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Road Safety Committee

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ROAD SAFETY COMMITTEE

Inquiry into Motorcycle Safety

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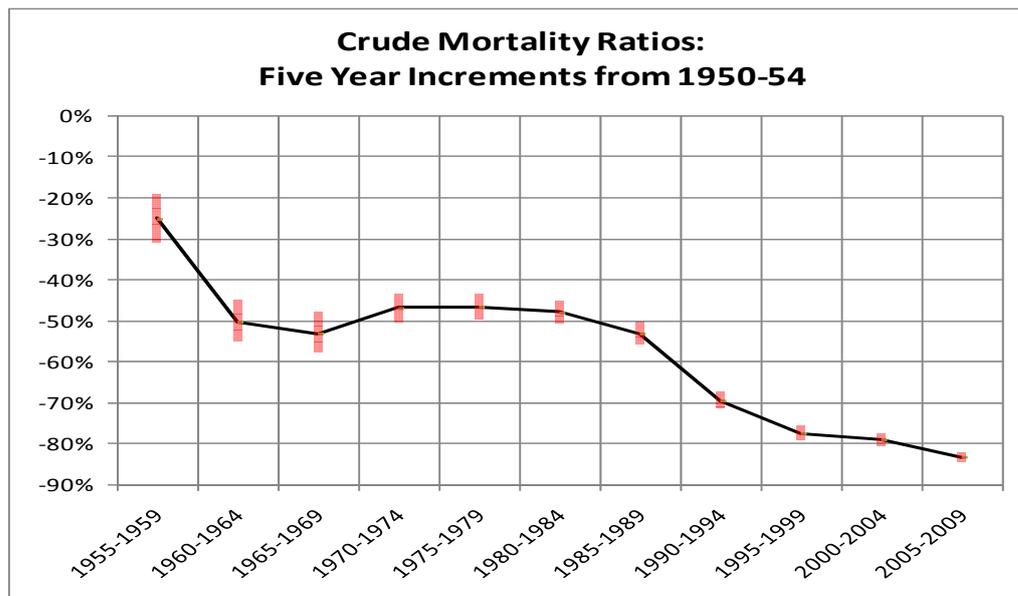
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TERMS OF REFERENCE

This submission may address one or more of the Terms of Reference in any given section but will identify the relevant TORs under the section heading.

CRASH TRENDS OVER TIME - TOR (a)

The following graph compiled from ABS fatality figures by Dr Michael Kremmer shows the trend over time in motorcycle fatalities from 1955 to 2009.



The graph measures the fall in motorcycle mortality rates since the 1950 to 1954 period, in five year increments. It shows that mortality rates have fallen by more than 80 % over that time. It also shows that rates remained constant at 50 % of the 1950's rate from 1964 to 1984, the second boom in the bike market and then began to fall dramatically with the beginning of the third boom in 1990-1994 and continues to fall.

Industry figures from the Federal Chamber of Automotive Industries (FCAI) indicate that new national motorcycle sales in the 10 years from 1997 to 2007 rose from 37,000 to 134,000. Despite this strong growth in sales motorcycle fatalities continued to fall during this same period.

In contrast, governments and agencies typically use raw fatality crash data comparing year on year over 2 - 5 years periods when attempting to identify trends in motorcycle fatalities. Comparisons over such short time spans cannot provide any significant evidence in rises or falls in the fatality rates but simply indicate differences that invite further investigation.

In addition States often compare their fatality rates with other States. It is not obvious how, for example raw crash data of Queensland and Victoria could be sensibly compared.

While the rainfall and relatively low temperatures can be expected to impact on the amount of motorcycling that takes place in each State, the point at which significant numbers of riders consider it too cold or too wet to go riding are likely to be substantially different from one state to the other and consequently any apparent differences in the raw fatality data are more likely to be a consequence of differences in demographics, motorcycle sales, the climate and or the weather and should invite further investigation but cannot be taken as anything more.

The RSC is urged to recommend that government researches motorcycle fatality trends over 2 and 30 years time spans to verify both short and long term trends.

MAJOR MOTORCYCLE SAFETY ISSUES

In the past 3 years significant national and international conferences/events have taken place between key stakeholder representatives from government, researchers, industry and riders to identify strategies and measures aimed at identifying motorcycle safety issues and reducing motorcycle crashes.

