

May 2016

MOTORCYCLISTS

INVOLVED IN ROAD CRASHES IN SOUTH AUSTRALIA

OVERVIEW

While road user trauma has generally decreased, motorcyclist's road trauma is decreasing at a slower rate. Fatal and serious injuries amongst motorcyclists have on average trended down by 1.5% per year in the past 5 years. In contrast total fatal and serious injuries in South Australia have on average trended down by 4.1% per year. In the past 5 years motorcyclists represented 17% of serious injuries and 14% of fatalities on our roads.

The majority of motorcycle crashes occur on straight level roads in dry conditions. Over half of serious casualty crashes are single vehicle type crashes involving only the motorcycle. 46% of serious casualty crashes in the Adelaide Metro area occur at intersections and 13% in the rural areas are at intersections.

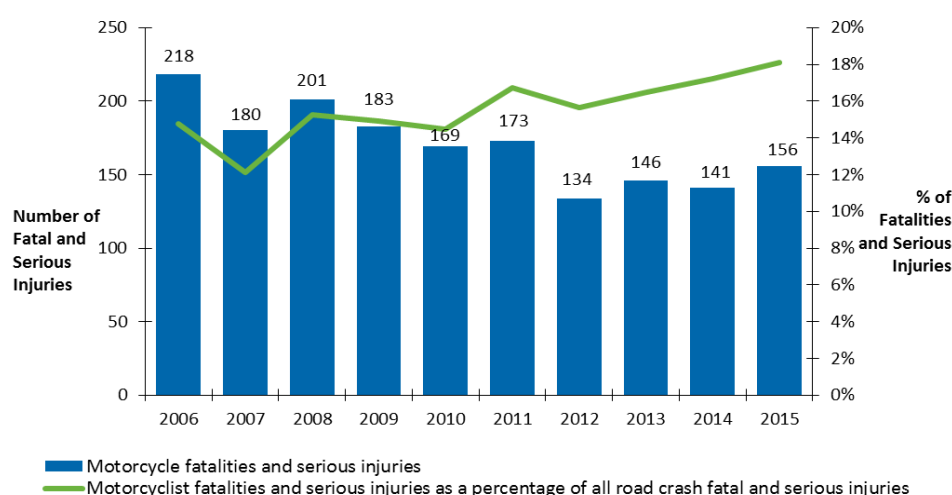
The majority of serious casualties are males aged over 45 years of age. While younger rider serious casualties have been decreasing in numbers they are still over-represented in terms of motorcycle licence and registration numbers. A quarter of the riders killed had an illegal alcohol level and one fifth tested positive to drugs.

Table 1 – Motorcyclist and pillion passenger fatalities and serious injuries, South Australia, 2011-2015

Year	Motorcyclist fatalities	Motorcyclist serious injuries	Total serious casualties
2011	21	152	173
2012	15	119	134
2013	12	134	146
2014	11	130	141
2015	11	145	156
5 year average	14	136	150

Figure 1 shows the number of motorcycle riders and pillion passengers killed or seriously injured on South Australian roads each year since 2006. It also shows the number of motorcyclists killed or seriously injured as a proportion of all serious road casualties. Each year motorcyclists have become a larger part of road serious casualties trending upwards from 15% in 2006 of all serious casualties to 18% in 2015.

Figure 1 –Motorcycle and pillion passenger fatalities and serious injuries as a percentage of all road crash fatal and serious injuries, South Australia, 2006-2015



Motorcyclists have a higher risk of death or serious injury than all other road users. Table 2 below further shows the overrepresentation of motorcyclists on average they account for around 4% of all registered vehicles but around 14% of all fatalities and 17% of serious injuries.

Table 2 – Motorcycle registrations and casualties as a percentage of all registered vehicles and road casualties, South Australia, 2011-2015

Year	Registered motorcycles as a percent of all registered vehicles	Motorcyclist casualties as a percentage of all road fatalities	
		Serious injuries	Fatalities
2011	3.6%	16%	20%
2012	3.7%	16%	16%
2013	3.7%	17%	12%
2014	3.7%	18%	10%
2015	3.7%	19%	11%
2011-2015	3.7%	17%	14%

Is motorcycling increasing?

Table 3 shows that the number of registered motorcycles in South Australia has increased by 9% from 47,655 in 2011 to 51,714 in 2015. It also provides a breakdown of the registered motorcycles in South Australia by engine capacity. It can be seen that this increase is partially offset by an increase in 251cc+ bikes and a decrease in the less powerful motorbikes mainly mopeds.

Mopeds are motorcycles capable of a speed not exceeding 50 km/h and have an engine with a 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. The holder of a learner's permit cannot ride a moped unless the permit is for a motorcycle.

