Transport for NSW

# NSW Motorcycle Safety Roundtable 2025 Insights report

FINAL MH Consulting Group Report - July 2025





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### 1 Executive summary

#### Introduction and purpose

Last year New South Wales saw an alarming rise in motorcycle fatalities across the state. In 2024, 68 riders and their passengers were killed, an increase of 34 per cent from 2023. We know that motorcyclists face unique challenges with motorcycle riders approximately 34 times more likely to be killed in a crash than other road users.

In response to this, Transport for NSW (Transport) hosted the Motorcycle Safety Roundtable 2025 (Roundtable) on Tuesday 29 April 2025, on behalf of the NSW Government. The Roundtable brought together road safety experts, members of the motorcycling community and other stakeholders from NSW and interstate to identify and highlight actions to improve the safety of this road user group.

The Motorcycle Safety Roundtable 2025 sought to provide an open and collaborative environment to discuss the recent increase in motorcycle deaths and serious injuries across NSW and identify actions and measures to improve the safety of this road user group.

The agenda and structure of the Roundtable aimed to provide an opportunity to:

- Hear from road safety stakeholders who have contributed to reducing motorcycle road trauma.
- 2. Gather feedback and suggestions from Roundtable attendees on potential measures to improve motorcycle road safety in NSW, and to consider potential actions for inclusion in the next NSW Road Safety Action Plan.

#### Attendees and engagement

The Roundtable brought together approximately 75 attendees including road safety experts, academics, members of the motorcycling community and other stakeholders from NSW and interstate.

The Roundtable was opened by the Minister for Roads and Regional Transport, and presentations were provided by six speakers including Transport representatives, a motorcycle council representative and a representative from Austroads. Two facilitated panel sessions provide a more interactive discussion around motorcycle safety issues and developments.

Roundtable attendees provided input during the two table discussion sessions. Attendees discussed their most relevant safety concerns and key issues, and suggested recommendations for improvement, possible countermeasures and other innovative ideas. Attendee feedback and suggestions were also sought through online channels.

Refer to the appendices for the Roundtable agenda (Appendix A), attendee pack (Appendix B) and attendee list (Appendix C).



#### Purpose of this report

The purpose of this report is to provide an independent brief, clear and accurate summary of the key comments, ideas and suggestions generated by Roundtable speakers, panellists, and attendees.

Figure 1 shows how information was gathered and summarised, ensuring balanced viewpoints and emphasising the consistent ideas that emerged from all speakers, panellists, and attendees.

Figure 1: Gathered and summarised Roundtable information

# Information gathered at the Roundtable

- Presentations and panel discussions
- Small group discussions:
  - Improvements to rider education to reduce novice rider trauma
  - Improvements to motorcycle and protective gear reduce rider trauma

### **Key insights**

- Synthesis of all data to extract key insights and suggestions to improve motorcycle road safety separated into:
  - o insights from attendees; and
  - insights from presenters and panellists.

#### Insights from attendees - table discussions and digital feedback

Facilitated table discussions were held across two sessions. Digital feedback was also gathered through an online platform during and after the Roundtable. The following provides a summary of the key insights from the Roundtable attendees. A more detailed account of this feedback is discussed in Section 4.

#### Summary of key insights from attendee feedback

#### Novice riders: Licensing, education and training

- Attendees emphasised the importance of hands-on training and structured riding experience, including supervised on-road sessions.
- There was broad support for reforming licensing assessments to strengthen focus on practical competencies.
- Attendees recommended embedding education on protective gear in licensing programs, using a variety of engaging methods.

#### Vehicle safety and protective gear

- There was strong support for introducing national standards for essential protective gear (boots, gloves, abrasion-resistant clothing).
- Attendees suggested that some government-led incentives, such as subsidies, rebates, and insurance discounts, would make quality protective gear more accessible.
- The importance of education to improve the use of protective gear was highlighted.
- There was strong support for the use of technologies such as cornering ABS, ABS, and Combined Braking Systems (CBS) to reduce crash severity. Performance standards were seen to be vital to ensure effectiveness of lower-cost ABS models.
- There was endorsement of collision avoidance systems (such as blind spot detection) in other vehicles. Attendees identified the likely benefits of motorcycle-specific visibility enhancements.
- Attendees also discussed international motorcycle safety standards and the importance
  of ensuring that Australia has a process that would enable rapid uptake of relevant
  advancements.

#### Infrastructure and planning

- A clear need for motorcycle-aware road maintenance and design was identified, citing issues like poor surface conditions, potholes, and gravel as high-risk factors.
- There was strong support for using crash data to identify and prioritise high-risk motorcycle routes, especially in urban areas.
- Attendees recommended better integration of infrastructure-related risks into rider training and professional upskilling, supported by real-world case studies.

#### Other areas of safety

- Attendees noted that rider safety is compromised by risky rider behaviour and aggressive or inattentive drivers. They recommended a range of actions to build awareness, including impactful educational interventions and enhancing driver education.
- Suggestions were made regarding the recording of motorcycle fatalities and serious injuries, including a greater focus on off-road incidents.
- Attendees suggested recognising the role that motorcycle clubs can play in being an active road safety partner and helping deliver road safety initiatives.

#### Insights from presentations and panel discussions

Six presentations and two panel discussions were held. For video recordings of these sessions click <u>here</u>. The following provides a summary of the key insights from the Roundtable presenters and panellists. A fuller account of this information is provided in section 3.

#### Summary of key insights from the speaker presentations and panels

#### **Current trauma challenge**

- Motorcycle-related trauma in NSW has experienced a recent increase with novice riders, particularly learners, being the most vulnerable group.
- Excessive speed and crash type data highlight the need for tailored safety interventions.
- Proven measures like protective gear and graduated licensing offer clear safety benefits.

#### The Safe System and motorcycle riders

- The five pillars of the Safe System approach safer roads, safer vehicles, safer speeds, safer people, and post-crash care — must be fully integrated into motorcycle safety efforts.
- Poor road conditions remain a major risk for riders. A systemic approach to hazard reduction and safer infrastructure for motorcyclists will benefit all road users.
- Challenges in speed management require enhanced rider education, enforcement, and targeted campaigns. Better crash data and inter-state coordination are needed to ensure effective, evidence-based action.

#### Novice riders: Licensing, education and training

- Structured licensing and training reforms have significantly reduced novice rider trauma.
- The panel discussed potential learnings from the Graduated Licensing Scheme for drivers, with some adjustments for riders such as a slower progression through the

- licensing system, longer learning periods and the inclusion of an on-road component in NSW.
- A 'Safer People' approach anchored in policy and education is essential for long-term safety gains. The approach has laid the groundwork for cultural change and sustained reductions in road trauma.
- The panel advised on the importance of ensuring that riders participated in the right training along their learning pathway. This included sufficient education before the rider is on the roads.

#### Infrastructure

- Targeted infrastructure and speed management can dramatically improve motorcycle safety. Combining speed control with motorcycle-specific road treatments in high-risk areas has been effective.
- An evidence-based approach drawing on multiple sources has enabled Transport for NSW to identify critical crash patterns and apply precise countermeasures that resonated with rider needs and road conditions.
- The Oxley Highway model has provided a template for future motorcycle safety projects in NSW, demonstrating the importance of ongoing monitoring, inter-agency collaboration, and rider engagement
- The Austroads Project SAG6222 demonstrated that perceptual countermeasures such as adjusted road markings and guideposts can reduce rider speed and improve lane positioning, particularly at curve apexes.

#### Motorcycle safety campaigns

- Effective campaign messaging requires collaboration, engagement and evidence-based design. Transport for NSW's Ride to Live campaign development prioritised collaboration with safety teams, peer-reviewed research, and stakeholder input.
- There are perception gaps between riders and drivers, which can contribute to road tension and risk. New research reveals a disconnect between how riders and drivers perceive motorcycle safety.
- Future campaigns will leverage rider identity and peer influence to drive cultural change. The aim will be to shift rider attitudes from selective caution to consistent safety.

#### Vehicle safety and protective gear

- Australian New Car Assessment Program (ANCAP) has been looking at vehicle safety since the 1990s. Current work is underway, with further work planned, to understand what technologies are currently available regarding motorcycle technologies.
- MotoCAP tests jackets, pants and gloves and provides information on the protection they
  provide. Some of the challenges of mandating protective clothing included that there is
  no Australian standard for protective clothing for motorcyclists. It may be better to
  provide education rather than introduce legislation.

•	Consumer Rating and Assessment of Safety Helmets (CRASH) provides motorcyclists with information about the safety and comfort of their helmets. Around 30 helmets are tested every year with 390 rated in total.

#### 2 Introduction

Transport for NSW (Transport) hosted the Motorcycle Safety Roundtable 2025 (Roundtable) on Tuesday 29 April 2025, on behalf of the NSW Government. The Roundtable brought together road safety experts, members of the motorcycling community and other stakeholders from NSW and interstate to identify and highlight actions to improve the safety of this road user group.

#### 2.1 Background and context

Last year New South Wales saw an alarming rise in motorcycle fatalities across the state. In 2024, 68 riders and their passengers were killed, an increase of 34 per cent from 2023. We know that motorcyclists face unique challenges. International research shows that motorcycle riders are about 34 times more likely to be killed in a crash than other road users, and riders are some of our most vulnerable road users given the lack of physical protection they have in the event of a crash.

#### Fatality serious injury trends

Since the baseline for the current Road Safety Action Plan (2018-2020), there has been a slight upwards trend in motorcycle fatalities. The 2024 figure of 64 (operators only, therefore excluding passengers) was above trend, and the 2023 figure of 52 was considerably below trend, resulting in a year-on-year increase in fatalities of 21 per cent. Serious injuries for motorcyclists have increased over time. This is likely a reflection of the greater number of riders on NSW roads, however the increase appears to have accelerated since 2021.

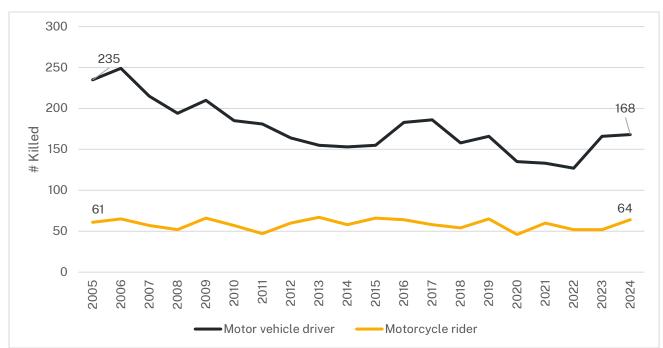


Figure 2: Motorcycle (operator only, excluding pillion passenger) and driver fatalities

Long-term modelling indicates that motorcyclists are projected to make up an increasing proportion of road deaths, up to 30 per cent in 2050. This reflects their vulnerability and that they are less likely to be protected by expected advancements in technology and infrastructure upgrades that have traditionally focused on reducing vehicle occupant trauma.

#### **NSW** road safety targets

An estimated 53,000 lives have been saved on NSW roads since 1978, due to the introduction of numerous road safety measures and a better understanding and application of evidence-based road safety approaches<sup>1</sup>.

NSW has ambitious targets to achieve zero fatalities and serious injuries on the state's roads by 2050, which is consistent with the long-term vision set out in the *National Road Safety Strategy* 2021–2030 and *Future Transport Strategy*. This vision is shared by the community, with 84 per cent of people supporting this goal<sup>2</sup>. The steps towards achieving this are detailed in the 2026 Road Safety Action Plan, which sets targets to halve road fatalities and reduce serious injuries by 30 per cent from 2018-2020 levels by 2030, as seen in Figure 3.<sup>3</sup>

Figure 3: Trauma reduction targets, Source: 2026 Road Safety Action Plan

Reduce fatalities by

50%

(≤ 164 fatalities by 2030)

Reduce serious injuries by

30%

(≤7,796 serious injuries by 2030)

#### 2026 Road Safety Action Plan

The 2026 Road Safety Action Plan (the Plan) outlines road safety initiatives that will be delivered to progress towards achieving road trauma reduction targets, building on the reductions already achieved over recent decades. The Plan adopts the Safe System approach, and was developed following extensive stakeholder and community consultation, as well as analysis of trauma trends, best practice approaches and research evidence.

The Plan includes the following actions relevant to NSW motorcyclists:

- Develop enhancements to the Motorcycle Graduated Licensing Scheme to better align with best practice, including consideration of licensing requirements and restrictions, expanding the reach of and access to mandatory rider training, as well as other training and assessment enhancements.
- Assess the feasibility of an incentive program to increase the use of motorcycle protective
  equipment measures and of mandating the use of protective boots and gloves for novice
  riders to reduce serious injuries among motorcyclists.
- Investigate mandating motorcycle anti-lock braking systems as part of the Learner Approved Motorcycle Scheme for novice motorcyclists to prevent wheel locking and increase motorcycle stability in near-crash situations.
- Promote information to encourage safer consumer choices for new and used vehicles, and work with retailers to increase uptake of the safest motorcycle protective clothing and motorcycle helmets.

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<sup>&</sup>lt;sup>1</sup> 2026 Road Safety Action Plan

<sup>&</sup>lt;sup>2</sup> 2026 Road Safety Action Plan: Community Attitudes Research Report - July 2021

<sup>&</sup>lt;sup>3</sup> 2026 Road Safety Action Plan.

