

## TITLE/ SUBJECT: A MODEL FOR MOTORCYCLE ROAD SAFETY PLANS

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**Abstract:** The US was the first western nation to take a strategic approach to the increasing motorcycle road toll with the publication of the *National Agenda for Motorcycle Safety* in 2000.<sup>1</sup> The National Agenda set the agenda with identified issues and recommended actions to improve motorcycle safety. A range of plans and strategies have subsequently been developed by rider associations and road authorities around the world. Analysis of eleven plans from Europe, Australia and USA reveals two distinct approaches to the development of such plans. Those which focus broadly on motorcycling as a form of transport with associated road safety issues, and those which focus more narrowly on crash incidence and injury reduction strategies.

A model for the development of motorcycle safety plans has been devised from this analysis. Working from the baseline established by the National Agenda, the model is flexible to allow for plans to make provision for emerging issues, new technology and research findings. The objective is to provide a systematic structure and process in the development of plans to promote ownership of priorities and countermeasures by all stakeholders. A key feature of the process is the clarification of objectives for the initiating organisation and other stakeholders.

### Introduction

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. 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 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. The final product, named *The National Agenda for Motorcycle Safety (National Agenda)* was published in 2000.<sup>2</sup>

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.” 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. Following the American lead, a number of European and Australian motorcycle safety plans have been developed by rider associations and road authorities.<sup>3</sup>

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<sup>1</sup> This was not the first attempt to quantify and address motorcycle safety issues, but it was the first to take a strategic approach by being inclusive of all stakeholders.

<sup>2</sup> MSF (2000), *National Agenda for Motorcycle Safety*, Motorcycle Safety Foundation of America.

<sup>3</sup> The term ‘plan’ will be used generically through out this discussion, although the publications to which we refer are variously named strategy, strategic plan, action plan and agenda. A discussion and proposed definitions of these terms is presented in Section 2.1.

Table 1 lists the currently available draft and published motorcycle safety plans from USA, Europe and Australia.<sup>4</sup>

**Table 1. Published motorcycle safety plans**

Issued	Organisation	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 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 (Vic Gov)	Victorian Motorcycle Road Safety Strategy, 2002-2007
2003	Tasmanian Road Safety Council (TRSCC)	Tasmanian Motorcycle Road Safety Strategy, 2006-2006
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	2004 Motorcycle Safety Action Plan
2005	Department of Transport (UK)	The Government's Motorcycling Strategy

## A FRAMEWORK FOR MOTORCYCLE SAFETY 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. A comparison of the actual contents of the eleven plans found that they covered more or less the same issue areas.<sup>5</sup> 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).

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<sup>4</sup> The UK Motorcycle Industry Association also released a motorcycle safety strategy in 2005 but was too late to be included in this analysis. The Welsh Assembly and the Scottish Executive Governments are also currently in the process of developing motorcycle safety plans.

<sup>5</sup> De Rome, Liz (2005) **Report on the review of the Victorian Motorcycle Road Safety Strategy, 2002-2007**, Prepared by LdeR Consulting for VicRoads, Melbourne Victoria.

There were differences in the structure and formats of the plans. The US 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, 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 strategic areas such as road user behaviour, road environment, vehicle factors and communications (or sometimes community involvement). Each format requires an evidence-based rationale for the process of identifying issues, selecting the priorities and determining strategies to address them. A conceptual framework is simply an aid to ensuring an objective approach that is less susceptible to assumptions and omissions.

There was also difference in focus between plans that had been developed by rider associations and those by road authorities. The former were more likely to focus on motorcycling as a form of transport with associated safety issues, the latter more likely to focus more narrowly 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. The UK *Government's Motorcycling Strategy* (DFT, 2005) is an example of a plan developed by a road authority with the close involvement of riders. It is the only government agency plan in this study, to declare a commitment to mainstreaming motorcycling in transport policy.

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 US National Agenda and is extended to accommodate the emerging issues that were addressed in later motorcycle plans.

**Table 2. A framework for motorcycle safety plans**

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

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.

### **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* (POS) 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.

