OLDER ROAD USERS
INVOLVED IN ROAD CRASHES IN SOUTH AUSTRALIA

OVERVIEW

During the current reporting period 2014-2018, there are on average 22 road fatalities and 83 serious injuries of persons aged 70 years or above each year. Persons aged 70 or above have in recent years increased their representation in fatalities, they make up 13% of the population yet account for 23% of fatalities but only 13% of serious injuries. Research has shown that although older drivers are involved in a small number of crashes, these crashes are of higher severity, probably because of the frailty of these older users. Older drivers have been shown to be more cautious and to exhibit less illegal and dangerous driving behaviour than other age groups, and there is evidence that older drivers self-regulate to avoid risky situations and times of day.

Older drivers are more likely to be involved in fatal and serious injury crashes at intersections involving right angle crashes, and as they get older they are also more likely to be responsible for the crash they are involved in. However, their rate of involvement (determined by number of licence holders) in serious casualty crashes is lower than their younger counterparts, but increases as the driver ages.

Table 1 is a breakdown of serious casualties of road users aged 70 and over by year. The number of road users killed aged 70 and over has decreased by an average of 6.6% per year over the past 5 years although serious injuries have increased on average by 11.3% per year.

Table 1: Fatalities and serious injuries of road users aged 70 years of age and over, South Australia, 2014-2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal</th>
<th>Serious Injury</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>22</td>
<td>57</td>
<td>79</td>
</tr>
<tr>
<td>2015</td>
<td>23</td>
<td>80</td>
<td>103</td>
</tr>
<tr>
<td>2016</td>
<td>23</td>
<td>87</td>
<td>110</td>
</tr>
<tr>
<td>2017</td>
<td>25</td>
<td>110</td>
<td>135</td>
</tr>
<tr>
<td>2018</td>
<td>15</td>
<td>83</td>
<td>98</td>
</tr>
<tr>
<td>5yr Avg</td>
<td>22</td>
<td>83</td>
<td>105</td>
</tr>
</tbody>
</table>

Figure 1a & b highlight the differences in the distribution of fatalities and serious injuries amongst age groups. 70+ road users are under-represented in serious injuries, yet they are over represented in fatalities.
Older Driver Crash Rates

Older drivers are much less likely to be involved in a serious casualty crash than younger drivers. Younger drivers are 2 times more likely to be involved in a serious injury crash. For drivers/riders aged 16-24, for every 10,000 licences held, 11.2 of those drivers/riders per year were involved in a fatal or serious injury crash. The rate of involvement in a serious casualty crash per 10,000 licences held in the 25-69 year age group was 6.6, and this dropped to 5.6 for drivers aged 70 and over.
Figure 2: Rate of driver/rider involvement in fatal and serious crashes per 10,000 licences held by age, South Australia, 2014-2018

As mentioned earlier, previous research found that although older drivers are involved in a small number of crashes, these crashes are of higher severity, probably because of the frailty of these older users. Older drivers have been shown to be more cautious and to exhibit less illegal and dangerous driving behaviour than other age groups. There is evidence that older drivers self-regulate to avoid risky situations and times of day. Figure 2 can be broken down further, revealing those aged over 70 have a lower crash involvement rate. This rate increase as a driver ages, as seen in Figure 3. It should be noted that licence holders aged 90+ represent less than 1 per cent of all licence holders, and they are involved in on average 5.4 serious casualty crashes per year.

Figure 3: Rate of driver/rider involvement in fatal and serious crashes per 10,000 licences held by age, South Australia, 2014-2018

As a driver ages they are more likely to be responsible for the crash they are involved in. In South Australia, on average, drivers aged 60-69 involved in fatal and serious injury crashes were responsible in 53% of cases, drivers aged 70-79 were responsible in 71% of cases and drivers aged 80 years and over were responsible in 83% of cases. In 2014-2018, drivers aged 70+ were responsible in 82% of fatal crashes they are involved in.
Types of Crashes Involving Older Drivers

Older drivers are more likely to be involved in fatal and serious injury crashes at intersections than other drivers. 47% of older driver crashes occur at intersections, compared to 33% of all serious and fatal crashes generally. As seen in Figure 4, 25% of fatal and serious injury crashes involving older drivers are right angle crashes. This compares to 14% of fatal and serious crashes generally. Intersections and junctions are complex traffic environments, in which the driver has to attend to a variety of information while under time pressures. Common crash types for older drivers are right turn crashes and crashes due to disobeying a traffic signal or sign. Rear end and right turn crashes involving older drivers are also more frequent than fatal and serious injury crashes generally. Older drivers are however, less likely to be involved in a crash that results in hitting a fixed object or rolling over as compared to serious casualty crashes in general.

