road safety in breakdown situations

Raphael Grzebieta *Transport and Road Safety Research*

Designing and testing bollards to protect pedestrians

Motorcycle Risks and Crashes

Christine Mulvihill *MUARC*

Lane filtering and situation awareness in motorcyclists: An on-road exploratory study

Trevor Allen *MUARC*

Finding evidence-based strategies to improve motorcycle safety: A case-control study on serious injury crashes in Victoria