# REPORTED ROAD CRASHES
## IN WESTERN AUSTRALIA 2012

TOWARDS ZERO

SPEED AND RED LIGHT
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**TITLE**
Reported Road Crashes in Western Australia 2012


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**ABSTRACT**
This report presents information on road crashes that occurred in Western Australia in 2012. There were 39,008 police-reported road crashes involving 75,864 vehicles and 2,615 persons killed or seriously injured.



**KEYWORDS**
Road crash statistics, Crash severity, Blood alcohol concentration, Drink driving, Drugs, Fatality, Helmet use, Injury, Restraint use, Road environment, Metropolitan area, Regional area, Remote area, Seat belt, Speeding, Urban area, Vehicle type, Western Australia.


**NOTE**
This report is distributed in the interests of information exchange and is available on the Internet at the Office of Road Safety web site < http://www.officeofroadsafety.wa.gov.au/ >. On the Main Roads Western Australia web site < http://www.mainroads.wa.gov.au >, intersection rankings and metropolitan traffic flows can be viewed. This publication is also available in alternative formats (e.g. audio tape, computer disc, large print or Braille) by contacting the Office of Road Safety on 138 138.

# FOREWORD

In 2012, there were 181 police-reported road crash fatalities that occurred on Western Australian roads. This figure was three per cent higher than the 2011 figure. However, the number of people seriously injured in police-reported road crashes was 2,434, which was one per cent lower than the 2,469 figure in 2011.

Of the fatal crashes in 2012, 47 per cent occurred in the metropolitan region, 31 per cent took place in regional areas and the remaining 22 per cent happened in remote locations. WA's fatality rate of 7.4 per 100,000 population was above the national rate at 5.8, meaning the State is still ranked as the second highest out of all States and Territories in Australia.

Over the last five years, the number of people killed on WA roads has been decreasing; the number of people killed in 2012 was nine per cent less than the average of the previous five years. During the same period, the number of people seriously injured in road traffic crashes has also been decreasing, with the number of people admitted to hospital in 2012 being eight per cent less than the average for 2007 to 2011.

The issue of road safety continues to be addressed in line with the State Government's *Towards Zero* Road Safety Strategy 2008-2020. This strategy is built on the globally-recognised Safe System approach, which views WA's transport system holistically by seeking to manage and improve road safety between the four cornerstones of Safe Road Use, Safe Roads and Roadsides, Safe Speeds and Safe Vehicles.

The 2012 crash book highlights a number of behaviours that played a role in WA road crashes, including speed, alcohol, illegal drugs, seat belts and helmets. The community has a responsibility to support each other to act safely within the road rules to help continue to bring WA's road fatality and serious injury rates down.

Speed was a factor in 24 per cent of police-attended fatal crashes in 2012 and a quarter of motorcyclist fatalities occurred as a result of speed-related crashes. At least one driver/rider had a BAC of 0.05g/100mL or higher in almost one fifth of police-attended fatal crashes (19 per cent), and the majority of drivers/riders involved in alcohol related crashes were male. Twenty-two per cent of motor vehicle occupant fatalities in police-attended crashes were not wearing a seat belt.

Males accounted for 68 per cent of all fatalities in 2012 and overall, the age group with the biggest percentage of fatalities were those aged between 25 and 39 years (at 34 per cent). However, the number of road deaths for females increased by 24 percent from 2011.

Often referred to as one of the highest risk groups, young adult road users aged 17 to 24 years made up 22 per cent of all persons killed or seriously injured on WA roads, with 52 per cent of this age group injured while behind the wheel. Children aged 16 years and under made up eight per cent of all persons killed or seriously injured, and the highest proportion of child road users who were killed or seriously injured were passengers (52 per cent), followed by pedestrians (21 per cent). The number of senior adult road user fatalities (those aged 60 years and over) in 2012 had also decreased significantly, down by 31 per cent from 2011.

In terms of the crash nature, single-vehicle crashes constituted 61 per cent of all fatal crashes in 2012, and nearly three quarters of fatal crashes in remote areas of WA involved a single vehicle. More than one third (35 per cent) of fatal road deaths in the metropolitan region occurred at an intersection.

WA continues to move forward to achieve the targets of the *Towards Zero* road safety strategy. Substantial funds have been allocated from the Road Trauma Trust Account towards five major priority safety programs focusing on urban intersections, regional run off road crashes, impaired driving, excess and inappropriate speed-related crashes, and unprotected occupants and users. The State Government will continue to implement *Towards Zero* and the Safe System approach in a shared responsibility with road users and the community to further reduce the devastating effects of road trauma.

**Hon Liza Harvey MLA**
**Minister for Police; Tourism; Road Safety; Women's Interests**

**Professor Murray Lampard APM**
**Chair – Road Safety Council of WA**

# KEY ROAD CRASH FACTS FOR 2012

**Fatalities**

- In 2012, there were 181 police-reported road crash fatalities in Western Australia, which was six more than in 2011.
- The number of fatalities was 3% higher than the previous year.

**Persons Seriously Injured**

- In 2012, there were 2,434 people seriously injured in police-reported road crashes, compared to 2,469 in 2011.
- The number of persons seriously injured was 1% lower than the previous year.

**Trends in Crashes**

- The fatality rate per 100,000 population for Western Australia was 7.4 (ranked 2nd highest out of all Australian States and Territories), compared to 5.8 for the whole of Australia.
- Of fatal crashes, 47% occurred in the Metropolitan region, 31% occurred in Regional areas and 22% in Remote areas.
- Of hospitalisation crashes, 68% occurred in the Metropolitan region, 18% occurred in Regional areas and 14% in Remote areas.
- In 2012, the number of fatalities in the 60 years or older age group was 31% lower than the previous year, where the 25 to 39 year and 40 to 59 year ages groups were higher by 45% and 28%, respectively. The number of fatalities for females increased by 24% from 2011.

**All Road Users**

- Of all fatalities, 68% were male, 31% were female and gender were not recorded for one person.
- Of all fatalities, 34% were aged between 25 and 39 years and 28% were aged between 40 and 59 years.
- Almost half (46%) of all fatalities were drivers, 21% were passengers, 18% were motorcyclists and 14% were pedestrians.

**Child Road Users**

- Children aged 16 years and under made up 8% of all persons killed or seriously injured.
- The highest proportion of child road users who were killed or seriously injured were passengers (52%) followed by pedestrians with 21%.
- Of child motor vehicle occupants in police-attended crashes who were killed or seriously injured, 13% were not wearing a seat belt, compared to 8% of all persons.
- Four of the fourteen (29%) child bicyclists who were killed or seriously injured were not wearing helmets.
- Of all children killed or seriously injured, 26% were killed or seriously injured between 3pm to 6pm.
- Of all crashes where children were killed or seriously injured, 18% occurred on a Friday.

**Young Adult Road Users**

- Persons aged 17 to 24 years made up 22% of all persons killed or seriously injured.
- Of young adult road users who were killed or seriously injured, 52% were drivers, 23% were passengers and 15% were motorcyclists.
- Of young adult road users who were killed or seriously injured in police-attended crashes, 19% were in crashes where speed was a factor. In comparison, of all persons killed or seriously injured in police-attended crashes, 13% were in crashes where speed was factor.
- Of young adult road users who were killed or seriously injured in police-attended crashes, 13% were in alcohol-related crashes (i.e. a crash where at least one driver/rider involved in the crash had a blood alcohol concentration (BAC) of 0.05 g/100mL or higher), compared to 10% for all persons killed or seriously injured in police-attended crashes.
- Of young adult motor vehicle occupants in police-attended crashes who were killed or seriously injured, 11% were not wearing a seat belt, compared to 8% of all persons.
- Quarter (25%) of young adult drivers/riders involved in serious crashes were 'hit object' crashes. This compares with 16% of all drivers/riders involved in serious crashes.
- Of all young adult killed or seriously injured, more than a quarter (27%) were killed or seriously injured between 9pm and 3am. In comparison, of all persons killed or seriously injured, 17% were killed or seriously injured between 9pm and 3am.
- Of all crashes where young adult were killed or seriously injured, 21% occurred on a Saturday. In comparison, 18% of all persons killed or seriously injured were injured in crashes occurring on a Saturday.

**Mature Adult Road Users**

- Persons aged 25 to 59 years accounted for 53% of all persons killed or seriously injured.
- Over half (52%) of mature adult road users who were killed or seriously injured were drivers, 20% were motorcyclists and 16% were motor vehicle passengers.
- Of mature adult road users who were killed or seriously injured in police-attended crashes, 13% were in crashes where speed was a factor.
- Of mature adult road users who were killed or seriously injured in police-attended crashes, 12% were in alcohol-related crashes.
- Of mature adult motor vehicle occupants in police-attended crashes who were killed or seriously injured, 9% were not wearing a seat belt.

**Senior Adult Road Users**

- Persons aged 60 years and over made up 13% of all persons killed or seriously injured.
- Of senior adult road users who were killed or seriously injured, 60% were drivers, 21% were passengers, 8% were motorcyclists and 7% were pedestrians.
- More than half (55%) of senior adult drivers/riders involved in serious crashes were in 'Intersection' crashes. This compares with 49% of all drivers/riders involved in serious crashes.
- Of all senior adult killed or seriously injured, almost three quarters (73%) were killed or seriously injured between 9am and 6pm, compared to 50% of all persons.

**Speed**

- Speed was a factor in 24% of police-attended fatal crashes.
- The percentage of police-attended fatal crashes that were speed-related was highest in the Remote region (27%) and lowest in Regional WA (17%).
- A quarter (25%) of motorcyclist fatalities occurred in speed-related crashes attended by police.
- More than two thirds (68%) of speed-related fatal crashes attended by police were single-vehicle crashes and 70% of these were 'Hit Object' crashes.

**Alcohol**

- Almost one fifth (19%) of police-attended fatal crashes involved at least one driver/rider with a BAC of 0.05 g/100mL or above (i.e. were an alcohol related crash).
- Among road users killed or seriously injured, 10% were involved in alcohol-related crashes attended by police.
- The majority (84%) of drivers/riders *involved* in alcohol-related police-attended fatal crashes were male.
- Eight of the 25 (32%) pedestrian fatalities in police-attended crashes are alcohol-related.

**Illegal Drugs**

- Almost a quarter (23%) of the 170 fatalities matched to the crash data had illegal drugs detected in their systems.
- Almost one third (30%) of the 30 fatalities from age group 17 to 24 matched to the crash data had illegal drugs detected in their systems.
- More than a quarter (26%) of the 31 motorcyclist fatalities matched to the crash data had illegal drugs detected in their systems. Just over one tenth (13%) of the pedestrian fatalities matched to the crash data involved a driver/rider who had illegal drugs detected in their systems.

**Seat Belts**

- Almost one quarter (22%) of motor vehicle occupant fatalities in police-attended crashes were not wearing a seat belt.
- Twenty-five per cent of male and 18% of female motor vehicle occupant fatalities in police-attended crashes were not wearing a seat belt.

**Helmets**

- Four of the 32 motorcyclist fatalities in police-attended crashes were not wearing a helmet.
- Of the three bicyclist fatalities in police-attended crashes, two were not wearing helmets.
- More than one quarter (26%) of bicyclists seriously injured in crashes attended by police were not wearing a helmet.

**Crash Nature**

- Single-vehicle crashes constituted 61% of all fatal crashes.
- Single-vehicle crashes accounted for 73% of fatal crashes in Remote areas, 67% of fatal crashes in Regional areas and 51% of fatal crashes in the Metropolitan region.
- More than a third (35%) of fatal crashes in the Metropolitan region occurred at an intersection.
- In Remote areas, 62% of fatal crashes were 'Run Off Road' crashes, compared to 58% of fatal crashes in Regional areas and 29% of fatal crashes in the Metropolitan region.
- In Remote areas, 14% of fatal crashes were 'Head On' crashes, compared to 13% in the Metropolitan region and 12% in Regional areas.

**Hospital Inpatient Data**

- Hospital inpatient data showed there were 4,326 people admitted to hospital due to road crashes, of whom 34 people died after admission to hospital.
- Indigenous Australians made up 7% of hospital inpatients resulting from road crashes.
- Almost one third (30%) of hospital inpatients were motor vehicle drivers and 23% were motorcyclists.

# Key Performance Indicators

The key performance indicators (KPI) below provide a more detailed breakdown of the broader performance indicators that are set out in *Towards Zero*, the State Government's road safety strategy for 2008-2020. The indicators have been approved by the Road Safety Council, and will be the means by which the annual progress of the Strategy is monitored. The indicators are subject to regular review, and may change during the life of the Strategy.

| KPI | Year | | | | | | 2012 Change from 2011 (%) |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | |
| **Number of hospitalised bed days** | | | | | | | |
| Cumulative length of stay (days) | 28,755.8 | 31,219.2 | 31,561.4 | 29,886.5 | 26,716.5 | 25,912.7 | -3.0 |
| Average length of stay (days) | 8.0 | 8.1 | 8.0 | 7.4 | 6.3 | 6.0 | -5.1 |
| **Cost of crashes to the WA community (2012 dollars)[1]** | | | | | | | |
| Cost ($m) – Human Capital | 2,491.4 | 2,425.5 | 2,209.9 | 2,236.2 | 2,171.8 | 2,149.3 | -1.0 |
| Cost ($m) – Willingness to pay | 3,265.2 | 3,008.3 | 2,824.5 | 2,858.1 | 2,741.9 | 2,725.7 | -0.6 |
| **Number of serious crashes by *Towards Zero* regions** | | | | | | | |
| Metropolitan | 1,617 | 1,685 | 1,482 | 1,464 | 1,467 | 1,435 | -2.2 |
| Regional | 465 | 500 | 427 | 459 | 444 | 418 | -5.9 |
| Remote | 319 | 279 | 274 | 282 | 258 | 306 | 18.6 |
| **Number of persons killed or seriously injured** | | | | | | | |
| Persons KSI | 3,019 | 3,095 | 2,759 | 2,722 | 2,644 | 2,615 | -1.1 |
| **Percentage of vehicles exceeding the speed limit by speed zone[2]** | | | | | | | |
| 60 km/h | 51.0 | 41.2 | 38.2 | 46.6 | 48.2 | 44.3 | -8.1 |
| 70 km/h | 41.4 | 26.0 | 21.3 | 37.4 | 37.0 | 33.6 | -9.2 |
| 80 km/h | 37.3 | 29.2 | 23.5 | 39.9 | 34.0 | 34.8 | 2.4 |
| 90 km/h | 24.6 | 34.5 | 33.7 | 26.6 | 27.8 | 31.6 | 13.7 |
| 100 km/h | 33.8 | 35.0 | 43.3 | 20.2 | 32.3 | 20.6 | -36.2 |
| 110 km/h | 23.6 | 28.1 | 30.3 | 23.8 | 15.5 | 22.8 | 47.1 |
| **Injury rates for persons killed or seriously injured[3]** | | | | | | | |
| Persons KSI per 100,000 population | 143.3 | 142.5 | 123.2 | 118.8 | 112.3 | 107.4 | -4.4 |
| Persons KSI per 10,000 registered vehicles | 18.0 | 17.7 | 15.1 | 14.6 | 13.8 | 13.2 | -4.3 |
| Persons KSI per 100 million km travelled[3] | 12.4 | 12.2 | 10.7 | 10.4 | 9.9 | 9.5 | -3.8 |

1. For details on data sources and methodology, refer to Section 2.2 on page 15.
2. For details on data sources and methodology, refer to section 4.3 on page 75.
3. The 2008, 2009 and 2011 KSI rates per 100 million km travelled is based on average kilometres travelled (interpolated between 2007, 2010 and 2012 figures) and number of registered vehicles in each year.

| KPI | Year 2007 n | 2007 % | 2008 n | 2008 % | 2009 n | 2009 % | 2010 n | 2010 % | 2011 n | 2011 % | 2012 n | 2012 % | 2012 Change from 2011 % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Number and percentage of persons killed or seriously injured in police-attended crashes involving illegal behaviour[4,5,6]** | | | | | | | | | | | | | |
| Speed a factor[4] | 494 | 18.7 | 477 | 17.6 | 412 | 17.1 | 340 | 14.2 | 334 | 14.3 | 301 | 12.9 | -9.9 |
| Alcohol a factor[4] | 400 | 15.2 | 313 | 11.6 | 334 | 13.9 | 282 | 11.7 | 253 | 10.8 | 237 | 10.1 | -6.3 |
| Seat belt not worn[5] | 186 | 9.0 | 157 | 7.7 | 158 | 9.0 | 132 | 7.4 | 119 | 7.0 | 136 | 8.1 | 14.3 |
| Helmet not worn (motorcyclists) | 41 | 12.2 | 37 | 10.1 | 38 | 11.1 | 36 | 9.9 | 22 | 6.0 | 37 | 9.9 | 68.2 |
| Helmet not worn (bicyclists) | 23 | 33.3 | 22 | 21.6 | 23 | 27.1 | 19 | 23.2 | 19 | 22.4 | 29 | 27.6 | 52.6 |
| Illegal drugs (fatalities)[6] | 61 | 28.8 | 46 | 31.7 | 38 | 29.9 | 37 | 26.1 | 28 | 17.4 | 39 | 22.9 | 39.3 |
| **Number and percentage of persons killed or seriously injured by road user type[7]** | | | | | | | | | | | | | |
| Driver | 1,570 | 52.0 | 1,532 | 49.5 | 1,282 | 46.5 | 1,328 | 48.8 | 1,271 | 48.1 | 1,212 | 46.4 | -4.6 |
| Passenger | 747 | 24.7 | 736 | 23.8 | 700 | 25.4 | 607 | 22.3 | 584 | 22.1 | 575 | 22.0 | -1.5 |
| Pedestrian | 180 | 6.0 | 200 | 6.5 | 236 | 8.6 | 204 | 7.5 | 213 | 8.1 | 199 | 7.6 | -6.6 |
| Bicyclist | 92 | 3.0 | 119 | 3.8 | 112 | 4.1 | 111 | 4.1 | 105 | 4.0 | 129 | 4.9 | 22.9 |
| Motorcyclist | 376 | 12.5 | 420 | 13.6 | 386 | 14.0 | 421 | 15.5 | 424 | 16.0 | 432 | 16.5 | 1.9 |
| Scooter/Moped user | 5 | 0.2 | 6 | 0.2 | 7 | 0.3 | 0 | - | 1 | 0.0 | 0 | - | N/A |
| Heavy vehicle occupant | 49 | 1.6 | 82 | 2.6 | 36 | 1.3 | 51 | 1.9 | 46 | 1.7 | 65 | 2.5 | 41.3 |
| **Number and percentage of persons killed or seriously injured in crashes at intersections by *Towards Zero* areas** | | | | | | | | | | | | | |
| Metropolitan | 1,055 | 82.9 | 1,108 | 83.0 | 1,003 | 83.7 | 942 | 83.2 | 884 | 81.0 | 868 | 80.7 | -1.8 |
| Regional | 167 | 13.1 | 162 | 12.1 | 142 | 11.8 | 151 | 13.3 | 161 | 14.8 | 152 | 14.1 | -5.6 |
| Remote | 51 | 4.0 | 65 | 4.9 | 54 | 4.5 | 39 | 3.4 | 46 | 4.2 | 56 | 5.2 | 21.7 |
| **Number and percentage of persons killed or seriously injured in head on crashes by *Towards Zero* areas** | | | | | | | | | | | | | |
| Metropolitan | 124 | 61.1 | 89 | 56.7 | 79 | 52.0 | 86 | 52.8 | 86 | 57.3 | 70 | 50.4 | -18.6 |
| Regional | 46 | 22.7 | 55 | 35.0 | 55 | 36.2 | 45 | 27.6 | 42 | 28.0 | 28 | 20.1 | -33.3 |
| Remote | 33 | 16.3 | 13 | 8.3 | 18 | 11.8 | 32 | 19.6 | 22 | 14.7 | 41 | 29.5 | 86.4 |
| **Number and percentage of persons killed or seriously injured run off road crashes by *Towards Zero* areas** | | | | | | | | | | | | | |
| Metropolitan | 451 | 41.7 | 454 | 41.0 | 398 | 42.7 | 350 | 36.7 | 388 | 42.9 | 388 | 41.1 | 0.0 |
| Regional | 301 | 27.8 | 361 | 32.6 | 287 | 30.8 | 311 | 32.6 | 281 | 31.0 | 291 | 30.8 | 3.6 |
| Remote | 329 | 30.4 | 292 | 26.4 | 248 | 26.6 | 293 | 30.7 | 236 | 26.1 | 265 | 28.1 | 12.3 |

4. Speed and alcohol-related crashes refer to police-attended crashes only.
5. Motor vehicle occupants in police-attended crashes only.
6. Illegal drug data obtained from the Forensic Science Laboratory, Chemistry Centre of WA for fatalities only. Percentages of fatalities who were able to be matched between the two datasets.
7. Excludes persons with other/unknown road user type (n=3 for 2012).

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# 1. INTRODUCTION

This report, published annually, is produced and distributed on behalf of the Road Safety Council of Western Australia. The report provides road crash statistics for 2012 in Western Australia. Some historical data and road crash statistics for the rest of Australia are also included in the report to help readers to interpret the statistics in an appropriate context.

A crash is classified as a road crash if the following conditions hold: the crash resulted in bodily injury or property damage, the crash occurred on a road and the road was open to the public at the time of the crash, the crash involved at least one moving vehicle and the crash was not a result of a medical condition or a deliberate act (such as a suicide attempt). Crashes that do not meet these criteria have been excluded from the report.

The report focuses mainly on crashes that resulted in road users being killed or seriously injured, where a serious injury is defined as an injury that resulted in the road user being admitted to hospital for treatment. The term serious crash is used in this report to describe any crash resulting in at least one fatality or serious injury. For more detailed definitions of these and other terms, see the Glossary on page 159.

## 1.1 Data Sources and Acknowledgements

Sections 2 to 6 contain statistics extracted from data on police-reported road crashes. These data were obtained from the Integrated Road Information System (IRIS) maintained by Main Roads Western Australia. The dataset used was extracted from the IRIS on 2 May 2013 by Main Roads and changes made after this date are not reflected in this report.

Crash rates were calculated from the police-reported data using estimated resident population, vehicle registrations and estimated kilometres travelled data obtained from the Australian Bureau of Statistics (ABS). The estimated kilometres travelled for 2012 was obtained directly from the ABS publication. The release date of data sourced from Australian Bureau of Statistics' publications with multiple releases is provided with each table.

Section 7 presents information on road traffic casualties who were admitted to public and private hospitals in Western Australia during 2012. Casualties involved in non-traffic crashes were excluded. The data was extracted on 18 April 2013 by the Hospital Morbidity Data Collections, Data Integrity, Performance Activity & Quality Division of the Western Australian Department of Health. Hospital inpatient data is captured using the Hospital Morbidity Data System.

These data offer an alternative data source to the police-reported data and provide additional details about the road traffic casualties not usually available in police crash reports (i.e. Indigenous status). However, there are differences in reporting criteria, reporting methods and road user type definitions between the two datasets. Therefore, the hospital inpatient data cannot be directly compared to the police-reported data.

The number of Western Australian motor driver licences on record for each year from 1974 onwards is provided in Appendix A on page 137. This information was obtained from the Western Australian Department of Transport.

Data Analysis Australia would like to thank the following people and organisations for their assistance in providing data:

Main Roads Western Australia

- Thandar Lim

Health Department of Western Australia

- Paul Stevens
- Matthew Cooper
- Ellen Ceklic

Department of Transport

- Karl Shoebridge

We would also like to thank Matthew Legge and Kirsty Kirkman from the Office of Road Safety for their contributions and assistance in the preparation of the report.

## 1.2 Reading and Interpreting the Report

The statistics in this report should be read in conjunction with the glossary included on page 159, which provides definitions of terms used in the report. Particular note should be made of changes to some of the terminology used in this report compared to that of earlier reports in the same series. These changes have been made to provide consistency with the terminology used nationally in the area of road crash statistics.

All tables and figures in this report refer to road crashes that occurred in Western Australia in 2012, unless otherwise stated.

Tables and graphs are provided with varying levels of detail, and care must be taken when interpreting percentage changes where the overall numbers are small. For this reason percentage changes are not reported for counts less than 10 (indicated by N/R in tables). In some cases percentages may not add to exactly 100%, due to rounding.

Rates in the tables presented in this report are rounded to one decimal place, although percentage changes are calculated from the original, unrounded data. Therefore, calculating percentage changes using the rounded rates may result in values that differ from those shown in the tables.

Many of the tables that provide information by crash or injury severity include a subtotal column or row for total serious crashes or total persons Killed or Seriously Injured (KSI). Therefore, in these tables the overall column or row total cannot be calculated by simply summing all columns or rows.

Western Australian legislation requires that traffic crashes are reported to police if:

- the incident results in bodily harm to any person
- the total value of property damage exceeds $3,000
- the owner or representative of any damaged property is not present

Traffic crashes can be reported in person to a police station, using a paper-based form (the P72 form). In addition to this, in November 2009 an online crash report facility (OCRF) was launched

by Western Australia Police and the Insurance Commission of Western Australia. The introduction of the OCRF is expected to result in more accurate data, as some validation of the information entered can be conducted automatically at the time the crash is reported (such as make and model of vehicle and currency of driver's licence). It may also result in an apparent increase in the number of crashes involving property damage only, as the ease of reporting may reduce under-reporting of such crashes. There are some minor differences in the information collected via the OCRF and the hard copy P72 form, including the addition of passenger gender. The version of the P72 form used in 2012 is provided in Appendix C on page 143.

Throughout the report, overall table totals will vary because separate tables are provided for different levels, including the following:

- number of crashes
- number of road users
- number of drivers/riders
- number of motor vehicle occupants
- number of vehicles

Within these levels, tables and graphs are provided for subsets by crash severity, injury severity, road user group and police attendance. All captions for tables and figures describe the particular subset of data included in that table or figure.

## 1.3 *Towards Zero* Priority Crash Types

*Towards Zero* is the State Government's road safety strategy for 2008 to 2020. *Towards Zero* is based on a holistic view of road safety that seeks to manage the interaction between the road user, the road, travel speed and the vehicle. This 'safe system' approach has achieved results not possible using traditional road safety approaches. The measures outlined in *Towards Zero* use the safe system framework and its four cornerstones – Safe Road Use, Safe Roads and Roadsides, Safe Speeds and Safe Vehicles. Copies of the strategy are available from the Office of Road Safety website <http://www.ors.wa.gov.au/Towards-Zero.aspx>.

As part of the development of *Towards Zero*, problem areas were identified by the Monash University Accident Research Centre from an analysis of WA's reported crashes between 2005 and 2007. Problem areas were prioritised on their estimated contribution to the number of deaths and serious injuries, either because of their frequency or because the associated risks were high.

On this basis, three crash types were identified as having the highest priority and are reported on in various sections of this text. Two crash types, intersection and run-off-road crashes[1], were identified as a priority since each resulted in a third of the people killed and seriously injured between 2005 and 2007, and the third crash type, head-on crashes, was chosen because the risk associated with a person being killed or seriously injured is high.

These crash types are not mutually exclusive, hence tables presenting *Towards Zero* High Priority Crash Types may count some crashes more than once, and percentages will not sum to 100%.

[1] 'Run Off Road' crashes are defined as crashes in which a vehicle involved exits the carriageway, through a loss of control, swerving to avoid a collision or for other reasons. After the vehicle has left the carriageway it may also collide with a person, object, or vehicle, or it may roll over, and/or a person may fall or be ejected from the vehicle.

## 1.4 Reporting Regions and Accessibility/Remoteness Index of Australia

The accessibility/remoteness index of Australia (ARIA) is a geographical measure of remoteness developed by the National Centre for Social Applications of Geographical Information Systems Consultancy Services. Measurements of road distances between populated localities and service centres were used to determine the ARIA score for a given location. ARIA scores were derived for over 12,000 populated localities within Australia. These ARIA scores have then been interpolated to provide an ARIA score for the whole of Australia. Localities that are more remote have less access to service centres; those that are less remote have greater access to service centres. The standard ranges that are used for ARIA scores are provided in Table 1. These ranges have been used in all ARIA tables throughout the report.

**Table 1 ARIA Scores and Categories**

| ARIA Score | ARIA Category |
|---|---|
| 0 to ≤0.2 | Highly Accessible |
| >0.2 to ≤2.4 | Accessible |
| >2.4 to ≤5.92 | Moderately Accessible |
| >5.92 to ≤10.53 | Remote |
| >10.53 | Very Remote |

Source: National Centre for Social Applications of Geographical Information Systems Consultancy Services.

In 2012, 77.5% of Western Australia's population were located in 'Highly Accessible' areas and 8.1% in 'Accessible' areas while only 2.2% were located in 'Very Remote' areas.

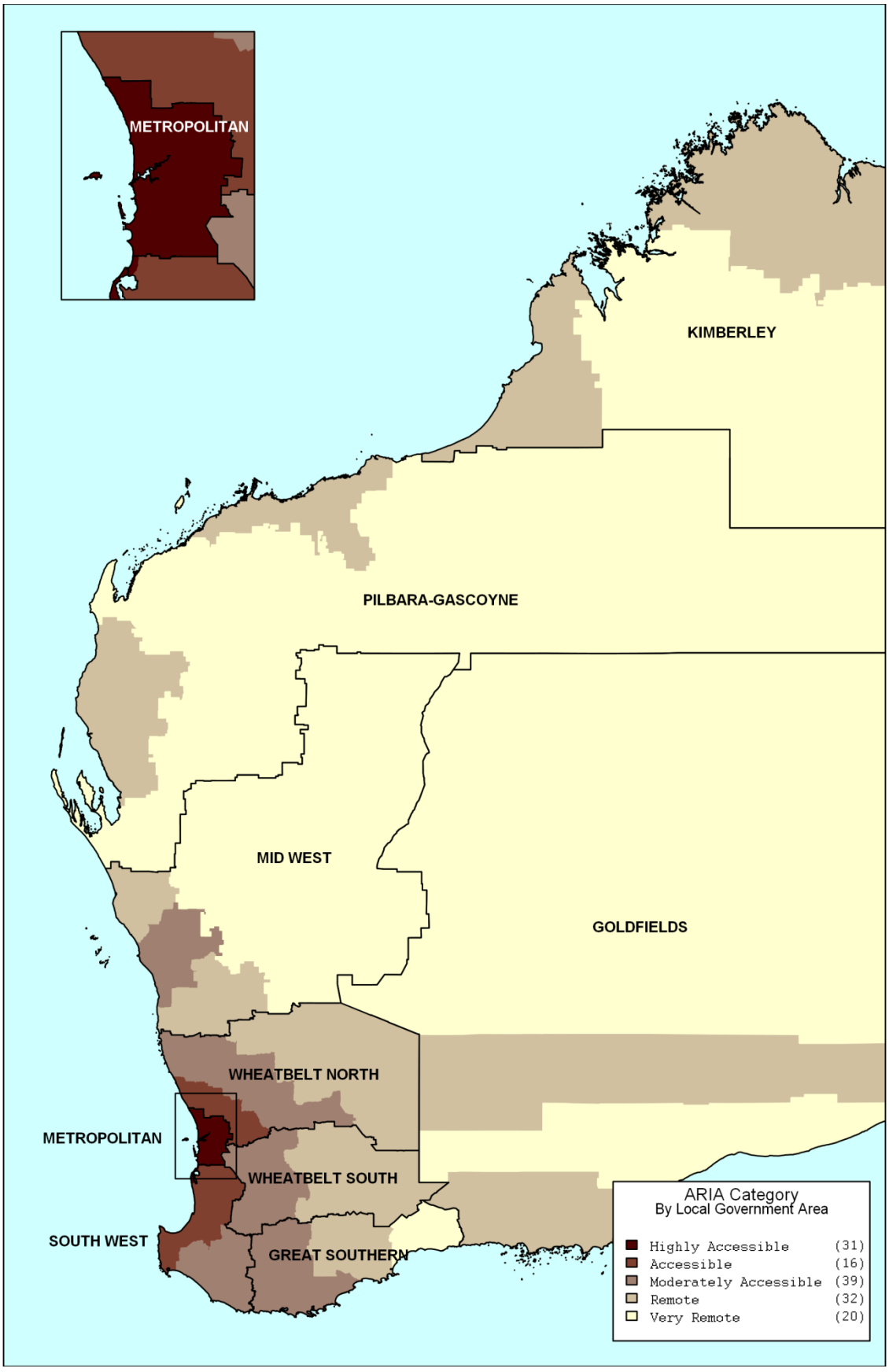
**Table 2 2012 Western Australian Population by ARIA Category**

| | 2012 Population | |
|---|---|---|
| **ARIA Category** | **n** | **%** |
| Highly Accessible | 1,885,269 | 77.5% |
| Accessible | 197,997 | 8.1% |
| Moderately Accessible | 187,323 | 7.7% |
| Remote | 108,233 | 4.4% |
| Very Remote | 53,884 | 2.2% |
| **Total** | **2,432,706** | **100%** |

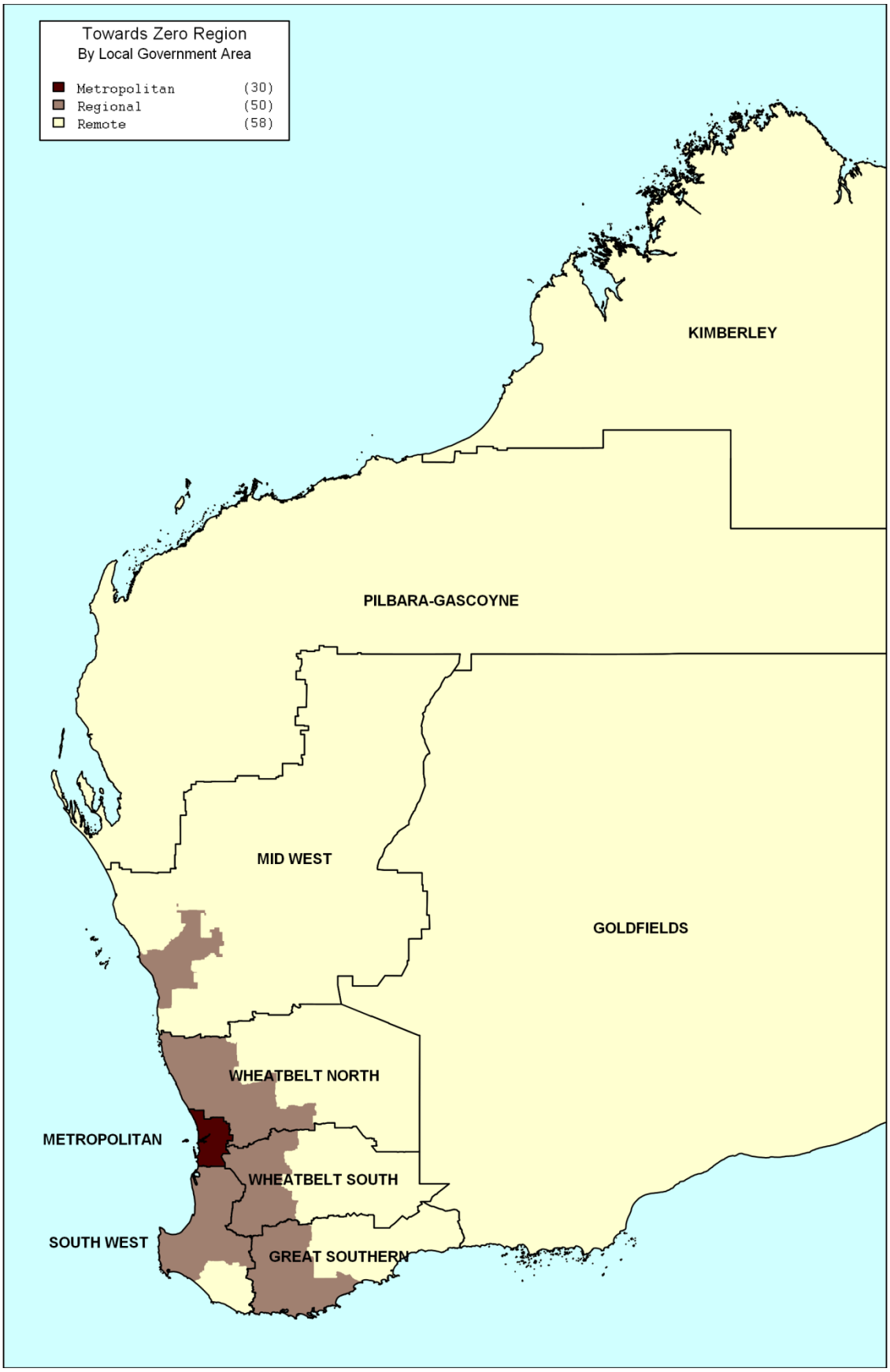
Source: Australian Bureau of Statistics, Customised report, 2013 for 2012 figures.

In line with the focus of the *Towards Zero* road safety strategy, some results in this report are presented comparing the Metropolitan region with Regional and Remote areas. The Metropolitan area is defined as the Perth Statistical Division and the remainder of the State is then split into Regional and Remote areas based on ARIA categories. Regional areas have ARIA categories of Accessible or Moderately Accessible, and Remote areas have ARIA categories of Remote or Very Remote. Note that the *Towards Zero* Regions were defined using 2006 ARIA categories whereas elsewhere in the book reports on 2011 ARIA categories. Map 1 shows the ARIA Categories, and Map 2 shows the *Towards Zero* Regions by Local Government Areas (LGAs) in Western Australia.

**Map 1 ARIA Categories by Local Government Area**



**Map 2** ***Towards Zero*** **Regions by Local Government Area**



## 1.5 Selected Western Australian Statistical Indicators

This section contains key statistics to provide an overview of the Western Australian economy and population for 2007 to 2012. This information may provide additional context to the road crash statistics.

**Table 3 Statistical Indicators of the Western Australian Economy by Year**

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011 |
| **Statistical Indicator** | n | n | n | n | n | n | % |
| **Gross State Product (June)[1]** | 138,542 | 154,840 | 176,143 | 181,566 | 221,574 | 236,338 | 6.7 |
| **Consumer Price Index (June)[2]** | | | | | | | |
| Index Numbers | 88.0 | 92.0 | 93.3 | 96.5 | 99.4 | 100.5 | 1.1 |
| Annual Percentage Change | 3.0 | 4.5 | 1.4 | 3.4 | 3.0 | 1.1 | 1.1 |
| **Labour Force (December)[3]** | | | | | | | |
| Persons Employed | 1,124,500 | 1,173,100 | 1,185,800 | 1,223,800 | 1,260,900 | 1,313,600 | 4.2 |
| Persons Unemployed | 37,500 | 39,600 | 64,200 | 56,400 | 54,800 | 59,400 | 8.4 |
| Total Labour Force | 1,162,000 | 1,212,700 | 1,250,000 | 1,280,200 | 1,315,700 | 1,373,000 | 4.4 |
| **Average Weekly Earnings (May)[4]** | | | | | | | |
| Male | $1,125.80 | $1,230.10 | $1,306.00 | $1,352.70 | $1,501.10 | $1,557.90 | 3.8 |
| Female | $632.00 | $660.20 | $706.40 | $740.40 | $780.40 | $830.60 | 6.4 |
| Persons | $893.00 | $959.30 | $1,008.70 | $1,060.50 | $1,146.00 | $1,203.40 | 5.0 |
| **New Motor Vehicle Sales[5]** | | | | | | | |
| Passenger Vehicles | 67,771 | 62,358 | 52,323 | 62,303 | 54,489 | 60,101 | 10.3 |
| Sports Utility Vehicle | 24,831 | 24,556 | 22,494 | 28,499 | 28,290 | 35,955 | 27.1 |
| Other Vehicles | 28,745 | 29,820 | 25,513 | 27,005 | 27,014 | 31,820 | 17.8 |
| Total Vehicle Sales | 121,346 | 116,736 | 100,331 | 117,807 | 109,793 | 127,876 | 16.5 |

1. Source: Australian Bureau of Statistics, Catalogue No. 5220.0, in $million (2011/2012 release). The estimates of Gross State Product are given in current price and chain volume terms.
2. Source: Australian Bureau of Statistics, Catalogue No. 6401.0 (September 2012 release). The Consumer Price Index is for all groups and is for the Perth Metropolitan area.
3. Source: Australian Bureau of Statistics, Catalogue No. 1306.5 (2008 – 2013 releases).
4. Source: Australian Bureau of Statistics, Catalogue No. 6302.0 Seasonally adjusted total earnings (May 2012 release).
5. Source: Australian Bureau of Statistics, Catalogue No. 9314.0 (January 2013 release). The New Motor Vehicle Sales figures are seasonally adjusted.

## Table 4 Western Australian Population by Gender and Age Group by Year

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011 |
| **Gender/Age Group** | **n** | **n** | **n** | **n** | **n** | **n** | **%** |
| **Male** | | | | | | | |
| 0 - 16 | 244,531 | 249,254 | 254,618 | 258,071 | 262,303 | 270,226 | 3.0 |
| 17 - 24 | 126,110 | 131,154 | 136,437 | 137,967 | 139,683 | 143,229 | 2.5 |
| 25 - 59 | 523,805 | 540,258 | 557,353 | 570,280 | 587,801 | 612,376 | 4.2 |
| 60 and over | 167,257 | 174,228 | 181,030 | 187,746 | 195,263 | 203,137 | 4.0 |
| **Total Males** | **1,061,703** | **1,094,894** | **1,129,438** | **1,154,064** | **1,185,050** | **1,228,968** | **3.7** |
| **Female** | | | | | | | |
| 0 - 16 | 230,602 | 236,307 | 242,355 | 246,625 | 251,682 | 259,023 | 2.9 |
| 17 - 24 | 117,727 | 122,822 | 127,127 | 128,817 | 131,138 | 134,015 | 2.2 |
| 25 - 59 | 511,350 | 525,939 | 542,099 | 554,572 | 570,374 | 589,681 | 3.4 |
| 60 and over | 184,757 | 191,738 | 199,231 | 206,767 | 215,165 | 223,051 | 3.7 |
| **Total Females** | **1,044,436** | **1,076,806** | **1,110,812** | **1,136,781** | **1,168,359** | **1,205,770** | **3.2** |
| **Persons** | | | | | | | |
| 0 - 16 | 475,133 | 485,561 | 496,973 | 504,696 | 513,985 | 529,249 | 3.0 |
| 17 - 24 | 243,837 | 253,976 | 263,564 | 266,784 | 270,821 | 277,244 | 2.4 |
| 25 - 59 | 1,035,155 | 1,066,197 | 1,099,452 | 1,124,852 | 1,158,175 | 1,202,057 | 3.8 |
| 60 and over | 352,014 | 365,966 | 380,261 | 394,513 | 410,428 | 426,188 | 3.8 |
| **Total Population**[1] | **2,106,139** | **2,171,700** | **2,240,250** | **2,290,845** | **2,353,409** | **2,434,738** | **3.5** |

1. Source: Australian Bureau of Statistics, Catalogue No. 3101.0 (September 2013 release).

# 2. ROAD CRASH AND INJURY SUMMARIES

## 2.1 Historical Information

This section presents trends in road traffic crashes, casualties and corresponding rates. It also includes the distribution of road crashes and casualties in 2012 by geographical areas.

This document provides information on 181 fatalities from 169 fatal crashes in 2012. This is one less fatality and one less fatal crash reported by other sources, as one fatal crash did not meet the inclusion criteria specified in the introduction of this report (page 1).

The excluded crash did not meet the definition of involving at least one moving vehicle. The only person recorded as being involved in the crash was using a motorised wheelchair, which was considered to be a pedestrian conveyance rather than a vehicle. The crash was therefore excluded from this report as a 'pedestrian only' crash.

