

Motorcyclists

Road crashes in South Australia, 2019-2023

Overview

Between 2019 and 2023, motorcyclists represented 24% of serious injuries and 19% of fatalities on our roads. On average, 18 motorcyclists are killed and 187 are seriously injured on South Australian roads each year.

Motorcycle riders without proper gear are significantly more likely to suffer serious injuries in a crash. Wearing protective gear, such as motorcycle jackets, helmets, gloves, pants, and boots reduces the severity of injuries for motorcycle riders¹.

Most motorcycle crashes occur on straight level roads in dry conditions. More than half (54%) of all crashes resulting in a life lost or serious injury were single vehicle crashes involving only the motorcycle. Intersection crashes accounted for 44% of crashes resulting in a life lost or serious injury in the Adelaide metropolitan area.

42% of motorcyclist lives lost and serious injuries were aged over 45 years and 95% were male.

In terms of drugs and alcohol involvement, 19% of the riders killed had an illegal blood alcohol concentration and 34% tested positive to drugs.

¹De Rome, L., Ivers, R., Fitzharris, M., Du, W., Haworth, N., Heritier, S., & Richardson, D. (2011). Motorcycle protective clothing: Protection from injury or just the weather? *Accident Analysis and Prevention*, 43(6), 1893-1900.

<https://doi.org/10.1016/j.aap.2011.04.027>

Table 1 shows the number of motorcycle casualties in the past five years by severity of injury. The number of motorcyclists killed has increased by an average of 1.3% per year over the past five years. However, there has been a decreasing trend over the past five years for the total number of motorcycle serious and minor injuries (Table 1).

Table 1: Motorcyclist and pillion passenger casualties, South Australia, 2019-2023

Year	Motorcyclist lives lost	Motorcyclist serious injuries	Motorcyclist minor injuries	Total casualties
2019	17	201	304	522
2020	21	194	268	483
2021	18	193	301	512
2022	13	147	279	439
2023	23	199	264	486
5-year average	18	187	283	488
Trend change	1.3%	-2.9%	-2.4%	-2.4%

Figure 1 indicates the number of motorcycle riders and pillion passengers injured on South Australian roads each year since 2014 and the proportions of motorcyclist casualties compared with the total number of serious road casualties. Motorcyclists have become a larger component of serious road casualties trending upwards from 17% in 2014 of all lives lost and serious injuries to 27% in 2020 and dropping to 24% in 2023. Minor injuries on the other hand have represented between 6% and 8% of all minor injuries over the past 10-year period.

Figure 1: Total motorcycle and pillion passenger injuries as a percentage of all road crash injuries, South Australia, 2014-2023

