THE HUMAN ELEMENT

THE 2006 INTERNATIONAL MOTORCYCLE SAFETY CONFERENCE (IMSC)

MARCH 28-30

Linking The Silos: Planning For Motorcycle Safety

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Abstract

Eleven motorcycle safety plans from Europe, Australia and USA were reviewed to develop a model of best practice. The review compared the development process and contents of each plan.

It is apparent that there are difference in the pattern of priorities and countermeasures between plans that have been developed by rider associations and those by road authorities. The former tended to focus on motorcycling as a form of transport with associated safety issues; the latter were more likely to focus on crash incidence and injury reduction strategies.   The degree of convergence between these perspectives appears to depend on the degree of consultation between riders and road authorities.

Our hypothesis is that road safety practitioners, who deal in mass crash data and comparative risk profiles, may be more likely to view motorcycling as a high risk form of transport to be contained or discouraged. Where as motorcyclists, having made the choice to ride, are more likely to think in terms of identifying and managing risks. It is this cultural difference that must be bridged if road safety professionals and the motorcycling community are to be able to work together effectively.

A model for the development of motorcycle safety plans has been devised from this analysis. The model provides a process within which both government agencies and community organizations can work towards shared goals. It does not require consensus as each organization is able to work towards those shared goals from its own frame of reference. It does required agreement on issues and priorities but then allows a flexible approach to action based on a clear understanding of the ends to be achieved.

Introduction

There has been a resurgence of motorcycling in Western countries in recent years which has resulted in an increased number of motorcycles on the road and an increased number of crashes and casualties. However there is not a simply linear relationship between the number of riders and the number of crashes.

In the USA between 1991 and 2001, the number of registered motorcycles increased by 17% and the number of riders killed increased by 14% (NHTSA, 2004). Over a similar period in the UK (1993-2001) there was a 28% increase in motorcycling traffic and a 7% increase in motorcycle fatalities (AGM, 2004). In Australia, the number of registered motorcycles also increased by 24%, but the motorcycle fatalities actually decreased by 6% (ATSB, 2002). This paper does not attempt to account for such differences, however, Australia, like the UK, does have mandatory helmet laws. It was also during the nineteen nineties that mandatory novice rider training as a part of the licensing process was introduced in some states in Australia.

Motorcycling in Australia is safer now than it was during the last peak of interest in the 1980s, however it still has the highest casualty rate for any form of road transport.[1] In addition

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[1] The fatality rate per 10,000 all registered vehicles in Australia was 14.23 in 1980 but only 6.04 in 2002, Table 14, **Road Fatalities Australia: 2002 Statistical Summary**, (ATSB, 2003a).

while Australia's record for motorcycle safety appears relatively good, particularly when compared to the USA, it is poor in contrast to our record of safety advances for other road users. In 2001 Australia ranked 9th best for road safety amongst 27 OECD nations, but 9th 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). By contrast Australia's fatality record for all road users was better than the OECD median (1.4 vs 1.8 per 10,000 registered vehicles) (ATSB, 2003a).

In 1999, the Motorcycle Safety Foundation (MSF) and the National Highway Traffic Safety Administration (NHTSA) joined forces to develop a strategic plan to improve motorcycle safety in the USA. The objective was to provide a shared vision for future motorcycle safety initiatives by incorporating input from a wide range of stakeholders representing over 90 organisations. It was developed by a technical working group representing motorcyclists, motorcycle and traffic safety advocates, law enforcement, insurance industry, health care and safety research professionals. The final product, named *The National Agenda for Motorcycle Safety (National Agenda)* was published in 2000 (MSF, 2000).

The National Agenda was a strategic framework, which essentially set the agenda by identifying issues and recommending actions. It was not a plan as such because, while it made recommendations, it did not assign responsibilities for their implementation. It was designed as a resource for a range of stakeholders to use in determining the most effective contribution that they could make to motorcycle safety. It provided a comprehensive discussion of the issues associated with motorcycle safety including human, social, vehicle and environmental factors.

Perhaps the most important aspect of the *National Agenda* was that it was a partnership between a road authority and representatives of the motorcycle community and which was based on acceptance of different views. As noted in the foreword by NHTSA …"the *National Agenda*…..was never intended to be a consensus document" (MSF, 2000).

