

Metropolitan

Road Crashes in South Australia 2017-2021

Overview

Over 1.37 million people (78% of the state's population) reside in metropolitan Adelaide. The urban road environment is generally characterised by large traffic volumes during commuter peak periods, numerous intersections and higher numbers of pedestrians and cyclists compared to rural areas. Over the past 5 years (2017-2021), 85% of South Australia's minor injury crashes, 67% of serious injury crashes and 44% of crashes resulting in a life lost occurred in metropolitan Adelaide.

The metropolitan road crash area includes crashes occurring on roads in the Greater Adelaide Statistical Area which extends from Roseworthy in the north to Sellicks Hill in the south and Harrogate in the east. Generally, there are a lower number of crashes where a life was lost in the metropolitan Adelaide area than in rural areas each year, however in 2017 this was not the case, and the number of crashes resulting in a life lost in the metropolitan Adelaide area was higher than the previous year as indicated in Figure 1. From 2019 to 2020, the number of crashes where a life was lost fell in both the rural and metropolitan areas and then the following year (2021) both the metro and the rural areas saw a 10% increase.

Figure 1: Number crashes where a life was lost by area, South Australia, 2017-2021

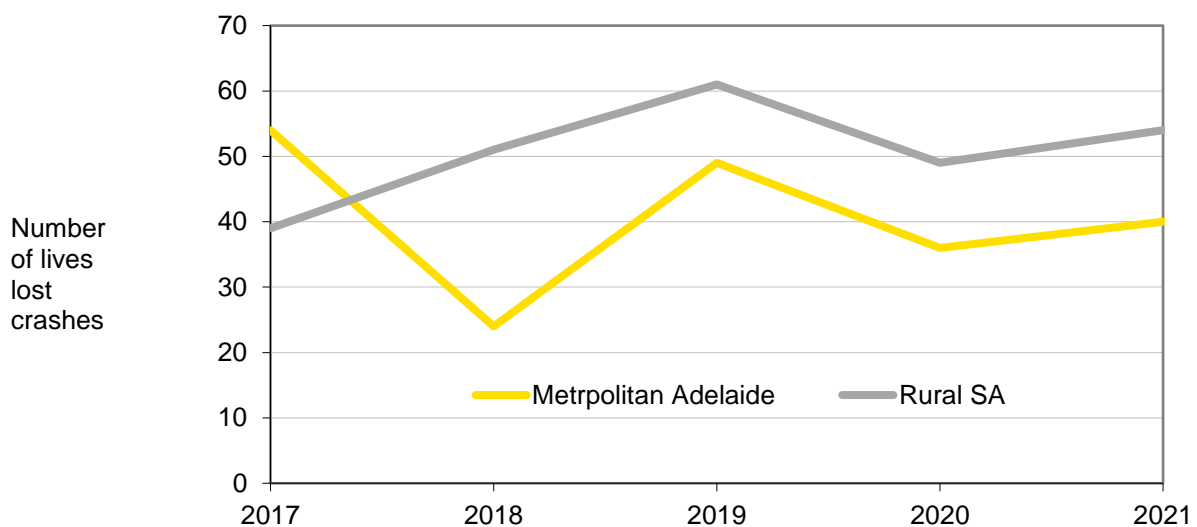


Table 1 shows most minor and serious injury crashes occurred in metropolitan Adelaide whilst rural areas accounted for more crashes resulting in a life lost.

Table 1: Number of crashes by area, South Australia, 2017-2021

Year	Metropolitan Adelaide				Rural South Australia			
	Lives lost crashes	Serious injury	Minor injury	Total crashes	Lives lost crashes	Serious injury	Minor injury	Total crashes
2017	54	322	3703	4079	39	211	671	921
2018	24	284	3758	4066	51	201	635	887
2019	49	504	3393	3946	61	225	544	830
2020	36	428	2773	3237	49	196	486	731
2021	40	523	3021	3584	54	193	525	772
Average	41	412	3330	3782	51	205	572	828

Speeds

Major traffic routes in the metropolitan Adelaide area with a speed limit of 60 km/h account for the highest traffic volumes and a large proportion of crashes occur on these roads. In addition, there is more congestion (especially during peak commuting times) and frequent intersections providing the opportunity for vehicles and other road users to come into conflict. Table 2 shows that for the past 5 years, 44% of crashes resulting in a life lost or serious injury in the metropolitan Adelaide area occurred on 60 km/h roads and 25% were on 50 km/h speed limit roads.