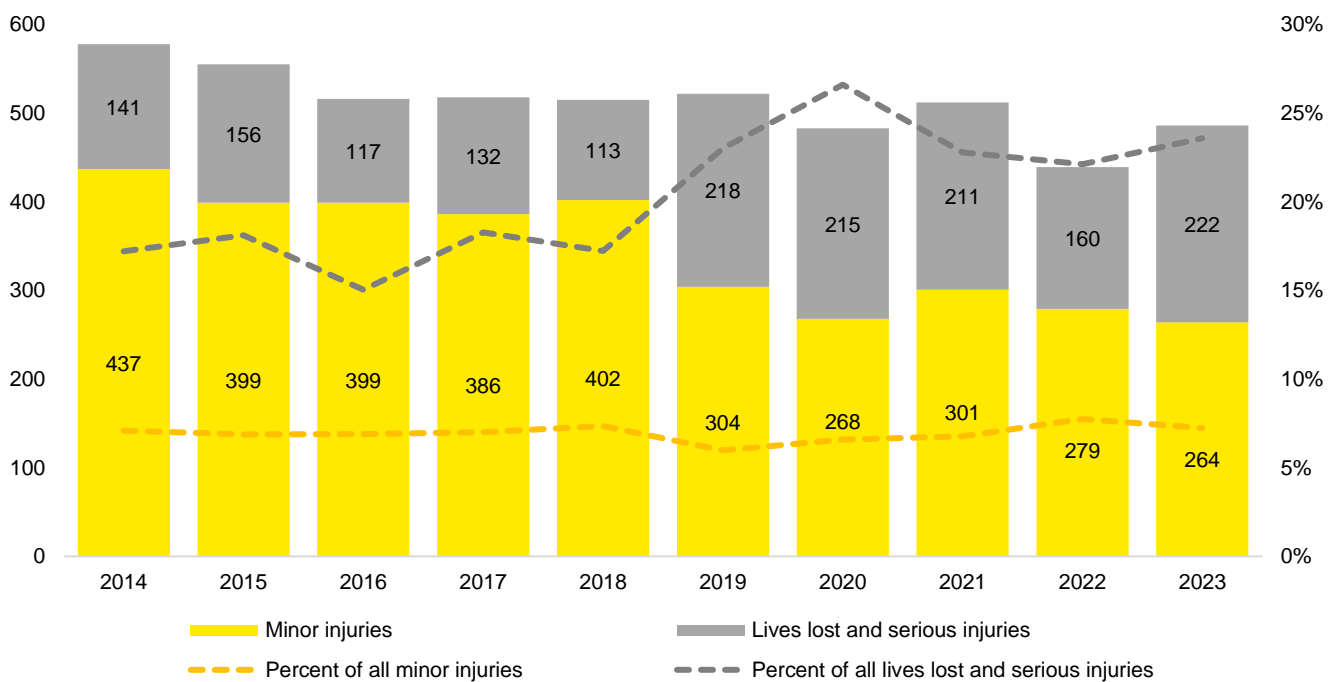


Table 2: Motorcycle registrations and casualties as a percentage of all registered vehicles and road casualties, South Australia, 2019-2023

Year	Registered motorcycles as a % of all registered vehicles	Motorcyclist casualties as a percentage of all casualties		
		Lives lost	Serious injuries	Minor injuries
2019	3.6%	15%	24%	6%
2020	3.6%	23%	27%	7%
2021	3.6%	18%	23%	7%
2022	3.6%	18%	23%	8%
2023	3.6%	20%	24%	7%
2019-2023	3.6%	19%	24%	7%

Is motorcycling increasing?

Table 3 shows that the total number of registered motorcycles in South Australia has increased by 6% from 2019 to 2023. The total number of registered motorcycles were lower in 2023 when compared to 2022. Table 2 also provides a breakdown of the registered motorcycles in South Australia by engine capacity. The greatest increase in registrations was seen in lower powered motorcycles however, there has also been a modest increase in high powered motorcycle registrations in this period.

Table 3: Registered motorcycles, South Australia, 2019-2023

Year	Number of registered motorcycles by engine capacity				Total registered Motorcycles*
	50cc or less (mopeds)	51cc – 250cc	251cc – 660cc	660cc +	
2019	3,537	9,076	12,897	23,286	52,621
2020	3,695	9,224	13,934	24,477	55,089
2021	3,548	9385	14517	25024	56,274
2022	3,614	9,213	14,945	25,217	57,043
2023	3,432	8,951	14,695	24,508	55,960
% change	-3%	-1%	14%	5%	6%

*Registration as of 31 December each year. The breakdown of motorcycles by engine capacity will not equal the total number of motorcycles on register as cc is not recorded or applicable on all cycles. Vehicle types included in motorcycle registration statistics are agricultural cycles, auto cycles, scooters, sidecars and solos.

