



# Alcohol Involvement in Road Crashes in South Australia

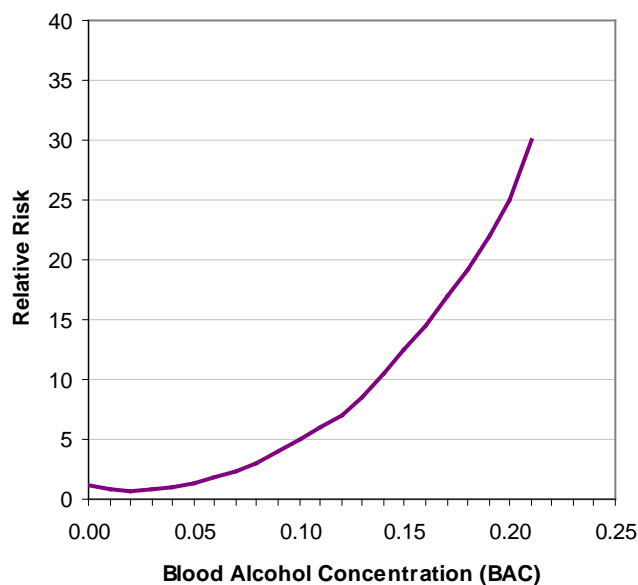
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Alcohol impairs skill and decision making and increases confidence and aggression. It can also lead to an increase in other risk-taking behaviour. Studies have shown that every increase of 0.05 above zero in BAC level doubles the risk of being involved in a casualty crash. In South Australia, the prescribed limit for blood alcohol concentration (BAC) while driving is 0.05mg/l.

### Relative risk of drink driving

Studies have shown that as a driver's alcohol level increases, so does the risk of them being involved in a crash. Above the legal limit of .05, every increase of .05 in BAC doubles the risk of being involved in a casualty crash. The higher the blood alcohol level, the more rapidly that risk increases as shown in Figure 1 below.

**Figure 1 – Relative risk of involvement in a casualty crash by driver's BAC<sup>1</sup>**



Not all fatal and serious crash drivers are tested for blood alcohol content and therefore this fact sheet includes only those who were tested and whose results are known. Therefore, some crashes where alcohol involvement was unknown, may have been alcohol-related.

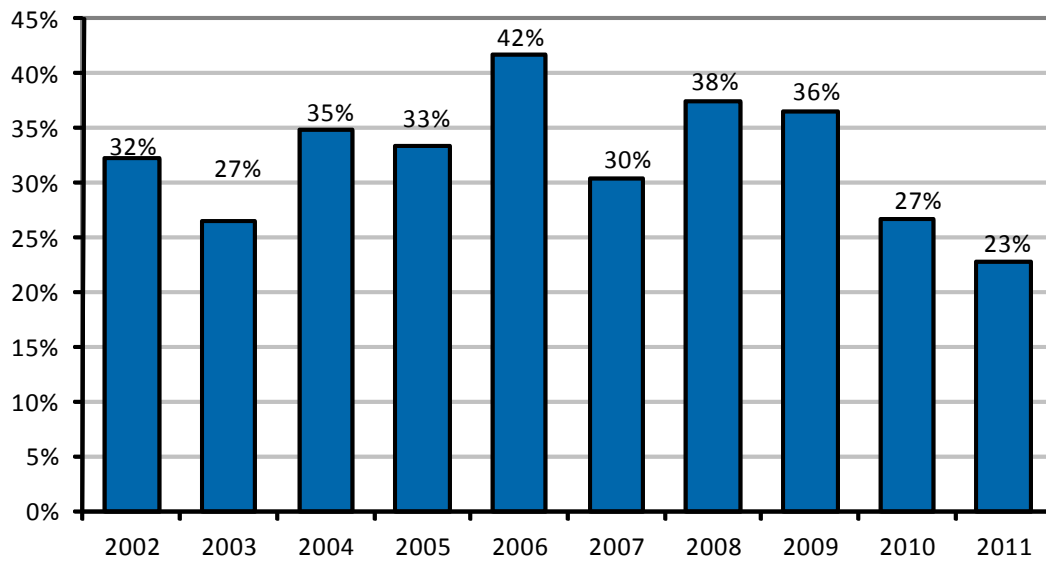
<sup>1</sup> AJ McLean & OT Holubowycz, 'Alcohol and the risk of accident involvement;', in L Goldberg(ed.), *Proc. Eighth International Conference on Alcohol, Drugs and Traffic Safety*, Almgvist & Wilksell International, Stockholm, 1981, vol.1, pp.113-123



Hence, the terminology ‘at least’ may be used to describe the proportion of crashes that involve drink driving.

As shown in Figure 2 the percentage of drivers and riders killed with an illegal BAC peaked in 2006 at 42%. The average percentage of drivers and riders killed with a BAC above .05 for the five years 2007 – 2011 is around 30%

**Figure 2: Percentage of drivers and riders killed, with an illegal BAC, South Australia, 2002-2011**



Between 2007 and 2011 of the drivers and riders seriously injured and tested at least 20% had an illegal BAC. Table 1 shows the number of fatalities and serious injuries of drivers and riders with a BAC above .05.

**Table 1: Fatalities and serious injuries of driver/riders with illegal BAC, South Australia, 2007-2011**

Year	Fatal	Serious Injury
2007	17	107
2008	21	118
2009	27	89
2010	19	65
2011	13	48
<b>Total</b>	<b>97</b>	<b>427</b>

73% of drivers and riders killed and 52% seriously injured with an illegal BAC during 2007 - 2011 were *three or more times* the legal limit.