Table 3: Registered motorcycles, South Australia, 2011 - 2015

Year	Number of registered motorcycles by engine capacity				Total registered Motorcycles *
	50cc or less (mopeds)	51cc – 250cc	251cc – 660cc	660cc +	
2011	5,492	10,476	10,059	18,426	47,655
2012	5,389	10,765	10,406	19,317	49,136
2013	5,171	10,814	11,063	20,295	50,527
2014	4,897	10,693	11,499	21,151	51,393
2015	4,640	10,387	11,912	21,644	51,714
% change	-16%	-1%	18%	17%	9%

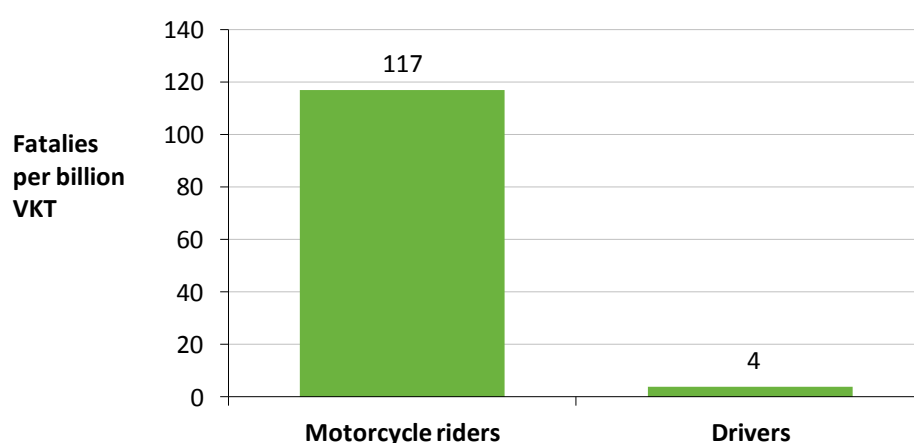
*Registration as of December 31 each year. The breakdown of motorcycles by engine capacity will not equal the total number of motorcycles on register as cc is not recorded or applicable on all cycles. Vehicle types included in motorcycle registration statistics are Agricultural cycles, Auto cycles, Scooters,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

Risks for motorcycle riders

Motorcycle riders experience a higher risk of death and serious injury compared to other road users. Australian research outlined in figure 2 has shown there is a significant difference in risk between motorcycle riders and other vehicle operators.

Figure 2 shows that for every 1 billion kilometres travelled by motorcycle riders, there were 117 motorcycle rider fatalities. This is almost 30 times the number recorded by operators of other vehicle types, who recorded fewer than 4 fatalities per 1 billion vehicle kilometres travelled (VKT).

Figure 2 – Australian fatality rates per billion VKT, motorcycle riders and drivers of other vehicles, 2007¹



Motorcycle Serious Casualty Crashes

On average over the 5-year period, 2011-2015 there were 146 fatal and serious injury crashes involving a motorcycle each year. Of these:

¹ Department of Infrastructure, Transport, Regional Development and Local Government – Research and Analysis Report Road Safety Monograph 20 – Fatal and serious road crashes involving motorcyclists.

- 63% of crashes occurred in metropolitan Adelaide²
- 53% were motorcycle only crashes that is they did not involve another vehicle
- 68% of crashes in the rural area were single vehicle run off road crashes
- 32% of crashes in the metro area were a result of right turn or right angle and 23% were hit fixed object type crashes
- 68% of crashes occur on level roads and 92% in dry conditions
- 66% of crashes in the metro area occur on straight roads and 56% on straight roads in the rural area
- 69% of crashes in the rural area occur on sealed roads
- 38% of serious casualty crashes occurred on a Saturday or Sunday.

Motorcycle Serious Casualties

On average over the 5-year period, 2011-2015 there were 144 motorcycle riders and six pillion passengers killed or seriously injured each year. Of these:

- 93% of riders and 16% of pillion passengers were male
- 5% 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
- 19% 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 between 2011 and 2015. 28% 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, 2011-2015

Speed Limit	% of serious casualty crashes
less than 50 km/h	1%
50 km/h	21%
60 km/h	28%
70-90 km/h	22%
100 km/h	20%
110 km/h	8%

Licensing status

A significant proportion of riders involved in fatal crashes do not hold an appropriate licence. A fifth of riders were not licensed for riding a motorcycle – they were either disqualified or expired (3%), did not hold an appropriate licence (14%) or had never held a licence (3%). Table 5 presents the licence status for riders involved in fatal crashes during the 5 year period 2011-2015.

² Rural and metro 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.

