

Planning for Motorcycle Safety: Measures of Success

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ABSTRACT

This is a preliminary report comparing responses to two surveys of motorcyclists conducted in 2001 and 2006 in NSW. The first survey was conducted to inform the development of a road safety strategic plan by the Motorcycle Council of NSW (MCC). In the subsequent five years, a number of significant motorcycle safety initiatives were undertaken by State and Local government agencies and through the rider community. The second survey, in 2006, found evidence to suggest that the increased focus on motorcycle safety has registered with riders. A higher proportion of respondents in 2006 could recall a specific motorcycle safety message, there also appears to have been a general increase in safety dialogue amongst riders.

INTRODUCTION

In 2001 the Motorcycle Council of NSW (MCC) undertook a survey of motorcyclists as a part of a process for developing a strategic plan for improving motorcycle safety (de Rome & Stanford, 2002). At the time Australia ranked ninth best for road safety amongst 27 OECD nations, but ninth worst for motorcycle safety. Motorcycle fatalities were almost double the median for OECD nations (6.2 vs 3.6 per 10,000 registered vehicles (ATSB, 2004). The actual crash involvement rate for motorcycles in NSW was comparable to that of cars (272.1 vs 272.9 per 10,000 registered vehicles), but motorcyclists were four times more likely to be involved in a fatal crash (7.9 vs 1.9) and more than twice as likely (236.3 vs 101.1) to be involved in an injury crash (RTA, 2001).

Despite such figures, motorcyclists were not identified for targeted road safety programs. Consultation with the road safety agencies at the time, indicated that it was believed motorcyclists were adequately covered under general road safety campaigns directed at all motorists. There was also a view that it would be difficult to effectively deliver targeted information to motorcyclists because they were a relatively small but divergent group of road users (de Rome, Stanford & Wood, 2002).

The MCC Executive felt that there was a need for more research and targeted programs to address motorcycle safety. They obtained the support of the Motor Accidents Authority of NSW (MAA) who funded the development of a motorcycle safety strategic plan. The strategic plan was the product of consultation with the main stakeholders from government and industry. The plan identified key motorcycle safety issues in NSW and listed 91 strategies for addressing them. It was published in 2002 and distributed to all identified stakeholders with responsibilities for road safety and injury prevention.

Three years later, in 2005, an independent evaluation found that 75% of the strategies had achieved outcomes (Riches, 2005). There had been an observable increase in the level of activity associated with motorcycle safety in NSW by government agencies, researchers and the community. Initiatives include research projects into motorcycle fatigue and protective clothing, the development of a web site to deliver safety information to riders, a State funded motorcycle safety advertising campaign and a number of community based projects by local councils.

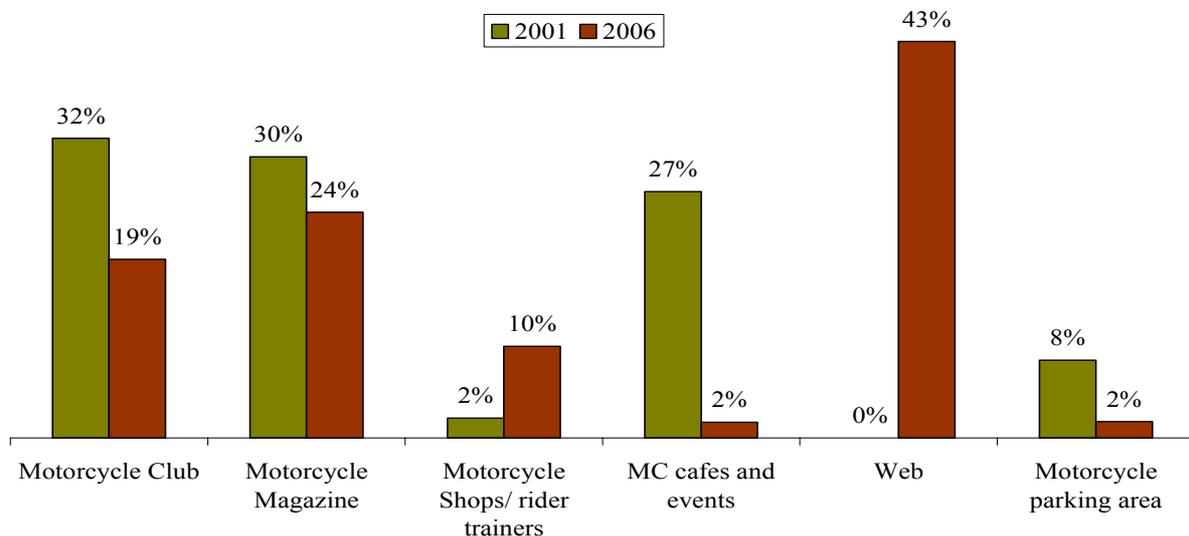
A second survey of motorcyclists was undertaken by the MCC in 2006 to inform the development of a second motorcycle safety strategic plan. The survey compared responses to those in 2001 on rider's awareness of motorcycle safety messages, their experience of rider training, crash involvement and their perceptions and management of risk. Details were also sought as to the type of protective clothing worn by riders and their pillions. The objective was to determine whether there had been any change in the road safety and risk management activities of motorcyclists over the intervening period. This paper is a preliminary report on a selection of questions from that survey, a more detailed report will be published in due course.