**Figure 1 Fatalities by Year, 1961 to 2012**

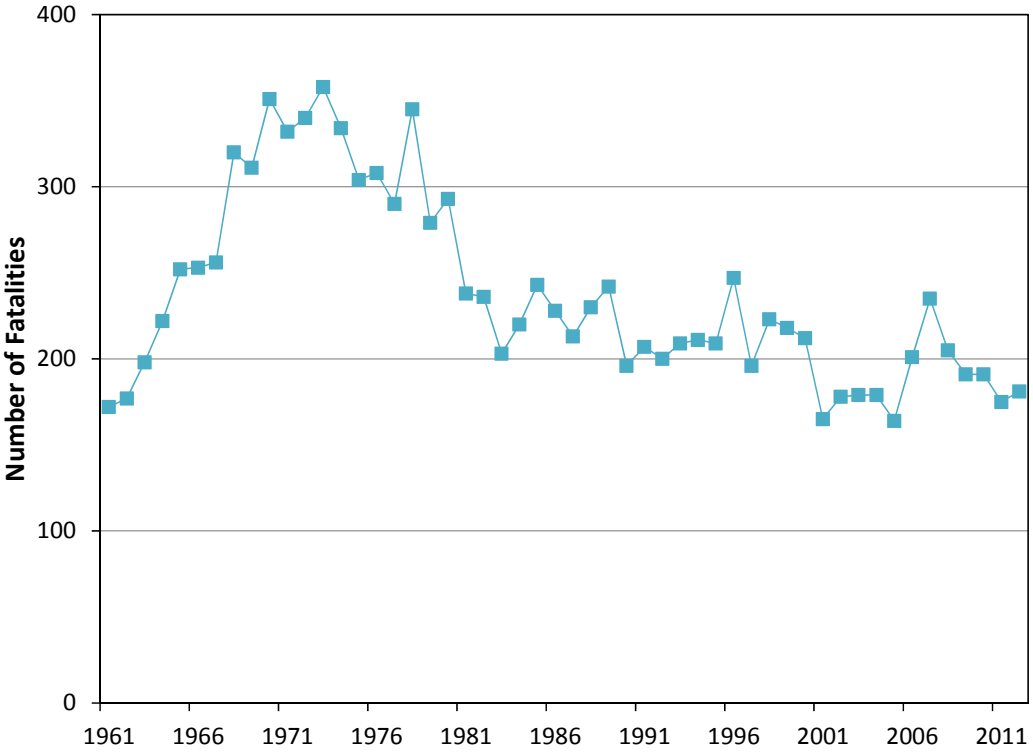


**Figure 2 Fatality Rates by Year, 1961 to 2012**

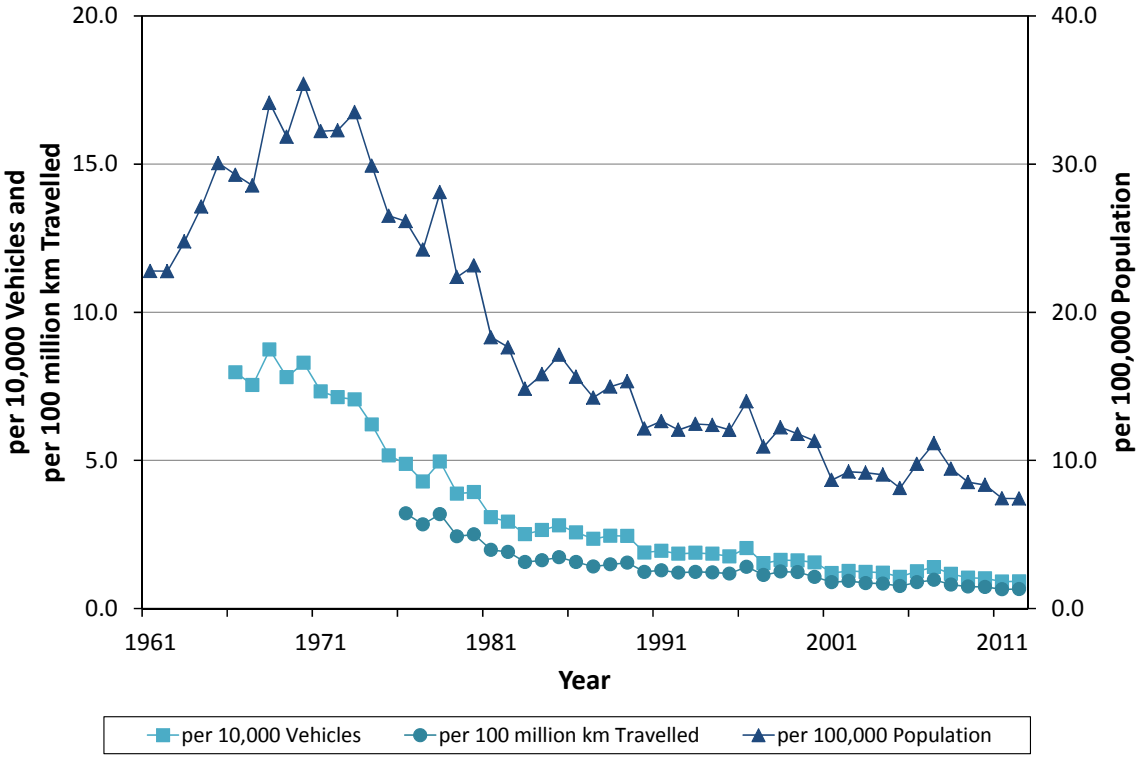



**Figure 3 Persons Seriously Injured by Year, 1980 to 2012**

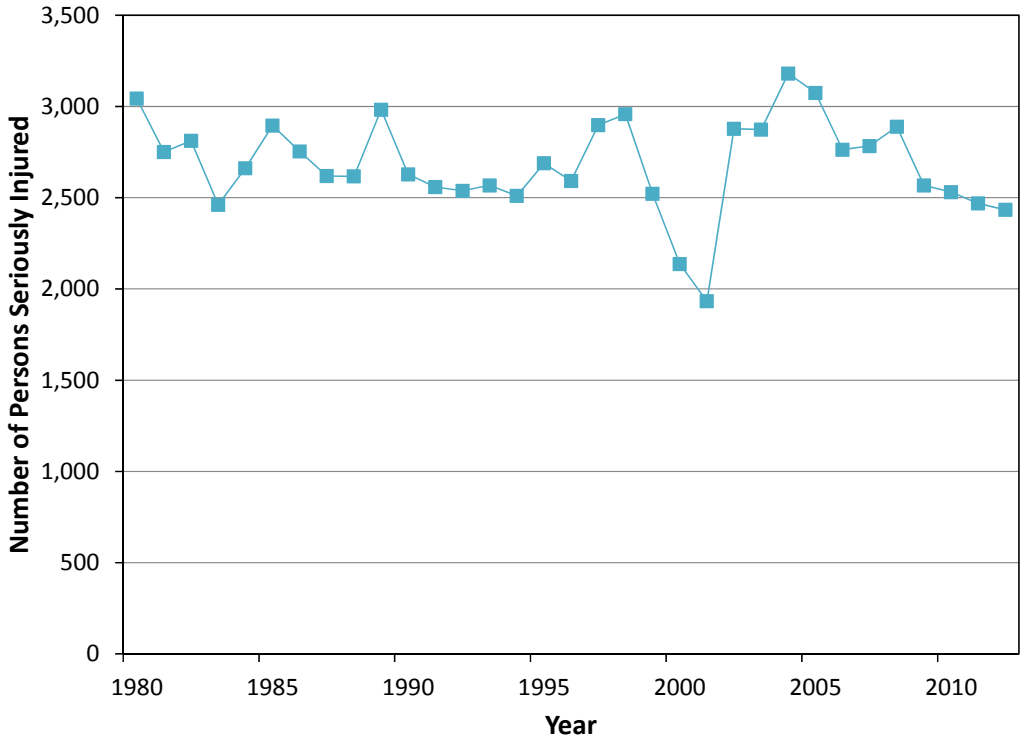


**Figure 4 Serious Injury Rates by Year, 1980 to 2012**

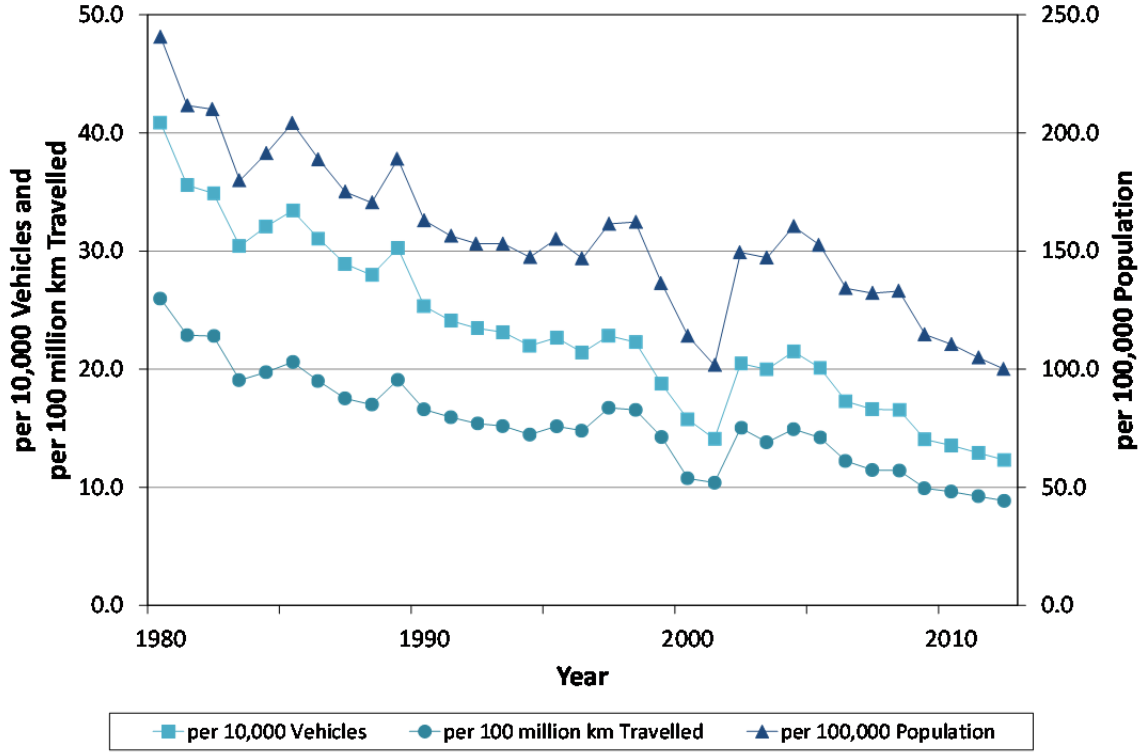
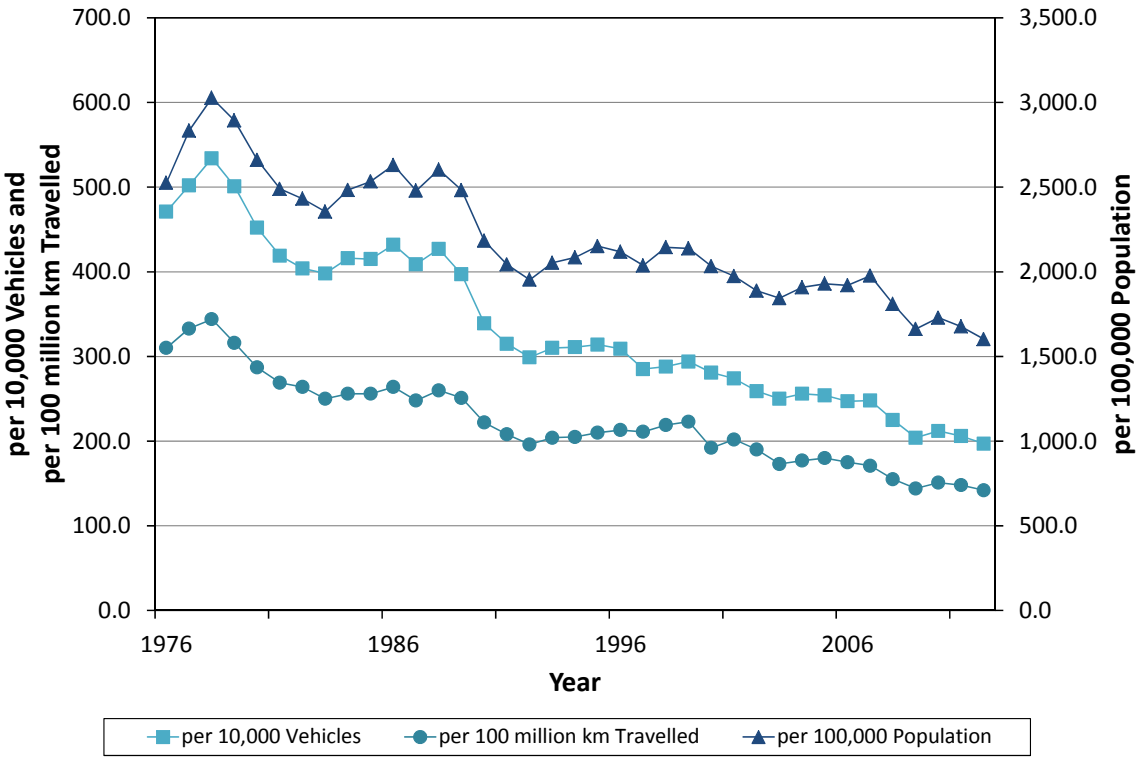



**Figure 5 Reported Crash Rates by Year, 1976 to 2012**



## Table 5 Crash Severity by Year

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011 |
| **Crash Severity** | **n** | **n** | **n** | **n** | **n** | **n** | **%** |
| Fatal | 213 | 185 | 176 | 174 | 163 | 169 | 3.7 |
| Hospitalisation | 2,188 | 2,279 | 2,007 | 2,031 | 2,006 | 1,990 | -0.8 |
| **Total Serious** | **2,401** | **2,464** | **2,183** | **2,205** | **2,169** | **2,159** | **-0.5** |
| Other | 39,229 | 36,833 | 35,043 | 37,410 | 37,288 | 36,849 | -1.2 |
| **Total Crashes** | **41,630** | **39,297** | **37,226** | **39,615** | **39,457** | **39,008** | **-1.1** |

## Table 6 Injury Severity by Year

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011 |
| **Injury Severity** | **n** | **n** | **n** | **n** | **n** | **n** | **%** |
| Fatal | 235 | 205 | 191 | 191 | 175 | 181 | 3.4 |
| Serious | 2,784 | 2,890 | 2,568 | 2,531 | 2,469 | 2,434 | -1.4 |
| **Total Persons KSI** | **3,019** | **3,095** | **2,759** | **2,722** | **2,644** | **2,615** | **-1.1** |
| Minor | 13,088 | 12,485 | 11,589 | 10,080 | 9,841 | 8,029 | -18.4 |
| None/unknown | 99,804 | 93,242 | 87,972 | 97,491 | 92,978 | 93,505 | 0.6 |
| **Total Persons** | **115,911** | **108,822** | **102,320** | **110,293** | **105,463** | **104,149** | **-1.2** |

## Table 7 Injury Rates per 100,000 Population by Severity and Year

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011 |
| **Injury Severity** | **n** | **n** | **n** | **n** | **n** | **n** | **%** |
| Fatal | 11.2 | 9.4 | 8.5 | 8.3 | 7.4 | 7.4 | 0.0 |
| Serious | 132.2 | 133.1 | 114.6 | 110.5 | 104.9 | 100.0 | -4.7 |
| **Total Persons KSI** | **143.3** | **142.5** | **123.2** | **118.8** | **112.3** | **107.4** | **-4.4** |
| Minor | 621.4 | 574.9 | 517.3 | 440.0 | 418.2 | 329.8 | -21.1 |
| None/unknown | 4,738.7 | 4,293.5 | 3,926.9 | 4,255.7 | 3,950.8 | 3,840.5 | -2.8 |
| **Total** | **5,503.5** | **5,010.9** | **4,567.3** | **4,814.5** | **4,481.3** | **4,277.6** | **-4.5** |
| **Estimated Population[1]** | **2,106,139** | **2,171,700** | **2,240,250** | **2,290,845** | **2,353,409** | **2,434,738** | **-** |

1. Source: Australian Bureau of Statistics, Catalogue No. 3101.0 (September 2013 release).

## Table 8 Injury Rates per 10,000 Registered Vehicles by Severity and Year

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011 |
| **Injury Severity** | **n** | **n** | **n** | **n** | **n** | **n** | **%** |
| Fatal | 1.4 | 1.2 | 1.0 | 1.0 | 0.9 | 0.9 | 0.0 |
| Serious | 16.6 | 16.5 | 14.0 | 13.5 | 12.9 | 12.3 | -4.7 |
| **Total Persons KSI** | **18.0** | **17.7** | **15.1** | **14.6** | **13.8** | **13.2** | **-4.3** |
| Minor | 78.1 | 71.5 | 63.4 | 53.9 | 51.4 | 40.6 | -21.1 |
| None/unknown | 595.3 | 533.9 | 481.2 | 521.3 | 486.1 | 472.8 | -2.7 |
| **Total** | **691.4** | **623.1** | **559.6** | **589.8** | **551.4** | **526.6** | **-4.5** |
| **Registered Vehicles**[1] | **1,676,495** | **1,746,579** | **1,828,346** | **1,870,068** | **1,912,739** | **1,977,756** | **-** |

1. Source: Australian Bureau of Statistics Motor Vehicle Census Catalogue No 9309.0 (2009 – 2013 releases).

## Table 9 Injury Rates per 100 Million Kilometres Travelled by Severity and Year

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011 |
| **Injury Severity** | **n** | **n** | **n** | **n** | **n** | **n** | **%** |
| Fatal | 1.0 | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 |
| Serious | 11.5 | 11.4 | 9.9 | 9.6 | 9.2 | 8.9 | -4.1 |
| **Total Persons KSI** | **12.4** | **12.2** | **10.7** | **10.4** | **9.9** | **9.5** | **-3.8** |
| Minor | 53.9 | 49.3 | 44.7 | 38.3 | 36.8 | 29.2 | -20.7 |
| None/unknown | 410.9 | 368.2 | 339.6 | 370.9 | 347.7 | 340.0 | -2.2 |
| **Total** | 477.2 | 429.7 | 395.0 | 419.6 | 394.4 | 378.7 | -4.0 |
| **Vehicle Kilometres Travelled (millions)**[1] | **24,289** | **25,325** | **25,902** | **26,285** | **26,740** | **27,500** | - |

1. Source: Australian Bureau of Statistics Survey of Motor Vehicle Use, Catalogue No 9208.0 (June 2012 release for 2007, 2010 and 2012 figures). Due to direct estimates being unavailable for 2008, 2009 and 2011, figures for those years were obtained by interpolating between the published average kilometres travelled per vehicle values for 2007, 2010 and 2012 and then multiplying by the number of registered vehicles in the respective years.

## Table 10 Crash Severity by *Towards Zero* Region

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| ***Towards Zero* Region** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Metropolitan | 80 | 47.3 | 1,355 | 68.1 | **1,435** | **66.5** | 31,544 | 85.6 | **32,979** | **84.5** |
| Regional | 52 | 30.8 | 366 | 18.4 | **418** | **19.4** | 3,719 | 10.1 | **4,137** | **10.6** |
| Remote | 37 | 21.9 | 269 | 13.5 | **306** | **14.2** | 1,586 | 4.3 | **1,892** | **4.9** |
| **Total Crashes** | **169** | **100.0** | **1,990** | **100.0** | **2,159** | **100.0** | **36,849** | **100.0** | **39,008** | **100.0** |

## Table 11 Injury Severity by *Towards Zero* Region

| | Injury Severity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Serious | | Total Persons KSI | | Minor | | None/Unknown | | Total | |
| ***Towards Zero* Region** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Metropolitan | 84 | 46.4 | 1,568 | 64.4 | **1,652** | **63.2** | 6,565 | 81.8 | 80,809 | 86.4 | **89,026** | **85.5** |
| Regional | 54 | 29.8 | 487 | 20.0 | **541** | **20.7** | 977 | 12.2 | 8,869 | 9.5 | **10,387** | **10.0** |
| Remote | 43 | 23.8 | 379 | 15.6 | **422** | **16.1** | 487 | 6.1 | 3,827 | 4.1 | **4,736** | **4.5** |
| **Total Persons** | **181** | **100.0** | **2,434** | **100.0** | **2,615** | **100.0** | **8,029** | **100.0** | **93,505** | **100.0** | **104,149** | **100.0** |

## Table 12 Crash Severity by ARIA Category

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| **ARIA Category** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Highly Accessible | 83 | 49.1 | 1,401 | 70.4 | **1,484** | **68.7** | 32,233 | 87.5 | **33,717** | **86.4** |
| Accessible | 31 | 18.3 | 204 | 10.3 | **235** | **10.9** | 1,900 | 5.2 | **2,135** | **5.5** |
| Moderately Accessible | 25 | 14.8 | 163 | 8.2 | **188** | **8.7** | 1,637 | 4.4 | **1,825** | **4.7** |
| Remote | 17 | 10.1 | 140 | 7.0 | **157** | **7.3** | 724 | 2.0 | **881** | **2.3** |
| Very Remote | 13 | 7.7 | 82 | 4.1 | **95** | **4.4** | 355 | 1.0 | **450** | **1.2** |
| **Total Crashes** | **169** | **100.0** | **1,990** | **100.0** | **2,159** | **100.0** | **36,849** | **100.0** | **39,008** | **100.0** |

## Table 13 Injury Severity by ARIA Category

| | Injury Severity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Serious | | Total Persons KSI | | Minor | | None/Unknown | | Total | |
| **ARIA Category** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Highly Accessible | 87 | 48.1 | 1,621 | 66.6 | **1,708** | **65.3** | 6,730 | 83.8 | 82,708 | 88.5 | **91,146** | **87.5** |
| Accessible | 33 | 18.2 | 280 | 11.5 | **313** | **12.0** | 533 | 6.6 | 4,412 | 4.7 | **5,258** | **5.0** |
| Moderately Accessible | 25 | 13.8 | 208 | 8.5 | **233** | **8.9** | 397 | 4.9 | 3,739 | 4.0 | **4,369** | **4.2** |
| Remote | 22 | 12.2 | 210 | 8.6 | **232** | **8.9** | 213 | 2.7 | 1,858 | 2.0 | **2,303** | **2.2** |
| Very Remote | 14 | 7.7 | 115 | 4.7 | **129** | **4.9** | 156 | 1.9 | 788 | 0.8 | **1,073** | **1.0** |
| **Total Persons** | **181** | **100.0** | **2,434** | **100.0** | **2,615** | **100.0** | **8,029** | **100.0** | **93,505** | **100.0** | **104,149** | **100.0** |

## 2.2 Cost of Crashes

Estimates of the financial cost of road traffic injuries and crashes in Western Australia have been calculated using two different methods, and both are shown for comparison in Table 14.

The human capital approach evaluates the benefit of avoiding death and injury as the present value of income flow the economy could lose if a crash occurs. It is an "after the fact" valuation. That is, it focuses on the value lost to the economy after the event has occurred. The cost calculation is based on various identifiable costs associated with the crash and its aftermath. These include, but are not restricted to, the cost of ambulance, hospital inpatient and other medical costs, long term care, funeral costs, loss of income by the casualty and the repair or replacement costs to the vehicles and property involved in the crash. The value of the injury is then measured as the sum of the discounted present value of these component costs.

The willingness-to-pay approach is based on subjective preferences and is usually defined as the amount of money that individuals are willing to pay to reduce their risk of premature death or injury, while performing certain risky activities such as using the road network. When people spend extra time or money to avoid potentially fatal risks, or accept money to take such risks, they are making a trade off between their wealth and the probability of death or injury. In this sense, road safety is not valued on the basis of the cost of crashes or the loss of income by crash victims, but it is the value placed on a reduction in risk of death or injury due to a crash. So instead of deriving an "after the fact" value of the costs associated with a road crash, the willingness-to-pay approach captures the value individuals place on avoiding death and injury.

The human capital approach valuations were obtained from the Austroads publication "Guide to Project Evaluation Part 4: Project Evaluation Data", which provides estimates of average crash costs ($/crash) as at 30 June 2007. These valuations have been adjusted for inflation using Western Australia-specific price indices derived from the consumer price index (CPI) indices for June and seasonally adjusted average weekly earnings for May published by the Australian Bureau of Statistics. The willingness-to-pay valuations were obtained from the New South Wales Road Traffic Authority publication "Economic Valuation of Safety Benefits: Serious injuries - Final Report". These are the only Australian willingness-to-pay values currently available. These figures have also been adjusted for inflation using the Perth specific CPI – All Groups index for June, published by the Australian Bureau of Statistics.

The most striking difference between the two approaches is the much higher value associated with fatal crashes using the willingness-to-pay approach, compared to the human capital valuation. This is an indication of the value that the community places on avoiding road deaths. The other difference is that the willingness-to-pay valuations for hospitalisation crashes are lower than the human capital approach equivalents. For example, using the human capital approach to estimate the total cost of crashes in 2012 yields an estimate of $2.1 billion, 22% of which was due to fatal crashes and 56% from hospitalisation crashes. In contrast, the willingness-to-pay approach gives an estimate of $2.7 billion, of which 46% was due to fatal crashes and 25% from hospitalisation crashes.

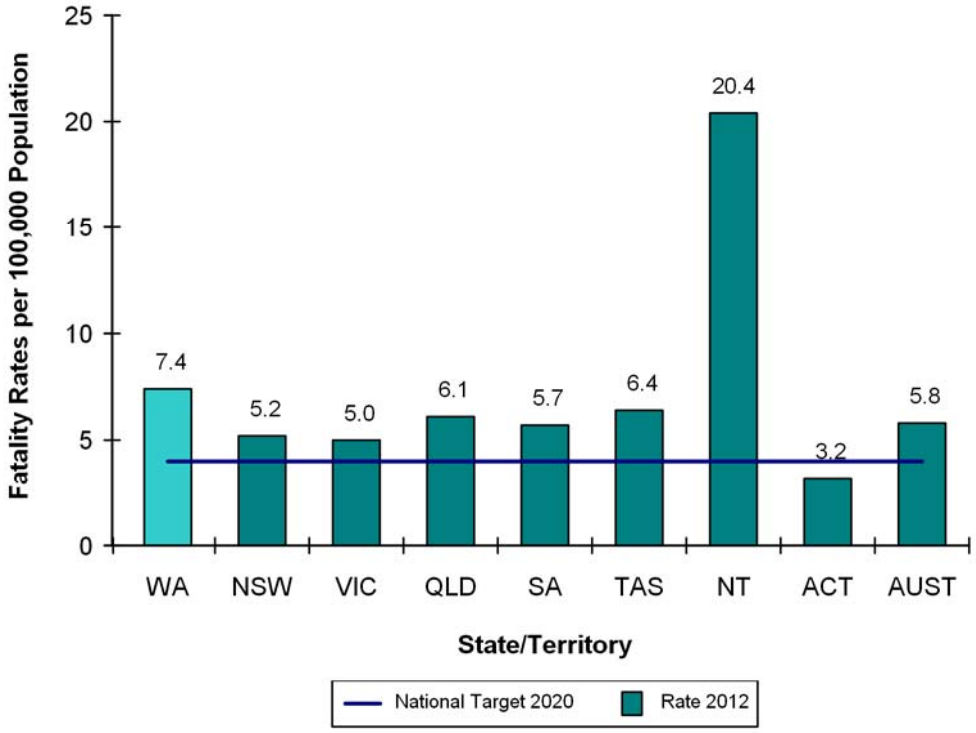
## Table 14 Estimated Cost of Crashes to the Western Australian Community

| | | Human Capital Approach | | Willingness-to-Pay Approach | |
|---|---|---|---|---|---|
| | Crashes | Cost Per Crash[1] | Total Cost | Cost Per Crash[2] | Total Cost |
| **Crash Severity** | n | $ | $ | $ | $ |
| **Metropolitan** | | | | | |
| Fatal | 80 | 2,623,467 | 209.9M | 6,898,492 | 551.9M |
| Hospitalisation | 1,355 | 594,505 | 805.6M | 292,766 | 396.7M |
| Medical Attention | 4,470 | 34,743 | 155.3M | 74,991 | 335.2M |
| Other[3] | 27,074 | 9,136 | 247.4M | 11,330 | 306.8M |
| **Total Metropolitan Crashes** | **32,979** | **-** | **1418.1M** | **-** | **1590.5M** |
| **Non-Metropolitan** | | | | | |
| Fatal | 89 | 2,857,344 | 254.3M | 7,969,955 | 709.3M |
| Hospitalisation | 635 | 642,422 | 407.9M | 467,526 | 296.9M |
| Medical Attention | 747 | 36,574 | 27.3M | 103,480 | 77.3M |
| Other[3] | 4,558 | 9,136 | 41.6M | 11,330 | 51.6M |
| **Total Non-Metro Crashes** | **6,029** | **-** | **731.2M** | **-** | **1135.1M** |
| **Total Western Australian Crashes** | **39,008** | **-** | **2149.3M** | **-** | **2725.6M** |

1. Human capital costs per crash were provided by the Office of Road Safety and are based on:
   - Austroads' "Guide to Project Evaluation Part 4: Project Evaluation Data" (2008).
   - Average weekly earnings for Western Australia for the May quarter Australia Bureau of Statistics Catalogue No. 6302 (May 2012 release).
   - The Consumer Price Index, Australia Bureau of Statistics Catalogue No. 6401.0 (September 2012 release).
2. Willingness-to-pay costs per crash were provided by the Office of Road Safety and are derived using:
   - Costs per injury from NSW RTA "Economic Valuation of Safety Benefits: Serious injuries - Final Report".
   - Consumer price index (CPI) categories of CPI - All Groups, CPI - Motor Vehicle Repair and Servicing and CPI – Health, for the June quarter, Australia Bureau of Statistics Catalogue No. 6401.0.
3. Other refers to crashes that resulted in property damage only.

## 2.3 Comparison with Other States and Territories

**Figure 6 Fatality Rates per 100,000 Population - Australian States and Territories**




Note: The National target for 2020 is a rate of 4.0 fatalities per 100,000 population.

**Table 15 Fatality Rates per 100,000 Population by Year - Australian States and Territories**

| | Year | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2007 | | 2008 | | 2009 | | 2010 | | 2011 | | 2012 | |
| State/Territory | n | Rate | n | Rate | n | Rate | n | Rate | n | Rate | n | Rate |
| **WA** | **235** | **11.1** | **205** | **9.4** | **191** | **8.5** | **191** | **8.3** | **175** | **7.4** | **181** | **7.4** |
| NSW | 435 | 6.3 | 374 | 5.4 | 453 | 6.4 | 405 | 5.7 | 364 | 5.0 | 376 | 5.2 |
| VIC | 332 | 6.4 | 303 | 5.7 | 290 | 5.4 | 288 | 5.3 | 287 | 5.2 | 282 | 5.0 |
| QLD | 360 | 8.6 | 328 | 7.7 | 331 | 7.6 | 249 | 5.6 | 269 | 6.0 | 280 | 6.1 |
| SA | 124 | 7.8 | 99 | 6.2 | 119 | 7.4 | 118 | 7.2 | 103 | 6.3 | 94 | 5.7 |
| TAS | 45 | 9.1 | 39 | 7.8 | 63 | 12.5 | 31 | 6.1 | 24 | 4.7 | 33 | 6.4 |
| NT | 58 | 27.0 | 75 | 33.9 | 30 | 13.2 | 49 | 21.3 | 44 | 19.0 | 48 | 20.4 |
| ACT | 14 | 4.1 | 14 | 4.0 | 12 | 3.4 | 19 | 5.3 | 6 | 1.6 | 12 | 3.2 |
| **AUST** | **1,603** | **7.6** | **1,437** | **6.7** | **1,488** | **6.8** | **1,352** | **6.1** | **1,277** | **5.7** | **1,310** | **5.8** |

Source: Number of fatalities for Western Australia from IRIS, number of fatalities for all other states and territories extracted (18/06/2013) from the Australian Transport Safety Bureau "Fatal Road Crash Database".

Rates calculated using population data from Australian Bureau of Statistics Catalogue No. 3101.0 (September 2013 release).

## 2.4 Gender and Age

**Table 16 Fatalities by Gender and Age Group by Year**

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011 |
| **Gender/Age Group** | **n** | **n** | **n** | **n** | **n** | **n** | **%** |
| **Male** | | | | | | | |
| 0 - 11 | 4 | 8 | 5 | 5 | 6 | 3 | N/R |
| 12 - 16 | 7 | 4 | 5 | 2 | 3 | 3 | N/R |
| 17 - 24 | 34 | 41 | 27 | 32 | 31 | 22 | -29.0 |
| 25 - 39 | 64 | 42 | 47 | 43 | 33 | 44 | 33.3 |
| 40 - 59 | 48 | 34 | 39 | 35 | 32 | 35 | 9.4 |
| 60 and over | 19 | 20 | 18 | 14 | 24 | 15 | -37.5 |
| **Total Male** | **176** | **149** | **141** | **131** | **129** | **123** | **-4.7** |
| **Female** | | | | | | | |
| 0 - 11 | 2 | 1 | 3 | 2 | 1 | 1 | N/R |
| 12 - 16 | 3 | 4 | 2 | 2 | 1 | 2 | N/R |
| 17 - 24 | 13 | 11 | 9 | 12 | 13 | 11 | -15.4 |
| 25 - 39 | 18 | 16 | 13 | 12 | 9 | 16 | N/R |
| 40 - 59 | 11 | 13 | 9 | 15 | 7 | 15 | N/R |
| 60 and over | 11 | 7 | 11 | 15 | 15 | 12 | -20.0 |
| **Total Female** | **58** | **52** | **47** | **58** | **46** | **57** | **23.9** |
| **Total Unknown Gender** | **1** | **4** | **3** | **2** | **0** | **1** | **N/R** |
| **All Persons** | | | | | | | |
| 0 – 11 | 6 | 9 | 9 | 9 | 7 | 4 | N/R |
| 12 - 16 | 10 | 8 | 7 | 4 | 4 | 5 | N/R |
| 17 - 24 | 48 | 53 | 36 | 44 | 44 | 33 | -25.0 |
| 25 - 39 | 82 | 59 | 60 | 55 | 42 | 61 | 45.2 |
| 40 - 59 | 59 | 47 | 50 | 50 | 39 | 50 | 28.2 |
| 60 and over | 30 | 28 | 29 | 29 | 39 | 27 | -30.8 |
| Unknown age | 0 | 1 | 0 | 0 | 0 | 1 | N/R |
| **Total Fatalities** | **235** | **205** | **191** | **191** | **175** | **181** | **3.4** |

1. 2012 change from 2011 not reported for persons with unknown age or gender, or for age groups with fewer than ten fatalities.

**Figure 7 Fatalities by Gender and Age Group**

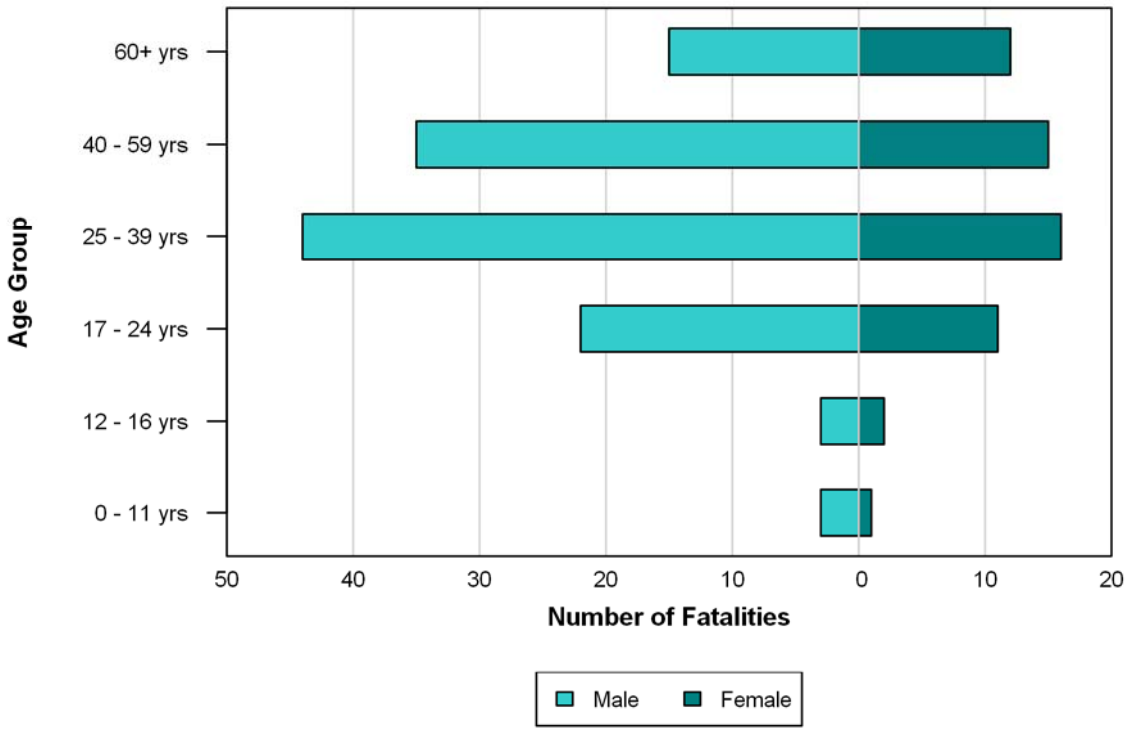



**Table 17 Fatalities by Age Group and Gender**

| | Gender | | | Percentage of Fatalities | Percentage of Population | Age-Specific Fatality Rate[2] |
|---|---|---|---|---|---|---|
| | Male | Female | Total[1] | | | |
| **Age Group** | **n** | **n** | **n** | **%** | **%** | **Rate** |
| 0 - 5 | 2 | 1 | **3** | 1.7 | 7.9 | 1.6 |
| 6 - 11 | 1 | 0 | **1** | 0.6 | 7.4 | 0.6 |
| 12 - 16 | 3 | 2 | **5** | 2.8 | 6.4 | 3.3 |
| 17 - 20 | 10 | 6 | **16** | 8.8 | 5.4 | 12.6 |
| 21 - 24 | 12 | 5 | **17** | 9.4 | 6.1 | 11.8 |
| 25 - 29 | 16 | 6 | **23** | 12.7 | 7.9 | 12.4 |
| 30 - 34 | 18 | 5 | **23** | 12.7 | 7.1 | 13.8 |
| 35 - 39 | 10 | 5 | **15** | 8.3 | 7.2 | 8.9 |
| 40 - 44 | 9 | 6 | **15** | 8.3 | 7.4 | 8.7 |
| 45 - 49 | 11 | 4 | **15** | 8.3 | 7.1 | 9.0 |
| 50 - 54 | 8 | 5 | **13** | 7.2 | 6.7 | 8.2 |
| 55 - 59 | 7 | 0 | **7** | 3.9 | 6.0 | 5.0 |
| 60 - 64 | 3 | 3 | **6** | 3.3 | 5.4 | 4.8 |
| 65 - 69 | 3 | 2 | **5** | 2.8 | 3.9 | 5.5 |
| 70 - 74 | 1 | 4 | **5** | 2.8 | 2.9 | 7.3 |
| 75 - 79 | 3 | 0 | **3** | 1.7 | 2.2 | 5.8 |
| 80 - 84 | 2 | 3 | **5** | 2.8 | 1.7 | 12.7 |
| 85 and over | 3 | 0 | **3** | 1.7 | 1.5 | 8.7 |
| Unknown age | 1 | 0 | **1** | 0.6 | N/A | N/A |
| **Total Fatalities** | **123** | **57** | **181** | **100.0** | **100.0** | **7.7** |

Source: Population data from Australian Bureau of Statistics, Customised report, 2013.

1. Includes unknown gender.
2. Age-specific fatality rates per 100,000 population.

## Table 18 Fatalities by Age Group Subtotals and Gender

| | Gender | | | Percentage of Fatalities | Percentage of Population | Age-Specific Fatality Rate[2] |
|---|---|---|---|---|---|---|
| | Male | Female | Total[1] | | | |
| **Age Group** | **n** | **n** | **n** | **%** | **%** | **Rate** |
| 0 - 11 | 3 | 1 | **4** | 2.2 | 15.3 | 1.1 |
| 12 - 16 | 3 | 2 | **5** | 2.8 | 6.4 | 3.3 |
| 17 - 24 | 22 | 11 | **33** | 18.2 | 11.5 | 12.2 |
| 25 - 39 | 44 | 16 | **61** | 33.7 | 22.1 | 11.7 |
| 40 - 59 | 35 | 15 | **50** | 27.6 | 27.1 | 7.8 |
| 60 and over | 15 | 12 | **27** | 14.9 | 17.5 | 6.6 |
| Unknown age | 1 | 0 | **1** | 0.6 | N/A | N/A |
| **Total Fatalities** | **123** | **57** | **181** | **100.0** | **100.0** | **7.7** |

Source: Population data from Australian Bureau of Statistics, Customised report, 2013.

1. Includes unknown gender.
2. Age-specific fatality rates per 100,000 population.

## Table 19 Persons Seriously Injured by Gender and Age Group by Year

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011 |
| **Gender/Age Group** | **n** | **n** | **n** | **n** | **n** | **n** | **%** |
| **Male** | | | | | | | |
| 0 – 11 | 21 | 19 | 21 | 24 | 25 | 25 | - |
| 12 – 16 | 44 | 47 | 45 | 42 | 54 | 62 | 14.8 |
| 17 – 24 | 404 | 349 | 278 | 290 | 305 | 324 | 6.2 |
| 25 – 39 | 403 | 421 | 373 | 371 | 393 | 412 | 4.8 |
| 40 – 59 | 321 | 358 | 316 | 338 | 375 | 354 | -5.6 |
| 60 and over | 158 | 143 | 127 | 148 | 152 | 156 | 2.6 |
| Unknown age | 44 | 35 | 36 | 24 | 41 | 37 | N/R |
| **Total Male** | **1,395** | **1,372** | **1,196** | **1,237** | **1,345** | **1,370** | **1.9** |
| **Female** | | | | | | | |
| 0 – 11 | 20 | 11 | 14 | 10 | 26 | 34 | 30.8 |
| 12 – 16 | 26 | 19 | 15 | 22 | 34 | 21 | -38.2 |
| 17 – 24 | 233 | 220 | 198 | 180 | 196 | 174 | -11.2 |
| 25 – 39 | 248 | 230 | 186 | 207 | 212 | 215 | 1.4 |
| 40 – 59 | 206 | 217 | 203 | 220 | 214 | 212 | -0.9 |
| 60 and over | 110 | 101 | 113 | 118 | 118 | 125 | 5.9 |
| Unknown age | 34 | 21 | 21 | 25 | 47 | 31 | N/R |
| **Total Female** | **877** | **819** | **750** | **782** | **847** | **812** | **-4.1** |
| **Total Unknown Gender** | **512** | **699** | **622** | **512** | **277** | **252** | **N/R** |
| **All Persons** | | | | | | | |
| 0 – 11 | 83 | 97 | 95 | 84 | 84 | 95 | 13.1 |
| 12 – 16 | 126 | 131 | 111 | 105 | 107 | 100 | -6.5 |
| 17 – 24 | 757 | 741 | 648 | 583 | 588 | 554 | -5.8 |
| 25 – 39 | 737 | 752 | 663 | 677 | 659 | 687 | 4.2 |
| 40 – 59 | 589 | 674 | 603 | 638 | 618 | 594 | -3.9 |
| 60 and over | 319 | 336 | 308 | 317 | 286 | 302 | 5.6 |
| Unknown age | 173 | 159 | 140 | 127 | 127 | 102 | N/R |
| **Total Persons Seriously Injured** | **2,784** | **2,890** | **2,568** | **2,531** | **2,469** | **2,434** | **-1.4** |

1. 2012 change from 2011 not reported for persons with unknown age or gender, or for age groups with fewer than ten persons seriously injured.

## Table 20 Persons Seriously Injured by Age Group and Gender

| | Gender | | | Percentage of Seriously Injured | Percentage of Population | Age-Specific Serious Injury Rate[2] |
|---|---|---|---|---|---|---|
| | Male | Female | Total[1] | | | |
| **Age Group** | **n** | **n** | **n** | **%** | **%** | **Rate** |
| 0 - 5 | 9 | 16 | **45** | 1.8 | 7.9 | 24.1 |
| 6 - 11 | 16 | 18 | **50** | 2.1 | 7.4 | 28.7 |
| 12 - 16 | 62 | 21 | **100** | 4.1 | 6.4 | 66.3 |
| 17 - 20 | 158 | 89 | **276** | 11.3 | 5.4 | 216.7 |
| 21 - 24 | 166 | 85 | **278** | 11.4 | 6.1 | 193.7 |
| 25 - 29 | 166 | 81 | **271** | 11.1 | 7.9 | 146.7 |
| 30 - 34 | 124 | 73 | **217** | 8.9 | 7.1 | 130.6 |
| 35 - 39 | 122 | 61 | **199** | 8.2 | 7.2 | 117.9 |
| 40 - 44 | 116 | 58 | **182** | 7.5 | 7.4 | 105.2 |
| 45 - 49 | 86 | 61 | **153** | 6.3 | 7.1 | 91.4 |
| 50 - 54 | 72 | 52 | **133** | 5.5 | 6.7 | 84.2 |
| 55 - 59 | 80 | 41 | **126** | 5.2 | 6.0 | 89.9 |
| 60 - 64 | 51 | 32 | **89** | 3.7 | 5.4 | 70.6 |
| 65 - 69 | 32 | 25 | **65** | 2.7 | 3.9 | 71.2 |
| 70 - 74 | 20 | 24 | **45** | 1.8 | 2.9 | 65.8 |
| 75 - 79 | 16 | 15 | **35** | 1.4 | 2.2 | 67.8 |
| 80 - 84 | 22 | 16 | **39** | 1.6 | 1.7 | 99.1 |
| 85 and over | 15 | 13 | **29** | 1.2 | 1.5 | 83.8 |
| Unknown age | 37 | 31 | **102** | 4.2 | N/A | N/A |
| **Total Persons Seriously Injured** | **1,370** | **812** | **2,434** | **100.0** | **100.0** | **103.5** |

Source: Population data from Australian Bureau of Statistics, Customised report, 2013.
1. Includes persons of unknown gender.
2. Age-specific serious injury rates per 100,000 population.

## Table 21 Persons Seriously Injured by Age Group Subtotals and Gender

| | Gender | | | Percentage of Seriously Injured | Percentage of Population | Age-Specific Serious Injury Rate[2] |
|---|---|---|---|---|---|---|
| | Male | Female | Total[1] | | | |
| **Age Group** | **n** | **n** | **n** | **%** | **%** | **Rate** |
| 0 – 11 | 25 | 34 | **95** | 3.9 | 15.3 | 26.3 |
| 12 – 16 | 62 | 21 | **100** | 4.1 | 6.4 | 66.3 |
| 17 – 24 | 324 | 174 | **554** | 22.8 | 11.5 | 204.5 |
| 25 – 39 | 412 | 215 | **687** | 28.2 | 22.1 | 132.2 |
| 40 – 59 | 354 | 212 | **594** | 24.4 | 27.1 | 93.0 |
| 60 and over | 156 | 125 | **302** | 12.4 | 17.5 | 73.4 |
| Unknown age | 37 | 31 | **102** | 4.2 | N/A | N/A |
| **Total Persons Seriously Injured** | **1,370** | **812** | **2,434** | **100.0** | **100.0** | **103.5** |

Source: Population data from Australian Bureau of Statistics, Customised report, 2013.
1. Includes unknown gender.
2. Age-specific serious injury rates per 100,000 population.

## 2.5 Road User Types

Summaries of the number of persons killed or seriously injured are provided by road user type. When interpreting tables showing road user type by gender, it should be noted that gender was not recorded for a large percentage of motor vehicle passengers.

