

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 2019, 1 in 5 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 acknowledges 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 trending slowly downwards over the decade (Figure 1), 2016 was a particularly bad year for fatal motorcycle crashes¹.

In Australia

- In 2019, 208 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 pillion account for approximately 18% of all road crash deaths¹ and an even higher proportion of serious injuries.
- 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 33.6% between 2010-2019⁴. In comparison, passenger vehicle registrations only increased by 19.5% over the same period.
- The rate of motorcyclist fatalities per registered motorcycle has been trending downward for the last decade (Figure 2)^{1,4}. However, the increase seen in the rate during 2015-16 is concerning.

During 2019 in Queensland

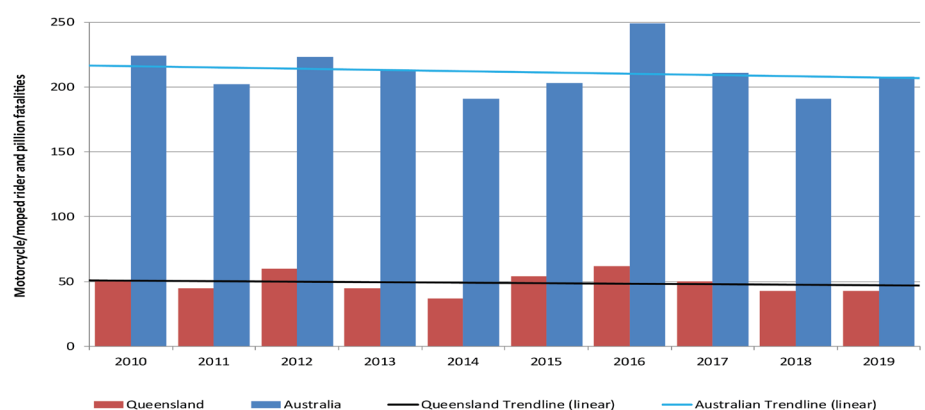
- 43 fatalities were motorcyclists. This number has remained steady compared to the previous year, and is a 12.2% decrease on the previous five year average¹.
- Motorcycles accounted for only 5.0% of Queensland vehicle registrations, yet motorcyclists accounted for 19.8% of the state road fatalities^{1,4}.

- 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 2018, 961 motorcyclists and 61 moped riders were hospitalised as a result of Queensland road crashes, which accounted for 15% of all hospitalised road crash injuries. These statistics are consistent with the previous 5-year (2013-2017) averages (947 motorcyclists, 63 moped riders)⁸.

There have been two major changes that have contributed to the growth in motorcycling:

- 1. An increase in older (and often returning) riders.** 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 group⁹.
- 2. Evidence suggests that increasing congestion, the availability of parking, and travel costs** have encouraged the use of mopeds (up to 50cc) and scooters (over 50cc) for transport. There was a 15-fold increase in moped registrations in

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



Queensland between 2001 and 2009¹⁰.

Who is crashing?

In Queensland between 2016 and 2018:

- Motorcycle riders and pillion passengers aged 40-49 years comprised 28% of motorcyclist fatalities and 19% of motorcyclist non-fatal injuries, while those aged 30-39 years comprised 19% of fatalities and 19% of non-fatal injuries. Those aged 50-59 years comprised 16% of fatalities and 18% of non-fatal injuries^{1,11}.
- Pillion passengers accounted for 1.3% of the motorcyclist fatalities in the period and 4.9% of the motorcyclist non-fatal injuries.
- Males made up the vast majority of fatalities and non-fatal injuries (93.5% and 88.7% respectively).

How are they crashing?

- In Queensland between 2016 and 2018, 50.3% 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 crashes¹². Another vehicle, other than the motorcyclist, is at fault in approximately one-third of these crashes, which commonly involves violations of the motorcyclist's 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 barriers¹².

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^{11,12}. 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 injuries¹².

TIPS FOR STAYING SAFE

Before you ride

- **Check your motorcycle and 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.

- **You and your pillion passenger should always wear protective gear**, even if you expect to be travelling at low speeds: approved helmet, boots that protect your ankles, jacket with impact protectors, motorcycle gloves, and long pants with suitable protective qualities. The award winning Motorcycle Clothing Assessment Program (MotoCAP), launched in 2018, provides safety and comfort ratings of selected motorcycle apparel.

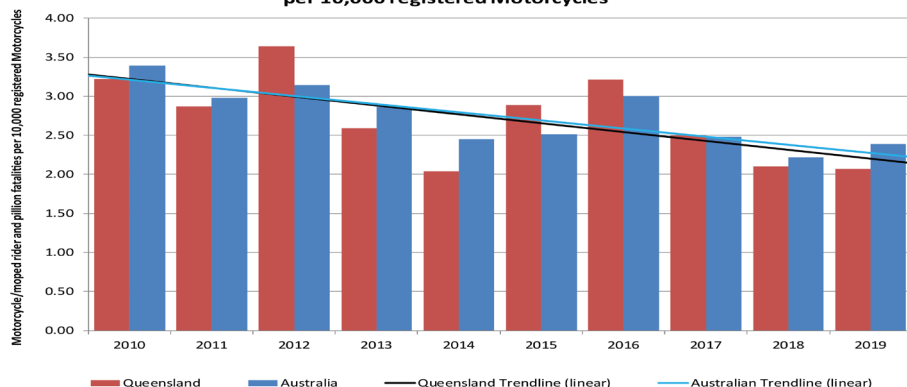
During your ride

- **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 other vehicles.
- **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 rides.**

After the ride

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

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



CARRS-Q WORK IN THIS AREA

- APEC – Compendium of best practices on motorcycle and scooter safety.
- Using instrumented motorcycle data to study road factors influencing motorcycle crash risk.
- Risk taking attitudes and safety perceptions of motorcyclists in Queensland.
- Review of post-licence motorcycle rider training.
- Motorcyclists' protective apparel observational studies.

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