Motorcycle serious casualty crashes

Between 2019 and 2023 there were 18 crashes where a life was lost and 187 serious injury crashes involving a motorcycle each year on average. Of these:

- 66% of crashes occurred in the metropolitan area
- 54% were motorcycle only crashes, that is they did not involve another vehicle
- 71% of crashes occurred on level roads
- 93% of crashes occurred in dry conditions
- 38% of crashes occurred on a Saturday or Sunday
- 44% of crashes that occurred in metropolitan areas and 18% in regional areas occurred at intersections
- 31% of crashes in the metropolitan area were a result of right turn or right-angle crashes and 17% were hit fixed object type crashes
- 62% of crashes in the regional area were single vehicle run off road crashes
- 65% of crashes in the regional area occurred on sealed roads
- 65% of the crashes in the regional area occurred on straight roads.

Speed limit

Table 4 shows that in the last five years, nearly a quarter of serious casualty motorcycle crashes occurred on roads with a speed limit of 100km/h or above.

Table 4: Proportion of motorcycle serious casualty crashes by speed limit, South Australia, 2019-2023

Speed Limit	Percentage of motorcycle crashes resulting in a life lost or serious injury
less than 50 km/h	2%
50 km/h	21%
60 km/h	30%
70-90 km/h	24%
100 km/h	18%
110 km/h	5%

Motorcycle lives lost and serious injuries

Between 2019 and 2023, 187 motorcyclists were seriously injured and 18 lost their life on average. Of these:

- 96% were riders and 4% were pillion passengers
- 95% of riders and 35% of pillion passengers were male
- 4% were not wearing a helmet at the time of the crash
- 19% of motorcycle rider lives lost had a blood alcohol reading of 0.05 or greater
- 34% of motorcycle riders who lost their life tested positive to cannabis or ecstasy or methamphetamines, or a combination of these.

Licensing status

Between 2019 and 2023, 18% of riders were not licensed for riding a motorcycle when they were involved in a crash where a life was lost or someone was seriously injured.

Sex¹

The majority of motorcycle riders (92%) who lost their life or were seriously injured were male. This is compared to 62% of light vehicle male drivers who lost their life or were seriously injured in South Australia. However, males may have more exposure, with 87% of motorcycle licence holders in South Australia being male.

Pillion passengers

In this five-year period, three pillion passengers lost their life and 34 were seriously injured on South Australian roads. Learner riders are not permitted to carry a pillion passenger unless the passenger holds a current full motorcycle licence (this excludes passengers who hold a Provisional licence). Provisional and full licence riders are allowed to carry passengers.

¹ Sex as captured by SAPOL officer or as recorded in the Department's Registration and Licensing system (TRUMPS). Gender data is not currently collected.

Rider age

Figure 2 shows rider casualties by age group over the past 20 years which shows that the overall number of rider casualties has been slightly decreasing during this time. However, this trend varies by age group.

Motorcyclist casualties in the 16 to 24 age range have increased by an average of 10% in the last decade (2014-2023) compared to the previous 10-year period (2004-2013). However, between 2020 and 2023 motorcycle casualties in the 16 to 24 age group have been the lowest recorded since 2012.

The 25 to 44 year age group has shown a decreasing trend by an average of 29% in the last decade compared to the previous 10 year period. The 45+ age group of riders injured has trended upwards by an average of 22% in the last decade compared to the previous 10-year period. This increase in older rider casualties is likely to be a result of both an increase in the general population of people aged 45 years and above, and an increase in the usage of motorcycles by people in this age group.