**Figure 8 Fatalities by Road User Type**

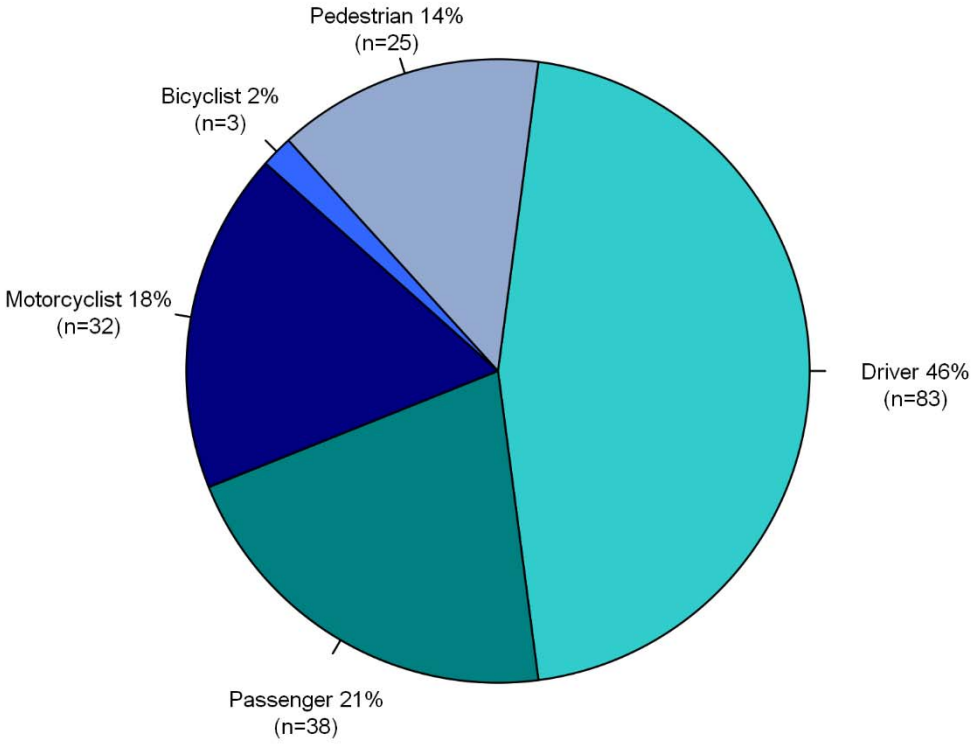


**Figure 9 Persons Seriously Injured by Road User Type**

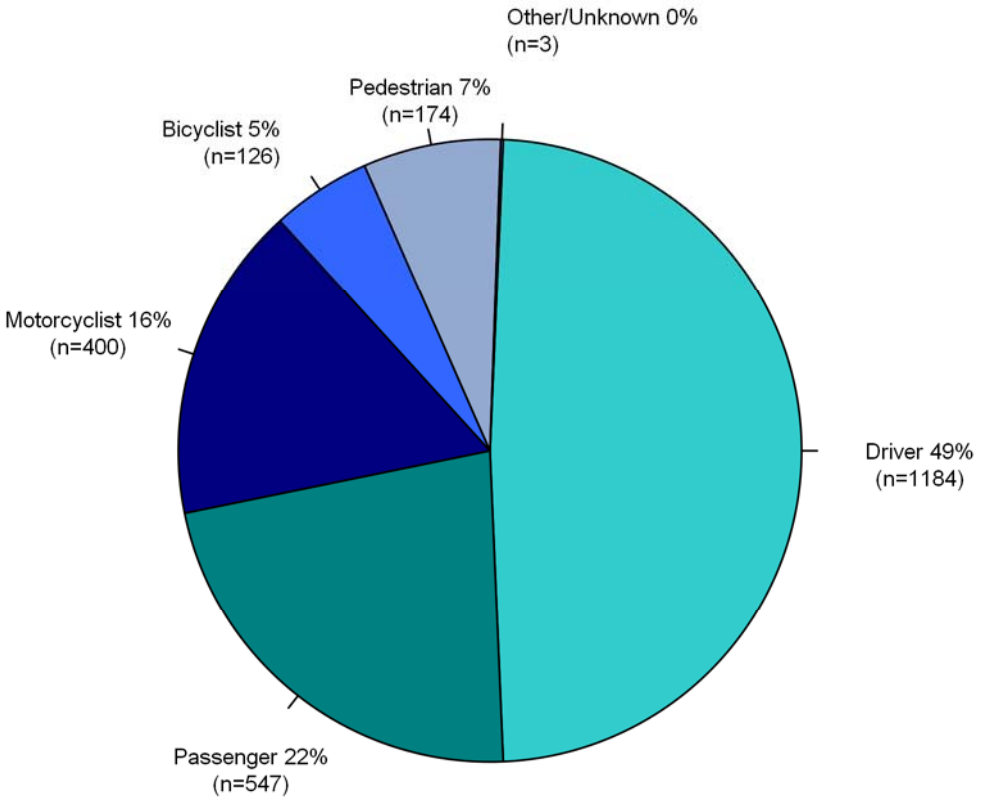



**Table 22 Fatalities by Road User Type by Year**

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011 |
| **Road User** | **n** | **n** | **n** | **n** | **n** | **n** | **%** |
| Driver | 113 | 100 | 90 | 96 | 86 | 83 | -3.5 |
| Passenger | 64 | 45 | 43 | 40 | 37 | 38 | 2.7 |
| Motorcyclist | 34 | 37 | 33 | 35 | 25 | 32 | 28.0 |
| Bicyclist | 4 | 3 | 0 | 4 | 3 | 3 | N/R |
| Pedestrian | 20 | 20 | 25 | 16 | 24 | 25 | 4.2 |
| Other/ Unknown | 0 | 0 | 0 | 0 | 0 | 0 | N/A |
| **Total Fatalities** | **235** | **205** | **191** | **191** | **175** | **181** | **3.4** |

1. 2012 change from 2011 not reported for road user types with fewer than ten fatalities.

**Table 23 Persons Seriously Injured by Road User Type by Year**

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011 |
| **Road User** | **N** | **n** | **n** | **n** | **n** | **n** | **%** |
| Driver | 1,498 | 1,500 | 1,224 | 1,273 | 1,229 | 1,184 | -3.7 |
| Passenger | 691 | 705 | 661 | 577 | 549 | 547 | -0.4 |
| Motorcyclist | 347 | 389 | 360 | 386 | 400 | 400 | - |
| Bicyclist | 88 | 116 | 112 | 107 | 102 | 126 | 23.5 |
| Pedestrian | 160 | 180 | 211 | 188 | 189 | 174 | -7.9 |
| Other/ Unknown | 0 | 0 | 0 | 0 | 0 | 3 | N/R |
| **Total Persons Seriously Injured** | **2,784** | **2,890** | **2,568** | **2,531** | **2,469** | **2,434** | **-1.4** |

1. 2012 change from 2011 not reported for road user types with fewer than ten fatalities.

**Figure 10 Persons Killed or Seriously Injured by Road User Type by Gender**

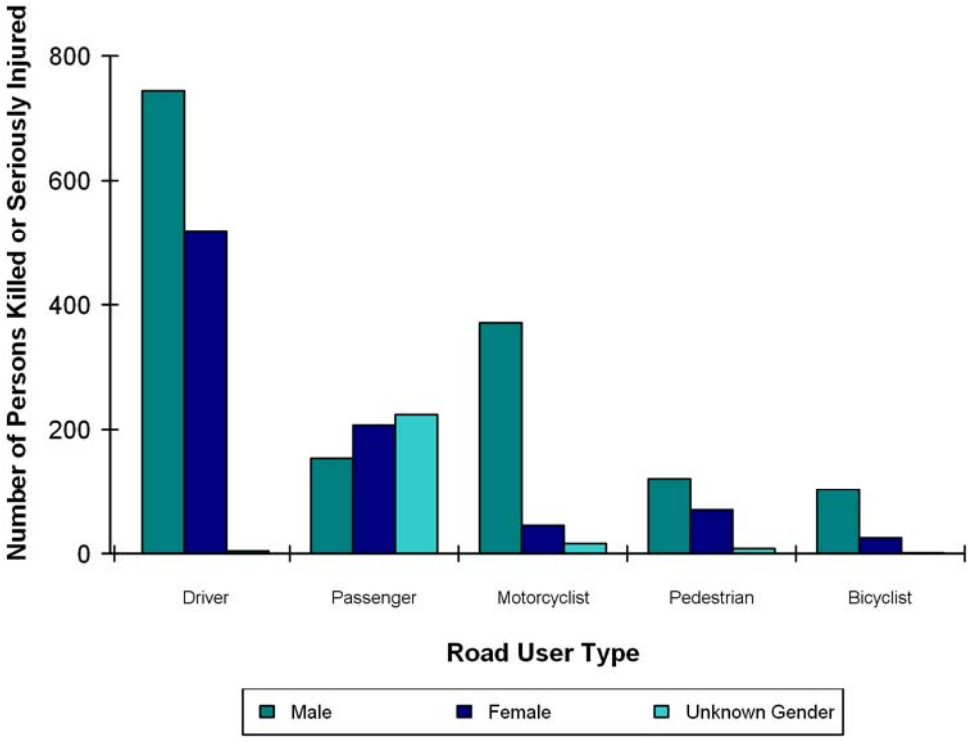


**Table 24 Persons Killed or Seriously Injured by Road User Type by ARIA Category**

| | ARIA Category | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highly Accessible | | Accessible | | Moderately Accessible | | Remote | | Very Remote | | Total | |
| **Road User** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Driver | 793 | 46.4 | 176 | 56.2 | 128 | 54.9 | 100 | 43.1 | 70 | 54.3 | **1,267** | **48.5** |
| Passenger | 288 | 16.9 | 88 | 28.1 | 62 | 26.6 | 96 | 41.4 | 51 | 39.5 | **585** | **22.4** |
| Motorcyclist | 348 | 20.4 | 29 | 9.3 | 26 | 11.2 | 25 | 10.8 | 4 | 3.1 | **432** | **16.5** |
| Bicyclist | 118 | 6.9 | 7 | 2.2 | 4 | 1.7 | 0 | - | 0 | - | **129** | **4.9** |
| Pedestrian | 159 | 9.3 | 12 | 3.8 | 13 | 5.6 | 11 | 4.7 | 4 | 3.1 | **199** | **7.6** |
| Other/ Unknown | 2 | 0.1 | 1 | 0.3 | 0 | - | 0 | - | 0 | - | **3** | **0.1** |
| **Total Persons KSI** | **1,708** | **100.0** | **313** | **100.0** | **233** | **100.0** | **232** | **100.0** | **129** | **100.0** | **2,615** | **100.0** |

**Table 25 Persons Killed or Seriously Injured by Road User Type by Gender and Age Group – State**

| | Road User Type | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Driver | | Passenger[1] | | Motorcyclist | | Bicycle Rider | | Pedestrian | | Total[2] | |
| Gender/Age Group | n | Row % | n | Row % | n | n | n | Row % | n | Row % | n | Row % |
| **Male** | | | | | | | | | | | | |
| 0 – 5 | 0 | - | 6 | 54.5 | 1 | 9.1 | 0 | - | 4 | 36.4 | **11** | **100.0** |
| 6 – 11 | 0 | - | 8 | 47.1 | 1 | 5.9 | 4 | 23.5 | 4 | 23.5 | **17** | **100.0** |
| 12 - 16 | 5 | 7.7 | 13 | 20.0 | 26 | 40.0 | 6 | 9.2 | 15 | 23.1 | **65** | **100.0** |
| 17 - 20 | 84 | 50.0 | 23 | 13.7 | 40 | 23.8 | 6 | 3.6 | 15 | 8.9 | **168** | **100.0** |
| 21 - 24 | 103 | 57.9 | 21 | 11.8 | 35 | 19.7 | 9 | 5.1 | 10 | 5.6 | **178** | **100.0** |
| 25 - 29 | 103 | 56.6 | 17 | 9.3 | 39 | 21.4 | 11 | 6.0 | 12 | 6.6 | **182** | **100.0** |
| 30 - 39 | 136 | 49.6 | 26 | 9.5 | 81 | 29.6 | 15 | 5.5 | 16 | 5.8 | **274** | **100.0** |
| 40 - 49 | 111 | 50.0 | 12 | 5.4 | 68 | 30.6 | 19 | 8.6 | 12 | 5.4 | **222** | **100.0** |
| 50 - 59 | 73 | 43.7 | 9 | 5.4 | 53 | 31.7 | 15 | 9.0 | 17 | 10.2 | **167** | **100.0** |
| 60 - 69 | 53 | 59.6 | 5 | 5.6 | 21 | 23.6 | 6 | 6.7 | 4 | 4.5 | **89** | **100.0** |
| 70 and over | 59 | 72.0 | 5 | 6.1 | 3 | 3.7 | 8 | 9.8 | 7 | 8.5 | **82** | **100.0** |
| Unknown age | 17 | 44.7 | 9 | 23.7 | 3 | 7.9 | 4 | 10.5 | 5 | 13.2 | **38** | **100.0** |
| **Total Male** | **744** | **49.8** | **154** | **10.3** | **371** | **24.8** | **103** | **6.9** | **121** | **8.1** | **1,493** | **100.0** |
| **Female** | | | | | | | | | | | | |
| 0 – 5 | 0 | - | 11 | 64.7 | 0 | - | 0 | - | 6 | 35.3 | **17** | **100.0** |
| 6 – 11 | 0 | - | 10 | 55.6 | 0 | - | 3 | 16.7 | 5 | 27.8 | **18** | **100.0** |
| 12 - 16 | 2 | 8.7 | 11 | 47.8 | 2 | 8.7 | 1 | 4.3 | 7 | 30.4 | **23** | **100.0** |
| 17 - 20 | 55 | 57.9 | 29 | 30.5 | 4 | 4.2 | 3 | 3.2 | 4 | 4.2 | **95** | **100.0** |
| 21 - 24 | 62 | 68.9 | 13 | 14.4 | 4 | 4.4 | 0 | - | 10 | 11.1 | **90** | **100.0** |
| 25 - 29 | 54 | 62.1 | 20 | 23.0 | 6 | 6.9 | 4 | 4.6 | 2 | 2.3 | **87** | **100.0** |
| 30 - 39 | 94 | 65.3 | 24 | 16.7 | 11 | 7.6 | 6 | 4.2 | 9 | 6.3 | **144** | **100.0** |
| 40 - 49 | 85 | 65.9 | 19 | 14.7 | 11 | 8.5 | 5 | 3.9 | 8 | 6.2 | **129** | **100.0** |
| 50 - 59 | 70 | 71.4 | 14 | 14.3 | 5 | 5.1 | 2 | 2.0 | 7 | 7.1 | **98** | **100.0** |
| 60 - 69 | 38 | 61.3 | 21 | 33.9 | 2 | 3.2 | 0 | - | 1 | 1.6 | **62** | **100.0** |
| 70 and over | 48 | 64.0 | 18 | 24.0 | 0 | - | 0 | - | 9 | 12.0 | **75** | **100.0** |
| Unknown age | 11 | 35.5 | 17 | 54.8 | 0 | - | 1 | 3.2 | 2 | 6.5 | **31** | **100.0** |
| **Total Female** | **519** | **59.7** | **207** | **23.8** | **45** | **5.2** | **25** | **2.9** | **70** | **8.1** | **869** | **100.0** |
| **Unknown Gender** | **4** | **1.6** | **224** | **88.5** | **16** | **6.3** | **1** | **0.4** | **8** | **3.2** | **253** | **100.0** |
| **Total Persons KSI** | **1,267** | **48.5** | **585** | **22.4** | **432** | **16.5** | **129** | **4.9** | **199** | **7.6** | **2,615** | **100.0** |

1. Note that for a large percentage of passengers the gender was not recorded in the crash database.
2. There were three other road users.

## Table 26 Persons Killed or Seriously Injured by Road User Type by Gender and Age Group – Metropolitan

| | Road User Type | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Driver | | Passenger[1] | | Motorcyclist | | Bicycle Rider | | Pedestrian | | Total[2] | |
| **Gender/Age Group** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| **Male** | | | | | | | | | | | | |
| 0-5 | 0 | - | 3 | 50.0 | 0 | - | 0 | - | 3 | 50.0 | **6** | **100.0** |
| 6-11 | 0 | - | 4 | 40.0 | 0 | - | 2 | 20.0 | 4 | 40.0 | **10** | **100.0** |
| 12-16 | 2 | 4.5 | 7 | 15.9 | 17 | 38.6 | 5 | 11.4 | 13 | 29.5 | **44** | **100.0** |
| 17-20 | 46 | 43.0 | 8 | 7.5 | 35 | 32.7 | 6 | 5.6 | 12 | 11.2 | **107** | **100.0** |
| 21-24 | 64 | 51.2 | 9 | 7.2 | 33 | 26.4 | 9 | 7.2 | 10 | 8.0 | **125** | **100.0** |
| 25-29 | 63 | 51.2 | 9 | 7.3 | 32 | 26.0 | 11 | 8.9 | 8 | 6.5 | **123** | **100.0** |
| 30-39 | 76 | 43.7 | 9 | 5.2 | 62 | 35.6 | 14 | 8.0 | 13 | 7.5 | **174** | **100.0** |
| 40-49 | 54 | 39.1 | 5 | 3.6 | 51 | 37.0 | 18 | 13.0 | 10 | 7.2 | **138** | **100.0** |
| 50-59 | 40 | 37.4 | 3 | 2.8 | 42 | 39.3 | 12 | 11.2 | 10 | 9.3 | **107** | **100.0** |
| 60-69 | 33 | 60.0 | 2 | 3.6 | 13 | 23.6 | 6 | 10.9 | 1 | 1.8 | **55** | **100.0** |
| 70 and over | 36 | 72.0 | 2 | 4.0 | 2 | 4.0 | 5 | 10.0 | 5 | 10.0 | **50** | **100.0** |
| Unknown age | 8 | 34.8 | 5 | 21.7 | 2 | 8.7 | 3 | 13.0 | 5 | 21.7 | **23** | **100.0** |
| **Total Male** | **422** | **43.9** | **66** | **6.9** | **289** | **30.0** | **91** | **9.5** | **94** | **9.8** | **962** | **100.0** |
| **Female** | | | | | | | | | | | | |
| 0-5 | 0 | - | 6 | 66.7 | 0 | - | 0 | - | 3 | 33.3 | **9** | **100.0** |
| 6-11 | 0 | - | 4 | 44.4 | 0 | - | 2 | 22.2 | 3 | 33.3 | **9** | **100.0** |
| 12-16 | 1 | 7.7 | 4 | 30.8 | 0 | - | 1 | 7.7 | 7 | 53.8 | **13** | **100.0** |
| 17-20 | 30 | 55.6 | 14 | 25.9 | 3 | 5.6 | 3 | 5.6 | 4 | 7.4 | **54** | **100.0** |
| 21-24 | 40 | 65.6 | 8 | 13.1 | 3 | 4.9 | 0 | - | 9 | 14.8 | **61** | **100.0** |
| 25-29 | 36 | 66.7 | 8 | 14.8 | 4 | 7.4 | 4 | 7.4 | 2 | 3.7 | **54** | **100.0** |
| 30-39 | 64 | 66.0 | 12 | 12.4 | 9 | 9.3 | 5 | 5.2 | 7 | 7.2 | **97** | **100.0** |
| 40-49 | 61 | 69.3 | 9 | 10.2 | 7 | 8.0 | 4 | 4.5 | 6 | 6.8 | **88** | **100.0** |
| 50-59 | 45 | 69.2 | 10 | 15.4 | 4 | 6.2 | 2 | 3.1 | 4 | 6.2 | **65** | **100.0** |
| 60-69 | 24 | 64.9 | 10 | 27.0 | 2 | 5.4 | 0 | - | 1 | 2.7 | **37** | **100.0** |
| 70 and over | 39 | 69.6 | 10 | 17.9 | 0 | - | 0 | - | 7 | 12.5 | **56** | **100.0** |
| Unknown age | 7 | 30.4 | 14 | 60.9 | 0 | - | 1 | 4.3 | 1 | 4.3 | **23** | **100.0** |
| **Total Female** | **347** | **61.3** | **109** | **19.3** | **32** | **5.7** | **22** | **3.9** | **54** | **9.5** | **566** | **100.0** |
| **Unknown Gender** | **2** | **1.6** | **102** | **82.3** | **11** | **8.9** | **1** | **0.8** | **8** | **6.5** | **124** | **100.0** |
| **Total Persons KSI** | **771** | **46.7** | **277** | **16.8** | **332** | **20.1** | **114** | **6.9** | **156** | **9.4** | **1,652** | **100.0** |

1. Note that for a large percentage of passengers the gender was not recorded in the crash database.
2. There were two other road users.

## Table 27 Persons Killed or Seriously Injured by Road User Type by Gender and Age Group – Regional

| | Road User Type | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Driver | | Passenger[1] | | Motorcyclist | | Bicycle Rider | | Pedestrian | | Total[2] | |
| Gender/Age Group | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % |
| **Male** | | | | | | | | | | | | |
| 0-5 | 0 | - | 2 | 50.0 | 1 | 25.0 | 0 | - | 1 | 25.0 | **4** | **100.0** |
| 6-11 | 0 | - | 3 | 60.0 | 0 | - | 2 | 40.0 | 0 | - | **5** | **100.0** |
| 12-16 | 2 | 18.2 | 3 | 27.3 | 5 | 45.5 | 0 | - | 1 | 9.1 | **11** | **100.0** |
| 17-20 | 23 | 63.9 | 9 | 25.0 | 3 | 8.3 | 0 | - | 1 | 2.8 | **36** | **100.0** |
| 21-24 | 25 | 73.5 | 8 | 23.5 | 1 | 2.9 | 0 | - | 0 | - | **34** | **100.0** |
| 25-29 | 23 | 69.7 | 5 | 15.2 | 3 | 9.1 | 0 | - | 2 | 6.1 | **33** | **100.0** |
| 30-39 | 34 | 58.6 | 8 | 13.8 | 13 | 22.4 | 1 | 1.7 | 2 | 3.4 | **58** | **100.0** |
| 40-49 | 33 | 64.7 | 3 | 5.9 | 13 | 25.5 | 1 | 2.0 | 1 | 2.0 | **51** | **100.0** |
| 50-59 | 22 | 64.7 | 1 | 2.9 | 7 | 20.6 | 3 | 8.8 | 1 | 2.9 | **34** | **100.0** |
| 60-69 | 11 | 55.0 | 1 | 5.0 | 8 | 40.0 | 0 | - | 0 | - | **20** | **100.0** |
| 70 and over | 16 | 66.7 | 2 | 8.3 | 1 | 4.2 | 3 | 12.5 | 2 | 8.3 | **24** | **100.0** |
| Unknown age | 3 | 37.5 | 3 | 37.5 | 1 | 12.5 | 1 | 12.5 | 0 | - | **8** | **100.0** |
| **Total Male** | **192** | **60.4** | **48** | **15.1** | **56** | **17.6** | **11** | **3.5** | **11** | **3.5** | **318** | **100.0** |
| **Female** | | | | | | | | | | | | |
| 0-5 | 0 | - | 2 | 100.0 | 0 | - | 0 | - | 0 | - | **2** | **100.0** |
| 6-11 | 0 | - | 5 | 62.5 | 0 | - | 1 | 12.5 | 2 | 25.0 | **8** | **100.0** |
| 12-16 | 0 | - | 3 | 75.0 | 1 | 25.0 | 0 | - | 0 | - | **4** | **100.0** |
| 17-20 | 17 | 65.4 | 8 | 30.8 | 1 | 3.8 | 0 | - | 0 | - | **26** | **100.0** |
| 21-24 | 12 | 80.0 | 2 | 13.3 | 0 | - | 0 | - | 1 | 6.7 | **15** | **100.0** |
| 25-29 | 9 | 69.2 | 2 | 15.4 | 1 | 7.7 | 0 | - | 0 | - | **13** | **100.0** |
| 30-39 | 18 | 75.0 | 3 | 12.5 | 1 | 4.2 | 1 | 4.2 | 1 | 4.2 | **24** | **100.0** |
| 40-49 | 13 | 56.5 | 5 | 21.7 | 3 | 13.0 | 0 | - | 2 | 8.7 | **23** | **100.0** |
| 50-59 | 19 | 76.0 | 3 | 12.0 | 1 | 4.0 | 0 | - | 2 | 8.0 | **25** | **100.0** |
| 60-69 | 5 | 50.0 | 5 | 50.0 | 0 | - | 0 | - | 0 | - | **10** | **100.0** |
| 70 and over | 5 | 38.5 | 7 | 53.8 | 0 | - | 0 | - | 1 | 7.7 | **13** | **100.0** |
| Unknown age | 2 | 50.0 | 1 | 25.0 | 0 | - | 0 | - | 1 | 25.0 | **4** | **100.0** |
| **Total Female** | **100** | **59.9** | **46** | **27.5** | **8** | **4.8** | **2** | **1.2** | **10** | **6.0** | **167** | **100.0** |
| **Unknown Gender** | **2** | **3.6** | **52** | **92.9** | **2** | **3.6** | **0** | **-** | **0** | **-** | **56** | **100.0** |
| **Total Persons KSI** | **294** | **54.3** | **146** | **27.0** | **66** | **12.2** | **13** | **2.4** | **21** | **3.9** | **541** | **100.0** |

1. Note that for a large percentage of passengers the gender was not recorded in the crash database.
2. There were one other road users.

## Table 28 Persons Killed or Seriously Injured by Road User Type by Gender and Age Group – Remote

| | Road User Type | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Driver | | Passenger[1] | | Motorcyclist | | Bicycle Rider | | Pedestrian | | Total | |
| Gender/Age Group | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % |
| **Male** | | | | | | | | | | | | |
| 0-5 | 0 | - | 1 | 100.0 | 0 | - | 0 | - | 0 | - | **1** | **100.0** |
| 6-11 | 0 | - | 1 | 50.0 | 1 | 50.0 | 0 | - | 0 | - | **2** | **100.0** |
| 12-16 | 1 | 10.0 | 3 | 30.0 | 4 | 40.0 | 1 | 10.0 | 1 | 10.0 | **10** | **100.0** |
| 17-20 | 15 | 60.0 | 6 | 24.0 | 2 | 8.0 | 0 | - | 2 | 8.0 | **25** | **100.0** |
| 21-24 | 14 | 73.7 | 4 | 21.1 | 1 | 5.3 | 0 | - | 0 | - | **19** | **100.0** |
| 25-29 | 17 | 65.4 | 3 | 11.5 | 4 | 15.4 | 0 | - | 2 | 7.7 | **26** | **100.0** |
| 30-39 | 26 | 61.9 | 9 | 21.4 | 6 | 14.3 | 0 | - | 1 | 2.4 | **42** | **100.0** |
| 40-49 | 24 | 72.7 | 4 | 12.1 | 4 | 12.1 | 0 | - | 1 | 3.0 | **33** | **100.0** |
| 50-59 | 11 | 42.3 | 5 | 19.2 | 4 | 15.4 | 0 | - | 6 | 23.1 | **26** | **100.0** |
| 60-69 | 9 | 64.3 | 2 | 14.3 | 0 | - | 0 | - | 3 | 21.4 | **14** | **100.0** |
| 70 and over | 7 | 87.5 | 1 | 12.5 | 0 | - | 0 | - | 0 | - | **8** | **100.0** |
| Unknown age | 6 | 85.7 | 1 | 14.3 | 0 | - | 0 | - | 0 | - | **7** | **100.0** |
| **Total Male** | **130** | **61.0** | **40** | **18.8** | **26** | **12.2** | **1** | **0.5** | **16** | **7.5** | **213** | **100.0** |
| **Female** | | | | | | | | | | | | |
| 0-5 | 0 | - | 3 | 50.0 | 0 | - | 0 | - | 3 | 50.0 | **6** | **100.0** |
| 6-11 | 0 | - | 1 | 100.0 | 0 | - | 0 | - | 0 | - | **1** | **100.0** |
| 12-16 | 1 | 16.7 | 4 | 66.7 | 1 | 16.7 | 0 | - | 0 | - | **6** | **100.0** |
| 17-20 | 8 | 53.3 | 7 | 46.7 | 0 | - | 0 | - | 0 | - | **15** | **100.0** |
| 21-24 | 10 | 71.4 | 3 | 21.4 | 1 | 7.1 | 0 | - | 0 | - | **14** | **100.0** |
| 25-29 | 9 | 45.0 | 10 | 50.0 | 1 | 5.0 | 0 | - | 0 | - | **20** | **100.0** |
| 30-39 | 12 | 52.2 | 9 | 39.1 | 1 | 4.3 | 0 | - | 1 | 4.3 | **23** | **100.0** |
| 40-49 | 11 | 61.1 | 5 | 27.8 | 1 | 5.6 | 1 | 5.6 | 0 | - | **18** | **100.0** |
| 50-59 | 6 | 75.0 | 1 | 12.5 | 0 | - | 0 | - | 1 | 12.5 | **8** | **100.0** |
| 60-69 | 9 | 60.0 | 6 | 40.0 | 0 | - | 0 | - | 0 | - | **15** | **100.0** |
| 70 and over | 4 | 66.7 | 1 | 16.7 | 0 | - | 0 | - | 1 | 16.7 | **6** | **100.0** |
| Unknown age | 2 | 50.0 | 2 | 50.0 | 0 | - | 0 | - | 0 | - | **4** | **100.0** |
| **Total Female** | **72** | **52.9** | **52** | **38.2** | **5** | **3.7** | **1** | **0.7** | **6** | **4.4** | **136** | **100.0** |
| **Unknown Gender** | **0** | **-** | **70** | **95.9** | **3** | **4.1** | **0** | **-** | **0** | **-** | **73** | **100.0** |
| **Total Persons KSI** | **202** | **47.9** | **162** | **38.4** | **34** | **8.1** | **2** | **0.5** | **22** | **5.2** | **422** | **100.0** |

1. Note that for a large percentage of passengers the gender was not recorded in the crash database.

# 3. BROAD AGE GROUPS

## 3.1 Child Road Users – 0 to 16 years

**Figure 11 Children Killed or Seriously Injured by Road User Type**

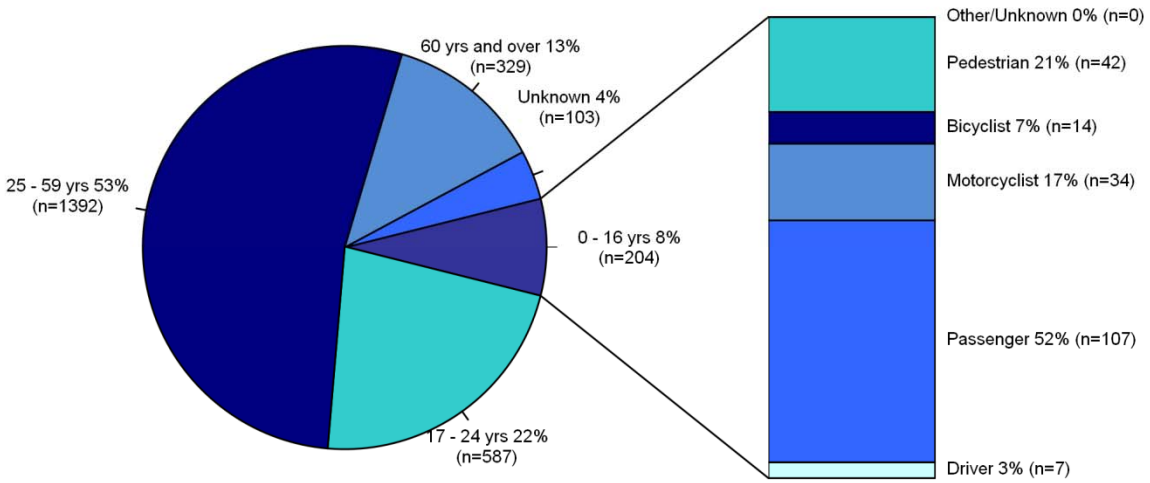



**Table 29 Children Killed or Seriously Injured by Road User Type and Age Group**

| | Road User Type | | | | | | |
|---|---|---|---|---|---|---|---|
| | Driver | Passenger | Motorcyclist | Bicyclist | Pedestrian | Other/ Unknown | Total |
| Age Group | n | n | n | n | n | n | n |
| 0 - 5 | 0 | 36 | 1 | 0 | 11 | 0 | **48** |
| 6 - 11 | 0 | 33 | 2 | 7 | 9 | 0 | **51** |
| 12 - 16 | 7 | 38 | 31 | 7 | 22 | 0 | **105** |
| **Total Children KSI** | **7** | **107** | **34** | **14** | **42** | **0** | **204** |

## Table 30 Child Motor Vehicle Occupants Killed or Seriously Injured by Seat Belt Usage and Age Group, Police-Attended Crashes

| | Seat Belt Usage | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Worn | | Not Worn | | Unknown | | Total | |
| **Age Group** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| 0 - 5 | 22 | 66.7 | 6 | 18.2 | 5 | 15.2 | **33** | **100.0** |
| 6 - 11 | 24 | 85.7 | 1 | 3.6 | 3 | 10.7 | **28** | **100.0** |
| 12 - 16 | 31 | 72.1 | 6 | 14.0 | 6 | 14.0 | **43** | **100.0** |
| **Total Child Motor Vehicle Occupants KSI** | **77** | **74.0** | **13** | **12.5** | **14** | **13.5** | **104** | **100.0** |
| **All Motor Vehicle Occupants KSI[1]** | **1,330** | **79.4** | **136** | **8.1** | **209** | **12.5** | **1,675** | **100.0** |

Note: Motor vehicle occupants exclude occupants of tractors and trailer type vehicles.
1. Includes persons with unknown age.

## Table 31 Child Bicylists Killed or Seriously Injured by Helmet Usage and Gender

| | Helmet Usage | | | |
|---|---|---|---|---|
| | Worn | Not Worn | Unknown | Total |
| **Gender** | **n** | **n** | **n** | **n** |
| Male | 4 | 4 | 2 | **10** |
| Female | 3 | 0 | 1 | **4** |
| **Total Child Bicyclists KSI** | **7** | **4** | **3** | **14** |

## Table 32 Children Killed or Seriously Injured by Time of Day and Age Group

| | Time of Day | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Midnight to < 3am | | 3am to < 6am | | 6am to < 9am | | 9am to < Midday | | Midday to < 3pm | | 3pm to < 6pm | | 6pm to < 9pm | | 9pm to < Midnight | | Unknown | | Total | |
| **Age Group** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| 0 - 5 | 0 | - | 0 | - | 4 | 8.3 | 8 | 16.7 | 11 | 22.9 | 10 | 20.8 | 13 | 27.1 | 1 | 2.1 | 1 | 2.1 | **48** | **100.0** |
| 6 - 11 | 1 | 2.0 | 2 | 3.9 | 6 | 11.8 | 9 | 17.6 | 8 | 15.7 | 19 | 37.3 | 4 | 7.8 | 1 | 2.0 | 1 | 2.0 | **51** | **100.0** |
| 12 - 16 | 13 | 12.4 | 2 | 1.9 | 10 | 9.5 | 11 | 10.5 | 14 | 13.3 | 24 | 22.9 | 23 | 21.9 | 3 | 2.9 | 5 | 4.8 | **105** | **100.0** |
| **Total Children KSI** | **14** | **6.9** | **4** | **2.0** | **20** | **9.8** | **28** | **13.7** | **33** | **16.2** | **53** | **26.0** | **40** | **19.6** | **5** | **2.5** | **7** | **3.4** | **204** | **100.0** |
| **All Persons KSI[1]** | **188** | **7.2** | **101** | **3.9** | **310** | **11.9** | **350** | **13.4** | **440** | **16.8** | **529** | **20.2** | **377** | **14.4** | **268** | **10.3** | **52** | **2.0** | **2,615** | **100.0** |

1. Includes persons with unknown age.

## Table 33 Children Killed or Seriously Injured by Day of Week and Age Group

| | Day of Week | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | | Sunday | | Total | |
| **Age Group** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| 0 - 5 | 12 | 25.0 | 4 | 8.3 | 5 | 10.4 | 2 | 4.2 | 13 | 27.1 | 8 | 16.7 | 4 | 8.3 | **48** | **100.0** |
| 6 - 11 | 6 | 11.8 | 6 | 11.8 | 5 | 9.8 | 5 | 9.8 | 10 | 19.6 | 9 | 17.6 | 10 | 19.6 | **51** | **100.0** |
| 12 - 16 | 13 | 12.4 | 12 | 11.4 | 12 | 11.4 | 16 | 15.2 | 14 | 13.3 | 16 | 15.2 | 22 | 21.0 | **105** | **100.0** |
| **Total Children KSI** | **31** | **15.2** | **22** | **10.8** | **22** | **10.8** | **23** | **11.3** | **37** | **18.1** | **33** | **16.2** | **36** | **17.6** | **204** | **100.0** |
| **All Persons KSI[1]** | **351** | **13.4** | **307** | **11.7** | **309** | **11.8** | **355** | **13.6** | **435** | **16.6** | **478** | **18.3** | **380** | **14.5** | **2,615** | **100.0** |

1. Includes persons with unknown age.

## 3.2 Young Adult Road Users – 17 to 24 years

**Figure 12 Young Adults Killed or Seriously Injured by Road User Type**

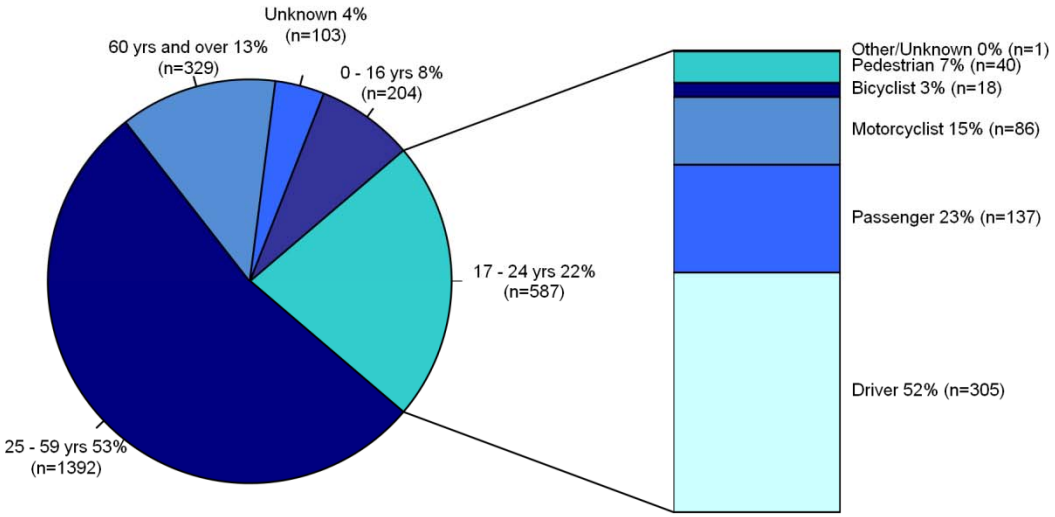



**Table 34 Young Adults Killed or Seriously Injured by Road User Type and Age Group**

| | Road User Type | | | | | | |
|---|---|---|---|---|---|---|---|
| | Driver | Passenger | Motorcyclist | Bicyclist | Pedestrian | Other/ Unknown | Total |
| Age Group | n | n | n | n | n | n | n |
| 17 - 20 | 140 | 79 | 44 | 9 | 20 | 0 | **292** |
| 21 - 24 | 165 | 58 | 42 | 9 | 20 | 1 | **295** |
| **Total Young Adults KSI** | **305** | **137** | **86** | **18** | **40** | **1** | **587** |

**Table 35 Young Adults Killed or Seriously Injured by Speed a Factor and Age Group, Police-Attended Crashes**

| | Speed a Factor in Crash | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Yes | | No | | Unknown | | Total | |
| Age Group | n | Row % | n | Row % | n | Row % | n | Row % |
| 17 - 20 | 50 | 18.9 | 76 | 28.7 | 139 | 52.5 | **265** | **100.0** |
| 21 - 24 | 51 | 19.2 | 71 | 26.8 | 143 | 54.0 | **265** | **100.0** |
| **Total Young Adults KSI** | **101** | **19.1** | **147** | **27.7** | **282** | **53.2** | **530** | **100.0** |
| **All Persons KSI[1]** | **301** | **12.9** | **783** | **33.5** | **1,251** | **53.6** | **2,335** | **100.0** |

1. Includes persons with unknown age.

**Table 36 Young Adults Killed or Seriously Injured by Highest Driver/Rider BAC in Crash and Age Group, Police-Attended Crashes**

| | Highest Driver/Rider BAC in Crash (g/100mL) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Nil | | >0 to <0.05 | | 0.05 to <0.08 | | 0.08 to <0.15 | | ≥0.15 | | Subtotal ≥0.05 | | Unknown | | Total | |
| Age Group | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % |
| 17 - 20 | 159 | 60.5 | 6 | 2.3 | 7 | 2.7 | 13 | 4.9 | 5 | 1.9 | **25** | **9.5** | 73 | 27.8 | **263** | **100.0** |
| 21 - 24 | 134 | 50.6 | 5 | 1.9 | 12 | 4.5 | 25 | 9.4 | 5 | 1.9 | **42** | **15.8** | 84 | 31.7 | **265** | **100.0** |
| **Total Young Adults KSI[1]** | **293** | **55.5** | **11** | **2.1** | **19** | **3.6** | **38** | **7.2** | **10** | **1.9** | **67** | **12.7** | **157** | **29.7** | **528** | **100.0** |
| **All Persons KSI[2, 3]** | **1,440** | **62.1** | **56** | **2.4** | **50** | **2.2** | **113** | **4.9** | **74** | **3.2** | **237** | **10.2** | **586** | **25.3** | **2,319** | **100.0** |

1. Excludes young adults killed or seriously injured in police-attended crashes that did not involve any drivers/riders (n=2).
2. Excludes persons killed or seriously injured in police-attended crashes that did not involve any drivers/riders (n=16).
3. Includes persons with unknown age.

## Table 37 Young Adult Drivers/Riders *Involved* in Serious Crashes by Driver/Rider BAC and Age Group, Police-Attended Crashes

| | Driver/Rider BAC (g/100mL) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Nil | | >0 to <0.05 | | 0.05 to <0.08 | | 0.08 to <0.15 | | ≥0.15 | | Subtotal ≥0.05 | | Unknown | | Total | |
| **Age Group** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| **Young Adult Drivers/Riders KSI** | | | | | | | | | | | | | | | | |
| 17 – 20 | 95 | 59.0 | 4 | 2.5 | 4 | 2.5 | 11 | 6.8 | 2 | 1.2 | **17** | **10.6** | 45 | 28.0 | **161** | **100.0** |
| 21 – 24 | 91 | 49.2 | 2 | 1.1 | 9 | 4.9 | 16 | 8.6 | 4 | 2.2 | **29** | **15.7** | 63 | 34.1 | **185** | **100.0** |
| **Total Drivers/Riders KSI** | **186** | **53.8** | **6** | **1.7** | **13** | **3.8** | **27** | **7.8** | **6** | **1.7** | **46** | **13.3** | **108** | **31.2** | **346** | **100.0** |
| **Other Young Adult Drivers/Riders[1]** | | | | | | | | | | | | | | | | |
| 17 - 20 | 92 | 61.7 | 1 | 0.7 | 0 | - | 2 | 1.3 | 3 | 2.0 | **5** | **3.4** | 51 | 34.2 | **149** | **100.0** |
| 21 - 24 | 92 | 62.2 | 4 | 2.7 | 2 | 1.4 | 4 | 2.7 | 0 | - | **6** | **4.1** | 46 | 31.1 | **148** | **100.0** |
| **Total Other Drivers/Riders** | **184** | **62.0** | **5** | **1.7** | **2** | **0.7** | **6** | **2.0** | **3** | **1.0** | **11** | **3.7** | **97** | **32.7** | **297** | **100.0** |
| **Total Young Adult Drivers/Riders** | | | | | | | | | | | | | | | | |
| 17 - 20 | 187 | 60.3 | 5 | 1.6 | 4 | 1.3 | 13 | 4.2 | 5 | 1.6 | **22** | **7.1** | 96 | 31.0 | **310** | **100.0** |
| 21 - 24 | 183 | 55.0 | 6 | 1.8 | 11 | 3.3 | 20 | 6.0 | 4 | 1.2 | **35** | **10.5** | 109 | 32.7 | **333** | **100.0** |
| **Total Young Adult Drivers/Riders in Serious Crashes** | **370** | **57.5** | **11** | **1.7** | **15** | **2.3** | **33** | **5.1** | **9** | **1.4** | **57** | **8.9** | **205** | **31.9** | **643** | **100.0** |

1. Other young adult drivers/riders are young adult drivers/riders in crashes where a road user was killed or seriously injured, but the driver/riders themselves had only minor injuries or no/unknown injuries.

## Table 38 Young Adult Motor Vehicle Occupants Killed or Seriously Injured by Seat Belt Usage and Age Group, Police-Attended Crashes

| | Seat Belt Usage | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Worn | | Not Worn | | Unknown | | Total | |
| **Age Group** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| 17 - 20 | 150 | 74.3 | 22 | 10.9 | 30 | 14.9 | **202** | **100.0** |
| 21 - 24 | 146 | 71.2 | 22 | 10.7 | 37 | 18.0 | **205** | **100.0** |
| **Total Young Adult Motor Vehicle Occupants KSI** | **296** | **72.7** | **44** | **10.8** | **67** | **16.5** | **407** | **100.0** |
| **All Motor Vehicle Occupants KSI[1]** | **1,330** | **79.4** | **136** | **8.1** | **209** | **12.5** | **1,675** | **100.0** |

Note: Motor vehicle occupants exclude occupants of tractors and trailer type vehicles.

1. Includes persons with unknown age.

## Table 39 Young Adult Drivers/Riders *Involved* in Serious Crashes by Crash Nature and Age Group

| | Crash Nature | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Multi-Vehicle Crashes | | | | | | | | Single-Vehicle Crashes | | | | | | | | | | | | Total | |
| | Head On | | Right Angle | | Other/Unknown Multi | | Total Multi | | Hit Pedestrian | | Hit Animal | | Hit Object | | Non Collision | | Other/Unknown Single | | Total Single | | | |
| Age Group | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % |
| 17 - 20 | 13 | 3.8 | 61 | 17.8 | 132 | 38.5 | **206** | **60.1** | 15 | 4.4 | 0 | - | 85 | 24.8 | 35 | 10.2 | 2 | 0.6 | **137** | **39.9** | **343** | **100.0** |
| 21 - 24 | 15 | 4.1 | 72 | 19.5 | 143 | 38.6 | **230** | **62.2** | 17 | 4.6 | 3 | 0.8 | 90 | 24.3 | 28 | 7.6 | 2 | 0.5 | **140** | **37.8** | **370** | **100.0** |
| **Total Young Adult Drivers/Riders in Serious Crashes** | **28** | **3.9** | **133** | **18.7** | **275** | **38.6** | **436** | **61.2** | **32** | **4.5** | **3** | **0.4** | **175** | **24.5** | **63** | **8.8** | **4** | **0.6** | **277** | **38.8** | **713** | **100.0** |
| **All Drivers/Riders in Serious Crashes[1]** | **176** | **5.3** | **710** | **21.2** | **1,468** | **43.8** | **2,354** | **70.3** | **182** | **5.4** | **12** | **0.4** | **527** | **15.7** | **247** | **7.4** | **28** | **0.8** | **996** | **29.7** | **3,350** | **100.0** |

1. Includes persons with unknown age.

## Table 40 Young Adult Drivers/Riders *Involved* in Serious Crashes by High Priority Crash Type and Age Group

| | High Priority Crash Types | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Intersection | | Run Off Road | | Head On | | Other | | | |
| Age Group | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % |
| 17 - 20 | 154 | 44.9 | 121 | 35.3 | 13 | 3.8 | 72 | 21.0 | **343** | **100.0** |
| 21 - 24 | 180 | 48.6 | 112 | 30.3 | 15 | 4.1 | 78 | 21.1 | **370** | **100.0** |
| **Total Young Adult Drivers/Riders in Serious Crashes** | **334** | **46.8** | **233** | **32.7** | **28** | **3.9** | **150** | **21.0** | **713** | **100.0** |
| **All Drivers/Riders in Serious Crashes[1]** | **1,641** | **49.0** | **780** | **23.3** | **176** | **5.3** | **867** | **25.9** | **3,350** | **100.0** |

Note: High Priority Crash Types are not mutually exclusive and, therefore, some crashes may be counted more than once and percentages will sum to greater than 100%.