In response to the rise in motorcycle fatalities and serious injuries over recent years in NSW, as described above, the need for collaborative and purposeful effort to bring address these statistics was identified and acted upon by the NSW Government through undertaking the Motorcycle Safety Roundtable 2025.

#### 2.2 Purpose of the Roundtable

The Motorcycle Safety Roundtable 2025 sought to provide an open and collaborative environment to discuss the recent increase in motorcycle deaths and serious injuries across NSW and identify actions and measures to improve the safety of this road user group.

The agenda and structure of the Roundtable aimed to provide an opportunity to:

- Hear from road safety stakeholders who have contributed to reducing motorcycle road trauma.
- Gather feedback and suggestion from Roundtable attendees on potential measures to improve motorcycle road safety in NSW (in light of the recent increase in motorcycle deaths and serious injuries), and to consider potential actions for inclusion in the next NSW Road Safety Action Plan.

#### 2.3 Roundtable structure

The structure of the Roundtable was developed to allow attendees to hear from motorcycling and road safety experts on a range of issues relevant to the improvement of motorcycling safety across NSW via presentations and panel discussions. Secondly, opportunities for attendees to provide comment, feedback and suggestions were maximised through several channels including facilitated small table discussions and digital feedback options.

Throughout the course of the Roundtable, presentations were provided by six speakers including the Minister for Roads and Regional Transport, Transport representatives, an Australian Motorcycle Council representative, and a representative from Austroads. See the Roundtable agenda in Appendix A for more information.

The Roundtable also featured two panel discussion sessions involving attendees from an array of backgrounds and contexts including academia, government and non-government organisations.

Attendees were provided with an information pack to support the Roundtable presentations and discussions in advance of the event. In addition to the agenda, the attendee's information pack contained key road trauma data, NSW road safety information, and a background and context into key issues to be discussed through the event including motorcycle safety and protective gear, licensing and training, infrastructure support and motorcycle safety campaigns.

Appendix A provides the Roundtable agenda while Appendix B (page 4) provides an overview of the Roundtable. Appendix C contains the Roundtable attendee list.

#### 2.4 Purpose and structure of this report

This report contains an independent summary of all information provided through speaker presentations, panel discussions, facilitated table discussions and participant suggestions given

online in response to general feedback questions. This report was prepared by MH Consulting Group.

The purpose of this report is to provide an independent clear, concise and accurate record of the key comments, ideas and suggestions generated by presentation speakers, panellists and attendees who attended the Motorcycle Safety Roundtable 2025.

The information gathered from all inputs has been summarised and synthesised, to draw out the consistent insights as well as the diversity of views. Where possible, the report indicates the level of support from Roundtable attendees for a particular insight or suggestion.

To present the Roundtable outputs in a more easily readable and accessible way, the information contained in this report is provided as follows:

#### Section 3. Insights from the presentations and panel discussions

The purpose of this section is to provide summaries of each of the six Roundtable presentations. A summary of key issues and insights which that arose in the two panel discussions is also provided.

#### Section 4. Insights from Roundtable attendees – table discussions and digital feedback

The purpose of this section is to provide summaries of the feedback and comments generated from each of the two group table discussion sessions, as well as a summary of any digital feedback provided by attendees.

# 3 Insights from the presentations and panel discussions

The purpose of this section is to provide brief summaries of each of the six Roundtable presentations. Videos of the presentations and panel discussions can be found <a href="https://example.com/here">here</a>. A summary of key issues and insights which arose in the two panel discussions is also provided. This section is ordered by the items in the Roundtable agenda in Appendix A.

#### 3.1 Introductory items and Roundtable welcome

#### **Presenters**

Sally Webb, Deputy Secretary, Safety, Policy, Environment and Regulation, Transport for NSW Josh Murray, Secretary, Transport for NSW

The Hon. Jenny Aitchison MP, Minister for Roads and Regional Transport

Uncle Allan Murray Snr, Metropolitan Aboriginal Land Council

#### Opening remarks - Sally Webb

The NSW Motorcycle Safety Roundtable 2025 was introduced by Sally Webb, Deputy Secretary, Safety, Policy, Environmental and Regulation, Transport for NSW. Ms Webb highlighted the need to address the number of motorcycle deaths and serious injuries experienced across NSW over recent years. Ms Webb hoped the outcomes of the roundtable would generate ideas and agreement on measures to reduce these concerning figures from a diversity of representatives and stakeholders. Ms Webb reiterated the purpose of the roundtable in developing ideas and recommendations for motorcycle safety which could be brought into the new NSW Road Safety Action Plan, soon to commence development.

#### Welcome to Country - Uncle Allan Murray

Welcome to Country was offered by Uncle Allan Murray. He is a proud descendant of the Duduroa/Yorta Yorta through his mother and is of Wamba Wamba descent through his father's ancestry. Uncle Allan is a strong advocate for social justice, health, education and employment, and highlighted the overrepresentation of Aboriginal people in road deaths and serious injuries within NSW and across Australia more broadly.

#### Roundtable introduction - Josh Murray

Mr Murray emphasised the importance of motorcycle safety for all road users and referenced again the concerning increase in deaths and serious injury amongst this group over recent years.

Mr Murray shared his personal experience with motorcycle riding. This included the practical concerns that come with motorcycling riding which are demonstrated in the data — motorcyclists are at much higher risk for crashes and fatalities. However, Mr Murray also highlighted why people are drawn to riding: it's fun, exciting, more affordable, and fuel-efficient.

Mr Murray pointed to data which showed that motorcycle riders were overrepresented in fatal crashes, with about one-third of road deaths involving motorcycles this year. The percentage of motorcycle-related deaths has continued to rise, even with current safety efforts.

#### Roundtable welcome - The Hon. Jenny Aitchison MP

The Minister for Roads and Regional Transport, the Hon. Jenny Aitchison MP, reaffirmed the importance of working together to improve access and safe transport for road users particularly vulnerable road user groups in regional areas. Minister Aitchison highlighted the two motorcycle fatalities in the past week — a stark reminder of the risks faced by motorcyclists.

Minister Aitchison emphasised that the government stands in support of motorcycle riders and is committed to improving their safety and framed the focus of the day as exploring practical, evidence-based steps to prevent further loss of life.

#### 3.2 Current trauma challenge

#### **Presenter**

Bernard Carlon, PSM Chief, Centres for Road Safety and Maritime Safety, Transport for NSW

Mr Bernard Carlon highlighted the escalating issue of motorcycle-related trauma in NSW. Between 2019 and 2023, 5,116 motorcyclists were killed or seriously injured, with a cost of \$5.5 billion. Fatalities rose from 50 in 2023 to 68 in 2024, with 27 already recorded by April 2025.

The presentation highlighted that young (16 – 25 years) and older riders (55+) were disproportionately affected, making up nearly half of all deaths. Learner motorcyclists were the most vulnerable group on the roads, although provisional riders (P-platers) also experienced notable spikes in crash involvement. Novice rider fatalities increased 55 per cent from 2023 to 2024, with most occurring in metropolitan and country urban areas.

Mr Carlon showcased analysis of crash data which revealed that the top five types of motorcycle crashes were linked to specific road user movements. Excessive speed was a major factor, contributing to 57 per cent of fatal motorcycle crashes, which was significantly higher than the 40 per cent average across all road users. Notably, 43 per cent of motorcycle fatalities involved single-vehicle crashes with the top crash types varying by region.

In terms of existing measures to reduce deaths and accidents, the presentation indicated that protective gear has proven effective in reducing injury severity—jackets by 21 per cent, gloves by 59 per cent, and pants by 51 per cent. The data underscored the urgent need for targeted safety interventions. With respect to licensing across all road users, there was strong evidence that the graduated licensing system has significantly reduced crash rates among young drivers, with statistics showing a halving of their involvement in crashes.

#### 3.3 Why the safety system matters for riders

#### **Presenter**

Shaun Lennard Chair, Australian Motorcycle Council Mr Shaun Lennard, Chair of the Australian Motorcycle Council, acknowledged the collective efforts of attendees to meet and work together to improve motorcycle safety. The presentation focused on the importance of applying a Safe System approach to motorcycle safety in Australia and was intended to be delivered from a 'rider's perspective'.

Mr Lennard outlined the history of the Australian Motorcycle Council (AMC) in terms of its purpose in representation the interests of Australian motorcycle riders and provided a background of the AMC's historic role in motorcycle safety.

Mr Lennard underscored the need for inclusion of motorcycles in infrastructure planning, stronger inter-state collaboration, and continuous consultation with rider groups. He asserted that the elements of a Safe System—safer roads, safer vehicles, safer speeds, safer people, and post-crash care—were all vital to reducing fatalities.

Mr Lennard noted that technological innovations such as ABS, vehicle detection systems, and smart helmets are promising. Their integration must be matched by speed management, hazard reduction, and community engagement. Mr Lennard suggested that systemic change is required which includes tailored road safety audits, retrofitting of safety features, and targeted campaigns.

#### 3.4 Novice riders - licensing, education and training

#### **Presenter**

Duncan McRae

Road Safety Policy Lead, Transport for NSW

Mr Duncan McRae provided a 'safer people' perspective and discussed the evolution of novice rider licensing, education, and training in NSW from the 1980s. He emphasised how systemic reform in this area has succeeded in reducing motorcycle trauma.

Using a snapshot of 1982, motorcycle fatalities were significantly high, with 203 deaths and a fatality rate of 15.6 per 10,000 registered bikes. Learner riders made up 12.4 per cent of these fatalities, a stark contrast to learner drivers at just 0.6 per cent. Mr McRae also identified how high-risk behaviours, such as riding under the influence, were also prevalent during this period.

In 1984, following the NSW Joint Standing Committee on Road Safety's inquiry into Motorcycle Safety (Staysafe 3), major reforms were introduced. Key recommendations included mandatory rider training delivered, off-street practical assessments, on-road rider testing, engine power limits for learners, restrictions on pillion passengers and a limit on learner licence renewal.

From 1991 to 1994, a structured licensing scheme was implemented, featuring pre-learner courses for basic control skills and pre-provisional courses for actual roadcraft. The Motorcycle Licencing and Testing Scheme also introduced a revised motorcycle rider assessment (MOST) and restrictions on licence renewals.

Mr McRae presented the key initiatives for improving motorcycle safety in NSW which occurred in the 2000s. These included: the Learner Approved Motorcycle (LAM) scheme established in 2002, the addition of demerit points to Learner Licences in 2004, Low risk riding behaviours added to the Motorcycle Rider Handbook in 2006 and zero speeding tolerance for all novices in 2007.

The introduction of a Graduated Licensing Scheme (M-GLS) commenced in 2009. This included the addition of a P2 phase (provisional P1 rider licence phase requires a 12-month minimum period, then the provisional P2 phase required an additional minimum 24-month period), changes to licence issue and other tenure rules, and changes to older rider exemptions.

As a key component of the safe system framework, the focus on structured training and policy improvement and development to reduce novice rider trauma is key from the safer people perspective.

#### 3.5 Panel: Novice riders - licensing, education and training

#### Chair

Howard Collins, Coordinator-General, Transport for NSW

#### **Panellists**

Antonietta Cavallo PSM - Director Road Safety Strategy, Transport Accident Commission (Victoria)

Dr Matthew Baldock - Deputy Director, Centre for Automotive Safety Research University of Adelaide

Professor Teresa Senserrick - Director, WA Centre for Road Safety Research, University of Western Australia

Shaun Lennard - Chair, Australian Motorcycle Council

Mr Howard Collins convened the panel discussion addressing novice riders: licensing, education and training. The panel shared their views on ways to strengthen approaches for novice riders and reduce rider risk.

#### Licensing

The Graduated Licensing Scheme (GLS) has worked extremely well for drivers, with significant reductions in serious injuries and deaths. Key reasons for its effectiveness included that the GLS is built on a strong evidence base and an understanding of the protections needed. Driver skills are built up in lower risk settings: through a long, supervised learner period; very controlled provisional license period; limited peer passengers; and lots of education and engagement from school through the licensing period.

While the principles of GLS are still relevant for riders the settings need to change. For example, in NSW there is no supervision for L plate riders, meaning that they are more like a car P plater. There is also an abrupt transition from learner, to Ps, to full licence. Data suggests that riders are moving too quickly through licensing system to more high-risk situations. A more structured pre-L and L period would provide more opportunity for training under low-risk conditions.

There are challenges for transferring the GLS approach for car licensing to riders. In WA, where some licencing requirements are similar for riders and drivers, one of the main challenges is around supervision. To begin, the learner rider needs to know someone who has a full motorcycle licence who can provide supervision. Other challenges included that the supervisory rider can't see exactly what the learner rider is seeing or experiencing, and the supervisor is not able to respond quickly. There are risks for both the learner rider and the supervisory rider, with the supervisor needing to be aware of not only the learner's circumstances but their own.

Some other reflections on changes to licensing that would help to reduce risk included an older licensing age; having longer learning periods and keeping restrictions in place for longer.

#### Education and training

There are a variety of training methods available. With the recent experience of COVID, a lot of training generally has moved online. A current review of studies looking at whether online training might be beneficial for motorcyclists found that there were no disadvantages to delivering training online. This suggested that online training could work with the learner phase of motorcycling. The important consideration is that the mode of training delivery needs to match the skills being taught. Some skills, such as learning the controls of a motorcycle, need to be in person. For theoretical knowledge online training may be appropriate.

In some countries, particularly in Europe, much longer is spent on riding theory. For example, in Germany learners are required to complete 24 hours of theory before learning how to control a motorcycle.

