ALCOHOL AND DRUGS
IN ROAD CRASHES IN SOUTH AUSTRALIA

OVERVIEW During 2014–2018, on average 12 drivers and motorcycle riders killed per year had an illegal blood alcohol concentration (BAC). The incidence of driver and rider fatalities with an illegal BAC has seen a shift in the last decade. From 2008-2012, 29% of driver and rider fatalities had an illegal BAC, this has decreased to 21% for 2014-2018. In contrast, drug involvement amongst driver and motorcycle rider fatalities has remained fairly steady over the last decade. On average 14 drivers and riders killed tested positive each year. This equates to 25% of drivers/riders killed. Overall, 36% of drivers and motorcycles riders killed test positive to either drugs or alcohol or a combination of both for the 5 year period 2014-2018. This means over a third of vehicle operators killed each year are driving with an illegal BAC and/or drugs in their system. In South Australia, the prescribed limit for blood alcohol concentration (BAC) while driving is 0.05mg/l. Some licences however are subject to a zero BAC. The presence of cannabis, speed, ice, crystal meth or ecstasy detected in a driver also constitutes as an offence.

Risk of drink driving
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. The higher the blood alcohol level, the more rapidly that risk increases as shown in Figure 1.

Figure 1: Relationship between driver’s BAC and relative risk of involvement in a casualty crash


Note: Not all fatal and serious crash drivers are tested for blood alcohol content and presence of drugs, and therefore this fact sheet includes only those who were tested and whose results are known. Therefore, some crashes where alcohol or drug involvement was unknown, may have been alcohol or drug-related. Hence, the terminology ‘at least’ may be used to describe the proportion of crashes that involve drink and drug driving.

**Risk of drug driving**

Driving with THC (cannabis), methylamphetamine (speed, ice or crystal meth) or MDMA (ecstasy) present in saliva or blood has been shown to have the potential to increase the risk of road crashes. Many drivers remain unaware of the effects that these types of drugs can have on their driving ability – including impaired coordination, muscle weakness, impaired reaction time, poor vision, an inability to judge distance and speed and distortions of time, place and space.

**Drivers and Riders**

Figure 2 shows that compared to alcohol-related road fatalities, over the decade, the number of drivers/riders killed testing positive to drugs is marginally decreasing, although there is a significant reduction in the number of drivers/riders killed testing positive to drugs in 2018. Since 2007 the number of drivers and riders killed that have tested positive to an illegal BAC has decreased by an average of 6.6% per year. The number testing positive to drugs has reduced by only 0.5%. Each year since 2014 the number of drivers/riders killed testing positive to drugs has overtaken the number of driver/riders killed with an illegal BAC.

**Figure 2: Number of drivers and riders killed with an illegal BAC or drugs, South Australia, 2007-2018**

![Graph showing the number of drivers and riders killed with an illegal BAC or drugs, South Australia, 2007-2018.](image-url)
Between 2014 and 2018, of the drivers and riders seriously injured and tested at least 12% 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, 2014-2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal</th>
<th>Serious Injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>13</td>
<td>41</td>
</tr>
<tr>
<td>2015</td>
<td>13</td>
<td>51</td>
</tr>
<tr>
<td>2016</td>
<td>9</td>
<td>37</td>
</tr>
<tr>
<td>2017</td>
<td>15</td>
<td>34</td>
</tr>
<tr>
<td>2018</td>
<td>9</td>
<td>34</td>
</tr>
<tr>
<td>Avg</td>
<td>12</td>
<td>39</td>
</tr>
</tbody>
</table>

64% of drivers and riders killed and 47% seriously injured with an illegal BAC during 2014 - 2018 were three or more times the legal limit.

Between 2014 and 2018, 25% of the drivers and riders killed tested positive to THC, Methamphetamine, MDMA, or a combination of these, as shown in Table 2 below.

Table 2: Drivers and riders killed and the percent of those testing positive to THC, Meth or MDMA, South Australia, 2014-2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Driver and rider fatalities</th>
<th>Driver and rider fatalities tested</th>
<th>Tested positive to drugs</th>
<th>Percent tested positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>63</td>
<td>61</td>
<td>15</td>
<td>25%</td>
</tr>
<tr>
<td>2015</td>
<td>64</td>
<td>58</td>
<td>14</td>
<td>24%</td>
</tr>
<tr>
<td>2016</td>
<td>49</td>
<td>47</td>
<td>14</td>
<td>30%</td>
</tr>
<tr>
<td>2017</td>
<td>70</td>
<td>69</td>
<td>17</td>
<td>25%</td>
</tr>
<tr>
<td>2018</td>
<td>51</td>
<td>48</td>
<td>10</td>
<td>21%</td>
</tr>
<tr>
<td>Avg</td>
<td>59</td>
<td>57</td>
<td>14</td>
<td>25%</td>
</tr>
</tbody>
</table>

Of the drivers and riders killed in 2014-18, 36% had either tested positive to drugs listed above, or had an illegal alcohol level or had a combination of both.

