Australasian College
of
Road Safety
Victorian Chapter

18 October 2024

MOTORCYCLE SAFETY WORKSHOP

AUSTRALASIAN ROAD SAFETY CONFERENCE 2024

Outputs Report

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Figure 1: Dr Tana Tan (Safe System Solutions Pty Ltd)

INTRODUCTION

Motorcycles represent 4.5% of all Australian passenger vehicle registrations and cover 1.1% of vehicle kilometres. Yet, motorcyclists and passengers contribute to about 15% of road crash fatalities and a disproportionate number of serious injuries. Comparatively, the rate of motorcyclist deaths per distance travelled in Australia is approximately 30 times higher than that of car occupants, with serious injuries being 41 times more frequent (NRSPP 2024).

Future projections on road trauma until 2050 highlight motorcycles as a significant concern despite existing preventative measures (Lösningar 2024).

Various stakeholders have proposed initiatives to mitigate motorcycle-related trauma. The Victorian Chapter of the Australian College of Road Safety organised a motorcycle safety forum on 19 May 2022 to gather these initiatives, with the aim of cataloguing rather than extensively analysing them.

While evidence for each initiative may not be immediately available, many have undergone trials and evaluations. The Motorcycle Safety Workshop that was held at the Australasian Road Safety Conference (ARSC) in 2024 tapped into the expertise of both academics and practitioners present at the conference, using an interactive approach to gather evidence supporting these initiatives.

THE WORKSHOP

At the ARSC in Hobart in 2024, a workshop was dedicated to evaluating motorcycle safety initiatives and their effectiveness. The session kicked off with an introduction from Shaun Lennard, who outlined the scale of motorcycle trauma in Australia, setting the stage for the discussions ahead. His overview highlighted the urgent need to address motorcycle safety through evidence-based strategies and collaborative efforts.

Kenn Beer then facilitated an icebreaker to engage participants and introduce the workshop's objectives. He explained the categorisation framework for assessing safety initiatives, which included: measures with comprehensive evidence showing they do not work, those with strong evidence proving they do work, initiatives with no concrete evidence but some logical basis for trialling, and non-motorcycle safety measures (such as motorcycle promotion, environmental, or congestion-related issues).

The categorisation process began with active participation from the audience, who were invited to discuss and categorise various safety initiatives based on the outlined criteria. Kenn facilitated this 20-minute session, guiding participants through their evaluations and encouraging diverse viewpoints.

Following this, a series of three-minute presentations from experts provided further insights on the categorisation results. Dr. Tana Tan, Matthew Baldock, Samantha Buckis, Duncan McRae, and Christopher Hurren each reflected on categorisation and offered their perspectives, analysing the evidence (or lack thereof) behind specific safety measures. This expert commentary helped to validate or challenge the audience's initial classifications and prompted deeper exploration of which motorcycle safety initiatives warrant further trials or reconsideration.

The details of the Workshop:
Date: 2 October 2024
Time: 1030 - 1230
Location: Australasian Road Safety Conference, Hobart

Event photo gallery: https://www.flickr.com/photos/128472272@N08/albums/72177720320858550

For more information or enquiries please contact Kenn.Beer@SafeSystemSolutions.com.au

WORKSHOP OUTPUTS

The outputs of the Workshop presented below are the participants' views on the original initiatives. They have not been validated, peer reviewed or substantiated, however there was discussion during the workshop amount some of the evidence sources.

Legend:

🔴 Red dot = Has been done, comprehensive evidence to show it DOES NOT work. We DO NOT support it.

🟢 Green dot = Has been done, comprehensive evidence to show it works. We support it and it should be promoted.

⭐ Gold star = Could be worth a trial (or research project) based on there being some logic to it.

⭐ Red star = Not worth a trial (or research project) based on it not being a good idea.