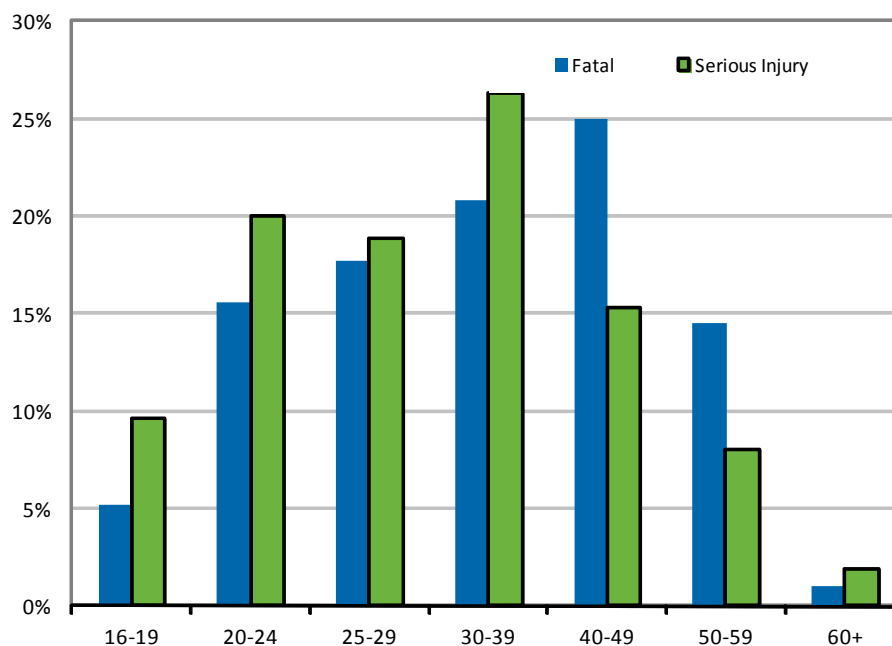
### Gender

Of the 96 drivers and riders with a BAC over the legal limit killed, between 2007 and 2011, 89% of them were male, this is compared to 80% of all driver and rider fatalities for the same period being male. Of the seriously injured drivers and riders over the legal limit for the 2007-2011 period, 82% were male, again this is higher than the 68% of all driver and riders seriously injured being male.

### Age

The 20 – 29 year old age group represents the largest percentage of the population of drivers and riders with an illegal BAC sustaining fatal and serious injuries.

**Figure 3: Percentage of drivers/riders with a BAC above .05 fatally or seriously injured by age group, South Australia, 2007- 2011**



### Crash Types

Fatal and serious injury crashes where the driver or rider had an illegal BAC are most likely to be hit fixed object crashes at 61%, indicating a lack of control of the vehicle under the influence of alcohol. This compares to 30% of all fatal and serious injury crashes generally. The next most frequent crash type is a rollover (20%) this is comparable with rollover serious casualty crashes generally representing 15%.

### Seatbelts and Helmets

Driving with an illegal BAC is already a risk taking behaviour, combine this with failure to wear a seatbelt or helmet and the risk of serious injury and death increases. During the five years between 2007 – 2011, of the drivers killed that had a BAC of .05 or above 52% were not wearing their seatbelt and 20% of riders were not wearing a helmet. This compares to 22% of drivers killed that had a legal BAC not wearing a seatbelt, and all riders with a legal BAC were wearing a helmet.

### Area and Speed Limit

Of drivers and riders killed or seriously injured with an illegal BAC, 59% occurred in rural South Australia. This is compared to 46% all fatal and serious injury crashes occurring in the rural areas.

Table 2 shows the breakdown for crash location speed limits by Metropolitan and Rural areas.

**Table 2: Speed limit by area of drivers and riders killed or seriously injured with a BAC .05 or above, South Australia 2007-2011**

Speed Limit	Metropolitan	Rural
50km/h and under	18%	15%
60km/h	57%	8%
70-90km/h	18%	12%
100km/h and over	7%	65%
<b>Total</b>	<b>100%</b>	<b>100%</b>

36% of drivers and riders killed or seriously injured with an illegal BAC crashed in the postcode that they resided in, of these 70% lived rurally and 30% in the Adelaide metropolitan area. This compares to 23% for all drivers involved in fatal and serious injury crashes. This suggests that drivers with an illegal BAC crash closer to home than other drivers.

### **Month and Day of the Week**

Drink driving serious casualty crashes were spread relatively evenly over the year, ranging between 6% in October and 10% for March, June, August and September.

As expected the majority of drink driving serious casualty crashes take place Friday through to Sunday – 63% occur on these days – this is 16% higher than all fatal and serious injury crashes generally.

### **Time of the Day**

Predictably the majority of drink driving crashes occur between the hours of 6pm and 6am (79%), compared to 39% of fatal and serious injury crashes generally.

### **Pedestrians Affected by Alcohol and/or Other Drugs**

The presence of alcohol or drugs in a pedestrian's system can also impair their ability to safely negotiate roads and traffic. Of the pedestrian fatalities that were tested between 2007 and 2011, 42% were found to have a blood alcohol content of more than 0.05. Of the pedestrians over the limit 67% of them had a BAC of 0.20 or over, indicating that a high level of alcohol in a pedestrian's system increases the risk of being involved in a fatal crash. On average 8% of pedestrians killed and tested for drugs, tested positive to marijuana, MDMA, methamphetamine or a combination of these drugs.

## **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 Casualty Crash** – A crash where at least one fatality or serious injury occurs

**Serious Casualty** – A fatality or serious injury

**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 of Planning, Transport and Infrastructure Road Crash Database. The information was compiled from police reported road casualty crashes only

Figures relating to the current year are preliminary and are subject to revision.

## **Enquiries**

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