

MOTORCYCLE COUNCIL OF NSW

# POSITIONED FOR SAFETY

Road Safety Strategic Plan  
2002 - 2005

MOTORCYCLE  
COUNCIL OF NEW  
SOUTH WALES  
INCORPORATED



Riders United



## INTRODUCTION

**Positioned for Safety:** Road Safety Strategic Plan 2002-2005 was written by Liz de Rome and Guy Stanford for the Motorcycle Council of NSW. The project was funded by a grant from the Motor Accident Authority of NSW.

The project was managed for the Motorcycle Council by a Project Working Party. The members of the Working Party were:

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MOTORCYCLE COUNCIL OF NSW

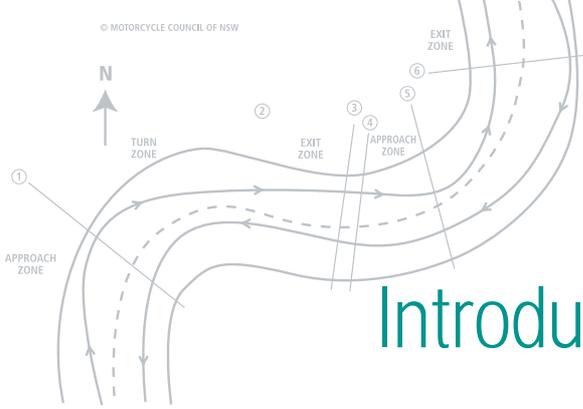
# POSITIONED FOR SAFETY

## Road Safety Strategic Plan

2002 - 2005



Motorcycling is a celebration of life,  
not a flirtation with death



# Introduction to the MCC

The Motorcycle Council of NSW (MCC) is the peak body for motorcycling in New South Wales. It currently represents over 25 clubs, which have a membership register of some 20,000 riders. The MCC was established in 1982 at the instigation of the State government who wanted motorcyclists to have an umbrella group and single voice for the many diverse clubs that have existed historically. The MCC is run on a voluntary basis and was the first such body in Australia, similar organisations in each other state and territory have followed.

The MCC exists to address issues affecting motorcyclists through the appropriate private or public sector organisation at State and Federal level. The MCC works with parallel organisations from other States and Territories on commonly agreed goals. It is affiliated with the Australian Motorcycling Federation (AMF), has regular meetings with the Australian Transport Safety Bureau (ATSB) and with the NSW Minister for Transport. It is a member of the RTA's Motorcycle Consultative Committee, which meets every 6 months. International connections include the Federation of European Motorcycling Associations (FEMA) and the International Motorcycling Manufacturers Association (IMMA).

MCC membership is open to all properly constituted motorcycle clubs but not to individual members. Each member club has two delegate seats on the MCC, which meets monthly in Sydney. There are also separate monthly meetings of the Executive who determine priorities. Membership is free and the MCC relies on the volunteer work of members for all its activities including fund raising. A major source of funding is from the promoters of the Bathurst car races in payment for the provision of marshals for the camping ground. The MCC co-ordinates the annual Motorcycle Awareness Week with the support of funds from the RTA.

Member clubs raise issues of concern to be placed on the agenda for action by the MCC. The decision as to whether the MCC will take up a particular issue is determined by vote of the full membership. In cases where a particular issue does not have the support of sufficient members to be taken up by the full MCC, members may opt to establish a sub-committee. Some of the issues that have been taken up by the MCC include hard-wired headlight, rider training, motorcycle exhaust systems and noise issues, road tolls, e-tags and motorcycle insurance.

The MCC counts amongst its major achievements:

- Convincing the Federal government in 1996 to provide an alternative to ADR 19/01 (requiring hard wired lights on for motorcycles), in the form of ADR 19/02 (which does not require hard wired headlights)
- Commissioning and publishing a research report into safety barriers (Barriers to Safety)
- The development of the NSW Learner Approved Motorcycle Scheme (LAMS)
- Introduction and coordination of the annual Motorcycle Awareness Week
- The facilitation of production and distribution of two television motorcycle safety commercials (Don't ride us off starring Doug Mulray and Kevin Magee)
- The formation of the Australian Motorcycling Federation.

The MCC contributed to the success of two Celebration of Australian Motorcycling Rides in Canberra (1996 & 2001). Approximately 22,000 motorcycles attended each event.

The MCC provides donations and supports member clubs in their charity projects. These include:

- Bikers Australia who for the last 20 years have conducted the Annual Sydney Toy Run which is a Christmas charity ride for the Salvation Army.
- Women in Motorcycling Association (WIMA) who hold the annual Pink Ribbon Run to raise money for breast cancer research.

MCC members also support the Red Cross Blood Challenge, which is an annual competition between motorcyclists and police to donate the most blood.



# Acknowledgements

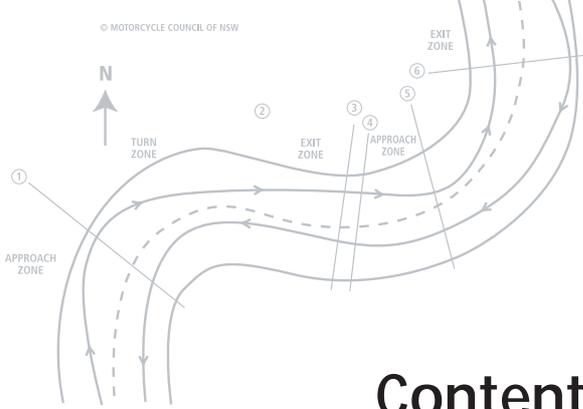
This Road Safety Strategic Plan was made possible with funding from the Motor Accidents Authority of NSW. Many people have contributed their time, expertise and wisdom to the development of the plan. In particular we would like to thank the following people and organisations:

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<b>Civil and Forensic</b>	Andrew Brown, Consultant Forensic Engineer, Bathurst
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<b>Human Impact Engineering</b>	Tom Gibson, Consultant
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<b>IRMRC</b>	Ann Williamson, Injury Risk Management Research Centre, University of NSW
<b>Jamieson Foley</b>	Fred Schnerring, Consultant Forensic Engineer
<b>MTA</b>	Steve Wyres, Motor Traders Association
<b>MUARC</b>	Narelle Haworth, Monash University Accident Research Centre
<b>NSW Ambulance Service</b>	Paul Riley, Motorcycle Paramedic
<b>NSW Streets Opening Conference</b>	Ray McNally, Chairman
<b>Right Start Rider Training</b>	Graeme Rowe, Director
<b>Two Wheels Magazine</b>	Jeremy Bowdler, Editor
<b>Willoughby City Council</b>	Tony Lehmann, Group Leader Transport Management
<b>Wollongong City Council</b>	Pru Dunstan, Road Safety Officer
<b>Motor Accident Authority of NSW</b>	Kathy Hayes, Manager, Injury Prevention & Management Gill Browne, Principal Adviser, Road Safety
<b>NSW Police Service</b>	John O'Donnell, Commander, Traffic Support Group Ron Cameron, Traffic Services Branch Dave Plunkett, Traffic Services Branch Alex Vogt, Traffic Services Branch Jim Prendergast, Macquarie Region
<b>Roads and Traffic Authority of NSW</b>	Dennis Ayoub, Chief Riding Instructor Graham Brisbane, Manager, Road Environment & Light Vehicle Standards Nadia Fletcher, Manager, Strategy and Business Development Andy Graham, Manager, Trends Analysis Paul Rees, Manager, Driver Development and Education Rosemary Rouse, Manager, Road User Safety

## Disclaimer

We are grateful to those who have provided information and advice that has assisted us in the development of this Motorcycle Road Safety Strategic Plan, however the views expressed in this document are those of the Motorcycle Council of NSW (MCC).





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# Why we need a Road Safety Strategic Plan

Each year there are approximately 2200 reported crashes in NSW involving motorcyclists. They represent only a small proportion (4%) of all motor vehicle crashes, but are more likely to result in injury (90%) compared to other crashes (40%). Despite such figures, motorcyclists are rarely singled out by road safety agencies for research or targeted road safety campaigns. It has been assumed that motorcyclists are adequately covered by road safety programs directed at motorists in general, however, there is no evidence to establish whether this is indeed the case.

Specifically researched and targeted programs aimed at improving the safety of other vulnerable road users have reaped benefits. Pedestrians fatalities have reduced by 15% and pedal cycle fatalities halved since 1995 whereas motorcycle fatalities have increased in that time (see page 15).<sup>1</sup>

The Motorcycle Council of NSW (MCC) believes that there is a need to develop a systematic strategic approach amongst all stakeholders to reduce the crash and casualty incidence for motorcyclists in this State.

## The Road Safety Strategic Plan

**Positioned for Safety** is a road safety strategic plan which provides a framework and direction for a coordinated approach to road safety by the MCC over the next 3 years. It identifies issues, sets priorities, determines objectives and the strategies for achieving them.

The aim is to integrate the activities of the MCC with those of the key road safety agencies so that they may work together towards common road safety goals. To this end **Positioned for Safety** uses the structure of Road Safety 2010, which is the basis of all NSW State road safety strategic plans. Road Safety 2010 addresses road safety from four perspectives:

**Safer Roads** focuses on the planning, design and maintenance of a safer road environment,

**Safer People** focuses on encouraging safe behaviour by road users.

**Safer Vehicles** focuses on encouraging the development and application of new and safer technology.

**Community Based Action** focuses on raising community understanding of road safety issues and promoting involvement and coordination between all road safety stakeholders.

The State Government's commitment to community involvement at the local level underpins the whole framework of Road Safety 2010. As a community organization, the MCC is accepting the challenge to become involved by providing a focus for the activities of motorcyclists and other road safety stakeholders.

**Positioned for Safety** encompasses strategies for the motorcycle community and links to the RTA Motorcyclist and Bicyclist Safety Action Plan, 2002-2004.<sup>2</sup>

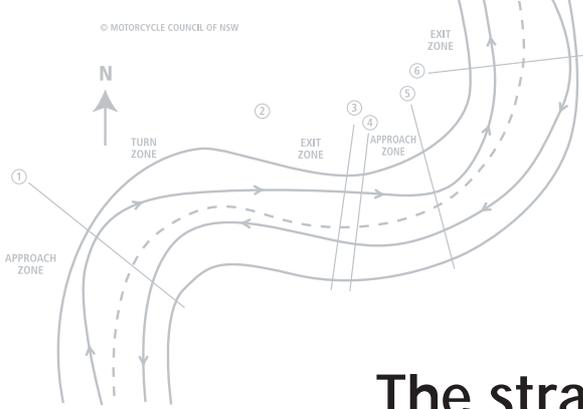
**Positioned for Safety** will contribute to improving motorcycle road safety in New South Wales by:

- Establishing clear road safety goals for the MCC and the motorcycling community.
- Developing stakeholder support, awareness, ownership and participation in the process of improving road safety for motorcyclists.
- Establishing an information base for coordinated, long term planning for motorcycle road safety initiatives.

1. RTA, *Road Traffic Accidents in NSW - 1995*, Road Safety Branch, Roads and Traffic Authority, August 1996 and *Road Traffic Accidents in NSW - 2000*. Road Safety Branch, Roads and Traffic Authority, November 2001.

2. RTA, *Road Safety 2010, Action Plan 2002-2004, Motorcyclist and Bicyclist Safety*, Road Safety Branch, Roads and Traffic Authority, November, 2001.





# The strategic planning process

**Positioned for Safety** was developed in consultation with a wide range of motorcyclists and other stakeholders. The process was as follows:

**Stage 1.** An analysis of motorcycle safety related data was conducted to identify profiles of participation and crash rates, types of crashes and riders involved in crashes.

**Stage 2.** A wide range of motorcycle and road safety stakeholders were consulted to identify the motorcycle specific issues and determine ways of addressing them. These stakeholders included road authorities, police, rider trainers, local government, forensic engineers, road safety researchers and motorcycling industry and media representatives.

**Stage 3.** A survey of almost 800 motorcycle riders was conducted to develop a profile for use in designing and delivering motorcycle safety information. The survey sought information about access and use of different media, as well as a range of topics that had been raised by stakeholders in the interviews. These topics included participation in motorcycle clubs, post-license rider training, pillions, protective clothing and crash experience. The survey is referred to as the *MCC Survey of Motorcyclists, 2001*.

**Stage 4.** The information gathered in the first 3 stages was collected and presented at a workshop for motorcycle and road safety stakeholders. The purpose of the workshop was to discuss and negotiate priorities, objectives and strategies for the MCC for the next 3 years.

The recommendations of the workshop were developed into a plan and a draft circulated for comment by all participants. **Positioned for Safety** is the final outcome of that process.

## Implementation

**Positioned for Safety** will be implemented in stages over three years by a Steering Committee appointed by the MCC.

Each year, the Steering Committee will develop an Annual Action Plan for their activities in the coming year. The Action Plans will identify the specific strategies to be implemented that year, and will provide details of the steps involved including responsibilities, timeframes and budgets. Individual strategies may be implemented by separate project work groups set up by the MCC, however over all responsibility for implementation and monitoring will remain with the Steering Committee.

The Steering Committee will report on their progress in implementing the strategies identified in **Positioned for Safety** and the relevant Annual Action Plans each year at the MCC Annual General Meeting.

## There are essentially three levels of strategy in **Positioned for Safety**

1. Strategies that involve the MCC directly or working with key stakeholder agencies to achieve change at the policy or service delivery level.
2. Strategies that involve the MCC educating/ informing/ encouraging motorcyclists through their web site and the motorcycle media.
3. Strategies that involve motorcyclists working at the local community level to address specific road design and road user behaviour problems.

The MCC's web site will be the key medium for the implementation of Level 2 and 3 strategies in addition to being a reference site for motorcycling safety information.



# Motorcycle safety - the current picture

Motorcyclists are involved in only a small proportion of reported crashes but they are more likely to be hurt than any other road users except pedestrians. The numbers of motorcyclists in NSW is increasing, but money and time spent on motorcycle safety is negligible by comparison to that spent on either pedestrian or pedal cycle safety.

- Each year there are approximately 2,200 crashes in NSW involving motorcyclists.<sup>3</sup>
- Motorcycle crashes are more likely to result in death or injury (90%) compared to crashes involving other road users (40%).
- Motorcyclists are involved in only a small proportion (4%) of all road crashes, but are 10% of all fatalities and 7% of all injuries. This situation has changed only marginally since 1995 when motorcyclists represented 8% of injuries - the fatalities rate remains at 10%.
- Pedestrians represent 11% injuries but 18% of fatalities. This situation represents a significant improvement since 1995 when pedestrians represented 12% of injuries and 21% of fatalities.
- Pedal cyclists represent 4% of injuries and 1% of fatalities. This situation represents an improvement since 1995 when pedal cyclists represented 5% of injuries and 2% of fatalities.
- There are 85 thousand motorcycles registered in NSW compared to 2.7 million passenger vehicles.
- The number of motorcycles on the road is increasing and new registrations have increased by more than 60% in the past 5 years (21,000 in 1996: 33,781 in 2000).
- The average age of motorcyclists has substantially increased in recent years with an increase in the numbers of riders over 40 years of age. The number of motorcycles registered to older riders (aged 40+) in 2000 had increased by 57% since 1995, whereas the number registered to younger riders (under 26) had decreased by 33%.

## Location of crashes

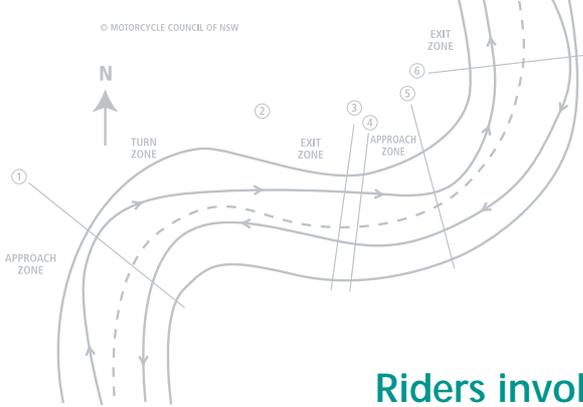
Motorcyclists are more likely than car drivers to be involved in a single vehicle crash. The majority of motorcycle crashes in NSW occur within the Sydney, Newcastle and Wollongong area. However older (40+) riders are more likely to crash in rural areas (48%) compared to younger (Under 26 - 26%) and middle-aged (26-39) riders (27%).

- The majority (69%) of motorcycle crashes during 2000 took place in the Sydney Newcastle Wollongong area and 60% were within the Sydney ABS Region.
- Thirty six percent of motorcycle crashes are single vehicle crashes by comparison to 23% of car crashes.
- Motorcycles were the key vehicle in only 26% of all multi-vehicle intersection crashes involving motorcycles, but were the key vehicle in 41% of non-intersection crashes and 47% of motorcycle crashes on curves.<sup>4</sup>
- Motorcycle crashes occur in almost equal proportion on local roads (48%) and classified roads (52%) (eg Freeways, State Highways, Main Roads etc).
- Crashes tend to take place in daylight (72%) and in fine weather (84%), with only 12% having occurred on wet roads and 5% during rainfall.
- Crashes are more likely to take place on a sealed (95%), straight road (69%) than on a curve or unsealed road.

3. All statistics reported in this document, unless other wise noted, are based on NSW crash and casualty data for 2000 provided by the RTA for the purposes of this project.