Figure 2: Shuan Lennard Opening the Workshop

VEHICLES	

Initiative/Comment	SAFE VEHICLES
Motorcycles should have user **interfaces and ergonomics that prioritise rider safety** by minimising cognitive load, ensuring consistency across different makes, and accommodating the diverse needs of riders in terms of gender and stature.	2 red dots 1 green dot 1 gold star
Anti-lock Braking System (ABS) should be required on all Learner Approved Motorcycle Scheme (LAMS) motorcycles	10 green dots
Ban convex mirrors on motorcycles as this distorts distance judgement, especially when changing lanes and merging	1 green dot
Provide support so motorcyclists **correctly setting up their motorcycle** and better understand the importance of motorcycle maintenance	4 green dot 1 gold star
Educational campaigns are needed to raise awareness among novice motorcyclists about the **benefits of electronic safety features like ABS,** and to provide a central source of information that encourages the adoption of these technologies.	2 green dots Half a green and half a red dot
Australian Design Rules (ADR) and other motorcycle standards should be updated more frequently, especially with that from the European Union (EU) as they are generally ahead of Australia	Half a green and half a red dot 1 red dot 1 gold star
All **trucks** should be equipped with **under-run protection and enhanced visibility systems**, such as mirrors and cameras, to improve safety by helping drivers detect motorcyclists, especially in blind spots.	8 green dots
Research **motorcycle airbags**	6 green dots 7 gold stars Note: Both rider and bike mounted
Electric Vehicles (EVs) are too quiet. **Research** needs to be conducted to understand how this affects motorcycle riders (and cyclists and pedestrians)	1 red dot
Evaluate the effectiveness of LAMS, especially the 660 cc engine capacity limit. This has not been previously verified as being effective in lowering fatal and serious injuries (FSI) crashes amongst novice riders	5 green dots 1 gold star 1 silver star
Research is needed to understand how **electric motorcycles**, especially their power and torque delivery, affects motorcycle safety, especially amongst novice riders	7 green dots 3 gold stars

Initiative/Comment	🏍️ 🚗 🚧 🚛 SAFE VEHICLES
Research is needed to understand **motorcycle type** (e.g. naked, sports, enduro, touring, etc.) and crash likelihood, especially for novice riders	6 green dots 1 gold
Research is needed to assist the development and to evaluate the effectiveness of **heads-up display in helmets** and the safety benefits that may be had	2 green dots
Australasian New Car Assessment Program (ANCAP) should require all passenger **vehicles to be fitted with motorcycle detection**, alert/warning & braking system where applicable (e.g. for cross traffic, front and rear)	2 green dots 1 gold star
Passenger vehicles should have **mobile phone deactivation/disable** technology fitted	None
Passenger vehicles should have **driver alertness monitoring** system fitted	2 green dots

Figure 3: Workshop Participants Reviewing Initiatives

Initiative/Comment	SAFE ROADS AND ROADSIDES
Improvements to **road surface and line marking maintenance**	1 green dot
Promote **'Snap, Send, Solve'** as a reporting tool	none
More education/promotion of the **Making Roads Motorcycle Friendly** guide and training	1 green dot 1 gold star
More motorcycle specific **Road Safety Audits**	6 green dots 1 gold star
Edge sealing narrow roads	none
Increase **intersection sight distance**	1 green dot
Glow in the Dark Lines (e.g. trial in Metung and Kinglake)	3 red dots
Motorcyclists in all **bus lanes**	2 green dots 1 red dot 1 gold star
Motorcycle storage/stop boxes at the front of traffic signals	3 green dots 1 red dot
Higher posts for **Chevron Alignment Markers** (CAMS) ATLM	1 gold star 2 green dots
Install **motorcycle underrun protection** on high motorcycle routes	7 green dots 1 red star
Frangible/flexible posts in urban areas and popular motorcycle routes	1 green dot
Separated motorcycle facilities (e.g. motorcycle lanes)	5 green dots
Anti-slip **tram tracks**	none
More **Wide Centrelines**	6 green dots 1 red star 1 gold star
Minimum passing distance for all Vulnerable Road Users (VRUs)	1 green dot
High friction surfaces at high-risk locations	none
Seal bell mouths	6 green dots