Learning journals can help with elements of self-reflection and self-monitoring. For motorcycle riding, it would be important to have a third party to review and give feedback, rather than simply self-monitoring. A learning journal may be a useful aid but the use of learning journals is unlikely to play a major role in any new approach.

In NSW, no on-road training is required to get a learner's licence. Some jurisdictions do require on-road training and assessment as part of their learner period. There is a lot to be said for this approach. It provides context for riders, teaching them to ride in real world conditions. An early on-road component may be a useful addition to the NSW scheme. Further work to build on the evidence is needed, including consultations with other jurisdictions in Australia and internationally. Some panellists recommended exploring on-road training as part of the learning course.

Training for supervisors is vital. Supervisors need to have the right qualifications, not just be experienced. It will be important to build capacities and capabilities for supervisors in on-road training.

Other suggestions to reduce road risk included knowledge tests that address real road situations. Simulation was also used in other countries to mimic real world conditions.

A suggestion was made by the panel to develop a uniform national approach for the training of novice riders. This included through a national summit and the development of a national policy.

#### 3.6 Oxley Highway Case study (presentation)

#### Presenter

Tony Nguyen Senior Manager, Safer Roads, Transport for NSW

Mr Tony Nguyen, Senior Manager, Safe Roads, Transport for NSW, discussed the Oxley Highway as a real-world example of the safe system approach applied to improving motorcycle safety in NSW.

The Safe System Approach was applied to the Oxley Highway, a 506 km scenic route in NSW, particularly focusing on a high-risk 44 km mountain section between Long Flat and Walcha. This section, known for sharp bends and steep drop-offs, recorded 60 crashes between 2012 and 2017, with motorcyclists involved in 30 per cent — more than double the NSW average. Both local

and visiting motorcyclists were impacted in the statistics, with the crash profile confirming the need for targeted speed reduction and infrastructure upgrades tailored to riders.

Mr Nguyen outlined the route safety review undertaken by Transport for NSW in 2015 for this section of road, which incorporating crash data, community feedback and AusRAP risk assessments. The review showed that 78 per cent of motorcycle crashes were single-vehicle incidents on curves. In response, in 2017 speed limits were reduced from 100 km/h to 80 km/h. Road upgrades supported the speed reduction with enhancements included advisory signs, motorcycle crash zone warnings, sealed shoulders, underrun-protected barriers, and enforcement lay-bys. Police enforcement was also enhanced with dedicated enforcement bays and mobile speed cameras.

The presentation illustrated how these interventions significantly improved safety from 2017; fatal motorcycle crashes declined, riders reported better hazard visibility, and police noted increased compliance. Community feedback highlighted greater safety without compromising the riding experience. Ongoing monitoring and crash data evaluation will also guide future improvements.

Mr Nguyen explained the Oxley Highway improvement is now a benchmark for motorcycle safety in NSW with key lessons learned for other areas to be guided and benefited from.

#### 3.7 Infrastructure to support safer rider outcomes (presentation)

#### Presenter

Michael Nieuwesteeg

Program Manager for Road Safety and Design, Austroads

Mr Michael Nieuwesteeg provided a presentation on the critical role road infrastructure plays in the support of safer rider outcomes. Mr Nieuwesteeg's presentation focused on the benefits of common perceptual countermeasures used across the Australian road network including infrastructure such as non-obtrusive road markings and roadside furniture. These measures aim to reduce travel speed and/or improve vehicle alignment by influencing road user perception, workload and comfort.

Mr Nieuwesteeg outlined the role of Austroads, the collective of Australian and New Zealand transport and road agencies, who work to promote national road safety practices, provide expert advice, and manage effective road systems. The presentation centred around one of Austroad's recent initiatives, Project SAG6222, which focused on motorcycle rider safety by investigating Perceptual Countermeasures (PCMs)—low-cost road markings and roadside treatments aimed at enhancing rider perception and reducing crash risk, particularly on curves. The study responded to the high crash rate among motorcyclists on curved roads, where poor speed control and lane positioning are common.

Mr Nieuwesteeg presented the results of the study which showed modest speed reductions, especially on shallow curves where average speed dropped by 3.8 km/h. Lane position improvements were observed at curve apexes, and riders shifted away from the centreline into safer, leftward portions of the lane. Entry point lane positioning, however, showed minimal change. The study concluded that PCMs had overall moderate effects on reducing speed and indicated that the PCM can increase rider's alertness. It also concluded that PCMs appear

capable of improving lane position, especially at the apex, and with future coupling with gating PCM may influence lane positioning at entry positions.

#### 3.8 Motorcycle Safety Campaign Development (presentation)

#### **Presenter**

Philip Sherar

Manager Marketing, Transport for NSW

Mr Philip Sherar explained the development and evolution of motorcycle safety campaigns by Transport for NSW, with a focus on the "Ride to Live" initiative and the strategies moving forward. Mr Sherar highlighted the critical importance of language and messaging in road safety marketing and campaigns, to ensure information is provided to the general public as effectively and impactfully as possible given the constraints on time and budget.

Since its inception in 2014, the Ride to Live campaign has engaged motorcyclists through emotionally resonant storytelling and practical safety tools. Overall, the key aims of the campaign have been to improve hazard anticipation, lane positioning and braking techniques. Despite positive behavioural outcomes since 2017–2018, recent assessments revealed a decline in emotional engagement, prompting the need for a refreshed approach.

Mr Sherar explained new attitudinal research which revealed that motorcycling is deeply tied to personal identity and community perception. Riders, especially novices, often underestimate risks and overestimate their abilities, while certain riding scenarios are perceived as safer than they actually are. In contrast, other drivers view motorcycle riders as unpredictable, citing lane weaving and high speeds as concerns, and express frustration due to limited understanding of rider behaviours. The presentation emphasised how misalignment in perceptions contributes to tension and safety risks on the road.

In response to this research, the new campaign's strategic shift has now focused on elevating perceptions of risk and fostering a cultural change in rider attitudes. This involves transitioning from a mindset of selective caution to one where every ride is treated with full responsibility and awareness. Mr Sherar pointed to creative testing which confirmed that both novice and experienced riders are receptive to safety reminders when delivered without condescension.

A new integrated campaign is scheduled for launch in October 2025, coinciding with Motorcycle Awareness Month, to further embed these safety messages across diverse rider and driver communities.

#### 3.9 Vehicle Safety and Protective Gear (panel discussion)

#### Chair

Chadi Chalhoub, Executive Director, Transport Safety, Transport for NSW

#### **Panellists**

Chris Hurren - Associate Professor in Textile Research, MotoCAP

Carla Hoorweg - CEO ANCAP

Greg Dikranian - Senior Manager, Safer Vehicles, Transport for NSW

Shaun Lennard - Chair, Australian Motorcycle Council

Mr Chadi Chalhoub moderated the panel discussion on vehicle safety and protective gear.

ANCAP has been looking at vehicle safety since the early 1990s and has become an important aid to support decision making in vehicle purchases. The panel addressed the questions of whether this would benefit riders. The panel first discussed the safety features of vehicles (including passenger cars). Recently ANCAP has looked at the ability of vehicles to detect and respond to a motorcycle in vulnerable positions. Varying scenarios at different speeds, up to about 70kms/h, were looked at. There are plans for ANCAP to examine other scenarios, including increased speeds (up to 130kms/h) and motorcycle T-bone crashes. ANCAP is also exploring how this can be rolled out to other vehicles, such as light trucks and vans and eventually to heavy vehicles.

The potential for ANCAP to look at safety features on motorcycles was also discussed. To progress this work, ANCAP needs to understand what technologies are currently available, for example ABS. A desktop analysis is being conducted to understand what technologies are currently available and in use in Australia. There is a longer (5-10 year) journey on developing, testing and assessing protocols and communicating this with riders. Motorcyclists are different to car drivers, and the ways of communicating with them are also different. This has the potential to be of huge benefit to motorcyclists.

The Consumer Rating and Assessment of Safety of Helmets (**CRASH**) has been in place since 2009. It provides motorcyclists with evidence-based information about the safety and comfort of their helmets. Around 30 helmets are tested every year with 390 rated in total. All helmets sold in Australia are required to meet Australian standards, but CRASH puts them through a more rigorous process. It mirrors the ANCAP program and provides consumers with a free resource on helmet safety and comfort. CRASH information has been amalgamated into the MotoCAP website.

<u>MotoCAP</u> tests jackets, pants and gloves and provides information on the protection they provide. There are changes in the level of protection in products — both increases and decreases in protection. It is difficult for a rider to assess the level of protection afforded just by the look and feel of the garment. Brand and price do not provide indications of the level of protection. The technology in protective materials is progressing massively.

Some of the challenges of mandating protective clothing were discussed. Helmets are already mandated and there is a standard. There is no Australian standard for protective clothing for motorcyclists. MotoCAP is a star rating system, not a standard. About 50 per cent of protective gear is certified to a European standard, which is set very low. It is also very difficult to police the wearing of protective clothing. Some countries/jurisdictions, e.g. Belgium, require that riders do not have any exposed skin, which is able to be policed. This may also encourage riders to buy protective clothing. It may be better to provide education and support rather than mandating the wearing of protective clothing. The harm that people are doing is to themselves, not to someone else.

Some of the obstacles to wearing full protective gear for every ride include rider comfort, particularly related to heat. Protective gear needs to be breathable and protective. Some described that riders felt that they had less control while wearing gloves. Others reported that riders assessed risk and while the benefits of wearing helmets were clear and saved lives and serious trauma, protective clothing was only likely to reduce injury. There may be opportunity to further promote the MotoCAP website from a learner stage and ongoing.

# 4 Insights from attendees – table discussions and digital feedback

The following section summarises the feedback generated from each of the two group table discussion sessions into key points. This is followed by a summary of digital feedback provided by attendees. This section is ordered by the items in the roundtable agenda in Appendix A and a copy of the panel discussion guide and session outline for each group table discussion is provided in Appendix D and Appendix E.

## 4.1 Table discussions: What improvements to rider education can be made to reduce novice rider trauma?

Below is a summary of roundtable attendee feedback provided from the first table discussion session:

Topic 1: What improvements to rider education can be made to reduce novice rider trauma?

 Measures to improve the Graduated Licensing Scheme to reduce rider risks during the novice stages of riding.

The five most common points raised in the table discussions were:

- Training and on-road experience: Attendees strongly supported increased practical
  training, emphasising supervised on-road coaching sessions. This approach allows
  learners to apply foundational skills in real-world environments, progressively building
  their competence through exposure to varied and challenging conditions, such as wet
  weather, windy environments, and night-time riding. Some attendees recommended
  extending pre-learner training.
- Improved and diversified licensing assessment methods: Some attendees
  recommended integrating practical elements into licensing assessments, including
  through Rider Hazard Perception Testing (HPT). There was support for competencybased evaluations, focusing on practical skills in realistic scenarios rather than solely
  theoretical testing, ensuring riders possess critical safety skills before progressing.
- Structured experience and logbooks: Attendees saw benefits in tracking rider
  experience through digital logbooks and telematics, recording hours spent riding under
  diverse conditions. This structured approach ensures riders gain sufficient, varied
  experience before advancing through licensing stages.
- Protective gear and rider training: Discussions highlighted the critical role of protective
  gear in rider safety and suggestions included embedding gear education into licensing
  courses, providing gear through training providers, and employing impactful visual
  demonstrations of injury outcomes to encourage consistent use of protective clothing.

Enhanced educational methods and theory training: Attendees highlighted the need for
interactive, digital training modules that complement practical instruction.
 Recommendations included tailored online programs with visual and interactive
components, regular refresher modules, and the potential adaptation of successful
existing driver programs to support diverse learner needs, particularly benefiting
regional and remote riders.

#### 2. Significant challenges for motorcyclists from a trauma reduction perspective

The five most common points raised in the table discussions were:

- **Protective gear and rider equipment:** Attendees discussed the lack of minimum standards for protective gear in Australia as a critical safety challenge. They supported standardising minimum gear requirements, helmets, gloves, boots, and abrasion-resistant clothing, to substantially reduce trauma severity. Recommendations included targeted education programs, affordability initiatives, and promoting independent gear rating systems like MotoCAP to inform rider decisions.
- Road infrastructure and environment: Discussions consistently identified inadequate
  road infrastructure as a major trauma risk, emphasising the need for motorcycle-specific
  safety considerations in road design and maintenance. Recommendations included
  enhanced training for engineers on motorcycle hazards, revising road infrastructure
  standards (such as roadside poles and raised markings), and ensuring consistent
  investment in infrastructure improvements that address motorcyclists' unique
  vulnerabilities.
- Rider behaviour, attitude, and risk perception: There was strong support for addressing
  behavioural challenges, recognising that entrenched attitudes and voluntary risk-taking
  behaviours significantly contribute to motorcycle trauma. Suggested solutions included
  adopting impactful educational interventions and continuous reinforcement of safe riding
  practices to counteract complacency among experienced riders.
- Interaction with other road users: Attendees emphasised that drivers' lack of awareness
  of motorcyclists and aggressive behaviour significantly increase risks for riders.
  Discussions recommended enhancing driver education by including motorcycle scenarios
  in hazard perception tests, investing in vehicle technologies such as motorcycle
  detection systems, and increasing penalties and enforcement measures against
  aggressive or negligent driver behaviour.
- Licensing, training, and competency standards: There was overall agreement on the
  inadequacy of current training and licensing standards. Recommendations included
  extending the duration and comprehensiveness of practical pre-learner and novice
  motorcycle training courses, integrating competency-based assessments that
  emphasise real-world riding skills, and introducing graduated licensing stages tailored to
  rider experience and motorcycle power levels to ensure rider readiness at each licensing
  phase.

