

Motorcycle safety



- Motorcyclists are vulnerable road users. Due to the exposed design of motorcycles, motorcyclists are much more likely to be injured in road crashes than the majority of other road users.
- In 2016, 1 in 4 road fatalities in Queensland were motorcyclists¹.
- In the event of a road crash, motorcycle riders in Australia are approximately 30 times more likely to be killed than car occupants^{2,3}.

State of the Road A Fact Sheet of the Centre for Accident Research & Road Safety - Queensland (CARRS-Q)

THE FACTS

Injuries to motorcyclists can occur from crashes on-road or off-road. The information provided in this fact sheet relates to on-road crashes only, however CARRS-Q acknowledge the importance of protecting and ensuring the safety of off-road riders.

- Motorcycle riders and their pillion passengers represent a significant proportion of road fatalities, even though motorcycles make up only a small percentage (5.7%) of registered passenger vehicles⁴.
- While motorcyclist fatalities have been on a downward trend over the decade (see Figure 1), the last two years have seen consecutive increases in motorcyclist fatalities from the low seen in 2014¹.

In Australia

In 2016, 248 fatalities were motorcyclists¹.

- Motorcycles account for 5.7% of all Australian passenger vehicle registrations and 1.2% of passenger vehicle kilometres travelled^{4,5}. However, motorcycle riders and pillions account for approximately 19% of all road crash deaths and an even higher proportion of serious injuries¹.
- Per distance travelled, the Australian rate of motorcyclist fatalities is approximately 30 times the rate for car occupants^{2,3}. The corresponding rate for a serious injury is approximately 41 times higher.
- The social cost of road crashes in Australia involving motorcycles is more than twice that for cars (including light commercial vehicles) on a vehicle kilometre travelled basis⁶. This is a result not only of the higher level of fatalities and injuries suffered by this vulnerable road user group in the event of a crash, but also the higher involvement in crashes per vehicle kilometre travelled.
- Compared to similar OECD countries for 2015, Australian motorcyclist fatalities as

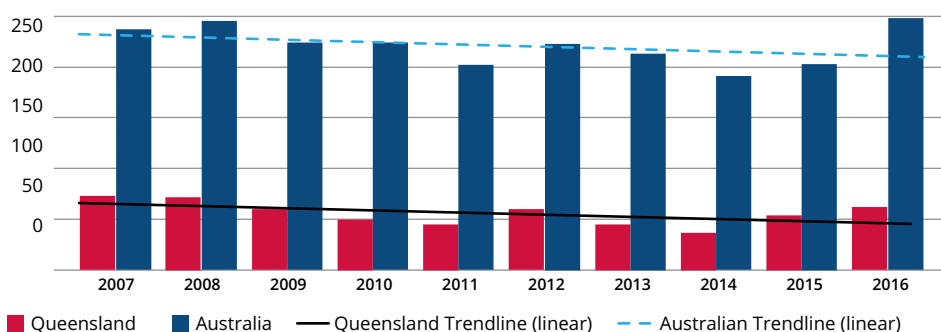
a proportion of total road crash fatalities, (16.7%) are higher than Canada and the USA, but are lower than the UK, Germany and France, and are slightly lower than the OECD average (17.3%)⁷.

In Queensland

- Motorcycle registrations increased by 53.6% between 2007 and 2016⁴. In comparison, passenger vehicle registrations only increased by 22.3% over the same period.
- The rate of motorcyclist fatalities per registered motorcycle has been trending downward for the last decade (see Figure 2)^{1,4}. However, the increase seen in this rate over the last two years (2015/16) is of concern.
- During 2016:
 - 62 fatalities were motorcyclists. This represents a 14.8% increase compared to the previous year, and a 28.6% increase on the previous five year average¹.
 - Motorcycles accounted for only 5% of Queensland vehicle registrations, yet motorcyclists accounted for 24.8% of the state road fatalities^{1,4}.

- In addition to a large proportion of fatalities, crashes involving motorcycles also result in a large number of serious injuries. According to police data, in 2015, 971 motorcyclists were hospitalised as a result of road crashes, which accounted for 16% of all hospitalised road crash injuries⁸. Based on hospital records, 2,511 motorcyclists were admitted to hospital in 2015 for road crash injuries⁹. This suggests that up to 61% of motorcyclist road crash hospitalisations are not reported to police.
- There have been two major changes that have contributed to the growth in motorcycling:
 1. While older riders have a lower crash rate than younger riders, the huge growth in the numbers of older riders has increased the number of crashes involving this group¹⁰.
 2. Evidence suggests that increasing congestion, the availability of parking, and travel costs are encouraging the purchase of mopeds (up to 50cc) and scooters (over 50cc) for transport. There was a 15-fold increase in moped registrations in Queensland between 2001 and 2009¹¹.