Table 2: Lives lost or serious injury crashes by speed limit, metro Adelaide, South Australia, 2017-2021

Speed limit	% of lives lost and serious injury crashes
less than 50 km/h	3%
50 km/h	25%
60 km/h	44%
70-90 km/h	21%
100-110 km/h	6%

Crash Types

Over the past 5 years, the most common type of crashes resulting in a life lost or serious injury in the metropolitan Adelaide area was a vehicle colliding with a fixed object (22%), commonly trees or poles. Right angle crashes were the next most common crash type (16%). As shown in Figure 3, hitting a pedestrian (14%) was also a common type of crash in metropolitan Adelaide. Around 39% of all crashes resulting in a life lost or serious injury in the metropolitan area are single vehicle type crashes.

Figure 3: Percent of lives lost and serious crashes by type, metropolitan Adelaide, 2017-2021

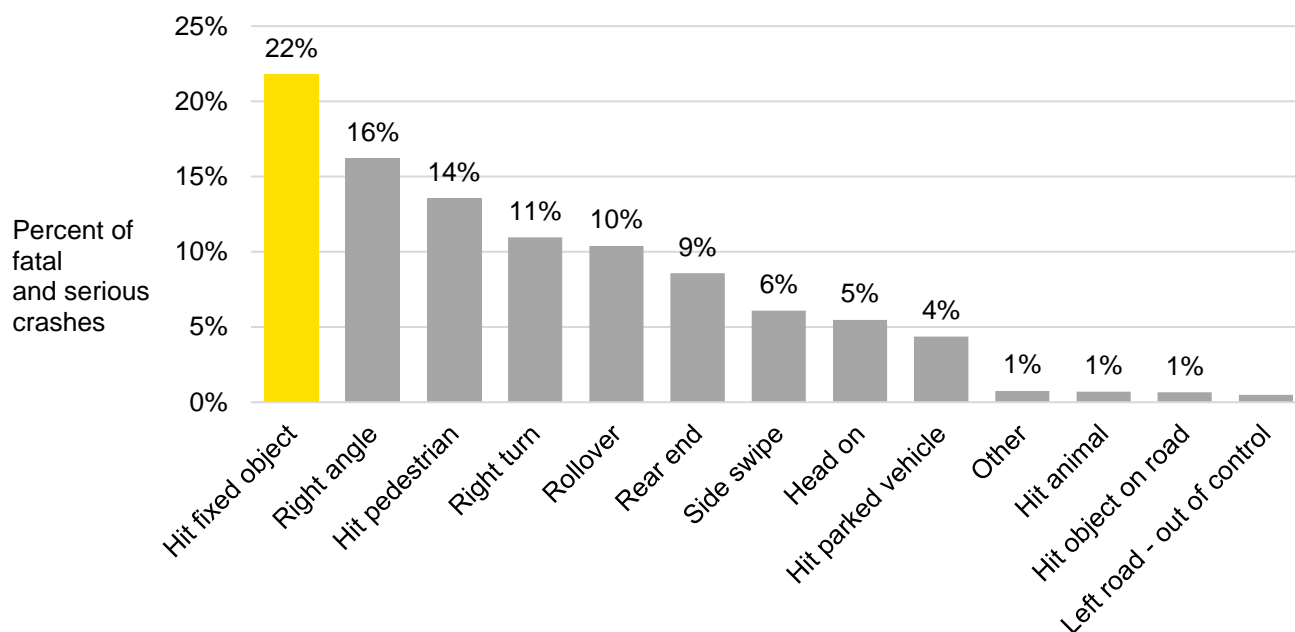


Figure 4: Percent of minor crashes per year by crash type, metropolitan Adelaide, 2017-2021