The most notable of these have been:

- The Motorcycle & Scooter Safety Summit – “*The Road Ahead*” - held in Canberra, April 2008 and;
- The International Transport Forum’s (ITF) Joint OECD/ITF Transport Research Committee - “*Workshop on Motorcycle Safety*” - held in Lillehammer, Norway - June 2008

These conferences produced almost identical recommendations differing mainly in priority. Complete recommendations for each may be found attached as separate documents with this submission.

Among the top recommendations from each conference were two common key issues that highlight their importance at both the local and global levels. These were:

Canberra

Data and Analysis

Training and Licensing

Norway

Research and Evaluation

Training Programmes

Rider Protection (clothing) and Transport and Infrastructure Policy respectively made up the third priority for each.

Data and Analysis (Canberra) - TOR (a)

Key Action

- A working group of stakeholder representatives be set up to develop an information strategy to define data needs in the short, medium and long term.

Data collection and analysis was rated as the top priority by the attendees at the Canberra summit. The collection and analysis of quality crash data is imperative for identifying crash causation factors so that appropriate countermeasures may be researched and developed.

Unlike Europe, where the use of OECD Methodology has been employed for such data collection research as MAIDS (Motorcycle Accident In Depth Study) the quality of local crash data is very superficial and relies heavily on reports mostly compiled by police many of whom have little to no knowledge of motorcycling.

The RSC is urged to recommend substantial improvements to the quality of motorcycle crash data collection and analysis in line with international techniques.

Research and Evaluation (Lillehammer, Norway) - TOR (a)

Counter measures need to be based on scientific research into driver and rider behaviour and before-and-after evaluations should be conducted.

Research and evaluation must be able to show empirical evidence and must be open, transparent and credible to all those in the motorcycle community that will be affected by the introduction of policy or legislation countermeasures resulting from the research.

Recently much has been said of the need for policy and legislation to be evidence based. This is taken to mean that for the policy or legislation to proceed there must be empirical evidence supporting its implementation.

Of course this is not always the case. Sometimes policy is developed from an idea or an observation of something that appears to be working successfully in another state or country but importantly when such policy is implemented it must be evaluated to determine whether or not it has any empirical evidence.

Where the evaluation does produce evidence the government of the day can justifiably uphold the policy or legislation but where no evidence can be found the policy or legislation should be discontinued.

In the case of road safety, governments or their agencies sometimes claim to have evidence supporting proposed policy or legislation based on research commissioned through a recognised research institution. However, when the data, methodology and statistical calculations of the research are requested for review by an external organisation this data is unavailable.

Evidence based research must be peer reviewed and be available to external organisations or researchers in order that it can withstand public scrutiny. This is the premise upon which all global scientific evidence is founded. There is no such thing as “secret research”.

The Victorian Government promised to provide transparency, therefore all government initiated or commissioned motorcycle safety research must be made available for review as described above.

The RSC is urged to recommend that all government initiated/commissioned motorcycle safety research data and methodology be freely available for review.

Training Programmes (Lillehammer, Norway)

Countries have different training needs, based on their vehicle fleet and training resources. Motorcycle training should therefore build on existing standards, focus on risk awareness and risk avoidance, and develop an understanding of the rider/motorcycle capacities and limitations.

Training and Licensing (Canberra Summit)

Key Action

The MSCC to convene an expert working group to develop key criteria for national graduated training and licensing systems for motorcycles and scooters.

Future directions

- Implement post-licence training as a continuation of the licensing process, particularly for returning riders.
- Incorporate best practice knowledge, attitudes and higher-order cognitive skills into rider education programs.
- Provide incentives to stay on Learner Approved Motorcycle Scheme (LAMS) motorcycles through lower registration fees and/or lower compulsory third party insurance premium incentives.

TRAINING PROGRAMS AND LICENSING - TOR (f)

In recent times some states have increased the minimum age for a motorcycle learner permit to that commensurate with or higher than the provisional licence age for a car. This has been largely based on advice that motorcycle riding is a higher order skill than that of car driving and also on the belief that if a person is licensed to drive a car they may be less likely to pursue the riskier activity of motorcycle riding.

There is very little evidence to support this view and it is considered discriminatory against those wanting to enter motorcycling.

Training - TOR (f)

There is no empirical evidence that rider training reduces motorcycle crash risk. However, government initiated rider training (either voluntary or compulsory) exists as part of the current licensing scheme in all states and territories except Western Australia. Rider training therefore is an integral part of motorcycle licensing programs across most of Australia.