1. Includes persons with unknown age.

## Table 41 Young Adults Killed or Seriously Injured by Time of Day and Age Group

| | Time of Day | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Midnight to < 3am | | 3am to < 6am | | 6am to < 9am | | 9am to < Midday | | Midday to < 3pm | | 3pm to < 6pm | | 6pm to < 9pm | | 9pm to < Midnight | | Unknown | | Total | |
| **Age Group** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| 17 - 20 | 34 | 11.6 | 12 | 4.1 | 27 | 9.2 | 24 | 8.2 | 40 | 13.7 | 60 | 20.5 | 35 | 12.0 | 52 | 17.8 | 8 | 2.7 | **292** | **100.0** |
| 21 - 24 | 33 | 11.2 | 16 | 5.4 | 26 | 8.8 | 31 | 10.5 | 40 | 13.6 | 54 | 18.3 | 54 | 18.3 | 37 | 12.5 | 4 | 1.4 | **295** | **100.0** |
| **Total Young Adults KSI** | **67** | **11.4** | **28** | **4.8** | **53** | **9.0** | **55** | **9.4** | **80** | **13.6** | **114** | **19.4** | **89** | **15.2** | **89** | **15.2** | **12** | **2.0** | **587** | **100.0** |
| **All Persons KSI[1]** | **188** | **7.2** | **101** | **3.9** | **310** | **11.9** | **350** | **13.4** | **440** | **16.8** | **529** | **20.2** | **377** | **14.4** | **268** | **10.3** | **52** | **2.0** | **2,615** | **100.0** |

1. Includes persons with unknown age.

## Table 42 Young Adults Killed or Seriously Injured by Day of Week and Age Group

| | Day of Week | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | | Sunday | | Total | |
| **Age Group** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| 17 - 20 | 37 | 12.7 | 32 | 11.0 | 29 | 9.9 | 39 | 13.4 | 47 | 16.1 | 63 | 21.6 | 45 | 15.4 | **292** | **100.0** |
| 21 - 24 | 31 | 10.5 | 28 | 9.5 | 29 | 9.8 | 36 | 12.2 | 54 | 18.3 | 63 | 21.4 | 54 | 18.3 | **295** | **100.0** |
| **Total Young Adults KSI** | **68** | **11.6** | **60** | **10.2** | **58** | **9.9** | **75** | **12.8** | **101** | **17.2** | **126** | **21.5** | **99** | **16.9** | **587** | **100.0** |
| **All Persons KSI[1]** | **351** | **13.4** | **307** | **11.7** | **309** | **11.8** | **355** | **13.6** | **435** | **16.6** | **478** | **18.3** | **380** | **14.5** | **2,615** | **100.0** |

1. Includes persons with unknown age.

## 3.3 Mature Adult Road Users – 25 to 59 years

**Figure 13 Mature Adults Killed or Seriously Injured by Road User Type**

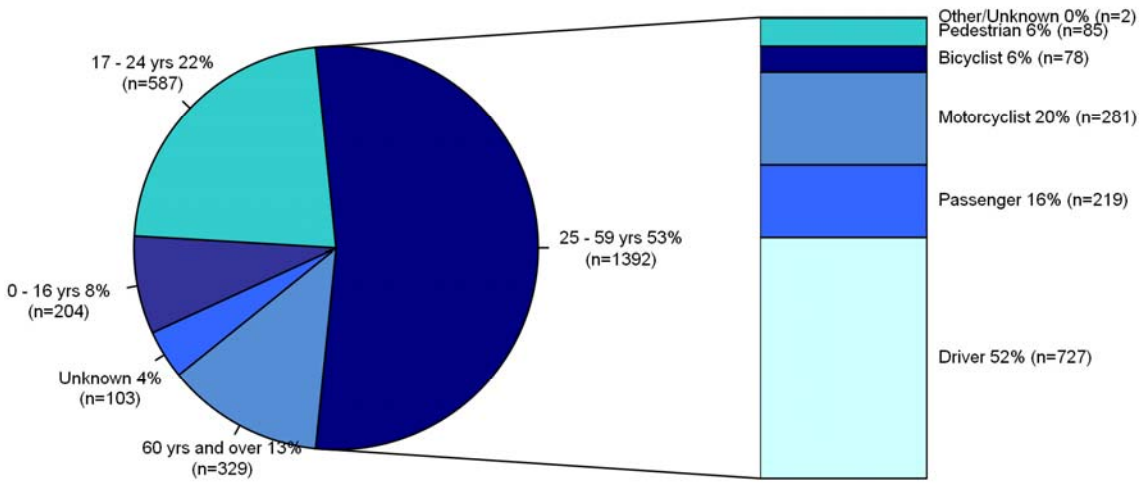



**Table 43 Mature Adults Killed or Seriously Injured by Road User Type and Age Group**

| | Road User Type | | | | | | |
|---|---|---|---|---|---|---|---|
| | Driver | Passenger | Motorcyclist | Bicyclist | Pedestrian | Other/ Unknown | Total |
| Age Group | n | n | n | n | n | n | n |
| 25 - 29 | 157 | 60 | 46 | 15 | 15 | 1 | **294** |
| 30 - 34 | 121 | 40 | 53 | 14 | 12 | 0 | **240** |
| 35 - 39 | 110 | 39 | 43 | 8 | 14 | 0 | **214** |
| 40 - 44 | 107 | 21 | 50 | 9 | 9 | 1 | **197** |
| 45 - 49 | 89 | 23 | 30 | 15 | 11 | 0 | **168** |
| 50 - 54 | 73 | 23 | 35 | 4 | 11 | 0 | **146** |
| 55 - 59 | 70 | 13 | 24 | 13 | 13 | 0 | **133** |
| **Total Mature Adults KSI** | **727** | **219** | **281** | **78** | **85** | **2** | **1,392** |

**Table 44 Mature Adults Killed or Seriously Injured by Speed a Factor and Age Group, Police-Attended Crashes**

| | Speed a Factor in Crash | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Yes | | No | | Unknown | | Total | |
| Age Group | n | Row % | n | Row % | n | Row % | n | Row % |
| 25 - 29 | 54 | 21.3 | 73 | 28.7 | 127 | 50.0 | **254** | **100.0** |
| 30 - 34 | 28 | 13.1 | 72 | 33.6 | 114 | 53.3 | **214** | **100.0** |
| 35 - 39 | 27 | 14.4 | 51 | 27.1 | 110 | 58.5 | **188** | **100.0** |
| 40 - 44 | 20 | 11.4 | 63 | 36.0 | 92 | 52.6 | **175** | **100.0** |
| 45 - 49 | 20 | 13.6 | 48 | 32.7 | 79 | 53.7 | **147** | **100.0** |
| 50 - 54 | 7 | 5.1 | 50 | 36.8 | 79 | 58.1 | **136** | **100.0** |
| 55 - 59 | 5 | 4.3 | 57 | 48.7 | 55 | 47.0 | **117** | **100.0** |
| **Total Mature Adults KSI** | **161** | **13.1** | **414** | **33.6** | **656** | **53.3** | **1,231** | **100.0** |
| **All Persons KSI[1]** | **301** | **12.9** | **783** | **33.5** | **1,251** | **53.6** | **2,335** | **100.0** |

1. Includes persons with unknown age.

**Table 45 Mature Adult Motor Vehicle Occupants Killed or Seriously Injured by Seat Belt Usage and Age Group, Police-Attended Crashes**

| | Seat Belt Usage | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Worn | | Not Worn | | Unknown | | Total | |
| Age Group | n | Row % | n | Row % | n | Row % | n | Row % |
| 25 - 29 | 145 | 76.3 | 19 | 10.0 | 26 | 13.7 | **190** | **100.0** |
| 30 - 34 | 109 | 74.7 | 16 | 11.0 | 21 | 14.4 | **146** | **100.0** |
| 35 - 39 | 103 | 78.0 | 15 | 11.4 | 14 | 10.6 | **132** | **100.0** |
| 40 - 44 | 88 | 75.9 | 8 | 6.9 | 20 | 17.2 | **116** | **100.0** |
| 45 - 49 | 80 | 83.3 | 6 | 6.3 | 10 | 10.4 | **96** | **100.0** |
| 50 - 54 | 78 | 84.8 | 6 | 6.5 | 8 | 8.7 | **92** | **100.0** |
| 55 - 59 | 70 | 95.9 | 2 | 2.7 | 1 | 1.4 | **73** | **100.0** |
| **Total Mature Adult Motor Vehicle Occupants KSI** | **673** | **79.6** | **72** | **8.5** | **100** | **11.8** | **845** | **100.0** |
| **All Motor Vehicle Occupants KSI[1]** | **1,330** | **79.4** | **136** | **8.1** | **209** | **12.5** | **1,675** | **100.0** |

Note: Motor vehicle occupants exclude occupants of tractors and trailer type vehicles.
1. Includes persons with unknown age.

**Table 46 Mature Adults Killed or Seriously Injured by Highest Driver/Rider BAC in Crash and Age Group, Police-Attended Crashes**

| | Highest Driver/Rider BAC in Crash (g/100mL) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Nil | | >0 to <0.05 | | 0.05 to <0.08 | | 0.08 to <0.15 | | ≥0.15 | | Subtotal ≥0.05 | | Unknown | | Total | |
| **Age Group** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| 25 - 29 | 140 | 55.6 | 11 | 4.4 | 7 | 2.8 | 22 | 8.7 | 14 | 5.6 | **43** | **17.1** | 58 | 23.0 | **252** | **100.0** |
| 30 - 34 | 139 | 65.9 | 6 | 2.8 | 5 | 2.4 | 11 | 5.2 | 9 | 4.3 | **25** | **11.8** | 41 | 19.4 | **211** | **100.0** |
| 35 - 39 | 103 | 55.1 | 4 | 2.1 | 7 | 3.7 | 12 | 6.4 | 10 | 5.3 | **29** | **15.5** | 51 | 27.3 | **187** | **100.0** |
| 40 - 44 | 101 | 57.7 | 3 | 1.7 | 3 | 1.7 | 16 | 9.1 | 8 | 4.6 | **27** | **15.4** | 44 | 25.1 | **175** | **100.0** |
| 45 - 49 | 96 | 65.8 | 6 | 4.1 | 1 | 0.7 | 2 | 1.4 | 7 | 4.8 | **10** | **6.8** | 34 | 23.3 | **146** | **100.0** |
| 50 - 54 | 81 | 60.0 | 2 | 1.5 | 2 | 1.5 | 0 | - | 2 | 1.5 | **4** | **3.0** | 48 | 35.6 | **135** | **100.0** |
| 55 - 59 | 76 | 66.1 | 2 | 1.7 | 0 | - | 4 | 3.5 | 3 | 2.6 | **7** | **6.1** | 30 | 26.1 | **115** | **100.0** |
| **Total Mature Adults KSI[1]** | **736** | **60.3** | **34** | **2.8** | **25** | **2.0** | **67** | **5.5** | **53** | **4.3** | **145** | **11.9** | **306** | **25.1** | **1,221** | **100.0** |
| **All Persons KSI[2,3]** | **1,440** | **62.1** | **56** | **2.4** | **50** | **2.2** | **113** | **4.9** | **74** | **3.2** | **237** | **10.2** | **586** | **25.3** | **2,319** | **100.0** |

1. Excludes mature adults killed or seriously injured in police-attended crashes that did not involve any drivers/riders (n=10).
2. Excludes persons killed or seriously injured in police-attended crashes that did not involve any drivers/riders (n=16).
3. Includes persons with unknown age.

## Table 47 Mature Adults Killed or Seriously Injured by Time of Day and Age Group

| | Time of Day | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Midnight to < 3am | | 3am to < 6am | | 6am to < 9am | | 9am to < Midday | | Midday to < 3pm | | 3pm to < 6pm | | 6pm to < 9pm | | 9pm to < Midnight | | Unknown | | Total | |
| **Age Group** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| 25 - 29 | 24 | 8.2 | 12 | 4.1 | 39 | 13.3 | 28 | 9.5 | 52 | 17.7 | 48 | 16.3 | 45 | 15.3 | 36 | 12.2 | 10 | 3.4 | **294** | **100.0** |
| 30 - 34 | 22 | 9.2 | 8 | 3.3 | 33 | 13.8 | 22 | 9.2 | 29 | 12.1 | 51 | 21.3 | 42 | 17.5 | 30 | 12.5 | 3 | 1.3 | **240** | **100.0** |
| 35 - 39 | 16 | 7.5 | 10 | 4.7 | 36 | 16.8 | 26 | 12.1 | 35 | 16.4 | 36 | 16.8 | 36 | 16.8 | 15 | 7.0 | 4 | 1.9 | **214** | **100.0** |
| 40 - 44 | 15 | 7.6 | 8 | 4.1 | 31 | 15.7 | 19 | 9.6 | 37 | 18.8 | 35 | 17.8 | 24 | 12.2 | 22 | 11.2 | 6 | 3.0 | **197** | **100.0** |
| 45 - 49 | 8 | 4.8 | 9 | 5.4 | 22 | 13.1 | 29 | 17.3 | 25 | 14.9 | 34 | 20.2 | 22 | 13.1 | 18 | 10.7 | 1 | 0.6 | **168** | **100.0** |
| 50 - 54 | 4 | 2.7 | 4 | 2.7 | 16 | 11.0 | 30 | 20.5 | 25 | 17.1 | 31 | 21.2 | 22 | 15.1 | 11 | 7.5 | 3 | 2.1 | **146** | **100.0** |
| 55 - 59 | 3 | 2.3 | 7 | 5.3 | 16 | 12.0 | 20 | 15.0 | 29 | 21.8 | 30 | 22.6 | 16 | 12.0 | 12 | 9.0 | 0 | - | **133** | **100.0** |
| **Total Mature Adults KSI** | **92** | **6.6** | **58** | **4.2** | **193** | **13.9** | **174** | **12.5** | **232** | **16.7** | **265** | **19.0** | **207** | **14.9** | **144** | **10.3** | **27** | **1.9** | **1,392** | **100.0** |
| **All Persons KSI[1]** | **188** | **7.2** | **101** | **3.9** | **310** | **11.9** | **350** | **13.4** | **440** | **16.8** | **529** | **20.2** | **377** | **14.4** | **268** | **10.3** | **52** | **2.0** | **2,615** | **100.0** |

1. Includes persons with unknown age.

## Table 48 Mature Adult Drivers/Riders *Involved* in Serious Crashes by Crash Nature

| | Crash Nature | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Multi-Vehicle Crashes | | | | | | | | Single-Vehicle Crashes | | | | | | | | | | | | Total | |
| | Head On | | Right Angle | | Other/Unknown Multi | | Total Multi | | Hit Pedestrian | | Hit Animal | | Hit Object | | Non Collision | | Other/Unknown Single | | Total Single | | | |
| Age Group | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % |
| 25 - 29 | 23 | 5.5 | 96 | 22.9 | 170 | 40.6 | **289** | **69.0** | 21 | 5.0 | 2 | 0.5 | 69 | 16.5 | 32 | 7.6 | 6 | 1.4 | **130** | **31.0** | **419** | **100.0** |
| 30 - 34 | 27 | 8.2 | 58 | 17.6 | 140 | 42.6 | **225** | **68.4** | 17 | 5.2 | 2 | 0.6 | 58 | 17.6 | 23 | 7.0 | 4 | 1.2 | **104** | **31.6** | **329** | **100.0** |
| 35 - 39 | 15 | 5.1 | 54 | 18.2 | 130 | 43.9 | **199** | **67.2** | 19 | 6.4 | 1 | 0.3 | 47 | 15.9 | 29 | 9.8 | 1 | 0.3 | **97** | **32.8** | **296** | **100.0** |
| 40 - 44 | 16 | 5.3 | 67 | 22.2 | 131 | 43.4 | **214** | **70.9** | 16 | 5.3 | 1 | 0.3 | 45 | 14.9 | 22 | 7.3 | 4 | 1.3 | **88** | **29.1** | **302** | **100.0** |
| 45 - 49 | 13 | 5.2 | 55 | 21.8 | 127 | 50.4 | **195** | **77.4** | 15 | 6.0 | 2 | 0.8 | 24 | 9.5 | 12 | 4.8 | 4 | 1.6 | **57** | **22.6** | **252** | **100.0** |
| 50 - 54 | 20 | 9.1 | 40 | 18.2 | 107 | 48.6 | **167** | **75.9** | 13 | 5.9 | 0 | - | 27 | 12.3 | 13 | 5.9 | 0 | - | **53** | **24.1** | **220** | **100.0** |
| 55 - 59 | 8 | 4.1 | 49 | 25.4 | 90 | 46.6 | **147** | **76.2** | 10 | 5.2 | 0 | - | 22 | 11.4 | 13 | 6.7 | 1 | 0.5 | **46** | **23.8** | **193** | **100.0** |
| **Total Mature Adult Drivers/Riders in Serious Crashes** | **122** | **6.1** | **419** | **20.8** | **895** | **44.5** | **1,436** | **71.4** | **111** | **5.5** | **8** | **0.4** | **292** | **14.5** | **144** | **7.2** | **20** | **1.0** | **575** | **28.6** | **2,011** | **100.0** |
| **All Drivers/Riders in Serious Crashes**[1] | **176** | **5.3** | **710** | **21.2** | **1,468** | **43.8** | **2,354** | **70.3** | **182** | **5.4** | **12** | **0.4** | **527** | **15.7** | **247** | **7.4** | **28** | **0.8** | **996** | **29.7** | **3,350** | **100.0** |

1. Includes persons with unknown age.

**Table 49 Mature Adult Drivers/Riders *Involved* in Serious Crashes by Driver/Rider BAC and Age Group, Police-Attended Crashes**

| | Driver/Rider BAC (g/100mL) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Nil | | >0 to <0.05 | | 0.05 to <0.08 | | 0.08 to <0.15 | | ≥0.15 | | Subtotal ≥0.05 | | Unknown | | Total | |
| **Age Group** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| **Mature Adult Drivers/Riders KSI** | | | | | | | | | | | | | | | | |
| 25 – 29 | 88 | 50.9 | 7 | 4.0 | 3 | 1.7 | 11 | 6.4 | 8 | 4.6 | **22** | **12.7** | 56 | 32.4 | **173** | **100.0** |
| 30 – 34 | 104 | 68.4 | 4 | 2.6 | 2 | 1.3 | 8 | 5.3 | 7 | 4.6 | **17** | **11.2** | 27 | 17.8 | **152** | **100.0** |
| 35 – 39 | 73 | 54.1 | 2 | 1.5 | 4 | 3.0 | 6 | 4.4 | 7 | 5.2 | **17** | **12.6** | 43 | 31.9 | **135** | **100.0** |
| 40 – 44 | 77 | 57.5 | 1 | 0.7 | 1 | 0.7 | 12 | 9.0 | 6 | 4.5 | **19** | **14.2** | 37 | 27.6 | **134** | **100.0** |
| 45 – 49 | 57 | 55.3 | 1 | 1.0 | 1 | 1.0 | 2 | 1.9 | 5 | 4.9 | **8** | **7.8** | 37 | 35.9 | **103** | **100.0** |
| 50 – 54 | 56 | 56.6 | 1 | 1.0 | 1 | 1.0 | 0 | - | 1 | 1.0 | **2** | **2.0** | 40 | 40.4 | **99** | **100.0** |
| 55 – 59 | 52 | 64.2 | 0 | - | 0 | - | 4 | 4.9 | 2 | 2.5 | **6** | **7.4** | 23 | 28.4 | **81** | **100.0** |
| **Total Drivers/Riders KSI** | **507** | **57.8** | **16** | **1.8** | **12** | **1.4** | **43** | **4.9** | **36** | **4.1** | **91** | **10.4** | **263** | **30.0** | **877** | **100.0** |
| **Other Mature Adult Drivers/Riders**[1] | | | | | | | | | | | | | | | | |
| 25 - 29 | 106 | 58.6 | 2 | 1.1 | 3 | 1.7 | 3 | 1.7 | 5 | 2.8 | **11** | **6.1** | 62 | 34.3 | **181** | **100.0** |
| 30 - 34 | 81 | 61.8 | 3 | 2.3 | 2 | 1.5 | 1 | 0.8 | 4 | 3.1 | **7** | **5.3** | 40 | 30.5 | **131** | **100.0** |
| 35 - 39 | 83 | 63.8 | 2 | 1.5 | 0 | - | 2 | 1.5 | 1 | 0.8 | **3** | **2.3** | 42 | 32.3 | **130** | **100.0** |
| 40 - 44 | 74 | 58.7 | 2 | 1.6 | 0 | - | 4 | 3.2 | 1 | 0.8 | **5** | **4.0** | 45 | 35.7 | **126** | **100.0** |
| 45 - 49 | 66 | 62.9 | 2 | 1.9 | 1 | 1.0 | 3 | 2.9 | 2 | 1.9 | **6** | **5.7** | 31 | 29.5 | **105** | **100.0** |
| 50 - 54 | 80 | 77.7 | 1 | 1.0 | 0 | - | 0 | - | 0 | - | **0** | **-** | 22 | 21.4 | **103** | **100.0** |
| 55 - 59 | 56 | 65.1 | 0 | - | 0 | - | 0 | - | 0 | - | **0** | **-** | 30 | 34.9 | **86** | **100.0** |
| **Total Other Drivers/Riders** | **546** | **63.3** | **12** | **1.4** | **6** | **0.7** | **13** | **1.5** | **13** | **1.5** | **32** | **3.7** | **272** | **31.6** | **862** | **100.0** |
| **Total Mature Adult Drivers/Riders** | | | | | | | | | | | | | | | | |
| 25 - 29 | 194 | 54.8 | 9 | 2.5 | 6 | 1.7 | 14 | 4.0 | 13 | 3.7 | **33** | **9.3** | 118 | 33.3 | **354** | **100.0** |
| 30 - 34 | 185 | 65.4 | 7 | 2.5 | 4 | 1.4 | 9 | 3.2 | 11 | 3.9 | **24** | **8.5** | 67 | 23.7 | **283** | **100.0** |
| 35 - 39 | 156 | 58.9 | 4 | 1.5 | 4 | 1.5 | 8 | 3.0 | 8 | 3.0 | **20** | **7.5** | 85 | 32.1 | **265** | **100.0** |
| 40 - 44 | 151 | 58.1 | 3 | 1.2 | 1 | 0.4 | 16 | 6.2 | 7 | 2.7 | **24** | **9.2** | 82 | 31.5 | **260** | **100.0** |
| 45 - 49 | 123 | 59.1 | 3 | 1.4 | 2 | 1.0 | 5 | 2.4 | 7 | 3.4 | **14** | **6.7** | 68 | 32.7 | **208** | **100.0** |
| 50 - 54 | 136 | 67.3 | 2 | 1.0 | 1 | 0.5 | 0 | - | 1 | 0.5 | **2** | **1.0** | 62 | 30.7 | **202** | **100.0** |
| 55 - 59 | 108 | 64.7 | 0 | - | 0 | - | 4 | 2.4 | 2 | 1.2 | **6** | **3.6** | 53 | 31.7 | **167** | **100.0** |
| **Total Mature Adult Drivers/Riders in Serious Crashes** | **1,053** | **60.6** | **28** | **1.6** | **18** | **1.0** | **56** | **3.2** | **49** | **2.8** | **123** | **7.1** | **535** | **30.8** | **1,739** | **100.0** |

1. Other mature adult drivers/riders are mature adult drivers/riders in crashes where a road user was killed or seriously injured, but the driver/riders themselves had only minor injuries or no/unknown injuries.

## 3.4 Senior Adult Road Users – 60 years or older

**Figure 14 Senior Adults Killed or Seriously Injured by Road User Group**

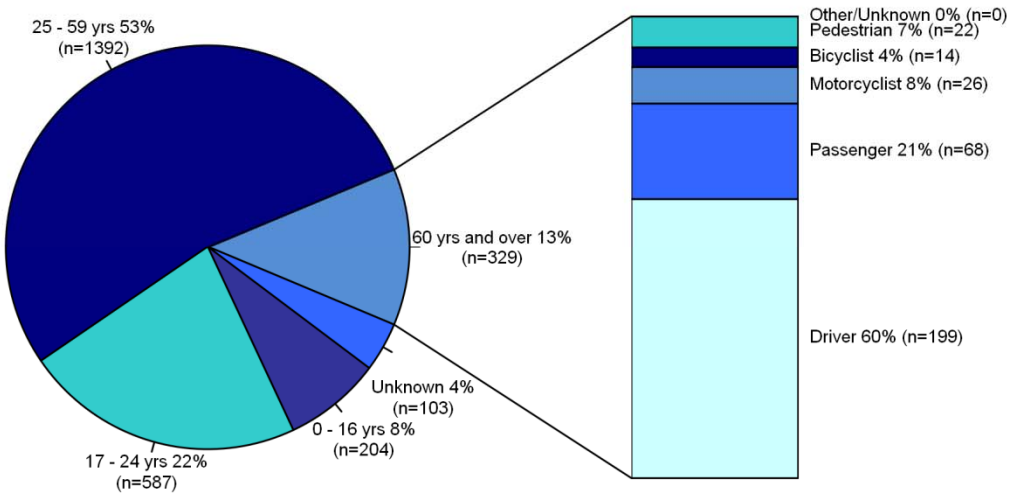



**Table 50 Senior Adults Killed or Seriously Injured by Road User Type and Age Group**

| | Road User Type | | | | | | |
|---|---|---|---|---|---|---|---|
| | Driver | Passenger | Motorcyclist | Bicyclist | Pedestrian | Other/ Unknown | Total |
| **Age Group** | **n** | **n** | **n** | **n** | **n** | **n** | **n** |
| 60 - 64 | 56 | 17 | 14 | 4 | 4 | 0 | **95** |
| 65 - 69 | 36 | 22 | 9 | 2 | 1 | 0 | **70** |
| 70 - 74 | 34 | 6 | 1 | 4 | 5 | 0 | **50** |
| 75 - 79 | 21 | 10 | 1 | 2 | 4 | 0 | **38** |
| 80 - 84 | 30 | 8 | 1 | 1 | 4 | 0 | **44** |
| 85 and over | 22 | 5 | 0 | 1 | 4 | 0 | **32** |
| **Total Senior Adults KSI** | **199** | **68** | **26** | **14** | **22** | **0** | **329** |

## Table 51 Senior Adult Drivers/Riders *Involved* in Serious Crashes by Crash Nature

| | Crash Nature | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Multi-Vehicle Crashes | | | | | | | | Single-Vehicle Crashes | | | | | | | | | | | Total |
| | Head On | | Right Angle | | Other/Unknown Multi | | Total Multi | | Hit Pedestrian | | Hit Animal | | Hit Object | | Non Collision | | Other/Unknown Single | | Total Single | | | |
| Age Group | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % | n | Row % |
| 60 - 64 | 9 | 6.2 | 34 | 23.4 | 77 | 53.1 | **120** | **82.8** | 7 | 4.8 | 0 | - | 9 | 6.2 | 9 | 6.2 | 0 | - | **25** | **17.2** | **145** | **100.0** |
| 65 - 69 | 0 | - | 19 | 22.9 | 42 | 50.6 | **61** | **73.5** | 7 | 8.4 | 0 | - | 6 | 7.2 | 9 | 10.8 | 0 | - | **22** | **26.5** | **83** | **100.0** |
| 70 - 74 | 2 | 2.9 | 26 | 37.1 | 33 | 47.1 | **61** | **87.1** | 0 | - | 0 | - | 7 | 10.0 | 2 | 2.9 | 0 | - | **9** | **12.9** | **70** | **100.0** |
| 75 - 79 | 5 | 12.5 | 13 | 32.5 | 12 | 30.0 | **30** | **75.0** | 3 | 7.5 | 0 | - | 5 | 12.5 | 2 | 5.0 | 0 | - | **10** | **25.0** | **40** | **100.0** |
| 80 - 84 | 1 | 2.2 | 16 | 35.6 | 21 | 46.7 | **38** | **84.4** | 1 | 2.2 | 0 | - | 4 | 8.9 | 2 | 4.4 | 0 | - | **7** | **15.6** | **45** | **100.0** |
| 85 and over | 0 | - | 10 | 34.5 | 12 | 41.4 | **22** | **75.9** | 0 | - | 0 | - | 6 | 20.7 | 0 | - | 1 | 3.4 | **7** | **24.1** | **29** | **100.0** |
| **Total Senior Adult Drivers/Riders in Serious Crashes** | **17** | **4.1** | **118** | **28.6** | **197** | **47.8** | **332** | **80.6** | **18** | **4.4** | **0** | **-** | **37** | **9.0** | **24** | **5.8** | **1** | **0.2** | **80** | **19.4** | **412** | **100.0** |
| **All Drivers/Riders in Serious Crashes**[1] | **176** | **5.3** | **710** | **21.2** | **1,468** | **43.8** | **2,354** | **70.3** | **182** | **5.4** | **12** | **0.4** | **527** | **15.7** | **247** | **7.4** | **28** | **0.8** | **996** | **29.7** | **3,350** | **100.0** |

1. Includes persons with unknown age.

## Table 52 Senior Adult Drivers/Riders *Involved* in Serious Crashes by High Priority Crash Type and Age Group

| | High Priority Crash Types | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Intersection | | Run Off Road | | Head On | | Other | | | |
| **Age Group** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| 60 - 64 | 74 | 51.0 | 19 | 13.1 | 9 | 6.2 | 43 | 29.7 | **145** | **100.0** |
| 65 - 69 | 43 | 51.8 | 12 | 14.5 | 0 | - | 30 | 36.1 | **83** | **100.0** |
| 70 - 74 | 40 | 57.1 | 10 | 14.3 | 2 | 2.9 | 19 | 27.1 | **70** | **100.0** |
| 75 - 79 | 23 | 57.5 | 7 | 17.5 | 5 | 12.5 | 7 | 17.5 | **40** | **100.0** |
| 80 - 84 | 27 | 60.0 | 7 | 15.6 | 1 | 2.2 | 11 | 24.4 | **45** | **100.0** |
| 85 and over | 19 | 65.5 | 5 | 17.2 | 0 | - | 6 | 20.7 | **29** | **100.0** |
| **Total Senior Adult Drivers/Riders in Serious Crashes** | **226** | **54.9** | **60** | **14.6** | **17** | **4.1** | **116** | **28.2** | **412** | **100.0** |
| **All Drivers/Riders in Serious Crashes[1]** | **1,641** | **49.0** | **780** | **23.3** | **176** | **5.3** | **867** | **25.9** | **3,350** | **100.0** |

Note: High Priority Crash Types are not mutually exclusive and, therefore, some crashes may be counted more than once and percentages will sum to greater than 100%.

1. Includes persons with unknown age.

## Table 53 Senior Adults Killed or Seriously Injured by Time of Day and Age Group

| | Time of Day | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Midnight to < 3am | | 3am to < 6am | | 6am to < 9am | | 9am to < Midday | | Midday to < 3pm | | 3pm to < 6pm | | 6pm to < 9pm | | 9pm to < Midnight | | Unknown | | Total | |
| **Age Group** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| 60 - 64 | 1 | 1.1 | 3 | 3.2 | 11 | 11.6 | 23 | 24.2 | 18 | 18.9 | 25 | 26.3 | 6 | 6.3 | 7 | 7.4 | 1 | 1.1 | **95** | **100.0** |
| 65 - 69 | 1 | 1.4 | 1 | 1.4 | 5 | 7.1 | 19 | 27.1 | 17 | 24.3 | 15 | 21.4 | 9 | 12.9 | 3 | 4.3 | 0 | - | **70** | **100.0** |
| 70 - 74 | 0 | - | 0 | - | 8 | 16.0 | 10 | 20.0 | 12 | 24.0 | 10 | 20.0 | 3 | 6.0 | 5 | 10.0 | 2 | 4.0 | **50** | **100.0** |
| 75 - 79 | 0 | - | 0 | - | 1 | 2.6 | 8 | 21.1 | 13 | 34.2 | 9 | 23.7 | 6 | 15.8 | 1 | 2.6 | 0 | - | **38** | **100.0** |
| 80 - 84 | 1 | 2.3 | 0 | - | 7 | 15.9 | 15 | 34.1 | 11 | 25.0 | 9 | 20.5 | 1 | 2.3 | 0 | - | 0 | - | **44** | **100.0** |
| 85 and over | 0 | - | 0 | - | 2 | 6.3 | 12 | 37.5 | 6 | 18.8 | 9 | 28.1 | 2 | 6.3 | 0 | - | 1 | 3.1 | **32** | **100.0** |
| **Total Senior Adults KSI** | **3** | **0.9** | **4** | **1.2** | **34** | **10.3** | **87** | **26.4** | **77** | **23.4** | **77** | **23.4** | **27** | **8.2** | **16** | **4.9** | **4** | **1.2** | **329** | **100.0** |
| **All Persons KSI[1]** | **188** | **7.2** | **101** | **3.9** | **310** | **11.9** | **350** | **13.4** | **440** | **16.8** | **529** | **20.2** | **377** | **14.4** | **268** | **10.3** | **52** | **2.0** | **2,615** | **100.0** |

1. Includes persons with unknown age.

# 4. SAFE SYSTEM

## 4.1 Safe Road User Behaviours

### 4.1.1 Speeding

Speed is a contributing factor to the occurrence and severity of crashes by reducing response time and increasing the amount of energy in a crash. It is not just driving faster than the posted speed limit. Speed can be a contributing factor if the vehicle is being driven too fast for the prevailing weather, visibility, traffic and road conditions without full regard for the condition of the vehicle, driver skills and experience. Whether speed was a contributing factor in causing a crash and increasing crash severity is most reliably determined by an attending police officer, hence this section considers police-attended crashes only. This resulted in the exclusion of 270 of the 1,990 hospitalisation crashes that occurred in 2012. All fatal crashes in 2012 were attended by Police and are included in this section.

**Table 54 Speed a Factor by Crash Severity, Police-Attended Crashes – State**

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| Speed a Factor in Crash | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| Yes | 40 | 23.7 | 177 | 10.3 | **217** | **11.5** | 599 | 7.6 | **816** | **8.3** |
| No | 37 | 21.9 | 599 | 34.8 | **636** | **33.7** | 2,511 | 31.7 | **3,147** | **32.1** |
| Unknown | 92 | 54.4 | 944 | 54.9 | **1,036** | **54.8** | 4,820 | 60.8 | **5,856** | **59.6** |
| **Total Crashes** | **169** | **100.0** | **1,720** | **100.0** | **1,889** | **100.0** | **7,930** | **100.0** | **9,819** | **100.0** |

**Table 55 Speed a Factor by Crash Severity, Police-Attended Crashes - Metropolitan**

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| Speed a Factor in Crash | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| Yes | 21 | 26.3 | 105 | 9.2 | **126** | **10.3** | 420 | 7.0 | **546** | **7.5** |
| No | 14 | 17.5 | 350 | 30.6 | **364** | **29.7** | 1,652 | 27.4 | **2,016** | **27.8** |
| Unknown | 45 | 56.3 | 689 | 60.2 | **734** | **60.0** | 3,962 | 65.7 | **4,696** | **64.7** |
| **Total Crashes** | **80** | **100.0** | **1,144** | **100.0** | **1,224** | **100.0** | **6,034** | **100.0** | **7,258** | **100.0** |

**Table 56 Speed a Factor by Crash Severity, Police-Attended Crashes - Regional**

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| Speed a Factor in Crash | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| Yes | 9 | 17.3 | 43 | 12.8 | **52** | **13.4** | 123 | 10.0 | **175** | **10.8** |
| No | 13 | 25.0 | 146 | 43.5 | **159** | **41.0** | 552 | 44.8 | **711** | **43.9** |
| Unknown | 30 | 57.7 | 147 | 43.8 | **177** | **45.6** | 558 | 45.3 | **735** | **45.3** |
| **Total Crashes** | **52** | **100.0** | **336** | **100.0** | **388** | **100.0** | **1,233** | **100.0** | **1,621** | **100.0** |

**Table 57 Speed a Factor by Crash Severity, Police-Attended Crashes - Remote**

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| Speed a Factor in Crash | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| Yes | 10 | 27.0 | 29 | 12.1 | **39** | **14.1** | 56 | 8.4 | **95** | **10.1** |
| No | 10 | 27.0 | 103 | 42.9 | **113** | **40.8** | 307 | 46.3 | **420** | **44.7** |
| Unknown | 17 | 45.9 | 108 | 45.0 | **125** | **45.1** | 300 | 45.2 | **425** | **45.2** |
| **Total Crashes** | **37** | **100.0** | **240** | **100.0** | **277** | **100.0** | **663** | **100.0** | **940** | **100.0** |

**Figure 15 Fatal Crashes With Speed a Factor by Year, Police-Attended Crashes**

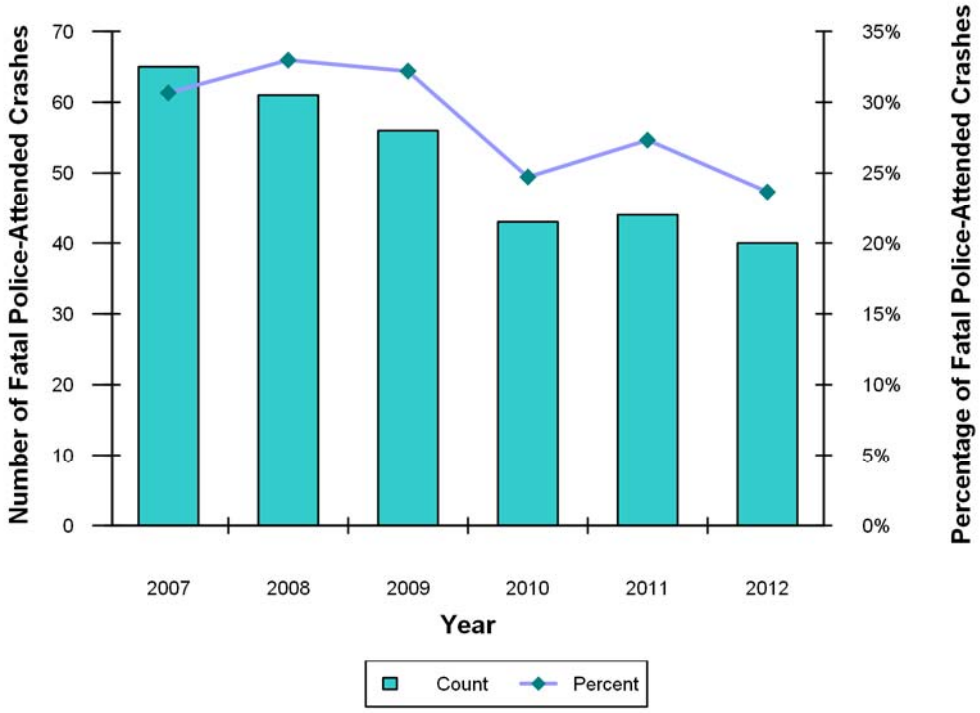



**Table 58 Fatal Crashes by Speed a Factor by Year, Police-Attended Crashes**

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011 |
| Speed a Factor in Crash | n | n | n | n | n | n | % |
| Yes | 65 | 61 | 56 | 43 | 44 | 40 | -9.1 |
| No | 56 | 37 | 37 | 39 | 43 | 37 | -14.0 |
| Unknown | 91 | 87 | 81 | 92 | 74 | 92 | 24.3 |
| **Total Fatal Crashes** | **212** | **185** | **174** | **174** | **161** | **169** | **5.0** |

## Table 59 Serious Crashes by Speed a Factor by ARIA Category, Police-Attended Crashes

| | Speed a Factor | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Yes | | No | | Unknown | | Total | |
| **ARIA Category** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| Highly Accessible | 135 | 10.6 | 381 | 30.0 | 752 | 59.3 | **1,268** | **100.0** |
| Accessible | 27 | 12.4 | 90 | 41.5 | 100 | 46.1 | **217** | **100.0** |
| Moderately Accessible | 26 | 14.9 | 68 | 38.9 | 81 | 46.3 | **175** | **100.0** |
| Remote | 22 | 15.8 | 52 | 37.4 | 65 | 46.8 | **139** | **100.0** |
| Very Remote | 7 | 7.8 | 45 | 50.0 | 38 | 42.2 | **90** | **100.0** |
| **Total Serious Crashes** | **217** | **11.5** | **636** | **33.7** | **1,036** | **54.8** | **1,889** | **100.0** |

## Table 60 Drivers/Riders *Involved* in Fatal Crashes by Speed a Factor by Gender and Age Group, Police-Attended Crashes

| | Speed a Factor in Crash | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Yes | | No | | Unknown | | Total | |
| **Gender/Age Group** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| **Male** | | | | | | | | |
| 0 - 11 | 0 | N/A | 0 | N/A | 0 | N/A | **0** | **N/A** |
| 12 - 16 | 1 | 25.0 | 1 | 25.0 | 2 | 50.0 | **4** | **100.0** |
| 17 - 24 | 9 | 23.7 | 4 | 10.5 | 25 | 65.8 | **38** | **100.0** |
| 25 - 29 | 11 | 45.8 | 3 | 12.5 | 10 | 41.7 | **24** | **100.0** |
| 30 - 39 | 9 | 24.3 | 5 | 13.5 | 23 | 62.2 | **37** | **100.0** |
| 40 - 49 | 9 | 27.3 | 9 | 27.3 | 15 | 45.5 | **33** | **100.0** |
| 50 - 59 | 2 | 8.3 | 8 | 33.3 | 14 | 58.3 | **24** | **100.0** |
| 60 and over | 2 | 14.3 | 4 | 28.6 | 8 | 57.1 | **14** | **100.0** |
| Unknown age | 1 | 50.0 | 0 | - | 1 | 50.0 | **2** | **100.0** |
| **Total Male** | **44** | **25.0** | **34** | **19.3** | **98** | **55.7** | **176** | **100.0** |
| **Female** | | | | | | | | |
| 0 – 11 | 0 | N/A | 0 | N/A | 0 | N/A | **0** | **N/A** |
| 12 – 16 | 1 | 100.0 | 0 | - | 0 | - | **1** | **100.0** |
| 17 – 24 | 1 | 8.3 | 5 | 41.7 | 6 | 50.0 | **12** | **100.0** |
| 25 – 29 | 3 | 30.0 | 5 | 50.0 | 2 | 20.0 | **10** | **100.0** |
| 30 – 39 | 1 | 10.0 | 1 | 10.0 | 8 | 80.0 | **10** | **100.0** |
| 40 – 49 | 0 | - | 2 | 25.0 | 6 | 75.0 | **8** | **100.0** |
| 50 – 59 | 1 | 14.3 | 0 | - | 6 | 85.7 | **7** | **100.0** |
| 60 and over | 0 | - | 1 | 12.5 | 7 | 87.5 | **8** | **100.0** |
| **Total Female** | **7** | **12.5** | **14** | **25.0** | **35** | **62.5** | **56** | **100.0** |
| **Unknown Gender** | **0** | **-** | **0** | **-** | **1** | **100.0** | **1** | **100.0** |
| **Total Drivers/Riders in Fatal Crashes** | **51** | **21.9** | **48** | **20.6** | **134** | **57.5** | **233** | **100.0** |

**Table 61 Drivers/Riders *Involved* in Hospitalisation Crashes by Speed a Factor by Gender and Age Group, Police-Attended Crashes**

| | Speed a Factor in Crash | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Yes | | No | | Unknown | | Total | |
| **Gender/Age Group** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| **Male** | | | | | | | | |
| 0 - 11 | 0 | - | 1 | 100.0 | 0 | - | **1** | **100.0** |
| 12 - 16 | 3 | 11.1 | 10 | 37.0 | 14 | 51.9 | **27** | **100.0** |
| 17 - 24 | 67 | 16.8 | 114 | 28.6 | 218 | 54.6 | **399** | **100.0** |
| 25 - 29 | 32 | 14.8 | 64 | 29.6 | 120 | 55.6 | **216** | **100.0** |
| 30 - 39 | 38 | 11.1 | 110 | 32.2 | 194 | 56.7 | **342** | **100.0** |
| 40 - 49 | 26 | 9.2 | 94 | 33.1 | 164 | 57.7 | **284** | **100.0** |
| 50 - 59 | 5 | 2.4 | 99 | 46.7 | 108 | 50.9 | **212** | **100.0** |
| 60 and over | 6 | 2.5 | 107 | 44.8 | 126 | 52.7 | **239** | **100.0** |
| Unknown age | 4 | 7.8 | 9 | 17.6 | 38 | 74.5 | **51** | **100.0** |
| **Total Male** | **181** | **10.2** | **608** | **34.3** | **982** | **55.4** | **1,771** | **100.0** |
| **Female** | | | | | | | | |
| 0 - 11 | 0 | N/A | 0 | N/A | 0 | N/A | **0** | **N/A** |
| 12 - 16 | 0 | - | 2 | 50.0 | 2 | 50.0 | **4** | **100.0** |
| 17 - 24 | 13 | 6.7 | 70 | 36.3 | 110 | 57.0 | **193** | **100.0** |
| 25 - 29 | 8 | 7.8 | 34 | 33.3 | 60 | 58.8 | **102** | **100.0** |
| 30 - 39 | 5 | 3.2 | 54 | 34.8 | 96 | 61.9 | **155** | **100.0** |
| 40 - 49 | 5 | 3.5 | 55 | 38.5 | 83 | 58.0 | **143** | **100.0** |
| 50 - 59 | 3 | 2.4 | 47 | 37.6 | 75 | 60.0 | **125** | **100.0** |
| 60 and over | 4 | 3.6 | 49 | 44.1 | 58 | 52.3 | **111** | **100.0** |
| Unknown age | 1 | 5.9 | 6 | 35.3 | 10 | 58.8 | **17** | **100.0** |
| **Total Female** | **39** | **4.6** | **317** | **37.3** | **494** | **58.1** | **850** | **100.0** |
| **Unknown Gender** | **5** | **11.1** | **7** | **15.6** | **33** | **73.3** | **45** | **100.0** |
| **Total Drivers/Riders in Hospitalisation Crashes** | **225** | **8.4** | **932** | **35.0** | **1,509** | **56.6** | **2,666** | **100.0** |

## Table 62 Persons Killed or Seriously Injured by Speed a Factor by Gender and Age Group, Police-Attended Crashes

| | Speed a Factor in Crash | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Yes | | No | | Unknown | | Total | |
| Gender/Age Group | n | Row % | n | Row % | n | Row % | n | Row % |
| **Male** | | | | | | | | |
| 0 - 11 | 2 | 7.4 | 12 | 44.4 | 13 | 48.1 | **27** | **100.0** |
| 12 - 16 | 5 | 8.3 | 22 | 36.7 | 33 | 55.0 | **60** | **100.0** |
| 17 - 24 | 77 | 24.9 | 72 | 23.3 | 160 | 51.8 | **309** | **100.0** |
| 25 - 29 | 38 | 23.6 | 43 | 26.7 | 80 | 49.7 | **161** | **100.0** |
| 30 - 39 | 39 | 15.9 | 72 | 29.3 | 135 | 54.9 | **246** | **100.0** |
| 40 - 49 | 29 | 14.4 | 62 | 30.8 | 110 | 54.7 | **201** | **100.0** |
| 50 - 59 | 6 | 4.0 | 69 | 45.7 | 76 | 50.3 | **151** | **100.0** |
| 60 and over | 5 | 3.3 | 57 | 37.7 | 89 | 58.9 | **151** | **100.0** |
| Unknown age | 2 | 6.7 | 9 | 30.0 | 19 | 63.3 | **30** | **100.0** |
| **Total Male** | **203** | **15.2** | **418** | **31.3** | **715** | **53.5** | **1,336** | **100.0** |
| **Female** | | | | | | | | |
| 0 - 11 | 3 | 10.3 | 15 | 51.7 | 11 | 37.9 | **29** | **100.0** |
| 12 - 16 | 2 | 10.5 | 10 | 52.6 | 7 | 36.8 | **19** | **100.0** |
| 17 - 24 | 13 | 7.9 | 56 | 33.9 | 96 | 58.2 | **165** | **100.0** |
| 25 - 29 | 10 | 14.5 | 23 | 33.3 | 36 | 52.2 | **69** | **100.0** |
| 30 - 39 | 9 | 7.3 | 40 | 32.3 | 75 | 60.5 | **124** | **100.0** |
| 40 - 49 | 10 | 9.3 | 42 | 39.3 | 55 | 51.4 | **107** | **100.0** |
| 50 - 59 | 4 | 4.5 | 33 | 37.5 | 51 | 58.0 | **88** | **100.0** |
| 60 and over | 5 | 3.8 | 56 | 43.1 | 69 | 53.1 | **130** | **100.0** |
| Unknown age | 3 | 13.0 | 7 | 30.4 | 13 | 56.5 | **23** | **100.0** |
| **Total Female** | **59** | **7.8** | **282** | **37.4** | **413** | **54.8** | **754** | **100.0** |
| **Unknown Gender** | **39** | **15.9** | **83** | **33.9** | **123** | **50.2** | **245** | **100.0** |
| **Total Persons KSI** | **301** | **12.9** | **783** | **33.5** | **1,251** | **53.6** | **2,335** | **100.0** |