METHODOLOGY

The 2006 survey questionnaire was distributed using the same channels as in 2001. These included distribution at motorcycle club meetings through the MCC's member network, attached to motorcycle handle bars in public parking areas, through commercial outlets such as motorcycle shops and as an insert in a motorcycle magazine. In addition, an internet version of the 2006 survey was provided on the MCC web site. The surveys were conducted over a four week period in October/ November 2001 and in May 2006. Completed paper questionnaires were returned by mail or fax to the MCC. There were 1,299 respondents to the 2006 survey including 742 paper copies and 557 from the website. This compared to 796 respondents to the 2001 survey.

The magazine inserts were distributed through all NSW outlets of AMCN (Australian Motorcycle News) in 2006 (n=12,000), but only to NSW subscribers of Two Wheels (n=2,000) in 2001. The response rate for the magazines was 3% in 2006 compared to 12% in 2001. The overall response rate for club and community distribution was 35% compared to 47% in 2001.

Figure 1. Proportion of total response by survey distribution method, 2001 vs 2006



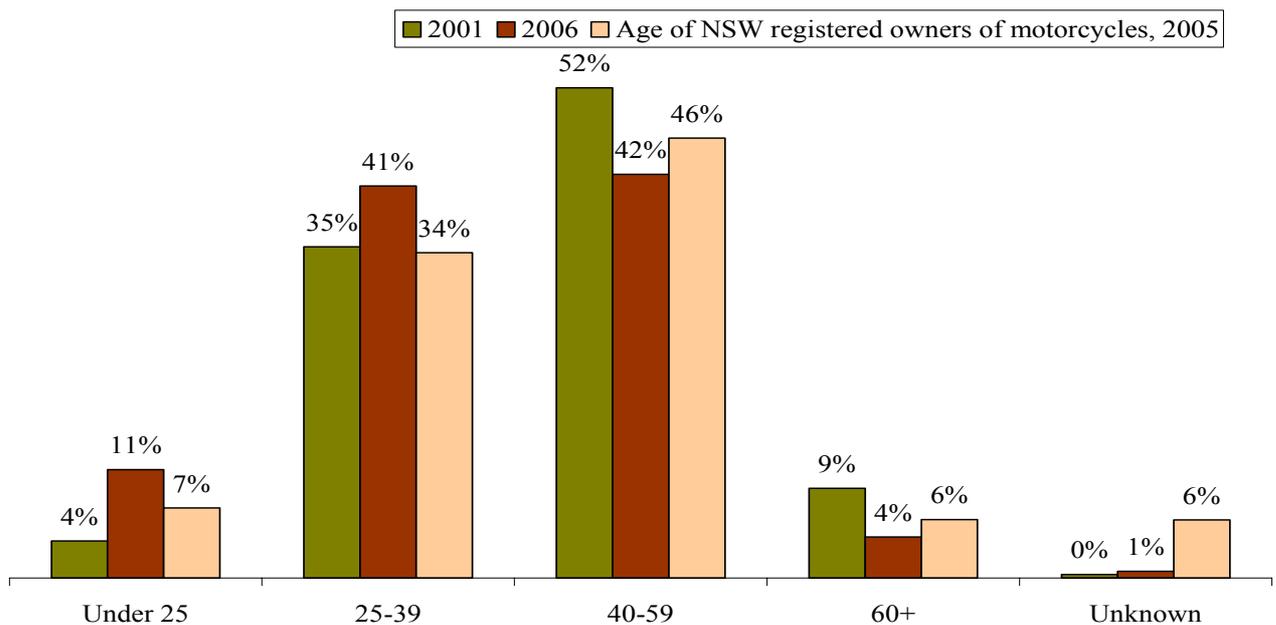
The respondents

The respondents to the 2006 survey represented a broadly similar population of riders to those in 2001 in terms of age, gender, licence status, club membership and the engine capacity of their motorcycles. The responses represent 0.9% and 1.2% of the total number of registered motorcycles in NSW in 2001 and 2006 respectively (RTA, 2005). The population of registered owners is based on motorcycle registrations in June of each year in NSW. Registration data for 2005 has been used as the 2006 data was not yet available at the time of writing.

The gender balance in the 2006 survey was similar to that in 2001, with 12% females compared to 13%. However women were over represented compared to the gender of registered owners of motorcycles (12% respondents vs 9% registered owners in 2005).