The training differs markedly between states in duration, content and cost and is delivered by accredited training providers that in many states also provide the tests of skill and knowledge that are the only means through which novice riders can gain a licence.

In Victoria training is not compulsory allowing riders to choose the licence test option with no training. However the test option is also conducted by accredited training providers on behalf of the licensing jurisdiction VicRoads, a situation that does not imbue public confidence in the integrity of the test only option.

Acknowledging the growing road safety focus on the importance of hazard perception skills, risk awareness and rider responsibility and the emergence of these in most national and international rider training programs it would appear timely to discontinue the test only option that currently exists in Victoria so that all novice riders are exposed to these essential knowledge skills within a compulsory training program.

The RSC is urged to recommend that the Victorian training program becomes compulsory for all riders seeking a learner's permit or licence.

Best Practice (Australia) TOR (f)

In the opinion of the author, the RTA NSW training and assessment curriculum is considered as currently best practice in Australia and incorporates most of the elements of leading international training curricula and course structure with its specified competencies, balance of riding range exercises, classroom knowledge skills and importantly its real world "on-road" training/assessment component. This curriculum has also been adopted by Tasmania since 2005.

It is vital that an on-road training assessment component is included in any rider training program to ensure learners demonstrate appropriate visual scanning, hazard perception, safest positioning of the motorcycle and speed appropriate for the conditions in a variety of strategic traffic/roadway characteristics and are assessed using appropriate checklists. How else can the rider's on-road/in-traffic skills be assessed for the issue of a licence?

Equally important is the strong emphasis on the three critical skills vital to rider survival of **braking** (the #1 primary skill for riders) **swerving** (being able to steer around a hazard) and **riding curves** (a situation which results in a third of rider fatalities annually) in the range exercises segments of the NSW training curriculum.

These three critical skills were identified by A. James McKnight in the early 1980's as essential components for the remedial skills training section of the *Improved motorcyclist licensing and testing project* Anderson, J. W., Ford, J. L. & Peck, R. C. (1980) and are still valid today as important vehicle control skills within a comprehensive training and licensing program.

The RSC is urged to recommend that the Victorian training program be immediately reviewed against best practice and that it includes an on-road component. Further the RSC is urged to recommend that an expert committee with appropriate rider and accredited trainer representation be convened to conduct the review.

Training Instructors TOR (f)

The success of any training and licensing program is dependent upon the quality of the instructors. In most states the training of instructors is the responsibility of the accredited providers and since the mid 1990's Certificate IV in Workplace Training has been the recognized instructor qualification.

However the author is concerned that in some locations the licensing jurisdiction does not exercise sufficient audit control functions over accredited providers to ensure the specific "on the job training" of instructors in delivery of the training and testing procedures that often results in sub-standard quality of the training program for novice riders and a subsequent outcome of a less than competent licensed rider.

The RSC is urged to recommend significant improvement to the VicRoads audit procedures to ensure compliance of accredited providers with the specified standards of the training program and the quality of instructors.

Returning Rider Training TOR (f)

A returning rider is best described as one that held a motorcycle licence in younger years and for reasons such as raising a family has not been riding for some 10 - 20 years and decides to return to riding when the family is no longer dependant. Whilst still legally licensed the returning rider acquires a newer motorcycle and returns to riding on the road only to find that the motorcycle is much more powerful than previously owned and the traffic is much busier and more congested than previously experienced. This often results in the returning rider becoming involved in a serious motorcycle crash.

Over recent years the involvement of returning riders in fatalities and serious injuries has increased markedly according to VicRoads and other jurisdictions road safety figures. This has led to concern regarding how best to provide the most appropriate refresher training for this group.

Within the past two years VicRoads in conjunction with Honda Australia Rider Training (HART) has trialled an Assisted Rides program for licensed or returning riders. This is entirely an on-road coaching program aimed at helping riders refresh their on-road handling skills as well as their cognitive skills of risk awareness and hazard perception. Early feedback on this suggests a positive outcome for participating riders and could become a worthwhile prescribed program for returning riders.

The RSC is urged to recommend further funding of the Assisted Rides trial with a view to it becoming compulsory as a safety countermeasure for returning riders subject to final evaluation of the trial.

RIDER PROTECTIVE CLOTHING - TOR (g)

Recent VicRoads efforts to develop a Star rating system for protective clothing aimed at informing riders on the relative level of protection of various items have not yet been completed.

