PEDESTRIANS
INVOLVED IN ROAD CRASHES IN SOUTH AUSTRALIA

OVERVIEW Almost everyone is a pedestrian at times and, as such, is a vulnerable road user. Risks to safety are heightened because pedestrians are not surrounded by the protection of a vehicle and in the event of a crash, are more susceptible to the possibility of death or serious injury. As a pedestrian we are at greater risk of death and injury if hit at impact speeds above 30 km/h. Most vulnerable are children and older people if hit above those impact speeds. Pedestrians are the most exposed in busy areas, representing almost 1 in 6 serious casualties on metropolitan roads.

Over the last five years (2012-2016) 1 in every 7 road deaths in South Australia was a pedestrian. In addition to fatalities, there are on average 68 pedestrians seriously injured and 241 who received minor injuries on South Australian roads each year. Please note that the users of wheelchairs, motorised wheelchairs and gopher/mobility scooters are also considered pedestrians and are included as pedestrians in this document.

Figure 1: Pedestrian fatalities per year, South Australia, 2007-2016
Figure 1 shows the number of pedestrian fatalities per year for the period 2007-2016. Whilst in the last ten years pedestrian fatalities have been fluctuating, last year (2016) 9 pedestrians were killed, this is the lowest number in the past 10 years and half the fatalities from the previous year and below the 5 year average of 14.

**Time of Day**

Pedestrian serious crashes occur during all times of the day, however there are peak times when the number of serious casualties is particularly high. Nearly half of all crashes that resulted in a serious or fatal injury of a pedestrian were during the hours of 3pm and 10pm.

**Figure 2: Percentage of crashes in which a pedestrian was killed or seriously injured by time of day, South Australia, 2012-2016**

The risk of a crash involving a pedestrian resulting in a serious or fatal outcome increases substantially during the hours of darkness. Around one third of casualty crashes occur during the hours of 6 pm to 6am and when they did occur 32% resulted in a fatal or serious injury. By comparison of the casualty crashes that occurred during 6am to 6pm, less than a quarter (23%) resulted in fatal or serious injury as illustrated in Table 1.

**Table 1: Percentage of casualty crashes in which a pedestrian was hit by time of day and severity, South Australia, 2012-2016**

<table>
<thead>
<tr>
<th>Time</th>
<th>Minor injury crash</th>
<th>Serious or fatal injury crash</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>6am - 6pm</td>
<td>77%</td>
<td>23%</td>
<td>100%</td>
</tr>
<tr>
<td>6pm - 6am</td>
<td>68%</td>
<td>32%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Figure 3 shows the frequency of fatal and serious injury pedestrian crashes by weekday and indicates the lowest number of crashes occur on a Sunday, the spread across weekdays is somewhat even.

**Figure 3: Percentage of crashes resulting in a fatal or serious injury of a pedestrian by weekday, South Australia, 2012-2016**

![Bar chart showing the percentage of crashes resulting in a fatal or serious injury of a pedestrian by weekday in South Australia, 2012-2016. The lowest percentage is on Sunday, and the spread across weekdays is somewhat even.]

**Rural versus Metropolitan**

During the years 2012-2016, 84% of all crashes that involved a fatality or serious injury of a pedestrian in South Australia occurred in metropolitan areas. This is not surprising given the higher volume of pedestrians and traffic present. Sixteen percent of all serious and fatal crashes in the metropolitan area involved a pedestrian, this compares to 4% in rural South Australia.

Table 2 shows the Local Government Areas where the highest number of fatal and serious injury pedestrian crashes occurred. These crashes represent 68% of all pedestrian serious casualty crashes.
Table 2: Top 11 Local Government Areas where a crash resulting in a fatal or serious injury to a pedestrian occurred, South Australia, 2011-2015

<table>
<thead>
<tr>
<th>Local Government Area</th>
<th>Fatal or serious injury pedestrian crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adelaide</td>
<td>45</td>
</tr>
<tr>
<td>Port Adelaide Enfield</td>
<td>40</td>
</tr>
<tr>
<td>Onkaparinga</td>
<td>30</td>
</tr>
<tr>
<td>Playford</td>
<td>30</td>
</tr>
<tr>
<td>Salisbury</td>
<td>28</td>
</tr>
<tr>
<td>Charles Sturt</td>
<td>28</td>
</tr>
<tr>
<td>Marion</td>
<td>18</td>
</tr>
<tr>
<td>West Torrens</td>
<td>17</td>
</tr>
<tr>
<td>Norwood Payneham St Peters</td>
<td>15</td>
</tr>
<tr>
<td>Holdfast Bay</td>
<td>11</td>
</tr>
<tr>
<td>Tea Tree Gully</td>
<td>11</td>
</tr>
</tbody>
</table>

**Speed Limit of Road**

There is evidence that small reductions in urban travel speeds can markedly reduce the number of fatal pedestrian crashes. On March 1 2003 the default urban speed limit in South Australia was reduced from 60 km/h to 50 km/h. Studies found that on roads where the speed limit was reduced from 60 km/h to 50 km/h the average travelling speed fell by 2.3 km/h in the first year the 50 km/h default limit was introduced and the number of people injured in crashes fell by 24%. The number of hit-pedestrian casualty crashes had a significant drop of 21% in the 3 years after the limit was reduced to 50 km/h.  

