

MOTORCYCLISTS

Publication date: December 2020

INVOLVED IN ROAD CRASHES IN SOUTH AUSTRALIA

OVERVIEW In the past 5 years (2015-2019) motorcyclists represented 19% of serious injuries and 15% of fatalities on our roads. On average 14 motorcyclists were killed and 133 were seriously injured on South Australian roads each year during the period 2015-2019.

In 2019, there were 17 motorcyclist fatalities and 201 serious injuries.

The majority of motorcycle crashes occur on straight level roads in dry conditions. Over half of serious casualty crashes are single vehicle crashes involving only the motorcycle. Intersection crashes accounted for 46% of serious casualty crashes in the Adelaide metropolitan area and 43% of motorcyclist serious casualties were males aged over 45 years of age.

Almost one quarter of the riders killed had an illegal blood alcohol concentration and one fifth tested positive to drugs.

Table 1: Motorcyclist and pillion passenger casualties, South Australia, 2015-2019

Year	Motorcyclist fatalities	Motorcyclist serious injuries	Motorcyclist minor injuries	Total casualties
2015	11	145	399	555
2016	8	109	399	516
2017	24	108	386	518
2018	10	103	402	515
2019	17	201	304	522
5 year average	14	133	378	525

Table 1 shows the number of motorcycle casualties in the past 5 years by severity of injury. It shows that the total number of casualties has remained stable over the past 5 years. In 2019 the number of serious injuries almost doubled and the number of minor injuries dropped by around the same number.

Figure 1 indicates the number of motorcycle riders and pillion passengers injured on South Australian roads each year since 2010 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 14% in 2010 of all serious casualties to 23% in 2019. Minor injuries on the other hand have represented between 5% and 7% of all minor injuries over the 10 year period.

Figure 1: Total motorcycle and pillion passenger injuries as a percentage of all road crash injuries, South Australia, 2010-2019

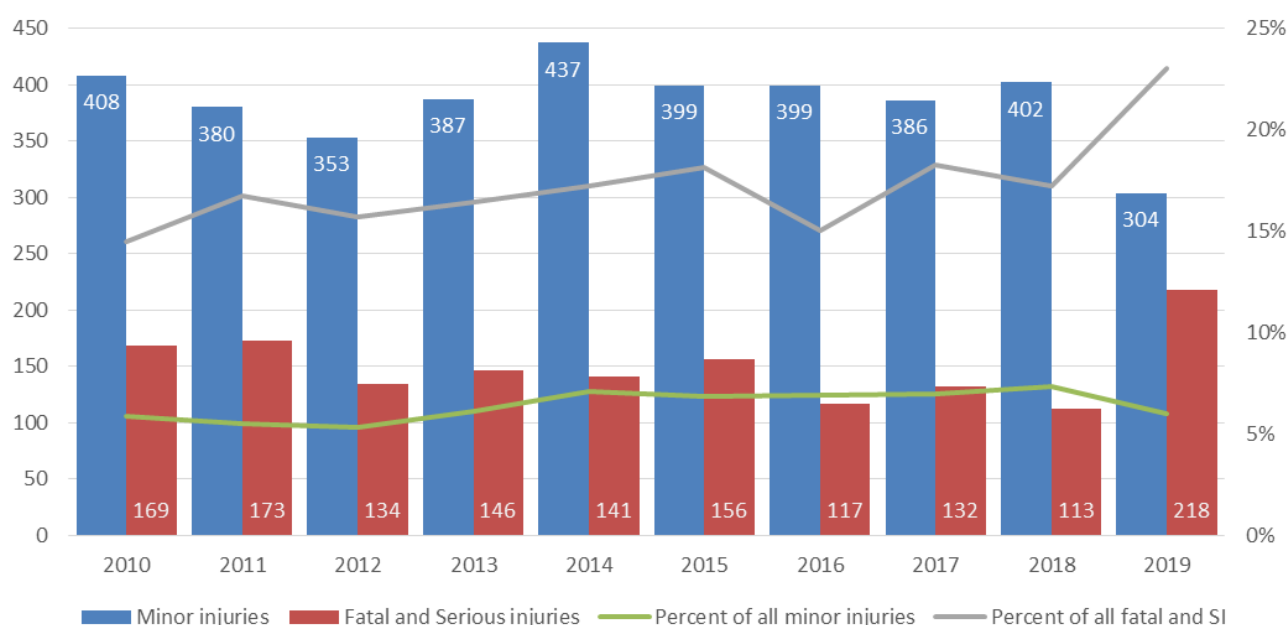


Table 2 shows that on average motorcycles account for around 4% of registered vehicles but motorcyclists account for around 15% of fatalities and 19% of serious injuries.