The 2006 sample were a little younger than in 2001. The average age was 39.2 years compared to 43.2 in 2001. In particular there were more respondents aged under 25 compared to 2001 (11% vs 7%). This age group was also over represented relative to the population of motorcycle owners in NSW, whereas they had been under represented in 2001. There were also more respondents aged between 25-39 compared to the 2001 survey. See figure 2.

Figure 2. Age of survey respondents in 2001, 2006 and registered owners in NSW, June 2005.

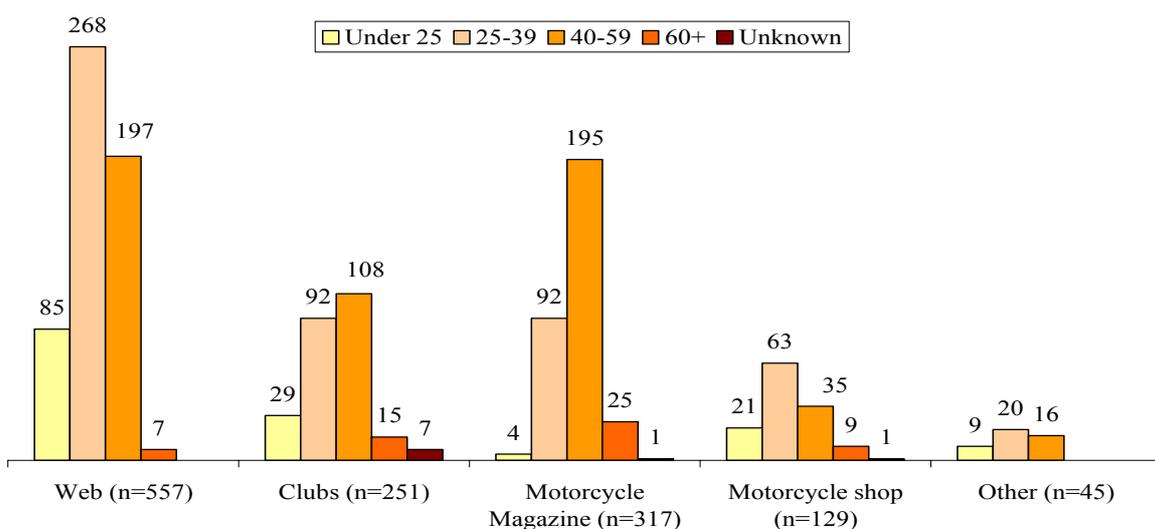


The use of the website raised concern that respondents may have come from outside the intended target area of NSW. However respondents' post codes indicated that 95% of paper surveys were from residents of NSW compared to 89% of web surveys. The latter probably reflects the fact that the web survey was on the MCC's own website and was promoted through the MCC NSW club network.

Over half (54%) of web surveys and 51% of paper surveys were from members of a motorcycle club, compared to 64% of respondents in 2001. Approximately 50% of registered owners in NSW (55,000 of 111,253) are members of motorcycle clubs (MCC, 2006).

A higher proportion of riders under the age of forty, completed the on-line survey compared to older riders, who were more likely to have completed paper surveys. See figure 3.

Figure 3. Number of responses by age group and source of questionnaire, 2006



Respondents owned a similar range of motorcycles in terms of engine capacity to that of the 2001 survey. They were also similar to the population of registered owners in NSW, if one takes into account that approximately 20% of motorcycles under 250cc are registered off-road machines (RTA, personal communication). See figure 4

Figure 4. Responses by size of motorcycle 2001 & 2006 vs registered motorcycles in NSW 2005.