4. The key vehicle is generally the vehicle considered to have played the major role in an accident.





## Riders involved in crashes

Young people are less likely to own a motorcycle, but those who do are relatively more likely to be involved in crashes. The majority of riders involved in crashes hold standard licences although 8% of riders involved in crashes are unlicensed or disqualified. Older motorcyclists (40+) are more likely to be involved in single vehicle crashes and crashes on curves whereas younger (under 26) riders are more likely to crash at intersections.

- Only 10% of motorcycles are registered to owners under 26 years of age, but this age group account for 33% of the riders involved in reported crashes and represent 37% of riders in fatal crashes.
- Older riders own 42% of registered motorcycles but are far less likely to be involved in crashes (22%). However the proportion of motorcycle crashes that involve older riders has increased since 1995 (14% in 1995 compared to 22% in 2000).
- Riders with Standard licences are involved in 71% of all motorcycle crashes compared to 5% holding Learners and 2% Provisional licences. Unlicensed and disqualified riders are involved in 8% of crashes.
- Older motorcyclists are more likely to be involved in single vehicle crashes (Older 47%: Younger 38%) and to have crashes on curves (Older 38%: Younger 29%) whereas younger riders are more likely to be involved in crashes at intersections (Older 40%: Younger 50%).
- The patterns are reversed for car drivers who are far less likely to be involved in single vehicle crashes (21%) or on curves (16%) but are relatively more likely to be involved in intersection crashes (53%).
- A relatively small proportion of motorcycle crashes involve pillion (8%), however unlicensed riders are over-represented in crashes involving pillion (14%).

## Rider behaviour

According to RTA crash statistics, motorcyclists appear more likely than other motorists to be involved in speeding and drink driving crashes. However if crashes involving unlicensed riders are removed from the data, licensed riders are no more involved in drink driving crashes than other motorists. Their involvement in speed associated crashes is also reduced but still significantly higher than other motor vehicle controllers.

- Sixteen percent of all motor vehicle crashes involve speed as a factor. Speed is a factor with 24% of motorcycle riders involved in crashes compared to 9% of all vehicle controllers.<sup>5</sup>
- Older riders are less likely than younger riders to drink ride or not wear a helmet. Riders (under 26) were the age group most likely to not wear a helmet (5%), whereas middle-aged riders (26-39) were the group most likely to drink ride (7%).

## Unlicensed riders

Unlicensed riders are over-represented in all forms of unlawful rider behaviour and associated crashes. They may be largely responsible for the perception of motorcyclists as reckless lawbreakers. This group demonstrate similar behaviour patterns to those of unlicensed drivers.

- Unlicensed riders comprise 8% of riders involved in crashes but 18% of motorcycle rider fatalities. The majority (61%) are under 26 years of age.
- Thirty seven percent of all riders with an illegal alcohol level who were involved in a crash

5. The 9% of vehicle controllers speeding appears relatively low because it includes a higher proportion of multi-vehicle crashes and therefore a higher number of controllers per crash incident. Seventy five percent of all crashes compared to 64% of motorcycle crashes involve more than one vehicle.



were unlicensed. One quarter of all unlicensed rider crashes were alcohol related compared to 3% of crashes involving licensed riders.

- Over one third (36%) of crashes involving unlicensed riders also involved speed compared with 22% of crashes involving licensed riders.
- Almost half (46%) of riders who crashed while not wearing a helmet were also unlicensed at the time. Note: a rider is recorded as not wearing a helmet in a crash if their helmet was not fastened or the helmet does not comply with the Australian Standard for helmets.
- Unlicensed riders were twice as likely as licensed riders to have a pillion passenger when they crashed (14% compared to 7% of licensed riders).

## Training

Approximately 16,000 learners take the training program each year with some 10,000 obtaining a Provisional license. Post licensing training is undertaken by a significant proportion of riders (49%).<sup>6</sup>

## Insurance

Motorcyclists represent 2.6% and pillions 0.5% of all CTP claims. The average cost of each CTP claim for motorcycle crashes (riders - \$99,381; pillions - \$97,533) is close to twice as high as that of car crashes (drivers - \$41,898; passengers - \$51,028). However claims against motorcycles are relatively rare, with approximately 100 claims per annum against the 85,000 motorcycles registered in NSW.<sup>7</sup>



Picture courtesy of Guy Stanford

## RTA crash statistics<sup>8</sup>

The crash statistics included here are drawn from RTA crash data and refer to crashes that:

- Were reported to the Police
- Occurred on a road open to the public
- Involved at least one moving road vehicle
- Involved at least one person being killed or injured or a vehicle being towed away

Until 1 December, 1999 the NSW Traffic Act, 1909 required road crashes to be reported to the Police if:

- There was over \$500 damage to property other than the vehicles involved
- One of the parties failed to stop and exchange particulars
- One or more drivers was reported to be under the influence of alcohol or other drugs
- One or more of the vehicles was required to be towed away.

Since that date, under the Australian Road Rules, crashes are only required to be reported to Police if:

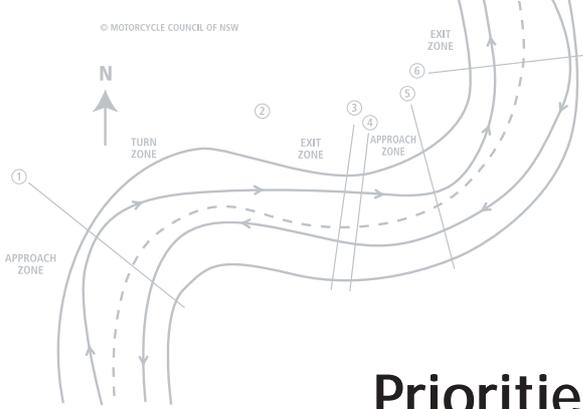
- A person was killed or injured
- One of the parties failed to stop and exchange particulars
- One or more of the vehicles was required to be towed away.

6. de Rome et al (2002), *MCC Survey of Motorcyclists, 2001*, Motorcycle Council of NSW.

7. MAA (2002) CTP Claims Experience Report - Motorcycles- data as at 30 September, 2001, Table 5b, Unpublished report, NSW Motor Accidents Authority, Sydney.

8. RTA, Road Traffic Accidents in NSW - 2000, Statistical Statement: Year ended 31 December 2000, Roads and Traffic Authority, November 2001.





## Priorities

The following issues were selected as priorities for the Motorcycle Safety Strategic Plan for the period 2002-2005.

### 1. Safer roads

1. Roads are not designed to meet the standards required for motorcyclists' safety.
2. Road furniture frequently presents a hazard to motorcyclists' safety.
3. Roads are not maintained to the standards required for motorcyclists' safety.
4. There is no central point for the notification and referral of road conditions that constitute motorcycle hazards or "traps".<sup>9</sup>

### 2. Safer people

5. The Police crash reporting system takes insufficient account of road condition and other factors in motorcycle crashes.
6. The crash reporting system discourages the reporting of single vehicle crashes.
7. The attitudes of drivers and their lack of understanding or awareness of motorcyclists.
8. Motorcyclists riding at speed that is inappropriate to conditions.
9. Motorcyclists' attitudes to personal safety and their tendency to externalize responsibility.
10. The small but visible number of reckless often unlicensed motorcyclists.
11. The motorcycle rider training scheme is not evaluated on learning outcomes for motorcyclists.
12. The motorcycle rider training scheme does not incorporate post licence training.

### 3. Safer vehicles and equipment

13. The lack of reliable information for motorcyclists about protective clothing and helmets.
14. Helmet standards need to be reviewed.
15. There is no system in place to research or monitor the safety of motorcycle engineering developments (e.g. comparable programs for other vehicles are ANCAP or ACIS).<sup>10</sup>
16. There is insufficient investigation into the causes of motorcycle crashes.

### 4. Strategy coordination and communication

17. Data collection on motorcycle crashes is inadequate for research purposes, and that which is collected cannot be matched between sources such as Health, Police and the RTA.
18. Police crash reporting does not provide sufficient information for adequate crash investigation.
19. The lack of avenues to address motorcycling issues through independent advice to government.
20. The lack of an effective system for the dissemination of safety information to motorcyclists.
21. The lack of any formal mechanism for the long term involvement of the industry in motorcycle safety initiatives.
22. The need for the Motorcycle Council to increase its profile and acceptance as a peak body.
23. The cost of insurance and other regulatory charges for motorcyclists compared to other road users.

9. The RTA Transport Management Centre provides a hotline (131 700) for hazards on the 20% of the road network that are classified roads, it does not support nor refer reported hazards on the 80% of the roads network that are local roads. The Centre will refer callers as to the relevant Local Council to report such hazards.

10. ANCAP (Australian New Car Assessment Program), ACIS (Australian Crash Investigation Study).



## Objectives

Road safety should be central to the design of our roads and transport system. The challenge is to find the optimal balance between behavioural and engineering solutions to road safety. While road user behaviour is recognised as a significant contributing factor to crashes, considerable improvement can still be achieved through more forgiving road environments that do not present traps and surprises for motorcyclists.

**In addressing the selected priorities the MCC will aim to achieve the following objectives by 2005.**

1. To reduce the incidence of single vehicle motorcycle crashes.

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2. To ensure road authorities accommodate the safety of motorcyclists in the planning, design, construction and management of roads and the road environment.

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3. To increase provision for motorcycling in transport planning.

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4. To improve the safety of motorcyclists through increased awareness by all road users.

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5. To increase awareness and acceptance of appropriate personal safety equipment.

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6. To increase awareness and acceptance of appropriate motorcycle design for safety.

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7. To increase understanding and implementation of crash prevention strategies.

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8. To improve understanding and communications between government agencies and the motorcycling community.

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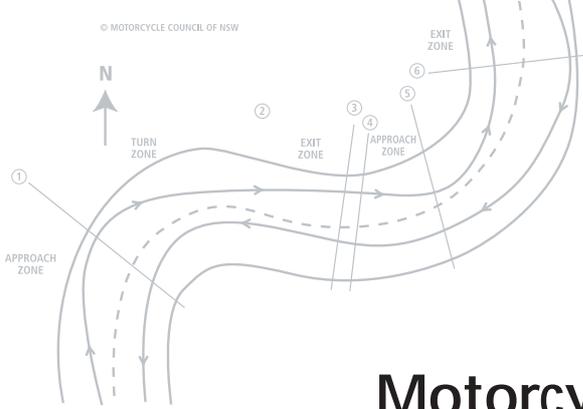
9. To improve the public image of motorcyclists.

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10. To establish an equitable basis for insurance and other regulatory charges.

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# Motorcycle safety - the background

The road and transport systems in Australia were historically developed almost entirely to accommodate cars. In the past 20 years the needs of other vulnerable road users (pedestrians and pedal cyclists) have been recognized and are gradually being incorporated into road and transport systems. There has however been almost no recognition of motorcyclists as road users with special needs, instead they tend to have been subsumed under broader categories of motorists. When motorcycles have been singled out for special attention, it has been to emphasize their vulnerability in crashes but counter measures have focused on rider behaviour rather than engineering solutions.

The advantages of motorcycles as a form of transport have become obscured by the focus on safety, as if risk were so inherently a part of motorcycle riding that prevention and discouragement is the only cure. It has been said that the position of motorcyclists in Australia today is similar to that of bicycles 20 years ago. This is not the case in Europe or Asia where motorcycles are more accepted as a form of transport.<sup>11</sup>

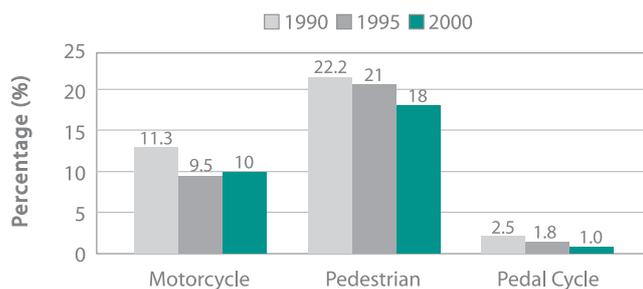


Fig 1. Proportion of vulnerable road users amongst all fatalities in NSW 1990 - 2000.

The failure to recognize motorcycles as a separate and distinct class of road users has also resulted in an inequitable position for motorcyclists. Motorcycles are charged the same tolls for road use as cars under NSW legislation, despite their substantially lower impact upon roads. This is in contrast to the justification of weight tax for trucks based upon increased road maintenance and the lack of tolls for pedal cycles who are also defined as vehicles for the purposes of the NSW Roads Act, 1997. There is perhaps some irony that while road authorities spend many millions on facilities to encourage and protect pedestrians and pedal cyclists, little is spent on the only one of the vulnerable road users who actually pays road tax.

11. Wigan, M (2001) *Motorcycles as Transport*, Paper presented at AITPM, 2001.



There are justifiable grounds for regarding motorcycling as a high risk form of transport. Although motorcyclists are only a small proportion (3%) of private motor transport, they represent 7% of casualties and 10% of fatalities. Pedestrians represent 10% injuries but 18% of fatalities whereas pedal cyclists represent 4% of injuries and only 1% of fatalities.

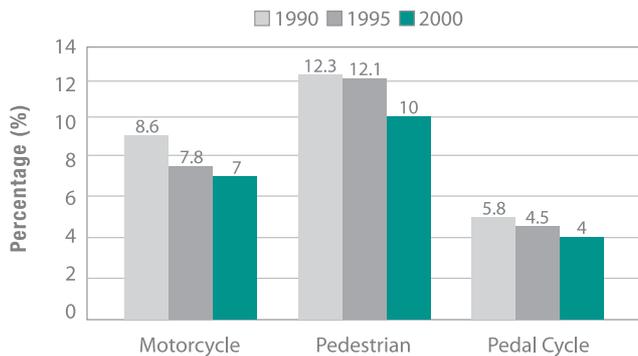


Fig 2. Proportion of vulnerable road user amongst all injuries in NSW 1990 - 2000.

Pedestrians and pedal cyclists have formed effective lobby groups and governments have provided funding for engineering and educational programs for the protection of those road users. In 1996, NSW government allocated \$12 million for the pedestrian and urban amenity program and \$11 million on the bicycle program.<sup>12</sup> Three years later, the NSW Government launched Action for Bikes, a \$251 million 10 year program to promote cycling by improving facilities and safety. A similar program, PAMPS (Pedestrian Access and Mobility Plans) provides funding to Local Councils to improve pedestrian safety and convenience. It is time to consider whether similar strategies might be implemented to improve the safety of motorcyclists.

In 2000 there were a total of 2,094 motorcyclists and pillion killed or injured on NSW roads. Using RTA estimates these motorcycle crashes would have cost a total of almost \$203 million, however this may be a significant under estimation of the real cost of motorcycle crashes.<sup>13</sup> The RTA figures are based on the average costs of all motor vehicle crashes, but according to the Motor Accident Authority (MAA), the average claim by a motorcyclist is close to double that of other motor vehicle casualties because injuries sustained in motorcycle crashes tend to be more severe. The average cost per rider claim under CTP Insurance is \$99,381 and for a pillion it is \$97,533 compared to the average claim of \$52,817. There can never be a dollar value placed on the loss or destruction of a human life, but the cost to the community of such tragedy should be taken into account when planning and funding preventative programs.

It is difficult to estimate the number of motorcyclists in NSW. The number of licence holders is misleading, due to the number of people who hold a licence but no longer own or ride a motorcycle. The number of registered motorcycles may be a better indicator, although it does not allow for those individuals who own more than one motorcycle.

12. Parliament of New South Wales Joint Standing Committee on Road Safety, *Staysafe 32*, Report 5/51, September 1996.



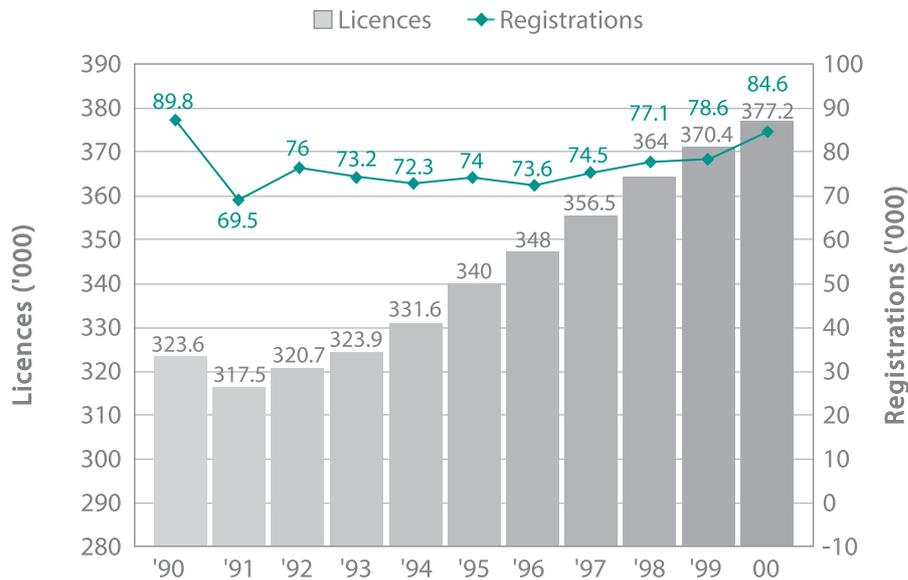
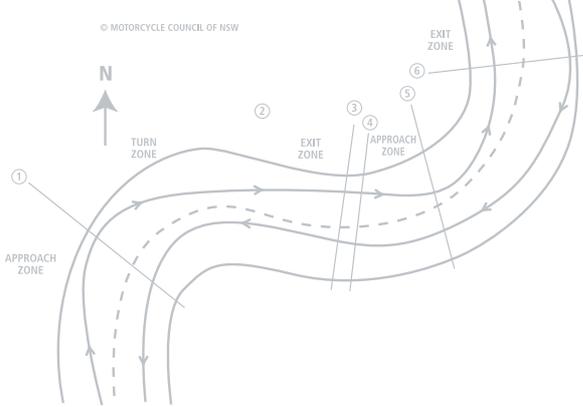


Fig 3. Number of motorcycle registrations compared with motorcycle licences held, NSW 1990-2000.