Table 2: Motorcycle registrations and casualties as a percentage of all registered vehicles and road casualties, South Australia, 2015-2019

Year	Registered motorcycles as a percent of all registered vehicles	Motorcyclist casualties as a percentage of all road fatalities		
		Fatalities	Serious injuries	Minor
2015	3.7%	11%	19%	7%
2016	3.7%	9%	16%	7%
2017	3.6%	24%	17%	7%
2018	3.6%	13%	18%	7%
2019	3.6%	15%	24%	6%
2015-2019	3.6%	15%	19%	7%

Is motorcycling increasing?

Table 3 shows that the total number of registered motorcycles in South Australia has increased by 2% from 2015 to 2019. It also provides a breakdown of the registered motorcycles in South Australia by engine capacity. An increase in larger engine capacity motorbikes is partially offset by a decrease in the less powerful motorbikes, mainly mopeds.

Mopeds are motorcycles capable of a speed not exceeding 50 km/h with an engine capacity not exceeding 50 millilitres. 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.

Table 3: Registered motorcycles, South Australia, 2015-2019

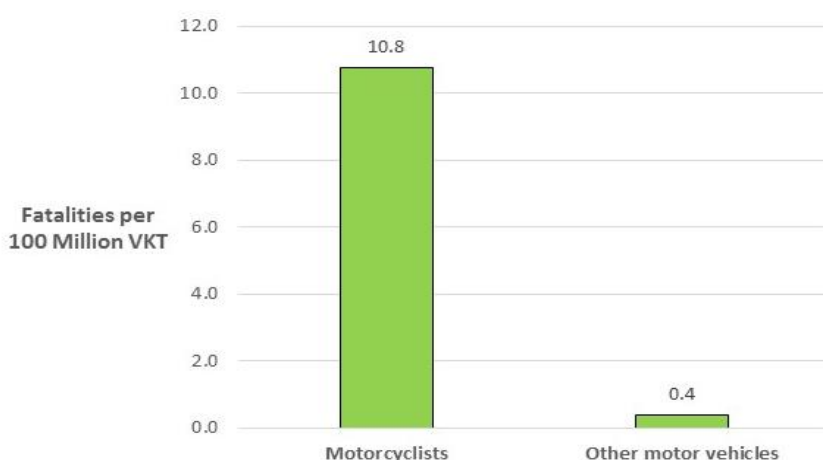
Year	Number of registered motorcycles by engine capacity				Total registered Motorcycles *
	50cc or less (mopeds)	51cc – 250cc	251cc – 660cc	660cc +	
2015	4,640	10,387	11,912	21,644	51,714
2016	4,144	9,949	12,474	22,551	52,216
2017	3,971	9,742	12,516	22,592	52,178
2018	3,607	9,485	12,707	23,070	52,507
2019	3,537	9,076	12,897	23,286	52,621
% change	-24%	-13%	8%	8%	2%

*Registration as of December 31 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.

Risks for motorcycle riders

Motorcycle riders have a higher risk of death or serious injury than other road users. Based on the ABS Survey of Motor Vehicle Use, Australia (June 2018)¹ and number of fatalities, in 2018, there were 10.8 motorcyclist fatalities for every 100 million kilometres travelled (VKT) compared to 0.4 fatalities per 100 million VKT for all other road users in South Australia (Figure 2). A report published by the Centre for Automotive Safety Research (CASR)² also showed that in 2012 for every 100 million kilometres travelled (VKT) by motorcyclists, there were 7.25 motorcycle fatalities, compared to 0.4 fatalities per 100 million VKT.