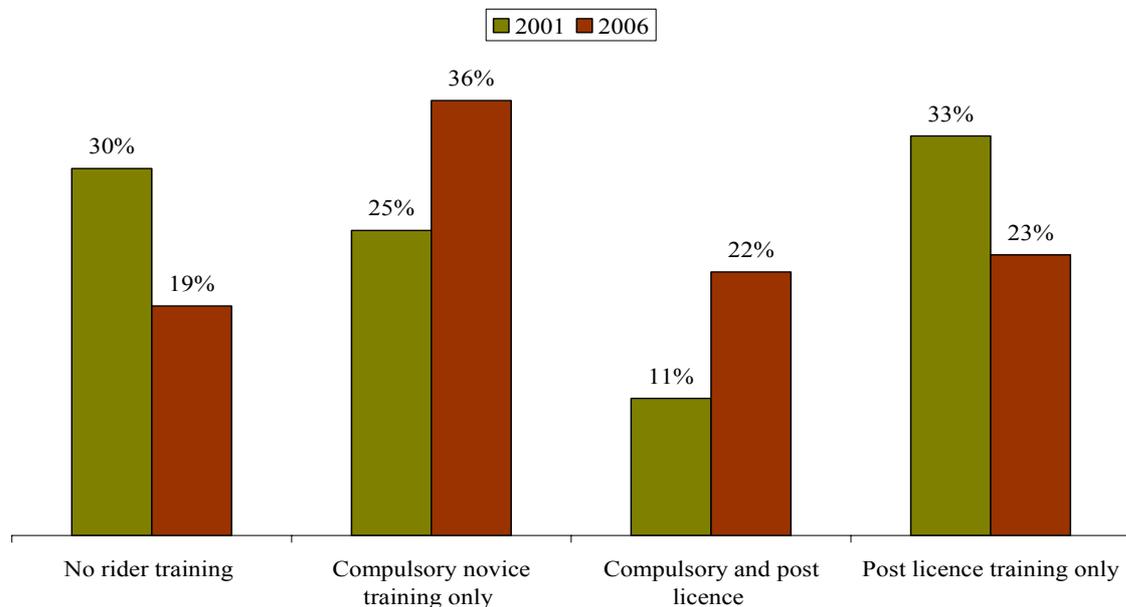


Training and licence status

The majority of respondents held full motorcycle licences (87%) compared to 92% in 2001. There were slightly more respondents holding provisional (5%) and learner (5%) motorcycle licences compared to 3% of each in 2001. There were also fifteen respondents in 2006 who indicated that they did not have motorcycle licences, these included eight who rode only as pillion.

The proportion of rider respondents who had never undertaken any rider training was much lower in the 2006 survey than in 2001 (19% vs 30%). See figure 5.

Figure 5. Rider training experience, 2006 compared to 2001.



This might be expected being sixteen years since 1990, when compulsory rider training was introduced in NSW, although there were twenty four never-trained riders (n=24/ 229) who were aged under thirty four years and were residents of NSW.

Almost half of the 2006 respondents (n=629) had undertaken some form of post licence training. The majority had undertaken post licence courses that they identified as being safe riding rather than performance skill courses.

Half had attended track-based (n=317) and 44% on-road safe riding courses (n=278). A high proportion of the riders (43%) who had completed the track-based safe riding courses has also completed an on-road course (n=136).

A quarter of those who had undertaken post licence training had done off-road/ dirt bike skills courses (n=159) and 37% had undertaken track-based performance riding skills courses (n=232).

Safety messages

The major focus of this paper is on whether there are any discernable changes in riders' awareness of safety messages that might reflect the increased promotion of motorcycle safety in the past five years.

In each survey, respondents were asked whether they could recall a motorcycle related safety message that had drawn their attention. They were also asked where they had seen or heard that message.

A higher proportion of respondents in 2006 than in 2001, (78% vs 68%) said that they could recall a motorcycle related safety message. There was also a difference between the two surveys in the range of sources (see table 1) and the content of the messages recalled (see table 2).

Table 1 Source of most memorable motorcycle related safety messages, 2001 vs 2006.