In acknowledging the differences of opinion as to the best way of improving motorcycle safety, NHTSA challenged the motorcycling and traffic safety communities to take action on those parts of the *National Agenda* that they could support. Since then, rider associations and road authorities from around the world have followed that lead in seeking the most effective action to improve rider safety.

A FRAMEWORK FOR MOTORCYCLE SAFETY STRATEGIC PLANS

Eleven plans from Europe, Australia and USA were reviewed to compare their contents and the processes by which they were developed with the objective of developing a model of best practice. The review focussed on plans that took a broad based approach to motorcycle safety including vehicle and road environment factors, it did not include programs that focused solely on rider training and education.

Table 1 lists the motorcycle safety plans from USA, Europe and Australia included in the study (de Rome, 2005).

Table 1.   Published motorcycle safety plans

Issued	Organisation (Plan reference)	Plan title
2000	Motorcycle Safety Foundation (MSF)/ NHTSA	US National Agenda for Motorcycle Safety 2000
2001/ 2003	National Highway Transport Safety Authority (NHTSA)	Motorcycle Safety Improvement Plan
2001	Florida Dept. of Transportation (Florida)	Florida Motorcycle Safety Strategic Plan
2002	Motorcycle Council of NSW (MCC)	Positioned for Safety: Road Safety Strategic Plan 2002-2005
2002	Roads and Traffic Authority of NSW (RTA)	NSW Motorcyclists and Bicyclists Safety Action Plan, 2002-2004
2002	Victorian Government (VMRSS)	Victorian Motorcycle Road Safety Strategy, 2002-2007
2003	Tasmanian Road Safety Council (TRSCC)	Tasmanian Motorcycle Road Safety Strategy, 52006-2006
2004	SA Road Safety Advisory Council (SARSAC)	Draft South Australian Motorcycle Road Safety Strategy, 2004-2007
2004	Federation of European Motorcycle Associations (FEMA)	European Agenda for Motorcycle Safety (FEMA)
2004	Wisconsin Dept of Transportation (Wisconsin)	2004 Motorcycle Safety Action Plan
2005	Department for Transport, UK (DFT)	The Government's Motorcycling Strategy

Terminology

The term 'plan' is used generically in this paper, however the documents we reviewed are variously called strategies, strategic plans, action plans or agendas. We have attempted to provide more consistency by devising some working definitions.

The following definitions have been derived from our own practice in developing road safety strategic plans and draw on a range of definitions and discussions of strategic planning.

Table 2.   Some working definitions for planning

Agenda	In the planning context the agenda defines the issues that need to be addressed.
Plan	A document that records the outcomes of a process of setting goals and developing an approach to achieving those goals.
Action Plan	A detailed plan describing the actions and steps used to implement a program or strategy. It may include task assignments, milestones, timelines, resource allocations, data collection methodology, and evaluation criteria to be performed
Strategic Plan	A strategic plan is a framework for achieving goals through a coordinated approach with key stakeholders.
Strategic Planning	The strategic planning process involves the analysis of the operating environment and working with key stakeholders to: identify issues and priorities; clarify objectives; and determine how to achieve them through coordinated action.
Strategy	A strategy is the link between policy and action. It provides a framework and direction for specific actions in pursuit of a particular goal. It is a strategy rather than simply a plan if it allows a flexible approach to action based on a clear understanding of the ends to be achieved.
Strategic alliance	A strategic alliance is a relationship formed by stakeholders maximising the use of resources by working together to achieve mutually beneficial goals.

Contents

A comparison of the actual contents of the eleven plans found that they covered more or less the same issue areas. More recently developed plans also reflected responses to emerging issues (e.g. older and returning riders), new technology (e.g. brakes, protective clothing) and improved understanding of crash causes through research (e.g. fatigue, road environment and the aggressive design of other vehicles).

By combining and categorising the contents of all the plans, we have constructed the following framework for the contents of motorcycle safety plans. It is derived from the framework used by the USA National Agenda and is extended to accommodate the emerging issues that were addressed in later motorcycle plans. See Table 3.