## 4.2 Table discussions: What improvements to motorcycle and protective gear can reduce rider trauma?

Below is a summary of roundtable attendee feedback provided from the second table discussion session:

Topic 2: What improvements to motorcycles and protective gear can reduce rider trauma?

 Use of protective gear in reducing fatalities and serious injuries for novice riders and unrestricted riders

The four most common points raised across the table discussions were:

- Standards and regulation: Attendees generally supported establishing national standards for protective gear, highlighting helmets, gloves, boots, and abrasion-resistant clothing as critical. There was some agreement on initially targeting novice riders with mandatory gear requirements to instil lifelong safe habits, while also recognising the importance of consistency in standards across all rider groups to foster cultural change.
- Gear accessibility, affordability, and incentivisation: Discussions frequently addressed
  the financial barriers faced by novice riders, supporting government-backed incentives,
  subsidies, rebates, and insurance discounts. These financial supports were identified as
  essential mechanisms to enhance protective gear uptake, particularly among younger or
  budget-constrained riders.
- Education, awareness, and cultural change: There was a clear emphasis on the need for enhanced education regarding protective gear, including structured integration within rider training programs and widespread promotion of independent safety rating systems such as MotoCAP. Attendees agreed that fostering early positive habits among novice riders, alongside targeted messaging for experienced riders, would significantly improve gear compliance rates.
- **Gear performance and comfort:** The importance of rider comfort was recognised as crucial for ensuring consistent gear use. Attendees recommended focusing on gear that balances effective protection with breathability, usability, and rider comfort, alongside education about correct gear application to maximise its protective benefits.
- 2. Vehicle safety perspectives in reducing fatalities and serious injuries for novice riders and unrestricted riders

The four most common points raised across the table discussions were:

Braking and stability systems: Attendees widely endorsed Anti-lock Braking Systems
(ABS), particularly cornering ABS, as one of the most beneficial technologies for
reducing crash severity and improving safety for novice riders. Integrated braking
systems and Combined Braking Systems (CBS) were also viewed as valuable additions,
though concerns were raised regarding the limitations of cheaper ABS models and their
performance on dirt roads.

- Vehicle detection and collision avoidance technologies: There was strong support for technologies in cars, such as blind spot detection and automatic emergency braking (AEB), that can better detect motorcycles and reduce collisions. Blind spot detection was noted as especially beneficial to novice riders who may be more vulnerable to inattentive drivers. Attendees encouraged exploring how similar systems might be adapted for motorcycles.
- Rider conspicuity and visibility enhancements: Improving rider visibility was a recurring
  theme, with suggestions including mandatory daytime running headlights, high-visibility
  and reflective clothing, and wearable technologies that alert riders to nearby hazards.
  There was also interest in researching new visibility technologies tailored specifically to
  motorcyclists, who tend to be visually under-detected compared to other road users.
- Regulatory standards and mandates: Attendees highlighted the need for timely
  adoption of international motorcycle safety standards and expressed concern about
  Australia's regulatory lag in adopting proven technologies. Several attendees supported
  mandating certain safety features, such as cornering ABS and improved visibility
  systems, particularly for motorcycles marketed to novice riders.
- Implementation and prioritisation of additional infrastructure measures to improve motorcycle safety

The five most common points raised across the table discussions were:

- Road surface quality and maintenance: Attendees highlighted the critical importance of
  maintaining road surfaces free from hazards such as potholes, gravel, oil, and poor
  patching, particularly for novice riders. Calls were made to elevate maintenance
  standards, ensure resurfacing addresses grip as well as degradation, and prioritise
  lighting improvements. Local governments often lack sufficient funding to carry out
  these essential maintenance tasks.
- Motorcycle-centric infrastructure design: There was support for designing roads with
  motorcycles in mind as vulnerable vehicles. This included improving edge transitions,
  avoiding hazardous roadside furniture, and using Perceptual Countermeasures (PCMs) to
  support safe lane positioning. Specific barrier treatments such as rub rails on W-beams
  and alternatives to wire rope barriers were identified as cost-effective, scalable
  improvements.
- Data-driven planning and route prioritisation: Strategic identification of high-risk motorcycle routes – especially in urban areas – was strongly supported. Attendees recommended developing a dedicated motorcycle route network, leveraging AusRAP, Compass IoT, and crash data to prioritise upgrades. However, gaps in exposure and postcrash data limit visibility of where and how riders are being injured.
- Systemic and institutional barriers: Local councils face resource and capability
  challenges, resulting in inconsistent infrastructure outcomes for riders. Motorcycle
  safety projects often lack strategic rollout or long-term funding commitments, with
  limited integration into broader network planning. Additionally, motorcycle treatments
  are deprioritised due to perceived lower exposure or poor cost-benefit ratios.
- Education and public communication: It was noted that many riders, especially novices, lack awareness of how infrastructure design influences riding risk. Suggestions included embedding this content into training programs and communicating the availability of

safer riding routes. Upskilling engineers and sharing proven case studies, such as the Oxley Highway upgrades, were seen as important enablers for change.

#### 4.3 Online and digital feedback

Microsoft online feedback (via QR code)

Fourteen comments were provided via the QR code during the Roundtable. The comments echoed the discussion throughout the day. The feedback included views on novice riders, vehicle safety and protective gear, and the current trauma challenge.

Novice riders (licensing, education and training):

- Feedback in one comment queried whether standardised road craft content could be used for training and refresher courses, and whether online annual refresher training would be beneficial.
- The role of better data to inform motorcycle GLS was raised in one comment. 'With the National efforts to harmonise serious injury data, is this something that TfNSW can promote?'
- On-road training for learners was also discussed in one comment. 'In my view, the Pre-Learner course should include a road ride component'.

Vehicle safety and protective gear:

 One comment cautioned about imposing technical requirements (ABS) for novice riders, as this may have unintended consequences. 'New riders forced to purchase new cheap bikes with cheap ABS'

Current trauma challenge:

• One comment described the challenge of not including off-road fatalities<sup>4</sup> in road trauma statistics. Important lessons may be missed '...the behaviours involving alcohol and protective equipment could still be insightful and also identify other stakeholders'.

#### Other feedback:

- Some feedback described the challenge of poor attitudes to motorcyclists and recommended that ...'we need to do more to educate all drivers of the risks and behaviours of motorcyclists and the reality that our roads are a shared space'.
- Other feedback concerned the safe level of blood alcohol for all motorcyclists and recommended a 'review current data on motorcyclist deaths between .00 & .05'.
- Another recommendation was an alternative way of measuring exposure to assess
  motorcycle rider risk. 'While the use of registration counts is better than nothing, a much
  more accurate measure of exposure is needed'.
- One comment recommended a campaign 'to highlight how to turn left from a multi lane across a bus lane' to address the challenge of bus lanes.

Online out-of-session feedback

Three short submissions were provided through the online out-of-session feedback option. Comments are summarised below.

<sup>&</sup>lt;sup>4</sup>Crashes must meet the overarching national guidelines for inclusion in the Transport road crash database. The crash needs to be reported to police, occur on a road open to the public, involved at least one moving road vehicle and involved at least one person being killed or injured or at least one motor vehicle being towed away.

- There were several suggestions to strengthen assessment and licencing. This included support for a greater focus on practical aspects of riding during learning and assessment. There was support for learner riders to be required to undertake a similar number of hours to learner drivers. Other suggestions were for computer-based roadcraft knowledge test focussed on common crash scenarios and retraining for riders who have lost their licences.
- There was support for the mandatory use of protective equipment. There was support for initiatives that reward safe riding, such as discounts on registration and insurance. There was support for greater policing of behaviours dangerous to riders by other road users.
- Poor road conditions were noted to pose substantial risk to riders, especially in wet
  weather. Road conditions are generally safer in toll roads and tunnels, but the costs may
  deter riders from using these.

### 5 Conclusion

This report was compiled by an independent external organisation and delivered to NSW Government, consolidating the feedback and input provided by attendees at the Roundtable.

Transport would like to thank all contributors that made this Roundtable possible. To our attendees, speakers, and panellists—thank you for supporting such an important event that will help us get back on track to our road safety goals.

## 6 Appendices

Appendix A: Motorcycle Safety Roundtable 2025 agenda

Appendix B: Motorcycle Safety Roundtable 2025 attendee pack

Appendix C: Motorcycle Safety Roundtable 2025 attendee list

Appendix D: Novice riders (Licensing, education and training) – Panel discussion guide and session outline

Appendix E: Vehicle safety and protective gear – Panel discussion guide and session outline

## Motorcycle Safety Roundtable 2025

Tuesday 29 April 2025 | AGENDA

Time	Session	Session lead / panellists
09:30 - 09:40	Roundtable open	Sally Webb Deputy Secretary, Safety, Policy, Environment and Regulation, Transport for NSW  Josh Murray Secretary, Transport for NSW
09:40 – 9:50	Welcome to the Motorcycle Safety Roundtable 2025	The Hon. Jenny Aitchison MP Minister for Roads and Regional Transport
9:50 - 10:10	Current trauma challenge	Bernard Carlon Chief Centres for Road Safety and Maritime Safety Transport for NSW
10:10 – 10:40	KEYNOTE: Why the safe system matters for riders	Shaun Lennard Chair Australian Motorcycle Council
10:40 - 11:00	MORNING TEA	
11:00-11:10	Novice riders (Licensing, education and training)	Duncan McRae Road Safety Policy Lead Transport for NSW
11:10 – 11:40	Novice riders (Licensing, education and training) - PANEL	<ul> <li>Chair: Howard Collins, Coordinator-General, Transport for NSW</li> <li>Antonietta Cavallo – Director Road Safety Strategy, Transport Accident Commission (Victoria)</li> <li>Dr Matthew Baldock - Deputy Director, Centre for Automotive Safety Research University of Adelaide</li> <li>Professor Teresa Senserrick - Director, WA Centre for Road Safety Research, University of Western Australia</li> <li>Shaun Lennard – Chair, Australian Motorcycle Council</li> </ul>
11:40- 12:30	Discussion	Table discussions
12:30-13:15	LUNCH	
13:15 - 13:30	Oxley Highway Case Study	Melvin Eveleigh Director, Safe Systems and Programs Transport for NSW





Time	Session	Session lead / panellists
13:30 – 14:00	Infrastructure to support safer rider outcomes	Michael Nieuwesteeg Program Manager for Road Safety and Design Austroads
14:00 - 14:15	AFTERNOON BREAK	
14:15-14:30	Motorcycle Safety Campaign Development	Philip Sherar Manager, Marketing Transport for NSW
14:30 – 15:00	Vehicle safety and protective gear - PANEL	<ul> <li>Chair: Chadi Chalhoub, Executive Director, Transport Safety, Transport for NSW</li> <li>Chris Hurren - Associate Professor in Textile Research, MotoCAP</li> <li>Carla Hoorweg - CEO ANCAP</li> <li>Greg Dikranian - Senior Manager, Safer Vehicles Transport for NSW</li> <li>Shaun Lennard - Chair, Australian Motorcycle Council</li> </ul>
15:00 – 15:30	Discussion	Table discussions
15:30 - 15:45	Roundtable wrap up and close	Sally Webb Deputy Secretary, Safety, Policy, Environment and Regulation, Transport for NSW

## Motorcycle Safety Roundtable 2025

**Attendee Information Pack** 







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### 1. Overview

Transport for NSW (Transport) is hosting the Motorcycle Safety Roundtable 2025 on behalf of the NSW Government. It provides an opportunity to hear from road safety experts and the motorcycling community to identify and highlight actions we can take to improve the safety of this group.

Last year we saw an alarming rise in motorcycle fatalities across the state. In 2024, 68 riders and their passengers were killed, an increase of 34 per cent from 2023.

We know that motorcyclists face unique challenges. International research shows that motorcycle riders are about 34 times more likely to be killed in a crash than other road users, and riders are some of our most vulnerable road users given the lack of physical protection they have in the event of a crash.

Thank you for your interest in motorcycle safety, and we look forward to welcoming you to the roundtable.

**Transport for NSW** 

# 2. Motorcycle trauma in NSW: The ongoing challenge in context

#### Fatality trends

Motorcycles are overrepresented in NSW road fatalities, despite making up only 3.8 per cent of registered vehicles. In 2024, 63 motorcycle riders (operators) were killed on our roads, accounting for 19 per cent of all fatalities during the year.

Since the baseline for the current Road Safety Action Plan (2018-2020), there has been a slight upwards trend in motorcycle fatalities. The 2024 figure of 64 (operators only, therefore excl. passengers) was above trend, and the 2023 figure of 52 was considerably below trend, resulting in a year-on-year increase in fatalities of 21 per cent.

Over the last 20 years, as can be seen in the figure below, actual motorcycle fatalities (excl. passengers) have remained stable, with a slight downward trend, despite an increase in rider licences and motorcycle registrations. Driver fatalities have been trending downwards. Both rider and motor vehicle driver fatalities have experienced increases since 2022.