## Table 63 Fatalities by Road User Type by Speed a Factor, Police-Attended Crashes

| | Speed a Factor in Crash | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Yes | | No | | Unknown | | Total | |
| Road User Type | n | Row % | n | Row % | n | Row % | n | Row % |
| Driver | 24 | 28.9 | 13 | 15.7 | 46 | 55.4 | **83** | **100.0** |
| Passenger | 10 | 26.3 | 13 | 34.2 | 15 | 39.5 | **38** | **100.0** |
| Motorcyclist | 8 | 25.0 | 3 | 9.4 | 21 | 65.6 | **32** | **100.0** |
| Bicyclist | 1 | 33.3 | 0 | - | 2 | 66.7 | **3** | **100.0** |
| Pedestrian | 0 | - | 11 | 44.0 | 14 | 56.0 | **25** | **100.0** |
| **Total Fatalities** | **43** | **23.8** | **40** | **22.1** | **98** | **54.1** | **181** | **100.0** |

**Table 64 Fatal Crashes by Speed a Factor by Crash Nature, Police-Attended Crashes - Metropolitan**

| | Speed a Factor in Crash | | | |
|---|---|---|---|---|
| | Yes | No | Unknown | Total |
| **Crash Nature** | **n** | **n** | **n** | **n** |
| **Multi-Vehicle Crashes** | | | | |
| Rear End | 2 | 1 | 2 | **5** |
| Head On | 3 | 0 | 7 | **10** |
| Sideswipe Same Dir. | 0 | 0 | 1 | **1** |
| Right Angle | 4 | 4 | 6 | **14** |
| Right Turn Through | 0 | 1 | 5 | **6** |
| Other/ Unknown | 1 | 1 | 1 | **3** |
| **Total Multi Vehicle** | **10** | **7** | **22** | **39** |
| **Single-Vehicle Crashes** | | | | |
| Hit Pedestrian | 0 | 5 | 9 | **14** |
| Hit Animal | 0 | 0 | 0 | **0** |
| Hit Object | 9 | 0 | 10 | **19** |
| Non Collision | 1 | 0 | 3 | **4** |
| Other/ Unknown | 1 | 2 | 1 | **4** |
| **Total Single Vehicle** | **11** | **7** | **23** | **41** |
| **Total Fatal Crashes** | **21** | **14** | **45** | **80** |

**Table 65 Fatal Crashes by Speed a Factor by Crash Nature, Police-Attended Crashes - Regional**

| | Speed a Factor in Crash | | | |
|---|---|---|---|---|
| | Yes | No | Unknown | Total |
| **Crash Nature** | **n** | **n** | **n** | **n** |
| **Multi-Vehicle Crashes** | | | | |
| Rear End | 0 | 0 | 0 | **0** |
| Head On | 0 | 1 | 5 | **6** |
| Sideswipe Same Dir. | 0 | 2 | 1 | **3** |
| Right Angle | 0 | 0 | 4 | **4** |
| Right Turn Through | 0 | 0 | 2 | **2** |
| Other/ Unknown | 1 | 0 | 1 | **2** |
| **Total Multi Vehicle** | **1** | **3** | **13** | **17** |
| **Single-Vehicle Crashes** | | | | |
| Hit Pedestrian | 0 | 4 | 0 | **4** |
| Hit Animal | 0 | 0 | 0 | **0** |
| Hit Object | 6 | 5 | 13 | **24** |
| Non Collision | 2 | 1 | 4 | **7** |
| Other/ Unknown | 0 | 0 | 0 | **0** |
| **Total Single Vehicle** | **8** | **10** | **17** | **35** |
| **Total Fatal Crashes** | **9** | **13** | **30** | **52** |

## Table 66 Fatal Crashes by Speed a Factor by Crash Nature, Police-Attended Crashes - Remote

| | Speed a Factor in Crash | | | |
|---|---|---|---|---|
| | Yes | No | Unknown | Total |
| **Crash Nature** | **n** | **n** | **n** | **n** |
| **Multi-Vehicle Crashes** | | | | |
| Rear End | 0 | 0 | 0 | **0** |
| Head On | 1 | 1 | 3 | **5** |
| Sideswipe Same Dir. | 0 | 0 | 0 | **0** |
| Right Angle | 0 | 0 | 1 | **1** |
| Right Turn Through | 0 | 0 | 0 | **0** |
| Other/ Unknown | 1 | 2 | 1 | **4** |
| **Total Multi Vehicle** | **2** | **3** | **5** | **10** |
| **Single-Vehicle Crashes** | | | | |
| Hit Pedestrian | 0 | 1 | 3 | **4** |
| Hit Animal | 0 | 0 | 0 | **0** |
| Hit Object | 4 | 3 | 5 | **12** |
| Non Collision | 4 | 3 | 3 | **10** |
| Other/ Unknown | 0 | 0 | 1 | **1** |
| **Total Single Vehicle** | **8** | **7** | **12** | **27** |
| **Total Fatal Crashes** | **10** | **10** | **17** | **37** |

## Table 67 Fatal Crashes by Speed a Factor by Speed Zone, Police-Attended Crashes

| | Speed a Factor in Crash | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Yes | | No | | Unknown | | Total | |
| **Speed Zone** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| <50 | 1 | 2.5 | 1 | 2.7 | 1 | 1.1 | **3** | **1.8** |
| 50 | 3 | 7.5 | 6 | 16.2 | 9 | 9.8 | **18** | **10.7** |
| 60 | 9 | 22.5 | 6 | 16.2 | 18 | 19.6 | **33** | **19.5** |
| 70 | 4 | 10.0 | 2 | 5.4 | 9 | 9.8 | **15** | **8.9** |
| 80 | 6 | 15.0 | 4 | 10.8 | 10 | 10.9 | **20** | **11.8** |
| 90 | 5 | 12.5 | 2 | 5.4 | 3 | 3.3 | **10** | **5.9** |
| 100 | 1 | 2.5 | 1 | 2.7 | 4 | 4.3 | **6** | **3.6** |
| 110 | 11 | 27.5 | 14 | 37.8 | 36 | 39.1 | **61** | **36.1** |
| State Default | 0 | - | 0 | - | 1 | 1.1 | **1** | **0.6** |
| Unknown | 0 | - | 1 | 2.7 | 1 | 1.1 | **2** | **1.2** |
| **Total Fatal Crashes** | **40** | **100.0** | **37** | **100.0** | **92** | **100.0** | **169** | **100.0** |

## Table 68 Hospitalisation Crashes by Speed a Factor by Speed Zone, Police-Attended Crashes

| | Speed a Factor in Crash | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Yes | | No | | Unknown | | Total | |
| **Speed Zone** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| <50 | 2 | 1.1 | 5 | 0.8 | 13 | 1.4 | **20** | **1.2** |
| 50 | 49 | 27.7 | 132 | 22.0 | 205 | 21.7 | **386** | **22.4** |
| 60 | 42 | 23.7 | 120 | 20.0 | 229 | 24.3 | **391** | **22.7** |
| 70 | 17 | 9.6 | 94 | 15.7 | 162 | 17.2 | **273** | **15.9** |
| 80 | 16 | 9.0 | 56 | 9.3 | 71 | 7.5 | **143** | **8.3** |
| 90 | 6 | 3.4 | 16 | 2.7 | 34 | 3.6 | **56** | **3.3** |
| 100 | 12 | 6.8 | 30 | 5.0 | 56 | 5.9 | **98** | **5.7** |
| 110 | 25 | 14.1 | 131 | 21.9 | 144 | 15.3 | **300** | **17.4** |
| State Default | 4 | 2.3 | 9 | 1.5 | 18 | 1.9 | **31** | **1.8** |
| Unknown | 4 | 2.3 | 6 | 1.0 | 12 | 1.3 | **22** | **1.3** |
| **Total Hospitalisation Crashes** | **177** | **100.0** | **599** | **100.0** | **944** | **100.0** | **1,720** | **100.0** |

### 4.1.2 Alcohol

This section focuses on the involvement of alcohol in road crashes. The legal blood alcohol concentration (BAC) limit for drivers holding an ordinary licence in Western Australia is 0.05 g/100mL. Therefore, in this report crashes that involved a driver/rider with a BAC of 0.05 g/100mL or above are referred to as 'alcohol-related crashes'. As a driver's or rider's BAC is usually determined by a breath or blood test in the presence of a police officer, only police-attended crashes are included in this section. In 2012, there were 270 hospitalisation crashes that were not police attended and are, therefore, not included in this section. All fatal crashes in 2012 were attended by Police and are included in this section.

Since alcohol involvement in crashes is based on the BAC of all drivers and motorcycle riders (referred to as drivers/riders) involved in the crash, crashes that did not involve a driver or rider were excluded from the tables and figures presented in this section. Such crashes include collisions between bicycles and pedestrians or where a parked vehicle rolls away and hits another vehicle or road user. With this restriction a further 35 police-attended crashes were excluded from this section, for a total of 9,784 police-attended crashes that involved a driver/rider.

**Table 69 Highest Driver/Rider BAC in Crash by Crash Severity, Police-Attended Crashes**

| Highest Driver/Rider BAC in Crash (g/100mL) | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| Nil | 110 | 66.7 | 1,052 | 61.6 | **1,162** | **62.0** | 4,545 | 57.5 | **5,707** | **58.3** |
| > 0 to < 0.05 | 8 | 4.8 | 33 | 1.9 | **41** | **2.2** | 128 | 1.6 | **169** | **1.7** |
| 0.05 to < 0.08 | 3 | 1.8 | 31 | 1.8 | **34** | **1.8** | 135 | 1.7 | **169** | **1.7** |
| 0.08 to < 0.15 | 10 | 6.1 | 83 | 4.9 | **93** | **5.0** | 332 | 4.2 | **425** | **4.3** |
| ≥ 0.15 | 18 | 10.9 | 44 | 2.6 | **62** | **3.3** | 201 | 2.5 | **263** | **2.7** |
| **Subtotal ≥ 0.05** | **31** | **18.8** | **158** | **9.3** | **189** | **10.1** | **668** | **8.4** | **857** | **8.8** |
| Unknown | 16 | 9.7 | 465 | 27.2 | **481** | **25.7** | 2,570 | 32.5 | **3,051** | **31.2** |
| **Total Crashes**[1] | **165** | **100.0** | **1,708** | **100.0** | **1,873** | **100.0** | **7,911** | **100.0** | **9,784** | **100.0** |

1. Excludes police-attended crashes that did not involve a driver/rider (n=35).

**Figure 16 Fatal Crashes by Highest Driver/Rider BAC in Crash by Year, Police-Attended Crashes**

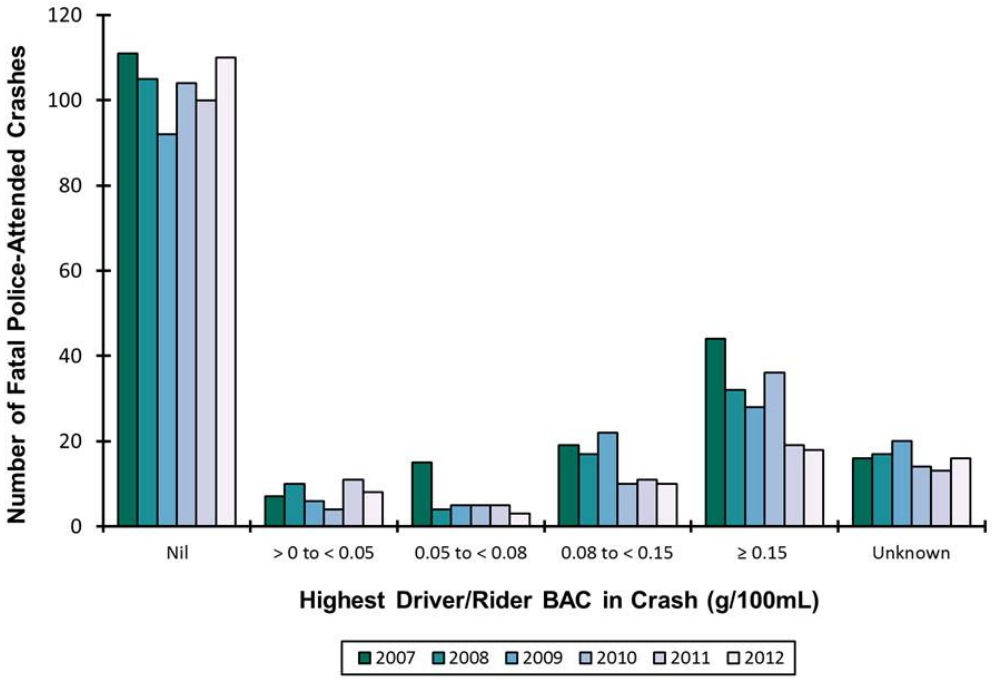



**Table 70 Fatal Crashes by Highest Driver/Rider BAC in Crash by Year, Police-Attended Crashes**

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| **Highest Driver/Rider BAC in Crash (g/100mL)** | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** | **2012 Change from 2011[1]** |
| | **n** | **n** | **n** | **n** | **n** | **n** | **%** |
| Nil | 111 | 105 | 92 | 104 | 100 | 110 | 10.0 |
| > 0 to < 0.05 | 7 | 10 | 6 | 4 | 11 | 8 | N/R |
| 0.05 to < 0.08 | 15 | 4 | 5 | 5 | 5 | 3 | N/R |
| 0.08 to < 0.15 | 19 | 17 | 22 | 10 | 11 | 10 | -9.1 |
| ≥ 0.15 | 44 | 32 | 28 | 36 | 19 | 18 | -5.3 |
| **Sub-total ≥ 0.05** | **78** | **53** | **55** | **51** | **35** | **31** | **-11.4** |
| Unknown | 16 | 17 | 20 | 14 | 13 | 16 | 23.1 |
| **Total Fatal Crashes** | **212** | **185** | **173** | **173** | **159** | **165** | **3.8** |

1. 2012 change from 2011 not reported for crashes with unknown BAC, or for BAC categories with fewer than ten crashes.

## Table 71 Serious Crashes by Highest Driver/Rider BAC by ARIA Category, Police-Attended Crashes

| Highest Driver/Rider BAC in Crash | ARIA Category | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highly Accessible | | Accessible | | Moderately Accessible | | Remote | | Very Remote | | Total | |
| | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| Nil | 808 | 64.4 | 129 | 60.0 | 97 | 55.7 | 75 | 54.0 | 53 | 58.9 | **1,162** | **62.0** |
| > 0 to < 0.05 | 25 | 2.0 | 7 | 3.3 | 5 | 2.9 | 3 | 2.2 | 1 | 1.1 | **41** | **2.2** |
| 0.05 to < 0.08 | 23 | 1.8 | 5 | 2.3 | 3 | 1.7 | 2 | 1.4 | 1 | 1.1 | **34** | **1.8** |
| 0.08 to < 0.15 | 64 | 5.1 | 12 | 5.6 | 8 | 4.6 | 8 | 5.8 | 1 | 1.1 | **93** | **5.0** |
| ≥ 0.15 | 37 | 2.9 | 6 | 2.8 | 10 | 5.7 | 7 | 5.0 | 2 | 2.2 | **62** | **3.3** |
| **Sub-total ≥ 0.05** | **124** | **9.9** | **23** | **10.7** | **21** | **12.1** | **17** | **12.2** | **4** | **4.4** | **189** | **10.1** |
| Unknown | 298 | 23.7 | 56 | 26.0 | 51 | 29.3 | 44 | 31.7 | 32 | 35.6 | **481** | **25.7** |
| **Total Serious Crashes[1]** | **1,255** | **100.0** | **215** | **100.0** | **174** | **100.0** | **139** | **100.0** | **90** | **100.0** | **1,873** | **100.0** |

1. Excludes police-attended crashes that did not involve a driver/rider (n=16).

## Table 72 Drivers/Riders *Involved* in Fatal Crashes by Driver/Rider BAC by Gender and Age Group, Police-Attended Crashes

| Gender/Age Group | Driver/Rider BAC (g/100mL) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Nil | <0.05 | 0.05 to <0.08 | 0.08 to <0.15 | ≥0.15 | Subtotal ≥0.05 | Unknown | Total |
| | n | n | n | n | n | n | n | n |
| **Male** | | | | | | | | |
| 0 - 11 | 0 | 0 | 0 | 0 | 0 | **0** | 0 | **0** |
| 12 - 16 | 4 | 0 | 0 | 0 | 0 | **0** | 0 | **4** |
| 17 - 24 | 21 | 1 | 0 | 3 | 1 | **4** | 12 | **38** |
| 25 - 29 | 16 | 0 | 1 | 1 | 3 | **5** | 3 | **24** |
| 30 - 39 | 22 | 1 | 1 | 2 | 4 | **7** | 7 | **37** |
| 40 - 49 | 21 | 2 | 0 | 2 | 5 | **7** | 3 | **33** |
| 50 - 59 | 19 | 0 | 0 | 0 | 2 | **2** | 3 | **24** |
| 60 and over | 12 | 0 | 0 | 0 | 1 | **1** | 1 | **14** |
| Unknown Age | 1 | 0 | 0 | 0 | 0 | **0** | 1 | **2** |
| **Total Male** | **116** | **4** | **2** | **8** | **16** | **26** | **30** | **176** |
| **Female** | | | | | | | | |
| 0 - 11 | 0 | 0 | 0 | 0 | 0 | **0** | 0 | **0** |
| 12 - 16 | 0 | 0 | 0 | 0 | 0 | **0** | 1 | **1** |
| 17 - 24 | 8 | 1 | 0 | 1 | 0 | **1** | 2 | **12** |
| 25 - 29 | 6 | 1 | 1 | 1 | 1 | **3** | 0 | **10** |
| 30 - 39 | 8 | 1 | 0 | 0 | 0 | **0** | 1 | **10** |
| 40 - 49 | 6 | 0 | 0 | 0 | 1 | **1** | 1 | **8** |
| 50 - 59 | 6 | 0 | 0 | 0 | 0 | **0** | 1 | **7** |
| 60 and over | 6 | 1 | 0 | 0 | 0 | **0** | 1 | **8** |
| Unknown Age | 0 | 0 | 0 | 0 | 0 | **0** | 0 | **0** |
| **Total Female** | **40** | **4** | **1** | **2** | **2** | **5** | **7** | **56** |
| **Unknown Gender** | **0** | **0** | **0** | **0** | **0** | **0** | **1** | **1** |
| **Total Drivers/Riders in Fatal Crashes** | **156** | **8** | **3** | **10** | **18** | **31** | **38** | **233** |

**Table 73 Drivers/Riders *Involved* in Hospitalisation Crashes by Driver/Rider BAC by Gender and Age Group, Police-Attended Crashes**

| | Driver/Rider BAC (g/100mL) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Nil | <0.05 | 0.05 to <0.08 | 0.08 to <0.15 | ≥0.15 | Subtotal ≥0.05 | Unknown | Total |
| **Gender/Age Group** | **n** | **n** | **n** | **n** | **n** | **n** | **n** | **n** |
| **Male** | | | | | | | | |
| 0 - 11 | 0 | 0 | 0 | 0 | 0 | **0** | 1 | **1** |
| 12 - 16 | 19 | 0 | 0 | 0 | 0 | **0** | 8 | **27** |
| 17 - 24 | 222 | 8 | 12 | 23 | 8 | **43** | 126 | **399** |
| 25 - 29 | 118 | 6 | 3 | 8 | 7 | **18** | 74 | **216** |
| 30 - 39 | 202 | 8 | 3 | 14 | 15 | **32** | 100 | **342** |
| 40 - 49 | 157 | 3 | 3 | 15 | 7 | **25** | 99 | **284** |
| 50 - 59 | 140 | 1 | 1 | 4 | 0 | **5** | 66 | **212** |
| 60 and over | 163 | 2 | 1 | 3 | 1 | **5** | 69 | **239** |
| Unknown age | 17 | 0 | 0 | 0 | 2 | **2** | 32 | **51** |
| **Total Male** | **1,038** | **28** | **23** | **67** | **40** | **130** | **575** | **1,771** |
| **Female** | | | | | | | | |
| 0 – 11 | 0 | 0 | 0 | 0 | 0 | **0** | 0 | **0** |
| 12 – 16 | 2 | 0 | 0 | 0 | 0 | **0** | 2 | **4** |
| 17 – 24 | 119 | 1 | 3 | 6 | 0 | **9** | 64 | **193** |
| 25 – 29 | 52 | 2 | 1 | 4 | 2 | **7** | 41 | **102** |
| 30 – 39 | 107 | 1 | 4 | 1 | 0 | **5** | 42 | **155** |
| 40 - 49 | 90 | 1 | 0 | 4 | 1 | **5** | 47 | **143** |
| 50 - 59 | 78 | 1 | 0 | 0 | 1 | **1** | 45 | **125** |
| 60 and over | 83 | 1 | 0 | 1 | 0 | **1** | 26 | **111** |
| Unknown age | 7 | 0 | 0 | 0 | 0 | **0** | 10 | **17** |
| **Total Female** | **538** | **7** | **8** | **16** | **4** | **28** | **277** | **850** |
| **Unknown Gender** | **6** | **0** | **0** | **0** | **0** | **0** | **39** | **45** |
| **Total Drivers/Riders in Hospitalisation Crashes** | **1,582** | **35** | **31** | **83** | **44** | **158** | **891** | **2,666** |

## Table 74 Persons Killed or Seriously Injured by Gender and Age Group by Highest Driver/Rider BAC in Crash, Police-Attended Crashes

| | Highest Driver/Rider BAC in Crash (g/100mL) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Nil | <0.05 | 0.05 to <0.08 | 0.08 to <0.15 | ≥0.15 | Subtotal ≥0.05 | Unknown | Total |
| **Gender/Age Group** | **n** | **n** | **n** | **n** | **n** | **n** | **n** | **n** |
| **Male** | | | | | | | | |
| 0 - 11 | 18 | 0 | 0 | 0 | 0 | 0 | 9 | **27** |
| 12 - 16 | 47 | 1 | 0 | 0 | 0 | 0 | 12 | **60** |
| 17 - 24 | 161 | 6 | 13 | 24 | 7 | 44 | 97 | **308** |
| 25 - 29 | 88 | 7 | 6 | 13 | 8 | 27 | 38 | **160** |
| 30 - 39 | 146 | 6 | 5 | 18 | 17 | 40 | 51 | **243** |
| 40 - 49 | 113 | 6 | 2 | 14 | 10 | 26 | 55 | **200** |
| 50 - 59 | 94 | 3 | 1 | 4 | 2 | 7 | 46 | **150** |
| 60 and over | 102 | 3 | 1 | 2 | 2 | 5 | 37 | **147** |
| Unknown age | 16 | 0 | 2 | 0 | 3 | 5 | 9 | **30** |
| **Total Male** | **785** | **32** | **30** | **75** | **49** | **154** | **354** | **1,325** |
| **Female** | | | | | | | | |
| 0 - 11 | 22 | 0 | 0 | 0 | 2 | 2 | 5 | **29** |
| 12 - 16 | 11 | 1 | 1 | 0 | 0 | 1 | 6 | **19** |
| 17 - 24 | 98 | 4 | 5 | 8 | 0 | 13 | 49 | **164** |
| 25 - 29 | 36 | 4 | 1 | 6 | 3 | 10 | 18 | **68** |
| 30 - 39 | 78 | 3 | 6 | 2 | 1 | 9 | 33 | **123** |
| 40 - 49 | 75 | 2 | 2 | 3 | 5 | 10 | 20 | **107** |
| 50 - 59 | 49 | 1 | 1 | 0 | 3 | 4 | 32 | **86** |
| 60 and over | 98 | 3 | 0 | 2 | 3 | 5 | 24 | **130** |
| Unknown age | 17 | 0 | 0 | 0 | 0 | 0 | 6 | **23** |
| **Total Female** | **484** | **18** | **16** | **21** | **17** | **54** | **193** | **749** |
| **Unknown Gender** | **171** | **6** | **4** | **17** | **8** | **29** | **39** | **245** |
| **Total Persons KSI[1]** | **1,440** | **56** | **50** | **113** | **74** | **237** | **586** | **2,319** |

1. Excludes persons killed or seriously injured in crashes that did not involve a driver/rider (n=16).

## Table 75 BAC of Pedestrian Fatalities by Area of Crash, Police-Attended

| | Pedestrian BAC (g/100mL) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Nil | <0.05 | 0.05 to <0.08 | 0.08 to <0.15 | ≥0.15 | Subtotal ≥0.05 | Unknown | Total |
| **Area** | **n** | **n** | **n** | **n** | **n** | **n** | **n** | **n** |
| Metropolitan | 10 | 0 | 0 | 1 | 4 | **5** | 0 | **15** |
| Regional | 4 | 0 | 0 | 0 | 1 | **1** | 0 | **5** |
| Remote | 3 | 0 | 0 | 0 | 2 | **2** | 0 | **5** |
| **Total Pedestrian Fatalities** | **17** | **0** | **0** | **1** | **7** | **8** | **0** | **25** |

### 4.1.3 Illegal Drugs

Data regarding the number of road crash fatalities with drugs detected in their system was provided by the Forensic Science Laboratory of the Chemistry Centre of Western Australia. The drugs tested for included prescription drugs, illegal drugs and alcohol. Data was also provided for persons for whom no drugs (prescription or illegal) or alcohol were detected. It should be noted that the testing only detects the presence of a drug, and it cannot be determined from these results whether the person killed was under the influence of the detected drug(s) at the time of the crash.

The data supplied by the Chemistry Centre of Western Australia may also include data for fatalities that were out of scope, such as those killed in off-road crashes. Therefore, the data supplied by the Chemistry Centre was matched to the crash data. The matching process was not exact as some of the fields used in the matching process did not record similar data in the same way. For example, the location of the crash site is recorded in the crash data, however, the drug data records the place of death, which in some cases was a specific hospital, potentially hundreds of kilometres and several days after the crash event.

This process resulted in 170 of 181 fatalities from the crash data being matched to a record within the drug dataset. There were also 44 records from the drug data that were unable to be matched to records in the crash data. Of these 44 fatalities, four had amphetamines detected in their systems, four had cannabis, two had both alcohol and cannabis in their systems, two had both amphetamines and cannabis and one had alcohol, amphetamines and cannabis detected in their system. The remaining 31 did not have any illegal drugs detected in their systems. It is likely that many of the 11 fatalities who could not be matched to the drug data did not have illegal drugs in their system, but it is likely that some did. All tables in this section include only the 170 crash fatalities who were matched to the drug data.

**Table 76 Fatalities by Drug Use and Gender**

| | Gender | | | |
|---|---|---|---|---|
| | **Male** | **Female** | **Unknown** | **Total Fatalities** |
| **Drugs Detected** | **n** | **N** | **n** | **n** |
| Amphetamines only | 6 | 0 | 0 | **6** |
| Cannabis only | 9 | 1 | 0 | **10** |
| Amphetamines and Cannabis only | 5 | 1 | 0 | **6** |
| Amphetamines and Alcohol only | 2 | 0 | 0 | **2** |
| Cannabis and Alcohol only | 10 | 1 | 0 | **11** |
| Amphetamines, Cannabis and Alcohol only | 2 | 0 | 1 | **3** |
| Other (other illegal drugs & combinations)[1] | 1 | 0 | 0 | **1** |
| **Total with Drugs Detected** | **35** | **3** | **1** | **39** |
| None | 80 | 51 | 0 | **131** |
| **Total Fatalities** | **115** | **54** | **1** | **170** |

Source: Forensic Science Laboratory, Chemistry Centre of Western Australia.
1. Other includes cocaine and heroin only.

## Table 77 Fatalities by Drug Use and Age Group

| | Age Group | | | | |
|---|---|---|---|---|---|
| | 0-16 | 17-24 | 25-59 | 60 and over | Total Fatalities |
| **Drugs Detected** | **n** | **n** | **n** | **n** | **n** |
| Amphetamines only | 0 | 1 | 5 | 0 | **6** |
| Cannabis only | 0 | 2 | 8 | 0 | **10** |
| Amphetamines and Cannabis only | 0 | 2 | 4 | 0 | **6** |
| Amphetamines and Alcohol only | 0 | 1 | 1 | 0 | **2** |
| Cannabis and Alcohol only | 0 | 3 | 8 | 0 | **11** |
| Amphetamines, Cannabis and Alcohol only | 0 | 0 | 3 | 0 | **3** |
| Other (other illegal drugs & combinations)[1] | 0 | 0 | 1 | 0 | **1** |
| **Total with Drugs Detected** | **0** | **9** | **30** | **0** | **39** |
| None | 7 | 21 | 78 | 25 | **131** |
| **Total Fatalities** | **7** | **30** | **108** | **25** | **170** |

Source: Forensic Science Laboratory, Chemistry Centre of Western Australia.
1. Other includes cocaine and heroin only.

## Table 78 Fatalities by Drug Use and Road User Type

| | Road User Type | | | | | | |
|---|---|---|---|---|---|---|---|
| | Driver | Passenger | Motorcyclist | Bicyclist | Pedestrian | Other/Unknown | Total Fatalities |
| **Drugs Detected** | **n** | **n** | **n** | **n** | **n** | **n** | **n** |
| Amphetamines only | 2 | 2 | 2 | 0 | 0 | 0 | **6** |
| Cannabis only | 6 | 2 | 2 | 0 | 0 | 0 | **10** |
| Amphetamines and Cannabis only | 3 | 1 | 2 | 0 | 0 | 0 | **6** |
| Amphetamines and Alcohol only | 0 | 1 | 1 | 0 | 0 | 0 | **2** |
| Cannabis and Alcohol only | 8 | 1 | 0 | 0 | 2 | 0 | **11** |
| Amphetamines, Cannabis and Alcohol only | 0 | 2 | 0 | 0 | 1 | 0 | **3** |
| Other (other illegal drugs & combinations)[1] | 0 | 0 | 1 | 0 | 0 | 0 | **1** |
| **Total with Drugs Detected** | **19** | **9** | **8** | **0** | **3** | **0** | **39** |
| None | 58 | 27 | 23 | 3 | 20 | 0 | **131** |
| **Total Fatalities** | **77** | **36** | **31** | **3** | **23** | **0** | **170** |

Source: Forensic Science Laboratory, Chemistry Centre of Western Australia.
1. Other includes cocaine and heroin only.

## Table 79 Fatalities by Drug Use and Day of Week

| | Day Of Week | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Saturday** | **Sunday** | **Total Fatalities** |
| **Drugs Detected** | **n** | **n** | **n** | **n** | **n** | **n** | **n** | **n** |
| Amphetamines only | 3 | 1 | 0 | 0 | 1 | 0 | 1 | **6** |
| Cannabis only | 0 | 0 | 2 | 2 | 5 | 1 | 0 | **10** |
| Amphetamines and Cannabis only | 0 | 1 | 0 | 1 | 1 | 3 | 0 | **6** |
| Amphetamines and Alcohol only | 0 | 0 | 1 | 1 | 0 | 0 | 0 | **2** |
| Cannabis and Alcohol only | 1 | 0 | 0 | 2 | 2 | 5 | 1 | **11** |
| Amphetamines, Cannabis and Alcohol only | 0 | 0 | 0 | 1 | 1 | 1 | 0 | **3** |
| Other (other illegal drugs & combinations)[1] | 0 | 0 | 1 | 0 | 0 | 0 | 0 | **1** |
| **Total with Drugs Detected** | **4** | **2** | **4** | **7** | **10** | **10** | **2** | **39** |
| None | 13 | 20 | 18 | 13 | 22 | 30 | 15 | **131** |
| **Total Fatalities** | **17** | **22** | **22** | **20** | **32** | **40** | **17** | **170** |

Source: Forensic Science Laboratory, Chemistry Centre of Western Australia.
1. Other includes cocaine and heroin only

### 4.1.4 Seat Belts

The use of seat belts is only reported for occupants of motor vehicles that are likely to have seat belts fitted. Therefore, the term 'motor vehicle occupants' excludes occupants of non-motorised vehicles, motorcyclists, motorcycle passengers, occupants of tractors and occupants of vehicles that are normally towed (trailers, caravans, campers etc.).

As seat belt usage is more reliably recorded for police-attended crashes this section will focus on police-attended crashes. However, tables and figures covering multiple years will use data from all fatal crashes, as in some years police were not able to attend all fatal crashes. In 2012, all fatal crashes were attended by police.

**Figure 17 Motor Vehicle Occupant Fatalities Where Seat Belts Were Not Worn by Year**

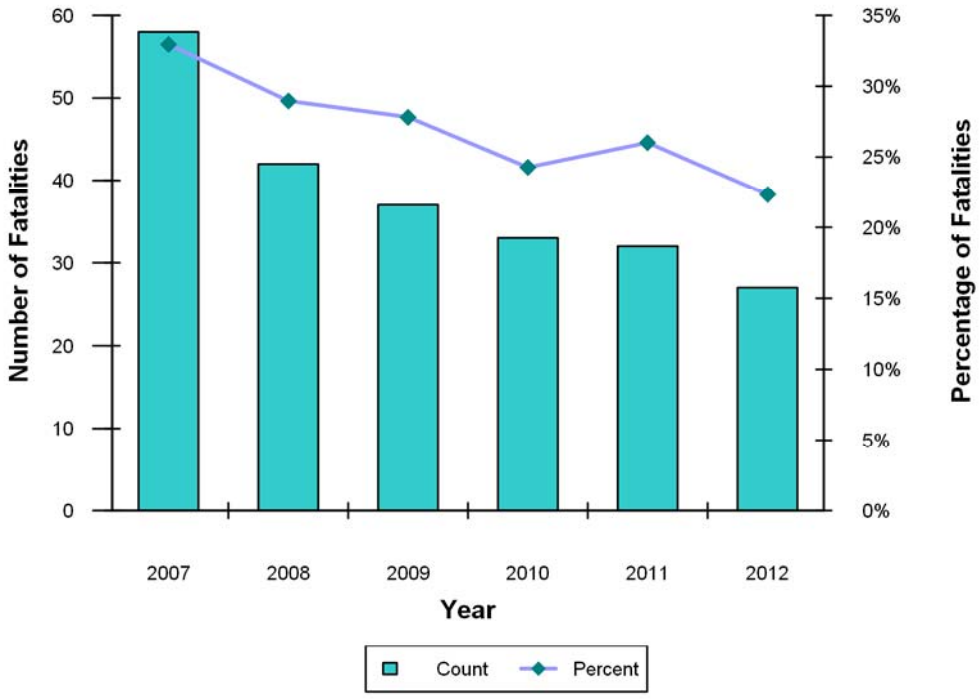



**Table 80 Motor Vehicle Occupant Fatalities by Seat Belt Usage by Year**

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011[1] |
| **Seat Belt Usage** | **n** | **n** | **n** | **n** | **n** | **n** | **%** |
| Worn | 86 | 82 | 75 | 84 | 72 | 76 | 5.6 |
| Not Worn | 58 | 42 | 37 | 33 | 32 | 27 | -15.6 |
| Unknown | 32 | 21 | 21 | 19 | 19 | 18 | N/R |
| **Total Motor Vehicle Occupant Fatalities** | **176** | **145** | **133** | **136** | **123** | **121** | **-1.6** |

1. 2012 change from 2011 not reported for fatalities whose seat belt usage was unknown.

**Table 81 Motor Vehicle Occupants Killed or Seriously Injured by Seat Belt Usage by ARIA Category, Police-Attended Crashes**

| | Seat Belt Usage | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Worn | | Not Worn | | Unknown | | Total | |
| ARIA Category | n | Row % | n | Row % | n | Row % | N | Row % |
| Highly Accessible | 764 | 80.3 | 59 | 6.2 | 129 | 13.6 | **952** | **100.0** |
| Accessible | 205 | 83.3 | 15 | 6.1 | 26 | 10.6 | **246** | **100.0** |
| Moderately Accessible | 139 | 77.7 | 20 | 11.2 | 20 | 11.2 | **179** | **100.0** |
| Remote | 136 | 74.7 | 24 | 13.2 | 22 | 12.1 | **182** | **100.0** |
| Very Remote | 86 | 74.1 | 18 | 15.5 | 12 | 10.3 | **116** | **100.0** |
| **Total Motor Vehicle Occupants KSI** | **1,330** | **79.4** | **136** | **8.1** | **209** | **12.5** | **1,675** | **100.0** |

**Table 82 Motor Vehicle Occupant Fatalities by Seat Belt Usage by Gender and Age Group, Police-Attended Crashes**

| | Seat Belt Usage | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Worn | | Not Worn | | Unknown | | Total | |
| Gender/Age Group | n | Row % | n | Row % | n | Row % | n | Row % |
| **Male** | | | | | | | | |
| 0 - 11 | 1 | 50.0 | 0 | 0.0 | 1 | 50.0 | **2** | **100.0** |
| 12 - 16 | 1 | 50.0 | 1 | 50.0 | 0 | - | **2** | **100.0** |
| 17 - 24 | 9 | 56.3 | 4 | 25.0 | 3 | 18.8 | **16** | **100.0** |
| 25 - 29 | 9 | 64.3 | 4 | 28.6 | 1 | 7.1 | **14** | **100.0** |
| 30 - 39 | 11 | 64.7 | 3 | 17.6 | 3 | 17.6 | **17** | **100.0** |
| 40 - 49 | 4 | 36.4 | 5 | 45.5 | 2 | 18.2 | **11** | **100.0** |
| 50 - 59 | 2 | 33.3 | 2 | 33.3 | 2 | 33.3 | **6** | **100.0** |
| Unknown age | 6 | 85.7 | 0 | - | 1 | 14.3 | **7** | **100.0** |
| 60 and over | 1 | 100.0 | 0 | - | 0 | - | **1** | **100.0** |
| **Total Male** | **44** | **57.9** | **19** | **25.0** | **13** | **17.1** | **76** | **100.0** |
| **Female** | | | | | | | | |
| 0 - 11 | 0 | - | 0 | - | 1 | 100.0 | **1** | **100.0** |
| 12 - 16 | 1 | 50.0 | 1 | 50.0 | 0 | - | **2** | **100.0** |
| 17 - 24 | 5 | 71.4 | 2 | 28.6 | 0 | - | **7** | **100.0** |
| 25 - 29 | 5 | 100.0 | 0 | - | 0 | - | **5** | **100.0** |
| 30 - 39 | 4 | 57.1 | 3 | 42.9 | 0 | - | **7** | **100.0** |
| 40 - 49 | 6 | 66.7 | 1 | 11.1 | 2 | 22.2 | **9** | **100.0** |
| 50 - 59 | 4 | 100.0 | 0 | - | 0 | - | **4** | **100.0** |
| 60 and over | 7 | 77.8 | 1 | 11.1 | 1 | 11.1 | **9** | **100.0** |
| **Total Female** | **32** | **72.7** | **8** | **18.2** | **4** | **9.1** | **44** | **100.0** |
| **Total Unknown Gender** | **0** | **-** | **0** | **-** | **1** | **100.0** | **1** | **100.0** |
| **Total Motor Vehicle Occupant Fatalities** | **76** | **62.8** | **27** | **22.3** | **18** | **14.9** | **121** | **100.0** |

## Table 83 Motor Vehicle Occupants Seriously Injured by Seat Belt Usage by Gender and Age Group, Police-Attended Crashes

| | Seat Belt Usage | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Worn | | Not Worn | | Unknown | | Total | |
| Gender/Age Group | n | Row % | n | Row % | n | Row % | n | Row % |
| **Male** | | | | | | | | |
| 0 - 11 | 9 | 81.8 | 1 | 9.1 | 1 | 9.1 | **11** | **100.0** |
| 12 - 16 | 12 | 80.0 | 2 | 13.3 | 1 | 6.7 | **15** | **100.0** |
| 17 - 24 | 120 | 61.2 | 25 | 12.8 | 51 | 26.0 | **196** | **100.0** |
| 25 - 29 | 74 | 77.1 | 5 | 5.2 | 17 | 17.7 | **96** | **100.0** |
| 30 - 39 | 94 | 70.7 | 17 | 12.8 | 22 | 16.5 | **133** | **100.0** |
| 40 - 49 | 77 | 74.8 | 4 | 3.9 | 22 | 21.4 | **103** | **100.0** |
| 50 - 59 | 61 | 85.9 | 5 | 7.0 | 5 | 7.0 | **71** | **100.0** |
| 60 and over | 96 | 94.1 | 3 | 2.9 | 3 | 2.9 | **102** | **100.0** |
| Unknown age | 14 | 70.0 | 1 | 5.0 | 5 | 25.0 | **20** | **100.0** |
| **Total Male** | **557** | **74.6** | **63** | **8.4** | **127** | **17.0** | **747** | **100.0** |
| **Female** | | | | | | | | |
| 0 - 11 | 10 | 66.7 | 4 | 26.7 | 1 | 6.7 | **15** | **100.0** |
| 12 - 16 | 7 | 70.0 | 2 | 20.0 | 1 | 10.0 | **10** | **100.0** |
| 17 - 24 | 122 | 89.7 | 8 | 5.9 | 6 | 4.4 | **136** | **100.0** |
| 25 - 29 | 41 | 77.4 | 7 | 13.2 | 5 | 9.4 | **53** | **100.0** |
| 30 - 39 | 82 | 86.3 | 7 | 7.4 | 6 | 6.3 | **95** | **100.0** |
| 40 - 49 | 70 | 92.1 | 2 | 2.6 | 4 | 5.3 | **76** | **100.0** |
| 50 - 59 | 68 | 95.8 | 1 | 1.4 | 2 | 2.8 | **71** | **100.0** |
| 60 and over | 104 | 95.4 | 0 | - | 5 | 4.6 | **109** | **100.0** |
| Unknown age | 19 | 86.4 | 0 | - | 3 | 13.6 | **22** | **100.0** |
| **Total Female** | **523** | **89.1** | **31** | **5.3** | **33** | **5.6** | **587** | **100.0** |
| **Unknown Gender** | **174** | **79.1** | **15** | **6.8** | **31** | **14.1** | **220** | **100.0** |
| **Total Motor Vehicle Occupants Seriously Injured** | **1,254** | **80.7** | **109** | **7.0** | **191** | **12.3** | **1,554** | **100.0** |

## Table 84 Seat Belt Usage by Motor Vehicle Occupant Type and Injury Severity, Police-Attended Crashes - State

| | Injury Severity | | | | | |
|---|---|---|---|---|---|---|
| | Fatal | | Serious | | Total Persons KSI | |
| Seat Belt Usage by Occupant Type | n | Col % | n | Col % | n | Col % |
| **Driver** | | | | | | |
| Worn | 53 | 63.9 | 875 | 82.9 | **928** | **81.5** |
| Not Worn | 19 | 22.9 | 58 | 5.5 | **77** | **6.8** |
| Unknown | 11 | 13.3 | 122 | 11.6 | **133** | **11.7** |
| **Total Drivers** | **83** | **100.0** | **1,055** | **100.0** | **1,138** | **100.0** |
| **Passenger** | | | | | | |
| Worn | 23 | 60.5 | 379 | 76.0 | **402** | **74.9** |
| Not Worn | 8 | 21.1 | 51 | 10.2 | **59** | **11.0** |
| Unknown | 7 | 18.4 | 69 | 13.8 | **76** | **14.2** |
| **Total Passengers** | **38** | **100.0** | **499** | **100.0** | **537** | **100.0** |
| **Total Motor Vehicle Occupants** | **121** | **-** | **1,554** | **-** | **1,675** | **-** |

**Table 85 Seat Belt Usage by Motor Vehicle Occupant Type and Injury Severity, Police-Attended Crashes - Metropolitan**

| | Injury Severity | | | | | |
|---|---|---|---|---|---|---|
| | Fatal | | Serious | | Total Persons KSI | |
| Seat Belt Usage by Occupant Type | n | Col % | n | Col % | n | Col % |
| **Driver** | | | | | | |
| Worn | 21 | 72.4 | 537 | 83.1 | **558** | **82.7** |
| Not Worn | 6 | 20.7 | 26 | 4.0 | **32** | **4.7** |
| Unknown | 2 | 6.9 | 83 | 12.8 | **85** | **12.6** |
| **Total Drivers** | **29** | **100.0** | **646** | **100.0** | **675** | **100.0** |
| **Passenger** | | | | | | |
| Worn | 6 | 46.2 | 177 | 76.0 | **183** | **74.4** |
| Not Worn | 3 | 23.1 | 21 | 9.0 | **24** | **9.8** |
| Unknown | 4 | 30.8 | 35 | 15.0 | **39** | **15.9** |
| **Total Passengers** | **13** | **100.0** | **233** | **100.0** | **246** | **100.0** |
| **Total Motor Vehicle Occupants** | **42** | **-** | **879** | **-** | **921** | **-** |

**Table 86 Seat Belt Usage by Motor Vehicle Occupant Type and Injury Severity, Police-Attended Crashes - Regional**

| | Injury Severity | | | | | |
|---|---|---|---|---|---|---|
| | Fatal | | Serious | | Total Persons KSI | |
| Seat Belt Usage by Occupant Type | n | Col % | n | Col % | n | Col % |
| **Driver** | | | | | | |
| Worn | 17 | 63.0 | 206 | 81.7 | **223** | **79.9** |
| Not Worn | 4 | 14.8 | 19 | 7.5 | **23** | **8.2** |
| Unknown | 6 | 22.2 | 27 | 10.7 | **33** | **11.8** |
| **Total Drivers** | **27** | **100.0** | **252** | **100.0** | **279** | **100.0** |
| **Passenger** | | | | | | |
| Worn | 12 | 80.0 | 96 | 79.3 | **108** | **79.4** |
| Not Worn | 1 | 6.7 | 10 | 8.3 | **11** | **8.1** |
| Unknown | 2 | 13.3 | 15 | 12.4 | **17** | **12.5** |
| **Total Passengers** | **15** | **100.0** | **121** | **100.0** | **136** | **100.0** |
| **Total Motor Vehicle Occupants** | **42** | **-** | **373** | **-** | **415** | **-** |

**Table 87 Seat Belt Usage by Motor Vehicle Occupant Type and Injury Severity, Police-Attended Crashes - Remote**

| | Injury Severity | | | | | |
|---|---|---|---|---|---|---|
| | Fatal | | Serious | | Total Persons KSI | |
| Seat Belt Usage by Occupant Type | n | Col % | n | Col % | n | Col % |
| **Driver** | | | | | | |
| Worn | 15 | 55.6 | 132 | 84.1 | **147** | **79.9** |
| Not Worn | 9 | 33.3 | 13 | 8.3 | **22** | **12.0** |
| Unknown | 3 | 11.1 | 12 | 7.6 | **15** | **8.2** |
| **Total Drivers** | **27** | **100.0** | **157** | **100.0** | **184** | **100.0** |
| **Passenger** | | | | | | |
| Worn | 5 | 50.0 | 106 | 73.1 | **111** | **71.6** |
| Not Worn | 4 | 40.0 | 20 | 13.8 | **24** | **15.5** |
| Unknown | 1 | 10.0 | 19 | 13.1 | **20** | **12.9** |
| **Total Passengers** | **10** | **100.0** | **145** | **100.0** | **155** | **100.0** |
| **Total Motor Vehicle Occupants** | **37** | **-** | **302** | **-** | **339** | **-** |

### 4.1.5 Helmets

This section deals with helmet use of motorcyclists and bicyclists killed and seriously injured in crashes reported to police. All tables in this section are restricted to police-attended crashes only.

