ALCOHOL AND DRUGS IN ROAD CRASHES IN SOUTH AUSTRALIA

OVERVIEW Over the past 5 years 2015–2019, 19% of driver and motorcycle rider fatalities had an illegal blood alcohol concentration (BAC) which is a significant decrease from the period 2008-2012, when 29% of driver and rider fatalities had an illegal BAC. In contrast, driver and motorcycle rider fatalities who tested positive to drugs has remained fairly steady over the last decade. 23% of drivers and riders killed tested positive each year. Overall, 34% of drivers and motorcycles riders killed tested positive to either drugs or alcohol or a combination or both for the 5 year period 2015-2019. 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, it is illegal for full licence holders to drive with a BAC limit of 0.05mg/l or more. Some licences however are subject to a zero BAC. The presence of THC (cannabis), Methyl-amphetamine (speed/ice/crystal meth) or MDMA (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, Methyl-amphetamine or MDMA 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.

**Drink or Drug driving trends**

Figure 2 shows that the trend in alcohol-related road fatalities over the period 2008-2019 has decreased quite significantly whilst the trend in the number of drivers and riders killed, who tested positive to drugs has only slightly decreased. Since 2008 the number of drivers and riders killed that have tested positive to an illegal BAC has decreased by an average of 7.3% per year whilst 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, 2008-2019**

![Graph showing the number of drivers and riders killed with an illegal BAC or drugs, South Australia, 2008-2019.](image)

For the 5 year period (2015-2019), on average, at least 11 of the drivers and riders killed and 39 seriously injured had an illegal BAC.

Table 1 shows the number of fatalities and serious injuries of drivers and riders with a BAC of 0.05% or above.
Table 1: Fatalities and serious injuries of driver/riders with illegal BAC, South Australia, 2015-2019

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal</th>
<th>Serious Injury</th>
</tr>
</thead>
<tbody>
<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>2019</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>Avg</td>
<td>11</td>
<td>39</td>
</tr>
</tbody>
</table>

Out of these drink drivers, 70% of the fatalities and 45% of the serious injuries were *three or more times over* the legal limit (0.15% BAC or above).

Between 2015 and 2019, 23% of the drivers and riders killed tested positive to THC, Methylamphetamine, 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, 2015-2019

<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>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>2019</td>
<td>77</td>
<td>75</td>
<td>13</td>
<td>17%</td>
</tr>
<tr>
<td>Avg</td>
<td>59</td>
<td>57</td>
<td>14</td>
<td>23%</td>
</tr>
</tbody>
</table>

Of the drivers and riders killed in 2015-19, 34% had either tested positive to drugs, or had an illegal alcohol level or had a combination of both. In other words, about 1 in 3 drivers killed in road crashes in South Australia over the past 5 years tested positive to drugs and/or alcohol.

**Gender**

For the 5 year period 2015-2019, males accounted for 78% of the driver and rider fatalities. This representation is slightly higher in the case of driver/riders with an illegal BAC, here 88% of those killed area male. Similarly in the case of serious injuries, in general males accounted for 70% of the driver and rider serious injuries, yet of those with an illegal BAC 82% 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 fatalities (30%) or serious injuries (28%). The 20-29 year old age group also represents the largest percentage of the population of drivers 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, 2015-2019

Crash Types

Hit fixed object crashes accounted for 54% of fatal and serious injury crashes where the driver or rider had an illegal BAC, indicating a lack of control of the vehicle under the influence of alcohol. This compares to 27% of all fatal and serious injury crashes being hit fixed object crashes over the past 5 years. Rollover (22%) was the next most prevalent crash type for drink driver casualties, slightly higher than the 15% of rollover serious casualty crashes generally.

Hit fixed object crashes (49%) and rollover crashes (21%) were also the most prevalent where the driver or rider had tested positive for drugs.
Seatbelts and Helmets

Failing to wear a seatbelt or helmet further increases the risk of death or serious injury in the event of a crash. For the 5 year period, 2015–2019, of the drivers killed that had a BAC of 0.05 or above, 55% were not wearing their seatbelt and 7% of rider fatalities were not wearing a helmet. For non-drink drivers 20% of fatalities not wearing a seatbelt, and 4% of riders were not wearing a helmet.

For driver fatalities tested positive for drugs during the 5 year period 2015-2019, 40% of these were not wearing their seatbelt at the time of the crash and 15% 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, 58% of crashes occurred in rural South Australia. This compares to 40% of all fatal and serious injury crashes occurring in the rural areas. Table 3 shows the breakdown of serious casualty 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, 2015-2019

<table>
<thead>
<tr>
<th>Speed Limit</th>
<th>Greater Adelaide</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 km/h and under</td>
<td>38%</td>
<td>17%</td>
</tr>
<tr>
<td>60 km/h</td>
<td>28%</td>
<td>6%</td>
</tr>
<tr>
<td>70-90 km/h</td>
<td>24%</td>
<td>12%</td>
</tr>
<tr>
<td>100 km/h and over</td>
<td>10%</td>
<td>65%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

The majority (81%) of drink driver casualties who crashed in rural areas lived in rural areas. Of the drivers and riders killed that tested positive for drugs, 63% crashed in rural South Australia. The majority (76%) of the drug drivers and riders killed in rural areas also 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%) over the past 5 years. The majority (55%) of drink driving serious casualty crashes take place on weekends (Friday through to Sunday). By comparison 43% of fatal and serious injury crashes in general occurred on a Friday through to Sunday.
February also had the lowest number of drug driving fatalities with only 3% for the year occurring in February compared to April and October when 13% and November when 12% of fatal crashes occurred. The most common day for drug driving fatalities is Sunday (22%) followed by Saturday (18%).

Time of the Day
The majority of drink driving crashes occur between the hours of 6pm and 6am (71%), compared to 30% of fatal and serious injury crashes generally.
The majority (54%) 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 consumption of alcohol or drugs by a pedestrian can also impair their ability to safely negotiate roads and traffic. Of the pedestrian fatalities that were tested between 2015 and 2019, 29% were found to have a BAC of more than 0.05. Of the pedestrians killed and tested for alcohol, 30% of them had a BAC of 0.20 or over, indicating that a high level of alcohol increases the risk of being involved in a fatal crash.
Of the pedestrian road fatalities who were tested for drugs, 19% 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 for Infrastructure and Transport Road Crash Database. The information was compiled from police reported road casualty crashes only.

Enquiries

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