Figure 2: South Australian fatality rates per 100 million VKT, motorcyclists and other motor vehicles, 2018



¹ Australian Bureau of Statistics 9208.0 - Survey of Motor Vehicle Use, Australia, June 2018, Published in March 2019

² Centre for Automotive Safety Research – *New motorcycle safety technology: An overview for South Australia*. June 2015

Motorcycle Serious Casualty Crashes

On average over the 5 year period (2015-2019) there were 14 fatal and 131 serious injury crashes involving a motorcycle each year. Of these:

- 64% of crashes occurred in the metropolitan area³
- 56% were motorcycle only crashes, that is they did not involve another vehicle
- 69% of crashes occurred on level roads and 94% in dry conditions
- 39% of serious casualty crashes occurred on a Saturday or Sunday
- 46% of crashes in metropolitan area and only 17% in the rural areas occurred at intersections
- 31% of crashes in the metropolitan area were a result of right turn or right angle crashes and 19% were hit fixed object type crashes
- 64% of crashes in the rural area were single vehicle run off road crashes
- 67% of crashes in the rural area occurred on sealed roads
- 69% of the crashes in the rural area occurred on straight roads.

Motorcycle Serious Casualties

On average over the 5 year period (2015-2019) 133 motorcyclists were seriously injured and 14 were killed. Of these:

- 97% were riders and 3% were pillion passengers
- 94% of riders and 29% of pillion passengers were male
- 3% were not wearing a helmet at the time of the crash
- 24% of motorcycle rider fatalities had a blood alcohol reading of 0.05 or greater
- 21% of motorcycle rider fatalities tested positive to cannabis or ecstasy or methamphetamines, or a combination of these.

Speed limit

Table 4 is a breakdown of motorcycle serious casualty crashes by speed limit for the 5 year period 2015-2019. 26% of crashes occurred on roads with a speed limit of 100 km/h or above.

Table 4 – Motorcycle serious casualty crashes by speed limit, South Australia, 2015-2019

Speed Limit	Percent of serious casualty crashes ⁴
less than 50 km/h	2%
50 km/h	20%
60 km/h	28%
70-90 km/h	23%
100 km/h	19%
110 km/h	8%

³ Rural and metropolitan boundaries changed on 1 January 2013 to align with new ABS Greater Adelaide City Statistical Area boundaries, new boundaries have been used in calculations and will not be comparable with previous editions of this report

⁴ Percentages are rounded and made up to a total of 100%

Licensing status

In the past 5 years more than a quarter of riders involved in fatal crashes were not licensed for riding a motorcycle – they were either disqualified or held an expired licence (7%), did not hold an appropriate licence (14%) or had never held a licence (5%). Table 5 presents the licence status for riders involved in fatal crashes during the 5 year period 2015-2019.

Table 5: Licence type – motorcycle operators involved in fatal crashes, South Australia, 2015-2019

Licence Type	Riders involved in fatal crashes	% ⁵
Licensed		
Learner's permit	6	8%
R-Date licence (LAMS restricted)	4	5%
Full R (rider) licence	44	61%
Probationary licence	0	0%
Unlicensed		
Expired, Disqualified or Suspended motorbike licence	5	7%
No appropriate licence	10	14%
Never held a licence	4	5%
Total (Known)	73	100%

Gender

The majority of motorcycle rider serious casualties are male. Males comprised 94% of motorcycle rider serious casualties in 2015-2019 compared to 60% of light vehicle driver serious casualties in South Australia. Males however may have more exposure, with 87% of motorcycle licence holders in South Australia being male.

Pillion Passengers

In the last 5 years 24 pillion passengers 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.