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 3. Some working definitions for planning**

<b>Action Plan</b>	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
<b>Agenda</b>	The term literally means “things to be done”. It normally refers to the list of items for discussion at a meeting, but is also used to list things we want to achieve.
<b>Plan</b>	A document that records the outcomes of a process of setting goals and developing an approach to achieving those goals.
<b>Strategic Plan</b>	A strategic plan is a framework for achieving goals through a coordinated approach with key stakeholders.
<b>Strategic Planning</b>	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.
<b>Strategy</b>	A strategy is a framework and direction for specific actions in pursuit of a particular goal. It allows a flexible approach to action because it is driven by a clear understanding of the ends to be achieved.
<b>Strategic alliance</b>	A strategic alliance is a relationship formed by stakeholders maximising the use of resources by working together to achieve mutually beneficial goals.

### The NSW experience

Having reviewed motorcycle safety plans from around the world, it was instructive to reflect on the development and implementation of our own locally developed plan *Positioned for Safety (POS)*. The independent evaluation of *Positioned for Safety*, three years after its release provided us with a comprehensive assessment of the plan.

*Positioned for Safety* was developed for a rider association, the Motorcycle Council of NSW (MCC)<sup>6</sup> but utilized the planning expertise of a mainstream road safety practitioner. It was not a government initiative but, like the *National Agenda*, it was developed with government funding and in consultation with all the key stakeholders from government and non-government organisations.

*Positioned for Safety* functioned as both an agenda and a strategic plan. It set the agenda in NSW and possibly in Australia, by providing a comprehensive discussion of motorcycle safety issues and solutions that was specifically intended to inform the widest range of stakeholders. It attempted to open debate on the myths, mis-information and assumptions that distorted the motorcycle safety debate in NSW at that time. It included a strategic plan for the MCC, although the focus of many of the strategies involved lobbying relevant government agencies for action.

The evaluation found a significant level of success. Over 75% of the 91 strategies had been implemented and had achieved some degree of change. State government funding for motorcycle safety had increased substantially. Perhaps the most significant achievement was the substantial increase in motorcycle safety programs run through local government across NSW.

Almost three quarters (73%) of councils surveyed, were able to cite specific examples of motorcycle safety project activity and 60% had motorcycle safety initiatives in their road safety

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<sup>6</sup> The Motorcycle Council of NSW is the peak body for 30 motorcycle clubs representing some 25,000 riders.

plans (Riches, 2005). This was in contrast to an earlier survey that failed to find any local government motorcycle safety initiatives (RTA, 1999).

It was also apparent that the planning and implementation process had reaped other unanticipated benefits for the MCC. The planning process provided the MCC executive with a better understanding of road safety practice, the political environment and the system that motorcyclists need to work within to achieve road safety benefits and outcomes. They have formed a number of strategic alliances and the MCC is now widely recognised as the peak body representing motorcyclists in the State.

As noted earlier, *Positioned for Safety* set the agenda by providing a framework for use by other stakeholders in developing their own motorcycle safety initiatives. It was also a strategic plan for the activities of the MCC and included rider community projects, specific MCC projects and a program of lobbying for change by government and other agencies.

### **A model for road safety planning**

A model for the development of motorcycle safety plans has been devised based on the *Positioned for Safety* experience and 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 local community action 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 up to four stages in the model.

1. Set the agenda
2. Develop a State-wide strategic plan
3. Organisation specific plans
4. Local community action 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 and 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 was a strategic framework, which 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* (MCC, 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 focussed on the shared objectives and avoid arguments over details.

The aim is to devise a coordinated approach by key partner agencies 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, nor that government policy will be determined unilaterally by riders. 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 motorcycles 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.



## **Stage 4 - Action plans**

An action plan is a detailed description of the actions and steps used to implement a strategy or number of strategies. Action plans may include task assignments, milestones, timelines, resource allocations, data collection methodology, evaluation methods and indicators to be recorded. An action plan is typically implemented over a twelve month period and ties in to the budgetary or funding cycle.

## **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.

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. Whereas 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.

The value of the model described here is that it provides a framework 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 shared objectives for a safer motorcycling future.

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