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18 August 2010

The Committee Manager
The Staysafe Committee
Parliament House
Macquarie Street
SYDNEY NSW 2000

Dear Sir/Madam,

Re: NSW Staysafe Committee - Inquiry into Vulnerable Road Users

NRMA Motoring & Services (NRMA) is pleased to provide you with our attached submission for the Inquiry into Vulnerable Road Users, currently being undertaken by the Staysafe Committee.

NRMA comprises more than 2 million Members in NSW and the ACT. For more than 90 years NRMA has represented the interests of motorists in relation to road funding, road safety and other relevant public policy issues.

Throughout the years, NRMA has advocated for safety improvements for road users focussing on the three key themes of safer drivers, safer roads, and safer vehicles.

NRMA looks forward to working together with the Staysafe Committee to achieve improved road safety outcomes for our community.

Should the Committee's Members or staff require any additional information about our submission I encourage them to contact Ms Dimitra Vlahomitros, Senior Policy Adviser – Road Safety, on (02) 9276 7233.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Chris Siorokos', written in a cursive style.

Chris Siorokos
General Manager – Corporate Affairs

**NRMA Motoring & Services
Submission to the Parliamentary
Joint Standing Committee on Road
Safety (Staysafe)**

**Inquiry into
Vulnerable Road Users**

August 2010



Introduction

NRMA Motoring & Services (NRMA) comprises of more than 2 million Members in NSW and the ACT. For more than 90 years NRMA has represented the interests of motorists in relation to road funding, road safety and other related public policy issues.

Throughout the years, NRMA has advocated for safety improvements for road users focussing on the three key themes of safer drivers, safer roads and safer vehicles.

NRMA is also concerned about vulnerable road users and is pleased to present this submission to the Parliamentary Joint Standing Committee on Road Safety's (Staysafe) Inquiry into Vulnerable Road Users.

Terms of Reference

The Parliamentary Joint Standing Committee on Road Safety (Staysafe) has been self referred to inquire into and report on vulnerable road users, specifically motorcycle and bicycle safety, with particular reference to:

- a) patterns of motorcycle and bicycle usage in New South Wales;
- b) short and long terms trends in motorcycle and bicycle injuries and fatalities across a range of settings, including on-road and off-road users;
- c) underlying factors in motorcycle and bicycle injuries and fatalities;
- d) current measures and future strategies to address motorcycle and bicycle safety, including education, training and assessment programs;
- e) the integration of motorcyclists and bicyclists in the planning and management of the road system in NSW;
- f) motorcycle and bicycle safety issues and strategies in other jurisdictions; and
- g) any other related matters.

NRMA's submission will make specific recommendations to the Committee addressing motorcycle and bicycle safety. For the purposes of this submission motorcycle safety does not include issues regarding scooters.

NRMA's Recommendations

NRMA recommends that:

- The NSW Government provides NRMA Motoring & Services and other road safety stakeholders, such as private organisations and consultants with crash data comparable to that supplied by Victorian Government agencies and as currently supplied to each NSW Council.

Motorcycle Safety

- The NSW Government, in conjunction with key motorcycle stakeholders including NRMA Motoring & Services, develops a strategic plan within 12 months to reduce motorcycle fatalities and injuries and ensure that motorcycles are recognised in transport policy and planning and in road design, construction and maintenance.
- The NSW Government propose that the Australian and other state and territory governments develop an independent star rating program to test, rate, and promote motorcycle protective clothing available in Australia.
- The NSW Government undertakes a targeted education campaign to promote the benefits of wearing motorcycle protective clothing.
- The NSW Government, in conjunction with NRMA Motoring & Services and key motorcycle stakeholders, undertake a Motorcycle Demonstration Project to show what can feasibly be achieved in terms of improving safety for motorcycles on a section of NSW road.
- The Motorcycle Demonstration Project be evaluated in conjunction with the same stakeholders to determine which aspects should be considered for use elsewhere, for example, in key locations across NSW where there is a history of motorcycle crashes or where motorcycles are likely to leave the road.
- A section of the Old Pacific Highway to the north of Sydney between Cowan and Somersby be considered for the Motorcycle Demonstration Project, due to its high motorcycle usage rates.
- The NSW Government provide a professional development course open to all those involved in traffic and road safety, road design, construction and maintenance to demonstrate issues from a motorcyclists' perspective and help improve motorcycle safety.
- The RTA appoint a motorcycle policy adviser within its Road Safety Directorate to provide strategic advice on motorcycle issues, including safer roads.
- The NSW Government proposes to the Australian Government the adoption of an Australian Design Rule for Anti-Lock Braking Systems for motorcycles by 2013.
- The NSW Government proposes to the Australian Government the adoption of an Australian Design Rule for traction control for motorcycles by 2013.

