OVERVIEW
There are almost 1.3 million people living in Metropolitan Adelaide. This population size represents 77% of the state’s population. Urban driving generally involves higher volumes of traffic, numerous intersections and increased road use by pedestrians and cyclists compared to rural areas. The majority (86%) of minor injuries occur in the Metropolitan Adelaide area. In contrast 44% of all fatalities and 59% of serious injuries occur on Metropolitan Adelaide roads. 43% of all serious casualty crashes occur at intersections, crashes are more prevalent during the day and most likely to occur on a 60 km/h road.
Over the past 5 years serious injury crashes in Metropolitan Adelaide have reduced on average by 2.4% per year and fatal crashes have decreased on average by 4.8% per year.

Collisions occurring in Metropolitan Adelaide are defined as those occurring on roads in the Greater Adelaide Statistical Area being that which extends from Roseworthy in the north to Sellicks Hill in the south and Harrogate in the east. There are a lower number of fatal crashes in the Metropolitan Adelaide area than in rural areas each year. This reflects the trend seen throughout Australia. The number of fatal crashes in Metropolitan Adelaide has declined over the last 5 years.

Figure 1: Number of fatal crashes by area, South Australia, 2012-2016

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1 Rural and metro 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.
The contrary is true for serious injury crashes, Metropolitan Adelaide experiences more crashes that result in at least one serious injury than in the rural areas. Since 2011 the numbers of serious injury crashes in both Rural SA and Greater Adelaide have declined, however those in the metro area have declined at a faster rate.

**Figure 2 – Number of serious injury crashes by area, South Australia, 2012-2016**

![Graph showing number of serious injury crashes by area from 2012 to 2016]

**Speeds**

The majority of traffic in the Metropolitan Adelaide area travel on roads with a speed limit of 60 km/h as such it is to be expected that more crashes occur on these roads. In addition there is more congestion and opportunity for vehicles and other road users to come into conflict. Over the past 5 years there were on average 39 fatal crashes and 370 serious injury crashes per year in the Metropolitan Adelaide area. 44% of these serious casualty crashes are on 60 km/h roads and 26% are on roads with a speed limit of 50 km/h, as shown in Table 1.

**Table 1: Serious casualty crashes by speed limit, Metropolitan Adelaide, South Australia, 2012-2016**

<table>
<thead>
<tr>
<th>Speed Limit</th>
<th>% of serious casualty crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than 50 km/h</td>
<td>2%</td>
</tr>
<tr>
<td>50 km/h</td>
<td>26%</td>
</tr>
<tr>
<td>60 km/h</td>
<td>44%</td>
</tr>
<tr>
<td>70-90 km/h</td>
<td>22%</td>
</tr>
<tr>
<td>100-110 km/h</td>
<td>6%</td>
</tr>
</tbody>
</table>
Crash Types

The most common type of serious casualty crash in the Metropolitan Adelaide area is when a vehicle collides with a fixed object, accounting for approximately 101 serious casualty crashes per year. The most common objects being struck were trees and poles. Right angle crashes are the next most common crash type. Around 90% of the right angle and right turn crashes occur at intersections. Hitting a pedestrian is also a common type of crash in Metropolitan Adelaide. Approximately 37% of all fatal and serious crashes in the Metropolitan area are single vehicle type crashes.

Figure 3: Average number of fatal and serious crashes by crash type, Metropolitan Adelaide, 2012-2016

This distribution of crash types differ in less severe injury crashes, ones that result in minor injuries commonly occur as a result of a rear end collision.

Figure 4: Average number of minor crashes per year by crash type, Metropolitan Adelaide, 2012-2016
Hit fixed object crashes

In Metropolitan Adelaide, 20% of reported casualty crashes with roadside objects result in a fatality or a serious injury. Other high frequency casualty crash types are hitting a pedestrian and head on crashes, resulting in a serious casualty around one quarter of the time. Left road out of control crashes are less frequent, however result in serious casualty crashes 19% of the time. Looking further into crashes involving hitting fixed objects; contributing factors are likely to be:

- the incompatibility between the types of objects struck
- the crash worthiness of the vehicles colliding with the objects, and
- the speed at which the objects are struck.

As shown in figure 5, the most common type of object struck in serious casualty collisions are trees and poles. There are also a large number of objects coded as ‘other’, this can include but is not limited to fences, embankments, fire hydrants, Telstra or SA Power Networks boxes. This graph includes all objects hit in hit fixed object crashes, ie. some crashes result in a vehicle colliding with more than one roadside object.