Table 3.   A framework for motorcycle safety plans

1. Plan development	**5. Vehicle and equipment factors**
1.1 Stakeholder involvement	5.1 Personnel protective equipment
1.2 Consultation process	5.2 Conspicuity
1.3 Determining issues and priorities	5.3 Motorcycle design
1.4 Strategy identification and justification	5.4 Brakes, tyres and controls
	5.5 Aggressive design of other vehicles
2. Crash research and data	**6. Road environment factors**
2.1 Data on motorcycle crashes, trends and causes	6.1 Road design and construction operations
2.2 Further research required	6.2 Road maintenance
2.3 Conveying research information to users	6.3 Lane use
	6.4 Emergency first response
	6.5 Infrastructure and traffic management
3. Human factors	**7. Social policy and regulation**
3.1 Motorcyclist attitudes	7.1 Enforcement
3.2 Motorcyclists impairment	7.2 Police crash investigation
3.3 Motorist awareness	7.3 Tax and insurance
	7.4 Attitudes of road safety professionals
4. Rider training and licensing	
4.1 Rider training	
4.2 Licensing tests	
4.3 Crash avoidance skills	
4.4 Unlicensed riders	

The framework is not intended as a definitive list of the appropriate contents for a motorcycle safety plan. It was initially developed simply as a convenient basis for comparison between plans. It is presented as a useful starting point and check list for the developers of new plans to ensure that known issues have been considered. The developers of a new plan will always have to undertake their own processes to ensure specific local and new emerging issues are also included.

Structure and format

There were differences in the structure and formats of the plans. The USA and European plans tended to use an issues based frame-work, where as Australian plans tend to use a conceptual framework. The issues-based plans reflected the priorities as defined by their authors, (e.g. impaired riders, rider training and road infrastructure), but did not always provide a rationale for why some issues were selected and others, apparently, ignored.

The format adopted in most Australian road safety plans focuses on broad strategic areas under which a range of issues were clustered. For example Safer people (road user behaviour), Safer Roads (road environment), Safer vehicles (vehicle and equipment factors) and Community involvement (communications and sometimes policy issues).

Either approach requires an evidence-based rationale for the process of identifying issues, selecting the priorities and determining strategies to address them. The use of a conceptual framework is simply an aid to ensuring an objective approach that is less susceptible to assumptions and omissions.

Cultural differences

There was also difference in the pattern of priorities and countermeasures between plans that had been developed by rider associations and those by road authorities. The former tended to focus on motorcycling as a form of transport with associated safety issues; the latter were more likely to focus on crash incidence and injury reduction strategies. Strategies proposed by riders tended to focus on external factors such as the road environment and other motorists in addition to improving rider skills. Road authorities tended to focus on strategies to change rider behaviour through training and enforcement.

The degree of convergence between these perspectives appears to depend on the degree of consultation between riders and road authorities. While most planning groups involved their key stakeholders in identifying issues and proposing countermeasures, they were less inclusive when it came to determining policy. The UK *Government's Motorcycling Strategy* (DFT, 2005) is the only government agency plan in this study, to declare a commitment to mainstreaming motorcycling in transport policy. This was also a rare example of a plan developed by a road authority with the close involvement of riders.

Our hypothesis is that road safety practitioners, who deal in mass crash data and comparative risk profiles, may be more likely to view motorcycling as a high risk form of transport to be contained or discouraged. Where as motorcyclists, having made the choice to ride, are more likely to think in terms of identifying and managing risks. These are the silos to which we refer in the title of this paper. It is this cultural difference that must be bridged if road safety professionals and the motorcycling community are to be able to work together effectively.

The consultation process

All the motorcycle safety plans considered in this review were developed with some level of stakeholder consultation. The range of stakeholders and the level of their involvement varied considerably as did the extent to which the development process was documented.

Stakeholders included community representatives (eg rider groups and the motorcycle industry), as well as those with a professional responsibility but differing perspectives on road safety including police, health care and safety research professionals.

As might be expected, the consultation process differed between those plans that were devised for implementation by government agencies and those that were intended to provide a framework for a wider group of stakeholders. The latter necessarily require, and allow, a more open and flexible consultation process than agency specific plans.