**Table 88 Helmet Usage by Injury Severity, Police-Attended Crashes - State**

| | Helmet Usage | | | |
|---|---|---|---|---|
| | Worn | Not Worn | Unknown | Total |
| **Road User** | **n** | **n** | **n** | **n** |
| **Motorcyclists** | | | | |
| Fatal | 27 | 4 | 1 | **32** |
| Serious | 288 | 33 | 20 | **341** |
| **Total Motorcyclists** | **315** | **37** | **21** | **373** |
| **Bicyclists** | | | | |
| Fatal | 1 | 2 | 0 | **3** |
| Serious | 62 | 27 | 13 | **102** |
| **Total Bicyclists** | **63** | **29** | **13** | **105** |
| **Total Motorcyclists and Bicyclists** | **378** | **66** | **34** | **478** |

**Table 89 Helmet Usage by Injury Severity, Police-Attended Crashes - Metropolitan**

| | Helmet Usage | | | |
|---|---|---|---|---|
| | Worn | Not Worn | Unknown | Total |
| **Road User** | **n** | **n** | **n** | **n** |
| **Motorcyclists** | | | | |
| Fatal | 21 | 2 | 1 | **24** |
| Serious | 224 | 20 | 16 | **260** |
| **Total Motorcyclists** | **245** | **22** | **17** | **284** |
| **Bicyclists** | | | | |
| Fatal | 1 | 2 | 0 | **3** |
| Serious | 53 | 26 | 9 | **88** |
| **Total Bicyclists** | **54** | **28** | **9** | **91** |
| **Total Motorcyclists and Bicyclists** | **299** | **50** | **26** | **375** |

## Table 90 Helmet Usage by Injury Severity, Police-Attended Crashes - Regional

| | Helmet Usage | | | |
|---|---|---|---|---|
| | Worn | Not Worn | Unknown | Total |
| **Road User** | **n** | **n** | **n** | **n** |
| **Motorcyclists** | | | | |
| Fatal | 5 | 2 | 0 | **7** |
| Serious | 43 | 4 | 4 | **51** |
| **Total Motorcyclists** | **48** | **6** | **4** | **58** |
| **Bicyclists** | | | | |
| Fatal | 0 | 0 | 0 | **0** |
| Serious | 7 | 1 | 4 | **12** |
| **Total Bicyclists** | **7** | **1** | **4** | **12** |
| **Total Motorcyclists and Bicyclists** | **55** | **7** | **8** | **70** |

## Table 91 Helmet Usage by Injury Severity, Police-Attended Crashes - Remote

| | Helmet Usage | | | |
|---|---|---|---|---|
| | Worn | Not Worn | Unknown | Total |
| **Road User** | **n** | **n** | **n** | **n** |
| **Motorcyclists** | | | | |
| Fatal | 1 | 0 | 0 | **1** |
| Serious | 21 | 9 | 0 | **30** |
| **Total Motorcyclists** | **22** | **9** | **0** | **31** |
| **Bicyclists** | | | | |
| Fatal | 0 | 0 | 0 | **0** |
| Serious | 2 | 0 | 0 | **2** |
| **Total Bicyclists** | **2** | **0** | **0** | **2** |
| **Total Motorcyclists and Bicyclists** | **24** | **9** | **0** | **33** |

## Table 92 Motorcyclist Fatalities by Helmet Usage by Age Group, Police-Attended Crashes

| | Helmet Usage | | | |
|---|---|---|---|---|
| | Worn | Not Worn | Unknown | Total |
| **Age** | **n** | **n** | **n** | **n** |
| 0 - 11 | 0 | 0 | 0 | **0** |
| 12 - 16 | 1 | 0 | 0 | **1** |
| 17 - 24 | 5 | 2 | 1 | **8** |
| 25 - 39 | 12 | 0 | 0 | **12** |
| 40 - 59 | 8 | 2 | 0 | **10** |
| 60 and over | 1 | 0 | 0 | **1** |
| **Total Motorcyclists** | **27** | **4** | **1** | **32** |

## 4.2 Safe Roads and Roadsides

### 4.2.1 Road Factors

Information on various road factors and environmental conditions are provided in this section. Levels of exposure to different road and environmental condition will vary, and this should be considered when interpreting these figures.

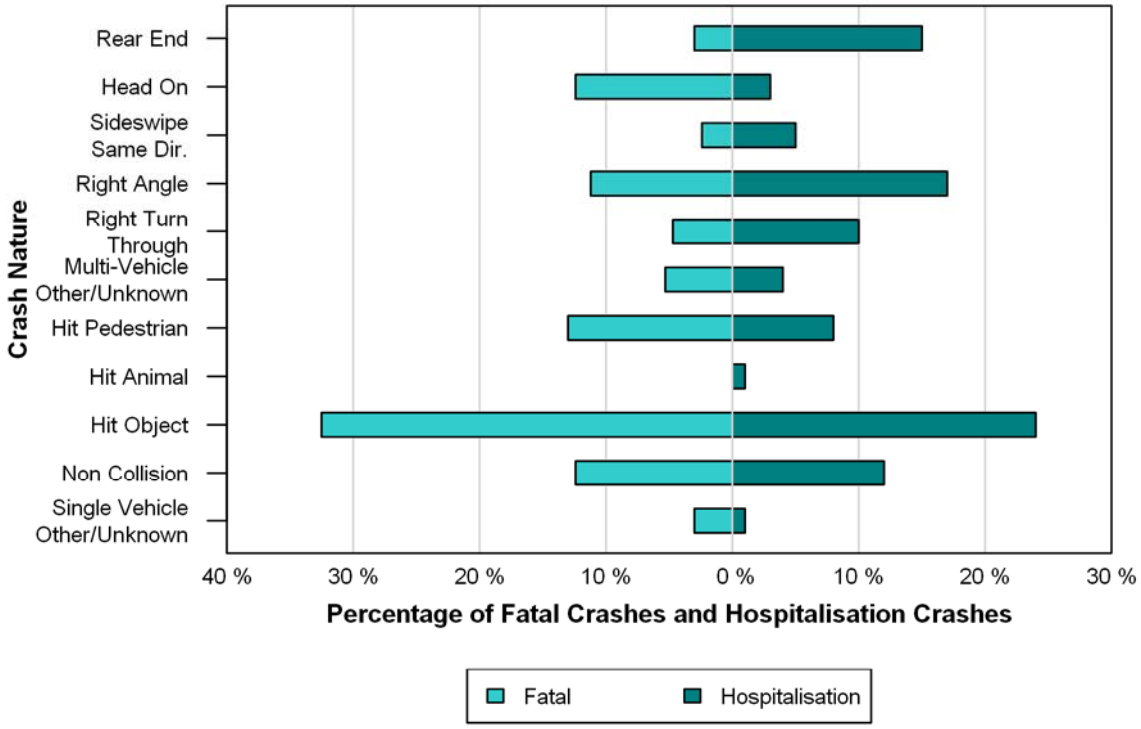
**Table 93 Road Factors by Crash Severity**

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| **Road Factor** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| **Road Classification** | | | | | | | | | | |
| Highway | 60 | 35.5 | 640 | 32.2 | **700** | **32.4** | 13,491 | 36.6 | **14,191** | **36.4** |
| Main Road | 12 | 7.1 | 111 | 5.6 | **123** | **5.7** | 658 | 1.8 | **781** | **2.0** |
| Other | 97 | 57.4 | 1,239 | 62.3 | **1,336** | **61.9** | 22,700 | 61.6 | **24,036** | **61.6** |
| **Road Surface** | | | | | | | | | | |
| Sealed | 153 | 90.5 | 1,895 | 95.2 | **2,048** | **94.9** | 35,986 | 97.7 | **38,034** | **97.5** |
| Unsealed | 16 | 9.5 | 86 | 4.3 | **102** | **4.7** | 672 | 1.8 | **774** | **2.0** |
| Unknown | 0 | - | 9 | 0.5 | **9** | **0.4** | 191 | 0.5 | **200** | **0.5** |
| **Road Alignment** | | | | | | | | | | |
| Curve | 51 | 30.2 | 425 | 21.4 | **476** | **22.0** | 6,697 | 18.2 | **7,173** | **18.4** |
| Straight | 118 | 69.8 | 1,506 | 75.7 | **1,624** | **75.2** | 28,716 | 77.9 | **30,340** | **77.8** |
| Unknown | 0 | - | 59 | 3.0 | **59** | **2.7** | 1,436 | 3.9 | **1,495** | **3.8** |
| **Road Gradient** | | | | | | | | | | |
| Level | 122 | 72.2 | 1,508 | 75.8 | **1,630** | **75.5** | 29,219 | 79.3 | **30,849** | **79.1** |
| Crest of Hill | 2 | 1.2 | 43 | 2.2 | **45** | **2.1** | 581 | 1.6 | **626** | **1.6** |
| Slope | 45 | 26.6 | 380 | 19.1 | **425** | **19.7** | 5,585 | 15.2 | **6,010** | **15.4** |
| Unknown | 0 | - | 59 | 3.0 | **59** | **2.7** | 1,464 | 4.0 | **1,523** | **3.9** |
| **Road Conditions** | | | | | | | | | | |
| Wet | 25 | 14.8 | 243 | 12.2 | **268** | **12.4** | 6,029 | 16.4 | **6,297** | **16.1** |
| Dry | 144 | 85.2 | 1,714 | 86.1 | **1,858** | **86.1** | 30,290 | 82.2 | **32,148** | **82.4** |
| Unknown | 0 | - | 33 | 1.7 | **33** | **1.5** | 530 | 1.4 | **563** | **1.4** |
| **Light** | | | | | | | | | | |
| Daylight | 86 | 50.9 | 1,240 | 62.3 | **1,326** | **61.4** | 26,773 | 72.7 | **28,099** | **72.0** |
| Dawn or Dusk | 5 | 3.0 | 64 | 3.2 | **69** | **3.2** | 2,061 | 5.6 | **2,130** | **5.5** |
| Night | | | | | | | | | | |
| *Street Lights On* | 33 | 19.5 | 423 | 21.3 | **456** | **21.1** | 5,771 | 15.7 | **6,227** | **16.0** |
| *Street Lights Off* | 3 | 1.8 | 21 | 1.1 | **24** | **1.1** | 220 | 0.6 | **244** | **0.6** |
| *No Street Lights* | 41 | 24.3 | 199 | 10.0 | **240** | **11.1** | 968 | 2.6 | **1,208** | **3.1** |
| **Subtotal Night** | **77** | **45.6** | **643** | **32.3** | **720** | **33.3** | **6,959** | **18.9** | **7,679** | **19.7** |
| Unknown | 1 | 0.6 | 43 | 2.2 | **44** | **2.0** | 1,056 | 2.9 | **1,100** | **2.8** |
| **Total Crashes** | **169** | **100.0** | **1,990** | **100.0** | **2,159** | **100.0** | **36,849** | **100.0** | **39,008** | **100.0** |

### 4.2.2 Crash Nature

The crash nature describes the type of crash in terms of the initial collision, regardless of subsequent collisions with other vehicles and/or road users. For example, if the front of one vehicle squarely strikes the side of another vehicle and pushes it off the road where it hits a pedestrian, the crash nature would be considered a “Right Angle” crash. Or, if a vehicle hits a pedestrian who is crossing the road and the first vehicle is then hit from behind by a second vehicle, the crash would be classified as a “Hit Pedestrian” crash. The categories of crash nature included in this report have been aggregated based on the most commonly occurring categories.

**Figure 18 Crash Nature by Crash Severity**



## Table 94 Fatal Crashes by Crash Nature and Area of Crash

| | Area of Crash | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Metropolitan | | Regional | | Remote | | Western Australia | |
| **Crash Nature** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| **Multi-Vehicle Crashes** | | | | | | | | |
| Rear End | 5 | 6.3 | 0 | - | 0 | - | **5** | **3.0** |
| Head On | 10 | 12.5 | 6 | 11.5 | 5 | 13.5 | **21** | **12.4** |
| Sideswipe Same Dir. | 1 | 1.3 | 3 | 5.8 | 0 | - | **4** | **2.4** |
| Right Angle | 14 | 17.5 | 4 | 7.7 | 1 | 2.7 | **19** | **11.2** |
| Right Turn Through | 6 | 7.5 | 2 | 3.8 | 0 | - | **8** | **4.7** |
| Other/ Unknown | 3 | 3.8 | 2 | 3.8 | 4 | 10.8 | **9** | **5.3** |
| **Total Multi Vehicle** | **39** | **48.8** | **17** | **32.7** | **10** | **27.0** | **66** | **39.1** |
| **Single-Vehicle Crashes** | | | | | | | | |
| Hit Pedestrian | 14 | 17.5 | 4 | 7.7 | 4 | 10.8 | **22** | **13.0** |
| Hit Animal | 0 | N/A | 0 | N/A | 0 | N/A | **0** | **N/A** |
| Hit Object | 19 | 23.8 | 24 | 46.2 | 12 | 32.4 | **55** | **32.5** |
| Non Collision | 4 | 5.0 | 7 | 13.5 | 10 | 27.0 | **21** | **12.4** |
| Other/ Unknown | 4 | 5.0 | 0 | - | 1 | 2.7 | **5** | **3.0** |
| **Total Single Vehicle** | **41** | **51.3** | **35** | **67.3** | **27** | **73.0** | **103** | **60.9** |
| **Total Fatal Crashes** | **80** | **100.0** | **52** | **100.0** | **37** | **100.0** | **169** | **100.0** |

## Table 95 Fatal Crashes by High Priority Crash Type and Area of Crash

| | Area of Crash | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Metropolitan | | Regional | | Remote | | Western Australia | |
| **Crash Type** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Intersection | 28 | 35.0 | 9 | 17.3 | 4 | 10.8 | **41** | **24.3** |
| Run Off Road | 23 | 28.8 | 30 | 57.7 | 23 | 62.2 | **76** | **45.0** |
| Head On | 10 | 12.5 | 6 | 11.5 | 5 | 13.5 | **21** | **12.4** |
| Other | 23 | 28.8 | 8 | 15.4 | 6 | 16.2 | **37** | **21.9** |
| **Total Fatal Crashes** | **80** | **100.0** | **52** | **100.0** | **37** | **100.0** | **169** | **100.0** |

Note: High Priority Crash Types are not mutually exclusive and therefore some crashes may be counted more than once and percentages will sum to greater than 100%.

## Table 96 Hospitalisation Crashes by Crash Nature and Area of Crash

| | Area of Crash | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Metropolitan | | Regional | | Remote | | Western Australia | |
| **Crash Nature** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| **Multi-Vehicle Crashes** | | | | | | | | |
| Rear End | 264 | 19.5 | 31 | 8.5 | 10 | 3.7 | **305** | **15.3** |
| Head On | 36 | 2.7 | 14 | 3.8 | 10 | 3.7 | **60** | **3.0** |
| Sideswipe Same Dir. | 81 | 6.0 | 16 | 4.4 | 4 | 1.5 | **101** | **5.1** |
| Right Angle | 274 | 20.2 | 51 | 13.9 | 23 | 8.6 | **348** | **17.5** |
| Right Turn Through | 174 | 12.8 | 12 | 3.3 | 4 | 1.5 | **190** | **9.5** |
| Other/ Unknown | 46 | 3.4 | 12 | 3.3 | 20 | 7.4 | **78** | **3.9** |
| **Total Multi Vehicle** | **875** | **64.6** | **136** | **37.2** | **71** | **26.4** | **1,082** | **54.4** |
| **Single-Vehicle Crashes** | | | | | | | | |
| Hit Pedestrian | 134 | 9.9 | 12 | 3.3 | 17 | 6.3 | **163** | **8.2** |
| Hit Animal | 1 | 0.1 | 4 | 1.1 | 7 | 2.6 | **12** | **0.6** |
| Hit Object | 232 | 17.1 | 156 | 42.6 | 86 | 32.0 | **474** | **23.8** |
| Non Collision | 102 | 7.5 | 52 | 14.2 | 81 | 30.1 | **235** | **11.8** |
| Other/ Unknown | 11 | 0.8 | 6 | 1.6 | 7 | 2.6 | **24** | **1.2** |
| **Total Single Vehicle** | **480** | **35.4** | **230** | **62.8** | **198** | **73.6** | **908** | **45.6** |
| **Total Hospitalisation Crashes** | **1,355** | **100.0** | **366** | **100.0** | **269** | **100.0** | **1,990** | **100.0** |

## Table 97 Hospitalisation Crashes by High Priority Crash Type and Area of Crash

| | Area of Crash | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Metropolitan | | Regional | | Remote | | Western Australia | |
| **Crash Type** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Intersection | 718 | 53.0 | 102 | 27.9 | 38 | 14.1 | **858** | **43.1** |
| Run Off Road | 314 | 23.2 | 199 | 54.4 | 175 | 65.1 | **688** | **34.6** |
| Head On | 36 | 2.7 | 14 | 3.8 | 10 | 3.7 | **60** | **3.0** |
| Other | 360 | 26.6 | 63 | 17.2 | 57 | 21.2 | **480** | **24.1** |
| **Total Hospitalisation Crashes** | **1,355** | **100.0** | **366** | **100.0** | **269** | **100.0** | **1,990** | **100.0** |

Note: High Priority Crash Types are not mutually exclusive and, therefore, some crashes may be counted more than once and percentages will sum to greater than 100%.

## Table 98 Serious Crashes by Crash Nature by ARIA Category

| | ARIA Category | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highly Accessible | | Accessible | | Moderately Accessible | | Remote | | Very Remote | | Total | |
| **Crash Nature** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| **Multi-Vehicle Crashes** | | | | | | | | | | | | |
| Rear End | 276 | 18.6 | 15 | 6.4 | 9 | 4.8 | 9 | 5.7 | 1 | 1.1 | **310** | **14.4** |
| Head On | 47 | 3.2 | 12 | 5.1 | 8 | 4.3 | 7 | 4.5 | 7 | 7.4 | **81** | **3.8** |
| Sideswipe Same Dir. | 83 | 5.6 | 11 | 4.7 | 8 | 4.3 | 2 | 1.3 | 1 | 1.1 | **105** | **4.9** |
| Right Angle | 302 | 20.4 | 34 | 14.5 | 13 | 6.9 | 17 | 10.8 | 1 | 1.1 | **367** | **17.0** |
| Right Turn Through | 182 | 12.3 | 11 | 4.7 | 2 | 1.1 | 3 | 1.9 | 0 | - | **198** | **9.2** |
| Other/ Unknown | 51 | 3.4 | 7 | 3.0 | 8 | 4.3 | 12 | 7.6 | 9 | 9.5 | **87** | **4.0** |
| **Total Multi Vehicle** | **941** | **63.4** | **90** | **38.3** | **48** | **25.5** | **50** | **31.8** | **19** | **20.0** | **1,148** | **53.2** |
| **Single-Vehicle Crashes** | | | | | | | | | | | | |
| Hit Pedestrian | 148 | 10.0 | 12 | 5.1 | 11 | 5.9 | 11 | 7.0 | 3 | 3.2 | **185** | **8.6** |
| Hit Animal | 1 | 0.1 | 1 | 0.4 | 3 | 1.6 | 2 | 1.3 | 5 | 5.3 | **12** | **0.6** |
| Hit Object | 268 | 18.1 | 97 | 41.3 | 93 | 49.5 | 46 | 29.3 | 25 | 26.3 | **529** | **24.5** |
| Non Collisions | 109 | 7.3 | 33 | 14.0 | 29 | 15.4 | 43 | 27.4 | 42 | 44.2 | **256** | **11.9** |
| Other/ Unknown | 17 | 1.1 | 2 | 0.9 | 4 | 2.1 | 5 | 3.2 | 1 | 1.1 | **29** | **1.3** |
| **Total Single Vehicle** | **543** | **36.6** | **145** | **61.7** | **140** | **74.5** | **107** | **68.2** | **76** | **80.0** | **1,011** | **46.8** |
| **Total Serious Crashes** | **1,484** | **100.0** | **235** | **100.0** | **188** | **100.0** | **157** | **100.0** | **95** | **100.0** | **2,159** | **100.0** |

## Table 99 Serious Crashes by High Priority Crash Type by ARIA Category

| | ARIA Category | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highly Accessible | | Accessible | | Moderately Accessible | | Remote | | Very Remote | | Total | |
| **Crash Type** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Intersection | 773 | 52.1 | 65 | 27.7 | 32 | 17.0 | 26 | 16.6 | 3 | 3.2 | **899** | **41.6** |
| Run Off Road | 354 | 23.9 | 128 | 54.5 | 116 | 61.7 | 94 | 59.9 | 72 | 75.8 | **764** | **35.4** |
| Head On | 47 | 3.2 | 12 | 5.1 | 8 | 4.3 | 7 | 4.5 | 7 | 7.4 | **81** | **3.8** |
| Other | 392 | 26.4 | 37 | 15.7 | 37 | 19.7 | 36 | 22.9 | 15 | 15.8 | **517** | **23.9** |
| **Total Serious Crashes** | **1,484** | **100.0** | **235** | **100.0** | **188** | **100.0** | **157** | **100.0** | **95** | **100.0** | **2,159** | **100.0** |

Note: High Priority Crash Types are not mutually exclusive and, therefore, some crashes may be counted more than once and percentages will sum to greater than 100%.

## 4.3 Safe Speeds

### 4.3.1 Speed Zones

**Table 100 Speed Zone by Crash Severity**

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| Speed Zone (km/h) | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| <50 | 3 | 1.8 | 23 | 1.2 | **26** | **1.2** | 610 | 1.7 | **636** | **1.6** |
| 50 | 18 | 10.7 | 456 | 22.9 | **474** | **22.0** | 10,814 | 29.3 | **11,288** | **28.9** |
| 60 | 33 | 19.5 | 457 | 23.0 | **490** | **22.7** | 10,843 | 29.4 | **11,333** | **29.1** |
| 70 | 15 | 8.9 | 313 | 15.7 | **328** | **15.2** | 6,399 | 17.4 | **6,727** | **17.2** |
| 80 | 20 | 11.8 | 165 | 8.3 | **185** | **8.6** | 2,960 | 8.0 | **3,145** | **8.1** |
| 90 | 10 | 5.9 | 56 | 2.8 | **66** | **3.1** | 491 | 1.3 | **557** | **1.4** |
| 100 | 6 | 3.6 | 116 | 5.8 | **122** | **5.7** | 2,130 | 5.8 | **2,252** | **5.8** |
| 110 | 61 | 36.1 | 333 | 16.7 | **394** | **18.2** | 1,531 | 4.2 | **1,925** | **4.9** |
| State Default | 1 | 0.6 | 41 | 2.1 | **42** | **1.9** | 335 | 0.9 | **377** | **1.0** |
| Unknown | 2 | 1.2 | 30 | 1.5 | **32** | **1.5** | 736 | 2.0 | **768** | **2.0** |
| **Total Crashes** | **169** | **100.0** | **1,990** | **100.0** | **2,159** | **100.0** | **36,849** | **100.0** | **39,008** | **100.0** |

### 4.3.2 Speed Compliance

General road user compliance with speed limits is shown in this section. Percentages shown below are sourced from Main Roads Western Australia publications based on surveys of driving speeds on sections of the metropolitan and regional road networks. Note that for 2008 and 2009, these percentages are based on observations made in non-Metropolitan regions only; for all other years the percentages are based on observations solely in the metropolitan region.

The percentages of vehicles exceeding the speed limit are calculated from surveys conducted by collecting two days of speed data from a subset of sites selected for the 2000 survey by a stratified random sample of speed zones. In each subsequent year, the sites selected varied slightly depending on changes to speed limits, road geometry, or road treatments. The findings of the studies were based solely on data obtained on vehicles travelling under “free flowing” conditions, defined as situations where there is a gap of more than four seconds between vehicles.

## Table 101 Percentage of Vehicles Exceeding the Speed Limit by Speed Zone

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011 |
| Speed Zone | % | % | % | % | % | % | % |
| 60 km/h | 51.0 | 41.2 | 38.2 | 46.6 | 48.2 | 44.3 | -8.1 |
| 70 km/h | 41.4 | 26.0 | 21.3 | 37.4 | 37.0 | 33.6 | -9.2 |
| 80 km/h | 37.3 | 29.2 | 23.5 | 39.9 | 34.0 | 34.8 | 2.4 |
| 90 km/h | 24.6 | 34.5 | 33.7 | 26.6 | 27.8 | 31.6 | 13.7 |
| 100 km/h | 33.8 | 35.0 | 43.3 | 20.2 | 32.3 | 20.6 | -36.2 |
| 110 km/h | 23.6 | 28.1 | 30.3 | 23.8 | 15.5 | 22.8 | 47.1 |

Source: For year 2008 and 2009 the percentage of vehicles exceeding the speed limit is based on observations made in non-Metropolitan regions only and is from Main Roads Western Australia "Driver Speed Behaviours on Western Australian Rural Road Network 2000, 2003, 2004, 2005, 2007, 2008 and 2009" (2010). For year 2007, 2010, 2011 and 2012, the percentage of vehicles exceeding the speed limit is based on observations made in the metropolitan region only and is from Main Roads Western Australia "Trends in Driver Speed Behaviours on Perth Metropolitan Road Network 2000 to 2012" (2013).

## 4.4 Safe Vehicles

### 4.4.1 ANCAP Safety Ratings

The Australasian New Car Assessment Program (ANCAP) is an independent crash test program that provides consumers with advice on the level of occupant and pedestrian protection provided by new cars and light commercial vehicles.

The ANCAP safety ratings are based on the results of a series of internationally recognised crash tests that replicate the effects of the most common crash types (frontal offset, side impact, pole, pedestrian and whiplash tests) and built in safety assist technologies that help protect occupants and pedestrians, or that assist the driver in avoiding a crash.

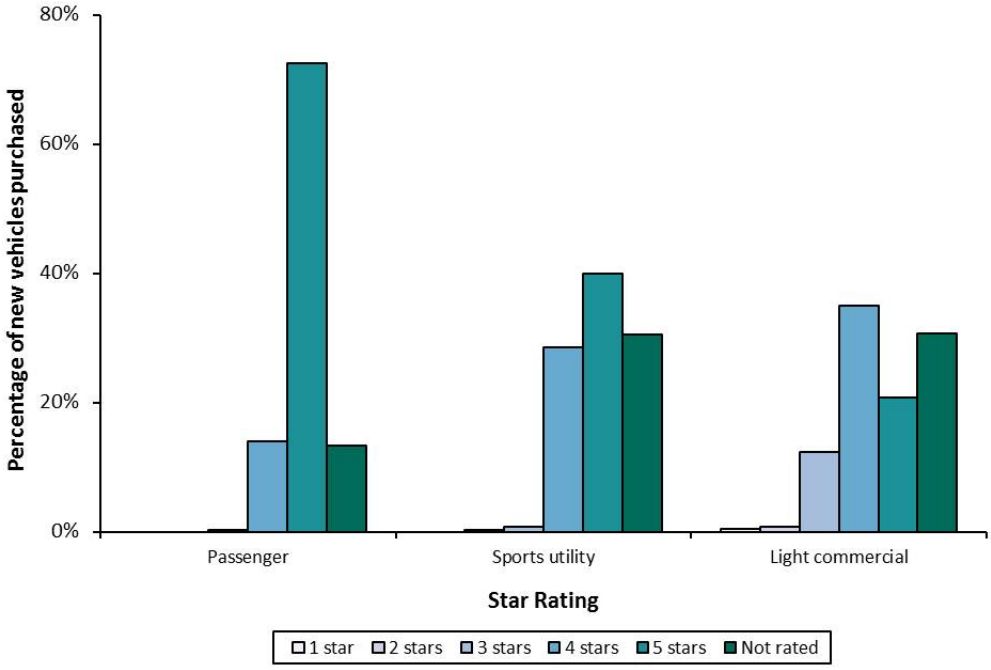
Crash test dummies are used to measure the forces that would act on occupants and pedestrians involved in the crash. This data is assessed, and the performance of the vehicle in each of the crash types is scored. Vehicles are also scored on the safety assist technologies that are fitted as standard to the vehicle. These scores are combined and converted into an ANCAP safety rating ranging from 1 to 5 stars. Vehicles with better crash results and greater number of safety features are awarded more stars.

In order to get the highest rating of 5 stars, the vehicle must achieve a specific score in each of the crash tests, have a mandatory set of safety assist technologies fitted as standard, and also have a minimum number of additional safety assist technologies fitted as standard as specified in the ANCAP Rating Road Map[2]. In 2012, the mandatory safety features were electronic stability control (ESC), three-point seat belts for all forward facing seats and head protecting technologies (e.g. side and curtain airbags) for the front seats. A minimum of two additional safety assist technologies specified in Appendix A of the ANCAP Road Map are required for a vehicle to be given a five star rating.

The requirements for ANCAP safety ratings are not fixed, and will become more stringent in the future to encourage continual improvements to the safety of vehicle designs.

[2] See ANCAP Rating Road Map 2011-2017 available from the ANCAP website <http://www.ancap.com.au/media>

## Figure 19 New Vehicles Purchased by ANCAP Safety Rating and Vehicle Type




Source: R.L. Polk Australia Pty Ltd

## Table 102 New Vehicles Purchased by ANCAP Safety Rating and Vehicle type

| | Vehicle type | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Passenger vehicles | | Sports utility vehicles | | Light commercial vehicles | | Total | |
| ANCAP star rating | n | Col % | n | Col % | n | Col % | n | Col % |
| 1 star | 0 | - | 0 | - | 122 | 0.5 | **122** | **0.1** |
| 2 stars | 10 | 0.0 | 92 | 0.3 | 188 | 0.7 | **290** | **0.2** |
| 3 stars | 149 | 0.2 | 267 | 0.7 | 3,291 | 12.4 | **3,707** | **3.0** |
| 4 stars | 8,361 | 14.0 | 10,194 | 28.6 | 9,232 | 34.9 | **27,787** | **22.8** |
| 5 stars | 43,310 | 72.5 | 14,243 | 39.9 | 5,515 | 20.8 | **63,068** | **51.7** |
| Not rated | 7,944 | 13.3 | 10,904 | 30.5 | 8,110 | 30.7 | **26,958** | **22.1** |
| **Total** | **59,774** | **100.0** | **35,700** | **100.0** | **26,458** | **100.0** | **121,932** | **100.0** |

Source: R.L. Polk Australia Pty Ltd

## 4.4.2 Vehicle Type

**Table 103 Vehicle Type by Crash Severity**

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| **Vehicle Type** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Sedan/Hatchback | 92 | 38.3 | 1,493 | 45.4 | **1,585** | **45.0** | 41,351 | 57.2 | **42,936** | **56.6** |
| Station Wagon | 28 | 11.7 | 394 | 12.0 | **422** | **12.0** | 9,944 | 13.7 | **10,366** | **13.7** |
| Utility | 27 | 11.3 | 343 | 10.4 | **370** | **10.5** | 8,123 | 11.2 | **8,493** | **11.2** |
| Panel Van, 4WD | 22 | 9.2 | 256 | 7.8 | **278** | **7.9** | 4,827 | 6.7 | **5,105** | **6.7** |
| Rigid Truck | 12 | 5.0 | 94 | 2.9 | **106** | **3.0** | 1,717 | 2.4 | **1,823** | **2.4** |
| Articulated Truck | 18 | 7.5 | 56 | 1.7 | **74** | **2.1** | 658 | 0.9 | **732** | **1.0** |
| Bus (≥12 seats) | 3 | 1.3 | 26 | 0.8 | **29** | **0.8** | 549 | 0.8 | **578** | **0.8** |
| Multi Seater Van | 1 | 0.4 | 18 | 0.5 | **19** | **0.5** | 303 | 0.4 | **322** | **0.4** |
| Motorcycle | 32 | 13.3 | 402 | 12.2 | **434** | **12.3** | 1,241 | 1.7 | **1,675** | **2.2** |
| Moped | 0 | - | 0 | - | **0** | **-** | 7 | 0.0 | **7** | **0.0** |
| Bicycle | 3 | 1.3 | 131 | 4.0 | **134** | **3.8** | 614 | 0.8 | **748** | **1.0** |
| Other/ Unknown | 2 | 0.8 | 72 | 2.2 | **74** | **2.1** | 3,005 | 4.2 | **3,079** | **4.1** |
| **Total Vehicles** | **240** | **100.0** | **3,285** | **100.0** | **3,525** | **100.0** | **72,339** | **100.0** | **75,864** | **100.0** |

### 4.4.3 Airbags

This section presents information on the prevalence of airbags. Due to the way airbags are designed, the more serious the crash, the more likely they are to be deployed. Since the impact speed is not measured, the information in these tables cannot be used to infer the effectiveness of airbags. Multiple airbags can also be fitted in a vehicle (i.e. frontal airbags for drivers and front passengers and side airbags, which can be fitted for all seating positions), and the tables below provide information on whether or not an airbag was fitted for individual seating positions. Motor vehicle occupants who did not have an airbag fitted for their seating position were coded in the IRIS database in the same way as those where it was not known if an airbag was fitted for the seating position. Hence, it is not possible to differentiate between such cases.

**Table 104 Airbag Usage by Injury Severity**

| | Injury Severity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Serious | | Total Persons KSI | | Minor | | None/Unknown | | Total | |
| **Airbag Usage** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Fitted and deployed | 35 | 28.9 | 467 | 27.0 | **502** | **27.1** | 1,010 | 14.2 | 3,268 | 3.6 | **4,780** | **4.8** |
| Fitted and not deployed | 21 | 17.4 | 598 | 34.6 | **619** | **33.4** | 4,635 | 65.0 | 51,295 | 56.5 | **56,549** | **56.7** |
| **Total Airbag Fitted** | **56** | **46.3** | **1,065** | **61.6** | **1,121** | **60.6** | **5,645** | **79.2** | **54,563** | **60.1** | **61,329** | **61.5** |
| Not Fitted/Unknown | 65 | 53.7 | 665 | 38.4 | **730** | **39.4** | 1,484 | 20.8 | 36,241 | 39.9 | **38,455** | **38.5** |
| **Total Motor Vehicle Occupants** | **121** | **100.0** | **1,730** | **100.0** | **1,851** | **100.0** | **7,129** | **100.0** | **90,804** | **100.0** | **99,784** | **100.0** |

**Table 105 Motor Vehicle Occupants Killed or Seriously Injured by Airbag Usage by Area**

| | Area | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Metropolitan | | Regional | | Remote | | Total | |
| **Airbag Usage** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Fitted and deployed | 319 | 30.4 | 124 | 28.2 | 59 | 16.2 | **502** | **27.1** |
| Fitted and not deployed | 366 | 34.9 | 126 | 28.7 | 127 | 34.9 | **619** | **33.4** |
| **Total Airbag Fitted** | **685** | **65.4** | **250** | **56.9** | **186** | **51.1** | **1,121** | **60.6** |
| Not Fitted/Unknown | 363 | 34.6 | 189 | 43.1 | 178 | 48.9 | **730** | **39.4** |
| **Total Motor Vehicle Occupants KSI** | **1,048** | **100.0** | **439** | **100.0** | **364** | **100.0** | **1,851** | **100.0** |

**Table 106 Motor Vehicle Occupants Killed or Seriously Injured by Airbag Usage by Occupant Type**

| | Motor Vehicle Occupant Type | | | | | |
|---|---|---|---|---|---|---|
| | Driver | | Passenger | | Total | |
| **Airbag Usage** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Fitted and deployed | 402 | 31.8 | 100 | 17.1 | **502** | **27.1** |
| Fitted and not deployed | 421 | 33.3 | 198 | 33.8 | **619** | **33.4** |
| **Total Airbag Fitted** | **823** | **65.0** | **298** | **50.9** | **1,121** | **60.6** |
| Not Fitted/Unknown | 443 | 35.0 | 287 | 49.1 | **730** | **39.4** |
| **Total Motor Vehicle Occupants KSI** | **1,266** | **100.0** | **585** | **100.0** | **1,851** | **100.0** |

# 5. OTHER FACTORS

## 5.1 Temporal Factors

This section provides crash and injury numbers by crash month and day of week for the whole state. Additional tables for the Metropolitan region and Regional and Remote areas are provided in Appendix B.

**Table 107 Crash Month by Crash Severity**

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| Month | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| January | 9 | 5.3 | 136 | 6.8 | **145** | **6.7** | 2,520 | 6.8 | **2,665** | **6.8** |
| February | 18 | 10.7 | 134 | 6.7 | **152** | **7.0** | 3,119 | 8.5 | **3,271** | **8.4** |
| March | 16 | 9.5 | 153 | 7.7 | **169** | **7.8** | 3,396 | 9.2 | **3,565** | **9.1** |
| April | 11 | 6.5 | 179 | 9.0 | **190** | **8.8** | 2,980 | 8.1 | **3,170** | **8.1** |
| May | 16 | 9.5 | 204 | 10.3 | **220** | **10.2** | 3,361 | 9.1 | **3,581** | **9.2** |
| June | 15 | 8.9 | 160 | 8.0 | **175** | **8.1** | 3,355 | 9.1 | **3,530** | **9.0** |
| July | 15 | 8.9 | 194 | 9.7 | **209** | **9.7** | 3,077 | 8.4 | **3,286** | **8.4** |
| August | 11 | 6.5 | 164 | 8.2 | **175** | **8.1** | 3,292 | 8.9 | **3,467** | **8.9** |
| September | 13 | 7.7 | 162 | 8.1 | **175** | **8.1** | 3,035 | 8.2 | **3,210** | **8.2** |
| October | 13 | 7.7 | 165 | 8.3 | **178** | **8.2** | 2,996 | 8.1 | **3,174** | **8.1** |
| November | 17 | 10.1 | 169 | 8.5 | **186** | **8.6** | 2,984 | 8.1 | **3,170** | **8.1** |
| December | 15 | 8.9 | 170 | 8.5 | **185** | **8.6** | 2,734 | 7.4 | **2,919** | **7.5** |
| **Total Crashes** | **169** | **100.0** | **1,990** | **100.0** | **2,159** | **100.0** | **36,849** | **100.0** | **39,008** | **100.0** |

**Table 108 Crash Month by Injury Severity**

| | Injury Severity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Persons KSI | | | | | | | |
| | Fatal | | Serious | | | | Minor | | None/Unknown | | Total | |
| Month | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| January | 9 | 5.0 | 173 | 7.1 | **182** | **7.0** | 522 | 6.5 | 6,554 | 7.0 | **7,258** | **7.0** |
| February | 18 | 9.9 | 169 | 6.9 | **187** | **7.2** | 705 | 8.8 | 7,779 | 8.3 | **8,671** | **8.3** |
| March | 16 | 8.8 | 185 | 7.6 | **201** | **7.7** | 716 | 8.9 | 8,573 | 9.2 | **9,490** | **9.1** |
| April | 11 | 6.1 | 225 | 9.2 | **236** | **9.0** | 677 | 8.4 | 7,729 | 8.3 | **8,642** | **8.3** |
| May | 16 | 8.8 | 243 | 10.0 | **259** | **9.9** | 771 | 9.6 | 8,312 | 8.9 | **9,342** | **9.0** |
| June | 17 | 9.4 | 195 | 8.0 | **212** | **8.1** | 705 | 8.8 | 8,589 | 9.2 | **9,506** | **9.1** |
| July | 16 | 8.8 | 241 | 9.9 | **257** | **9.8** | 751 | 9.4 | 7,810 | 8.4 | **8,818** | **8.5** |
| August | 12 | 6.6 | 196 | 8.1 | **208** | **8.0** | 718 | 8.9 | 8,067 | 8.6 | **8,993** | **8.6** |
| September | 13 | 7.2 | 200 | 8.2 | **213** | **8.1** | 644 | 8.0 | 7,613 | 8.1 | **8,470** | **8.1** |
| October | 18 | 9.9 | 197 | 8.1 | **215** | **8.2** | 605 | 7.5 | 7,848 | 8.4 | **8,668** | **8.3** |
| November | 19 | 10.5 | 209 | 8.6 | **228** | **8.7** | 653 | 8.1 | 7,536 | 8.1 | **8,417** | **8.1** |
| December | 16 | 8.8 | 201 | 8.3 | **217** | **8.3** | 562 | 7.0 | 7,095 | 7.6 | **7,874** | **7.6** |
| **Total Persons** | **181** | **100.0** | **2,434** | **100.0** | **2,615** | **100.0** | **8,029** | **100.0** | **93,505** | **100.0** | **104,149** | **100.0** |

## Table 109 Day of Week by Crash Severity

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| **Day of Week** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Monday | 16 | 9.5 | 275 | 13.8 | **291** | **13.5** | 5,233 | 14.2 | **5,524** | **14.2** |
| Tuesday | 23 | 13.6 | 248 | 12.5 | **271** | **12.6** | 5,658 | 15.4 | **5,929** | **15.2** |
| Wednesday | 22 | 13.0 | 256 | 12.9 | **278** | **12.9** | 5,873 | 15.9 | **6,151** | **15.8** |
| Thursday | 20 | 11.8 | 286 | 14.4 | **306** | **14.2** | 5,767 | 15.7 | **6,073** | **15.6** |
| Friday | 29 | 17.2 | 313 | 15.7 | **342** | **15.8** | 6,404 | 17.4 | **6,746** | **17.3** |
| Saturday | 41 | 24.3 | 338 | 17.0 | **379** | **17.6** | 4,587 | 12.4 | **4,966** | **12.7** |
| Sunday | 18 | 10.7 | 274 | 13.8 | **292** | **13.5** | 3,327 | 9.0 | **3,619** | **9.3** |
| **Total Crashes** | **169** | **100.0** | **1,990** | **100.0** | **2,159** | **100.0** | **36,849** | **100.0** | **39,008** | **100.0** |

# 6. REGIONAL SUMMARIES

This section contains information on road crashes that occurred in individual regions of Western Australia. Comparison tables are provided containing information for each region, and several maps are included that compare crash and casualty rates across the regions. Finally, there is a sub-section for each region, containing a brief summary for that region and providing more detail on particular road user behaviours or crash information pertinent to that region. The individual sections are designed to highlight particular areas of concern for each region.

The tables and maps in Sections 6.1 and 6.2 refer to serious crashes, although some refer to all serious crashes and others refer only to police-attended serious crashes. Any tables or maps that refer to police-attended serious crashes are clearly labelled as such. All fatal crashes in 2012 were attended by police, however, there were 270 hospitalisation crashes that were not attended by police. Therefore, percentages calculated from counts reported in different tables may vary, and this is most noticeable for regions with a relatively large proportion of hospitalisation crashes that were not attended by police.

## 6.1 Regional Comparisons

The population of a region should be considered when comparing numbers of crashes across different regions, as a region with a higher population is likely to have a higher number of crashes. The 2012 estimated resident population by *Towards Zero* and Main Roads regions is provided in Table 110.

**Table 110 2012 Estimated Resident Population by Region**

| | 2012 Population | |
|---|---|---|
| ***Towards Zero* Regions** | **n** | **%** |
| Metropolitan | 1,808,730 | 74.4 |
| Regional | 407,577 | 16.8 |
| Remote | 216,399 | 8.9 |
| **Main Roads Regions** | | |
| Goldfields | 59,959 | 2.5 |
| Great Southern | 60,316 | 2.5 |
| Kimberley | 37,957 | 1.6 |
| Mid West | 55,225 | 2.3 |
| Pilbara-Gascoyne | 73,776 | 3.0 |
| South West | 262,539 | 10.8 |
| Wheatbelt North | 51,237 | 2.1 |
| Wheatbelt South | 22,967 | 0.9 |
| **Total Western Australia** | **2,432,706** | **100.0** |

Source: Australian Bureau of Statistics, Customised report, 2013.

