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## DEFINITION

A motorcyclist is any person who is riding a motorcycle that is registrable under Western Australian law.

Motorcyclists continue to be overrepresented in road crashes. Due to their vulnerability, when a motorcycle is involved in a road crash, injuries to the rider and their pillion are usually life changing or life ending.

## THE STRATEGY

Motorcycle safety remains a major priority for road safety authorities across Australia.

It is a shared responsibility across government; and with industry and community to reduce motorcycle KSI and improve motorcycle safety on our roads.

In 2008, the state government, released its 12-year road safety strategy, *Towards Zero 2008 – 2020 (Towards Zero)*.

Towards Zero set out the ambitious target of 11,000 fewer people killed or seriously injured (KSI) by 2020, which is 40% reduction from the baseline period. The target of a 40% reduction from the baseline period was calculated using crash data across the years 2005-2007.

**The baseline figure for motorcyclists KSI was 366. Using a 40% reduction, a figure of 220 KSI is the government's target for 2020.**

However, the estimated figure of people KSI on a motorcycle for 2016 was 479 people. This statistic exceeds the 2020 KSI reduction target (n=220) by 259 people killed or seriously injured on Western Australian (WA) roads.

Motorcycle registrations between 2010-2015 indicated that WA had the greatest growth of any Australian state or territory. Currently WA has the highest proportion of motorcycles per head of population, 49 per 1,000 people<sup>1</sup>.

Nearly 25% of all road fatalities in 2014 were motorcyclists<sup>2</sup>. While 2015-2016 showed an 86% increase in motorcyclist fatalities across Metropolitan and Regional WA<sup>3</sup>.

Whilst only accounting for 6% of registered vehicles on WA roads, motorcyclists accounted for 21% of all road fatalities in 2016.

In 2017, whilst WA experienced the equal lowest number of road fatalities since 1961, 26 of the 161 people who died on our roads were motorcycle fatalities<sup>4</sup>.

Using lessons learnt from previous road safety schemes, the government, through the Towards Zero strategy, has aimed to help reduce the number of motorcycle KSI through short-term action plans and other initiatives, such as improvements to infrastructure, rider education programs and research-based programs.

## **SUPPORTING RESEARCH AND EVIDENCE**

In 2015 a Motorcycle Safety Review Group was formed in response to the high number of motorcycle deaths in 2014 (n=44). The review resulted in a report entitled *Western Australian Strategic Direction for Improving the Safety of Motorcyclists and Moped Riders 2016-2020*. The report made 39 recommendations to improve motorcycle and moped safety on our roads.

The research was informed by an investigation of crash data provided over the years 2013-14. The investigation outlined the following priority focus areas for achieving a reduction in the number of killed or seriously injured motorcycle riders and pillion:

- Rider responsibility for personal and other road user safety,
- Rider interactions with other road users,
- Ensuring the road and roadside environment are more motorcycle friendly,
- Improve the uptake of motorcycle crash avoidance features.

Other recommendations of the 2015 review were:

- Join with Victoria and New South Wales in the development of a clothing rating consumer tool (Moto-CAP),
- Inclusion of the United Nations ECE 22.05 helmet standard on the list of approved helmets,
- Introduction of a zero BAC limit for all learner motorcycle riders, regardless of other licences held.

Since the report's release, WA has made steady progress in responding to the 39 recommendations including; targeted motorcycle campaigns in 2017/18, ongoing promotion of Make Yourself Visible and helmet safety and the launch of the national Moto-CAP safety clothing program. Evidence to consider remaining actions within the report is being gathered. These actions include consideration of motorcycle lane filtering, zero BAC limit for all learner motorcycle riders and permitting motorcycles to use bus lanes to improve safety outcomes.

The National Road Safety Strategy 2011–2020 states that single vehicle crashes account for 42% of motorcyclist deaths. The WA 2015 review attempts to mitigate this type of outcome by providing improvements to the road infrastructure, roadside verges and addressing run-off road crashes, among other strategies.