Figure 5: Types of objects struck in ‘hit fixed object’ type serious casualty crashes in Metropolitan Adelaide, 2012-2016
**Intersections**

On average, 12 fatal crashes and 165 serious injury crashes occur at intersections in Metropolitan Adelaide each year. These crashes represent 31% of fatal crashes and 45% of serious injury crashes in Metropolitan Adelaide. It is not unusual that crashes are concentrated at intersections because intersections are the point on the roadway system where traffic movements conflict with one another. Of the serious casualty crashes at intersections in Metropolitan Adelaide 38% occurred at intersections with no signal or signed controls, 32% were controlled by traffic signals and the remaining 30% were controlled in other ways, as illustrated in Figure 6.

**Figure 6: Intersection serious casualty crashes and the corresponding traffic control – Metropolitan Adelaide, 2012-2016**

![Pie chart showing traffic control types at intersections in Metropolitan Adelaide]

Serious casualty crashes at intersections with **no control** are primarily right angle (32%) and hit fixed object (18%), other crash types include right turn (15%), hit pedestrian (13%) and rear end (9%). Crashes at **signalised intersections** are largely right turn (32%) and right angle crashes (23%), with a further 16% a result of a rear end collision and 14% are hit pedestrian crashes.

**Time**

Most Metropolitan Adelaide serious casualty crashes occur during daylight hours, for the years 2012-2016, 28% occur in the morning between 6am and midday and 40% occur in the afternoon between midday to 6pm. 23% occur between 6pm and midnight and the remaining 9% occur after midnight and before 6am.
Figure 7: Fatal and serious crashes by time, Metropolitan Adelaide, 2012-2016

Pedestrians
Pedestrian deaths and injuries are more prevalent in metro settings. For the 5 years (2012-2016) 80% of pedestrian fatalities in the state occurred in Metropolitan Adelaide. The highest number of pedestrian casualties (all casualty types) occur in the Adelaide City Council area when comparing to other local government areas in Metropolitan Adelaide. There are on average 11 pedestrian fatalities, 58 serious injuries and 217 minor injuries to pedestrians in Metropolitan Adelaide each year.

Table 2: Pedestrian casualties by severity - Metropolitan Adelaide, South Australia, 2012-2016

<table>
<thead>
<tr>
<th></th>
<th>Fatalities</th>
<th>Serious injuries</th>
<th>Minor injuries</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>6</td>
<td>70</td>
<td>264</td>
<td>340</td>
</tr>
<tr>
<td>2013</td>
<td>12</td>
<td>73</td>
<td>213</td>
<td>298</td>
</tr>
<tr>
<td>2014</td>
<td>15</td>
<td>56</td>
<td>212</td>
<td>283</td>
</tr>
<tr>
<td>2015</td>
<td>14</td>
<td>38</td>
<td>179</td>
<td>231</td>
</tr>
<tr>
<td>2016</td>
<td>8</td>
<td>53</td>
<td>217</td>
<td>278</td>
</tr>
<tr>
<td>5 year average</td>
<td>11</td>
<td>58</td>
<td>217</td>
<td>286</td>
</tr>
</tbody>
</table>

The majority (67%) of pedestrian fatalities and serious injuries occur on midblock sections of the road rather than at intersections and, 76% occurred where there was no traffic control.
The highest frequency of pedestrian fatalities and serious injuries occurred on Saturday between 6pm and midnight. 38% of all serious casualty crashes occur between Midday and 6pm (across all days), the highest frequency day was a Saturday with 16% of serious casualties occurring on that day.

**Cyclists**

Cyclist serious casualties are also more prevalent in urban areas. 85% of cyclist fatalities and serious injuries reported occur on Metropolitan Adelaide roads.

There are on average 2 cyclists killed and 57 seriously injured in the Metropolitan Adelaide area each year.

Just under half of all cyclist fatalities and serious injuries reported occurred at intersections (49%). Of these, 62% occurred at a T-junction and 38% at a cross road.
Figure 9: Number of reported cycling collisions that result in a fatality or serious injury in Metropolitan Adelaide by time of day and day of week, 2012-2016

The highest number of cyclist fatalities and serious injuries occurred on a Thursday and Saturday with the majority of those between 6am to midday. Most cycling collisions occur during daylight hours, 51% between 6am to midday and 36% between midday and 6pm.
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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