Initiative/Comment	SAFE PEOPLE
Promote and incentivise **rider skills courses** (pre and post licence)	9 green dots 1 silver star 1 gold star
Promote and incentivise **rider roadcraft courses** (pre and post licence)	3 green dots 6 gold stars
Implement the New Zealand **'Ride Forever'** program in Australia.	4 green dots 1 gold star Note: Ride forever evaluation numbers
Research into the **optimal frequency of riding** needed to maintain skills	3 green dots
Research into **what will motivate people to undertake training**	3 green dots 2 gold stars
Bring back the **pre-ride check** that was operational about 30 years ago.	none
BAC 0.02 for motorcyclists	5 green dots 1 red dot
Provide licensing and support processes in **other languages**	none
Specific training for **international riders**	2 green dots
Enforcement doesn't have an educational component, there needs to be a **warning/mentoring component to policing** rather than issuing fines which doesn't adequately address behaviour	3 green dots 1 red dot 1 gold star
Education for drivers and children about how to **manage their own behaviour around motorcycles**	Hald red and half green dot 1 red dot 1 gold star 1 red star
Training on **behavioural optometry**, the psychology of seeing to train people to use their eyes more effectively (both for riders and for other road users)	3 green dots 1 gold star

GEAR	
Initiative/Comment	**SAFE GEAR**
Mandate more than just helmets	12 green dots 1 red dot
Mandate certain gear **during training**	2 green dots
Subsidise safe gear	3 red dots 1 red star
Push for action by Workcover (**OHS Law**) for **delivery riders**	4 green dots
MotoCAP and Consumer Rating and Assessment of Safety Helmets (**CRASH**) should be promoted more	10 green dots
Research into the benefits (or lack of) for **safety vests** for learner riders	Half a green and half a red dot
More advertising/campaigns about the **consequences of not wearing** appropriate gear	Half a green and half a red dot 6 green dots
Incentivise the development of gear that is **fashionable, gender appropriate** and **adaptable** to body change. As gear is expensive, having it more adaptable to changing body shape and more appealing to the wearer.	none

Initiative/Comment	SAFE SPEED & OTHER
Speed restrictors/limiter on motorcycles (e.g. limited to 140km/h)	2 red dots 1 red star
Sign decluttering program	1 green dot
Work with **map providers** to ensure **time to distance** on motorcycle touring routes is accurate	1 red dot
Variable speed limits in more locations (intersections, built up areas etc.)	1 green dot
Increase speed tolerances so people don't focus on their speedometer, but instead focus on the road and road environment	1 green dot 3 red dots 1 red star 1 gold star
80km/h speed limit for all **undivided roads**	2 red dots 2 green dots
Mandate **black boxes** on motorcycles	2 green dots 1 red dot 1 gold star

Figure 4: Workshop Participants

ACKNOWLEDGEMENTS

REFERENCES

Australasian College of Road Safety (2022), *Motorcycle Safety Forum Report,* https://safesystemsolutions.com.au/wp-content/uploads/2023/07/S20220106-ACRS-MC-Safety-Forum-Report-FINALa.pdf

NRSPP - National Road Safety Partnership Program, (2024). *Motorcycle Safety Fact Sheet.* https://www.nrspp.org.au/resources/motorcycle-safety/#:~:text=However%2C%20motorcycle%20riders%20and%20pillions,the%20rate%20for%20car%20occupants.

Lösningar Pty Ltd (2024), *Vision Zero Modelling for Victoria*, *New South Wales and New Zealand,* Unpublished, Supplied as part of the Austroads Path to Zero project.

Figure 5: Kenn Beer Facilitating the Workshop

Motorcycle Safety Forum Outputs Report

- Report preparation – 180 dot points/views
- Verbatim ideas/comments
- Some are evidence based, some are not.
- Some we support
- Some we do NOT support
- Some are worth a trial based on there being some logic to it
- Some are not motorcycle safety initiatives (e.g. motorcycle promotion, environmental, congestion etc.)

◀ DOWNLOAD THE REPORT

STICKERS – ROUND 1

🟢 Has been done, comprehensive evidence to show it works. We support it and it should be promoted.

🔴 Has been done, comprehensive evidence to show it DOES NOT work. We DO NOT support it.

Jot down a reference if you have one...

STICKERS – ROUND 2

★ (yellow) Could be **worth a trial (or research project)** based on there being some logic to it.

★ (red) **Not worth a trial (or research project)** based on it not being a good idea.

2024 Australasian Road Safety Conference
30 SEP – 3 OCT · HOBART, TASMANIA

SAFE SYSTEM SOLUTIONS

THANK YOU

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