Figure 2: Motorcycle rider casualties by age, South Australia, 2004-2023

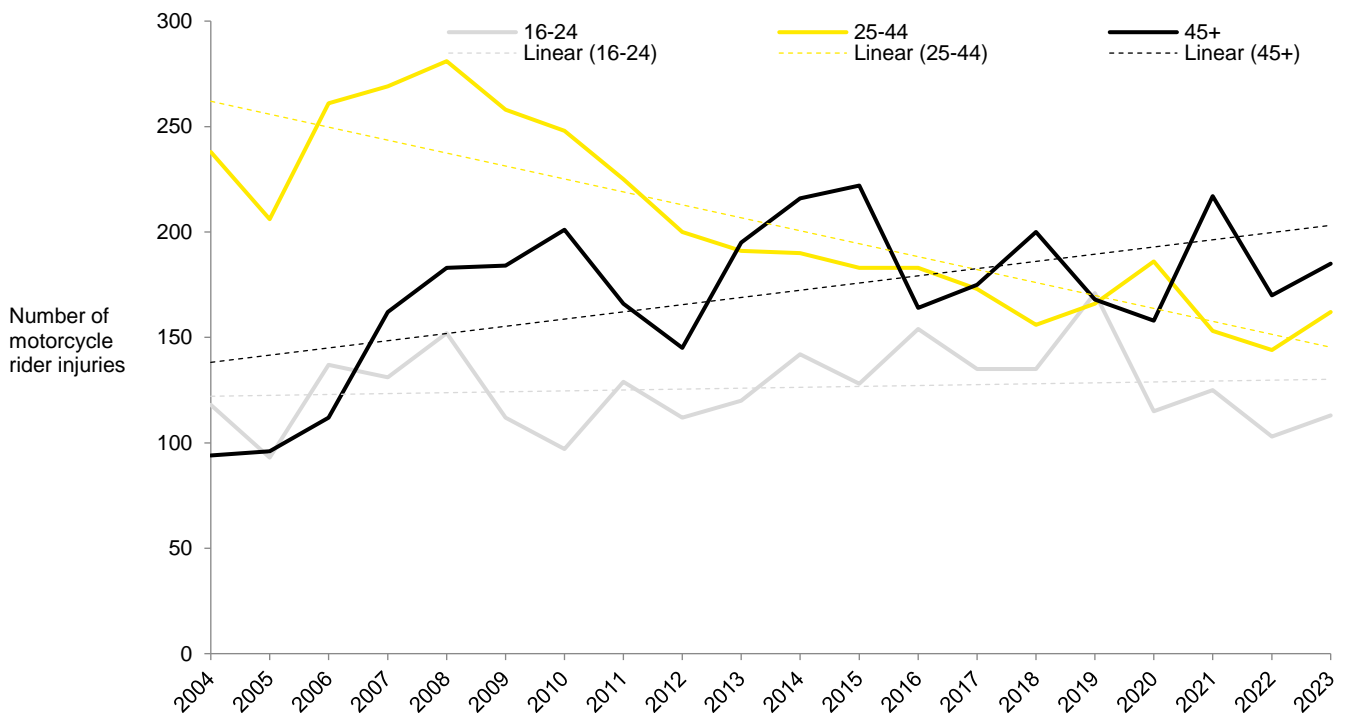
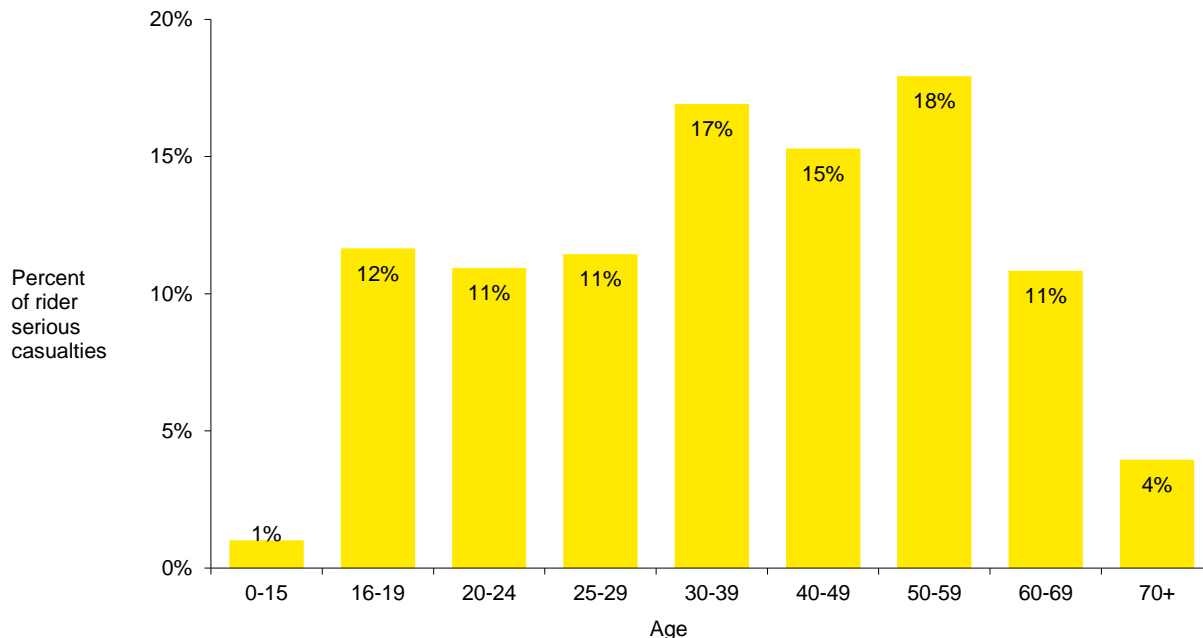