Bicycle Safety

- The NSW Government undertakes an educational campaign to inform drivers and cyclists on how to share the road safely with each other.
- The NSW Government actively promotes bicycle safety to young children.
- The NSW Government actively encourages cyclists to wear high visibility clothing through an education campaign.
- The NSW Government undertakes a targeted education campaign paired with enforcement activities to improve cyclists' helmet usage rates.
- The NSW Government promote the use of low traffic, local streets and off-road paths to cyclists to reduce the potential for conflict with motor vehicles.
- The NSW Government trial a dynamic Bicycle Awareness Route using electronic signs to advise motorists of the potential presence of cyclists, for example, along General Holmes Drive at the airport tunnel in Sydney's south, in conjunction with NRMA Motoring & Services, Bicycle NSW and local bicycle clubs.
- The NSW Government undertakes a risk analysis of bicycles using motorways. This should include a comparison with the use of urban motorways by cyclists in other Australian States and in other Western countries.
- Subject to the outcome of a risk analysis, where bicycles are expected to use road shoulders on motorways the NSW Government should adopt the following infrastructure in consultation with NRMA Motoring & Services and Bicycle NSW:
 - A minimum one metre wide buffer strip of raised profile chevron line markings within the road shoulder, immediately to the left of the carriageway edge line, to enhance safety for both vehicles and cyclists.
 - A continuous unprofiled edge line immediately to the left of these chevron markings.
- The NSW Government, in conjunction with private road operators adopt a minimum performance standard for motorway shoulders to be swept of debris, with a particular focus on roads where cyclists are expected to use the road shoulder.

Vulnerable Road Users

Although this Inquiry focuses specifically on motorcycle and bicycle safety it is important to note that there are other road users that are also traditionally categorised as vulnerable. This includes the elderly, children, and pedestrians.

Although the issue of pedestrian safety was the subject of a previous Staysafe Inquiry, NRMA believes that the vulnerability of the elderly and children must also be addressed in future Inquiries.

Crash Data

Detailed road crash statistics provide essential information to road agencies, road safety advocates such as the NRMA, and the community. Currently, the Roads and Traffic Authority (RTA) provides only limited information on crashes and withholds more detailed information from external stakeholders. The data that is available is difficult to interpret and does not go into enough detail to be of significant value. Victoria, by contrast, is an example of best practice for data provision to external stakeholders.

The Committee has also recognised the importance of the availability of crash data to road safety stakeholders. In its Inquiry into Pedestrian Safety, the Committee recommended that the RTA gives priority to examine improved user functionality and ensure that the collected data is made widely available.

Whilst the NSW Government supports this recommendation by providing crash data to Local Councils and developing and implementing a new crash data system with on-line access for Councils, it does not address the need for wider availability to other road safety stakeholders beyond Local Councils.

NRMA recommends that:

- **The NSW Government provides NRMA Motoring & Services and other road safety stakeholders, such as private organisations and consultants with crash data comparable to that supplied by Victorian Government agencies and as currently supplied to each NSW Council.**

Motorcycle Safety

Motorcycle Statistics

During 2004 to 2008 there have been 292 motorcyclists killed and 10,625 injured on NSW roads. Of the 374 people killed in 2008 on NSW roads, 52 were motorcyclists, representing 14% of the road toll (Roads and Traffic Authority; RTA, 2008).

Pillion riders are also an important vulnerable group that should not be forgotten. Over the last five years (2004 – 2008) 12 pillions were killed and 613 were injured.

In 2008:

- 29% of motorcycle riders killed were aged between 30 and 39 years.
- 9% of riders and passengers killed were not wearing a motorcycle helmet and 4% of injured riders were not wearing a helmet.
- 4% of injured riders in 2008 were not wearing a helmet.
- All motorcycle rider fatalities were male and the overwhelming majority of those injured were also male (91%).

The number of licensed motorcyclists in NSW is increasing. In 2009, there were 480,503 licensed motorcyclists compared to 391,097 in 2000. This is an increase of 23%. Given the vulnerability of motorcyclists and the continued increase of licensed motorcyclists, a more targeted approach is needed to address this unique road user group.