Table 5: Licence type – motorcycle operators involved in fatal crashes, South Australia, 2011-2015

Licence Type	Riders involved in fatal crashes	%
Licensed		
Learner's permit	4	6%
R-Date licence (LAMS restricted)	1	1%
Full R (rider) licence	51	73%
Probationary licence	0	0%
Unlicensed		
Expired, Disqualified or Suspended motorbike licence	2	3%
Not appropriate licence	10	14%
Never held a licence	2	3%
Total (Known)	70	100%

Gender

The overwhelming majority of motorcycle rider serious casualties are male. Males comprise 93% of motorcycle rider serious casualties in 2011 - 2015 compared to 60% of light vehicle driver serious casualties in South Australia. Males however may have more exposure, in South Australia 86% of motorcycle licence holders are male.

Pillion Passengers

On average, 1 pillion passenger is killed and 6 are seriously injured per year. 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 serious casualties among riders with respect to their age group over time. The overall numbers of rider serious casualties have decreased by an average of 0.7% per year in the last 20 years. However the age of casualties is changing overtime. Those in the 16-24 age range have trended down by an average of 4.5% per year, and the 25-44 year age group have trended down by an average of 2.8% per year. The 45+ age group of riders killed and seriously injured has trended upwards by an average of 6.8% per year since 1996. This 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 motorcycle in this age group. Figure 4 is a further breakdown of motorcycle rider serious casualties over the past 5 years. 'Returning riders' may account for the increase in riders aged 45+, research by the Monash University Accident Research Centre 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 Monash 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 3: Motorcycle rider serious casualties by age, South Australia, 1996-2015

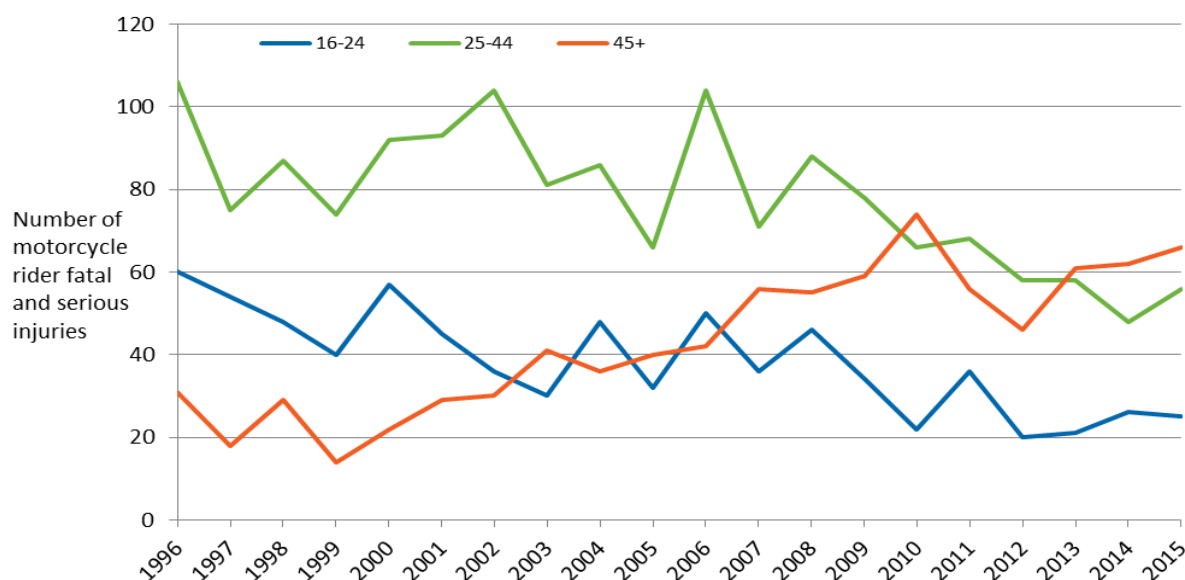
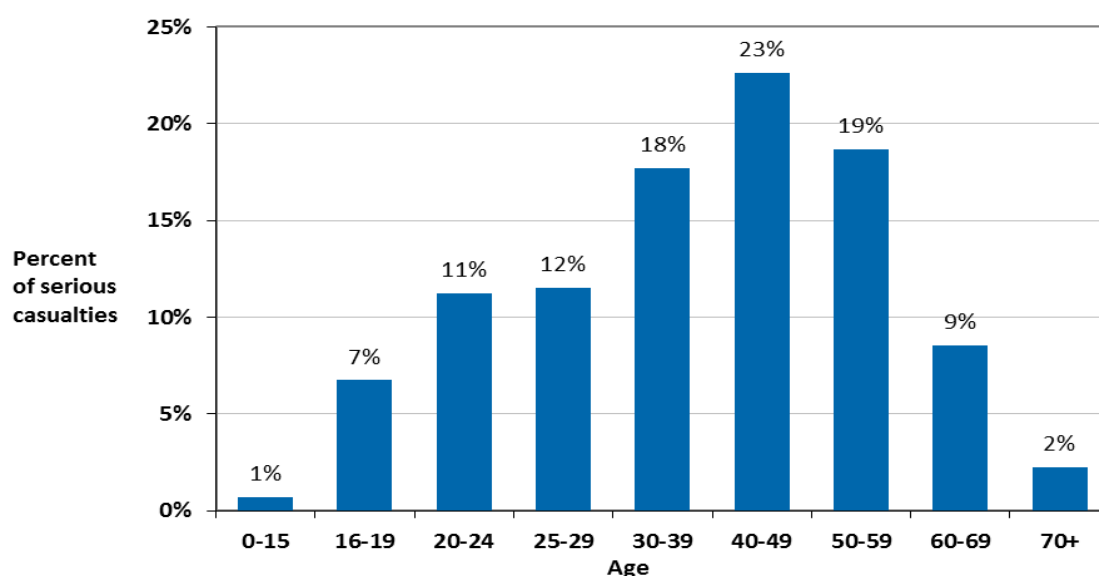