Source of most memorable motorcycle related safety messages	2001 Responses (n=796)	Percentage of messages (n=513)	2006 Responses (n=1299)	Percentage of messages (n=958)
Can't recall any safety messages	255 (32%)		282 (22%)	
Rider trainers	123	24%	227	24%
Other riders	22	4%	187	20%
Public spaces - posters, billboards, banners	38	7%	161	17%
Promotional safety stickers	14	3%	144	15%
Print media	194	38%	142	15%
Internet/ e-mail	14	3%	86	9%
Electronic media	63	12%	80	8%
Motorcycle information booklet/video	19	4%	50	5%
Motorcycle club	33	6%	4	0%
Other source	21	4%	57	6%

In 2001, the most common sources of a safety message were motorcycle magazines and print media (38%) or a rider trainer (24%). Electronic media accounted for 12% but this was almost exclusively a reference to a single campaign 'Don't ride us off', which had been produced by the motorcycle community to raise the awareness of other road users.

In 2006, trainers were the single highest source of safety messages (24%), but this time there was also a wider range of other sources compared to 2001. These included banners, billboards and posters in public spaces (17% vs 7%) and promotional safety stickers (15% vs 3%). The internet had also increased to being the source of 9% from just 3% of safety messages in 2001.

The lower proportion attributed to the print media (15% vs 38%) in 2006 compared to 2001 was unexpected. While it could, in part, be due to the increase in other media forms, it may also reflect a different editorial policy by the two magazines involved in the distribution of the surveys.

Perhaps the most pleasing result was the increase in the number of safety messages attributed to other riders. One in five of the respondents who could recall a safety message in the 2006 survey, attributed it to another rider. Compared to only 4% in 2001, this result suggests that there has been a general increase in safety dialogue between riders since the first survey.

As noted above in addition to there being a difference in the range of sources of safety messages, there was also a difference in the content of what was recalled.

In order to systematically compare the messages recalled in each survey, the text of the safety messages were classified according to their content in terms of specific or general messages (see Table 2).

Table 2. Content of most memorable motorcycle related safety messages, 2001 vs 2006.

Content of message	2001 n	2001 %	2006 n	2006 %
Specific safe riding strategies	54	11%	302	32%
Motorists awareness of riders	72	14%	257	27%
Protective gear	23	4%	115	12%
General road safety	113	22%	74	8%
Strategies to be seen	6	1%	80	8%
Maintain crash avoidance gap	7	1%	36	4%
Training course – general	214	42%	27	3%
Excessive speed	7	1%	19	2%
Conspicuity	6	1%	14	1%
Drink riding	2	0%	12	1%
Learning from own or others' crash experience	2	0%	11	1%
Other safety messages	0	0%	10	1%
Messages warning of fines/ penalties	4	1%	0	0%
Road condition warning signs	3	1%	0	0%

Although 68% of respondents in 2001, claimed to recall a safety message, only 20% actually provided the words of that message. They were more likely to refer to the training course where they had heard the message (42%) or to make general statements (22%) about topics such as “cornering skills” or “braking”. Of those who did provide the wording of a message, 21% (n=109) wrote the words “Stay Upright”, which is the name of a well known rider training company and is also used as a form of farewell between riders.

By comparison, in 2006, a high proportion of respondents (60%) provided actual safety tips and strategies (See Table 2). These included specific safe riding advice (32% vs 11% in 2001) such as “stay out of car’s blind spots” or “steer with your eyes, not your arms”. There were specific references to wearing protective gear (12% vs 4%), to the importance of being seen by other motorists (8% vs 1%); or to maintaining a crash avoidance gap (4% vs 1%). Other specific strategies included references to conspicuity, excessive speed or drink riding. Many of the specific strategies identified a series of motorcycle safety advertising campaigns run by the MAA and RTA in NSW. A further 8% (n=74) made general references to road safety “Don’t ride beyond your ability”, “ride to survive” which, while expressing safety consciousness, are not particularly constructive in terms of influencing behaviour.

Campaigns directed at encouraging other drivers to watch out for motorcyclists, appeared to have a particular resonance with the respondents (27% vs 14% in 2001). The campaigns identified in the 2006 survey were mostly those produced by the MAA/RTA in NSW. A number also referred to a UK government television campaign, copies of which have been circulated amongst riders via the internet. The interesting aspect is that these campaigns directed at other motorists appeared to also have an effect in reminding riders about their own vulnerability.