The NHTSA, DFT, VMRSS, RTA, TRSCC and SARSAC documents are agency specific plans and they varied substantially in the extent to which they involved external stakeholders. They generally consulted on the identification of issues and ideas for countermeasures, but were less likely to offer the same level of involvement in the subsequent development of programs.

The *National Agenda* and *Positioned for Safety* (MCC) are examples of plans intended to influence the wider motorcycle safety agenda. Each of these plans involved substantial consultation and negotiation with a range of stakeholders including government agencies. The final publications document the processes by which their contents were agreed, presumably as a means of promoting ownership and the credibility of the process.

For this type of plan, the process is as important as the final product. This is because it is through the process that the different stakeholders come to appreciate each other's points of view and benefit from different sources of expertise. This can enable the best use of all available resources through strategic alliances with other stakeholders to achieve mutually beneficial goals.

A model for road safety planning

A model for the development of motorcycle safety plans has been devised based on the practical experience of developing a motorcycle safety strategic plan in the state of New South Wales. That experience was enhanced by learning from other plans from around the world. The model contains a structured series of planning stages. The first stage sets the agenda by raising issues within a broad framework. A strategic plan, informed by the agenda document, is then developed in consultation with key stakeholders. The final stage involves individual organisational plans.

The model provides a process within which both government agencies and community organizations can work towards shared goals. It does not require consensus because each organization is able to work towards those shared goals from its own frame of reference.

It does required agreement on issues and priorities but then allows a flexible approach to action based on a clear understanding of the ends to be achieved. There are three stages in the model.

1. Set the agenda
2. Develop a State-wide strategic plan
3. Individual organisations develop their own specific plans

Stage 1 - Set the agenda for motorcycle safety

The first stage involves the development of an agenda for motorcycle safety to raise and define the issues and options for action. The first stage should involve the widest array of stakeholders including the rider community, motorcycle industry and government agencies.

The development process should be devised as a two way communication opportunity to enable stakeholders from different perspectives to learn more about motorcycle safety issues to ensure their ownership and commitment to the final product.

Stakeholders are asked to contribute their views to identify key issues and to devise appropriate countermeasures. The issues and countermeasures raised by the stakeholders form the basis of a research program. This may involve crash data analysis, literature searches or the commissioning of new research. The aim is to provide sufficient reliable information to enable a wide range of stakeholders to take part in an informed debate. The objective is to provide a focus and resource for a range of different stakeholders to use in determining the most effective contribution that they could make to motorcycle safety.

The *National Agenda* is a good example of this type of agenda setting document. It set the agenda by identifying issues and recommending actions. It provided a comprehensive discussion of the issues associated with motorcycle safety, as they were known at the time and identified issues requiring further research. It was not a plan as such, because while it made recommendations, it did not assign responsibilities for their implementation. Other similar

agenda-setting documents include the UK *Report of the Advisory Group on Motorcycling* (AGM, 2004) and *Positioned for Safety* (de Rome & Stanford , 2001).

Once the agenda is set, different organizations can choose how they want to respond. The model is based on acceptance that each stakeholder has a different perspective and different role to play

Stage 2 - State Motorcycle Safety Strategic Plan

The second stage in our model is the development of a state-wide motorcycle safety strategic plan in consultation with a wide range of stakeholders. Such a plan is designed for implementation over a relatively long term (e.g. three to five years).

Informed by the agenda, the stakeholders are able to agree on priorities, determine objectives and devise strategies. It is important to remember that strategies at this level should provide only a framework and direction for achieving specific goals, while allowing a flexible approach to action, based on a clear understanding of the objectives. Actions are to be determined at the next stage and the level of planning. At this stage it is important to keep focused on the shared objectives and avoid arguments over details.

The aim is to devise a coordinated approach by key partner agencies (e.g. police and road authorities) while providing direction and a context for action by other stakeholders including the motorcycle industry and community. It is important, particularly at this stage, to recognise that the process of strategic planning is as important as the final product

The involvement of the motorcycle community in the development of the state-wide strategic plan is essential. However this does not mean that consensus must be achieved. The process should be used to inform and engage interest, share perspectives and promote ownership. It is also an opportunity to establish partnerships and strategic alliances between stakeholders for the achievement of shared goals. This may include rider groups identifying specific policy areas or projects where they would like to have further involvement and allows community representatives to be more strategic in the use of their time.