Gender

During the reporting period 2014-2018, males represented 76% of the driver and rider fatalities. Of those killed 88% of males had a BAC over the limit. During the reporting period 2014-2018, males represented 69% of the driver and rider serious injuries. Of those seriously injured 82% of males had a BAC over the limit. Of the drivers and riders killed that tested positive to drugs, between 2014 and 2018, 85% were male.
Age

The 20-29 year old age group (20-24 and 25-29 years combined in Figure 3) represents the largest percentage of the population of drivers and riders with an illegal BAC sustaining serious injuries (28%), and fatal injuries (35%) (Figure 3). The 20-29 year old age group also represents the largest percentage of the population of driver and riders killed that tested positive for drugs (38%), followed by the 30-39 and 40-49 year old age group representing 23% and 22% respectively.

Figure 3: Percentage of drivers/riders with a BAC above .05 killed or seriously injured by age group, South Australia, 2014-2018

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 58%, indicating a lack of control of the vehicle under the influence of alcohol. This compares to 33% of all fatal and serious injury crashes generally. The next most frequent crash type is a rollover (22%), this is slightly higher than rollover serious casualty crashes generally which represent 14%.

Fatal crashes where the driver or rider had tested positive for drugs were again hit fixed object crashes (40%). The next most frequent crash type was again rollovers (23%).
**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 reporting period, 2014–2018, of the drivers killed that had a BAC of .05 or above, 49% were not wearing their seatbelt and 17% of riders were not wearing a helmet. This compares to 19% of drivers not under the influence of drugs or alcohol killed not wearing a seatbelt, and 3% of riders not wearing a helmet.

Of the drivers killed between 2014-2018 that tested positive for drugs, 41% of these were not wearing their seatbelt at the time of the crash and 13% of riders who tested positive were not wearing a helmet.

**Area and Speed Limit**

Of the drivers and riders killed or seriously injured with an illegal BAC, 60% of crashes occurred in rural South Australia. This compares to 43% of all fatal and serious injury crashes occurring in the rural areas. Table 3 shows the breakdown of crashes by speed limit and area.

**Table 3: Speed limit and area of drivers and riders killed or seriously injured with a BAC .05 or above, South Australia, 2014-2018**

<table>
<thead>
<tr>
<th>Speed Limit</th>
<th>Greater Adelaide</th>
<th>Rural</th>
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</thead>
<tbody>
<tr>
<td>50 km/h and under</td>
<td>41%</td>
<td>18%</td>
</tr>
<tr>
<td>60 km/h</td>
<td>32%</td>
<td>3%</td>
</tr>
<tr>
<td>70-90 km/h</td>
<td>18%</td>
<td>14%</td>
</tr>
<tr>
<td>100 km/h and over</td>
<td>9%</td>
<td>65%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

80% of drivers and riders killed or seriously injured with an illegal BAC that crashed in rural areas lived in a rural area outside of the Greater Adelaide area.

Of the drivers and riders killed that tested positive for drugs, 67% occurred in rural South Australia.

The majority (77%) of the drug drivers and riders killed in rural areas lived in rural areas.

Rural roads and the rural area is any area outside of the Greater Adelaide area and can include open rural roads and roads within rural cities and towns.
Month and Day of the Week
February had the lowest occurrence of drink drive fatality and serious injuries (6%) while March had the highest proportion (12%). As expected the majority of drink driving serious casualty crashes take place Friday through to Sunday – 60% occur on these days. This compares with 46% of fatal and serious injury crashes generally occurring on a Friday through to Sunday.
February had the lowest number of drug driving fatalities with only 3% for the year occurring in February compared to October when 17% of fatal crashes occurred. The most common day for drug driving fatalities is Sunday (22%).

Time of the Day
The majority of drink driving crashes occur between the hours of 6pm and 6am (74%), compared to 31% of fatal and serious injury crashes generally.
The majority (57%) of drug driving crashes where a driver/rider is killed were also between the hours of 6pm and 6am.

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 2014 and 2018, 24% were found to have a BAC of more than 0.05. Of the pedestrians killed and tested for alcohol, 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. Of the pedestrians killed and tested for drugs, 14% tested positive to THC, MDMA, methamphetamine or a combination of these drugs.
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 of Planning, Transport and Infrastructure Road Crash Database. The information was compiled from police reported road casualty crashes only.

Enquiries

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