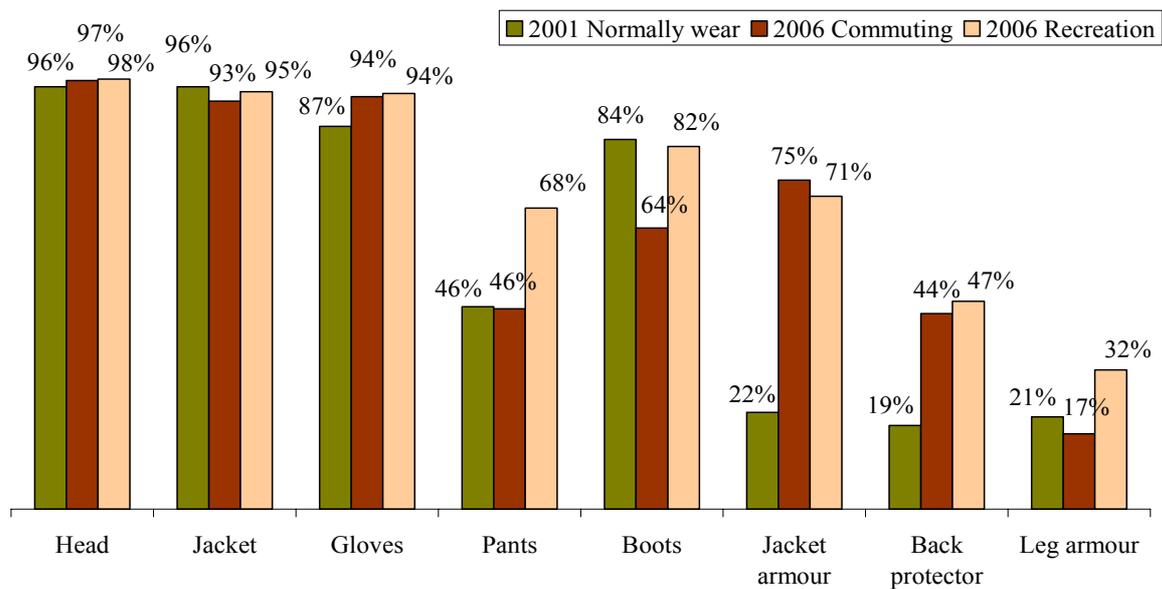
Motorcycle protective clothing

Until recently there has been little information available to riders on the benefits or features of effective protective clothing. The situation is changing as standards for motorcycle protective clothing have now been developed in Europe. Standards for impact protectors were the first to be issued in 1997, followed by standards for jackets, pants, gloves and boots in 2002 and finally, back protectors in 2003. While these standards are not enforceable outside Europe, over time they may be expected to influence the international market for motorcycle protective clothing (de Rome & Stanford, 2003).

Although there has been little coverage of the introduction of these standards in the motorcycle media, usage of protective clothing has been promoted by other stakeholders in NSW. Since 2003 the MCC motorcycle safety website has provided a consumer guide to identifying effective protective clothing. The MAA/RTA have run an eye catching advertising campaign on the value of motorcycle protective clothing and a number of local councils have also promoted protective clothing in local campaigns (de Rome & Stanford, 2006).

The survey results suggest that such initiatives have had some effect. Use of protective clothing was the focus of 12% (n=115) of the safety messages recalled in the 2006 survey compared to only 4% (n=23) in 2001. However, each survey also sought information on riders' actual usage of protective clothing. See Figure 6.

Figure 6 Comparison of riders protective clothing in 2001 and 2006.



The 2001 survey asked what protective clothing riders and their pillions “Normally” wore. In 2006, the questions were changed to what the rider wore the last time they rode on each of three different types of ride: commuting to either work or study; on a recreational ride; and to the local shops.

The most noticeable difference is the general increase in the use of body armour/impact protectors between 2001 and 2006. This reflects the increased appearance of impact protectors in the market. However what is perhaps most interesting here is the difference between what riders in 2006 wore for commuting compared to recreational rides. Riders were far less likely to protect their legs and feet when commuting than on recreational rides. Sixty four percent wore motorcycle boots when commuting compared to 82% on recreational rides. Only 46% wore motorcycle pants when commuting compared to 68% when on recreational rides. They were also almost half as likely to wear pants with leg armour when commuting (17% vs 32%).

The question is whether the differences reflect choices driven by fashion or function.