## Table 111 Crash Severity by Region

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| ***Towards Zero* Regions** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| Metropolitan | 80 | 0.2 | 1,355 | 4.1 | **1,435** | **4.4** | 31,544 | 95.6 | **32,979** | **100.0** |
| Regional | 52 | 1.3 | 366 | 8.8 | **418** | **10.1** | 3,719 | 89.9 | **4,137** | **100.0** |
| Remote | 37 | 2.0 | 269 | 14.2 | **306** | **16.2** | 1,586 | 83.8 | **1,892** | **100.0** |
| **Main Roads Regions** | | | | | | | | | | |
| Goldfields | 9 | 1.6 | 45 | 7.9 | **54** | **9.5** | 516 | 90.5 | **570** | **100.0** |
| Great Southern | 5 | 0.9 | 56 | 10.2 | **61** | **11.1** | 489 | 88.9 | **550** | **100.0** |
| Kimberley | 5 | 2.1 | 48 | 20.4 | **53** | **22.6** | 182 | 77.4 | **235** | **100.0** |
| Mid West | 7 | 1.3 | 56 | 10.1 | **63** | **11.3** | 494 | 88.7 | **557** | **100.0** |
| Pilbara-Gascoyne | 12 | 2.0 | 66 | 11.0 | **78** | **13.0** | 523 | 87.0 | **601** | **100.0** |
| South West | 23 | 0.8 | 232 | 8.5 | **255** | **9.4** | 2,463 | 90.6 | **2,718** | **100.0** |
| Wheatbelt North | 23 | 4.1 | 80 | 14.3 | **103** | **18.4** | 456 | 81.6 | **559** | **100.0** |
| Wheatbelt South | 5 | 2.1 | 52 | 21.8 | **57** | **23.8** | 182 | 76.2 | **239** | **100.0** |
| **Total Crashes** | **169** | **0.4** | **1,990** | **5.1** | **2,159** | **5.5** | **36,849** | **94.5** | **39,008** | **100.0** |

## Table 112 Injury Severity by Region

| | Injury Severity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Serious | | Total Persons KSI | | Minor | | None/Unknown | | Total | |
| ***Towards Zero* Regions** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** | **n** | **Row %** |
| Metropolitan | 84 | 0.1 | 1,568 | 1.8 | **1,652** | **1.9** | 6,565 | 7.4 | 80,809 | 90.8 | **89,026** | **100.0** |
| Regional | 54 | 0.5 | 487 | 4.7 | **541** | **5.2** | 977 | 9.4 | 8,869 | 85.4 | **10,387** | **100.0** |
| Remote | 43 | 0.9 | 379 | 8.0 | **422** | **8.9** | 487 | 10.3 | 3,827 | 80.8 | **4,736** | **100.0** |
| **Main Roads Regions** | | | | | | | | | | | | |
| Goldfields | 9 | 0.6 | 58 | 4.2 | **67** | **4.8** | 133 | 9.5 | 1,197 | 85.7 | **1,397** | **100.0** |
| Great Southern | 6 | 0.4 | 76 | 5.6 | **82** | **6.1** | 113 | 8.3 | 1,160 | 85.6 | **1,355** | **100.0** |
| Kimberley | 5 | 0.7 | 70 | 10.4 | **75** | **11.1** | 87 | 12.9 | 514 | 76.0 | **676** | **100.0** |
| Mid West | 8 | 0.6 | 68 | 5.2 | **76** | **5.8** | 118 | 9.0 | 1,121 | 85.2 | **1,315** | **100.0** |
| Pilbara-Gascoyne | 14 | 0.9 | 110 | 6.8 | **124** | **7.7** | 137 | 8.5 | 1,359 | 83.9 | **1,620** | **100.0** |
| South West | 25 | 0.4 | 302 | 4.3 | **327** | **4.6** | 660 | 9.4 | 6,062 | 86.0 | **7,049** | **100.0** |
| Wheatbelt North | 25 | 2.0 | 120 | 9.8 | **145** | **11.9** | 151 | 12.3 | 927 | 75.8 | **1,223** | **100.0** |
| Wheatbelt South | 5 | 1.0 | 62 | 12.7 | **67** | **13.7** | 65 | 13.3 | 356 | 73.0 | **488** | **100.0** |
| **Total Persons** | **181** | **0.2** | **2,434** | **2.3** | **2,615** | **2.5** | **8,029** | **7.7** | **93,505** | **89.8** | **104,149** | **100.0** |

## Table 113 Drivers/Riders *Involved* in Serious Crashes by Gender by Region

| | *Towards Zero* Regions | | | Main Roads Regions | | | | | | | | Total Western Australia |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gender of Drivers/Riders | Metropolitan n | Regional n | Remote n | Goldfields n | Great Southern n | Kimberley n | Mid West n | Pilbara-Gascoyne n | South West n | Wheatbelt North n | Wheatbelt South n | n |
| **Male** | | | | | | | | | | | | |
| Fatal | 88 | 52 | 36 | 8 | 4 | 5 | 8 | 13 | 23 | 24 | 3 | **176** |
| Hospitalisation | 1,467 | 341 | 232 | 38 | 56 | 42 | 54 | 64 | 218 | 63 | 38 | **2,040** |
| **Total Male** | **1,555** | **393** | **268** | **46** | **60** | **47** | **62** | **77** | **241** | **87** | **41** | **2,216** |
| **Female** | | | | | | | | | | | | |
| Fatal | 28 | 18 | 10 | 2 | 2 | 1 | 1 | 4 | 8 | 8 | 2 | **56** |
| Hospitalisation | 754 | 152 | 97 | 22 | 14 | 20 | 14 | 17 | 109 | 30 | 23 | **1,003** |
| **Total Female** | **782** | **170** | **107** | **24** | **16** | **21** | **15** | **21** | **117** | **38** | **25** | **1,059** |
| **Unknown gender** | | | | | | | | | | | | |
| Fatal | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| Hospitalisation | 62 | 7 | 5 | 1 | 0 | 1 | 2 | 0 | 5 | 3 | 0 | **74** |
| **Total Unknown gender** | **63** | **7** | **5** | **1** | **0** | **1** | **2** | **0** | **5** | **3** | **0** | **75** |
| **Total Drivers/Riders in Serious Crashes** | **2,400** | **570** | **380** | **71** | **76** | **69** | **79** | **98** | **363** | **128** | **66** | **3,350** |

## Table 114 Drivers/Riders *Involved* in Serious Crashes by Age Group by Region

| | *Towards Zero* Regions | | | Main Roads Regions | | | | | | | | Total Western Australia |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age Group of Drivers/Riders | Metropolitan n | Regional n | Remote n | Goldfields n | Great Southern n | Kimberley n | Mid West n | Pilbara-Gascoyne n | South West n | Wheatbelt North n | Wheatbelt South n | n |
| 0 – 16 | 23 | 10 | 10 | 3 | 1 | 4 | 1 | 2 | 8 | 1 | 0 | **43** |
| 17 – 24 | 500 | 131 | 82 | 22 | 18 | 10 | 19 | 18 | 70 | 32 | 24 | **713** |
| 25 – 59 | 1,442 | 339 | 230 | 37 | 47 | 45 | 45 | 63 | 221 | 79 | 32 | **2,011** |
| 60 and over | 300 | 71 | 41 | 7 | 9 | 5 | 9 | 12 | 49 | 11 | 10 | **412** |
| Unknown age | 135 | 19 | 17 | 2 | 1 | 5 | 5 | 3 | 15 | 5 | 0 | **171** |
| **Total Drivers/Riders in Serious Crashes** | **2,400** | **570** | **380** | **71** | **76** | **69** | **79** | **98** | **363** | **128** | **66** | **3,350** |

## Table 115 Serious Crashes by Speed a Factor by Region

| | *Towards Zero* Regions | | | Main Roads Regions | | | | | | | | Total Western Australia |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Speed a Factor in Crash | Metropolitan n | Regional n | Remote n | Goldfields n | Great Southern n | Kimberley n | Mid West n | Pilbara-Gascoyne n | South West n | Wheatbelt North n | Wheatbelt South n | n |
| **Police-Attended Serious Crashes** | | | | | | | | | | | | |
| Yes | 126 | 52 | 39 | 12 | 9 | 6 | 9 | 6 | 29 | 17 | 3 | **217** |
| No | 364 | 159 | 113 | 19 | 20 | 24 | 20 | 33 | 108 | 28 | 20 | **636** |
| Unknown | 734 | 177 | 125 | 23 | 25 | 18 | 27 | 34 | 100 | 47 | 28 | **1,036** |
| **Total police Attended Serious Crashes** | **1,224** | **388** | **277** | **54** | **54** | **48** | **56** | **73** | **237** | **92** | **51** | **1,889** |
| **Serious Crashes** | | | | | | | | | | | | |
| Yes | 126 | 52 | 39 | 12 | 9 | 6 | 9 | 6 | 29 | 17 | 3 | **217** |
| No | 366 | 159 | 113 | 19 | 20 | 24 | 20 | 33 | 108 | 28 | 20 | **638** |
| Unknown | 943 | 207 | 154 | 23 | 32 | 23 | 34 | 39 | 118 | 58 | 34 | **1,304** |
| **Total Serious Crashes** | **1,435** | **418** | **306** | **54** | **61** | **53** | **63** | **78** | **255** | **103** | **57** | **2,159** |

## Table 116 Serious Crashes by Highest Driver/Rider BAC in Crash by Region, Police-Attended Crashes

| | *Towards Zero* Regions | | | Main Roads Regions | | | | | | | | Total Western Australia |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Highest Driver/Rider BAC in Crash | Metropolitan n | Regional n | Remote n | Goldfields n | Great Southern n | Kimberley n | Mid West n | Pilbara-Gascoyne n | South West n | Wheatbelt North n | Wheatbelt South n | n |
| Nil | 774 | 237 | 151 | 36 | 33 | 22 | 26 | 43 | 156 | 43 | 29 | **1,162** |
| <0 to <0.05 | 25 | 11 | 5 | 0 | 0 | 2 | 1 | 2 | 5 | 5 | 1 | **41** |
| ≥0.05 | 119 | 40 | 30 | 6 | 7 | 4 | 8 | 7 | 21 | 12 | 5 | **189** |
| Unknown | 293 | 98 | 90 | 12 | 14 | 20 | 21 | 21 | 54 | 30 | 16 | **481** |
| **Total Serious Crashes[1]** | **1,211** | **386** | **276** | **54** | **54** | **48** | **56** | **73** | **236** | **90** | **51** | **1,873** |

1. Excludes crashes that did not involve a driver/rider (n=16).

## Table 117 Motor Vehicle Occupants Killed or Seriously Injured by Seat Belt Usage by Region, Police-Attended Crashes

| | *Towards Zero* Regions | | | Main Roads Regions | | | | | | | | Total Western Australia |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Seat Belt Usage | Metropolitan n | Regional n | Remote n | Goldfields n | Great Southern n | Kimberley n | Mid West n | Pilbara-Gascoyne n | South West n | Wheatbelt North n | Wheatbelt South n | n |
| Worn | 741 | 331 | 258 | 41 | 49 | 37 | 42 | 73 | 198 | 105 | 44 | **1,330** |
| Not Worn | 56 | 34 | 46 | 10 | 6 | 14 | 7 | 13 | 14 | 10 | 6 | **136** |
| Unknown | 124 | 50 | 35 | 3 | 11 | 2 | 10 | 15 | 26 | 10 | 8 | **209** |
| **Total Motor Vehicle Occupants KSI** | **921** | **415** | **339** | **54** | **66** | **53** | **59** | **101** | **238** | **125** | **58** | **1,675** |

## Table 118 Serious Crashes by Crash Type by Region

| | *Towards Zero* Regions | | | Main Roads Regions | | | | | | | | Total Western Australia |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Metropolitan n | Regional n | Remote n | Goldfields n | Great Southern n | Kimberley n | Mid West n | Pilbara-Gascoyne n | South West n | Wheatbelt North n | Wheatbelt South n | n |
| **Crash Nature** | | | | | | | | | | | | |
| Head On | 46 | 20 | 15 | 2 | 6 | 1 | 5 | 5 | 9 | 7 | 0 | **81** |
| Right Angle | 288 | 55 | 24 | 9 | 3 | 6 | 2 | 6 | 42 | 9 | 2 | **367** |
| Other/ Unknown Multi-Vehicle[1] | 580 | 78 | 42 | 6 | 9 | 9 | 9 | 16 | 53 | 11 | 7 | **700** |
| Hit Pedestrian | 148 | 16 | 21 | 5 | 0 | 8 | 2 | 6 | 13 | 2 | 1 | **185** |
| Hit Animal | 1 | 4 | 7 | 1 | 4 | 1 | 2 | 1 | 1 | 0 | 1 | **12** |
| Hit Object | 251 | 180 | 98 | 21 | 22 | 9 | 22 | 17 | 100 | 51 | 36 | **529** |
| Non Collision | 106 | 59 | 91 | 8 | 17 | 18 | 19 | 23 | 34 | 22 | 9 | **256** |
| Other/ Unknown Single-Vehicle | 15 | 6 | 8 | 2 | 0 | 1 | 2 | 4 | 3 | 1 | 1 | **29** |
| **High Priority Crash Type** | | | | | | | | | | | | |
| Intersection | 746 | 111 | 42 | 15 | 8 | 11 | 10 | 7 | 85 | 13 | 4 | **899** |
| Run Off Road | 337 | 229 | 198 | 29 | 38 | 29 | 42 | 45 | 130 | 68 | 46 | **764** |
| Head On | 46 | 20 | 15 | 2 | 6 | 1 | 5 | 5 | 9 | 7 | 0 | **81** |
| Other | 383 | 71 | 63 | 12 | 11 | 14 | 9 | 21 | 43 | 16 | 8 | **517** |
| **Total Crashes** | **1,435** | **418** | **306** | **54** | **61** | **53** | **63** | **78** | **255** | **103** | **57** | **2,159** |

Note: High Priority Crash Types are not mutually exclusive and therefore some crashes may be counted more than once and percentages will sum to greater than 100%.

1. Other Multi-Vehicle crashes include: 'Rear End', 'Sideswipe Same Direction' and 'Right Turn Through' crashes.

## Table 119 Serious Crashes by Other Contributing Factors by Region

| | *Towards Zero* Region | | | Main Roads Regions | | | | | | | | Total Western Australia |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Factor | Metropolitan n | Regional n | Remote n | Goldfields n | Great Southern n | Kimberley n | Mid West n | Pilbara-Gascoyne n | South West n | Wheatbelt North n | Wheatbelt South n | n |
| **Road Classification** | | | | | | | | | | | | |
| Highway | 444 | 128 | 128 | 26 | 17 | 18 | 26 | 38 | 81 | 34 | 16 | **700** |
| Main Road | 2 | 85 | 36 | 0 | 11 | 4 | 10 | 10 | 45 | 23 | 18 | **123** |
| Other | 989 | 205 | 142 | 28 | 33 | 31 | 27 | 30 | 129 | 46 | 23 | **1,336** |
| **Road Surface** | | | | | | | | | | | | |
| Sealed | 1,422 | 394 | 232 | 40 | 50 | 42 | 53 | 61 | 242 | 89 | 49 | **2,048** |
| Unsealed | 11 | 22 | 69 | 14 | 11 | 10 | 9 | 14 | 13 | 13 | 7 | **102** |
| Unknown | 2 | 2 | 5 | 0 | 0 | 1 | 1 | 3 | 0 | 1 | 1 | **9** |
| **Road Alignment** | | | | | | | | | | | | |
| Curve | 261 | 131 | 84 | 7 | 25 | 10 | 23 | 23 | 78 | 32 | 17 | **476** |
| Straight | 1,130 | 280 | 214 | 44 | 35 | 41 | 39 | 54 | 171 | 71 | 39 | **1,624** |
| Unknown | 44 | 7 | 8 | 3 | 1 | 2 | 1 | 1 | 6 | 0 | 1 | **59** |
| **Road Conditions** | | | | | | | | | | | | |
| Wet | 191 | 58 | 19 | 2 | 8 | 1 | 6 | 2 | 42 | 11 | 5 | **268** |
| Dry | 1,223 | 355 | 280 | 52 | 52 | 52 | 55 | 70 | 210 | 92 | 52 | **1,858** |
| Unknown | 21 | 5 | 7 | 0 | 1 | 0 | 2 | 6 | 3 | 0 | 0 | **33** |
| **Total Serious Crashes** | **1,435** | **418** | **306** | **54** | **61** | **53** | **63** | **78** | **255** | **103** | **57** | **2,159** |

## Table 120 Serious Crashes by Month and Day of Week by Region

| | *Towards Zero* Region | | | Main Roads Regions | | | | | | | | Total Western Australia |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Metropolitan | Regional | Remote | Goldfields | Great Southern | Kimberley | Mid West | Pilbara-Gascoyne | South West | Wheatbelt North | Wheatbelt South | |
| | n | n | n | n | n | n | n | n | n | n | n | n |
| **Month** | | | | | | | | | | | | |
| January | 109 | 22 | 14 | 2 | 2 | 2 | 3 | 4 | 14 | 5 | 4 | **145** |
| February | 98 | 37 | 17 | 3 | 5 | 3 | 2 | 2 | 23 | 12 | 4 | **152** |
| March | 111 | 37 | 21 | 7 | 7 | 5 | 3 | 3 | 24 | 5 | 4 | **169** |
| April | 126 | 34 | 30 | 6 | 8 | 3 | 3 | 8 | 23 | 10 | 3 | **190** |
| May | 148 | 44 | 28 | 6 | 7 | 3 | 6 | 7 | 27 | 11 | 5 | **220** |
| June | 117 | 31 | 27 | 5 | 5 | 6 | 7 | 7 | 19 | 5 | 4 | **175** |
| July | 126 | 50 | 33 | 0 | 5 | 7 | 11 | 10 | 24 | 16 | 10 | **209** |
| August | 115 | 35 | 25 | 4 | 2 | 5 | 8 | 7 | 19 | 6 | 9 | **175** |
| September | 111 | 41 | 23 | 6 | 7 | 4 | 4 | 7 | 24 | 11 | 1 | **175** |
| October | 123 | 27 | 28 | 2 | 2 | 7 | 5 | 9 | 18 | 8 | 4 | **178** |
| November | 123 | 30 | 33 | 6 | 5 | 4 | 9 | 7 | 22 | 7 | 3 | **186** |
| December | 128 | 30 | 27 | 7 | 6 | 4 | 2 | 7 | 18 | 7 | 6 | **185** |
| **Day of Week** | | | | | | | | | | | | |
| Monday | 183 | 67 | 41 | 9 | 9 | 7 | 2 | 11 | 49 | 15 | 6 | **291** |
| Tuesday | 195 | 43 | 33 | 3 | 7 | 6 | 14 | 9 | 18 | 11 | 8 | **271** |
| Wednesday | 197 | 48 | 33 | 5 | 3 | 6 | 4 | 9 | 34 | 12 | 8 | **278** |
| Thursday | 206 | 52 | 48 | 8 | 4 | 7 | 13 | 9 | 32 | 18 | 9 | **306** |
| Friday | 236 | 57 | 49 | 10 | 12 | 10 | 12 | 11 | 37 | 12 | 2 | **342** |
| Saturday | 235 | 81 | 63 | 12 | 13 | 13 | 12 | 14 | 44 | 22 | 14 | **379** |
| Sunday | 183 | 70 | 39 | 7 | 13 | 4 | 6 | 15 | 41 | 13 | 10 | **292** |
| **Total Serious Crashes** | **1,435** | **418** | **306** | **54** | **61** | **53** | **63** | **78** | **255** | **103** | **57** | **2,159** |

## 6.2 Regional Crash and Casualty Rates

This section contains maps showing serious crash and KSI rates across Western Australia. Map 3 shows the overall serious crash rates by region. The Wheatbelt South and Wheatbelt North had the highest serious crash rates of 248.2 and 201.0 serious crashes per 100,000 population, respectively, while the Metropolitan and Goldfields regions had the lowest rates of 79.3 and 90.1 per 100,000 population, respectively.

Map 4 shows the number of serious multi-vehicle crashes per 100,000 population by region. The Wheatbelt North region had the highest rate of 52.7 per 100,000 population, seeing the Metropolitan region falling to second highest with 50.5 per 100,000 population. The Goldfields, Mid West and Great Southern regions had the lowest rate (28.4, 29.0 and 29.8 per 100,000 population, respectively).

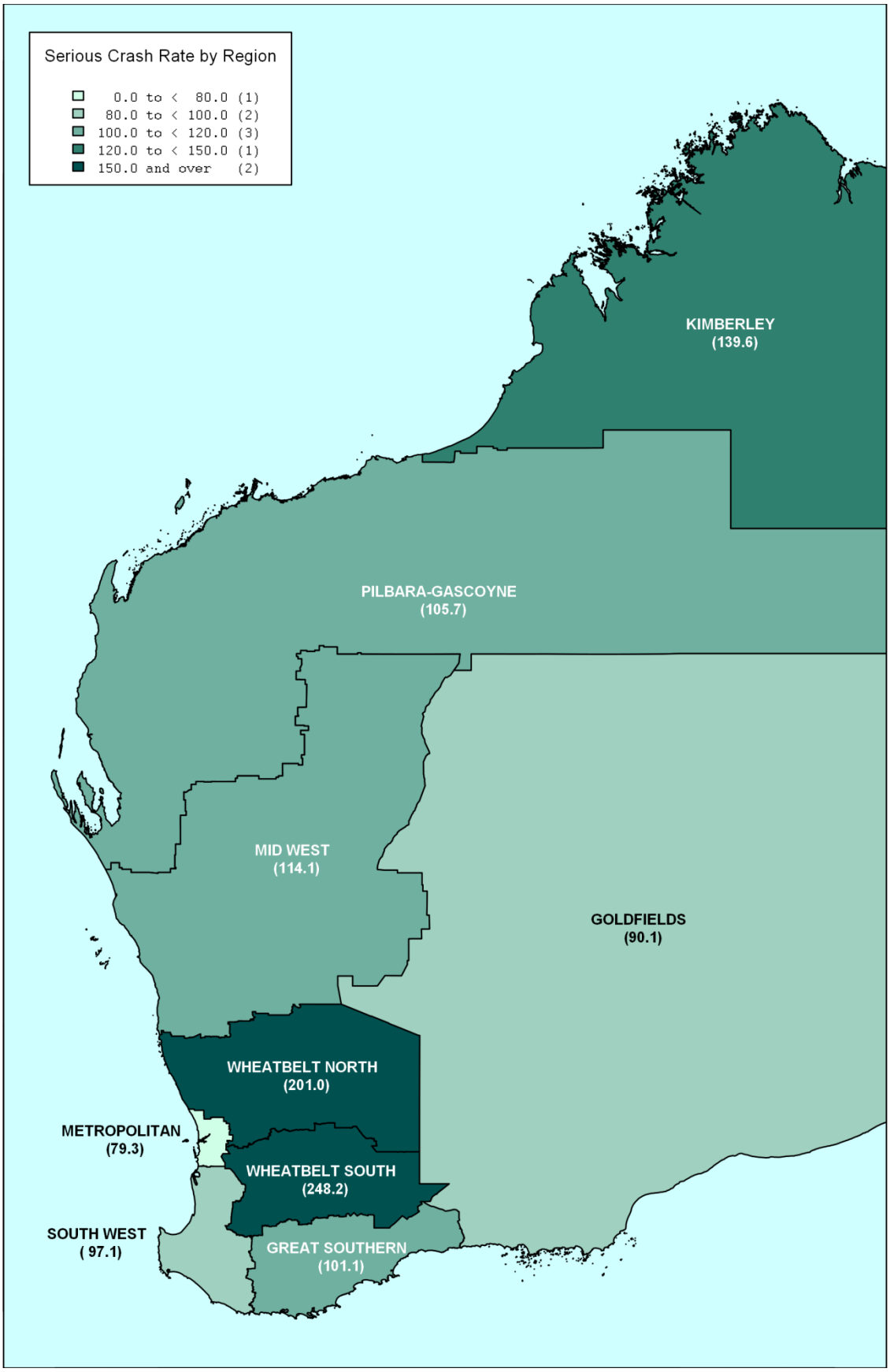
Single-vehicle crash rates by region are shown in Map 5, with the highest rates in the Wheatbelt South (209.0 per 100,000 population) and the lowest in the Metropolitan region (28.8 per 100,000 population). Of the non-Metropolitan regions, the South West had the lowest serious single-vehicle crash rate (57.5 per 100,000 population).

Speed-related serious crash rates (i.e. the number of police-attended serious crashes where speed was a factor per 100,000 population) are shown in Map 6. The Wheatbelt North had the highest rates (33.2 per 100,000 population), while the Metropolitan region had the lowest speed-related serious crash rate (7.0 per 100,000 population), with the Pilbara-Gascoyne region having the second lowest speed-related serious crash rate (8.1 per 100,000 population).

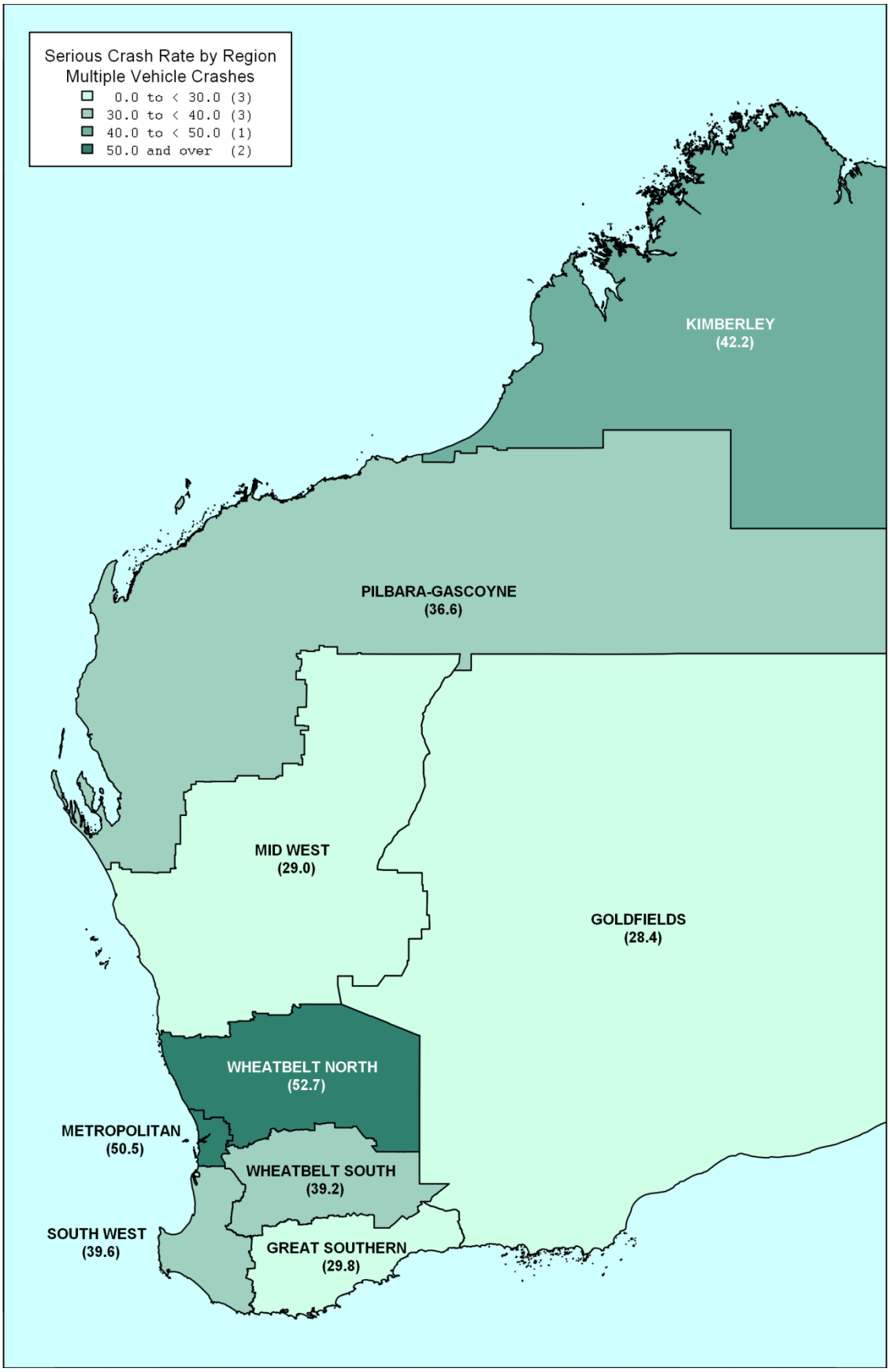
Rates for alcohol-related (i.e. involving at least one driver/rider with a BAC of 0.05 g/100mL or higher), police-attended serious crashes are provided in Map 7. The Wheatbelt North and Wheatbelt South regions had the highest rate of alcohol-related serious crashes (23.4 and 21.8 per 100,000 population, respectively). The Metropolitan and South West regions had the lowest alcohol-related serious crash rate (6.6 and 8.0 per 100,000 population, respectively).

Map 8 shows the number of persons killed or seriously injured in police-attended crashes who were not wearing a seat belt per 100,000 population. The Kimberley had the highest rate (36.9 per 100,000 population). The Metropolitan, South West and Great Southern regions had the lowest rates, with 3.1, 5.3 and 9.9 per 100,000 population, respectively.

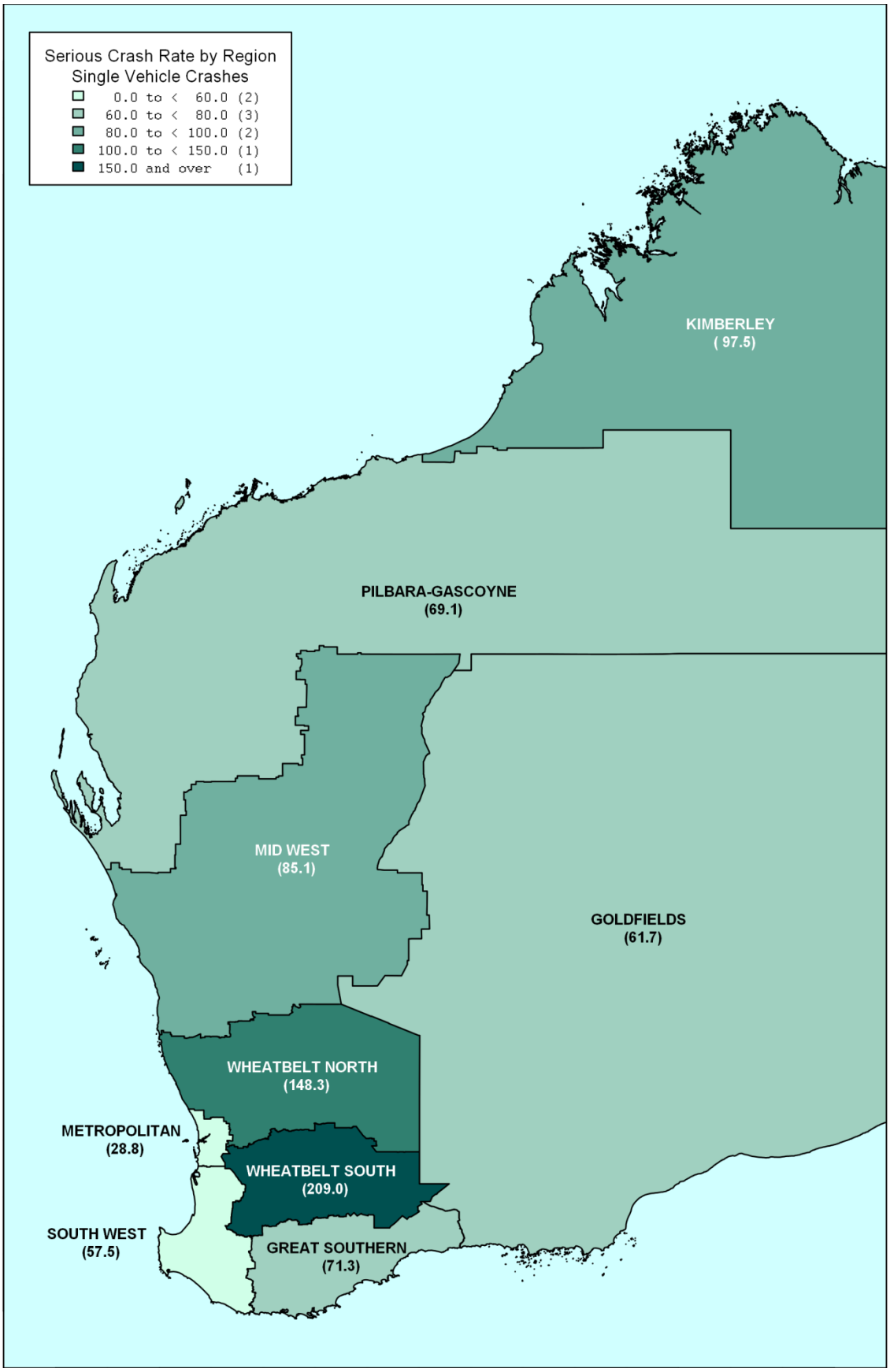
**Map 3 Serious Crash Rate per 100,000 Population by Region**



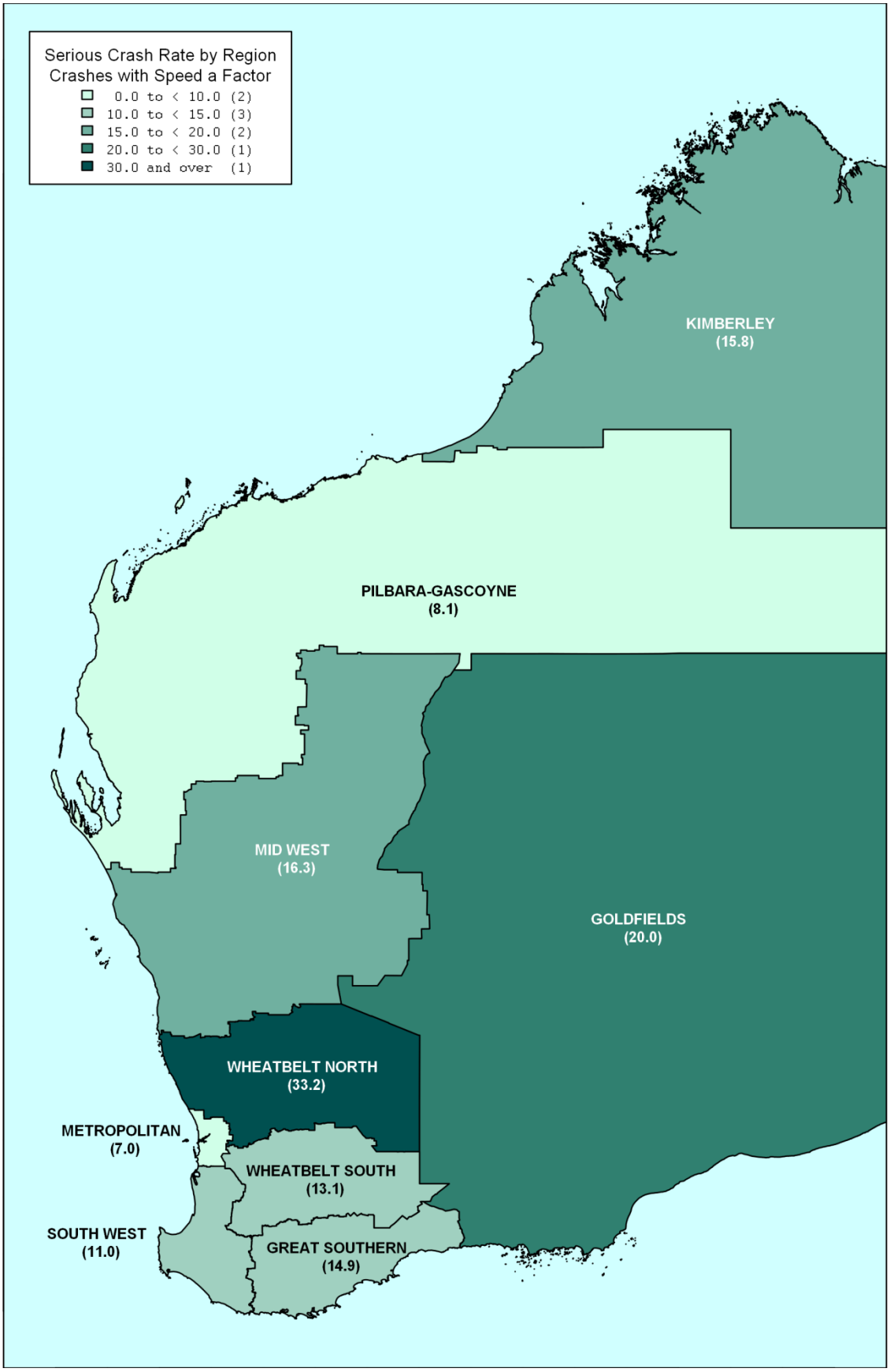
**Map 4 Multi-vehicle Serious Crash Rate per 100,000 Population by Region**



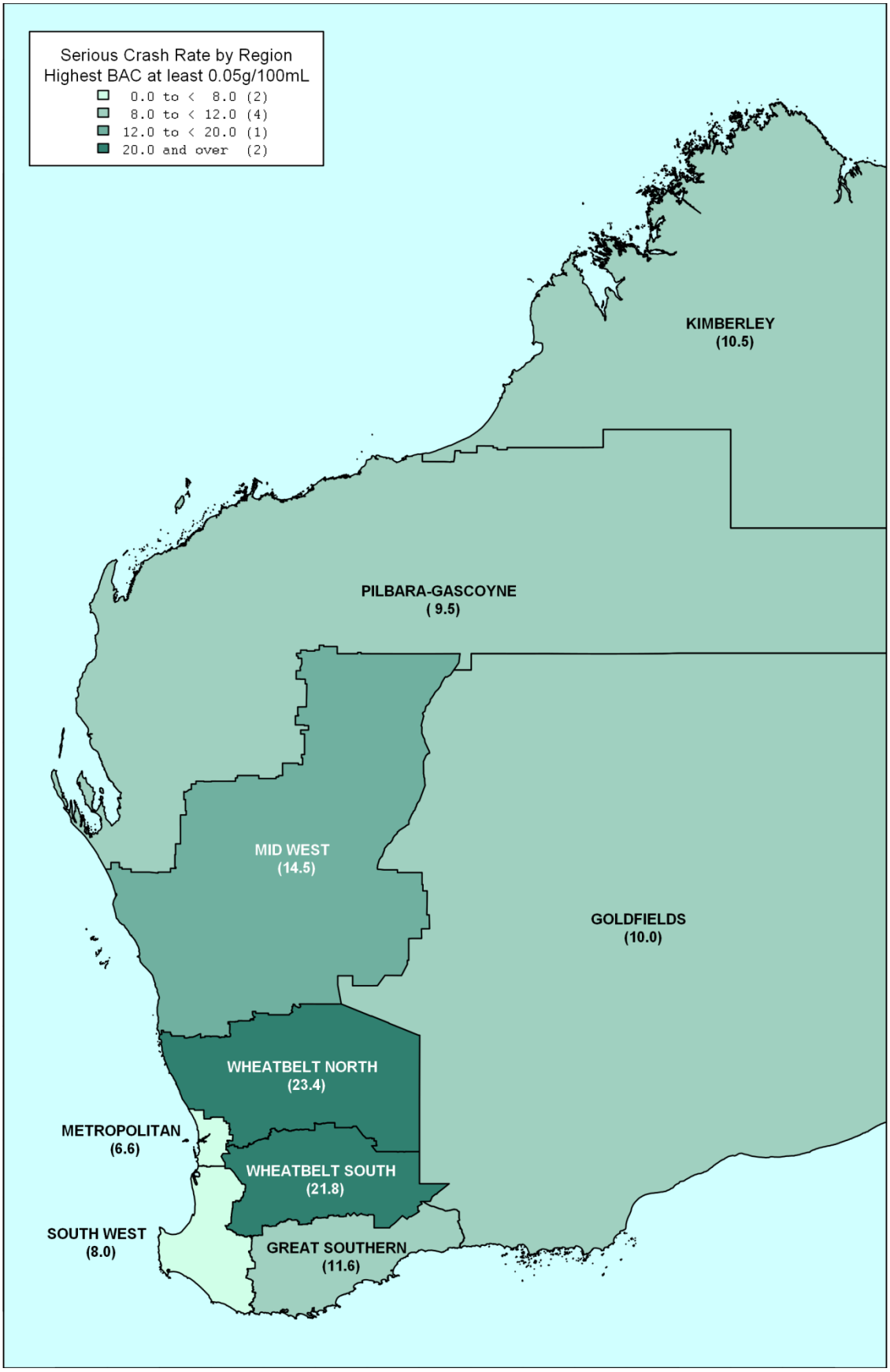
**Map 5 Single-Vehicle Serious Crash Rate per 100,000 Population by Region**



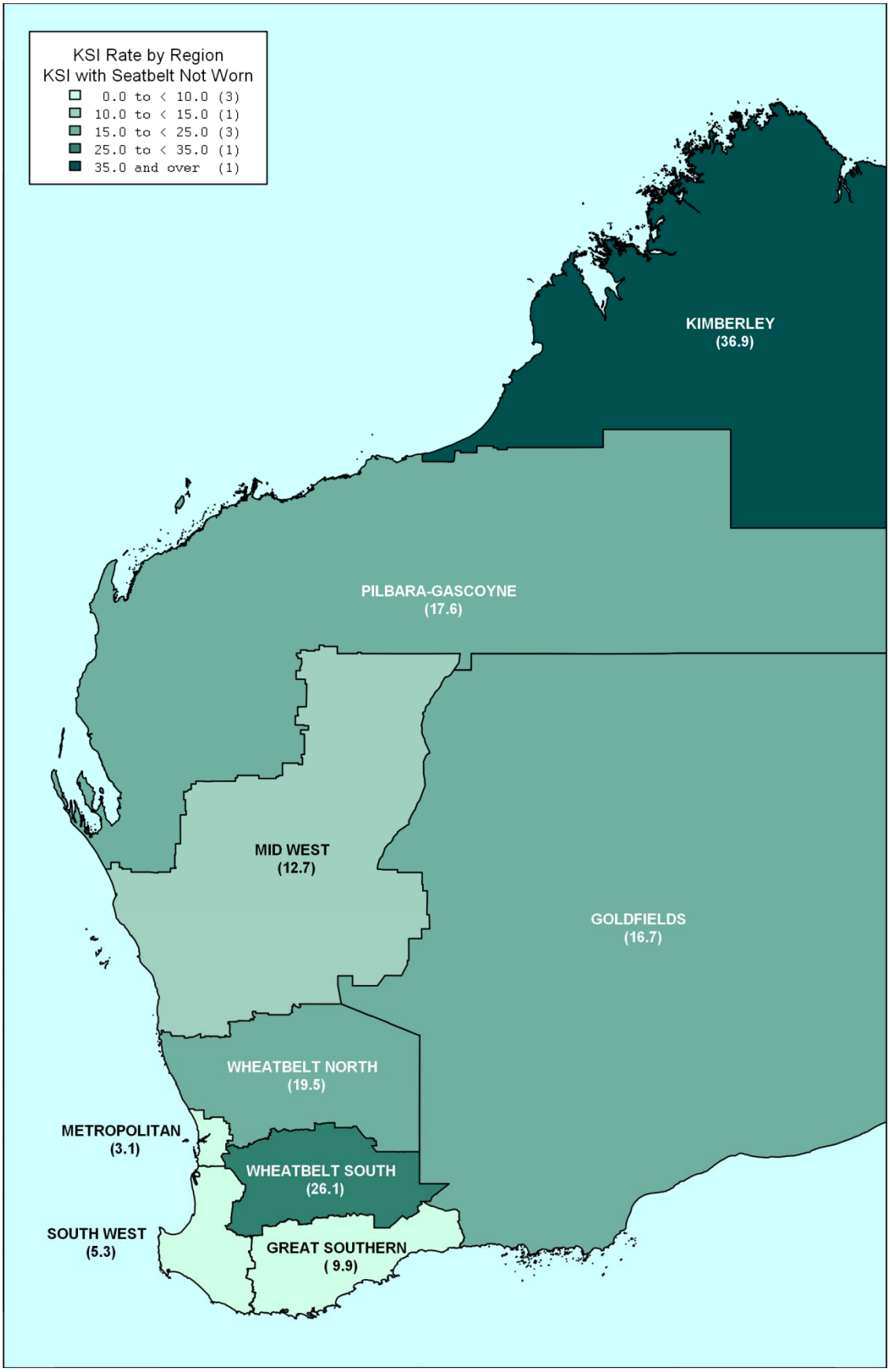
**Map 6 Speed-Related Serious Crash Rate per 100,000 Population by Region, Police-Attended Crashes**



**Map 7 Alcohol-Related Serious Crash Rate per 100,000 Population by Region, Police-Attended Crashes**



**Map 8** **Seat Belt Not Worn KSI Rate per 100,000 Population by Region, Police-Attended Crashes**



Map 9 shows age and gender standardised KSI rates, which are provided to allow direct comparisons across the regions. For example, it can be seen from Table 18 and Table 21 in Section 2.4 that 17 to 24 year olds have much higher KSI rates than other age groups. Therefore, to determine whether differences in KSI rates across regions can be attributed to differences in the age and gender profiles of each region, the rates were standardised using the demographic breakdown of each region. The standardised rates show what the rates would be if all regions had the same age and gender breakdown as the State as a whole. The effect of the standardisation is to increase the KSI rate in regions that have low proportions (relative to the whole of WA) of "high risk" age and gender groups and decrease the KSI rate in regions with high proportions of "high risk" age and gender groups.

One limitation of this approach is that both the age and gender of persons killed or seriously injured are needed to calculate the standardised rates. This means that any person killed or seriously injured whose age and/or gender was not recorded cannot be included in the standardised KSI rates, leading to underestimates for each region. There was a lower variation across the regions in the percentage of persons killed or seriously injured whose age and/or gender were not recorded than in previous years. The minimum percentage was in the Metropolitan (10.3%) while the maximum was in the Goldfields (23.4%). For this reason, Table 121, which shows age and gender standardised KSI rates, also provides the number of people killed or seriously injured in each region for whom both age and gender were recorded and the number for whom age and/or gender was not recorded.

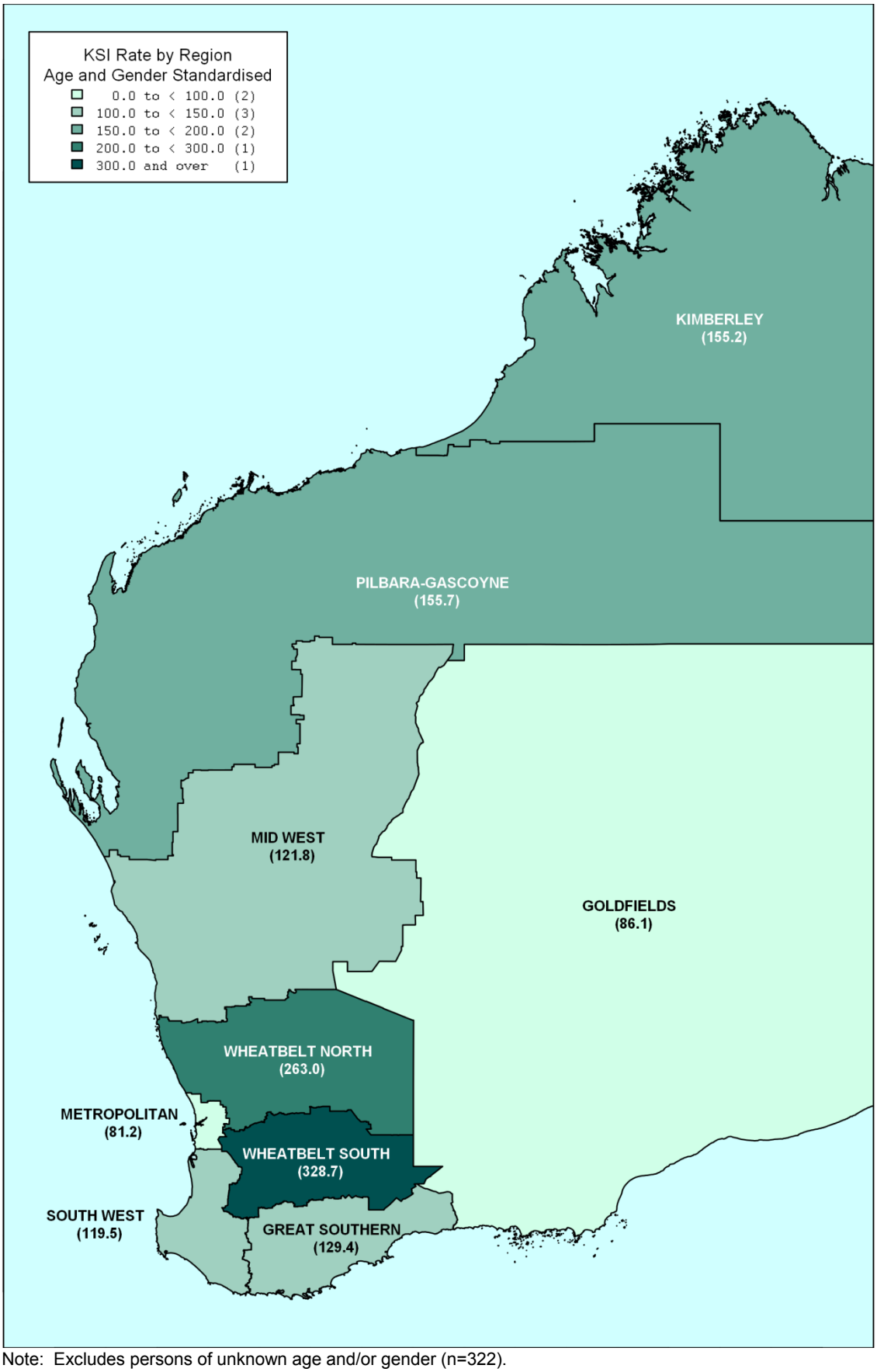
The Metropolitan region had the lowest standardised KSI rate (81.2 per 100,000 population), followed by the Goldfields region at 86.1 per 100,000 population. The Wheatbelt South and Wheatbelt North had the highest age and gender standardised KSI rates (328.7 and 263.0 per 100,000 respectively).