Figure 1: Queensland and Australian motorcycle/moped rider and pillion fatalities



Who is crashing?

In Queensland between 2014 and 2016:

- Motorcycle riders and pillion passengers aged 40-49 years comprised 25% of fatalities and 20% of non-fatal injuries, while those aged 21-29 years comprised 20% of fatalities and 25% of non-fatal injuries. Those aged 50-59 years comprised 20% of fatalities and 19% of non-fatal injuries^{1,12}.
- Pillion passengers accounted for 2% of the motorcyclist fatalities and 5% of the motorcyclist non-fatal injuries.
- Males made up the vast majority of fatalities and non-fatal injuries (95% and 88% respectively).

How are they crashing?

- In Queensland between 2014 and 2016, 51% of fatal motorcycle crashes involved another vehicle¹.
- In fatal multi-vehicle motorcycle crashes in Australia, the motorcyclist is deemed to be at fault in just over half (51%) these crashes¹³. Another vehicle, other than the motorcyclist, is at fault in approximately one-third of these crashes, which commonly involves violations of the motorcycles right of way at an intersection. In 18% of these crashes both

the motorcyclist and another vehicle were deemed to be at fault.

- Single vehicle motorcycle fatalities mainly result from collisions with fixed objects, such as trees, utility poles/posts and roadside barriers¹³.

Why are motorcyclists crashing and being injured?

- Risk-taking has been identified as a contributing factor in approximately 50% of fatal motorcycle crashes and approximately 28% of non-fatal motorcycle crashes^{12,13}. This includes excessive speed, alcohol, drugs, and disobeying a traffic control law.
- The severity of injuries faced by motorcyclists is higher than for other road user groups. The most critical injuries to motorcyclists in fatal crashes are head and chest injuries¹³.

TIPS FOR STAYING SAFE

Before you ride

- Before you ride check your motorcycle and check your fitness to ride. Don't ride if you are tired, emotional, under the influence of alcohol or drugs, or recovering from the night before.
- Wear protective gear on every trip, no matter how short your journey is. This

includes an approved helmet, boots that protect your ankles, a jacket with impact protectors, motorcycle gloves, and long pants with suitable protective qualities for you and your pillion passenger. Use protective clothing even if you expect to be travelling only at low speeds.

During your ride

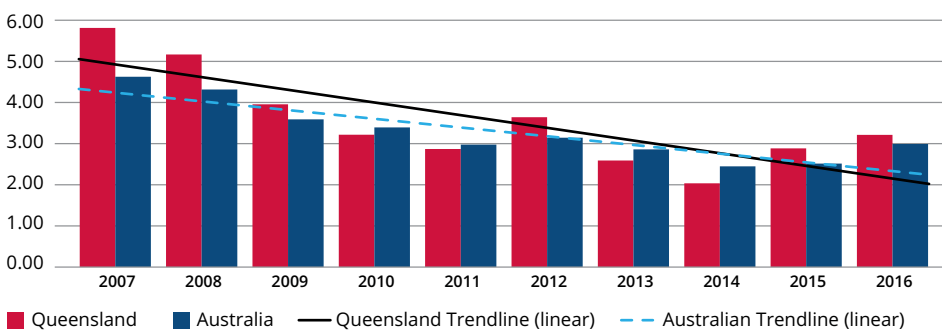
- Understand that drivers often fail to see motorcyclists. Maintain awareness at all times and anticipate the likely behaviour of surrounding motorists. Avoid riding in the blind spots of drivers.
- Don't let others influence you to take risks. Enjoy your ride without being influenced to push your limits or 'bend' the road rules.
- Riding a motorcycle is more mentally and physically demanding than driving a car. Rest regularly on long trips.

After the ride

- Review your ride, think about what went well and what didn't go so well, and reflect on what improvements and cautions you could consider for the future.

For further safety tips, protective clothing recommendations, Queensland road rule information, and the Motorcyclist Riders' Guide visit <http://www.tmr.qld.gov.au/Safety/Motorcycle-safety>

Figure 2: Queensland and Australian motorcycle/moped rider and pillion fatalities per 10,000 registered motorcycles



CARRS-Q'S RESEARCH IN THIS AREA

- Risk taking attitudes and safety perceptions of motorcyclists in Queensland for TMR.
- Review of post-licence motorcycle rider training options available in NSW.
- Motorcycle Rider Safety project for TMR.
- Motorcyclists' protective apparel observational studies.
- APEC – Compendium of best practices on motorcycle and scooter safety at <https://eprints.qut.edu.au/58798/>

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STATE OF THE ROAD is CARRS-Q's series of Fact Sheets on a range of road safety and injury prevention issues. They are provided as a community service and feature information drawn from CARRS-Q's research and external sources. See the reference list for content authors.

FOR MORE INFORMATION

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