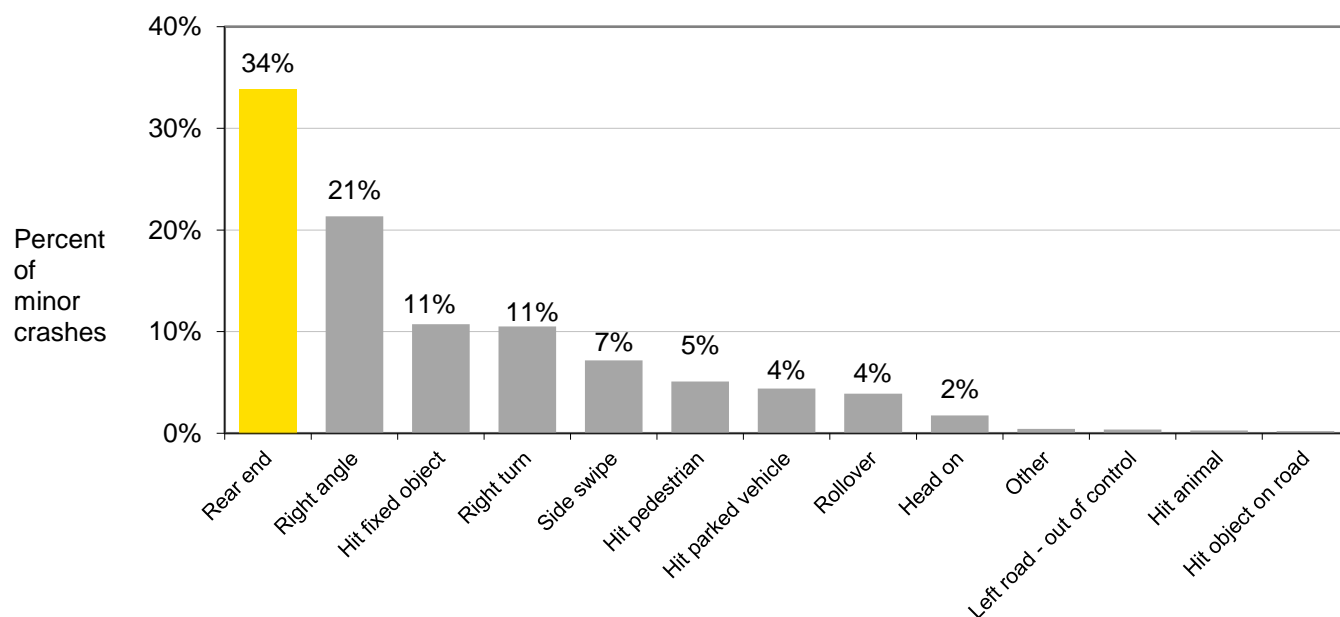


Figure 4 shows that the distribution of crash types differs for minor injury crashes, whereby rear end collisions accounted for 34% of minor injuries over the past 5 years.