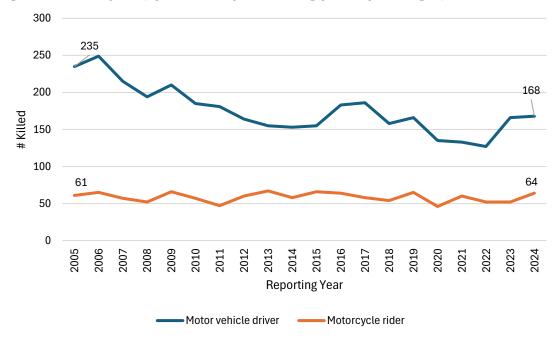


Figure 1: Motorcycle (operator only, excluding pillion passenger) and driver fatalities

Long-term modelling indicates that motorcyclists are projected to make up an increasing proportion of road deaths, up to 30 per cent in 2050. This reflects their vulnerability and that they are less likely to be protected by expected advancements in technology and infrastructure upgrades that have traditionally focused on reducing vehicle occupant trauma.

When looking at the rider (excl. passengers) fatality rate per 10,000 motorcycle registrations (see figure below), the fatality rate has dropped over time. When compared to car drivers this rate is still significantly higher, supporting the statement that riders

are less likely to be protected by advancements in technology and infrastructure upgrades.

6.00

5.00

4.00

2.00

1.00

Reporting Year

Fatality rate per 10,000 of Car Registrations

Figure 2: Fatality rates for riders and drivers per 10,000 vehicle registrations

#### Serious injury trends

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Serious injuries have increased over time, this is likely a reflection of the greater number of riders on NSW roads, however the increase appears to have accelerated since 2021. This trend is also being experienced by motor vehicle drivers.

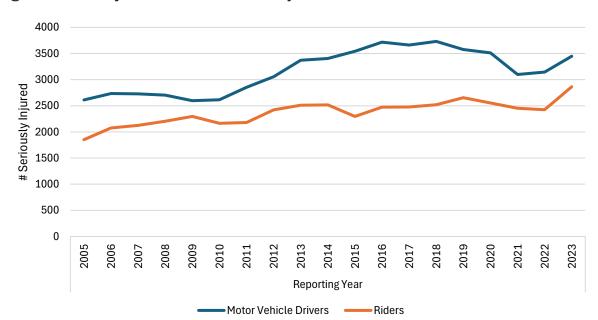


Figure 3: Motorcycle and driver serious injuries

Fatality rate per 10,000 of M/C Registrations

The figure below outlines the injury profile for all serious injuries between 2005 and 2023. The data below highlights the parts of the body that are most susceptible to trauma. It helps inform improvements in protective equipment and the testing protocols used by the Motorcycle Clothing Assessment Program (MotoCAP) and Consumer Rating and Assessment of Safety Helmets (CRASH) program.

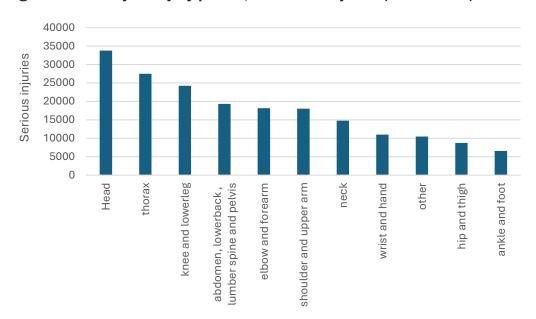


Figure 4: Motorcycle injury profile, all serious injuries (2005-2023)

# Licensing and registration

Over the past 20-years, motorcycle licences on issue have risen from 413,667 in 2005, to 678,669 in 2024. Over the same period motorcycle registrations have increased from 113,418 in 2005, to 278,902 in 2024.

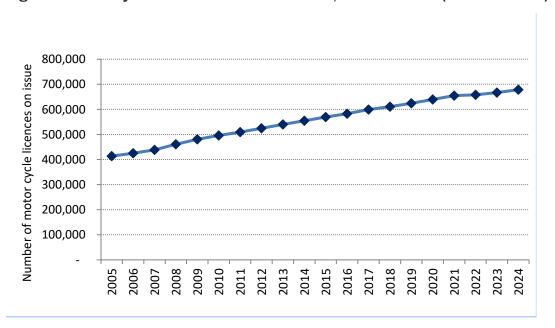


Figure 5: Motorcycle Licences on Issue in NSW, 2005 to 2023 (as at end June)

When rider licences are mapped against motorcycle registration numbers it shows that the ratio is currently 2.43 rider licences per registered motorcycle and this ratio has varied over time.

This is why road trauma per 10,000 registered motorcycles is considered the better method for evaluating crash trends over time, because it more accurately reflects the number of active rider licences.

## Location of fatalities

A significant proportion of rider fatalities are occurring in regional areas (almost 65 per cent in 2024). This has been a consistent trend over the previous 10 years.

■ Greater Sydney ■ North ■ South ■ West Fatalities 

Figure 6: Fatalities by region

## Unauthorised riders

In 2024 unauthorised riders (never licensed, licence expired, suspended or disqualified) made up nearly 8 per cent of all rider fatalities, significantly below the long term (20 year) average of approximately 17 per cent, see figure below.

While unauthorised rider fatalities have reduced over the last 20 years, they are overrepresented in crashes that involve illegal levels of alcohol, drugs and helmet non-use.

Figure 7: Unauthorised rider fatalities

## **Novice riders**

Fatality trends also vary depending on licence type (Learner, P1, P2, unrestricted).

Fatality numbers are highest for unrestricted (or full) licence holders however that is because they are the biggest cohort of licence holders. In 2024 they made up 92 per cent of all rider licences on issue.



Figure 8: Fatalities by licence type

However, the figure below demonstrates that fatality rates for unrestricted licence holders are consistently lower than for all novice riders. With learners generally being at greater risk of a fatality than P1 and P2.

The period 2021-2022 appears to be significantly off trend for all novice riders which is likely a reflection of the impact of covid.

Trend lines show that fatality rates for unrestricted licence holders have been reducing over time however they have been increasing, or remained stable, for all novice licence holders.

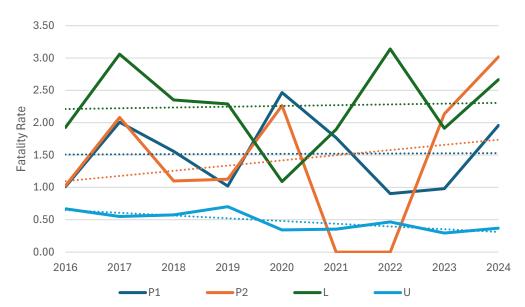
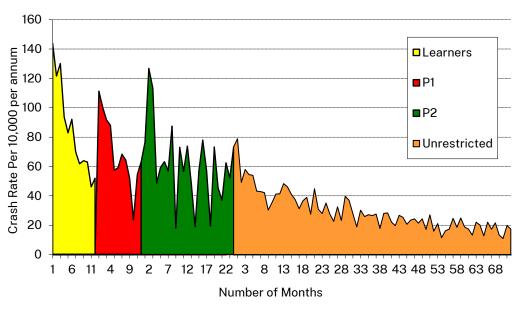


Figure 9: Fatality rates per 10,000 Rider Licences by Type

The figure below demonstrates that fatality risk is also dependant on a riders' licence stage and that the risk of a rider fatality is highest during the early months of the learner phase. Similar peaks are experienced by novice drivers when graduating up through the driver GLS however the peaks are not as pronounced as they are for riders.





Note: Riders over age 25 with a full driver licence are not included in the P2 data above.

## Young riders

Younger riders, up to age 29, are at a significantly higher risk of fatality and serious injury, than older riders, as can be seen in the two figures below.

Figure 11: Fatality Rates per 10,000 Rider Licences by age group

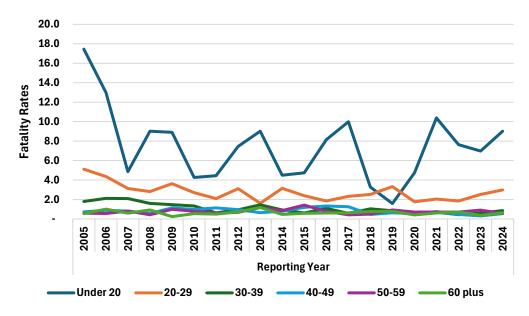


Figure 12: Rider Serious Injury rates per 10,000 Licences by Age Group

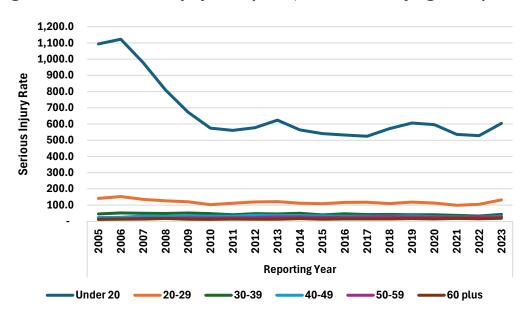


Table 1 below presents the data from the chart above in table form. It clearly shows that the risk of serious injury decreases as a rider gets older. The Under 20 and 20-29 age groups have a significantly higher rate of serious injuries than the other age groups.

Table 1: Rider serious injury rates per 10,000 licences by age group

	2018	2019	2020	2021	2022	2023
Under 20	571.8	605.8	596.6	535.7	528.1	604.4
20-29	109.9	118.8	112.3	98.9	104.7	132.7
30-39	42.2	40.7	41.0	36.8	32.7	42.6
40-49	31.7	33.6	28.5	26.9	27.7	30.3
50-59	29.3	27.2	25.9	24.1	28.0	25.7
60 plus	14.6	16.7	15.0	17.5	15.8	18.6

## Crash characteristics

Between 2015 and 2025, 45 per cent of motorcycle crashes were single vehicle crashes. 57 per cent of those crashes resulted in a vehicle losing control and 35 per cent resulted in a collision with an object. Over the same time-period 55 per cent of motorcycle crashes were multi-vehicle crashes.

Between 2015 and 2025 87 per cent of crashes were in fine weather conditions and 60 per cent in speed zones of either 50 km/h or 60 km/h.

## Road User Movement

Across all rider licence groups, running 'off path, on curve' is the most common type of crash, with Provisional P1 riders being particularly high in this area.

The second most common crash type for Provisional P1, Provisional P2, and fully licensed riders is 'vehicles from the same direction', where the motorcycle collides with the rear of another vehicle.

For all novice riders (L, P1 and P2) the third most common crash type is 'off path on a straight' crashes, for fully licensed riders the third highest is 'crash is, vehicles from opposing direction'- these are commonly 'right through' crashes.

Table 2: Road User Movement crash code by licence type (2020 - 2024 data)

Type of crash RUM code	Full	Learner	P1	P2	Novice Total	Grand Total
Off path, on curve	28.4%	29.0%	30.6%	23.5%	28.7%	28.5%
Vehicles from same direction	17.8%	13.5%	17.5%	24.2%	16.3%	17.3%
Vehicles from oppos' direct'	17.0%	18.7%	14.0%	14.1%	16.6%	16.9%
Off path, on straight	12.9%	16.0%	15.6%	16.1%	15.9%	13.8%
Veh's from adj direct' intersct	10.0%	10.8%	10.5%	14.8%	11.3%	10.4%
Manoeuvring	6.1%	6.1%	4.8%	4.7%	5.5%	5.9%
On path	5.7%	4.5%	4.8%	1.3%	4.1%	5.2%
Overtaking	2.1%	1.3%	2.2%	1.3%	1.6%	1.9%
<b>Grand Total</b>	100%	100%	100%	100%	100%	100%

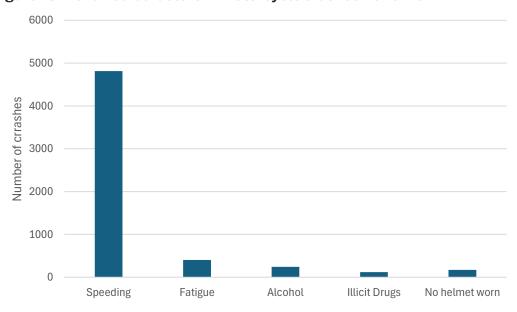
An overview of Road User Movement crash codes in Appendix A.

## Behavioural factors

Speed consistently appears as the leading behavioural factor in motorcycle casualty crashes. A casualty crash is one which results in a fatality or serious injury).

It is worth noting that in motorcycle crashes, fatigue and distraction as factors are sometimes difficult to ascertain as these effect riders differently to drivers.

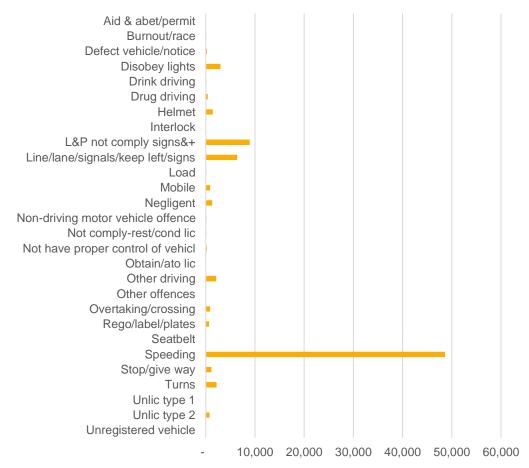
Figure 13: Behavioural factors in motorcycle crashes 2020-2024



## Infringement data

There were 79,770 motorcycle infringements issued from FY2020 – FY2024. Of those infringements, the overwhelming majority (60 per cent) were for speeding. The other most common infringements were; L&P not comply signs (11 per cent), Line/lane/signals/keep left/signs (nearly 8 per cent) and Disobey lights (3.7 percent).