NRMA recommends that:

- **The NSW Government, in conjunction with key motorcycle stakeholders including NRMA Motoring & Services, develops a strategic plan within 12 months to reduce motorcycle fatalities and injuries and ensure that motorcycles are recognised in transport policy and planning and in road design, construction and maintenance.**

Addressing Motorcycle Safety

Safer Motorcyclists

Motorcycle Protective Clothing

Research shows that in most cases injuries can be avoided or less severe if motorcycle protective clothing is worn, especially when involved in low-impact crashes (Haworth, et al 2008). However, there is no reliable and independent information available to Australian riders on the benefits or features offered by specific protective clothing.

NRMA recommends that:

- **The NSW Government propose that the Australian and other state and territory governments develop an independent star rating program to test, rate, and promote motorcycle protective clothing available in Australia.**
- **The NSW Government undertakes a targeted education campaign to promote the benefits of wearing motorcycle protective clothing.**

Safer Roads for Motorcyclists

Road Design

Many of our roads were designed in the 1960s when traffic volumes, the types of vehicles and road safety knowledge was very different to what it is today.

Various countries around the world are seeking to reduce motorcycle crash rates by actively considering the implications for motorcyclists in the design of road infrastructure.

Roadside furniture

NRMA is strongly advocating for the RTA to adopt passively safe road infrastructure to ensure solid objects such as sign posts and street lights are replaced with frangible versions.

Whilst signs and street lights are regular hazards alongside the road, it is often the guardrail (and associated support posts) used to protect drivers from hitting hazards that for a motorcyclist can represent a greater hazard than having to contend with an isolated pole.

Various crash barriers are now being used in countries such as the UK that have been designed to reduce the risk for any motorcyclist colliding with the barrier. Whilst Victoria has started to adopt these new products, it appears that NSW is currently lagging behind.

One such example of a treatment that can be retro-fitted to existing guardrail can be seen in the following picture, mounted below the standard guardrail. It has been designed to allow motorcyclists to slide along the barrier without hitting the potentially lethal support posts.



(Source: www.ingalcivil.com.au/rubrail.html)

Steel crash barriers with exposed posts present the greatest risk to motorcyclists, as the barrier posts are a continuous obstacle for a dismounted and sliding motorcyclist. There are barriers and barrier products which provide continuous lower level sheeting screening the posts and allowing motorcyclists to slide along the barrier without hitting the potentially lethal posts.

NRMA recommends that:

- **The NSW Government, in conjunction with NRMA Motoring & Services and key motorcycle stakeholders, undertake a Motorcycle Demonstration Project to show what can feasibly be achieved in terms of improving safety for motorcycles on a section of NSW road.**
- **The Motorcycle Demonstration Project be evaluated in conjunction with the same stakeholders to determine which aspects should be considered for use elsewhere, for example, in key locations across NSW where there is a history of motorcycle crashes or where motorcycles are likely to leave the road.**
- **A section of the Old Pacific Highway to the north of Sydney between Cowan and Somersby be considered for the Motorcycle Demonstration Project, due to its high motorcycle usage rates.**

NRMA's submission to the 2009 Staysafe Committee Inquiry into Heavy Vehicle Safety highlighted how very few of the people involved in traffic management and road safety - or in the design, construction and maintenance of roads - have driven or even ridden in a truck, although most will have driven a car or have used a bicycle.

The same issue applies with motorcycles. This makes it very difficult for traffic and safety engineers and others in the RTA, Councils and private consultancies to appreciate road design from a motorcyclists' perspective.

Hazardous road conditions are often a contributing factor in motorcycle crashes. Minor changes in the road surface, especially without adequate warning, can have detrimental effects for motorcycles – these can include loose gravel, mud, road paint, cracks, slippery crack sealant, damp patches and/or water over road, rotomilling during roadworks, and potholes.

Road design issues can also affect motorcyclists' safety – including inappropriate camber, poor line of sight, lighting and road-side landscaping. Inappropriate use or placement of road furniture including man-hole covers, silent traffic cops or lane markers can all have lethal results for motorcyclists.

VicRoads recently developed a training program, Making Roads Motorcycle Friendly, to ensure that all those involved in road design, construction and maintenance are enabled to make roads safer for motorcyclists (VicRoads, 2010).

NRMA recommends that:

- **The NSW Government provide a professional development course open to all those involved in traffic and road safety, road design, construction and maintenance to demonstrate issues from a motorcyclists' perspective and help improve motorcycle safety.**
- **The RTA appoint a motorcycle policy adviser within its Road Safety Directorate to provide strategic advice on motorcycle issues, including safer roads.**

Safer Motorcycles

NRMA believes that motorcycles can benefit from the available vehicle safety technologies such as Anti-lock Braking Systems (ABS) and traction control.