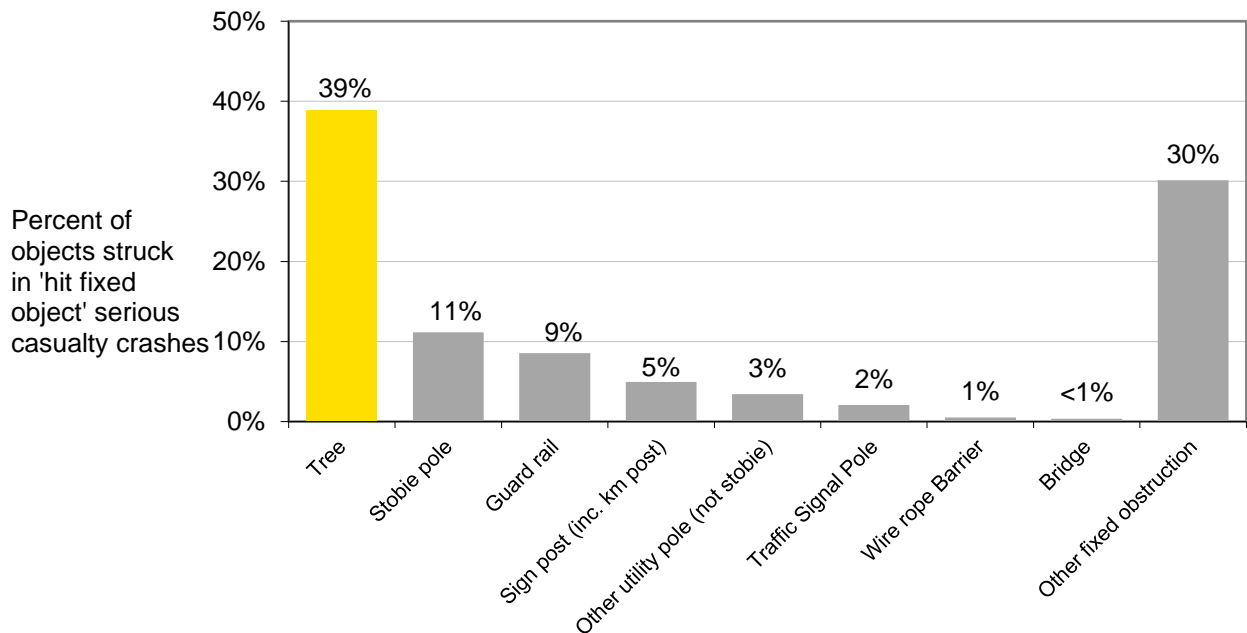
Hit fixed object crashes

Detailed analysis of crashes resulting in a life lost or serious injury involving a vehicle hitting fixed objects, indicates three contributing factors:

- 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 crashes resulting in a life lost or serious injury are trees and poles. There are also many objects coded as ‘other’, this can include but is not limited to fences, embankments, fire hydrants, Telstra or SA Power Networks boxes. It should be noted that some crashes resulting in a life lost or serious injury result in a vehicle colliding with more than one roadside fixed object.

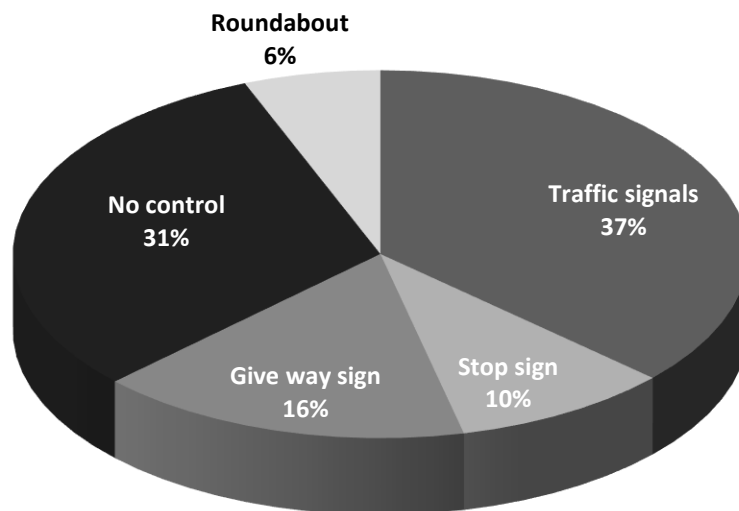
Figure 5: Types of objects struck in ‘hit fixed object’ type Lives lost or serious injury crashes in metropolitan Adelaide, 2017-2021



Intersections

On average over the past 5 years, 28% of all crashes resulting in lives lost and 43% of serious injury crashes in metropolitan Adelaide occurred at intersections. 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 crashes resulting in a life lost or serious injury at intersections in metropolitan Adelaide area, 37% were controlled by traffic signals, 31% occurred at intersections with no signal/signed controls and the remaining were controlled in other ways, as illustrated in Figure 6.

Figure 6: Intersection lives lost and serious injury crashes and the corresponding traffic control – metropolitan Adelaide, 2017-2021