# 3. Road safety in NSW

## Our targets

Our commitment is to achieve zero road trauma by 2050, consistent with the long-term vision set out in the National Road Safety Strategy 2021–2030 and our own Future Transport Strategy 2056. This vision is shared by the community, with 84 per cent of people supporting our aim for zero road deaths on our roads.

Our ambitious trauma reduction targets for 2030 are a key step on our path to zero trauma. They are also consistent with targets in other Australian jurisdictions. Compared to average 2018–2020 levels, by 2030 our goal is to:

Reduce fatalities by

50%

(≤ 164 fatalities by 2030)

Reduce serious injuries by

30%

(≤ 7,796 serious injuries by 2030)

# The Safe System approach

To achieve our 2030 targets and the ultimate goal of zero deaths and serious injuries on NSW roads, we've adopted the internationally applied Safe System approach.

This approach is underpinned by these principles:

- People are human and sometimes make mistakes a simple mistake shouldn't cost anyone their life.
- Roads, roadsides, and vehicles need to be designed to minimise crashes or reduce forces if a crash happens.
- Road safety is a shared responsibility everyone needs to make safe decisions on and around the road to prioritise safety.

Initiatives to ensure safer roads, speeds, people, and cars need to be implemented together so the road system not only keeps us moving, but safe and protected.

Watch the following video to learn more.

# Achieving trauma reductions through evidence-based measures

NSW has achieved significant reductions in road trauma through a coordinated approach to improve road and vehicle safety, safer speed limits, better enforcement and

road user behaviour. This has occurred by ensuring major evidence-based road safety initiatives remain delivery priorities and the cornerstone of our strategic direction.

Figure 15: Reductions in road trauma since 1970 attributed to key road safety policies and programs relative to population growth



# 2026 Road Safety Action Plan

The <u>2026 Road Safety Action Plan</u> (the Plan) outlines road safety initiatives that will be delivered to progress towards achieving our trauma reduction targets, building on the reductions already achieved over recent decades. The Plan adopts the Safe System approach, and was developed following extensive stakeholder and community consultation, as well as analysis of trauma trends, best practice approaches and research evidence.

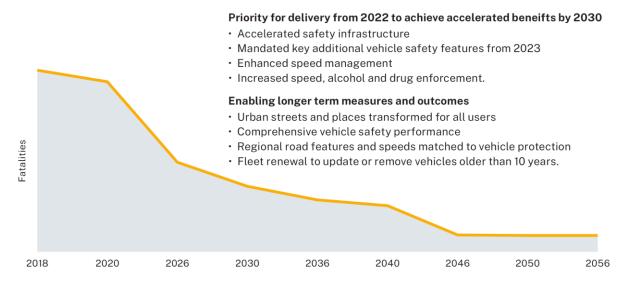
The Plan includes the following actions:

- Develop enhancements to the Motorcycle Graduated Licensing Scheme to better align with best practice, including consideration of licensing requirements and restrictions, expanding the reach of and access to mandatory rider training, as well as other training and assessment enhancements.
- Assess the feasibility of an incentive program to increase the use of motorcycle
  protective equipment measures and of mandating the use of protective boots
  and gloves for novice riders to reduce serious injuries among motorcyclists.
- Investigate mandating motorcycle anti-lock braking systems as part of the Learner Approved Motorcycle Scheme for novice motorcyclists to prevent wheel locking and increase motorcycle stability in near-crash situations.
- Promote information to encourage safer consumer choices for new and used vehicles, and work with retailers to increase uptake of the safest motorcycle protective clothing, child restraints and motorcycle helmets.

# **Enabling Vision Zero in NSW aligned with best performing countries**

In addition to achieving our 2030 targets, we need to set ourselves on the path to creating a transport system where no one is killed or seriously injured. For this reason, the Plan was underpinned by Australian-first in-depth road trauma modelling, applying approaches used best-performing countries such as Norway and Sweden, to estimate NSW trauma levels in the future through to 2050. This work shows that a low trauma future is achievable, and that NSW can meet ambitious targets by delivering the right combination of high benefit measures across the road network — which in combination could cut NSW deaths by 90 per cent and serious injuries by 80 per cent by 2050.

Figure 16: In-depth trauma modelling demonstrates that a low trauma 2050 is possible



Consistent with findings from leading countries, this work identified the following key focus areas for delivery in NSW to achieve accelerated trauma reductions by 2030:

## Accelerated implementation of safe system infrastructure

International jurisdictions continually invest in safety infrastructure treatments that evidence shows will reduce road trauma. This includes median and side barriers, audiotactile line marking, pedestrian and cyclist crossings, and roundabouts. This is why Transport continues to deliver the Toward Zero Safer Roads Program, aligned with an approved long-term Strategic Business Case to deliver lasting safety benefits.

### Accelerated mandatory introduction of vehicle safety standards in Australia

Significant trauma reductions will be achieved through earlier adoption of lifesaving vehicle safety features. The EU has a stricter set of mandatory safety features for new vehicles entering the market than Australia does. This includes active lane keeping systems, acoustic vehicle alert systems, driver fatigue warning systems and automated emergency call (eCall) systems. In Australia, the minimum standards are governed at the Federal level.

## Widespread speed management in urban and regional areas

Regularly reviewing and lowering speed limits to be more consistent with crash impact thresholds for human survivability will deliver consistent trauma reductions in a cost-

effective way. This should include a focus on increasing the amount of 30km/h, 40km/h, and 50km/h speed zones as well as lower speed limits at signalised intersections where possible.

## Increased levels of speed, alcohol and drug enforcement

Leading international jurisdictions align with the need for speeding and drink and drug driving enforcement by both Police and a strong camera network as part of the system to reduce trauma.

# 4. Motorcycle safety in NSW over time

In 1984, the NSW Parliament's Staysafe committee conducted an inquiry into motorcycling safety.

The recommendations of the Staysafe inquiry formed the basis of the rider licensing and training scheme that was introduced in NSW in 1991.

Modelled off the US Motorcycle Safety Foundation (MSF) training, the three-stage rider training program, the pre-learner course, pre-provisional course and riding test delivered by private providers was progressively implemented over four years to allow the fledgeling rider training industry time to get established.

Since the commencement of the scheme, the rider training courses have been subsidised. This was due to concerns that the additional costs would lead to an increase in unlicensed riding. Initially, the pre-learner course was set at \$40 and the pre-provisional course at \$60. The course fees are linked to CPI and today's fees stem from these original amounts.

When the scheme commenced, licence applicants were also required to pass a Motorcycle in Traffic test (MiT), delivered by specially trained and qualified Government Driver Testers. The MiT was later ceased due to costs and associated risks.

The validity of the Rider Learner Licence was set at 6 months with only one renewal permitted. This policy was introduced to prevent the previous practice of riders remaining on their learners to avoid licence sanctions, at the time there were no demerits points for learners and the licence was only cancelled for serious offences.

Due to a lack of appropriate motorcycles for novice riders, the NSW Government implemented in 2002 a two-year trial of the Learner Approved Motorcycle (LAM) scheme. The trial was successful and within five years variations of LAMs had been implemented by every Australian jurisdiction.

A range of licensing initiatives were progressively introduced during the early 2000's including, demerit points for learners (2004), low-risk riding behaviours incorporated into the Motorcycle Rider Handbook (2006), and zero tolerance on speeding for all novices (2007).

The Provisional P2 licence stage (green Ps) was added to the rider licensing system in 2009 to make a three-year Provisional phase (the same for drivers and riders).

One of the most significant changes in the 2009 reform package was the changes to the Mature Aged Riders Exemption Scheme (MARES). Since 1984, riders over age 30 with a five-year full driver licence progressed straight to a full rider licence after passing their rider training. The change to the age exemption scheme meant that all novice riders regardless of age and driving experience must go through the Provisional P1 stage and are restricted to a LAM for the first 15 months of their riding. Riders over age 25 with a full driver licence are still exempt from the Provisional P2 stage.

# 5. Motorcycle Graduated Licensing Scheme (M-GLS)

## **Current requirements**

The Motorcycle Graduated Licensing Scheme (M-GLS) is the process by which riders in NSW progress from being an unlicenced rider to having a full motorcycle licence. It is designed to ensure that riders develop the necessary skills and road awareness through a staged progression.

It requires new riders to pass through three licensing stages before obtaining an unrestricted rider licence with restrictions eased as they pass through each stage. It involves training and testing which is specifically designed to help new riders gain basic riding skills before riding on the road.

Figure 17: Steps to getting your rider licence



#### 1. Pre-learner course\*

- Two-wheel motorcycle course
- · 2 sessions of three and a half hours over 2 days
- · Three-wheel trike course
  - 1 day over 6 hours
- Valid for 3 months
- · Minimum age for this stage is 16 years and 6 months



### 2. Rider Knowledge Test

• Minimum age for this stage is 16 years and 9 months



### 3. Learner rider licence

- · Minimum 3 months
- · Valid for 12 months



#### 4. Pre-provisional course\*

- 6-hours over 1 day and includes a Motorcycle Operator Skill Test (MOST)
- Valid for 3 months



## 5. Provisional P1 rider licence

- Minimum 12 months
- · Valid for 18 months



## 6. Provisional P2 rider licence unless exempt\*\*

- Minimum 24 months
- · Valid for 30 months



#### 7. Full Licence

- · Issued for 12 months, 36 months, 5 or 10 years\*\*\*
- \* Where the pre-learner, pre-provisional and MOST are provided you must pass them.
- \*\* Riders aged 25 and older with a full car licence are exempt from the P2 stage.
- \*\*\* 10 years applies to full Class C and R licence holders aged 21 to 44 years.

## Step 1: Pre-learner course

The first step is the pre-learner course, which is compulsory for applicants living in a serviced area; that is, a region where Transport for NSW provides motorcycle rider training through accredited training providers. To be eligible, a rider must be at least 16 years and 6 months old. This course is a practical, skills-based program designed to equip new riders with basic riding techniques and safety awareness before they start riding on public roads. The course runs for seven hours, split into two  $3\frac{1}{2}$  hour sessions over two days for two-wheel motorcycles, or in a single six-hour day for trikes. Helmets, gloves and training motorcycles are supplied by the training centre.

Upon successful completion, riders receive a motorcycle riding certificate of competency, which is green in colour and valid for three months. This is not a licence to ride, but it must be presented when sitting the Rider Knowledge Test. Riders must sit and pass the Rider Knowledge Test before the certificate expires, or they may be required to repeat the pre-learner course.

Applicants who live in a location where rider training is not available are not required to complete the pre-learner course. Instead, they may proceed directly to the Rider Knowledge Test.

## Step 2: Rider Knowledge Test

The Rider Knowledge Test is a computer-based test assessing road rules and motorcycle safety. To be eligible to take the test, the applicant must be at least 16 years and 9 months old. Upon passing the test, a learner rider licence is issued. Drivers who have passed the Driver Knowledge Test must still take the Rider Knowledge Test.

## Step 3: Learner rider licence

The learner rider licence must be held for a minimum of three months and is valid for 12 months. If it expires, the rider must repeat the Rider Knowledge Test and, if in a serviced area, the pre-learner course to obtain a new learner licence. Learner riders are subject to strict conditions to support safe riding during the early stages of experience. These include:

- Zero blood alcohol concentration (BAC)
- Location restrictions (must not ride in Parramatta Park, Centennial Park or Moore Park when in Sydney)
- Must display L plate
- Must wear a securely fitted and fastened helmet
- No lane filtering
- Maximum speed limit of 90 km/h
- Must not tow trailer
- No mobile phone use
- No pillion passengers allowed

- Motorcycle must be on the Learner Approved Motorcycle (LAM) list (engine capacity up to 660c, power to weight ratio not more than 150kw per tonne and a power up to 25kw or less for electric motorcycles)
- Learner riders must also not exceed 4 demerit points within any 12-month period. Exceeding this limit will result in a licence suspension.

## Step 4: Pre-provisional course

After holding a learner licence for the required time, riders in serviced areas must complete the pre-provisional course, a one-day course that includes the Alternate Motorcycle Operator Skill Test (MOST). The MOST is an off-street practical riding assessment that assesses, braking, turning, and balance. Riders in areas where formal rider training is unavailable are instead required to complete a Rider Skill Test (kerbside test) with a Service NSW testing officer.

Upon successful completion of either the course or the test, riders receive a certificate of competency, which is valid for three months and must be presented when applying for a Provisional P1 rider licence.

## Step 5: Provisional P1 rider licence

To obtain a Provisional P1 Rider Licence, the rider must be at least 17 years old, have held their learner rider licence for a minimum of three months, and have completed the pre-provisional course and MOST or the Rider Skill Test.

Riders must hold the P1 licence for a minimum of 12 months before they are eligible to apply for a P2 licence. The licence is valid for 18 months. Riders on a P1 licence must comply with the following conditions:

- Zero blood alcohol concentration (BAC)
- Must display red P plate
- Must wear a securely fitted and fastened helmet
- Must not lane filter
- Maximum speed limit of 90 km/h
- Must not tow a trailer
- No mobile phone use
- No pillion passengers
- Motorcycle must be on the Learner Approved Motorcycle (LAM) list
- P1 riders must also not exceed 4 demerit points within any 12-month period Exceeding this limit will result in a licence suspension.

## Step 6: Provisional P2 rider licence

After holding a P1 licence for 12 months, a rider can apply for a Provisional P2 Rider Licence. This licence must be held for at least 24 months, unless the rider qualifies for an exemption (see below). The licence is currently valid for 30 months.