Motorcycle protective clothing is associated with a significantly reduced risk of injuries in crashes particularly when body armour is fitted (de Rome, L et al). This study recommends that protective clothing should be encouraged but not mandated at this stage due to the failure rate of many jackets, pants and gloves and the need to establish systems to ensure the apparel is fit for the purpose.

Standards have been developed in Europe to ensure the integrity of materials and construction of clothing and the protection ability of body armour. However de Rome, et al suggest the effectiveness of newer protective clothing complying with these standards has not yet been established in real world crashes.

The study also suggests that consideration be given to providing incentives such as tax waivers and health insurance rebates to encourage the use of protective clothing.

In its conclusion the study also suggests further research particularly into the association between crash risk and the wearing of protective clothing in hot weather such as experienced in Australia during summer.

The RSC is urged to recommend the continued promotion/ encouragement of protective clothing and possible incentives but to not recommend mandating its use until further evidence emerges.

TECHNOLOGY – ABS BRAKES - TOR (g & k)

Road safety researchers and governments in the developed world are currently examining the benefits of mandatory fitment of ABS to motorcycles. In Australia, the draft National Road Safety Strategy 2011-2020 suggests that consideration be given to the mandatory fitment of ABS to all new motorcycles.

Australia does not manufacture motorcycles and relies on UN ECE regulations, to which it is a signatory under the UN ECE Agreements 1958 & 1998, to determine the development of Australian Design Rules (ADRs) appropriate for motorcycles.

The EC (European Commission) recently announced mandatory ABS as a requirement for all new motorcycles above 125cc from 1/1/2017 and as a consequence will most likely be adopted by Australia.

The challenge of safely fitting ABS to the unique characteristics of single-track vehicles over a multitude of models has been ongoing for motorcycle research and development engineers globally since 1965 with the greatest advancements in reducing the size, weight and cost being made in the last decade.

Brand	ABS	Min cc	Max cc	2007	2010
Kawasaki	Yes	649	1700	0	10
Triumph	Yes	1050	1600	2	4
Suzuki	Yes	400	1250	4	7
Honda	Yes	400	1800	8	15
H-D	Yes	1584	1800	0	7
BMW	Yes	650	1300	14	14
				28 total	57 total

Figure 1

Large motorcycles above 1000cc have been fitted with ABS progressively over the past decade and many of these are available in the Australian market. A growing number of medium size motorcycles some within the Learner Approved Motorcycle Scheme (400cc to 650cc) are now available with ABS in Australia.

Contact with five major Australian importers of motorcycles in 2010 showed that 57 motorcycles of the five companies combined 140 road-registrable models were available in Australia with ABS. This represented more than double the number of models available from the companies with ABS in 2007. (See Fig. 1)

The Australian motorcycle industry continues to increase the number of models with ABS available to Australian motorcyclists as increasing numbers of ABS equipped motorcycles are produced by the overseas manufacturers.

The RSC is urged to recommend that manufacturers/importers be encouraged to import models with ABS to the Australian market and that the government and the industry jointly promote the virtues of ABS to prospective buyers.

The RSC is urged to recommend that mandatory ABS be introduced in parallel with the European Community plan for January 2017.

CONCLUSION

This submission does not comment on all of the Committee's Terms of Reference. Rather this submission focuses on those Terms of Reference that reflect on some existing countermeasures, their effectiveness and how these may be further developed and refined to improve the safety of Victorian motorcyclists.

The consultant would be pleased to further elaborate these issue at a committee hearing.

REFERENCES

Workshop on Motorcycle safety – Lillehammer Norway 2008

International Transport Forum

Joint OECD/ITF Transport Research Committee

Motorcycle and Scooter Safety Summit: The Road Ahead 2008

Sponsored by:

The Department of Infrastructure, Transport, Regional Development and Local Government

The Federal Chamber of Automotive Industries

The Department of Territory and Municipal Services (ACT)

MAIDS (Motorcycle Accident In Depth Study) (2004)

A joint study by EC (European Commission) ACEM (European Manufacturers) and partners based on OECD methodology.

Anderson, J. W., Ford, J. L. & Peck, R. C. (1980) *Improved motorcyclist licensing and testing project*

de Rome, L., Ivers, R., Fitzharris, M., Du, Wei., Haworth, N., Heritier, S., Richardson, D., (2011) *Gear Study 1 Motorcycling Protective Clothing: Protection from Injury or just the Weather?*