There were 85,000 motorcycles registered in NSW in 2000, representing only 2% of the 3.6 million registered motor vehicles. The number of motorcycles on the road is increasing with new registrations up by more than 60% in the past 5 years (21,000 in 1996: 33,781 in 2000).

The pattern of ownership has also changed significantly over the past 5 years, with more than a 33% reduction in motorcycles owned by younger people (under 26 years) and an increase of 57% by people aged 40 years or more. In addition, about half of all motorcycles sold are trail or agricultural bikes and are not registered. This means that there is likely to be perhaps another 85,000 off-road machines classified as motorcycles in use in NSW, although off-road crashes are not included in these crash statistics.

In order to make motorcycling more acceptable as a means of transport it has to become safer, and be perceived as safer. This will require change in four broad areas. Motorcyclists need to be:

1. **Accommodated in the design and maintenance of the road environment;**
2. **Included in transport planning and facilities;**
3. **Identified as vulnerable road users with special needs;**
4. **Included in crash research and safety monitoring programs.**

13. Each year the RTA calculates the total average cost of crashes including all health and emergency services, insurance and loss of income. In 2000 the costs were \$1,003,500 for a fatal crash, \$70,100 for an casualty crash and \$12,600 for a non- casualty crash.



Picture courtesy of Two Wheels





# Safer Roads



Picture courtesy of Peter Goyen



# The design and maintenance of the road environment

Improvements in motor vehicle engineering and road design have achieved such significant reductions in the road toll over the past 20 years that road authorities now claim driver behaviour to be the area where further road safety gains will be achieved. However there can be less justification to apply this claim to motorcycling as there have not been commensurate improvements in the road environment to the benefit of motorcyclists. Improvements in the technology of motorcycle brakes, tyres and suspension have resulted in better vehicle handling but road design, maintenance and furniture that ignore the special needs of motorcycles continue to create serious hazards and traps.

## Single vehicle crashes

Motorcycles are far more likely to be involved in single vehicle crashes than are cars. Approximately 36% of motorcycle crashes are single vehicle crashes, compared to 23% of all car crashes.

The assumption in any single vehicle crash is that the vehicle operator was at fault, essentially for losing control of the vehicle. In the case of motorcycle crashes, the assumption is generally that the rider was riding too fast for the conditions. However, anecdotal reports by riders suggest that the contribution of road condition needs to be examined more systematically in police accident reports. In the MCC Survey, 56% the motorcyclists who had been involved in a crash, reported loss of traction as a factor.<sup>14</sup>

Road conditions that are no problem to a car can be a dangerous trap for a motorcycle. Losing traction due to sudden change in the road surface can be sufficient to cause a skid, particularly if it occurs in a braking zone or at a critical point of a cornering manoeuvre. These changes may involve only an extremely small portion of road - such as a single pothole, patch of loose gravel, a steel plate cover, tar jointing compound or dew on a painted road marking. Such features are often referred to as “traps” because they cannot be seen until it is too late and are unexpected because the remainder of the road is in good repair.

Non-motorcyclists often fail to appreciate the physics of a motorcycle. They may believe that motorcyclists leaning over into corners are just thrill seekers taking unnecessary risks. What they do not understand is the fact that a rider cannot corner by just turning the handlebars. When cornering, a rider leans up to 45 degrees from the vertical, increasing the width of the vehicle's path by more than a metre. This means that the rider must choose a path in the lane that avoids leaning over the centre line into the path of oncoming traffic, or colliding with poles and posts on the side of the road. In some situations a rider may be faced with the untenable choice of riding on a dangerous, broken or slippery surface or risking contact with either oncoming traffic or objects on the side of the road.

In addition a rider moves across to the furthest side of the lane to achieve maximum line of vision through the corner in order to choose their path before beginning the turn. Changes to direction or speed once they are turning, and therefore leaning over are more difficult and dangerous. Cornering requires skill and judgment but roads that do not present unpredictable hazards would do much to reduce the demands on riders in avoiding and recovering from unexpected changes.

Rainbow sheen diesel

In a flutter of dried leaves,

Gravel rash blooms.

14. de Rome et al ( 002), *MCC Survey of Motorcyclists, 2001*, Motorcycle Council of NSW.





## Road authorities

Local Councils are responsible for the design and management of 80% of the road network in New South Wales. The RTA is responsible only for the 20% of classified roads, which include major regional roads such as State highways, freeways and motorways. As the relevant road authority, Local Councils, the RTA and other road authorities are responsible for the safety of most of the road system. They may be held liable for damages from crashes caused by the condition or design of a road or the placement of road furniture and will generally act quickly to rectify safety hazards when brought to their attention.

## Road design and construction

The road environment is more critical for the safety of motorcyclists than for other road users. A poorly designed or maintained road surface that may cause mere discomfort for a motorists, may lead to a crash and injury for a motorcyclist. The principles of safe design are the same for all road users, but the standards are more critical for motorcyclists as errors can have more severe consequences. In 1999, Austroads issued a guide to road engineers on the design, construction and maintenance of roads and traffic devices to remove needless hazards and provide motorcyclists with an appropriately safe environment.<sup>15</sup> The recommendations of this Guide have yet to be incorporated into the procedures applied by most road authorities.

## Road works

While councils and the RTA are the key road authorities responsible for the design and construction of roads, they are frequently not responsible for the road works that disrupt traffic flow and leave the road surface scarred. Such road works are most commonly undertaken by the various utilities whose services are carried beneath the road surface, these include telephone, water, sewer, gas and electricity services. It is in order to gain access to these services that many road openings are undertaken. Utility companies and their sub-contractors are therefore most commonly directly responsible for the changes to the road surface, such as steel plate covers, trenches or raised sections of road, that create hazards for motorcyclists. However, the ultimate responsibility for the quality of road maintenance rests with the relevant road authority. In many cases, Local Councils will require utilities to make temporary repairs, preferring to complete the final restoration of the road surface themselves in order to retain quality control of the finish. As such work is additional to the Council's own works program, there may be substantial delays before the permanent repairs are made during which time the temporary surface may deteriorate representing a motorcycle hazard. Codes and practices on the management of major road openings are coordinated by the NSW Street Opening Conference (NSW SOC). Members of the NSW SOC include utilities, service providers, local government, transport system operators and government agencies.

Flung pillar to post

Takes new meaning on a curve

Lined with Armco.

Liquorice lines lurk

Hiding their secrets til last

Slippery as glass.

15. Austroad (1999), *Guide to Traffic Engineering Practice, Part 15 - Motorcycle Safety*.





Picture courtesy of Hugh Johnson





## Road maintenance

A major concern to a motorcyclist is the loss of tyre traction. This may occur when the tyre encounters low skid resistant road surfaces such as painted lines, loose gravel, steel plates, diesel spills, sand or leaves. A Victorian study of motorcycle crashes found surface features likely to impair traction were present in a high proportion of motorcycle crashes (see figure 4).<sup>16</sup>

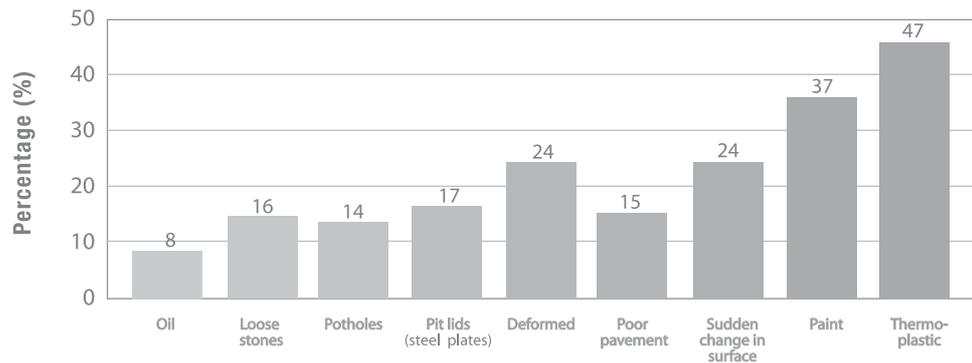


Figure 4. Percentage of motorcycle crash sites where road surface features were present.

Patiently the pothole waits  
A blemish on a perfect road,  
Hiding like an assassin

Corrugations, potholes, poor repairs, bumps and dips in the surface can also cause sudden shifting of the tyre contact point with the road. If these surface irregularities occur in a curve, intersection or braking zone, the sudden loss of traction while braking or changing direction increases the risk of skidding. A temporarily repaired trench or dip across a corner is of particular concern. Surface irregularities may occur as a result of wear and tear. Heavy vehicles also damage the road surface when they brake or turn creating ripples and depressions. These surface changes may be barely perceptible in a car, but to a motorcyclist it can be the equivalent of suddenly encountering a corrugated dirt road. Road repairs that create a patchwork quilt of raised bumps and surfaces are a particular problem as each patch may have different traction features. Other common surface problems include longitudinal grooves, which are created when changes in the road alignment or other irregularities in the underlying substructure are exposed by the wearing of the surface.

## Road furniture

Trees felled for light poles  
On an unforgiving curve  
Can take their revenge

Road furniture is the term used for all the fixtures in the road environment including fixed objects on the road or in the road reserve.

Passive safety has been a preoccupation of most car manufacturers and it has resulted in improvements in dashboard and steering column design and the addition of seatbelts and airbags. Design Rules for cars now specify many of these features. The hazard represented by roadside furniture is yet to be addressed in these terms, although it is known to feature highly in the serious injury and fatality statistics for motorcycles and other vehicles.

Fixed objects on the road surface such as steel plate covers, “silent cops” or raised lane markers may create a crash risk for a motorcyclist. Alternatively fixed objects in the road reserve such as light poles, signposts, bus shelters and crash barriers may cause additional injuries to motorcyclists if they encounter them in the event of a crash. Fixed objects close to the inside of corners are of particular concern, perhaps the most common example is light poles which are placed along the kerb without taking into account the leaning characteristics of a cornering motorcycle.

16. Haworth N, Smith R, Brumen I, Pronk N, (1997) *Case Control Study of Motorcycle Crashes*, MUARC, CR 174 for the Federal Office of Road Safety, Department of Transport and Regional Development.





Motorcyclists are by definition “vulnerable” because they are not surrounded by passive safety structures other than the protective clothing they choose to wear in conjunction with an approved helmet. None of this protective clothing is sufficient to prevent injury when hitting the edge of a steel beam, signpost or fence support. Collisions with fixed roadside objects make up nearly 40% of motorcycle fatalities in Australia and a similar proportion of car occupant casualties. Approximately 63% of single vehicle motorcycle fatalities involve roadside poles, trees or some type of post. The main roadside objects involved in fatal motorcycle crashes are trees, poles or signposts (70%), boundary fences or walls (14%) and guardrails (4%).<sup>17</sup>

## Road safety audits

A Road Safety Audit is a formal examination of an existing or planned road in which an independent, qualified examiner reports on the crash potential from the safety needs of the different types of road users. However, most road safety audit manuals do not include consideration of the special needs of motorcycles. A revised Austroads road safety audit manual that does incorporate motorcycle safety was released in 2002 and its application should be encouraged.

The National Road Safety Strategy 2001- 2010 notes the remarkable cost benefit ratio from expenditure on road black spots and states the obvious need to conduct road audits and black spot analysis to identify sites for improvement. Whereas general road improvement have been found to reduce fatalities by 2 lives each year per \$100 million invested, blackspot programs have reduced fatalities by 20 lives each year per \$100 million invested.<sup>18</sup> A systematic program of conducting Road Safety Audits at motorcycle crash sites could identify problem treatments and enable a cost effective setting of priorities for remedial work.



Picture courtesy of Peter Goyen

17. ATSB (2000), *Review of Wire Rope Safety Barriers: Working Party Report June 2000*.

18. ATC (2001), *National Road Safety Strategy 2001-2010*, Australian Transport Council, Australian Transport Safety Bureau, Canberra, p.6.



# Transport planning and facilities

## Transport planning

Transport planners need to consider motorcycles as a separate and distinct class of road user, not only for reasons of social equity but also as a means of reducing traffic congestion. Motorcycles provide an effective means of transport with many advantages although with a high level of vulnerability. The advantages of motorcycles as a means of transport include:

1. More efficient road space utilization
2. More efficient parking space utilization
3. Lower wear and tear of roads
4. Reduced emissions
5. Faster access
6. Increased mobility.<sup>19</sup>

The potential contribution of traffic engineering, road construction and maintenance to improve road safety for motorcyclists are only beginning to be addressed. The allocation of road space to favour vulnerable road users is well established for bicycles and pedestrians, but there are no such provisions for motorcyclists in Australia. The benefits of strategies such as advanced stop line access and preferential treatment at intersections for both bicycles and motorcycles has been demonstrated in Indonesia and Malaysia. These benefits included intersection capacity gains from motorcycle filtering and the effectiveness of motorcycle exclusive lanes.<sup>20</sup> In Malaysia a 39% reduction in crash levels was associated with the installation of a motorcycle exclusive lane. Two stop lines at large intersections with the front line reserved for two-wheelers have also been introduced in some Belgian, Dutch, Japanese and Swiss towns.<sup>21</sup>

You step in the stream,  
But the water has moved on.  
The winding road is full of traffic.

## Motorcycle facilities

Parking in urban centers is a significant planning issue, however while Local Government Development Control Plans increasingly include requirements for pedal cycle parking facilities they rarely include motorcycle facilities. As a result, although motorcycles require less space they are usually forced to use and pay for a complete car space which is wasteful of space and unnecessarily expensive. In city centres the only alternative has been un-official motorcycle parking areas which have been established in lanes or other out-of-the-way places. Such areas present problems as they are secluded and become a target of motorcycle thieves. Such parking areas are also subject to Council policy, which may include strict parking enforcement programs creating further problems for motorcyclists who have few alternatives.

19. Wigan, M (2001) *Motorcycle Transport: Powered Two Wheelers in Victoria*, p.II.

20. Wigan, M 2001 *Ibid* p.60.

21. ACEM(2000), "Solving the Urban Transport Dilemma: Powered-Two-Wheelers a practical alternative". Association of European Motorcycle Manufacturers, January 2000.





## **OBJECTIVE 1.** **To reduce the incidence of single vehicle motorcycle crashes.**

### **Strategies**

- 1.1 MCC to lobby road safety authorities to introduce a system of crash investigation of motorcycle crashes, and particularly single vehicle crashes, under prevailing conditions.
- 1.2 MCC to lobby RTA to conduct compulsory road safety audits at the site of all serious and fatal motorcycle crashes.
- 1.3 MCC to lobby road authorities to establish a single centralized hotline for motorcyclists to report traffic hazards such as road surface irregularities. The system to provide an on-reporting service to refer matters to the relevant local councils and include a monitoring role for the MCC.
- 1.4 MCC to develop a Local Government Motorcycle Safety Program to encourage Local Councils to work with motorcyclists to identify and remediate motorcycle hazards and/ or provide warning signs specifically targeting motorcyclists at identified risk sites.
- 1.5 MCC to establish a program to identify and lobby for the remediation of blackspots on key motorcycle routes, particularly those in the Newcastle/Sydney/Wollongong conurban area.

## **OBJECTIVE 2** **To ensure road authorities accommodate the safety of motorcyclists in the planning, design, construction and management of roads and the road environment.**

### **Strategies**

- 2.1 MCC to lobby the RTA to review the RTA Road Design Guide to include information for road designers on motorcycle characteristics in all relevant sections to ensure they appreciate the differences in crash risk and impact consequences for motorcyclists.
- 2.2 MCC to lobby road authorities to:
  - a. Review Standards and Guidelines to accommodate motorcycle needs. For example in relation to crash barriers, pavement marking paint and surface treatments etc;
  - b. Establish systems to ensure the relevant guidelines (e.g. Guidelines to Traffic Engineering Practice, Part 15, RTA Road Design Guidelines etc) are applied in all road and road side designs;
  - c. Use motorcycle oriented road safety audits at the design and pre-opening stages for all new road works;
  - d. Minimize the use of roadside poles to reduce distraction and hazards to motorcyclists by encouraging generic signage policy and the use of multiple signs on poles.
  - e. Ensure all road design, construction and maintenance guidelines and standards include consideration of motorcycle needs; and
  - f. Establish procedures to ensure compliance with guidelines and standards at construction and maintenance work sites.



- 2.3 Lobby the Street Opening Conference to recommend a new agreement to ensure utilities and road authorities undertake the prompt restoration of roads after road works to comply with motorcycle safety standards.
- 2.4 MCC to work with LGSA/ IPWEA to review guidelines and policies on road furniture safety and to warn local councils of their liability in relation to motorcyclist injuries.
- 2.5 MCC to develop a program to promote the systematic removal of poles in the road environment. The programs should include:
  - a. Lobbying utilities to convert all overhead cable to underground lines;
  - b. Lobbying road authorities to develop priorities for the removal of poles in high risk locations (e.g. on the outside curves; and
  - c. Supporting the Local Government and Shires Association policy to convert all overhead power supply to underground lines).
- 2.6 MCC to lobby Austroads to ensure consideration of motorcycle needs is included in reviews of all parts of the Guide to Traffic Engineering Practice.
- 2.7 MCC to lobby Austroads to produce a video and communication package to introduce councils and other road authorities to the concepts involved in Guide to Traffic Engineering Practice, Part 15 - Motorcycle Safety.