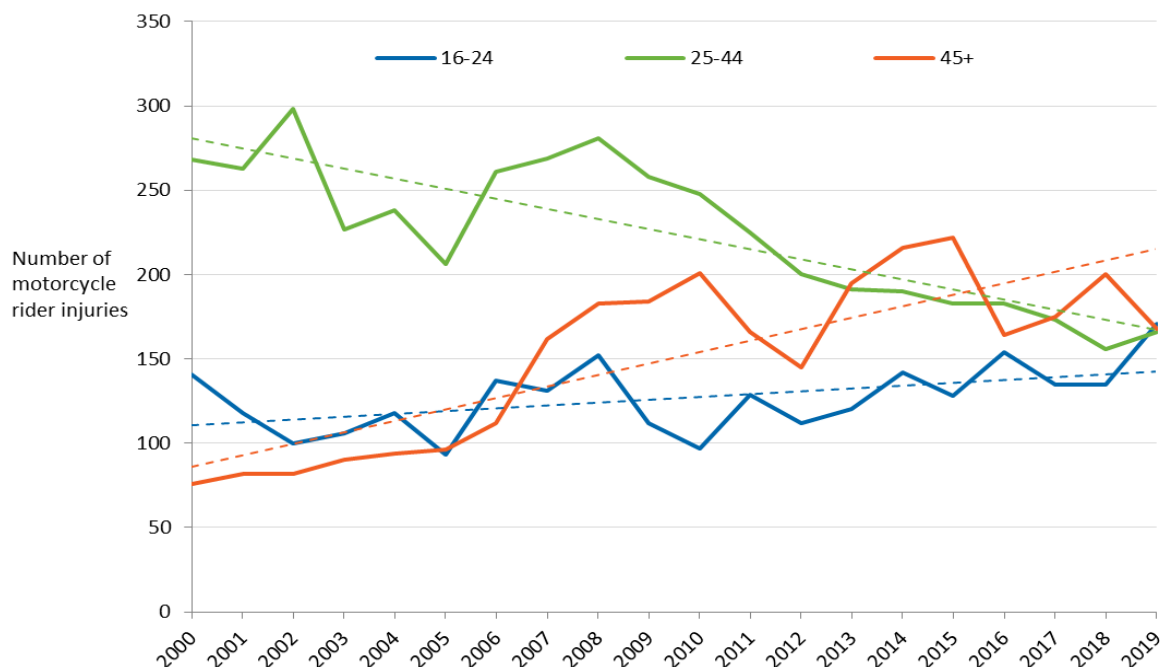
Rider Age

Figure 3 shows rider casualties by age group over the past 20 years. The overall numbers of rider casualties has been relatively constant (at around 500 per year) during this time but the age profile is changing. Motorcyclist casualties in the 16-24 age range have increased by an average of 1.3% per year and by 4.6% per year for the latest 5 year period (2015–2019). The 25-44 year age group has shown a decreasing trend by an average of 2.7% per year over a 20 year period and a 3.5% decrease per year for the last 5 years. The 45+ age group of riders injured has trended upwards by an average of 5.3% per year since 2000, yet a decrease over the past 5 years.

⁵ Percentages are rounded and made up to equal 100%

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 3: Motorcycle rider casualties by age, South Australia, 2000-2019



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

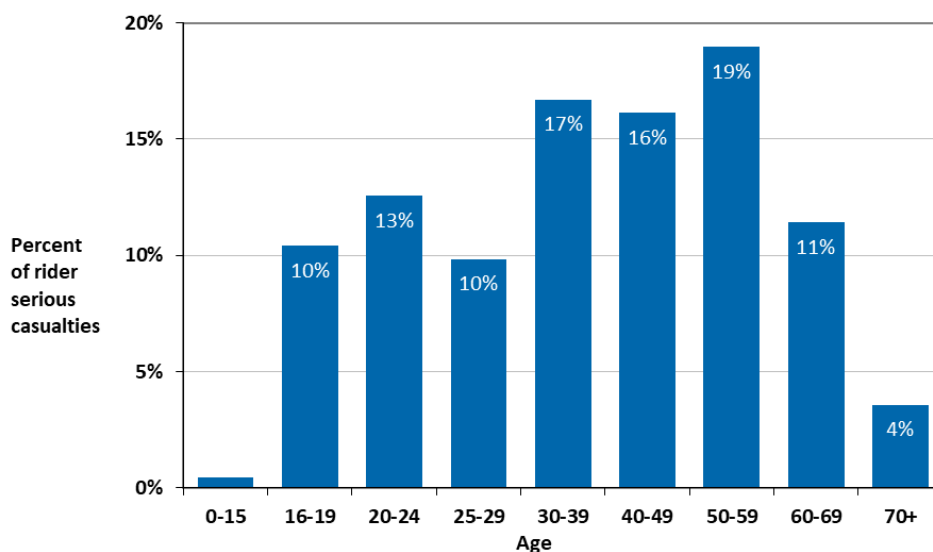
- Used to ride regularly and covered no less than 20,000 kms in those years.
- Stopped riding for a period of five years or more.
- Returned to riding in the past six months and has ridden between 500 and 1,000 kms in that period.

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 MUARC research into patterns of riding and risk factors associated with older motorcyclists can be found here:

<http://www.monash.edu/muarc/research/reports/muarc192>

Figure 4 provides a further breakdown of motorcycle riders killed or seriously injured in crashes by age over the past 5 years.