Conditions for P2 riders include:

- Zero blood alcohol concentration (BAC)
- Must display green P plate
- Must wear a securely fitted and fastened helmet
- Must not lane filter
- Maximum speed limit of 100 km/h
- Full licence towing rules apply (a green P must be on the back of the trailer)
- No mobile phone use
- Motorcycle must be on the Learner Approved Motorcycle (LAM) list
- May carry a pillion passenger
- P2 riders must also not exceed 7 demerit points within any 3 year period Exceeding this limit will result in a licence suspension.

## Exemption from P2 stage for riders 25 years or older

Riders who are 25 years or older and hold a full Australian Driver Licence may be exempt from the P2 stage. To qualify for this exemption, the rider must:

- Have held a P1 rider licence for at least 12 months
- Have no suspensions or disqualifications
- Still meet all other progression requirements, including completing the relevant training or skills test.

If approved, the rider may progress directly from P1 to a full rider licence.

## Step 7: Full rider licence

To progress to a full rider licence, a rider must:

- Have held a P2 licence for at least 24 months (or a P1 licence for 12 months if exempt from P2)
- Have no outstanding licence suspensions or disqualifications

Riders may choose the licence period that suits them (1, 3, 5 or 10 years). The 10 year licence is available only to riders who are 21 to 44 years of age and hold a full class C (car) licence.

## MGLS evaluation

A comprehensive evaluation of the NSW Motorcycle Graduated Licensing Scheme was completed in October 2019. A summary of the report is publicly available on the Transport webpage. <a href="https://www.transport.nsw.gov.au/news-and-events/reports-and-publications/evaluation-of-nsw-motorcycle-graduated-licensing-scheme">https://www.transport.nsw.gov.au/news-and-events/reports-and-publications/evaluation-of-nsw-motorcycle-graduated-licensing-scheme</a>

# 6. Infrastructure to support safer rider outcomes

## **Motorcycle Specific Treatments**

There is a range of infrastructure treatments that are specifically designed to reduce risk and potential trauma for motorcyclists.

# **Underrun Safety Barrier**

Installing underrun on existing W-beam safety barrier is designed to improve survivability and injury severity outcomes for motorcyclists.

Standard safety barriers in Australia (rigid, semi-rigid and flexible) are designed to turn large uncontrolled crashes into a smaller controlled event, absorbing impact energy and redirecting vehicles away from hazards. For a car, the rigid external structure and secondary safety technology (e.g. seatbelts and airbags), minimises injury risks to vehicle occupants.

However, safety barriers (flexible and semi-rigid) pose a significant safety risk to a motorcyclist upon impact with dangerous components including unprotected support posts, non-smooth surfaces and steel bracket mounted reflectors. Impacting the post can increase the severity of injuries to a motorcyclist five-fold compared to the hazard the barrier was shielding. It is unacceptable that a treatment designed to protect all road users has a negative effect on a particular group of road users.

Motorcycle underruns have been used in Europe to improve rider survivability upon impact with a safety barrier. These are metal rails or plastic tubes that are fitted below existing w-beam barriers. They are designed to absorb kinetic energy through deformation and decrease impact forces on the human body.

This treatment is designed to protect sliding motorcyclists from sliding underneath the barrier into hazards or into the support posts. The additional rail distributes energy of an impact over a larger surface and reduces injury risk.

## **Benefits**

The main benefits of installing a motorcycle underrun on an existing barrier include:

- Reduces the impact forces a motorcyclist experience in a crash which reduces injury severity.
- May also slow motorcyclists on approach to road curves due to heightened perception of risk and caution
- Does not compromise road safety for other road users.

## Road surface

Upgrading the road surface seal to a high-level non-skid surface reducing skidding in wet weather can improve motorcyclist negotiating curves and locations with known wet weather crash frequency.

Resurfacing is the most obvious countermeasure in situations where skid resistance is poor but may not always be the most optimal treatment.

#### Benefits

Some of the key benefits associated with this treatment include:

- improves safety performance of roads that experience high frequency of crashes in wet weather
- provides the opportunity for other safety related improvements, including renewal of road surface delineation (e.g. markings and retro-reflective pavement markers, RRPMs).

Improved skid resistance allows for greater braking efficiency. Should a driver's braking response be delayed (for example, due to inattention), the increased braking efficiency will allow the driver to bring the car to a stop soon, reducing the risk of crashes.

By allowing greater traction with the road, increased skid resistance also helps to reduce the incidence of loss-of-control type crashes, particularly for motorcyclists negotiating curves.

# **Perceptual Counter Measures**

Following the successful installation of perceptual countermeasure (PCM) treatments in Europe, Austroads conducted a trial to evaluate whether a suitable road-based PCMs could influence the travelling speed as well as lane position of motorcyclists to induce a safe curve negotiation by motorcyclists.



Image: Treated curve in trial

Source - Austroads AP-R688-23\_Motorcycle\_Rider\_Perceptual\_Countermeasures

The motorcyclist PCM selected for the trial was a modified version of a peripheral transverse line marking with incrementally wider painted blocks through the curve apex. https://austroads.gov.au/publications/road-safety/ap-r688-23

## Motorcycle Route Roads Safety Audits

Road Safety Audits on known motorcycle routes are used to identify issues that may be unique to riders and to inform the delivery of safety infrastructure treatments.

Transport have conducted road safety audits on a number of popular motorcycle routes including the Alpine Way, King's Highway and roads in the Royal National Park.

## Victoria Motorcycle Enhanced Maintenance Scheme Route Trial.

In November 2023, the Victorian Government introduced the Motorcycle Enhanced Maintenance Scheme (MEMS) trial. Under MEMS motorcyclists are considered as the 'maintenance design vehicle' along the trial route, and maintenance is priorities to reflect the increased risk to motorcyclists. The scheme is being trialled along 70km of Dargo Road, from Lindenow Road, Lindenow to Lind Avenue, Dargo, Victoria.

Victoria also has a document to support road designers and maintenance call 'Making Road Motorcycle Friendly'.

# 7. Vehicle safety and protective gear

# Motorcycle mandatory safety features

In 2019, the Commonwealth Government introduced ADR 33/-- Brake Systems for Motorcycles and Mopeds, mandating that all new motorcycles and mopeds must be equipped with either:

- Anti-lock Braking Systems (ABS) or
- Combined Braking Systems (CBS) for motorcycles between 50 and 124cc.

Exemptions apply to **'Enduro' and 'trail' motorcycles**, as these technologies are not suited to unsealed surfaces or unformed roads.

Other motorcycle mandatory and emerging safety features include:

- Anti-lock Braking System (ABS)
  - **Function:** Prevents wheels from locking during hard braking, maintaining stability and steering control.
  - Benefit: Reduces the risk of skidding and improves emergency braking performance.
- Combined Braking System (CBS)

- **Function:** Automatically applies brake force to both wheels when either brake is engaged.
- **Benefit:** Improves braking balance, especially helpful for new or inexperienced riders.
- Traction Control System (TCS)
  - **Function:** Monitors wheel rotation and adjusts engine output to prevent wheel spin.
  - **Benefit:** Maintains traction during acceleration on slippery or uneven surfaces.
- Electronic Stability Control (ESC)
  - **Function:** Enhances control during acceleration and cornering by modulating throttle and brake inputs.
  - **Benefit:** Improves overall vehicle stability, especially in poor road or weather conditions.
- Cornering ABS
  - Function: Adjusts braking pressure based on the lean angle during a turn.
  - **Benefit:** Delivers optimal braking even while cornering, reducing crash risk in curves.
- Adaptive Headlights
  - **Function:** Headlights adjust with the lean of the motorcycle or rider input to improve visibility during turns.
  - **Benefit:** Enhances night-time visibility, improving safety when navigating curves.
- Blind Spot Detection
  - **Function:** Uses sensors or cameras to detect vehicles in the rider's blind spots and alerts the rider.
  - **Benefit:** Increases situational awareness, reducing the risk of side collisions during lane changes.
- Rider Alert Systems
  - **Function:** Provides real-time alerts including fatigue warnings, speed limit reminders, or collision warnings.
  - **Benefit:** Promotes safer riding habits by increasing rider awareness.
- Crash Detection and Emergency Alert
  - **Function:** Detects a crash and sends alerts to emergency services or a designated contact.
  - **Benefit:** Enables faster emergency response and potentially life-saving intervention.
- Tyre Pressure Monitoring System (TPMS)
  - **Function:** Continuously monitors tyre pressure and alerts the rider when levels drop.
  - **Benefit:** Reduces the risk of tyre failure and improves handling and braking performance.
- Forward Collision Warning (FCW) and Emergency Braking (EB)
  - Function (FCW): Uses radar or cameras to detect potential collisions ahead and alerts the rider.

- **Function (EB):** Automatically applies braking if the rider doesn't respond to the warning.
- **Benefit:** Reduces reaction time and may help avoid or lessen the severity of frontal collisions.

Transport promotes the value of these safety features and greater community understanding of their benefits.

## Protective gear

All motorcyclists are required by the Road Rules (Rule 270) to wear a protective helmet made in compliance with Australian Standard 1698 or the United Nations Economic Commission for Europe standard 22.05/06.

Motorcycle helmets have been shown in many research studies to be effective in preventing injury, with a Cochrane review finding helmets reduce the risk of death by 42 per cent and the risk of head injury by 69 per cent (Liu et al. 2008).

There are no requirements for riders to wear protective clothing in NSW. An Australian study (de Rome et al, 2011) found that protective clothing was effective in reducing the risk of hospitalisation and injury to crashed riders, with greater benefits seen from garments that incorporate impact protection (or armour), see Table below.

**Table 3: Protective clothing benefits** 

Protective clothing	Hospitalisation risk reduction	Injury risk reduction to body region protected
Jackets	21%	23%
Gloves	59%	45%
Pants	51%	39%
Boots	No significant reduction	45%

Despite the clear benefits of wearing protective clothing, many motorcyclists ride without appropriate gear.

- The 2023 NSW Safety Performance Indicators study observed 3,013 riders during February-April across the state finding that helmets were worn by 99.9 per cent of riders while protective gear for the upper body (49.1%), lower body (16.7%) hands (52.2%) and feet (57.3%) were much less prevalent.
- Similarly, a survey of 912 riders for the 2023 NSW Motorcycle Attitudinal Research study found that while the majority reported using helmets and gloves all or most of the time (95% and 94% respectively), fewer riders consistently wore their jacket (84%), motorcycle footwear (83%) and pants (80%).

## Standards and star rating

There are no Australian Standards for motorcycle clothing. The only standards for motorcycle protective clothing worldwide are European Standards.

The Motorcycle Clothing Assessment Program (MotoCAP) was established in Australia and New Zealand in 2018. Transport for NSW is the lead agency of MotoCAP and chairs the group on behalf of 10 other member government and rider group organisations. MotoCAP randomly selects motorcycle clothing products (jackets, pants and gloves) sold in Australia and New Zealand to test and provides star ratings for safety and breathability. MotoCAP was formed as an alternative to product standards by considering the European experience and lobbying by the Australian Motorcycle Council (de Rome 2018). The model of an independent scheme funding the purchase, testing and publishing of product performance was recommended in a report to the Motor Accidents Authority in 2012 (de Rome et al. 2012).

## Regulatory requirements

Protective clothing is not required of riders in any Australian jurisdiction or in New Zealand. In Victoria, learner riders must wear an approved high visibility vest or jacket, that is visible and securely fitted and fastened. Internationally, some European countries require motorcyclists to wear protective gloves (e.g. France, Italy, Spain). Belgium requires riders of vehicles over 50cc to wear gloves, a long-sleeved jacket, long trousers and boots or ankle-boots that protect the ankles however this clothing is not required to be motorcycle clothing or to meet a specified standard.

# 8. Motorcycle safety campaigns

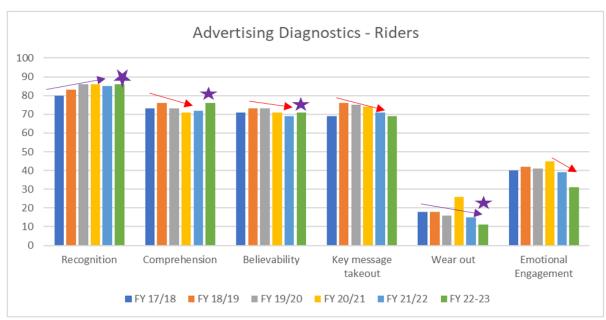
# 'Ride to Live' Campaign (2014-date)

The 'Ride to Live' campaign launched in 2014 and was based on previous attitudinal research conducted in 2012.

'Ride to Live' aims to acknowledge riders' passion for riding, while also challenging them to better manage their risks on the road. Anticipating hazards and preparing early through good lane positioning, buffering and setting up brakes were key focuses to positively norm the correct riding behaviour. The campaign targets drivers with a simple action: Reminding them to check their blind spots for riders. The campaign also provides riders with the utility to practice their riding skills through the ridetolive.nsw.gov.au website.

The campaign has performed very well, but after 10 years in market, the 'Ride to Live' campaign is showing clear signs of wear-out. The figure below shows campaign performance from FY 2012-2018 to FY 2022-2023.