Consultation with stakeholders is beneficial to the development of any plan. It provides access to a wider pool of expertise, ideas and knowledge. It is good management practice because it enables effective planning and decision making, and reduces the risk and cost of unanticipated negative consequences of decisions. It can also alert authorities to issues that are outside of their current operational view, perhaps indicating further research needs or gaps in the system of data collection or the analysis and reporting of statistics.

Consultation is also a two way process. It provides an opportunity for community representatives to become better informed through dialogue with experts both in relation to road safety issues but also in relation to the realities of the government policy making process. If well managed, it enables community representatives to engage with government agencies as more equal partners in the development of policy.

There are also limitations to the consultation process, it can be time consuming and expensive, and there is a risk of raising expectations that cannot be met. Consultation should result in informed decision making but this does not necessarily mean shared decision making. Consultation may include a range of activities - from simply keeping people informed through to actively involving them in decision making. It is not necessarily appropriate for all stakeholders to have the same level of involvement in the decision-making

process. The level appropriate will vary according to the circumstances and required outcomes of the consultation. However, as noted earlier, it is critical that roles and expectations of all involved are clarified from the outset.

The first NSW State road safety strategic plan, *Road Safety 2000* published in 1991, was a very early example devised by the Roads and Traffic Authority of NSW to provide such a framework at the macro level (RTA, 1991). It was inclusive of all government and non-government stakeholders and included sufficient content and direction to enable other government agencies and community organisations to use it as the basis of their own road safety strategic plans.

Stage 3 - Organisation specific plans

The third stage involves the implementation of the state-wide motorcycle strategic plan through a series of separate plans by the various partner organisations. Each partner/ stakeholder commits to their own separate but accountable plan for implementing their portions of the state-wide strategic plan (Stage 2). They would be free to act according to their own jurisdiction and perspectives through separate but complementary actions or in partnership projects. These may be either strategic plans or action plans depending on how they fit in to the organisation's internal management planning processes.

For example, the road authority may develop its own motorcycle safety strategic plan, whereas the police may include motorcycle specific strategies as part of a wider regional enforcement strategic plan targeting all motorists. A rider group may develop an action plan to work with their local council on a project to address safety issues on a specific motorcycle touring route. But each plan will be informed by the Agenda and will fit within, and may be reported under, the framework of the state-wide plan.

Each organisation's plans can contribute to the state-wide strategic plan without requiring consensus between stakeholders on every point of implementation. It is important to acknowledge that each organisation has a different perspective and a different role to play. Each organisation has to agree to disagree in order to allow each partner to determine their own approach to addressing agreed priorities. For example, police, road authorities and rider groups may agree on an objective to reduce the incidence of unlicensed riding but each may use quite different strategies to addressing such behaviour.

Conclusion

As noted earlier, the extent of consultation between rider groups and road authorities appears to be a defining feature in distinguishing their plans. The influence of rider groups tended to produce plans with a different pattern of priorities and countermeasures to those developed by road authorities. The different patterns appear to reflect cultural differences between road safety practitioners and motorcyclists.

The value of the model described here is that it provides a framework for bringing these divergent views together. It allows for coordinated action but leaves each stakeholder free to determine their own approach to achieving agreed objectives. This requires trust and respect which is essential to effective working relations.

The advantage of having the state-wide strategic plan as an over-arching framework for individual organisational plans, is that it provides an external mechanism and incentive for monitoring and reporting on progress. This is best served if the plan includes provision and

responsibilities for annual monitoring and reporting on progress to the government and the community.

The model also provides a framework for supporting the delivery of road safety at the local level. The involvement of local community groups will be enhanced if the state strategic plan includes provision for funding local projects. This also provides a mechanism to ensure such local programs are supported with appropriate information and expertise.

The NSW experience has demonstrated the benefits that can be achieved from an open and inclusive approach to motorcycle safety.

The approach requires a commitment to acquiring accurate and comprehensive information about motorcycle safety issues, including where necessary, funding new research and making this information widely available to all stakeholders. It allows stakeholders to make informed decisions about the best contribution that they can make to motorcycle safety. It requires all parties being prepared to accept and respect different views and to work together to achieve share objectives for a safer motorcycling future.

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