A finding in the 2015 report of the 2013–14 fatal and catastrophic crash data at intersections in the Perth metropolitan area indicated two movement types accounting for 54.3% of intersection crashes. These were:

- Vehicle turning right, colliding with a vehicle from the opposing direction that was proceeding through the intersection,
- Vehicle turning right, colliding with a vehicle from the adjacent direction that was proceeding through the intersection.

To better understand the causes of crashes, Curtin-Monash Accident Research Centre (C-MARC) commissioned two studies for the Road Safety Commission to identify high risk intersections (Dr. K. Chow, et al., 2016) and risk factors for road users killed or seriously injured at intersections in the Perth Metropolitan area (Dr. K. Chow, et al., 2016). The reviews produced several recommendations, some of which were incorporated in the Road Safety Commission 2016/17 Program of Works for improvements to several intersections, some of which are listed:

- Marmion Avenue/Mullaloo Drive (City of Joondalup) – Installation of roundabout,
- Guildford Road/Garratt Road (City of Bayswater) – Extend right turn pocket on Guildford Road on west approach and left turn on Guildford east and remove filter,
- Great Northern Highway/Rutland Road (City of Swan) – Upgrade intersection detail design stage.

As well as the more traditional efforts to improve safety on the roads, more innovative ideas are also being trialled.

In 2018, the Minister for Road Safety led a Motorcycle Safety Consultation Paper which invited all road users to have input into proposed safety reforms being considered. The reforms included the following reforms which are currently being considered by government:

1. Introduction of a road rule to permit motorcycle lane filtering and prohibit lane splitting
2. Introduce a minimum learner tenure period of six months whilst learning to ride Learner Approved Motorcycles Scheme (LAMS)
3. Introduce a pre-licence motorcycle specific Hazard Perception Test (HPT) for all powered two wheelers (mopeds and motorcycles)
4. Enhance the one-year LAMS (R-E class) restriction to a two-year minimum period prior to becoming eligible for an unrestricted R class PDA
5. Transforming the R class PDA into an exit test which will require a higher pass mark than the LAMS (R-E class) PDA.

On 5th November 2018, the Department of Transport, Driver Vehicle Services implemented reforms 2–5 listed above to improve road safety for motorcyclists. Information regarding these reforms can be found on the Department of Transport's website [via this link](#)

## *Advances in technology*

Innovation in vehicles technology, including motorcycles, is improving safety with features such as lane departure warnings and autonomous emergency braking. Advancements in technology have the potential to improve and enhance rider safety, however, cannot be used in a stand-alone capacity. Both rider competency and the technology combine to make a safer system on the road.

One technological advance for motorcycles is the Anti-Lock Braking System (ABS), which allows riders to apply the brakes with force, without the brakes locking up and causing the motorcycle to lose control. A recent Australian study into the benefits of ABS found that ABS could assist in 93% of motorcycle crash situations (B.Fildes, et al, 2015).

Other technologies available that address stability, traction and the braking properties of motorcycles are:

- Combined braking systems – front and back brakes work together,
- Amplified braking systems – comparable to braking assistance in cars,
- Rear wheel lift off protection – detects when the rear wheel has lifted off the surface of the road and removes the front brake temporarily,
- Brake by wire – improves ABS results,
- Electronic traction control – prevents rear wheel skids,
- Motorcycle stability control – electronically combines braking while cornering in emergencies,
- Anti-hop clutch system for smoother and more consistent acceleration.

Other simple measures can also be utilised, one of which includes a system where head and tail lights are hard wired to be on continuously, even during the day. A New Zealand study concluded that motorcycles with lights on during the day are easier to see than those without and are 27% less likely to be involved in a crash.