Figure 3 provides a further breakdown of motorcycle riders killed or seriously injured in crashes by age over the past five years.

Figure 3: Percentage of motorcycle rider lives lost and serious injuries by age group, South Australia, 2019-2023



Returning riders may partly account for the increase in riders aged 45+. Research by the Monash University Accident Research Centre (MUARC)² defined a returning rider as someone who:

- used to ride regularly and covered no less than 20,000kms in those years
- stopped riding for a period of five years or more
- returned to riding in the past six months and during this time rode 500-1,000kms.

It is not possible to analyse the riding experience or previous licensing of riders involved in crashes in mass crash data to ascertain the prevalence of returning riders in crashes in South Australia. However, [research undertaken](#) by MUARC provides insight into patterns of riding and risk factors associated with older motorcyclists.

² Hayworth N, Mulvihill C & Symmons, M, 2002, Motorcycling after 30, Report No. 192, MUARC, Clayton VIC.

Scooters and mopeds

A scooter is a motorcycle with a step-through frame and either a platform for the operator's feet or footrests integral with the bodywork. A moped is a scooter capable of a speed not exceeding 50km/h and has an engine capacity not exceeding 50cc. In South Australia, the holder of any class of South Australian driver's licence can ride a moped as long as the moped is registered, insured and compliant with Australian Design Rules. Learner's permit holders cannot legally ride a moped unless the permit is for a motorcycle.

Moped and scooter riders make up a very small part of motorcycle crash statistics. There have been no moped or scooter lives lost in the last five years (Table 5). Over the past five years 13 moped riders and 22 scooter riders have been seriously injured, representing 4% of motorcyclist serious injuries.

Table 5: Scooter rider lives lost and serious injuries, South Australia, 2019-2023

Year	Moped riders (motorcycle < 50 cc)		Scooter riders (scooters 51 cc+)		Total
	Lives lost	Serious injuries	Lives lost	Serious injuries	
2019	0	1	0	3	4
2020	0	5	0	1	6
2021	0	3	0	6	9
2022	0	3	0	5	8
2023	0	1	0	7	8
Total	0	13	0	22	35

South Australia compared to other states and territories

Between 2019 and 2023, motorcycle riders and pillion passengers accounted for 19% of all lives lost in South Australia. This result means South Australia has one of the lowest proportion of lives lost that were motorcycle riders. Queensland and Tasmania had the highest proportion with motorcyclist deaths representing 24% and 21% of all lives lost in these states. The Australian Capital Territory had no motorcyclist deaths during the past five-year period, and in the Northern Territory they represented 10% (Figure 4).