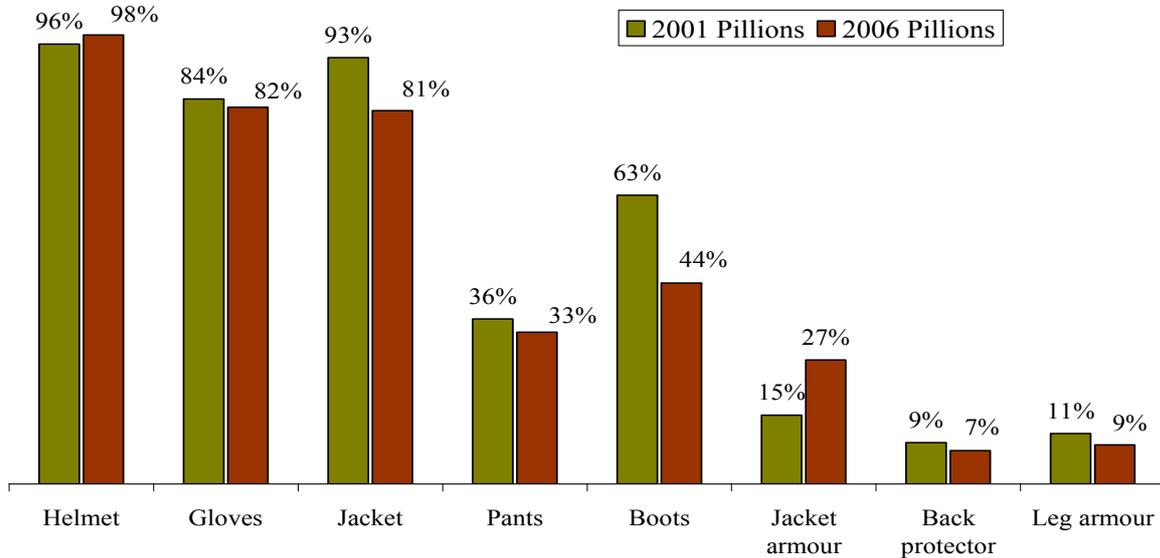
Do these riders believe that they have a greater need of protection on recreational rides than when they are commuting? Is the use of protective clothing on recreational rides more of a fashion statement?

Is the reduced use of protective clothing when commuting due to a perception of lower risk or to the need for appropriate clothing for work? Protective clothing is often stylistically inappropriate or uncomfortable for general day wear once the rider has arrived at their destination.

Over the past five years there has been an increase in the range of motorcycle gear available, but it does tend to be purpose specific and is generally styled for long distance touring or the race track. There is little gear available that is designed both to provide protection and is be comfortable day wear.

The situation for pillion passengers appeared to have deteriorated, with pillions in 2006 apparently less well equipped than in 2001. See figure 7. Note: The pillion data used here is based only on the responses to the paper survey (n=399), as the web survey data for that question was corrupted by a programming error.

Figure 7 Comparison of pillions protective clothing in 2001 and 2006



Almost one in five pillions was reported to have worn a non-motorcycle jacket in 2006 compared to only 7% in 2001, although those with motorcycle jackets were more likely to include impact protectors. Pillions in 2006 were also less likely to have worn motorcycle boots (44% vs 63%) than in 2001.

There are of course differences in the samples of the two surveys. There was a larger proportion of younger riders in 2006, and younger riders are less likely to have the resources of spare motorcycle gear to lend to the occasional pillion. But the pillion data relates only to the 2006 paper survey respondents who were more similar in age profile to the 2001 survey. There was also a difference in the time of year that the surveys were conducted, November 2001 and May 2006. But if time of year was a factor, one might have expected the winter survey in 2006 to have found a higher usage of protective clothing, rather than the reverse.

One of the issues with the protective clothing worn by pillions is whether they have their own equipment. Regular pillions might be expected to have their own gear, whereas the occasional pillion is more likely to be borrowing gear. This seems unlikely to account for the differences between the surveys as there was only a small difference in the proportion of riders with regular pillions in 2001 compared to 2006 (19% vs 15%).

The apparent deterioration of conditions for pillions may also be explained by the differences in the questions between the two surveys.

In 2001, riders were asked what their pillions “normally wore”, whereas in 2006 the question asked what was worn the “last time they carried” a pillion passenger. It may be that respondents in 2001 generalised and, perhaps, over estimated the standards of their pillions’ gear, whereas in 2006 the riders were recording what they actually remembered.