**Figure 4: Percentage of crashes resulting in a fatal or serious injury of a pedestrian by speed limit of road, South Australia, 2012-2016**

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1 From the report ‘Further evaluation of the South Australian default 50 km/h speed limit’ CN Kloeden, JE Woolley, AJ McLean CASR report serious CASR034, December 2006
During the years 2012-2016, 43% of all crashes that involved a fatality or serious injury of a pedestrian in South Australia occurred on roads with a 50 km/h speed limit and a further 43% were on roads with a 60 km/h speed limit. This is to be expected as most of the pedestrian activity would occur on these roads.

**Pedestrian Crossings and Traffic Signals**

Pedestrian serious casualties are much higher when no pedestrian crossing or signalised intersection is present. Such casualties are primarily the result of pedestrians attempting to cross the road where there are no facilities to aid them in crossing. Attempting to cross the road where there is no assisting traffic facilities can be further impaired by the presence of alcohol and drugs and also by a person’s age. Younger and older people can have difficulty making speed and gap judgements.

On average 31% of pedestrian fatality and serious injury crashes occur at intersections and 69% at mid-block sections of road (i.e. where there are no intersecting roads). Of those that occurred at intersections, 65% occurred where there was no traffic signal. About 2% of all pedestrian crashes occurred at pedestrian crossings.

**Table 3: Crashes at intersections resulting in a fatality or serious injury of a pedestrian, by control, South Australia, 2012–2016**

<table>
<thead>
<tr>
<th>Intersection Control</th>
<th>Serious Casualty Crashes</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic signals</td>
<td>42</td>
<td>35%</td>
</tr>
<tr>
<td>Stop sign</td>
<td>10</td>
<td>8%</td>
</tr>
<tr>
<td>Give way sign</td>
<td>17</td>
<td>14%</td>
</tr>
<tr>
<td>No control</td>
<td>46</td>
<td>38%</td>
</tr>
<tr>
<td>Roundabout</td>
<td>5</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
Pedestrians affected by Alcohol and/or Other Drugs

The presence of alcohol or drugs in a pedestrian’s system can impair their ability to safely negotiate roads and traffic. Between 2012 and 2016, of the pedestrian fatalities that were tested 17% were found to have a blood alcohol content of more than 0.05. Of those over 0.05, more than half had a very high blood alcohol content of 0.15 or more. On average 12% of pedestrians tested positive to cannabis, MDMA, methamphetamine or a combination of these drugs.

Age of Pedestrians

Figure 5 shows the percent of pedestrians killed or seriously injured by age group along with the percent of the population they represent. This indicates that the most over-represented age groups are the 16–24 year olds and the 70+ age group.

Figure 5: Percent of serious pedestrian casualties by age group and population, South Australia, 2012-2016

Elderly pedestrians have an elevated risk of injury from a collision, in particular with road vehicles. Due to the perceptual, cognitive and physical deterioration associated with ageing, if an older person is hit by a car, the outcome is likely to be more severe resulting in a fatality or serious injury. The higher involvement of older people in pedestrian fatalities is indicative of the relative frailty of older people. Many elderly people also have a greater reliance on walking and are therefore more likely to be exposed to traffic as pedestrians than younger age groups.

Child pedestrians are smaller, harder for drivers to see and less predictable than other pedestrians. Children are more likely to have serious than minor injuries when hit because their whole body is more likely to be hit by the vehicle frontage, compared with adult pedestrians where the legs only are more likely

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to be hit and the body thrown up onto the bonnet. While the statistics do not show child pedestrian casualties to be a major contributor, the emotive nature of the issue cannot be discounted.

Figures 6 and 7 show the number of pedestrian serious injuries and fatalities per 100,000 population in each respective age group. Again it shows that the most over-represented groups are those aged 16-24 years and 70+ age group.

**Figure 6: Pedestrian serious injuries per 100,000 population[^3] by age, South Australia, 2012-2016**

![Figure 6](image)

**Figure 7 – Pedestrian fatalities per 100,000 population[^4] by age, South Australia, 2012-2016**

![Figure 7](image)

[^3]: Australian Bureau of Statistics, Australian Demographic Statistics, Cat no. 3101.0
[^4]: Australian Bureau of Statistics, Australian Demographic Statistics, Cat no. 3101.0
Gender of Pedestrians

Over the last five years a higher proportion of male pedestrians have been involved in serious casualty crashes than female. Of the total number of pedestrians killed and seriously injured between 2012 and 2016, 64% were male. This is indicative of the overall road toll, where males are over-represented in more serious crashes. Males represent the majority of pedestrians seriously injured or killed, however this difference is less prominent in the older age groups and the very young.

Figure 8: Serious and fatal pedestrian injuries by age group and gender, South Australia, 2012-2016

National Comparison

Figure 9 shows the average fatality rate per 100,000 population in the last 5 year period for Australian States and Territories. South Australia currently has a rate of 0.9 deaths per 100,000 population, this is slightly higher than the rate for Australia which is 0.7 deaths.

Figure 9 – Pedestrian fatalities\(^5\) per 100,000 population for states and territories, 2012-2016

\(^5\) Bureau of Infrastructure, Transport and Regional Economics, Road Deaths Australia – 2016 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 duration of at least 24 hours 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 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 within 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 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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