Figure 4: Percentage of motorcycle rider serious casualties by age group, South Australia, 2015-2019



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 motorcycle capable of a speed not exceeding 50 km/h and has an engine capacity not exceeding 50 millilitres. Moped and scooter riders make up a small part of motorcycle crash statistics (1% of fatalities and 4% of serious injuries). Over the past 5 years 13 moped riders and 12 scooter riders have been seriously injured and one moped rider was killed in 2016 (Table 6).

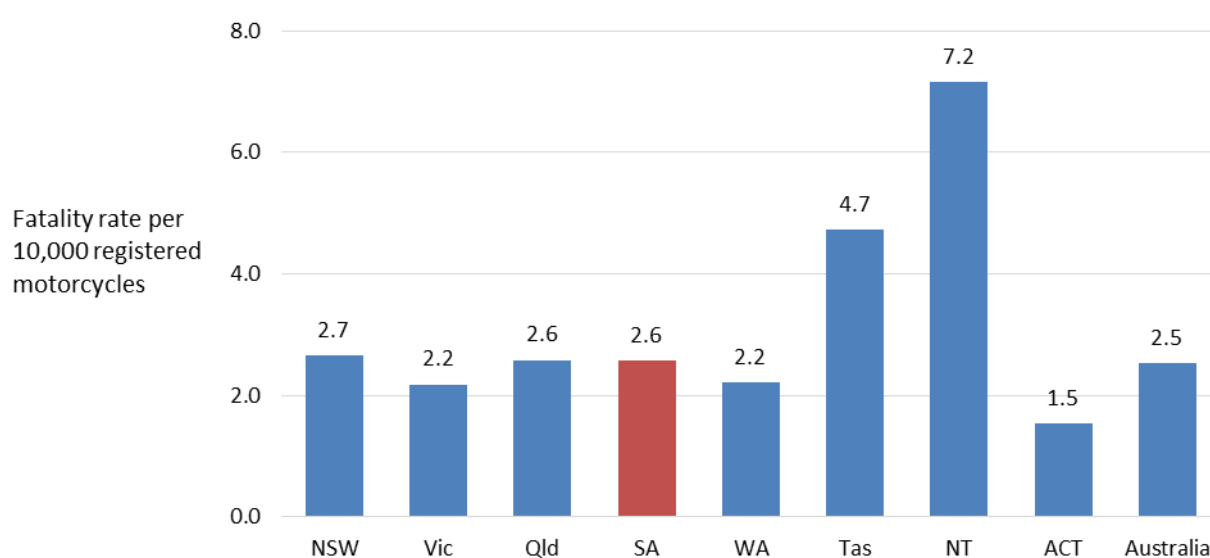
Table 6: Scooter rider serious casualties, South Australia, 2015-2019

Year	Moped riders (motorcycle under 50 cc)		Scooter riders (scooter 51 cc+)		Total
	Fatalities	Serious injuries	Fatalities	Serious injuries	
2015	0	6	0	3	9
2016	1	6	0	5	12
2017	0	0	0	0	0
2018	0	0	0	1	1
2019	0	1	0	3	4
Total	1	13	0	12	26

South Australia compared to other States and Territories

During the 5 year period 2015-2019, motorcycle riders and pillion passengers accounted for 15% of all road fatalities in South Australia. This compares with other states such as Victoria 16%, NSW 17%, Queensland 21% and Western Australia 17%. Motorcyclist deaths account for 22% in the ACT and 28% in Tasmania. Figure 5 shows the average fatality rate per 10,000 registered motorcycles for each state and territory for 2015 - 2019. South Australia's rider fatality rate for is slightly higher than the national rate.

Figure 5 – Motorcycle fatality rate per 10,000 registered motorcycles, average for 2015-2019⁶



⁶ Bureau of Infrastructure, Transport and Regional Economics, Road trauma Australia – 2019 statistical summary.

Definitions of police reported casualty types:

Casualty Crash – crash where at least one fatality, serious injury or minor injury occurs.

Casualty – A fatality, serious injury or minor injury.

Fatal Crash – A crash for which there is at least one fatality.

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

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 as a result 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 injury but no person is seriously injured or dies within 30 days of the crash.

Minor Injury – A person who sustains injuries requiring medical treatment, either by a doctor or in a hospital, as a result 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.

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