Figure 4: Proportion of lives lost that were motorcyclists, 2019-2023³

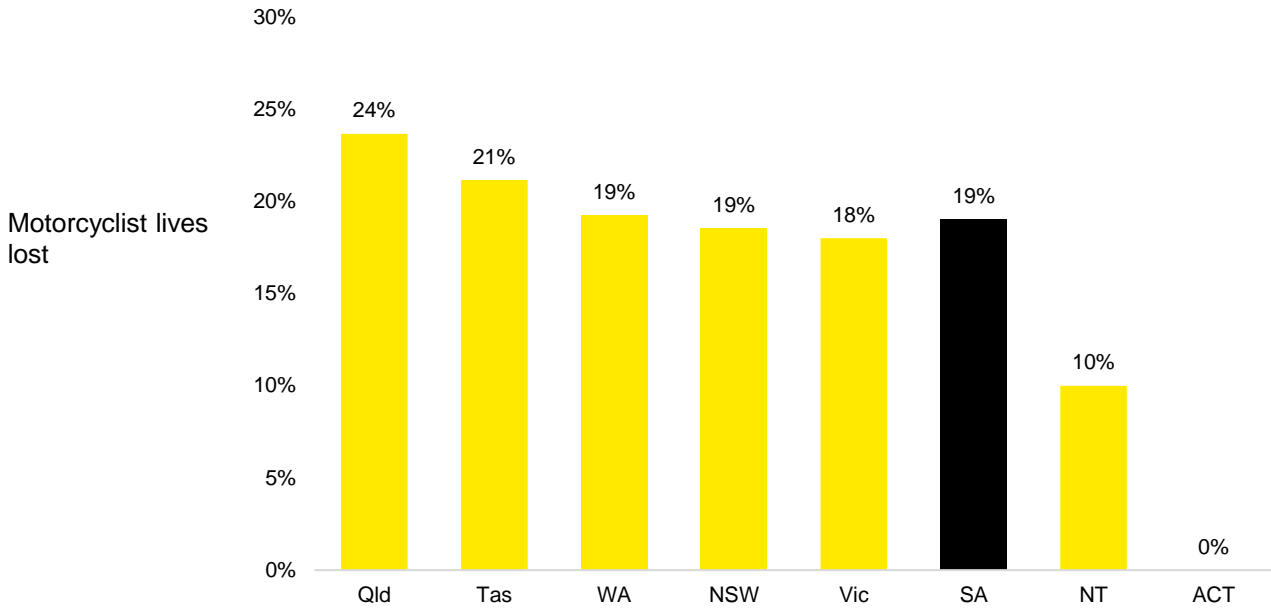


Figure 5 shows the average fatality rate per 10,000 registered motorcycles for each state and territory between 2019 and 2023. South Australia’s rider fatality rate is higher than the national rate.

Figure 5: Motorcycle fatality rate per 10,000 registered motorcycles, average for 2019-2023³



³ Bureau of Infrastructure and Transport Research Economics (BITRE), 2024, <https://www.bitre.gov.au/publications/2024/road-vehicles-australia-january-2024>.

Definitions of police reported casualty types:

Casualty crash – A crash where at least one life is lost, serious injury or minor injury occurs.

Casualty – A life lost, serious injury or minor injury.

Fatal crash – A crash for which there is at least one life lost.

Life lost – A person who dies within 30 days of a crash as a result of injuries sustained in that crash.

Serious casualty crash – A crash where at least one person is seriously injured or loses their life.

Serious injury crash – A non-fatal crash in which at least one person is seriously injured.

Serious injury – A person who sustains injuries and is admitted to hospital for a minimum period of an overnight stay because of a road crash and who does not die as a result of those injuries within 30 days of the crash.

Minor injury crash – A crash in which at least one person sustains an injury, but no person is seriously injured or dies within 30 days of the crash.

Minor injury – A person who sustains injuries that require medical treatment, either by a doctor or in a hospital, because of a road crash and who was not admitted to hospital and who does not die as a result of those injuries within 30 days of the crash.

Data sources

The data presented in this report was obtained from the Department for Transport and Infrastructure Road Crash Database. The information was compiled from police reported road casualty crashes only.

Note- Percentage totals may not add to 100% due to rounding.

Enquiries

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