## OBJECTIVE 3

### To increase provision for motorcycles in transport planning.

#### Strategies

- 3.1 MCC to lobby road authorities to establish motorcycles as a separate category of road user for planning purposes.
- 3.2 MCC to work with industry and other stakeholders to develop a strategy to promote the benefits of motorcycles as a sustainable, environmentally friendly, form of transport to government agencies and the community.
- 3.3 MCC to work with industry to develop a strategy to encourage Local Councils to:
  - a. Include provision for motorcycles in their urban parking strategies;
  - b. Incorporate requirements for the provision of secure motorcycle parking in Development Control Plans for all commercial developments over a specific size.
- 3.4 MCC to encourage motorcyclists to lobby their Local Councils to provide secure motorcycle parking with lockers in commercial developments and commuter parking areas.
- 3.5 Lobby relevant agencies to fund research into the cost benefits of expenditure on cycle facilities compared to motorcycle facilities.





Picture courtesy of Carla Stanford



Picture courtesy of Two Wheels



# Safer People



Picture courtesy of Hugh Johnson



# Riders involved in crashes

The age distribution of riders involved in crashes has changed significantly in the recent years, while the total number of crashes remained constant. The number of young riders involved in crashes has decreased substantially since 1990, although the crash incidence amongst younger riders has actually increased 4% relative to their participation rates (see figure 6). The reasons for this disturbing trend are unclear.

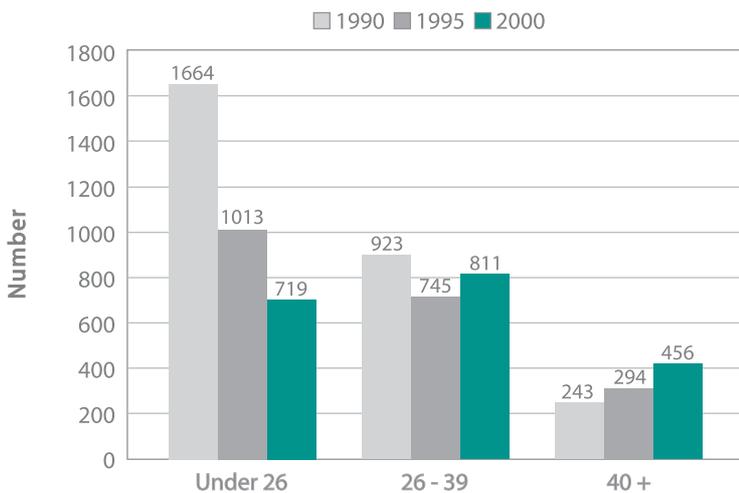


Figure 5. Change in casualty numbers by age group since 1990.

There is a corresponding increase in the numbers of older riders (40 +) having crashes, however this must be viewed against the increased participation rates for older riders as they have a substantially lower crash incidence than those under 26 years. The higher total is simply a result of having more, older riders and fewer younger riders (see figure 7 and 8).

Learning to ride is easy with the right attitude. It's having the right attitude that is difficult.  
 Robert Pirsig, Zen and the Art of Motorcycle Maintenance.

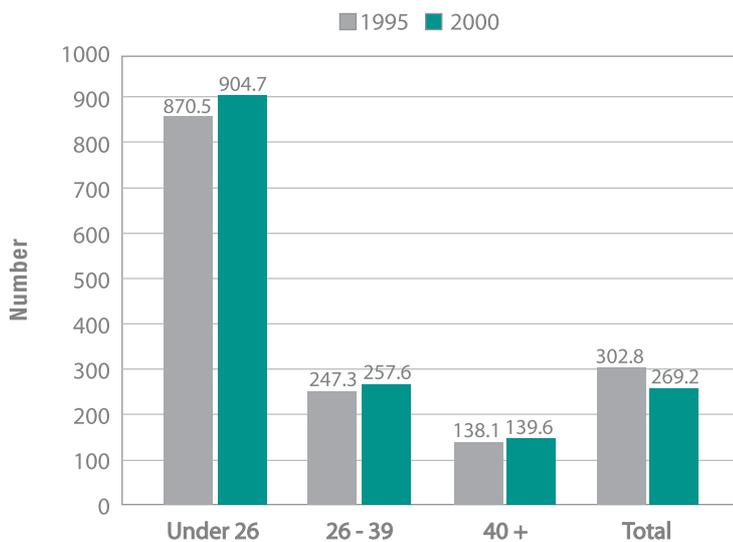


Fig 6. Comparison of crash incidence by age group per 10,000 owners 1995 and 2000



While the number of motorcyclists has increased in recent years, the participation of young people in motorcycling has decreased. In 2000 there were fewer licences and far fewer motorcycles registered to people under the age of 26 than there had been in 1995. Between 1995 and 2000, the number of motorcycles registered to those over 40 increased by 57%, whereas the numbers of motorcycles registered to riders under 26 reduced by 33% (see figure 7).



Figure 7. Changes by age group in the numbers of licences and registered vehicles held - 1995-2000.

That bunch of flowers,  
flattened on the main  
street. Who was it for?

By 2000 riders over 40 were the registered owners of 42% of motorcycles but were involved in only 22% of crashes and were 28% of fatal crashes. By comparison, only 10% of motorcycles were registered to riders under 26, but that age group accounted for 33% of crashes and 39% of motorcyclists in fatal crashes (see figure 8).

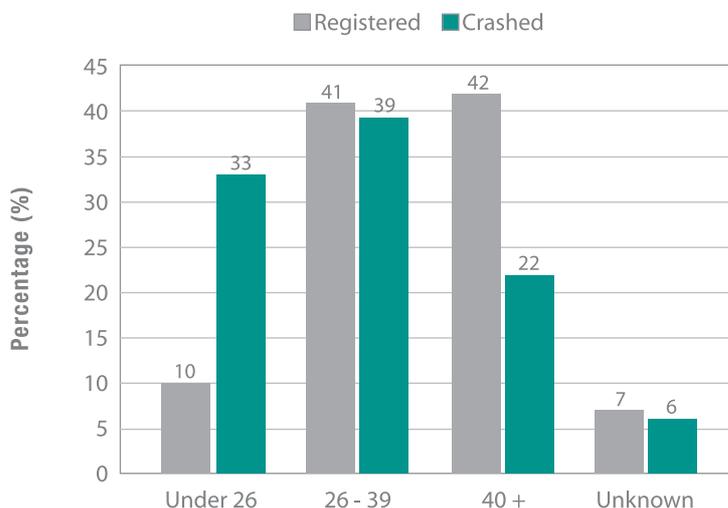


Fig 8 Age distribution of registered owners and riders involved in crashes, 2000

## Unlicensed riders

The crash rate amongst young riders does not appear to be linked to novice rider status. In 2000, the majority of riders (71%) involved in crashes held Standard licences with only 5% holding Learners and 2% Provisional licences. However the role of unlicensed riders<sup>22</sup> does need to be taken into account when considering the crash rates for young riders. Unlicensed riders comprise 8% of riders involved in crashes but 18% of motorcycle rider fatalities. In 2000 there were 128 unlicensed and 44 disqualified riders involved in crashes making a total of 182 unauthorised riders. The majority (61%), were under 26 years of age and accounted for 15% of all crashes in that age group.

Unlicensed riders are generally over represented in crashes involving risk taking and unlawful behaviour. In 2000, unlicensed riders accounted for 37% of all riders with an illegal alcohol reading involved in crashes and 12% of all speeding riders involved in crashes. They are more likely to be involved in crashes involving speed and alcohol than are licensed riders (36% compared to 22% for speed, 25% compared to 3% for alcohol). They also comprise 46% of crash involved riders not wearing a helmet and were twice as likely to have a pillion passenger when they crashed (14% compared to 7% of licensed riders).

Unlicensed riding is more of a social problem than it is a specific motorcycling problem. The increased incidence of risk taking behaviour amongst unlicensed motorcycle riders also occurs amongst unlicensed car drivers.

When it comes to rider safety, the greatest undeveloped territory lies under your crash helmet.

## Risk factors

Overall motorcyclist crashes were also slightly more likely to be associated with alcohol than were crashes involving other road users. However, if we remove crashes involving unlicensed riders from the data, licensed riders are not over represented in drink driving or fatigue associated crashes relative to all vehicle controllers (see figure 9). Licensed riders' involvement in speed associated crashes is also reduced, although still significantly higher than other road user groups. The issue of how speed is determined to be a factor in motorcycle crashes is subject to some questions (see below).

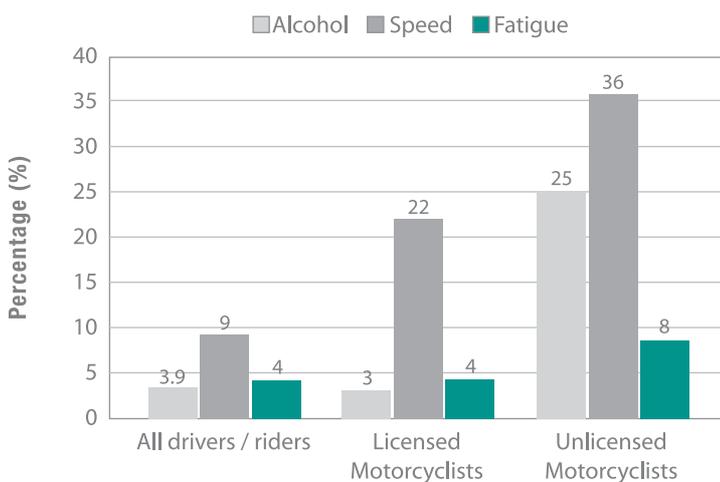


Figure 9. Risk factors in crashes - licensed and unlicensed motorcyclists compared to all vehicle controllers - 2000.

22. Unlicensed is used here to refer to all those riders involved in crashes, who were not authorized. They include those who have never had a licence (6%) and those whose licenses have been cancelled (.02%), disqualified (2%) or just expired (.03%). RTA Road Traffic Accident Data Base 2000.





## Speeding<sup>24</sup>

Speeding is defined as excessive speed for the prevailing conditions. For statistical purposes the RTA considers speeding to have been a contributing factor in a road crash if:

- At least one driver/ rider was charged with a speeding offence; or
- The vehicle was described by the police as traveling at excessive speed; or
- The stated speed of the vehicle was in excess of the speed limit.
- The vehicle was performing a maneuver characteristic of excessive speed, that is:
- While on a curve the vehicle jack-knifed, skidded, slid or the controller lost control; or
- The vehicle ran off the road while negotiating a bend or turning a corner and the controller was not distracted by something nor disadvantaged by drowsiness or sudden illness and was not swerving to avoid another vehicle, animal or object and the vehicle did not suffer equipment failure.

A patch of bad road,

or perhaps bad judgment.

Maybe I am tired.

## Speeding

According to NSW statistics inappropriate speed for conditions is associated with almost one in four motorcycle riders compared to 9% of all motor vehicle controllers involved in crashes. The size of the disparity between motorcyclists and other vehicle drivers speeding is at odds with international data.

In 2001, RoSPA (Royal Society for the Prevention of Accidents) published a position paper on motorcycling safety which reviewed a range of British and European research.<sup>23</sup> They found that 63% of motorcyclists and 69% of car drivers exceeded the speed limit on 30 mph urban roads. While the research did show that motorcyclists were more likely than car drivers to exceed the speed limit in higher speed zones (40 mph), it also noted that two thirds of British motorcycle casualties occur on the lower speed (30 mph) roads. While the risk and severity of injury increases with speed, only one quarter of motorcycle casualties but 60% of deaths occur on 40 mph roads in Britain. Motorways have the highest speeds but the lowest motorcycle casualty rates (2% casualties, 3% deaths). The conclusion in the RoSPA paper is that high speed riding and crashes are not the main areas of concern, and that interventions should be directed towards motorcycling at lower speeds.

The link between speed and motorcycle crashes in Australia needs to be further analysed as it is evident from discussions with police and forensic engineers that there are grounds to question the methods used to determine all motorcycle crash causes. The essential point of contention is that the same criteria are applied to all vehicle crashes and that this fails to recognise the different dynamics between single and dual track vehicles. While excess speed is likely to be involved when a driver loses control of a car, it may not always be involved when a motorcyclist loses control as discussed earlier. Loss of traction can occur at relatively low speeds if the rider is surprised by a sudden change in the road surface. The NSW method of encoding for speed does define speed in terms of whether it was excessive for the prevailing conditions, but crash statistics do not distinguish between illegal speed and speed that was excessive for conditions. The consequent perception that motorcyclists who crash were likely to have been recklessly speeding is unfair. It also has a wider negative consequence in undermining relations between the motorcycling community and road authorities where this is used as a basis for policy decisions.

This is not to suggest that excess speed is not an issue for motorcyclists, but merely to suggest that the NSW statistics may over-represent the incidence of speed related crashes at the expense of failing to recognize other factors. Factors affecting the construction of the "speeding" statistics for NSW are discussed in greater detail under "Crash Investigation and Research".

## Fatigue

Fatigue is recognised as a major contributor to the NSW road toll. In 2000, 122 people were killed and 2,175 injured as a result of crashes in which fatigue was identified as a factor. Fatigue appears to be a less significant factor than speed in motorcycle crashes according to NSW crash statistics, however anecdotal reports by motorcyclists suggests that fatigue is a problem for them.

Fatigue may not be recognised as a factor in a motorcycle crash because the criteria used by police focus on fatigue as it affects drivers rather than riders (see Criteria for determining fatigue). It is possible that some of the single vehicle motorcycle crashes that are currently attributed to excessive speed may in fact be the result of poor judgment and loss of attention due to fatigue. Whereas a fatigued driver may drift across the road in a micro-sleep, a fatigued rider may be quite alert but crash on a curve or while overtaking due to an error of judgment.

23. RoSPA (2001), *Motorcycling Safety Position Paper*, The Royal Society for the Prevention of Accidents, <http://www.rospa.co.uk/cms/> Birmingham, United Kingdom, p 18.

24. RTA, *Road Traffic Accidents in NSW - 2000, Statistical Statement: Year ended 31 December 2000*, Roads and Traffic Authority, November 2001.



National fatality statistics indicate that motorcyclists are more likely to be involved in a crash on a weekend than on a weekday. In 2000, one third of all motorcycle fatalities occurred on a weekend, where as the remaining 67% were spread over the 5 week days. Although only 4% are officially noted as having involved fatigue, the concentration of fatal crashes on Sunday afternoons and evenings (14%) may indicate fatigue as a factor in those crashes.<sup>25</sup> Rider survey data shows that large numbers of motorcycles are on the road across the weekend and that distances covered are often large. This may represent the “evening peak-hour” for motorcycles on weekend trips.<sup>26</sup>

Driver fatigue is a general term commonly used to describe the experience of being "sleepy", "tired" or "exhausted". Fatigue is both a physiological and a psychological experience. Driver fatigue can severely impair judgment and is particularly dangerous because one of the symptoms is decreased ability to judge our own level of tiredness. A range of typical symptoms are described on the RTA web site.<sup>27</sup> They include:

- loss of concentration,
- drowsiness, yawning,
- slow reactions,
- sore or tired eyes,
- boredom,
- feeling irritable and restless,
- making fewer and larger steering corrections,
- missing road signs,
- having difficulty in staying in the lane,
- having microsleeps.

These are predominantly the symptoms of performing a monotonous task within an enclosed vehicle, where the operator is separated from the external driving environment. In a modern car with a large fuel tank, a driver could continue without a break for many hours. Driver reviver programs focus on the value of encouraging drivers to stop for a break and revive every two hours, but such an approach is less appropriate as a countermeasure for motorcyclists.

This type of fatigue is less likely to affect a motorcyclist, because they rarely ride for more than two hours because they would become uncomfortable and probably run out of fuel. This does not mean that motorcyclists do not suffer from fatigue, merely that the causes and symptoms may be different. Riding a motorcycle is far more physically and mentally demanding than driving a car. Rider fatigue is more likely to be a response to physical exhaustion than to monotony. Other factors include dehydration and exposure to the weather (heat, cold, wind noise and buffeting etc). The symptoms of rider fatigue include:

- joint and muscle stiffness,
- pain or weakness in hands and feet,
- loss of concentration,
- slow or impaired judgment and reactions.

We need to research the causes and symptoms of motorcyclist fatigue and develop new criteria to be applied by police when reporting motorcycle crashes. This may clarify the relevance of fatigue as a factor in crashes and encourage the development of appropriate rider fatigue countermeasures.

## Fatigue<sup>27</sup>

Fatigue is considered to have been involved as a contributing factor to a road traffic accident if that accident involved at least one fatigued motor vehicle controller.

A motor vehicle controller is assessed as having been fatigued if the conditions described under (c) or (d) are satisfied together or separately.

- (c) The vehicle's controller was described by police as being asleep, drowsy or fatigued.
  - (d) The vehicle performed a manoeuvre, which suggested loss of concentration of the controller due to fatigue, that is:
    - the vehicle traveled onto the incorrect side of a straight road and was involved in a head-on collision (and was not overtaking another vehicle and no other relevant factor was identified);
- or
- the vehicle ran off a straight road or off the road to the outside of a curve and the vehicle was not directly identified as travelling at excessive speed and there was no other relevant factor identified for the manoeuvre."