Figure 4: Types of fatal and serious crashes involving drivers aged 70+ years, South Australia, 2014-2018

Crash Location and Speed Limits

Over half (60%) of fatal and serious injury crashes involving drivers aged 70 and over occur in metropolitan areas. Table 2 shows the breakdown of crashes by speed limits and area. The figures seen are consistent with fatal and serious injury crashes generally.

Table 2: Crash location & speed limits involving drivers aged 70+ years, South Australia, 2014-2018

<table>
<thead>
<tr>
<th>Speed Limit</th>
<th>Metropolitan</th>
<th>Rural</th>
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</thead>
<tbody>
<tr>
<td>50 km/h and under</td>
<td>29%</td>
<td>18%</td>
</tr>
<tr>
<td>60 km/h</td>
<td>49%</td>
<td>8%</td>
</tr>
<tr>
<td>70-90 km/h</td>
<td>15%</td>
<td>9%</td>
</tr>
<tr>
<td>100 km/h and over</td>
<td>6%</td>
<td>65%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

1 Rural and metropolitan 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.
Older drivers are also more likely to be involved in crashes in the locality they reside in (as classified by postcode). 34% of older drivers are involved in fatal and serious crashes in their resident locality, compared to 22% of drivers under the age of 70.

52% of all fatal and serious crashes occur between the hours of 9am and 5pm. For older drivers this rate is much higher with 73% of crashes occurring at this time. The higher proportion for older drivers is to be expected, given that older drivers generally prefer to drive during off peak daylight hours than at night time.

**Older road users**

The next section discusses older road users in crashes, this encompasses all road users including drivers/riders, passengers, cyclists and pedestrians.

In 1999, the fatal and serious injury rate for the 16-24 age group was significantly higher than the 70+ age group up until 2017. The fatal and serious injury rate for the 16-24 age group has decreased at a rate of 7.5%. For the 70+ age group there has also been a moderate decrease at a rate of 1.4% during the same time.

**Figure 5: Fatal and serious injuries, persons 70+ years and 16-24 years, South Australia, 1999-2018**
Older Road User Types

Figure 6 shows that 75% of fatalities and serious injuries among older road users are drivers, 14% are pedestrians, and only 11% of the 70+ age group are motorcyclist, cyclist and gophers. 92% of older road users (including gophers/wheelchairs, excluding motorcyclist and cyclist) fall into these categories, compared to 75% for all road users generally.

**Figure 6: Road users 70+ years, fatalities and serious injuries, South Australia, 2014-2018**

<table>
<thead>
<tr>
<th>Road User Type</th>
<th>Percent of Fatal and Serious Injuries</th>
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<tbody>
<tr>
<td>Driver</td>
<td>53%</td>
</tr>
<tr>
<td>Passenger</td>
<td>22%</td>
</tr>
<tr>
<td>Pedestrian</td>
<td>14%</td>
</tr>
<tr>
<td>Motorcyclist</td>
<td>5%</td>
</tr>
<tr>
<td>Cyclist</td>
<td>4%</td>
</tr>
<tr>
<td>Gopher/Wheelchair</td>
<td>2%</td>
</tr>
</tbody>
</table>

Sex

Males generally far exceed females in road user fatalities and serious injuries. Between 2014 and 2018, 65% of serious road casualties were male and 35% female. However, in the older road user population, the gap between male and females is not as large. Over the age of 70, 51% of serious casualties were male and 49% were women. This can be partly explained by the longer life expectancy of females and a reduction in risk taking behaviour in the older male age groups. Older drivers are far less likely than young drivers to be involved in crashes characterised by loss of control, speeding, risky overtaking or drink driving.

Older Pedestrians

Figure 7 shows the number of pedestrian fatalities and serious injuries per 100,000 population by age group. Elderly pedestrians have a higher risk of collision 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 rather than an 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\(^2\).

**Figure 7: Average pedestrian serious casualties per 100,000 population, South Australia, 2014-2018**

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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