Anti-lock Braking Systems

ABS operates by monitoring wheel rotation speed, and releasing then reapplying brake pressure when the system detects that the wheel is on the verge of stopping, or locking up. The system cycles several hundred times per second, providing maximum braking effort in slippery circumstances.

ABS has been fitted to cars since the 1970s and is now almost universal on new cars and commercials. However, ABS is only fitted to a small number of new motorcycles and it cannot be economically retrofitted to any vehicle.

Motorcycles are single-track vehicles and are therefore inherently unstable – if the tyres lose traction, bikes are at high risk of skidding and crashing. Lock up and subsequent loss of traction on the front wheel is particularly dangerous and a crash can happen essentially instantaneously. There is little even a skilled rider can do in this situation. ABS on motorcycles can prevent wheel lock and therefore loss of traction which may potentially lead to avoiding a crash.

NRMA recommends that:

- **The NSW Government proposes to the Australian Government the adoption of an Australian Design Rule for Anti-lock Braking Systems for motorcycles by 2013.**

Traction Control

Traction control operates by monitoring front and rear wheel speeds and reducing engine power when it detects a difference.

A difference can occur if the rear wheel breaks traction due to excessive engine power overcoming the friction between the tyre and the road (a “burnout”). A difference can also occur if the front wheel leaves the road due to the torque reaction from the application of power to the rear wheel (a “wheelie”).

With the high power to weight ratios of modern sports bikes, it is easily possible that a rider will unintentionally wheelie a bike due to the application of excessive power catching them unawares, to the extent that the bike flips over backwards.

Traction control can prevent both of the above circumstances by reducing engine power.

NRMA recommends that:

- **The NSW Government proposes to the Australian Government the adoption of an Australian Design Rule for traction control for motorcycles by 2013.**

Bicycle Safety

Bicycle Usage in NSW

A recent NRMA (2010) survey found that bicycle usage among respondents remained particularly low, with only 2% being regular users and 69% not using a bike at all. Participants reported fitness and recreation as the main reason for bike riding. This partly reflects the fact that cycling is a recreational activity as well as a mode of travel. However, it also suggests that bicycles are not seen by many as a viable commuting option in NSW.

The NSW Government states in its NSW Bike Plan (New South Wales Government, 2010) that it will encourage more and safer cycling, to:

- increase the share of short trips by bike in Greater Sydney for all travel purposes to five per cent by 2016; and
- double the use of cycling to get to work, across all of NSW, between 2006 and 2016.

NRMA believes that the NSW Government should ensure that the application of policies to encourage cycling takes into account the associated risks involved with their increased exposure to vehicles and the road environment.

NRMA recommends that:

- **The NSW Government undertakes an educational campaign to inform drivers and cyclists on how to share the road safely with each other.**

Bicycle Crash Statistics

Over the last five years there have been 58 bicycle fatalities on NSW roads and 5,736 were injured. In 2008, eight cyclists were killed and 1,090 were injured (RTA, 2008).

Whilst the number of cyclists injured is relatively high it may not accurately reflect the true number of cyclists injured on NSW roads. These figures are based on data collected by NSW Police and a substantial proportion of non-fatal bicycle crashes are not reported to police.

During 2004 to 2008, 20% of bicycle fatalities were aged between five to 16 years of age (RTA, 2008). The high number of fatalities is of great concern and NRMA believes that more should be done to promote bicycle safety to this vulnerable age group.

NRMA recommends that:

- **The NSW Government actively promotes bicycle safety to young children.**

Addressing Bicycle Safety

Safer Cyclists

Cyclists' visibility is a significant factor in road crashes as cyclists are more difficult to see than vehicles. More needs to be done to ensure cyclists are visible during the day and night and can be seen in advance by motorists.

High visibility clothing is now commonly worn by employees who work in high risk environments such as commercial drivers, road workers, Police, etc. Visibility of cyclists can be improved through the use of high visibility clothing. This applies equally to training cyclists, commuters and recreational cyclists.

NRMA recommends that:

- **The NSW Government actively encourages cyclists to wear high visibility clothing through an education campaign.**

During the period of 2004 to 2008, 33% of cyclists killed were not wearing a helmet (RTA, 2008). Bicycle helmets substantially reduce the risk of death or brain injury for cyclists and still needs to be actively promoted and policed to encourage compliance.