25. ATSB (2001), *Road Fatalities Australia: 2000 Statistical Summary*, Australian Transport Safety Bureau, Department of Transport and Regional Services, Canberra, August 2001, p. 14.

26. de Rome et al (2002), *MCC Survey of Motorcyclists, 2001*, Motorcycle Council of NSW.

27. <http://www.rta.nsw.gov.au>.

28. RTA (2001) *Road Traffic Accidents in New South Wales 2000 Statistical Statement: Year ended 31 December 2000*, Road Safety Branch, Roads and Traffic Authority, November 2001, p.xiv.





## Rider training

Compulsory learner training in NSW was introduced in 1990 and each year approximately 16,000 learners undertake the training program, with a little over half (10,000) subsequently going on to a provisional licence. The sheer number of motorcycle casualties has decreased 27% in the 10 years since the introduction of compulsory training. This is particularly apparent for riders under the age of 26 for whom casualties are now 57% lower (Reduced from 1664 in 1990 to 719 in 2000 - refer figure 5).

Despite this significant improvement, the picture of what is actually happening to crash rates is not all that clear. It is apparent that the actual number of casualties is down, but the number of young rider casualties (under 26) per 1000 licences has actually increased (see figure 6). The reduction may simply be a reflection of the reduced numbers of young people participating in motorcycling.

It may be that the current rider licensing system is more effective at discouraging participation than in actually decreasing crash risk for those young people who do ride. If this is the case, the Rider Training Scheme may not be achieving its objective of making novice riders safer. Whether this indicates problems with the course content or with the delivery of training courses or with the rider skill assessment process should be urgently investigated.

## Post licensing training

Once a rider has completed their learner training or pre-provisional training, any further development of their skills or attitudes towards riding is at their own initiative and expense. Road safety authorities do not provide support or advice on appropriate post license training courses. Other than the RTA Riders Handbook and ATSB Ride On video, the only rider training information available is through commercial bookstores. This seems to imply that riding abilities are established during the training period and no further support for skills development is necessary. It is apparent from the MCC survey that almost half (49%) those surveyed had completed some form of post licence rider training.<sup>29</sup>

Road safety authorities do have serious reservations about the value of advanced rider training, based on research relating to advanced car driver training programs that focus on skid and brake control.<sup>30</sup> The objection to such programs is that safe car driving is more about attitude than operational skill, and advanced skills development may actually encourage risk taking behaviour. Such objections are research based in relation to safe driving, but it is inappropriate to simply transfer these findings to the motorcycle environment. Safe riding requires a much higher component of skill and judgment (for example in cornering or handling a loss of traction) than does safe driving. We simply do not know whether there may be more justifiable benefit in advanced rider training than authorities assume.

There are essentially three means by which licensed riders can improve their riding skills. These are formal advanced rider training programs and less formal day rides and track days.

Advanced rider training courses are offered by a number of rider training providers. They provide assistance in refining critical skills once the rider has achieved sufficient experience to understand and apply the new learning. They generally focus on roadcraft, cornering, braking skills etc, all of which are immediately transferable to riding on public roads.

29. de Rome et al (2002), *MCC Survey of Motorcyclists, 2001*, Motorcycle Council of NSW.

30. Christie, R. (2001), *The effectiveness of driver training as a road safety measure: An international review of the literature*, Road Safety Research, Policing and Education Conference, Melbourne, 19-20 November.



Focus on the importance of braking skills is particularly significant, Haworth et al found that ineffective braking, or a failure to respond to a threat, occurred in 20% and 17% respectively, of the motorcycle crashes that they examined in Victoria.<sup>31</sup> They also found that compared to completing a beginner's course, an intermediate course did not significantly change the odds of crashing whereas a significant decrease in the odds of crashing was associated with an advanced course.<sup>32</sup>

**Day rides** are organized trips by groups of motorcyclists. They are primarily social but may also be designed to provide advice and support, or just company, for inexperienced riders on longer trips. Experienced riders are often paired with novices on day rides.

**Track days** are conducted at off road tracks but they are not races. They may be regarded as an opportunity to ride at speed or/and to develop and refine crucial riding skills. They can be an opportunity to learn to handle a motorcycle at touring speeds with skill and precision in a safe environment. Motorcycling is a far more physical experience than driving a car and correct sequence and timing of body movements can make the difference between control and a crash, particularly over slippery surfaces. It is far safer to learn and practice these movements upon a track where run-off zones and an absence of roadside furniture minimize the risks arising from an error of judgment.

Professional track day operators provide instructors to assist riders in developing the skills and in diagnosing and correcting specific skill deficiencies. Activities may include refining the skills of placing a motorcycle correctly for cornering, so as to avoid leaning across the centerline, or to learn how to make mid-corner corrections of speed and path of travel. Other useful skills include learning to become comfortable with the movement of a motorcycle over a broken or slippery surface and learning how to recognise situations in which a mis-judgement is likely to be made.

Surprise on the road,

Slow to avoid,

Too fast to handle.



Picture courtesy of Hugh Johnson

31. Haworth et al (1997), *Case Control Study of Motorcycle Crashes*, Monash University Accident Research Centre for the Federal Office of Road Safety, CR 174, p. 27.

32. *Ibid* p. 75.





The one thing that unites all human beings, regardless of age, gender, religion, economic status, or ethnic background, is that, deep down inside, we all believe that we are above-average drivers.

Anonymous

## Other road users

In multi-vehicle crashes involving a motorcycle it is the other vehicle that is noted as the key vehicle in almost 70% of crashes.<sup>33</sup> Anecdotal evidence suggests that in many cases, drivers involved in crashes with motorcyclists simply did not register their presence - did not “see” them. There is also evidence that driver error in decision-making and responses can often occur after detection of the motorcycle’s presence.<sup>34</sup> However, little attention has been given to the fact that the driver was an active decision-making participant who ultimately caused the conflict situation. The tendency has been to dismiss the culpable driver as the passive victim of motorcycle inconspicuity. The focus of research has been on increasing the conspicuity of the rider, rather than on changing the behaviour of the motorist.

Brooks and Guppy (1990) found evidence that driver lack of technical and social awareness of motorcycles is associated with driver error when interacting with motorcycles. Their findings suggest that programs to increase driver awareness of motorcycle operating characteristics and vulnerability in the traffic stream could have great potential for motorcycle accident prevention.<sup>35</sup> In another study of motorcycle accidents, Hurt found that drivers who didn’t also ride a motorcycle or didn’t know anyone who rode a motorcycle, were over represented in car-motorcycle collisions. The converse, that drivers who rode motorcycles were underrepresented in car-motorcycle collisions, suggests that motorcycle avoidance can be learned.<sup>36</sup>

Researchers into this phenomenon have termed it “inattention blindness”. Put simply, it means that if you are not expecting to see something, you won’t see it. These findings are important and suggest that motorcycle crashes could be reduced by changing motorists’ expectations and perceptual behaviour. This could involve changing road safety messages to be more specific by establishing patterns of expectation with lists and labels. Rather than exhorting drivers to look to see if “anything” is coming, the message should be, for example to check for any “pedestrians, cyclists, motorcyclists, cars or trucks”.

There are a whole range of issues associated with driver attention and attitude to the driving task which are road safety issues. These are general matters of poor driving practice such as changing lanes on curves, failing to check over the shoulder and to maintain crash avoidance space or dividing their attention between other tasks such as using mobile telephones. Such practices may contribute to road crashes in general but where they impact on a vulnerable road user, the consequences are more severe. The relative contribution of such behaviour to road crashes is not documented nor have road safety campaigns focused on such issues. The recent introduction of more severe penalties for using a mobile phone while driving is a welcome initiative.

33. RTA, Road Traffic Accident Database, 2000.

34. Brooks, P & Guppy, A (1990), Driver Awareness and Motorcycle Accidents, Proceedings: International Motorcycle Safety Conference, Florida, USA October 1990, p.29.

35. Brooks *ibid*.

36. Hurt, HH Jr, Ouellet, JV, Thom, DR (1981), Motorcycle Accident Cause Factors and Identification of Countermeasures, Final Report to National Highway Traffic Safety Administration, US Department of Transportation, PB 81-206443, 81-206450.



## OBJECTIVE 4

To improve the safety of motorcyclists through increased awareness by all road users.

### Unlicensed riders

- 4.1 MCC to lobby authorities to implement strategies to reduce the number of unlicensed / unregistered riders.
- 4.2 MCC to work with regulatory and community bodies to ensure the programs like the Traffic Offenders Program or the Safe Driver Program address motorcycle issues.
- 4.3 MCC to seek funds to undertake research to understand and develop strategies to reduce the number of unlicensed / unregistered riders.

### Road user behaviour

- 4.4 MCC to promote motorcyclists awareness of the incidence and long term outcomes of injuries.
- 4.5 MCC to publish and promote the findings of the MCC Motorcyclist survey on training and crash experience and on the avenues to distribute safety messages to motorcyclists.
- 4.6 MCC to lobby for the establishment and funding of a Motorcycle Road Safety Officer position.
- 4.7 MCC to work with behavioural experts to develop effective safety messages for motorcyclists.
- 4.8 MCC to support campaigns to encourage motorcyclists to consider their contributing responsibility for crashes despite adverse road conditions or other drivers.
- 4.9 MCC to promote discussion and a wider understanding of what is meant by “road conditions” in reference to appropriate “riding” or “speed”.
- 4.10 MCC to promote informed discussion of safety issue through the web site and other media.
- 4.11 MCC work with ATSB to promote the availability of the ATSB video - Ride On.
- 4.12 MCC to work with RTA and other stakeholders on the development and promotion of motorcycle specific counter measure information like the VMAC Motorcycle notes.
- 4.13 MCC to work with local government and regional road safety personnel to identify and target motorcycle rest stops to promote safe riding behaviour.
- 4.14 MCC to lobby for research into the causes and symptoms of rider fatigue to develop effective countermeasures and develop new criteria to be applied in the investigation of motorcycle crashes.

### Rider training

- 4.15 MCC to lobby for a full independent review and research based evaluation of the motorcycle rider training programs and licensing process, including post licence training and ongoing training and development for rider trainers.
- 4.16 MCC to work with other stakeholders to encourage riders to seek post licence training and to promote the availability and access to such training.
- 4.17 MCC to lobby and support a program of research into the effectiveness of post licence training, Day Road Rides and Track Days.

### Other road users

- 4.18 MCC to work with authorities to develop driver awareness campaigns to educate drivers to look for motorcyclists and allow them appropriate road space.
- 4.19 MCC to work with authorities to incorporate motorcycle awareness into driver training and in the hazard perception components of the licensing process.





Picture courtesy of Guy Stanford



Picture courtesy of Dave Mifsud



# Safer Vehicles & Equipment



Picture courtesy of Hugh Johnson



# Rider protection

## Protective clothing

There have been significant technological advances in the development of protective clothing for motorcyclists. This includes boots, gloves, pants, jacket, helmet and specific body protectors such as back or knee protectors. However while road safety authorities focus on the mandatory wearing of helmets, little is done to encourage riders to wear other forms of protective clothing and no reliable information is available to guide purchasers as to the relative merits of particular items.

Most riders recognize the merit of wearing a helmet and usually choose to purchase the more expensive, better quality helmets rather than cheaper helmets that still comply with the standard. Helmets are only one component of protection and more needs to be done to encourage the protection of other areas of the body. In the survey of motorcyclists conducted by the MCC, the majority of respondents wore a full-face helmet, motorcycle jacket, gloves and boots. They were far less likely to wear protection for their feet and legs (see figure 10).<sup>37</sup>

Cost is a major factor and the purchase of full riding gear may cost several thousand dollars. It may be that some riders believe that they do not need more than a helmet and jacket because they associate more comprehensive protective clothing with motorcycle racing.

Standards Australia has recently produced guidelines on the manufacture of protective clothing for motorcyclists, however there is little information available to assist riders select appropriate protective clothing.<sup>38</sup> Some information from the Victorian Traffic Accident Commission is available in NSW via motorcycle magazines. Motorcycle magazines currently provide the greatest source of information, but no independent guidelines exist by which a prospective purchaser can assess the relative merits of particular equipment, materials or styles.

## Pillion riders

Pillion riders are of particular concern as they are less likely to have adequate protective clothing. In the MCC survey, pillions and riders were likely to have similar protection to the upper body in terms of jackets and helmets, but pillions were less likely to have motorcycle boots, gloves or pants or any sort of body armour. Although a relatively small proportion (8%) of motorcycle crashes involve pillions, they are likely to involve serious injuries. The average cost of a motorcycle pillion claim under CTP (the NSW third party personal injury insurance scheme) between 1992-2000 was \$97,533 whereas the average motorcycle rider claim was \$99,381.<sup>39</sup>

Riders must be aware of their responsibility in relation to their pillion passengers, in terms of the protective clothing they insist upon and on the riders' own riding attitudes and skills and recognition of the changed handling characteristics of their motorcycle when carrying a pillion.

37. de Rome et al (2002), *MCC Survey of Motorcyclists, 2001*, Motorcycle Council of NSW.

38. Standards Australia (2000), *Motorcycle protective clothing - Guidelines for manufacturing*, HB 173-2000.

39. MAA (2002), *CTP Claims Experience Report - Motorcycles (Data as at 30 September 2001)*, NSW Motor Accidents Authority, Sydney (internal report).



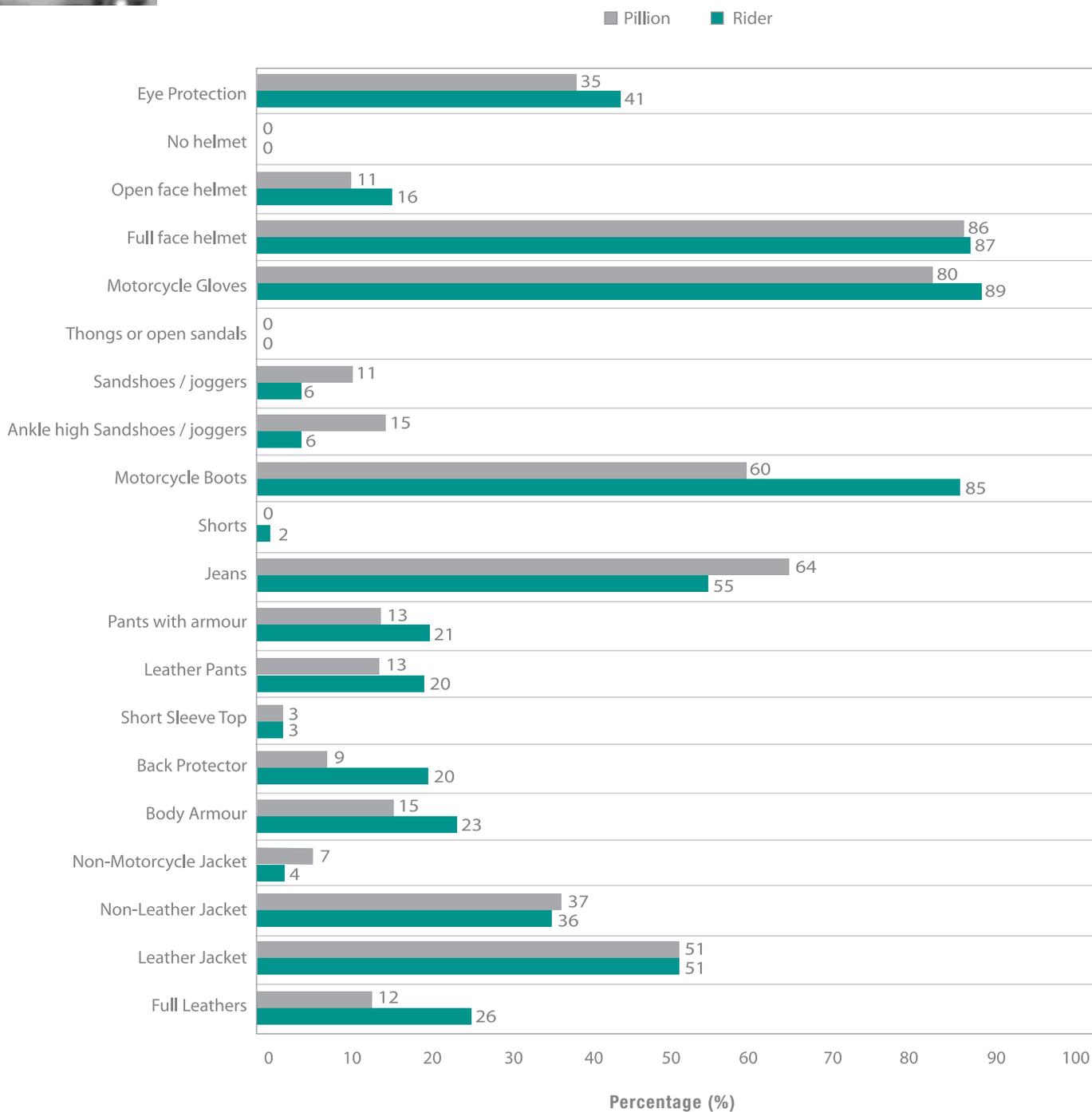


Figure 10 Survey of motorcyclists and their pillions use of protective clothing.

Note: While only a small proportion of respondents indicated use of eye protection, this seems an unlikely result and may be due to the high proportion using full-face helmets which usually include a visor. It is likely that those with visors on their helmets neglected to tick the separate box for eye protection.