It would also be interesting to see whether those riders who recalled safety messages relating to protective clothing were consistent in the standards of gear they and their pillions wore. Further analysis will be done to understand why pillions in the 2006 survey were apparently less well equipped than those in 2001.

CONCLUSIONS

An earlier report on the 2001 survey indicated that there were well established and effective communication channels in NSW which could be used to deliver targeted motorcycle safety information to riders (de Rome et al, 2004). It was also found that a high proportion of respondents were actively engaged in strategies to manage and reduce their own crash risk. It was suggested that other road safety stakeholders could use these channels to deliver targeted programs to improve the safety of motorcycling. It was also noted that while most riders and their pillion passengers used appropriate gear to protect their heads and upper bodies, there was a need to inform motorcyclists about the benefits of protecting their legs and feet.

Since that survey was conducted, a number of motorcycle safety initiatives have been undertaken by government and community organisations. In particular, there has been a high profile government motorcycle safety advertising campaign and a number of community based projects by local councils. The MCC has developed a website to deliver motorcycle safety information to riders on a range of topics including protective clothing.

The results of the 2006 survey suggest that these efforts have been successful, at least in gaining the attention of the riders who responded to the survey. A higher proportion of riders could recall a motorcycle safety message, and the majority of these messages provided constructive advice. There appeared to be an increase in the level of safety dialogue amongst the riders with a higher proportion attributing the source safety messages to other riders.

There also appears to have been an increase in riders' usage of protective clothing in particular to protect their lower limbs. However there was also variability as to when they used it. This raises questions as to the fashion versus functional properties of the gear that is available in the market and how it is promoted. There did not appear to be a concurrent improvement in the standard of protective clothing worn by pillion passengers, which suggests further work need to be done in this area.

Overall the findings from this survey confirm the value of investing in a targeted approach to motorcycle safety. Further analysis of other aspects of the survey will be reported on in due course. This study and analyses of other aspects of the survey, including rider's crash involvement and their perceptions of the causes of those crashes, is contributing to an MAA funded project to develop a further MCC Road Safety Strategic Plan for 2007-2010.¹

References

- ATSB (2004), **International Motorcycle Safety Update**, Compiled by the Australian Transport Safety Bureau using data from the International Road Crash Database, Canberra.
- de Rome, L. & Stanford, G. (2006), *Motorcycle protective clothing: Fashion or function?*, Paper presented at **The 2006 International Motorcycle Safety Conference: The Human Element (IMSC)**, Motorcycle Safety Foundation, March 28-30, Long Beach, USA.
- de Rome, L. & Stanford, G. & Wood, B. (2004), *A Survey of Motorcyclists and their safety initiatives* **Paper presented at the 2004 Road Safety Research, Policing and Education Conference**, Perth.
- de Rome, L. & Stanford, G. (2003) *Motorcycle Protective Clothing*, **Road Safety Research, Policing and Education Conference**, Sydney, 24-26 September, 2003.
- de Rome, L., Stanford, G. & Wood, B. (2002). **MCC Survey of Motorcyclists in NSW, 2001**, Motorcycle Council of NSW Inc. 15 Huddleston Street, Colyton, NSW 2760, Australia.
- de Rome, Liz & Stanford, Guy. (2001), **Positioned for Safety: Road Safety Strategic Plan 2002 - 2005**, Motorcycle Council of NSW, www.roadsafety.mccofnsw.org.au, Sydney.

¹ The survey was conducted by a working party of the Motorcycle Council comprised of: Warren Buffet, Richard Hamer; Sean Hawley; Clinton Hayes, Colin Hutchinson, Zebbee Johnstone, Paul Kind; Graham Rattledge; David Scott; Guy Stanford; Paul Taffa and Brian Wood in consultation with LdeR Consulting.

MCC (2006) Personal communication, Chairman, Motorcycle Council of NSW Inc. 15 Huddleston Street, Colyton, NSW 2760, Australia.

Riches, D. (2005) **Evaluation Of Positioned For Safety, Road Safety Strategic Plan: 2002 – 2005**, Prepared by Dave Riches & Associates for the Motorcycle Council of NSW, www.roadsafety.mccofnsw.org.au, Sydney.

RTA (2001), **RTA Road Traffic Accidents in New South Wales Statistical Statement: Year ended 31 December 2000**, Sydney.

RTA (2005), Registration data as at June 2005, provided by Roads & Traffic Authority of NSW.