NRMA recommends that:

- **The NSW Government undertakes a targeted education campaign paired with enforcement activities to improve cyclists' helmet usage rates.**

Safer Roads for Cyclists

NRMA supports cycling in areas that are safe for both cyclists and other road users. We believe the NSW Government should not be encouraging cyclists to use high speed roads as the speed differential with motor vehicles is simply too great. Preference should be given to encouraging the use of alternative routes that avoid high traffic and high speed roads. The use of low traffic, local streets is preferable as bicycles have the flexibility to take alternative routes to destinations such as, back streets, parallel roads, and bike paths in some areas.

We are concerned about the practice of reducing traffic lane widths to accommodate on-road cycle paths, when this occurs without proper consideration for whether motor vehicles will be able to fit within the traffic lanes. It is a particularly important issue given the increasing numbers of buses and trucks on the roads.



(Source: NRMA Motoring & Services, August 2010)

Location: Ultimo Road, Pyrmont.

Example of where the kerbside traffic lane has been narrowed to only 1.7m wide by the installation of a bicycle lane. Motor vehicles are now unable to fit within the lane.

NRMA recommends that:

- **The NSW Government promote the use of low traffic, local streets and off-road paths to cyclists to reduce the potential for conflict with motor vehicles.**

There are particular routes in Sydney that are used regularly by large numbers of training cyclists. NRMA believes that our recommendation for the NSW Government to promote the benefits of wearing high visibility clothing (such as fluorescent yellow green) would help to make cyclists more visible to motorists, particularly on high speed roads.

We also believe that more could be done to advise motorists when large numbers of cyclists are likely to be using particular routes. The use of dynamic electronic signs using both pictures and text would avoid the issue of static signs blending into the background.

The Airport Tunnel in Sydney's south is a known bicycle pinch point. Prior to the construction of the M5 East, a narrow shoulder existed within the tunnel that provided some protection to motorists. The shoulder was removed to accommodate a fourth traffic lane as part of the M5 East project which also introduced more merging and weaving movements within the tunnel.

The approaches and departures to the tunnel and the tunnel itself are characterised by narrow traffic lanes, high speed traffic, a large number of merging and weaving movements, high traffic volumes (including a high percentage of trucks associated with Port Botany) and artificial lighting within the tunnel contrasting with the light outside the tunnel.

NRMA would like to see the NSW Government implement a trial of a push button (or other detection) device, positioned by the side of the road and linked to electronic variable message signs, that cyclists could use to warn motorists of their presence in real time.

NRMA recommends that:

- **The NSW Government trial a dynamic Bicycle Awareness Route using electronic signs to advise motorists of the presence of cyclists, for example, along General Holmes Drive at the airport tunnel in Sydney's south, in conjunction with NRMA Motoring & Services, Bicycle NSW and local bicycle clubs.**

Safer Motorways for Cyclists

NRMA is concerned that crashes involving cyclists on motorways typically result in deaths or serious injuries. In early January 2009, a cyclist was killed and a training partner incurred severe head injuries after being hit by a truck on the M7 (Sydney Morning Herald, 2009). In April 2010, a cyclist was killed and three riders injured after being hit by a truck when riding in the breakdown lane on the M4 (The Daily Telegraph, 2010). This risk needs to be managed and the safety for all road users needs to improve.

It is widely understood that cyclists tend to cycle close to the carriageway to avoid debris on the road shoulder.

We would like to see raised profile edge lines installed along all motorways to provide an audible warning to any motorists that has veered from the traffic lane as well as enhancing delineation, particularly in wet weather and at night.

In addition, on urban motorways we believe that the provision of a chevron buffer zone within the road shoulder would provide separation between cyclists and the traffic lane. A buffer zone would have the added advantage of encouraging motor vehicles stopping on the road shoulder to park away from the traffic lane.

To ensure cyclists are able to take full advantage of these safety measures, it is imperative that the road shoulder is kept clear of debris.

NRMA recommends that:

- **The NSW Government undertakes a risk analysis of bicycles using motorways. This should include a comparison with the use of urban motorways by cyclists in other Australian States and in other Western countries.**
- **Subject to the outcome of a risk analysis, where bicycles are expected to use road shoulders on motorways the NSW Government should adopt the following infrastructure in consultation with NRMA Motoring & Services and Bicycle NSW:**
 - **A minimum one metre wide buffer strip of raised profile chevron line markings within the road shoulder, immediately to the left of the carriageway edge line, to enhance safety for both vehicles and cyclists.**
 - **A continuous unprofiled edge line immediately to the left of these chevron markings.**
- **The NSW Government, in conjunction with private road operators adopt a minimum performance standard for motorway shoulders to be swept of debris, with a particular focus on roads where cyclists are expected to use the road shoulder.**

References

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