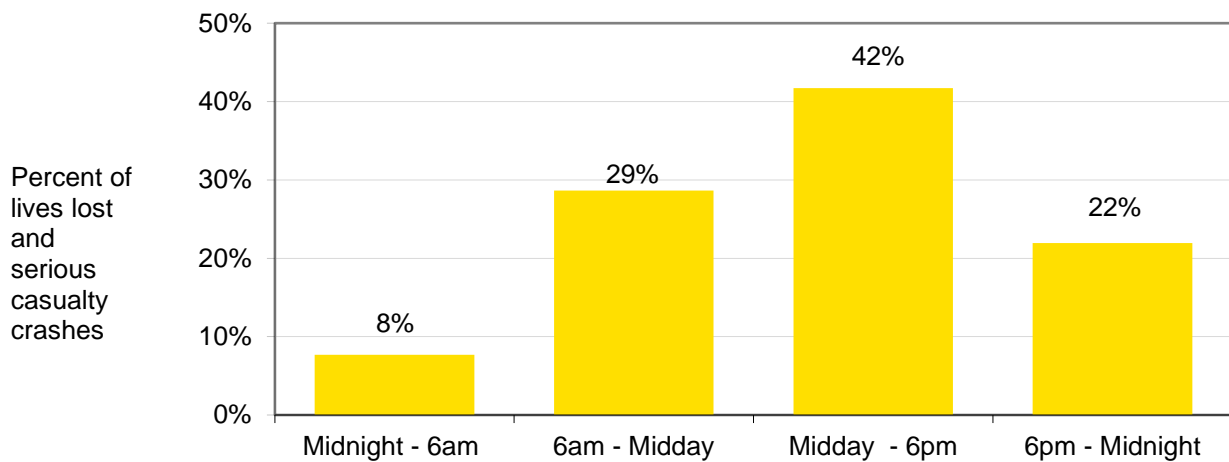


Crashes resulting in a life lost or serious injury at intersections with **no control** are primarily right angle (34%) and right turn (20%), other crash types include hit fixed object (12%), hit pedestrian (12%) and rear end (8%). Crashes at **signalised intersections** are mainly right turn (35%) and right angle crashes (22%), with a further 11% as a result of a rear end collision and 12% are hit pedestrian crashes.

Time

Figure 7 indicates that most metropolitan Adelaide crashes resulting in a life lost or serious injury occur during daylight hours. For the years 2017-2021, 29% occurred in the morning between 6am and midday, 42% occurred in the afternoon between midday to 6pm, 22% occur between 6pm and midnight, and the remaining occur after midnight and before 6am.

Figure 7: Lives lost and serious injury crashes by time, metropolitan Adelaide, 2017-2021



Pedestrians

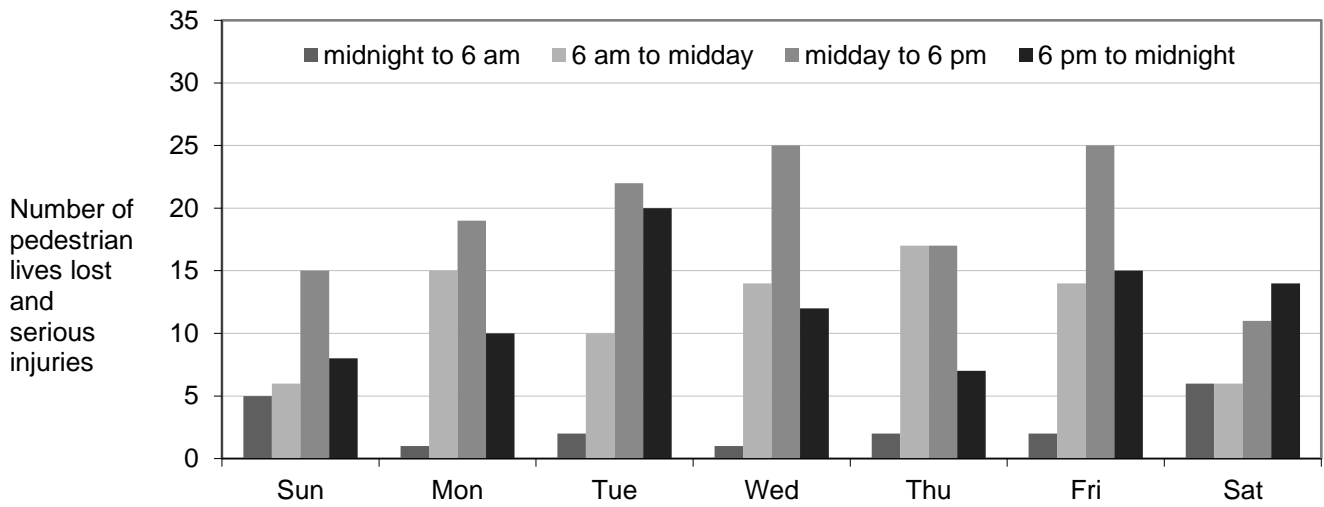
For the last 5 years (2017-2021), 71% of South Australian pedestrian lives lost occurred in metropolitan Adelaide. The highest number of pedestrian casualties (all casualty types) occur in the Adelaide City Council area when comparing to other local government areas in metropolitan Adelaide. There were on average 9 pedestrian deaths, 55 serious injuries and 183 minor injuries to pedestrians in metropolitan Adelaide each year as shown in Table 3.