## Helmet standards

While road authorities place great emphasis on the mandatory wearing of helmets, Standard AS/NZS1698, the standard for helmets has not been reviewed since 1988.

As the mandated standard, it needs to be continuously reviewed to ensure that the level of protection afforded Australian riders is equal to or better than that offered overseas. An approved helmet can cost up to \$1000 and riders need to be assured they are investing in appropriate levels of protection.

## Importation of non-standard helmets

A further matter for concern is the decision of the Federal Treasury to remove motorcycle helmets from the Prohibited Goods listing in 1999. This decision, which was undertaken without consultation, removed any restrictions on the importation of non-Standard helmets into Australia. It has left the market open and non-approved helmets are now available to riders, who may be tempted to buy cheaper helmets or buy a fashion style without fully appreciating the consequences.





## Motorcycle vehicle and equipment research

There have been significant technological advances in motorcycle tyres, brakes, lights and suspension in the past 20 years and intelligent vehicle features such as ABS have been developed. However there is no system in Australia for monitoring these developments or to evaluate the safety performance of different motorcycle models.

In NSW, the ANCAP program evaluates the crash performance of cars but there are no comparable programs to test motorcycles.<sup>40</sup> While crash performance in terms of occupant protection is inappropriate for motorcycles, the relative merits and handling features of new developments could create a more informed market by providing guidance to riders and feedback to manufacturers.

Research into a number of equipment related issues such as visual conspicuity also remains inconclusive. A thorough review of all work to date may be warranted, however it is important that past work is critically evaluated and not simply reported. The risk with literature reviews is that the findings of a flawed study may continue to be quoted and assigned credibility without any question of their basis.

Research into audible conspicuity is an emerging need as legislation for ever quieter exhaust systems is removing one very useful tool in the armoury of a rider to make themselves conspicuous. A motorcycle horn is essentially indistinguishable from a car horn and in heavy traffic, a car driver can easily overlook a motorcycle while searching for the source of the horn, if they assume it is from a car which they have already seen. The unique sound of a motorcycle is of great value in these circumstances and can alert a driver that they need to be looking for a motorcycle. The MCC Survey results show that cruiser riders reported the lowest incidence of crashes with other vehicles, whereas riders of smaller, quieter machines reported the highest incidence. Cruisers tend to be large capacity machines with a distinctive exhaust sound that is readily recognised by non-motorcyclists.

Protection of occupants of cars has been a preoccupation of ANCAP type programs, yet no such program exists that applies the same methodology to the road environment for vulnerable road users. Rider protection in terms of body armour has been discussed elsewhere, yet the actual containment space in which a rider may fall has received little attention at all. This applies equally to all vulnerable road users. Road environment safety is the province of road safety audits and their cost benefit value is noted elsewhere. Encouraging the use of road safety audits in relation to motorcycle factors can only bring a reduction in crashes and a reduction in their consequences.

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40. ANCAP, Australian New Car Assessment Program.



## OBJECTIVE 5

### To increase awareness and acceptance of appropriate personal safety equipment.

#### Protective clothing

- 5.1 MCC to work with other stakeholders to inform motorcyclists about the benefits of protective clothing and the correct fit and fastening of helmets.
- 5.2 MCC to lobby Standards Australia to develop a “users guide” for purchasers based on the Motorcycle Protective Clothing Guidelines. The users guide to be distributed as a brochure and on the MCC web site.
- 5.3 MCC to work with other stakeholders to ensure that relevant data is collected in relation to protective clothing in crash investigations.
- 5.4 MCC to work with other stakeholders to establish processes for the analysis of crash data that compare details of crash circumstances, rider protection and injuries as this may provide valuable information for riders on the merits of protective equipment in crashes.
- 5.5 MCC to work with other stakeholders to ensure riders take responsibility for the safety of their pillion and ensure that adequate protective clothing is worn.
- 5.6 MCC to lobby to retain Australian helmet certification.
- 5.7 MCC to support and lobby for the support of agencies for the up-grade of Australian standard AS1698 as a continuous process.
- 5.8 MCC to support the helmet evaluation program currently being developed by the RTA.
- 5.9 MCC to seek grants to fund the independent evaluation and critical review of helmet standards.
- 5.10 MCC to lobby to ensure relevant data in relation to helmets is collected in crash data investigation.
- 5.11 MCC to work with other stakeholders to lobby the Federal Treasury to re-instate non-compliant motorcycle helmets on the Prohibited Goods List.

## Objective 6

### To increase awareness and acceptance of appropriate motorcycle design for safety.

#### Crash research

- 6.1 MCC to lobby to ensure relevant data in relation to helmets is collected in crash data investigation.
- 6.2 MCC to lobby to ensure that relevant data is collected in relation to protective clothing in crash investigations.
- 6.3 MCC to lobby for industry to provide consumer information on new research and developments in motorcycle technology and design.
- 6.4 MCC to lobby for comprehensive reviews of existing research into issues where current knowledge is inconclusive e.g. helmets, protective clothing, noise and conspicuity issues.

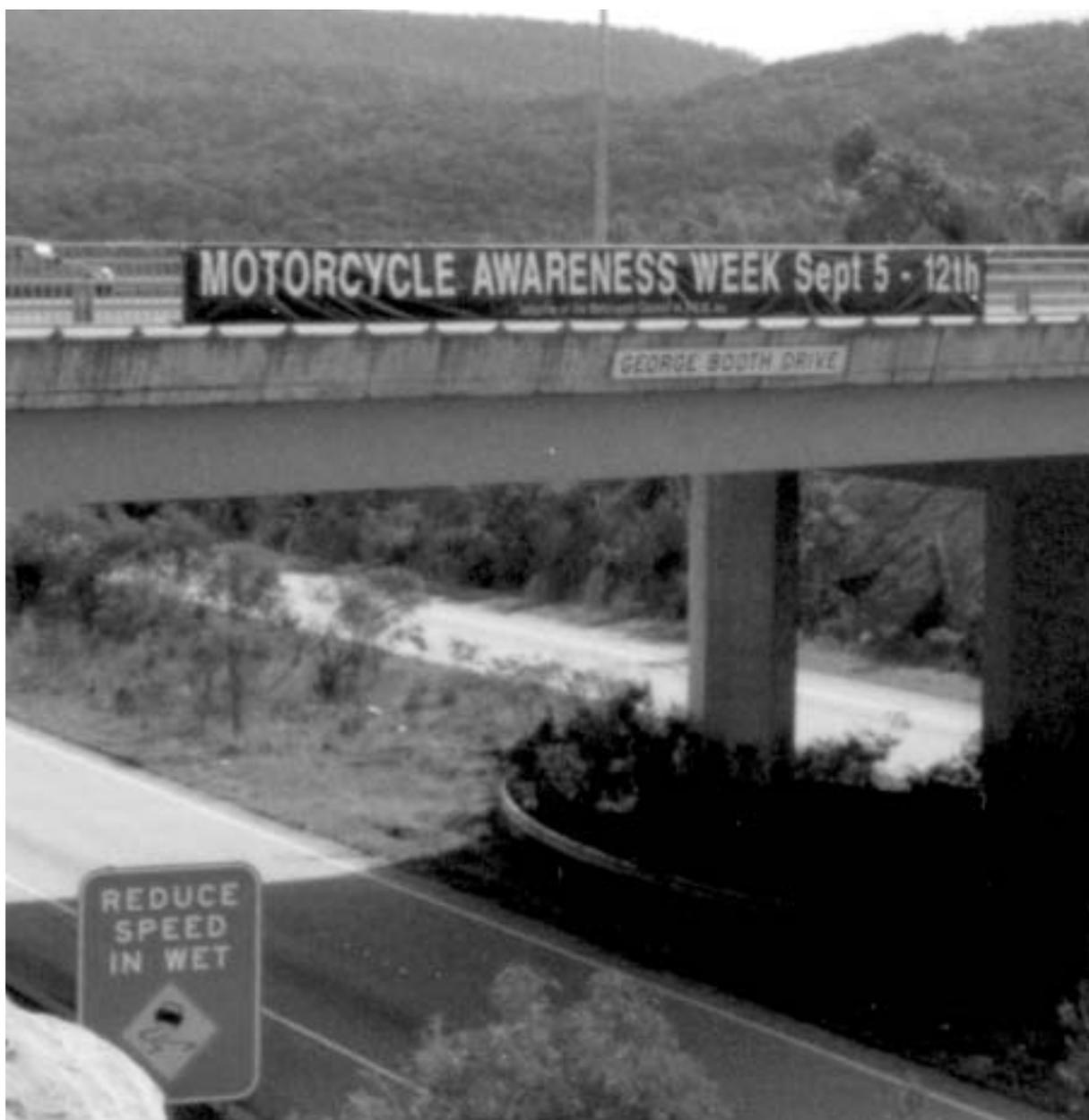




Picture courtesy of Two Wheels



# Coordination & Communication



Picture courtesy of Carol Cameron



# Crash investigation and research

It is apparent that we do not know enough about the causes of many motorcycle crashes. It is too easy to simply blame the rider without reviewing the other contributing factors. Any crash results from a combination of circumstances converging to a point when the rider does not have the skills or the options to avoid the crash. Systematic investigation is necessary to identify patterns of failure associated with driver/ rider behaviour, road conditions, vehicle features as well as rider skill issues.

## Police crash investigation

Detailed crash investigation is carried out in all cases of fatalities and most serious injury crashes. However, the primary role of the Crash Investigation Officer is to determine cause and effect in order to establish criminal negligence. While the role does include responsibility to identify contributing factors that may indicate strategies to prevent similar crashes in the future, Police Crash Investigators are not trained research scientists nor forensic engineers.

For crash investigation purposes, a crash is determined to be “serious” if there is a fatality or if injury could constitute “grievous bodily harm” in enforcement terms. An injury would generally be considered “serious” if surgery is required.<sup>41</sup> In such cases the first response police will notify the Crash Investigation Unit who may attend the scene, however even serious crashes are not always investigated by the Police Crash Investigators. The essential principle is that the police role is to determine fault for prosecution. If the injured party was at fault in the crash, then they are not generally considered to be “a victim” in criminal justice terms. If there is no “victim”, there may be no criminal case of negligence for prosecution and therefore no need for investigation.

Single vehicle crashes will generally not be investigated unless they involve a fatality or if there are serious injuries and there are no witnesses to report on what caused the crash. This has particular relevance for motorcyclists as 36% of all motorcycle crashes are single vehicle crashes and we have very little consistent data about the causes.

The determination of “fault” by attending Police therefore has significant implications for the investigation of motorcycle crashes. The assumption in any single vehicle crash is that the vehicle operator was at fault, essentially for losing control of the vehicle. This is generally assumed to mean they were going too fast for the conditions. The consequences can include the loss of insurance benefits and even their licence, as they may be charged with negligent driving. However, as discussed earlier, changes in the road condition may occur with little warning but dramatic consequences for a motorcyclist even if they are riding well within the posted speed limit.

Simply blaming road condition to absolve rider responsibility is not the answer either, but a better understanding of the circumstances that trigger a critical incident would help to determine the means to avoid them. As discussed earlier, if the road surface is a problem, the incident may have been very difficult to avoid, even for the highly experienced. Where rider error is the cause, the consequences of even a minor error of judgment are far more severe on a motorcycle than in a car. While these are issues that need to be addressed in training, informed feedback and analysis of crashes in police reports could be an aid in developing strategies to be used in training.

Police also need to be able to recognize and report such conditions for immediate remediation, however general duties police are not trained to recognize or understand the dynamics involved in a motorcycle crash.

In the MCC survey, 68% of motorcyclists involved in single vehicle crashes claim road condition to be a contributing factor.<sup>42</sup> However road condition is officially noted as a contributing factor in only 8% of motorcycle crashes, whereas a quarter of motorcycle crashes are noted as involving excessive speed for conditions compared to 16% of all vehicle crashes.

41. The definition of “serious” used for crash investigation purposes is different to that used for crash statistics. Any crash where a person is taken to hospital will be recorded as a “serious crash” for crash statistics data collection purposes, but may not actually involve serious injury. Ref: Crash Investigation Unit, NSW Police Service.





The discrepancy may indicate that Police attending motorcycle crashes are ascribing fault to the motorcyclists simply because they do not have the experience to recognise other relevant contributing factors. If this is the case, this failure results in missed opportunities to remediate road conditions before they cause further injury. It also serves to perpetuate misunderstanding of the causes of motorcycle crashes. This is, at least in part, due to the involvement of general duties police who, in addition to the whole range of other crime prevention duties, are expected to attend crash scenes and make determinations on complex engineering matters without any specialist training. While it is not feasible to expect highly trained crash investigators to attend every crash, it may be more feasible to require crashes to be attended by the Highway Patrol, who could be provided with some training in the preliminary assessment of crash causes.

## Crash data collection

### How is crash data collected?<sup>43</sup>

All road accidents attended by the police are recorded by the reporting officer on the Computerised Operational Policing System (COPS). COPS includes a text narrative description of the accident which the RTA interpret and validate before adding the information to the data base.

This information is provided to the RTA in electronic format and entered into the Traffic Accident Database System (TADS).

TADS includes information on the controller, the vehicles and any casualties as well as general accident fields on the time and date, weather, speed limit, location and any features of the road that may have been a factor in the accident. Codes are provided for a wide range of factors including permanent features such as a narrow bridge, cattle grid, crash barrier or painted surface as well as temporary features such as road works. Codes are also provided for hazardous road surface features such as loose gravel on a sealed surface, a pothole or a slippery surface (oily or greasy).

The reporting system used by the NSW Police when attending a crash is the basis of all available data on the incidence and causes of crashes. However the system is designed to identify factors in relation to enforcement issues. It is not intended as the basis for research into the causes of crashes nor for the collation of data on crash trends. There are a number of specific disadvantages for motorcyclists that arise from the limitations of the crash reporting system. Perhaps most importantly, the system does not allow for a comprehensive assessment of the contribution of other factors such as road condition in crashes.

Police who attend a crash site make written notes from which they subsequently enter details into encoded fields in the COPS database. The data fields in the crash reporting system were designed primarily for car crashes and do not accommodate factors which would only be relevant to other vehicle crashes. While there are mandatory fields that must be completed, these relate to location, vehicle and casualty details. While provision is available for more detail to be entered into other optional fields, police tend to complete only the mandatory fields and provide the remaining detail in free form text.

The free text field is a weak point in the system as the level of detail provided varies from one officer and crash to another. In addition the text is then subject to interpretation at the point of data entry by the RTA. Of particular concern is the suggestion that incidents involving “loss of traction” may be generally interpreted as “speeding” and coded accordingly. This has no bearing on the outcomes for the controller in any particular crash, but it may obscure the causes of the crash and repeated over a large number of crashes create misinformation about the nature and causes of motorcycle crashes. From the MCC survey of motorcyclists, it is clear that faulty road surfaces play a significant role in motorcycle crashes, but no data is available from the RTA, on the contribution of faulty road surfaces.

Problems arise from the design of the crash reporting system as well as from its implementation. The reliability of the information could be improved by police using more than the mandatory fields or by working from a check list of factors when completing the narrative text. The value of the system could also be enhanced by extending the fields to take account of factors more likely to be associated with other vehicle crashes such as motorcycles and trucks. Training in the assessment of crashes and completion of crash data reports is essential, however whereas the RTA used to work with the Police Academy to provide training to recruits on road safety and data collection, this practice has ceased in recent years.

The Police who attend a motorcycle crash will also determine whether a driving offence has been committed. In the case of single vehicle crashes, there is a common view that the rider lost control and therefore is charged with speeding and/or negligent driving. There is reason to believe that this may explain under-reporting of motorcycle crashes by motorcyclists who believe reporting will be to their disadvantage. Research in England suggests that only 8% of non-injury crashes and 24% of injury crashes were reported. Severity of injury, involvement of other vehicles and degree of vehicle damage were all factors determining whether the crash was reported.<sup>44</sup>

42. de Rome et al (2002), *MCC Survey of Motorcyclists, 2001*, Motorcycle Council of NSW.

43. RTA (2001), *Traffic Accident Database System Data Manual, Version 1.5*, Road Safety and Road User Management Directorate, Roads and Traffic Authority of NSW, June 2001.





Picture courtesy of Two Wheels





## Crash data analysis

The major source of data on road crashes is based on the information collected by police. The data is primarily collected for enforcement purposes and is then re-packaged by the RTA to provide information on incidence and patterns of crash. Further information is subsequently collected from casualties when admitted to hospitals and from insurance companies.

The health system and insurance data is more difficult to access and is not in a form that is compatible for matching with that of the Police or RTA, however it would appear that difficulties stem more from management and ownership issues than from any technological problems. All crashes have a single identifying number provided by the police that remains with the case as it passes through each system. It may be that the difficulties of data sharing and matching may be resolved in the future to provide better understanding of crash causes and outcomes through tracking.

Difficulties in working with data that fails to provide a depth of detail may be overcome through utilizing a specialized motorcycle crash investigation unit, along the lines of what is done for truck crashes. This would greatly enhance understanding the motorcycle crash factors of Pre-crash, (behavioural, road factors, vehicle factors), In-crash (injury causation to rider especially) and Post-crash (treatment and recovery). International standards for motorcycle crash reporting (MAIDS - Motorcycle In Depth Study) have been established and should be adopted in Australia.