Figure 4 - Percentage of motorcycle rider serious casualties by age group, South Australia, 2011-2015



Scooters/ Mopeds

A scooter is a motorcycle with 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 with a capacity not exceeding 50 millilitres. Moped and scooter riders make a small part of motorcycle

crash statistics (0% of fatalities and 9% of serious injuries). Over the past 5 years 33 moped riders and 28 scooter riders have been seriously injured and no fatalities have been recorded as seen in table 6.

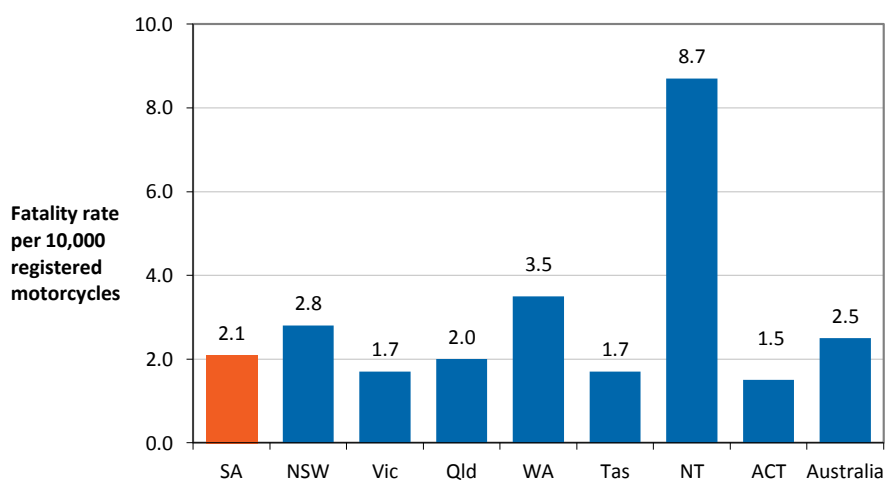
Table 6 – Scooter rider serious casualties, South Australia, 2011-2015

Year	Moped Riders (motorcycle under 50 cc)		Scooter Riders (scooter 51 cc+)		Total
	Fatalities	Serious injuries	Fatalities	Serious injuries	
2011	0	8	0	5	13
2012	0	5	0	3	8
2013	0	8	0	12	20
2014	0	6	0	5	11
2015	0	6	0	3	9
Total	0	33	0	28	61

SA comparison to other States and Territories

During the 5 year period 2011-2015³, motorcycle riders and pillion passengers accounted for 14% of all road fatalities in South Australia. This compares with other states such as Victoria 16%, NSW 17%, Queensland 17% and Western Australia 18%. Figure 6 shows the fatality rate per 10,000 registered motorcycles for each State and Territory for 2014. South Australia's rider fatality rate for 2014 is lower than the national rate.

Figure 6 – Motorcycle fatality rate per 10,000 registered motorcycles, 2014⁴



³ Bureau of Infrastructure, Transport and Regional Economics, Road Deaths Database accessed 2 June 2016. 2015 data for other States and Territories is preliminary and subject to change

⁴ Bureau of Infrastructure, Transport and Regional Economics, Road Deaths Australia – 2014 Statistical Summary. 2015 data was not available at time of printing

Definitions of police reported casualty types:

Casualty Crash - A 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 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 for at least one person sustains injury but no person is admitted to hospital 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 does not die as a result of those injuries with 30 days of the crash.

Property Damage Only Crash – A crash resulting in property damage in excess of the prescribed amount in which no person is injured or dies within 30 days of the crash.

Data sources

The data presented in this reports was obtained from the Department for Transport, Energy and Infrastructure Road Crash Database, the FAIC and the Bureau of Infrastructure, Transport and Regional Economics. The information was compiled from police reported road casualty crashes only.

Enquiries

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