Table 3: Pedestrian casualties by severity - metropolitan Adelaide, South Australia, 2017-2021

Year	Lives lost	Serious injuries	Minor injuries	Total
2017	15	36	225	276
2018	3	49	207	259
2019	15	67	193	275
2020	3	49	131	183
2021	11	73	159	243
5 year average	9	55	183	247

Figure 8 shows that the highest frequency of pedestrian lives lost and serious injuries occurred on a Wednesday and Friday between midday and 6pm: 42% of all crashes resulting in a life lost or serious injury occur between midday and 6pm (across all days). The majority (69%) of pedestrian lives lost and serious injuries occur on midblock sections of the road rather than at intersections. 35% of intersection pedestrian serious casualties occurred where there was no traffic control.

Figure 8: Number of pedestrian lives lost and serious injury crashes in metropolitan Adelaide by time of day and day of week, 2017-2021



Cyclists are also vulnerable road users and over the past 5 years, around half (52%) of lives lost and 91% of serious injuries to cyclists occurred on metropolitan Adelaide roads. On average 2 cyclists were killed and 64 were seriously injured in the metropolitan Adelaide area each year. Just under half of all cyclists killed and serious injuries reported occurred at intersections (44%). Of these, 60% occurred at a T-junction and 40% were at a crossroad.

Figure 9: Number of reported cycling lives lost or serious injury crashes in metropolitan Adelaide by time of day and day of week, 2017-2021

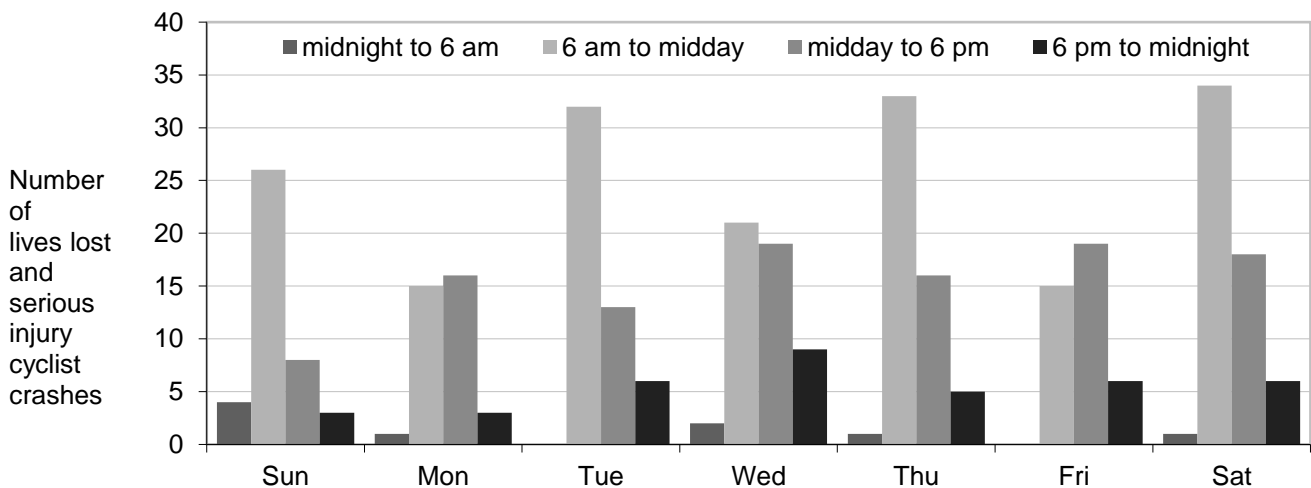


Figure 9 shows that most cycling collisions occur during daylight hours, 53% between 6am to midday and 33% between midday and 6pm. More information about cyclist road crashes can be found in the Cyclist fact sheet.

Definitions of police reported casualty types:

Casualty Crash – crash where at least one life lost, serious injury or minor injury occurs.

Casualty – A life lost, serious injury or minor injury.

Fatal Crash – A crash for which there is at least one life lost.

Life lost – 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 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 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 for Infrastructure and Transport Road Crash Database. The information was compiled from police reported road casualty crashes only.

Enquiries

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