The Ambulance Service of New South Wales may be an alternative source of data as it maintains a database of information collected at all motor vehicle accidents attended. While issues such as patient privacy and data matching would need to be resolved, the Ambulance Service data may be a valuable resource in establishing an accurate overall picture of motorcycle crashes. The rapid response of the Ambulance means they are frequently first on the scene and able to ask eyewitnesses what actually happened. Those involved in a crash may also speak more freely to an Ambulance Officer because they pose no threat of financial or legal action. The Ambulance Service Patient Reports may also provide a source of information on some of those motorcycle crashes not currently reported.

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44. James, Helen F. (1991), *Under-reporting of road traffic accidents*, Road User Safety Division, Transport and Road Research Laboratory in Traffic Engineering and Control, December 1991.



# Consultation and communication

## Public policy

The main avenue for input into public policy affecting motorcyclists in NSW is through the Motorcycle Consultative Committee, which meets every 6 months. The Committee is chaired by the RTA and membership is limited to the Motorcycle Council, MTA, FCAI and a representative of the Minister for Roads is invited to attend. This forum has been in place for over ten years and was previously known as the Motorcycle Safety Consultative Committee. There may be benefit in expanding the membership of the group to include other stakeholders. For example, NSW Police, NSW Ambulance, NSW Motor Accident Authority, key employers of motorcyclists such as Australia Post etc.

A key to many of the problems faced by motorcyclists appears to be their lack of separate status as road users under the law. Motorcycles are generally classed and treated within the same framework as cars. This approach fails to recognize their particular characteristics and requirements as vulnerable road users. It is most likely to be a factor in their general invisibility in road design, transport planning and facilities as well as in the development of road safety behavioural campaigns. There are also significant inconsistencies as to how different road user classes are handled within the regulatory environment. For example pedal cycles are defined as vehicles and their riders as drivers under the Roads Act, 1993, they are accommodated in the planning of all new roads but are not subject to registration or toll charges.

Regulatory control on motorcycle vehicle noise is another significant area of policy that is of concern for motorcyclists. While not advocating excessively noisy machines, a certain level of noise is regarded as a safety feature by many motorcyclists. The unique sound of a motorcycle can draw the attention of otherwise oblivious road users, this is particularly important in congested city areas where pedestrians are more likely to step into the path of motorcycles. The plea of motorcyclists for recognition of the value of audible conspicuity is often confused by non-motorcyclists with the small number of excessively noisy machines which do exist and which give a poor public image to all motorcyclists.

Road safety campaigns aimed at improving road user behaviour, focus on the State road safety priorities of alcohol, speed and fatigue for all road users. The RTA also funds specific campaigns to improve pedestrian and pedal cycle safety, whereas the primary focus of State funding for motorcycle safety is on the novice rider training program. To date, it would appear that the only road safety education campaigns specifically designed for motorcyclists in NSW have been developed and funded by the MCC. While the RTA does not fund specific motorcycle awareness road safety campaigns, it does provide funding to the MCC for the coordination of the annual Motorcycle Awareness Week. At the Federal level, the ATSB has funded the preparation of a video (Ride On) and other safe riding material, however, there is no mechanism to deliver these safe riding messages to motorcyclists in NSW.

Great things are not done by  
impulse, but by a series of small  
things brought together.  
Vincent Van Gogh





Picture courtesy of Hugh Johnson



## Public image

Motorcyclists have long suffered from a poor public image. Historically this is derived from old stereotypes and perpetuated by the media promoting fear and mistrust. There is little broad public understanding of the changing demographic of motorcyclists who are generally older, better educated and wealthier than stereotypes would suggest. Towns along popular motorcycle tour routes are beginning to appreciate the economic advantages but little has been done to determine the economic contribution of motorcyclists as a social group.

A study for the Federal Office of Road Safety in 1995 identified a number of safety problems associated with the poor public image of motorcyclists.<sup>45</sup>

Motorists tended to be influenced by old “bikie” stereotypes and feel an emotional distance from motorcyclists. They had little understanding of the riding activity or risks associated with it, nor did they have any knowledge of how to interact with motorcyclists as road users. Brooks and Guppy (1990) identified lack of social awareness of motorcycles as a factor which may predispose drivers to errors when interacting with motorcycles. Their results suggested that some of the variance in accident involvement with motorcycles may be accounted for by lack of driver social and technical awareness.<sup>46</sup>

The poor public image has direct road safety implications in the on-road behaviour of motorists towards motorcyclists. It also has broader significance in relation to their inclusion in transport planning and facilities, road user consultations and the development of countermeasures to address motorcycle crash incidence.



Picture courtesy of Dave Millsud

45. Krige, Maxine (1995), *Motorists Attitudes Towards Motorcyclists and Motorcyclists Current Attitudes and Behaviour*, Public Education Market Research Report, 3/95 Federal Office of Road Safety, Canberra.

46. Brooks, P & Guppy, A (1990), *Driver Awareness and Motorcycle Accidents*, Proceedings: International Motorcycle Safety Conference, Florida, USA October 1990, p.29.





## CTP insurance and registration

There are some 85,000 motorcycles registered in NSW, but, on average, only 100 CTP claims against motorcyclists are received by the MAA each year. By contrast there are some 2.7 million motor cars with approximately 10,000 claims against them each year. On this basis one in every 850 motorcycles will be the subject of a CTP claim, whereas the claim ratio for cars is one in 265.<sup>47</sup>

The relatively low claim rate is despite the higher crash risk of motorcyclists because 81% of motorcycle crashes are either the fault of the other driver or do not involve any other vehicle, so claims against motorcyclists are in fact relatively rare.<sup>48</sup> Motorcycles were involved in 1022 multi-vehicle crashes in 2000 where the other vehicle was the key vehicle (45% of all motorcycle crashes) and a further 822 single vehicle crashes (36% of all motorcycle crashes). There were only 434 motorcycle crashes (19% of all motorcycle crashes) where the motorcycle was noted as the key vehicle. Pillion riders were involved in 8% of all motorcycle crashes resulting in a total of 140 pillion casualties. However, according to the MAA there have been only 299 claims from motorcyclists and 50 from pillion riders for crashes in 2000.

There is a widespread perception amongst motorcyclists that the cost of CTP (third party) insurance and registration for motorcycles is expensive by comparison with other road users. Whether or not the perception is valid, it is a matter of concern if it creates a disincentive to register vehicles and thereby creates a community of riders who operate outside the law and have little to lose.

In 2000, 5% of motorcycle crashes involved unregistered motorcycles but 15% of motorcycle fatalities involved unregistered motorcycles. The riders in these crashes were more likely to be young (61% under 26) and unlicensed or disqualified (64%). In addition, they were twice as likely to be carrying a pillion passenger when they crashed (14% unregistered compared to 7% registered motorcycles in crashes).<sup>49</sup>

We do not know how many of these unregistered motorcycles were off-road machines, however we do know that off-road motorcycles account for 30% of the market, but only half of those sold are subsequently registered for road use.<sup>50</sup> Until the recent adoption of the Australian Road Rules, there was no requirement for off-road motorcycles to be registered unless they were also to be used on public roads.

### Single vehicle crashes

The 36% of motorcycle crashes that are single vehicle crashes do not involve CTP claims unless a pillion rider was hurt, as there is no third party to make a claim. In cases where a single vehicle crash may be attributed to a vehicle that has left the scene, a claim may be made against the Nominal Defendant. However, in most single vehicle crashes, the driver or rider has no insurance cover unless they can prove extenuating circumstances such as road condition. Where road condition can be shown to have been a contributing factor in a crash, it is against the road authority that a claim must be made and is outside the CTP insurance scheme.

47. MAA (2002), *CTP Claims Experience Report - Motorcycles (data as at 30 September, 2001)*, Table 1a & 1b, Unpublished report, NSW Motor Accidents Authority, Sydney.

48. The 81% includes the 36% of single vehicle crashes and the 45% that claimed under the other driver's policy. RTA (2001) *Road Traffic Accidents in New South Wales 2000 Statistical Statement*; Year ended 31 December 2000, Road Safety Branch, Roads and Traffic Authority, November 2001.

49. RTA (2001), *RTA Road Traffic Accident Data Base, 2000*.

50. Ray Newland (FCAI), Federal Chamber of Automotive Industries - Motorcycle Group, personal communication, March 2002.



## Classes of motorcycle under the CTP system

The CTP system distinguishes 3 groups of motorcycle: those below 100 cc, those between 100-200 cc, and those above 300 cc. Older riders (40 plus) are more likely to own larger capacity motorcycles and to have a much lower crash involvement than younger riders however this is not taken into account in setting premiums. Young riders are more likely to ride smaller capacity machines due to the restrictions of the learner licensing scheme in NSW. Riders under the age of 25 own only 10% of the motorcycles but are involved in 33% of casualty crashes (refer figure 8).

## Pillion excess

Published information from the MAA points to the high cost of pillion injuries and their contribution to current premium levels. There is some interest amongst motorcyclists for the development of separate premiums for those motorcycles that are not built to carry pillions. Such insurance is available in Queensland at about one third the cost of registration for a normal motorcycle or motorcycle with sidecar. Such a scheme could be popular as a high proportion of motorcyclists do not carry pillions. In the MCC survey only 23.2% of respondents regularly carried a pillion and 19.5% never carry a pillion.<sup>51</sup>

## LAMS (Learner Approved Motorcycle Scheme)

Until 2002, the licensing system in NSW restricted novice riders (learner and provisional licence holders) to riding motorcycles of 250cc or less. This system has recently been reviewed and from 2002, novice riders will be able to ride machines of up to 650cc where there is a low power to weight ratio. The new system will be known as LAMS (Learner Approved Motorcycle Scheme).

The LAMS class of motorcycles allows for larger capacity machines which are also physically larger in size than the small machines currently permitted as learner motorcycles. These larger machines are more comfortable and therefore safer for physically larger or heavier riders. These LAMS type machines are less demanding in terms of gear selection than machines with high revving smaller engines and require lower levels of concentration, similar to an automatic transmission in a car. These motorcycles are likely to be more attractive to many novice riders, as the simpler gear change removes a significant distraction, giving them more time to concentrate on traffic and road conditions.

The introduction of LAMS will require the establishment of a CTP insurance rate for this particular class of low power-to-weight ratio machine. This may provide an opportunity to review the whole basis of motorcycle CTP premiums.

51. de Rome et al (2002), *MCC Survey of Motorcyclists, 2001*, Motorcycle Council of NSW.





## OBJECTIVE 7

### To increase understanding and implementation of crash prevention strategies

#### Crash investigation

- 7.1 MCC to lobby for the adoption of international standards for motorcycle crash reporting (i.e. MAIDS)
- 7.2 MCC to lobby for the establishment of fully resourced accident investigation of all serious injury motorcycle crashes to be undertaken by people trained to understand motorcycle crashes.
- 7.3 MCC to work with agencies to improve police assessment, reporting and data collection of motorcycle crashes.
- 7.4 MCC to lobby for the establishment of a working party involving Police, RTA, Ambulance, MCC, forensic engineers and other experts to examine the means by which factors in motorcycle crashes can be correctly identified rather than the current default to assume excess speed.
- 7.5 MCC to lobby for research to review variations in police decisions to apply negligent driving charges in cases of single vehicle motorcycle and car crashes respectively by reviewing the COPS narrative.
- 7.6 MCC to lobby for research into the cause of single vehicle motorcycle crashes.
- 7.7 MCC to promote motorcyclists' awareness:
  - a. To ensure crashes are recorded appropriately by police, including the contribution of other factors such as road condition.
  - b. Of their right to claim extenuating circumstances in relation to other factors such as road condition or another vehicle in order to protect their license status and insurance.
  - c. To seek legal advice in relation to crashes where they believe there were other contributing factors.
- 7.8 MCC to lobby for the development of a training program on crash assessment and the contribution of road conditions and vehicle factors. This training to be required before police are accredited to attend road crashes and provided to all Highway Patrol as a first priority.
- 7.9 MCC to lobby to improve the current sources of crash data and develop new ones, including a system for data matching between sources such as Health, Ambulance, Police and the RTA.

#### Crash data analysis

- 7.10 MCC to lobby for the re-evaluation of current methods of road user risk assessments in terms of the basis of calculation used for motorcyclists.
- 7.11 MCC to lobby to allow public research access to crash data in line with other states and countries.
- 7.12 MCC to lobby for more research into the causal factors involved in serious casualty as well as fatality crashes.



## OBJECTIVE 8:

### To improve understanding and communications between government agencies and the motorcycling community.

- 8.1 MCC to work with agencies to formalise the framework for consultation and planning between government, other stakeholders and motorcycle community groups.
- 8.2 MCC to continue to work with the RTA on the implementation and continuing assessment of LAMS (Learner Approved Motorcycle Scheme).
- 8.3 MCC to develop a strategy to promote awareness of the representative status of the MCC.
- 8.4 MCC to develop a web site to communicate and implement the MCC Road Safety Strategic Plan (**Positioned for Safety**).
- 8.5 MCC to continue to support the ATSB Motorcycle Safety Consultative Forum.
- 8.6 MCC to review the current information dissemination processes to improve the quality and efficiency of communications to the motorcycling community.
- 8.7 MCC to develop a comprehensive Local Government strategy and communications package on the Web for motorcyclists to implement at the local level. The strategy to include information on:
  - a. The operational structure of councils as road authorities and community services agencies;
  - b. How best to approach a council to gain support for motorcycle initiatives at the local level.
  - c. What motorcyclists have a right to expect from their local councils in relation to the condition of local roads.
  - d. Who to notify about motorcycle road hazards.
  - e. Specific information on road furniture, road surface conditions and other hazards.
- 8.8 MCC to promote motorcyclists' awareness of their rights and appropriate procedures when involved in a crash where they wish to claim extenuating circumstances.
- 8.9 MCC to seek funding to establish a road hazard database on the MCC's web site that is updated by road users.
- 8.10 MCC write to each Local Council drawing their attention to Austroads Guide to Engineering Practice Part 15 - Motorcycle Safety, 1999 and requesting it be implemented at the local level.
- 8.11 MCC to lobby for a review of the current permitted noise levels for motorcycles and their safety implications.





## **OBJECTIVE 9:**

### **To improve the public image of motorcyclists**

- 9.1 MCC to seek funding for a project working with communications experts to identify the core ideas underpinning negative perceptions of motorcyclists and develop a communications strategy to challenge these assumptions.
- 9.2 MCC to seek funding for a project to improve the image of motorcyclists as tourists and consumers to counter prejudice and clarify the relative economic benefits of motorcyclists to a community.
- 9.3 MCC to work with local authorities to promote motorcycle friendly tourist destinations.

## **OBJECTIVE 10**

### **To establish an equitable basis for insurance and other regulatory charges.**

- 10.1 Lobby RTA for a review of the basis for motorcycle registration and toll charges.
- 10.2 MCC to lobby the MAA to consider the development of a reduced premium for motorcycles that do not have provision for a pillion passenger.
- 10.3 MCC to lobby for a review of the CTP insurance system.
- 10.4 MCC to lobby for the amendment of the Roads Act, 1993 and other relevant acts of parliament to distinguish motorcycles as a separate class of road users.



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## Glossary

<b>ABS</b>	Anti-locking Braking System
<b>ACIS</b>	Australian Crash Investigation Study
<b>ADR</b>	Australian Design Rules for vehicles
<b>Advanced rider training courses</b>	Post license training generally focusing on roadcraft, cornering, braking and other skills.
<b>AMF</b>	Australian Motorcycle Federation
<b>ANCAP</b>	Australian New Car Assessment Program
<b>ATSB</b>	Australian Transport Safety Bureau
<b>Austroroads</b>	Australian Transport Safety Bureau
<b>Body armour</b>	Can refer to helmets but is generally used to refer to impact protectors added to clothing. May include elbow, back, shoulder and knee protectors. Clothing should be identified with a label of compliance with EU Standard EN 1621-1: 1998.
<b>Casualty</b>	Any person killed or injured as a result of an accident.
<b>Chopper</b>	A motorcycle which has been modified with an extended front fork assembly. These vehicles are usually fitted with extended upright handlebars to accommodate a more reclined riding position.
<b>Commuter</b>	A lightweight, small capacity motorcycle for urban use.
<b>Compulsory rider training</b>	NSW novice rider training program
<b>COPS</b>	Computerised Operational Policing System
<b>Countermeasure</b>	A specific action taken to address an identified problem.
<b>Cruisers</b>	A large framed motorcycle with upright or pulled back handlebars and large fenders. They typically have large padded seats with a low seat height. The rider sits upright or slightly reclined.
<b>CTP</b>	Compulsory Third Party insurance for registered vehicles in NSW.
<b>Day Rides</b>	Day rides are generally social events organized by motorcycle groups for groups of riders to travel together on a set route.
<b>Fatal accident</b>	An accident in which there is at least one person killed.
<b>Fatigue</b>	Fatigue is identified as a contributing factor in an accident if the controller was asleep, drowsy or fatigued and/ or the vehicle performed a manoeuvre which suggested loss of concentration by the controller.
<b>FCAI</b>	Federal Chamber of Automotive Industries - Motorcycle Group
<b>FEMA</b>	Federation of European Motorcyclists Associations
<b>FORS</b>	Federal Office of Road Safety
<b>HART</b>	Honda Australia Roadcraft Training
<b>Helmet</b>	An approved helmet complies with AS/NZS 1698.
<b>IIH</b>	Institute for International Health, University of Sydney
<b>IMMA</b>	International Motorcycle Manufacturers Association
<b>IPWEA</b>	Institute of Public Works Engineering, Australia
<b>IRMRC</b>	NSW Injury Risk Management Research Centre
<b>Key Vehicle</b>	The key vehicle is generally the vehicle considered to have played the major role in the accident.
<b>LAMS</b>	Learner Approved Motorcycle Scheme (NSW)
<b>Lane splitting</b>	The practice of passing a car in its own lane whilst the traffic is stopped.
<b>LGSA</b>	Local Government and Shires Associations
<b>MAA</b>	Motor Accidents Authority of NSW
<b>MAIDS</b>	Motorcycle Accident In-Depth Study, the OECD International Standard for Crash Investigation.
<b>Middle aged motorcyclists</b>	Defined in this document as riders aged between 26-39 years.
<b>Motorcycle Awareness Week</b>	A program of events to celebrate motorcycling and raise other road user's awareness of motorcycle safety. Organised by the Motorcycle Council of NSW and funded by the Roads and Traffic Authority.