Recognition	per cent of target audience who can recall the campaign
Comprehension	This ad was easy to understand
Believability	I found the message of the ad to be believable
Key Message Takeout	The ad communicated that motorcycle riders need to be aware of potential hazards when riding and the consequences of different choices they make
Wear out	I'm getting tired of seeing the ad
Emotional Engagement	The ad stirred my emotions

## In summary:

- Recognition continued to rise steadily from FY 17-18. After many years in the market, the campaign recognition reached universal levels with 9 in 10 riders recognising the campaign.
- Performance improved from FY 21-22 to FY 22-23 across Recognition, Comprehension, Believability and Wear Out.
- Whilst people are not 'getting tired of seeing the ad', they are now less engaged with the campaign, which is a sign of aging. Emotional engagement has declined steadily since FY 20-21.

# Attitudinal insights to support future campaign development

In 2023, attitudinal research was conducted to gain an up-to-date understanding of the knowledge, attitudes and self-reported behaviours of NSW motorcycle riders, and of drivers towards motorcycle safety using qualitative and quantitative methods.

The purpose of the research was to inform the development of a new motorcycle safety campaign as well as support other initiatives related to motorcycle safety within the 2026 Road Safety Action Plan.

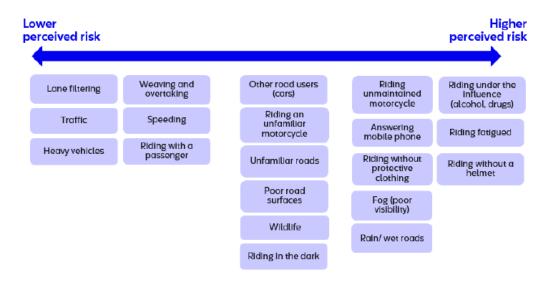
The research provides insights for campaign development, including:

- Riding is a key part of motorcyclist's social identity, and they care about how the riding community is perceived. Positive communications around identity and community are likely to be more effective than reinforcing negative stereotypes that they are non-compliant.
- Riders and drivers agree motorcyclist safety is a shared responsibility, but mismatched perceptions of certain motorcyclist behaviours between riders and drivers could be an avenue for communications.
- Riding is seen as inherently risky, but riders view certain types of rides (e.g., local roads, short trips, minimal traffic) as lower risk than others and adjust their behaviour accordingly.
- Speeding, weaving, overtaking and lane filtering are widely viewed as acceptable by riders and seen as low risk. Targeting these perceptions may improve some road safety outcomes.
- Novice riders overestimate their skills relative to their experience and this
  overconfidence is associated with risk taking. However, with overall high levels
  of self-perceived skill amongst riders, convincing riders to underrate their riding
  ability is unlikely be effective.
- Certain motorcyclist segments have a greater propensity for risk taking and are also more likely to have experienced severe consequences from a crash. Communications should aim to resonate with these groups.

The research indicates that there is an opportunity to reframe risk perceptions (see figure below) to help riders understand that every ride is high risk. Re-educating about

risk has the propensity to drive behaviour change given that riders already alter their behaviours based on how risky they perceive different types of rides to be.

Figure 19: Rider perception of risk



# Campaign Planning for 2025

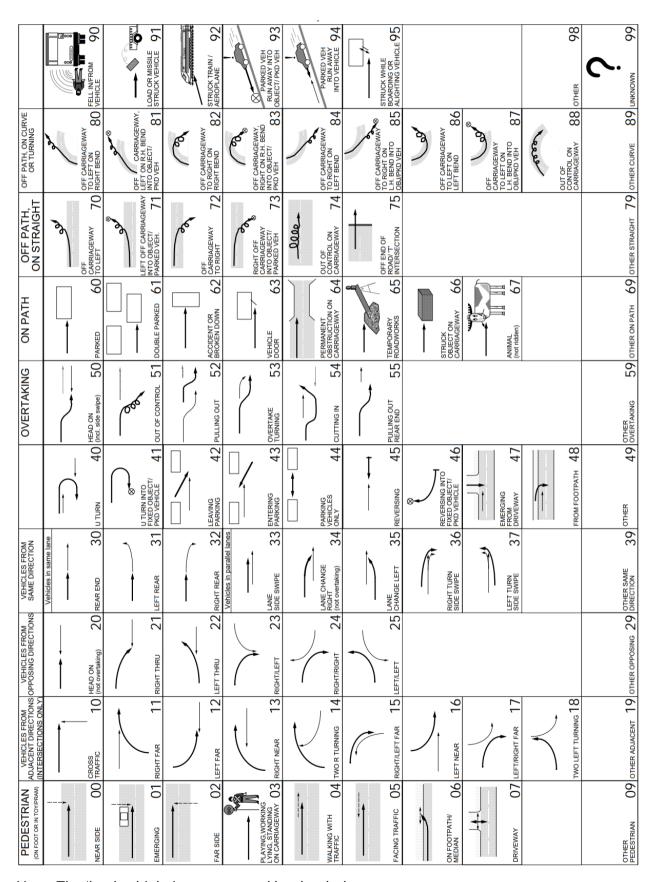
The strategic analysis has been used to inform campaign development for 2025. This is being developed in two phases:

- Revisions to the 'Ride to Live' campaign, to appear from April to June 2025
- Development of a new campaign, due to appear from October 2025

Both phases of campaign development will target specific rider behaviours. These are based on recent research showing that motorcyclists often misjudge the risk of certain actions to be lower, despite rider road trauma data indicating otherwise.

These campaigns are being developed in collaboration with key stakeholders and some examples of the 'Ride to Live' campaign development will be presented at the upcoming Motorcycle Safety Roundtable.

# Appendix A - Road User Movement (RUM) codes



Note: The 'key' vehicle is represented by the dark arrow.

# Motorcycle Safety Roundtable 2025

Final attendee list

# **Attendee list - Motorcycle Safety Roundtable**

FIRST NAME	LAST NAME	ORGANISATION
Liz	de Rome	Deakin University
Assistant Commissioner David	Driver APM	NSW Police Force
Emma	Shearer	Transport for NSW
Tony L	Nguyen	Transport for NSW
Joe	Claughton	Transport for NSW
Josh	Murray	Transport for NSW
Claire	Andrews	Wheel-Skills Rider Training
Michael	Timms	Australiasian College of Road Safety
Andrew	Hillig	HART Honda Australia Roadcraft Training
Kenn	Beer	Safe System Solutions Pty Ltd
Antonietta	Cavallo	Transport Accident Commission (Victoria)
David	Black	Transport for NSW
Duncan	McRae	Transport for NSW
Howard	Collins	Transport for NSW
Tasha	Prabhakar	Australiasian College of Road Safety
Matt	Fuller	Transport for NSW
Chris	Hurren	MotoCAP
Lauren	Sayer	State Insurance Regulatory Authority
Christopher	Burns	Sydney Knights
Brian	Wood	Motorcycle Council of NSW





Ben	Barnes	Transport for NSW
Meagan	Felton	Transport for NSW
Michael	Nieuwesteeg	Austroads
Alex	Cudlin	Fine Line Rider Training
Gillian	Davenport	The Cabinet Office
Kate	Timbs	Transport for NSW
Lucy	Filardo	Transport for NSW
Andrew	Foxall	Transport for NSW
David	Beck	Transurban
Teresa	Senerrick	University of Western Australia
Shaun	Lennard	Australian Motorcycle Council
The Hon. Jenny	Aitchison MP	Minister for Roads and Regional Transport
Dr John	Crozier	Royal Australasian College of Surgeons
Paul	Richardson	Stay Upright
Ralston	Fernandes	Transport for NSW
Tom	Whyte	Transport for NSW
Matthew	Baldock	University of Adelaide
Superintendent Tony	Boyd	NSW Police Force
Peter	Griffin	Federal Chamber of Automotive Industries
Shane	Cudlin	Fine Line Rider Training
The Hon. Natalie	Ward MLC	Shadow Minister for Transport and Roads
Heidi	Haydon	Spinal Cord Injuries Australia
Brana	Ravichelvan	Transport for NSW
Catherine	Launay	Transport for NSW
Bernard	Carlon	Transport for NSW
Craig	Newland	AAA

Carla	Hoorweg	ANCAP
Julie	Brown	George Institute
Brendyn	Williams	Motorcycle Council of NSW
Louise	Higgins-Whitton	Transport for NSW
Cameron	McIntyre	Transport for NSW
Sally	Webb	Transport for NSW
Dimitra	Vlahomitros	NRMA
Abbey	Norman	State Insurance Regulatory Authority
Greg	Dikranian	Transport for NSW
Aron	Mola	Transport for NSW
George	Shearer	Transport for NSW
Chadi	Chalhoub	Transport for NSW
Scott	Andrews	Wheel-Skills Rider Training
Warren	Johnson	Youthsafe
Anna	Beck	Transport for NSW
Philip	Sherar	Transport for NSW
Wayne	Clarke	Stay Upright
David	McTiernan	National Transport Research Organisation
Matt	Miller	Australia Post
Trevor	Allen	Monash University Accident Research Centre
Duncan	Lucas	Transport for NSW
Jessie	Rogers	Transport for NSW
Matt	Wyatt	Transport for NSW
Leo	Townsend	Transport for NSW
Kyle	Hedrick	Transport for NSW
Anna	Nardis	Transport for NSW

Peta	Harrison	Transport for NSW
Clare	Leitch	Transport for NSW
Rachel	Butterly	Transport for NSW
Amelia	Smith	Transport for NSW
Uncle Allan	Murray	Metropolitan Local Aboriginal Land Council

# Invited organisations/individuals unable to attend - Motorcycle Safety Roundtable

ORGANISATION
Department of Premier and Cabinet
Infrastructure NSW
Local Government NSW
Office of the Advocate for Children and Young People
Queensland University of Technology
Ulysses Club
Transport and Main Roads
NSW Minister for Youth
NSW Minister for Police
NSW Shadow Minister for Regional Transport and Roads
Member for Wagga Wagga
Member for Barwon
Member for Lake Macquarie
Member for Shellharbour
Member for Campbelltown

# What improvements to rider education can be made to reduce novice rider trauma?

# Novice riders (Licensing, education and training) – Panel discussion guide and session outline

## Timing

11.10am session start (30 min session)

### Format

Our session lead will briefly introduce the topic and our panellists, and we will then proceed to panel discussion – with key questions outlined below.

## Session lead

## **Howard Collins**

Coordinator-General, TfNSW

## Panellists

## Antonietta Cavallo

Director, Road Safety Planning, Research, Insights and Technology, Transport Accident Commission - Victoria

## **Dr Matthew Baldock**

Deputy Director, Centre for Automotive Safety Research (CASR), University of Adelaide

## **Prof Teresa Senserrick**

Director, WA Centre for Road Safety Research, University of Western Australia

## **Shaun Lennard**

Chairman, Australian Motorcycle Council





## Panel discussion questions

То	Question
Antonietta	Graduated licensing has been very successful in reducing trauma for young drivers. What made it so successful? What is unique about motorcycling that makes it challenging to transfer driver GLS settings directly to riders?
Teresa	What elements of the driver GLS are not transferable to motorcycle licensing and why?
Matt	What educational support could be introduced to better support novice rider during the learner phase? Such as learning journals, online learning or onroad coaching.
Shaun	From a rider perspective what areas of novice rider education needs more development, and what do you think it might look like?
Tersea	Are other international jurisdictions using on-road coaching during the early stages of riding, how does it work, and what does the evidence say?
All	What do you think is the best way to reduce rider risks during the novice stages?

# Table discussions to follow panel

- 1. In order to reduce rider risks during the novice stages of riding, what other M-GLS features could be considered? (e.g. rider HPT, On-road coaching during L phase, log books) And, do these features have proven safety benefits/evidence?
- 2. What are the significant challenges for motorcyclists from a trauma reduction perspective?

# What improvements to motorcycles and protective gear can reduce rider trauma?

Vehicle safety and protective gear – Panel discussion guide and session outline

## Timing

2.30 pm session start (30 min session)

## Format

Our session lead will briefly introduce the topic and our panellists, and we will then proceed to panel discussion – with key questions outlined below.

## Session lead

### Chadi Chalhoub

Executive Director, Transport Safety, TfNSW

## Panellists

## **Chris Hurren**

Associate Professor, Deakin University - SME MotoCAP

## **Carla Hoorweg**

Chief Executive Officer, ANCAP

### **Greg Dikranian**

Senior Manager, Safer Vehicles, TfNSW

## **Shaun Lennard**

Chairman, Australian Motorcycle Council





## Panel discussion questions

То	Question
Carla	We know ANCAP works well for cars, would a motorcycle assessment program benefit riders? Are there any challenges? What would it look like?
Greg	Can you tell me what CRASH is? And how does it help rider safety?
Chris	Given we have been promoting protective gear to riders for over 50 years and there are still riders who only wear the minimum safety gear, is it time to consider mandating?
Shaun	What are the key barriers to a greater uptake of protective clothing for novice motorcycle riders?
Supplementary question (time permitting)	From 1 March 2025, the ADRs will require all new cars to have Autonomous Emergency Braking (AEB) systems. What is being done to ensure these systems identify motorcycles effectively?

# Table discussion to follow panel

- 1. Focusing specifically on protective gear, what do you think will have the most benefit in reducing fatalities and serious injuries for:
  - Novice riders
  - Unrestricted riders
- 2. Thinking about vehicle safety, what do you think will have the most benefit in reducing fatalities and serious injuries for:
  - Novice riders
  - Unrestricted riders
- 3. Are there additional infrastructure measures that could be implement or prioritised that could improve motorcycle safety?
  - What are the barriers to this?