## **COUNTERMEASURES**

### *Legislation*

- *Road Traffic Act 1974* (Generally)
- *Road Traffic Code 2000* (Generally)

### *Recent legislative changes*

Road Traffic (Authorisation to Drive) Amendment Regulations 2018 (Effective 5/11/2018)

- Introduced a minimum learner permit tenure of six months whilst learning to ride an R-E class regardless of whether another driver's licence is already held,
- Introduced a pre-licence 'Hazard Perception Test' for all two wheeled licence types,
- Increased the R-E class licence (restricted motorcycle power) period from one year to two years, and
- Increased the pass mark required for R-E and R class motorcycle licence types.

## *National programs*

In September 2018, the National Moto-CAP program was launched by the New South Wales Minister for Roads and Transport. The WA government contributes to this program, which seeks to increase rider awareness of motorcycle protective clothing and its safety rating. Safety rated clothing is available via a dedicated website: [www.motocap.com.au](http://www.motocap.com.au)

Evidence-based research to improve motorcycle safety is ongoing. As part of the 2018/19 Road Safety Research Program, a review of popular motorcycle routes, crash risk factors and countermeasures to improve safety and reduce KSI is being completed for consideration by government.

The Commission's membership on the Australia and New Zealand Vehicle Safety Research Group, contributed to a research report, published in May 2018, titled Current Trends in Motorcycle Related Crash and Injury Risk in Australia by Motorcycle Type and Attributes (Newstead et al). The Commission is considering the key findings and recommendations within this report to guide policy decisions relating to crash types, speed zones and road conditions.

During 2018/19, government will further consider community results and recommendations from the recent Motorcycle Safety Consultation Paper.

## *Community engagement*

In 2018/19, the Road Safety Commission's community education and campaign program included a motorcycle education campaign 'Ride to Arrive' that was run to engage with motorcycle riders and raise their awareness of the risks and how to reduce them.

# **FUTURE FOCUS**

## *Legislation*

- Consideration of proposal to amend the Road Traffic Act 1974 to require learner motorcyclists to have zero BAC regardless of whether they are no longer a novice driver because of having already obtained a "C" class motor vehicle licence.
- Consideration of proposal to outlaw the act of lane splitting (motorcyclist traveling in-between traffic at speeds greater than 30 kmh).

## *Education*

The Road Safety Commission will continue to educate the community about motorcycle safety as part of the "Sharing our roads" message. This includes a dedicated motorcyclist page on the Commission's website, social media, public engagement activities and motorcycle campaigns.

## *National initiatives*

The WA government will maintain awareness of the Australian Government's progress towards mandating ABS for motorcycles from November 2019 for all new road registered motorcycles sold. This action is in response to the National Road Safety Strategy 2011-2020 Action 16. 'to improve safety regulations' and 16c. 'to consider mandating ABS for motorcycles...'

The Commission maintains membership on national working groups, which seek to improve safety for motorcyclists through research using crash data to identify trends and guide effective safety interventions. This includes ongoing membership on;

- Australia and New Zealand Vehicle Safety Research Group (which includes research using real world crash data for motorcyclists),
- National Road Safety Partnership Program (a collaboration of government and industry focused on promotion and education of vehicle safety in the workplace and improving overall fleet management (including motorcycle fleets),
- Austroads Safety Taskforce.

## *Other*

The Road Safety Commission will continue discussions with key stakeholders to expand the use of bus lanes for motorcycles and address remaining actions from the 2015 motorcycle review.

## **REFERENCES**

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Budd, T, Allen, T, Newstead, S, 2018. Current Trends In Motorcycle-Related Crash And Injury Risk In Australia By Motorcycle Type And Attributes. Monash University Accident Research Centre, Melbourne.

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<sup>1</sup>National Road Safety Strategy 2011-2020, Australian Transport Council

<sup>2</sup>Western Australian Strategic Direction for Improving the Safety of Motorcyclists and Moped Riders 2016-2020, Road Safety Commission.

<sup>3</sup>Road Crash and Exposure Trends to 2016 and Progress Towards 2020 Targets

<sup>4</sup>Road Safety Commission 2017 Preliminary Summary of fatalities on Western Australian Roads