<b>Motorcycle Consultative Committee</b>	Committee chaired by the Roads and Traffic Authority and comprised of the Motorcycle Council of NSW, Inc., the Motor Traders Association and the Federal Chamber of Automotive Industries - Motorcycle Group.
<b>MTA</b>	Motor Traders Association
<b>MUARC</b>	Monash University Accident Research Centre
<b>NCAP</b>	New Car Assessment Program
<b>Nominal Defendant</b>	The Nominal Defendant Scheme in NSW enables an injured third party to make a CTP claim where the owner/driver of the vehicle at fault is uninsured or unidentifiable.
<b>NRMA</b>	National Road Motoring Association
<b>Older motorcyclists</b>	Defined in this document as riders aged 40 years or more.
<b>Partner</b>	Stakeholders who will be actively involved in the implementation of the Motorcycle Road Safety Strategic Plan..
<b>Pillion</b>	Motorcycle passenger who sits behind the rider.
<b>Protective clothing</b>	All outerwear with some protective function including boots, gloves and long pants or jacket. Protection may be provided through abrasion resistant fabric, padding and /or body armour.
<b>Road furniture</b>	Road furniture is the term used for all the fixtures in the road environment including fixed objects on the road surface and in the road reserve. It includes bus shelters, cats eyes, light poles, safety barriers, traffic signs and telephone boxes.
<b>Road Safety 2010</b>	NSW State Government road safety strategic plan for the period 2001 to 2010.
<b>Roadcraft</b>	A collection of attitudes and decision making policies which use learned skills in order to avoid crises and crashes whilst traveling on the road.
<b>RTA</b>	Roads and Traffic Authority of NSW
<b>Scooters</b>	A motorcycle with a floorboard for the riders feet. Generally of small capacity, from 50 cc to 185 cc with automatic transmission. The riding position is upright.
<b>SOC</b>	NSW Streets Opening Conference. Responsible for codes and practices on managing street openings for the provision of underground utility services.
<b>Speeding</b>	Speeding is defined as excessive speed for the prevailing conditions and may, but does not necessarily imply exceeding the posted speed limit.
<b>Sports bikes</b>	Motorcycles with drop handlebars, a small windscreen and an aerodynamic fairing. Riders tend to lean forward over the petrol tank.
<b>Stakeholder</b>	In this document stakeholders are defined as individuals and organizations with a personal interest in, or a professional responsibility for, motorcycles and motorcycling safety.
<b>Standard bikes</b>	Motorcycles of a conventional design with upright handlebars and usually without fairings.
<b>Standards Australia</b>	National body for establishing codes of practice or equipment standards.
<b>Stop Line</b>	The line at an intersection, usually accompanied by a stop sign or traffic light.
<b>TAC</b>	Victorian Traffic Accident Commission
<b>TADS</b>	The RTA Traffic Accident Database System
<b>Tourers</b>	Motorcycles designed for long distance travel often fitted with removable side luggage compartments, rear cargo box and may have trailers. They typically have a large fairing. Riders tend to sit upright.
<b>Track Days</b>	A privately run event at a closed race track in which riders may participate at their own risk.
<b>Traffic Offenders Program</b>	A program run by the NSW Police to educate and counsel drivers once they have come to the attention of the Courts through their history of driving offences.
<b>Trail or off road motorcycles</b>	A motorcycle with suspension and tires designed for rough terrain. Almost 30% of the market in Australia are off road bikes with about half also registered for on road use.
<b>Unlicensed Riders</b>	Includes riders whose license status is either disqualified, invalid, cancelled or they have never been licensed.
<b>VMAC</b>	Victorian Motorcycle Advisory Council
<b>WIMA</b>	Women's International Motorcycle Association
<b>Younger motorcyclists</b>	Defined in this document as riders under 26 years



<p><b>OBJECTIVE 1</b>  <b>To reduce the incidence of single vehicle motorcycle crashes.</b></p> <p>1.1 MCC to lobby road authorities to introduce a system of crash investigation of motorcycle crashes, and particularly single vehicle crashes, under prevailing conditions.</p> <p>1.2 MCC to lobby road authorities to conduct compulsory road safety audits at the site of all serious and fatal motorcycle crashes.</p> <p>1.3 MCC to lobby road authorities to establish a single centralized hotline for motorcyclists to report traffic hazards such as road surface irregularities. The system to provide an on-reporting service to refer matters to the relevant local councils and include a monitoring role for the MCC.</p> <p>1.4 MCC to develop a Local Government Motorcycle Safety Program to encourage Local Councils to work with motorcyclists to identify and remediate motorcycle hazards and/or providing warning signs specifically targeting motorcyclists at identified risk sites.</p> <p>1.5 MCC to establish a program to identify and lobby for the remediation of blackspots on key motorcycle routes, particularly those in the Newcastle/Sydney/ Wollongong area.</p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p><b>OBJECTIVE 2</b>  <b>To ensure road authorities accommodate the safety of motorcyclists in the planning, design, construction and management of roads and the road environment.</b></p> <p>2.1 MCC to lobby the RTA to review the RTA Road Design Guide to include information for road designers on motorcycle characteristics in all relevant sections to ensure they appreciate the differences in crash risk and impact consequences for motorcyclists.</p> <p>2.2 MCC to lobby road authorities to:</p> <ol style="list-style-type: none"> <li>Review Standards and Guidelines to accommodate motorcycle needs. For example in relation to crash barriers, pavement marking paint and surface treatments;</li> <li>Establish systems to ensure the relevant guidelines (e.g. Guidelines to Traffic Engineering Practice, Part 15, RTA Road Design Guidelines etc) are applied in all road and road side designs;</li> <li>Use motorcycle oriented road safety audits at the design and pre-opening stages for all new road works;</li> <li>Minimize the use of roadside poles to reduce distraction and hazards to motorcyclists by encouraging generic signage policy and the use of multiple signs on poles.</li> <li>Ensure all road design, construction and maintenance guidelines and standards include consideration of motorcycle needs; and</li> <li>Establish procedures to ensure compliance with guidelines and standards at construction and maintenance work sites.</li> </ol>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

<p>2.3 Lobby the Street Opening Conference to recommend a new agreement to ensure utilities and road authorities undertake the prompt restoration of roads after road works to comply with motorcycle safety standards.</p> <p>2.4 MCC to work with LGSA/ IPWEA to review guidelines and policies on road furniture safety and to warn local councils of their liability in relation to motorcyclist injuries.</p> <p>2.5 MCC to develop a program to promote the systematic removal of poles in the road environment. The programs should include lobbying:</p> <ol style="list-style-type: none"> <li>Utilities to convert overhead cable to underground lines;</li> <li>Road authorities to develop priorities for the removal of poles in high risk locations (e.g. on the outside curves);</li> <li>Supporting the Local Government and Shires Association policy to convert all overhead power supply to underground lines.</li> </ol> <p>2.6 MCC to lobby Austroads to ensure consideration of motorcycle needs are included in reviews of all parts of the Guide to Traffic Engineering Practice.</p> <p>2.7 MCC to lobby Austroads to produce a video and communication package to introduce road authorities to the concepts involved in Guide to Traffic Engineering Practice, Part 15 - Motorcycle Safety.</p>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<p><b>OBJECTIVE 3</b></p> <p><b>To increase provision for motorcycles in transport planning.</b></p> <p>3.1 MCC to lobby road authorities to establish motorcycles as a separate category of road user for planning purposes.</p> <p>3.2 MCC to work with industry and other stakeholders to develop a strategy to promote the benefits of motorcycles as a sustainable environmentally friendly form of transport to government agencies and the community.</p> <p>3.3 MCC to work with industry to develop a strategy to encourage Local Councils to:</p> <ol style="list-style-type: none"> <li>Include provision for motorcycles in their urban parking strategies;</li> <li>Incorporate requirements for the provision of secure motorcycle parking in Development Control Plans for all commercial developments over a specific size.</li> </ol> <p>3.4 MCC to encourage motorcyclists to lobby their Local Councils to provide secure motorcycle parking with lockers in commercial developments and commuter parking areas.</p> <p>3.5 Lobby relevant agencies to fund research into the cost benefits of expenditure on cycle facilities compared to motorcycle facilities.</p>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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## Objective 7

## To increase understanding and implementation of crash prevention strategies.

### Crash Investigation

- 7.1 MCC to lobby for the adoption of international standards for motorcycle crash reporting (i.e. MAIDS).
- 7.2 MCC to lobby for the establishment of fully resourced accident investigation of all serious injury motorcycle crashes undertaken by people trained to understand motorcycle crashes.
- 7.3 MCC to work with agencies to improve police assessment, reporting and data collection of motorcycle crashes.
- 7.4 MCC to lobby for the establishment of a working party involving Police, RTA, Ambulance, MCC, forensic engineers and other experts to examine the means by which factors in motorcycle crashes can be correctly identified rather than the current default to assume excess speed.
- 7.5 MCC to lobby for research to review variations in police decisions to apply negligent driving charges in cases of single vehicle motorcycle and car crashes respectively by reviewing the COPS narrative.
- 7.6 MCC to lobby for research into the cause of single vehicle motorcycle crashes.
- 7.7 MCC to promote motorcyclists' awareness:
- To ensure crashes are recorded appropriately by police including the contribution of other factors such as road condition,
  - Of their right to claim extenuating circumstances in relation to other factors such as road condition or another vehicle in order to protect their license status and insurance, and,
  - To seek legal advice in relation to crashes where they believe there were other contributing factors.
- 7.8 MCC to lobby for the development of a training program on crash assessment and the contribution of road conditions and vehicle factors. This training to be required before police are accredited to attend road crashes and provided to all Highway Patrol as a first priority.
- 7.9 MCC to lobby to improve the current sources of information and develop new ones, including a system for data matching between sources such as Health, Ambulance, Police and the RTA on road crashes.

### Crash Data Analysis

- 7.10 MCC to lobby for the re-evaluation of current methods of road user risk assessments in terms of the basis of calculation used for motorcyclists.
- 7.11 MCC to lobby to allow public research access to crash data in line with other states and countries.
- 7.12 MCC to lobby for more research into the causal factors involved in serious casualty as well as fatality crashes.

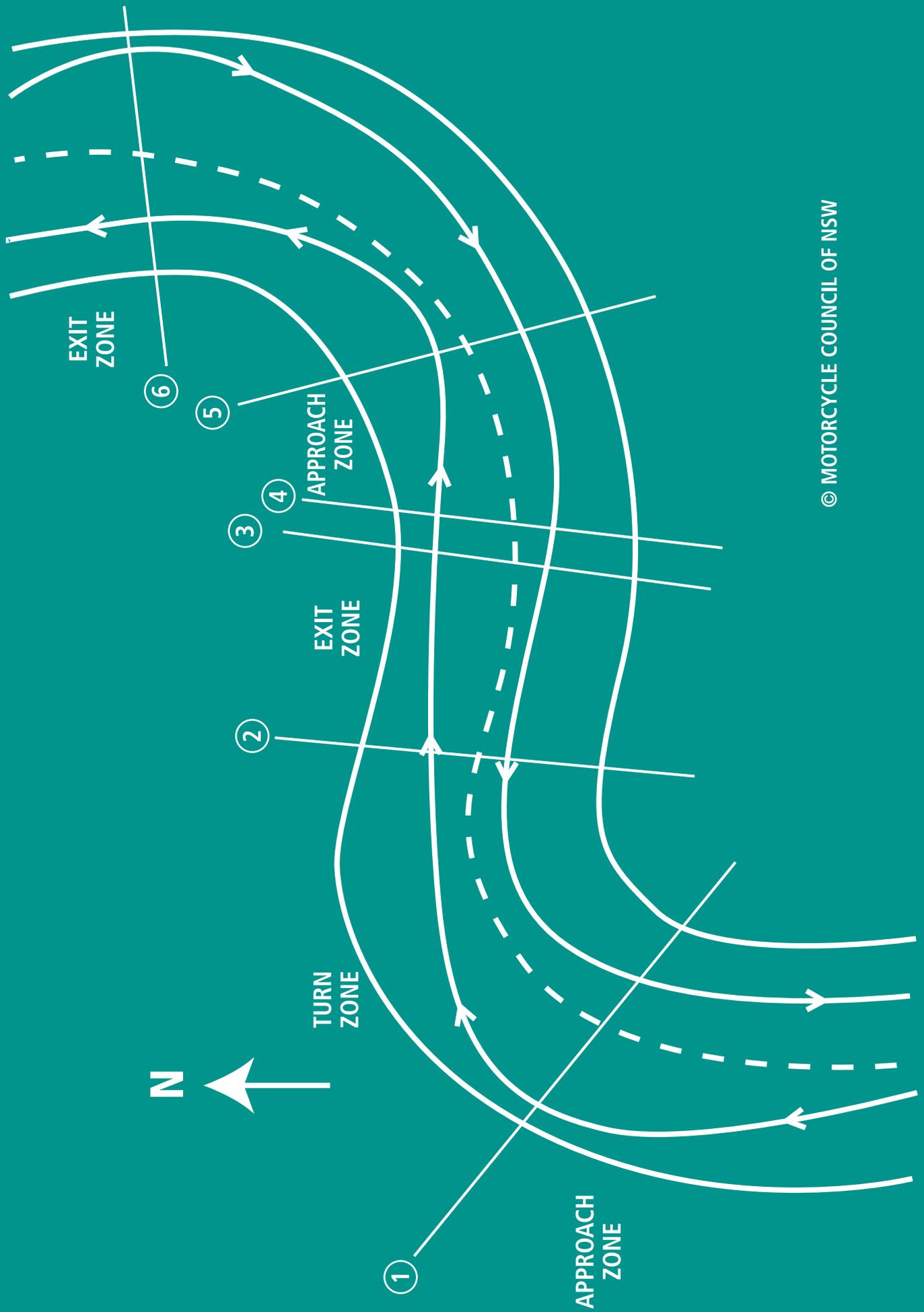


**OBJECTIVE 9****To improve the public image of motorcyclists.**

- 9.1 MCC to seek funding for a project working with communications experts to identify the core ideas underpinning negative perceptions of motorcyclists and develop a communications strategy to challenge these assumptions.
- 9.2 MCC to seek funding for a project to improve the image of motorcyclists as tourists and consumers to counter prejudice and clarify the relative economic benefits of motorcyclists to a community.
- 9.3 MCC to work with local authorities to promote motorcycle friendly tourist destinations.

**OBJECTIVE 10****To establish an equitable basis for insurance and other regulatory charges.**

10. Lobby RTA for a review of the basis for motorcycle registration and toll charges.
- 10.2 MCC to lobby the MAA to consider the development of a reduced premium for motorcycles that do not have provision for a pillion passenger.
- 10.3 MCC to lobby for a review of the CTP insurance system.
- 10.4 MCC to lobby for the amendment of the Roads Act, 1993 and other relevant acts of parliament to distinguish motorcycles as a separate class of road users.



# Desiderider

Go swiftly amidst the noise and haste,  
And remember what joy there may be in motorcycling.  
As far as possible, without surrender,  
Be on good terms with all dealers.  
Twist your throttle quickly and quietly,  
And listen for others,  
Even the dull and ignorant cagers;  
They too, have their rights to the road.  
Avoid loud pipes and aggressive drivers,  
They are vexations to the spirit.  
If you ride with others,  
You may become vain and bitter,  
For there will always be faster and slower persons than yourself.  
Enjoy your rides as well as planning them.  
Keep interested in your own bike, however humble,  
It is a real possession in the changing fortunes of time.  
Exercise caution in your riding;  
For the world is full of assholes.  
But let this not blind you to what pleasure there is;  
Many persons strive for excellent riding;  
And everywhere life is full of good riding experiences.  
Be yourself.  
Especially do not feign affection for other bikes.  
Neither be cynical about other bikes;  
For in the face of all cages and accidents  
They are as perennial as the grass.  
Take kindly the counsel of years,  
Gracefully surrendering the rashness of youth.  
Nurture good riding skills to shield you in sudden misfortune.  
But do not distress yourself with imagined problems.  
Many fears are born of fatigue and loneliness.  
Beyond an overpowering desire to ride,  
Be gentle with yourself.  
You are a child of the universe,  
No less than the trees and the stars;  
You have a right to be here and out on the road.  
And whether or not it is clear to you,  
No doubt the road is winding as it should.  
Therefore be at peace with your ideal bike,  
Whatever you conceive it to be,  
And whatever your labours and aspirations,  
In the noisy confusion of bikes,  
Keep peace in your soul.  
With all its sham,  
Drudgery and broken dreams,  
It is still a beautiful experience to go riding.  
Be careful.  
Strive to be happy.

*Unknown  
but with apologies to Max Ehrmann*

MOTORCYCLE COUNCIL  
OF NEW SOUTH WALES  
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