**Table 121 Age and Gender Standarised Rates of those Killed or Seriously Injured by Region**

| | Persons Killed or Seriously Injured (n) | | | Age and Gender |
|---|---|---|---|---|
| ***Towards Zero* Regions** | **Age and Gender Known** | **Age and/or Gender Unknown** | **Total Persons KSI** | **Standardised KSI Rate[1] (per 100,000 population)** |
| Metropolitan | 1,482 | 170 | 1,652 | 81.2 |
| Regional | 473 | 68 | 541 | 127.6 |
| Remote | 338 | 84 | 422 | 158.2 |
| **Main Roads Regions** | | | | |
| Goldfields | 51 | 16 | 67 | 86.1 |
| Great Southern | 68 | 14 | 82 | 129.4 |
| Kimberley | 58 | 17 | 75 | 155.2 |
| Mid West | 62 | 14 | 76 | 121.8 |
| Pilbara-Gascoyne | 103 | 21 | 124 | 155.7 |
| South West | 291 | 36 | 327 | 119.5 |
| Wheatbelt North | 118 | 27 | 145 | 263.0 |
| Wheatbelt South | 60 | 7 | 67 | 328.7 |
| **Total Western Australia** | **2,293** | **322** | **2,615** | **N/A** |

1. Excludes persons of unknown age and/or gender (n=322).

**Map 9 Age and Gender Standardised KSI Rate per 100,000 Population by Region**




Note: Excludes persons of unknown age and/or gender (n=322).

## 6.3 Goldfields

There were nine fatal crashes in the Goldfields region during 2012 in which nine people died. These numbers were higher than the previous two years. Of persons killed or seriously injured where gender was known, 59% were males. The age-specific rate for persons killed or seriously injured was by far the highest for persons aged between 17 and 24 years (Table 122). Forty nine per cent of persons killed or seriously injured in the Goldfields region were drivers, 31% were passengers and 9% were motorcyclists (Figure 21). The Goldfields had the second lowest overall serious crash rate and the second lowest age and gender standardised KSI rate (90.0 and 86.1 per 100,000 population, respectively) (Map 3 and Map 9).

The Goldfields had the highest percentage of police-attended serious crashes that were speed related (22%) (Table 115) and the speed related serious crash rate was 20.0 per 100,000 population (Map 6). Four of the nine fatal crashes were speed related (Table 123). In the Goldfields, 11% of serious crashes were alcohol related (Table 116). The alcohol related serious crash rate for the Goldfields region was 10.0 per 100,000 population (Map 7). The Goldfields had the second highest percentage (19%) of motor vehicle occupants killed or seriously injured who were not wearing a seat belt (Table 117). The rate of motor vehicle occupants killed or seriously injured who were not wearing a seat belt was 16.7 per 100,000 population (Map 8). Three of the 6 motor vehicle occupant fatalities, were not wearing a seat belt (Table 124).

Over two thirds (69%) of serious crashes in the Goldfields region were single vehicle crashes (Table 125). The Goldfields had the highest percentage of 'Right Angle' crashes of the non Metropolitan regions (17%) (Table 118). Eight of the nine fatal crashes in the Goldfields were single-vehicle crashes (Table 125). Of the serious crashes in the Goldfields, more than half (54%) were 'Run Off Road' (Table 126) and more than a third (39%) were 'Hit Object' (Table 125).

**Figure 20 Fatal Crashes and Fatalities by Year - Goldfields**

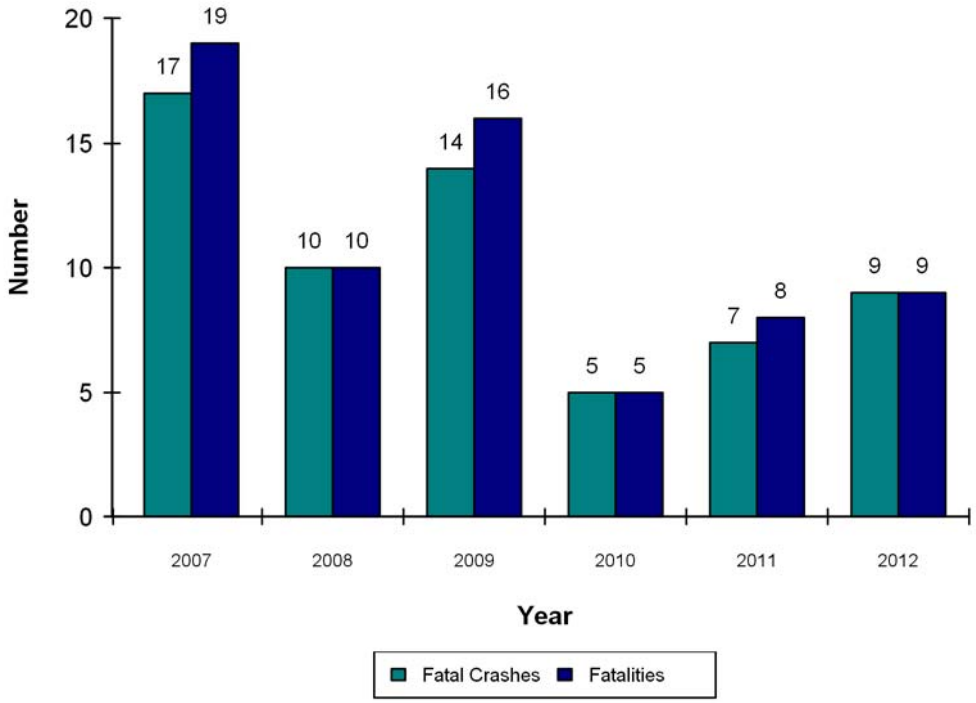



**Table 122 Persons Killed or Seriously Injured by Age Group and Gender - Goldfields**

| | Gender | | | Percentage of Persons Killed or Seriously Injured | Percentage of Population | Age-Specific KSI Rate[2] |
|---|---|---|---|---|---|---|
| | Male | Female | Total[1] | | | |
| **Age Group** | **n** | **n** | **n** | **%** | **%** | **Rate** |
| 0 - 16 | 3 | 1 | **4** | 6.0 | 26.2 | 26.5 |
| 17 - 24 | 9 | 7 | **18** | 26.9 | 11.9 | 262.2 |
| 25 - 59 | 14 | 11 | **31** | 46.3 | 50.6 | 106.6 |
| 60 and over | 4 | 2 | **7** | 10.4 | 11.2 | 108.7 |
| Unknown Age | 2 | 1 | **7** | 10.4 | N/A | N/A |
| **Total Persons KSI** | **32** | **22** | **67** | **100.0** | **100.0** | **116.6** |

Source: Population data from Australian Bureau of Statistics, Customised report, 2013

1. Includes persons of unknown gender.
2. Age-specific KSI rates per 100,000 population.

**Figure 21 Persons Killed or Seriously Injured by Road User Type - Goldfields**

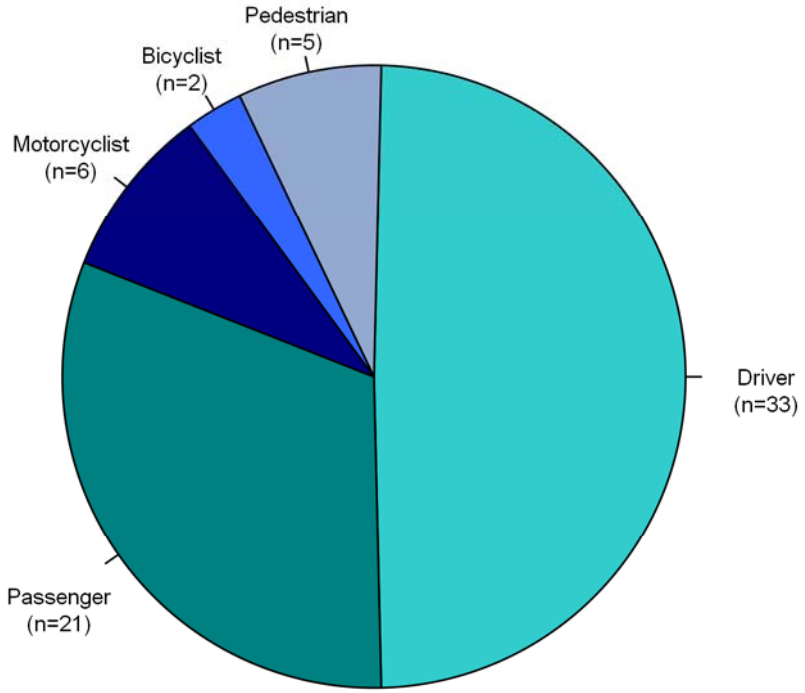



**Table 123 Speed a Factor by Crash Severity, Police-Attended Crashes - Goldfields**

| | Crash Severity | | |
|---|---|---|---|
| **Speed a Factor in Police-Attended Crashes** | **Fatal** | **Hospitalisation** | **Total Serious** |
| | **n** | **n** | **n** |
| Yes | 4 | 8 | **12** |
| No | 1 | 18 | **19** |
| Unknown | 4 | 19 | **23** |
| **Total Police-Attended Crashes** | **9** | **45** | **54** |

**Table 124 Seat Belt Usage by Injury Severity, Police-Attended Crashes - Goldfields**

| | Injury Severity | | |
|---|---|---|---|
| | **Fatal** | **Serious** | **Total Persons KSI** |
| **Seat Belt Usage** | **n** | **n** | **n** |
| Worn | 2 | 39 | **41** |
| Not Worn | 3 | 7 | **10** |
| Unknown | 1 | 2 | **3** |
| **Total Motor Vehicle Occupants** | **6** | **48** | **54** |

## Table 125 Crash Nature by Crash Severity - Goldfields

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Crash Nature** | **n** | **n** | **n** |
| **Multi-Vehicle Crashes** | | | |
| Rear End | 0 | 0 | **0** |
| Head On | 0 | 2 | **2** |
| Sideswipe Same Dir. | 0 | 1 | **1** |
| Right Angle | 1 | 8 | **9** |
| Right Turn Through | 0 | 2 | **2** |
| Other/Unknown Multi | 0 | 3 | **3** |
| **Total Multi Vehicle** | **1** | **16** | **17** |
| **Single-Vehicle Crashes** | | | |
| Hit Pedestrian | 2 | 3 | **5** |
| Hit Animal | 0 | 1 | **1** |
| Hit Object | 4 | 17 | **21** |
| Non Collision | 1 | 7 | **8** |
| Other/Unknown Single | 1 | 1 | **2** |
| **Total Single Vehicle** | **8** | **29** | **37** |
| **Total Crashes** | **9** | **45** | **54** |

## Table 126 High Priority Crash Type by Crash Severity - Goldfields

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Crash Type** | **n** | **n** | **n** |
| Intersection | 3 | 12 | **15** |
| Run Off Road | 4 | 25 | **29** |
| Head On | 0 | 2 | **2** |
| Other | 2 | 10 | **12** |
| **Total Crashes** | **9** | **45** | **54** |

Note: High Priority Crash Types are not mutually exclusive and, therefore, some crashes may be counted more than once and may sum to greater than the total number of crashes.

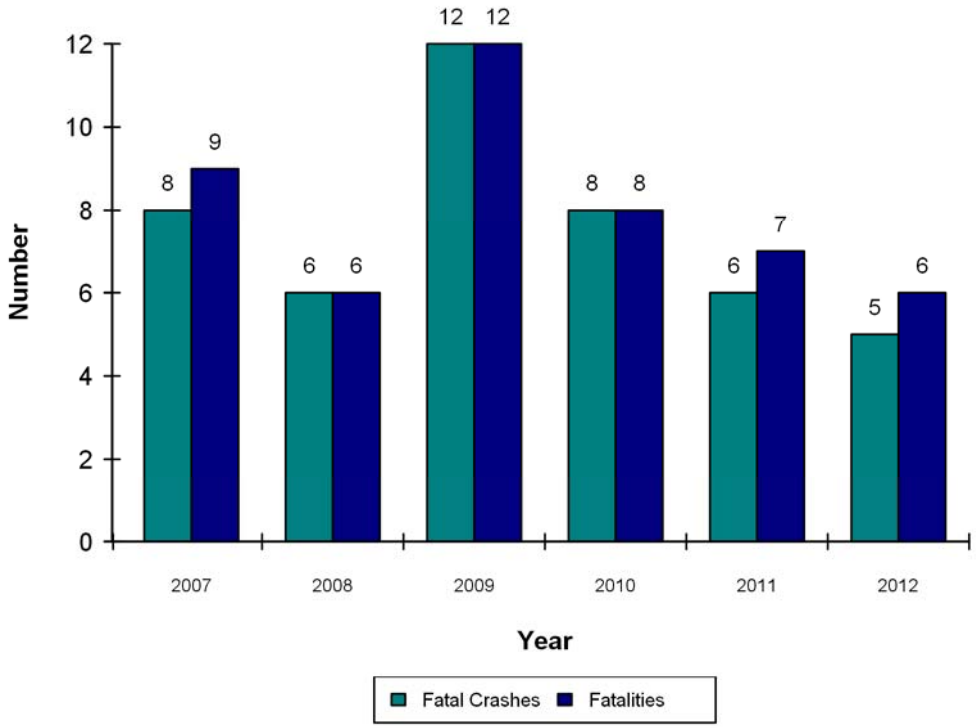
## 6.4 Great Southern

There were five fatal crashes in the Great Southern region during 2012, in which six people died. These numbers were lower than the previous three years. Of persons killed or seriously injured where gender was known, 73% were male. Despite persons aged 17 to 24 only making up 9% of the Great Southern population, 27% of persons killed or seriously injured fell in this age bracket, and this age group had the highest age-specific rate for persons killed or seriously injured (Table 127). Drivers constituted 55% of persons killed or seriously injured, followed by passengers (34%) and motorcyclists (7%) (Figure 23).

Of police-attended serious crashes in the Great Southern, 17% had speed as a factor (Table 115) and the speed related serious crash rate was 14.9 per 100,000 population (Map 6). One of the five fatal crashes were speed related (Table 128). In the Great Southern, 13% of serious crashes were alcohol related (Table 116) and the alcohol related serious crash rate was 11.6 per 100,000 population (Map 7). Nine per cent of persons killed or seriously injured in the Great Southern region were not wearing a seat belt (Table 117). The Great Southern region had the second lowest KSI rate for not wearing a seat belt (9.9 per 100,000 population) of the non Metropolitan regions (Map 8).

Over two thirds (70%) of serious crashes in the Great Southern region were single vehicle crashes (Table 130). The Great Southern had the highest percentage of 'Head On' crashes (10%) and the highest percentage of 'Hit Animal' crashes of all regions (7%) (Table 118). There were no 'Hit Pedestrian' serious crashes in the Great Southern in 2012 (Table 130). Of the serious crashes in the Great Southern, more than half (62%) were 'Run Off Road' (Table 131). More than a third (36%) of the serious crashes were 'Hit Object' and 28% were 'Non Collision' (Table 130).

**Figure 22 Fatal Crashes and Fatalities by Year - Great Southern**



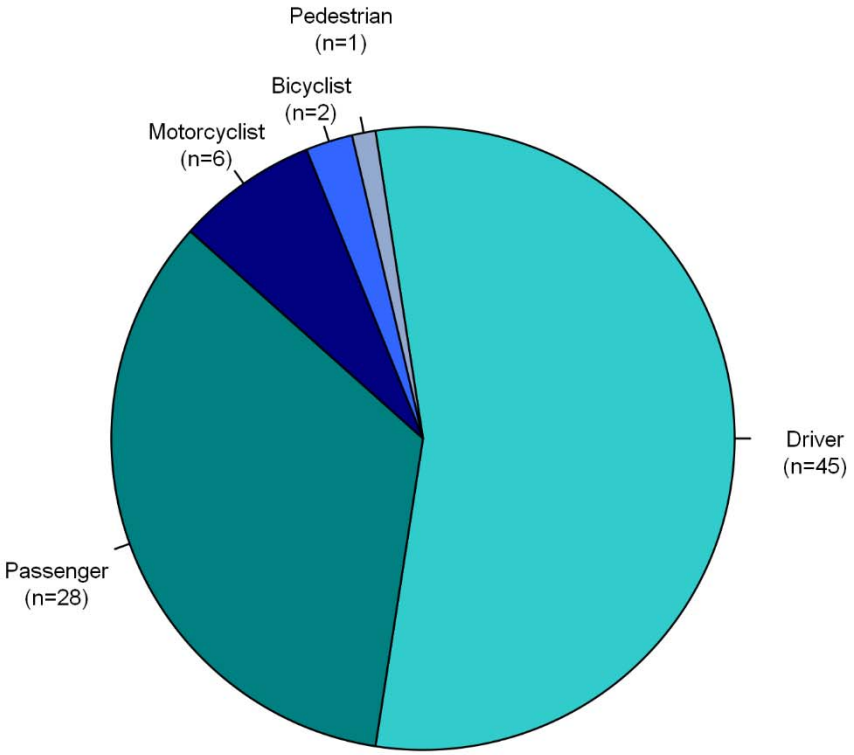
## Table 127 Persons Killed or Seriously Injured by Age Group and Gender - Great Southern

| | Gender | | | Percentage of Persons Killed or Seriously Injured | Percentage of Population | Age-Specific Rate[2] |
|---|---|---|---|---|---|---|
| | Male | Female | Total[1] | | | |
| **Age Group** | **n** | **n** | **n** | **%** | **%** | **Rate** |
| 0 - 16 | 1 | 1 | **4** | 4.9 | 22.7 | 28.6 |
| 17 - 24 | 13 | 4 | **22** | 26.8 | 9.0 | 397.1 |
| 25 - 59 | 28 | 9 | **42** | 51.2 | 47.0 | 144.8 |
| 60 and over | 7 | 5 | **12** | 14.6 | 21.4 | 90.9 |
| Unknown Age | 2 | 0 | **2** | 2.4 | N/A | N/A |
| **Total Persons KSI** | **51** | **19** | **82** | **100.0** | **100.0** | **132.8** |

Source: Population data from Australian Bureau of Statistics, Customised report, 2013

1. Includes persons of unknown gender.
2. Age-specific KSI rates per 100,000 population.

## Figure 23 Persons Killed or Seriously Injured by Road User Type - Great Southern



### Table 128 Speed a Factor by Crash Severity, Police-Attended Crashes - Great Southern

| Speed a Factor in Police-Attended Crashes | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| | n | n | n |
| Yes | 1 | 8 | **9** |
| No | 1 | 19 | **20** |
| Unknown | 3 | 22 | **25** |
| **Total Police-Attended Crashes** | **5** | **49** | **54** |

### Table 129 Highest Driver/Rider BAC in Crash by Crash Severity, Police-Attended Crashes - Great Southern

| Highest Driver/Rider BAC in Crash (g/100mL) | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| | n | n | n |
| Nil | 5 | 28 | **33** |
| < 0.05 | 0 | 0 | **0** |
| 0.05 to < 0.08 | 0 | 1 | **1** |
| 0.08 to < 0.15 | 0 | 5 | **5** |
| ≥ 0.15 | 0 | 1 | **1** |
| **Subtotal ≥ 0.05** | **0** | **7** | **7** |
| Unknown | 0 | 14 | **14** |
| **Total Crashes** | **5** | **49** | **54** |

### Table 130 Crash Nature by Crash Severity - Great Southern

| Crash Nature | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| | n | n | n |
| **Multi-Vehicle Crashes** | | | |
| Rear End | 0 | 5 | **5** |
| Head On | 1 | 5 | **6** |
| Sideswipe Same Dir. | 0 | 1 | **1** |
| Right Angle | 0 | 3 | **3** |
| Right Turn Through | 0 | 1 | **1** |
| Other/Unknown Multi | 0 | 2 | **2** |
| **Total Multi Vehicle** | **1** | **17** | **18** |
| **Single-Vehicle Crashes** | | | |
| Hit Pedestrian | 0 | 0 | **0** |
| Hit Animal | 0 | 4 | **4** |
| Hit Object | 3 | 19 | **22** |
| Non Collision | 1 | 16 | **17** |
| Other Unknown Single | 0 | 0 | **0** |
| **Total Single Vehicle** | **4** | **39** | **43** |
| **Total Crashes** | **5** | **56** | **61** |

## Table 131 High Priority Crash Type by Crash Severity - Great Southern

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Crash Type** | **n** | **n** | **n** |
| Intersection | 0 | 8 | **8** |
| Run Off Road | 4 | 34 | **38** |
| Head On | 1 | 5 | **6** |
| Other | 0 | 11 | **11** |
| **Total Crashes** | **5** | **56** | **61** |

Note: High Priority Crash Types are not mutually exclusive and therefore some crashes may be counted more than once and may sum to greater than the total number of crashes.

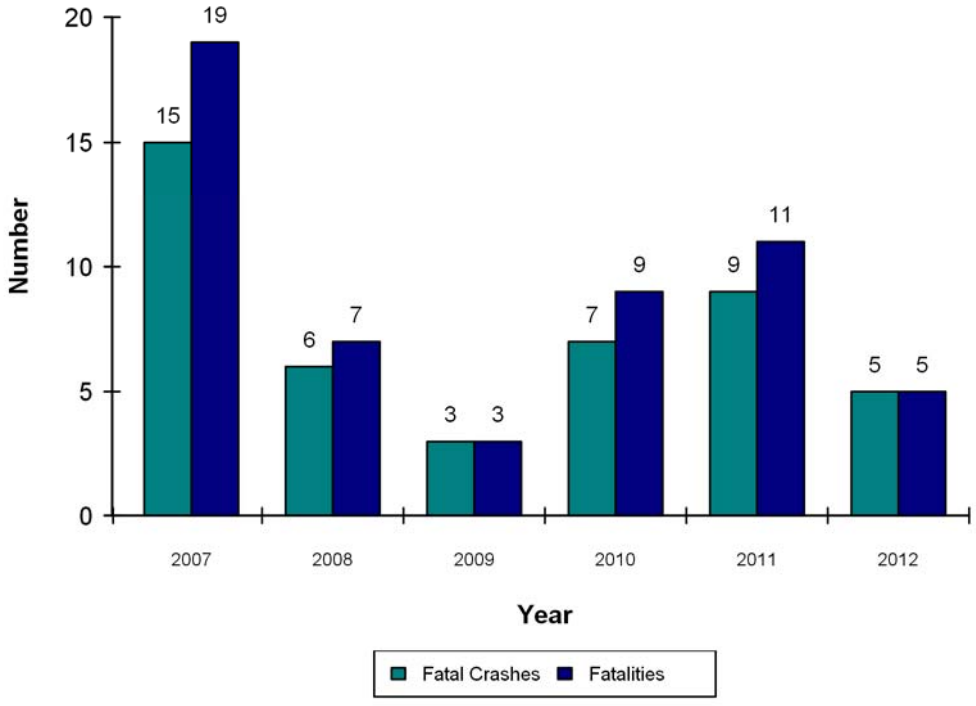
## 6.5 Kimberley

There were five fatal crashes in the Kimberley region during 2012, in which five people died. These numbers were lower than the previous two years. Over half (53%) of the persons killed or seriously injured where gender was known were males. The age-specific rate for persons killed or seriously injured was the highest for persons aged 60 year and over (Table 132). Passengers accounted for 44% of persons killed or seriously injured in the Kimberley region, followed by drivers (31%) and motorcyclists (15%) (Figure 25). There were no bicyclists killed or seriously injured in the Kimberley in 2012.

Of police attended serious crashes in the Kimberley, 13% had speed as a factor (Table 115). The speed related serious crash rate for the Kimberley region was 15.8 per 100,000 population (Map 6). The Kimberley had the lowest percentage (8%) of serious crashes that were alcohol related (Table 116) and the alcohol related serious crash rate was 10.5 per 100,000 population (Map 7). The Kimberley had the highest percentage (26%) of motor vehicle occupants killed or seriously injured who were not wearing a seat belt (Table 117). The Kimberley region had the highest KSI rate for not wearing a seat belt (36.9 per 100,000 population) (Map 8). Two of the four motor vehicle occupant fatalities were not wearing a seat belt (Table 133).

Over two thirds (70%) of serious crashes in the Kimberley region were single vehicle crashes (Table 134). The Kimberley had the highest percentage of 'Hit Pedestrian' crashes (15%) and the highest percentage of 'Non Collision' crashes of all regions (34%) (Table 118). More than half (55%) of the serious crashes were 'Run Off Road' and 21% were 'Intersection' (Table 135).

**Figure 24 Fatal Crashes and Fatalities by Year - Kimberley**



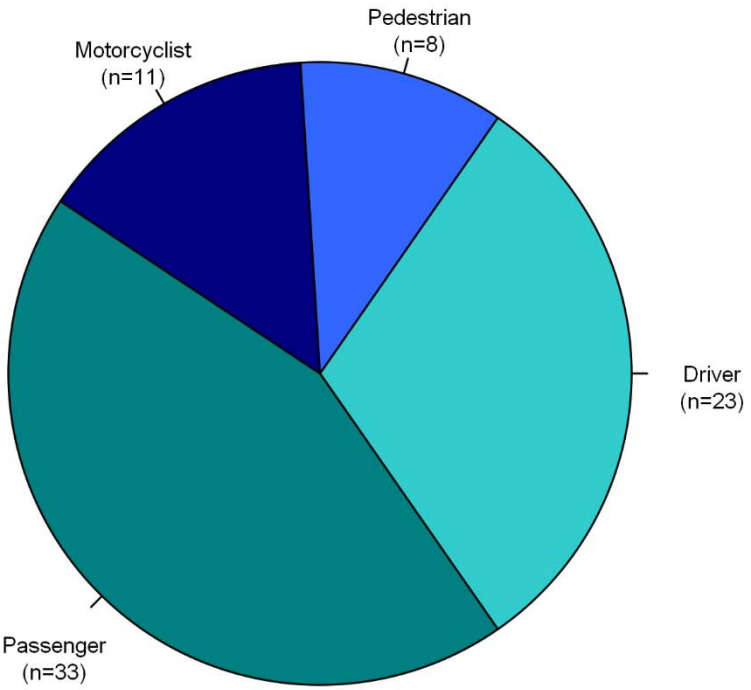
## Table 132 Persons Killed or Seriously Injured By Age Group And Gender - Kimberley

| | Gender | | | Percentage of Persons Killed or Seriously Injured | Percentage of Population | Age-Specific Rate[2] |
|---|---|---|---|---|---|---|
| | Male | Female | Total[1] | | | |
| **Age Group** | **n** | **n** | **n** | **%** | **%** | **Rate** |
| 0 - 16 | 4 | 5 | **9** | 12.0 | 26.6 | 94.9 |
| 17 - 24 | 5 | 3 | **10** | 13.3 | 12.0 | 233.2 |
| 25 - 59 | 22 | 14 | **44** | 58.7 | 53.3 | 231.2 |
| 60 and over | 1 | 4 | **7** | 9.3 | 8.1 | 241.7 |
| Unknown Age | 1 | 3 | **5** | 6.7 | N/A | N/A |
| **Total Persons KSI** | **33** | **29** | **75** | **100.0** | **100.0** | **210.0** |

Source: Population data from Australian Bureau of Statistics, Customised report, 2013

1. Includes persons of unknown gender.
2. Age-specific KSI rates per 100,000 population.

## Figure 25 Persons Killed or Seriously Injured by Road User Type – Kimberley



### Table 133 Seat Belt Usage by Injury Severity, Police-Attended Crashes - Kimberley

| | Injury Severity | | |
|---|---|---|---|
| | Fatal | Serious | Total Persons KSI |
| **Seat Belt Usage** | **n** | **n** | **n** |
| Worn | 1 | 36 | **37** |
| Not Worn | 2 | 12 | **14** |
| Unknown | 1 | 1 | **2** |
| **Total Motor Vehicle Occupants** | **4** | **49** | **53** |

### Table 134 Crash Nature by Crash Severity - Kimberley

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Crash Nature** | **n** | **n** | **n** |
| **Multi-Vehicle Crashes** | | | |
| Rear End | 0 | 3 | **3** |
| Head On | 0 | 1 | **1** |
| Sideswipe Same Dir. | 0 | 0 | **0** |
| Right Angle | 0 | 6 | **6** |
| Right Turn Through | 0 | 1 | **1** |
| Other/Unknown Multi | 1 | 4 | **5** |
| **Total Multi Vehicle** | **1** | **15** | **16** |
| **Single-Vehicle Crashes** | | | |
| Hit Pedestrian | 1 | 7 | **8** |
| Hit Animal | 0 | 1 | **1** |
| Hit Object | 1 | 8 | **9** |
| Non Collision | 2 | 16 | **18** |
| Other/Unknown Single | 0 | 1 | **1** |
| **Total Single Vehicle** | **4** | **33** | **37** |
| **Total Crashes** | **5** | **48** | **53** |

### Table 135 High Priority Crash Type by Crash Severity - Kimberley

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Crash Type** | **n** | **n** | **n** |
| Intersection | 1 | 10 | **11** |
| Run Off Road | 4 | 25 | **29** |
| Head On | 0 | 1 | **1** |
| Other | 1 | 13 | **14** |
| **Total Crashes** | **5** | **48** | **53** |

Note: High Priority Crash Types are not mutually exclusive and, therefore, some crashes may be counted more than once and may sum to greater than the total number of crashes.

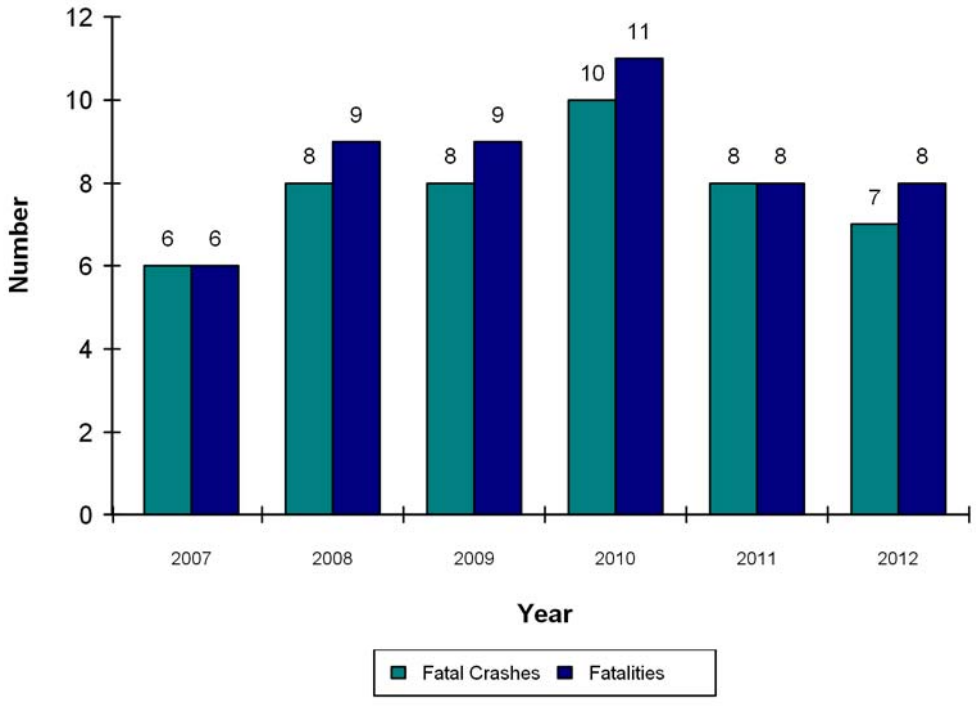
## 6.6 Mid West

There were seven fatal crashes in the Mid West region during 2012, in which eight people were killed. The number of fatalities was equal to the previous year. Of persons killed or seriously injured where gender was known, 73% were males. Persons aged 17 to 24 years had the highest age-specific rate for persons killed or seriously injured (Table 136). Drivers accounted for 53% of persons killed or seriously injured, followed by passengers (33%) and motorcyclists (12%) (Figure 27). There were no bicyclists killed or seriously injured in the Mid West in 2012.

Of police attended serious crashes in the Mid West, 16% had speed as a factor (Table 115) and the speed related serious crash rate was 16.3 per 100,000 population (Map 6). Three of the seven fatal crashes were speed related (Table 137). The Mid West had the highest percentage (14%) of serious crashes that were alcohol related of the non-Metropolitan regions (Table 116) and an alcohol related serious crash rate of 14.5 per 100,000 population (Map 7). Two of the seven fatal crashes in the Mid West region were alcohol related (Table 138) and one of them involved driver/riders with very high alcohol readings of greater than 0.15 g/100mL (Table 138). Twelve per cent of persons killed or seriously injured in the Mid West region were not wearing a seat belt (Table 117). The rate of motor vehicle occupants killed or seriously injured who were not wearing a seat belt was 12.7 per 100,000 population (Map 8). Two of the seven motor vehicle occupant fatalities, were not wearing a seat belt (Table 139).

Almost three quarters (75%) of serious crashes in the Mid West region were single vehicle crashes (Table 140). The Mid West had the second highest percentage of 'Head On' crashes of all regions (8%) (Table 118). Of the serious crashes in the Mid West, two thirds (67%) were 'Run Off Road' (Table 141), more than a third (35%) were 'Hit Object' and 30% were 'Non Collision' (Table 140).

**Figure 26 Fatal Crashes and Fatalities by Year - Mid West**



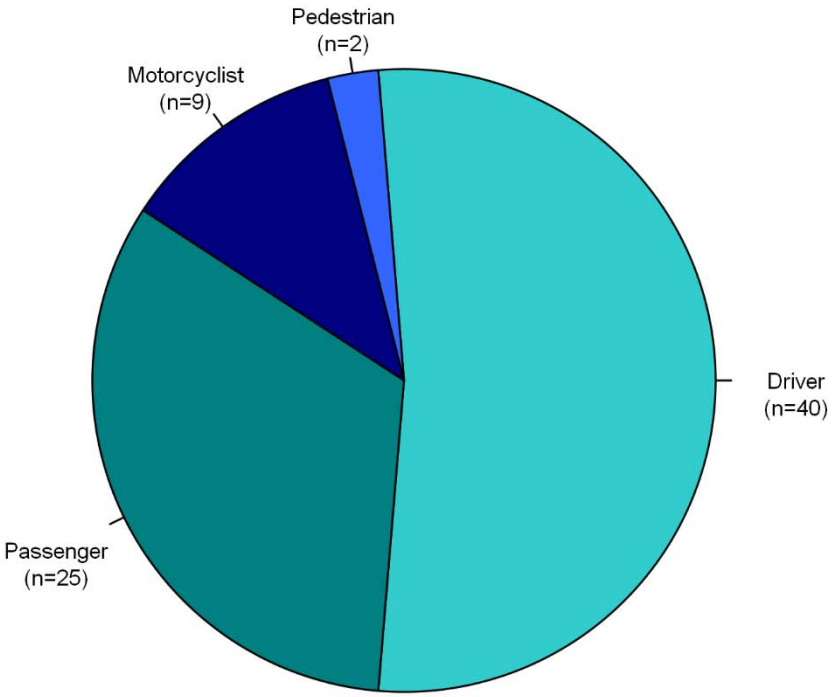
## Table 136 Persons Killed or Seriously Injured by Age Group and Gender - Mid West

| | Gender | | | Percentage of Persons Killed or Seriously Injured | Percentage of Population | Age-Specific Rate[2] |
|---|---|---|---|---|---|---|
| | Male | Female | Total[1] | | | |
| **Age Group** | **n** | **n** | **n** | **%** | **%** | **Rate** |
| 0 - 16 | 1 | 0 | **3** | 3.9 | 25.3 | 21.6 |
| 17 - 24 | 9 | 2 | **16** | 21.1 | 9.6 | 303.0 |
| 25 - 59 | 32 | 10 | **45** | 59.2 | 47.3 | 173.5 |
| 60 and over | 3 | 5 | **10** | 13.2 | 17.8 | 102.5 |
| Unknown Age | 2 | 0 | **2** | 2.6 | N/A | N/A |
| **Total Persons KSI** | **47** | **17** | **76** | **100.0** | **100.0** | **138.6** |

Source: Population data from Australian Bureau of Statistics, Customised report, 2013.

1. Includes persons of unknown gender.
2. Age-specific KSI rates per 100,000 population.

## Figure 27 Persons Killed or Seriously Injured by Road User Type - Mid West



### Table 137 Speed a Factor by Crash Severity, Police-Attended Crashes - Mid West

| Speed a Factor in Police-Attended Crashes | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| | n | n | n |
| Yes | 3 | 6 | **9** |
| No | 2 | 18 | **20** |
| Unknown | 2 | 25 | **27** |
| **Total Police-Attended Crashes** | **7** | **49** | **56** |

### Table 138 Highest Driver/Rider BAC in Crash by Crash Severity, Police-Attended Crashes - Mid West

| Highest Driver/Rider BAC in Crash (g/100mL) | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| | n | n | n |
| Nil | 4 | 22 | **26** |
| < 0.05 | 0 | 1 | **1** |
| 0.05 to < 0.08 | 0 | 1 | **1** |
| 0.08 to < 0.15 | 1 | 2 | **3** |
| ≥ 0.15 | 1 | 3 | **4** |
| **Subtotal ≥ 0.05** | **2** | **6** | **8** |
| Unknown | 1 | 20 | **21** |
| **Total Crashes** | **7** | **49** | **56** |

### Table 139 Seat Belt Usage by Injury Severity, Police-Attended Crashes - Mid West

| Seat Belt Usage | Injury Severity | | |
|---|---|---|---|
| | Fatal | Serious | Total Persons KSI |
| | n | n | n |
| Worn | 3 | 39 | **42** |
| Not Worn | 2 | 5 | **7** |
| Unknown | 2 | 8 | **10** |
| **Total Motor Vehicle Occupants** | **7** | **52** | **59** |

## Table 140 Crash Nature by Crash Severity - Mid West

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Crash Nature** | **n** | **n** | **n** |
| **Multi-Vehicle Crashes** | | | |
| Rear End | 0 | 3 | **3** |
| Head On | 2 | 3 | **5** |
| Sideswipe Same Dir. | 0 | 1 | **1** |
| Right Angle | 0 | 2 | **2** |
| Right Turn Through | 0 | 0 | **0** |
| Other/Unknown Multi | 0 | 5 | **5** |
| **Total Multi Vehicle** | **2** | **14** | **16** |
| **Single-Vehicle Crashes** | | | |
| Hit Pedestrian | 1 | 1 | **2** |
| Hit Animal | 0 | 2 | **2** |
| Hit Object | 2 | 20 | **22** |
| Non Collision | 2 | 17 | **19** |
| Other/Unknown Single | 0 | 2 | **2** |
| **Total Single Vehicle** | **5** | **42** | **47** |
| **Total Crashes** | **7** | **56** | **63** |

## Table 141 High Priority Crash Type by Crash Severity - Mid West

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Crash Type** | **n** | **n** | **n** |
| Intersection | 0 | 10 | **10** |
| Run Off Road | 4 | 38 | **42** |
| Head On | 2 | 3 | **5** |
| Other | 1 | 8 | **9** |
| **Total Crashes** | **7** | **56** | **63** |

Note: High Priority Crash Types are not mutually exclusive and, therefore, some crashes may be counted more than once and may sum to greater than the total number of crashes.

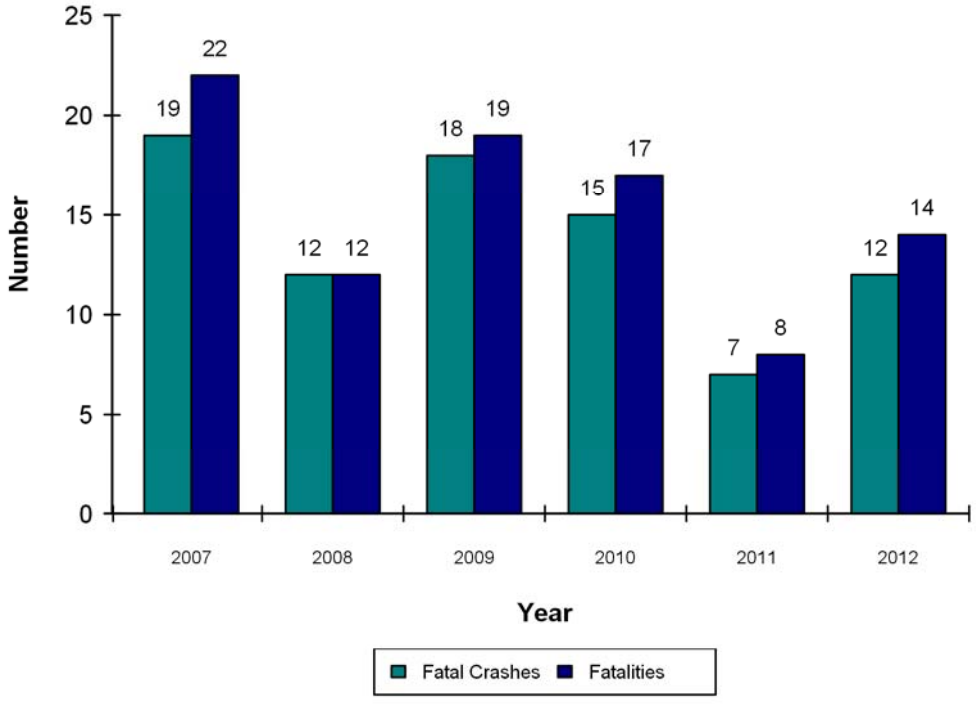
## 6.7 Pilbara-Gascoyne

There were 12 fatal crashes in the Pilbara-Gascoyne region during 2012, in which 14 people were killed. Of persons killed or seriously injured with known gender, 64% were males. While 10% of the Pilbara-Gascoyne population were aged 17 to 24 years, this age group made up 19% of persons killed or seriously injured and had the highest age-specific rate for persons killed or seriously injured (Table 142). Drivers accounted for 44% of persons killed or seriously injured, followed by passengers (40%) and motorcyclists (10%) (Figure 29). There were no bicyclists killed or seriously injured in the Pilbara-Gascoyne in 2012.

The Pilbara-Gascoyne region had the second lowest percentage of police attended serious crashes that were speed related (8%) (Table 115) and the lowest speed related serious crash rate (8.1 per 100,000 population) (Map 6). In the Pilbara-Gascoyne region, 10% of serious crashes were alcohol related (Table 116). The alcohol related serious crash rate for the Pilbara-Gascoyne region was 9.5 per 100,000 population (Map 7). Thirteen per cent of persons killed or seriously injured in the Pilbara-Gascoyne region were not wearing a seat belt (Table 117). The rate of motor vehicle occupants killed or seriously injured who were not wearing a seat belt was 17.6 per 100,000 population (Map 8). Five of the 13 motor vehicle occupant fatalities, were not wearing a seat belt (Table 143).

Almost two thirds (65%) of serious crashes in the Pilbara-Gascoyne region were single vehicle crashes (Table 144). Of the serious crashes in the Pilbara-Gascoyne, more than half (58%) were 'Run Off Road' (Table 145) and 29% were 'Non Collision' (Table 144).

**Figure 28 Fatal Crashes and Fatalities by Year - Pilbara-Gascoyne**



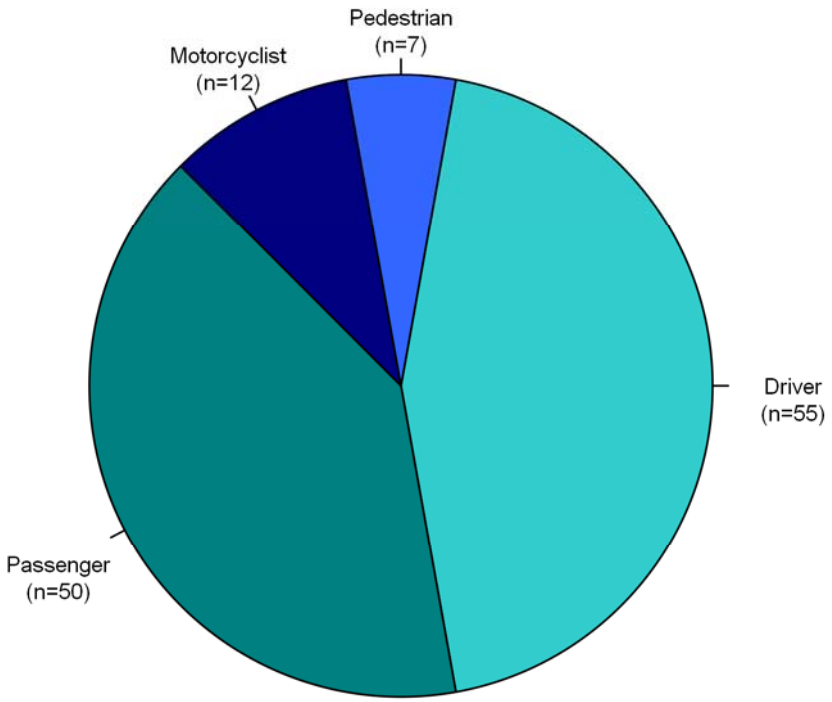
## Table 142 Persons Killed or Seriously Injured by Age Group and Gender - Pilbara-Gascoyne

| | Gender | | | Percentage of Persons Killed or Seriously Injured | Percentage of Population | Age-Specific Rate[2] |
|---|---|---|---|---|---|---|
| | Male | Female | Total[1] | | | |
| **Age Group** | **n** | **n** | **n** | **%** | **%** | **Rate** |
| 0 - 16 | 5 | 5 | **17** | 13.7 | 26.3 | 110.3 |
| 17 - 24 | 10 | 10 | **23** | 18.5 | 10.2 | 384.3 |
| 25 - 59 | 41 | 18 | **68** | 54.8 | 56.0 | 207.1 |
| 60 and over | 10 | 4 | **15** | 12.1 | 7.5 | 341.5 |
| Unknown Age | 1 | 0 | **1** | 0.8 | N/A | N/A |
| **Total Persons KSI** | **67** | **37** | **124** | **100.0** | **100.0** | **211.5** |

Source: Population data from Australian Bureau of Statistics, Customised report, 2013.

1. Includes persons of unknown gender.
2. Age-specific KSI rates per 100,000 population.

## Figure 29 Persons Killed or Seriously Injured by Road User Type - Pilbara-Gascoyne



### Table 143 Seat Belt Usage by Injury Severity, Police-Attended Crashes - Pilbara-Gascoyne

| | Injury Severity | | |
|---|---|---|---|
| | Fatal | Serious | Total Persons KSI |
| **Seat Belt Usage** | **n** | **n** | **n** |
| Worn | 7 | 66 | **73** |
| Not Worn | 5 | 8 | **13** |
| Unknown | 1 | 14 | **15** |
| **Total Motor Vehicle Occupants** | **13** | **88** | **101** |

### Table 144 Crash Nature by Crash Severity – Pilbara-Gascoyne

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Crash Nature** | **n** | **n** | **n** |
| **Multi-Vehicle Crashes** | | | |
| Rear End | 0 | 5 | **5** |
| Head On | 3 | 2 | **5** |
| Sideswipe Same Dir. | 0 | 1 | **1** |
| Right Angle | 0 | 6 | **6** |
| Right Turn Through | 0 | 1 | **1** |
| Other/Unknown Multi | 3 | 6 | **9** |
| **Total Multi Vehicle** | **6** | **21** | **27** |
| **Single-Vehicle Crashes** | | | |
| Hit Pedestrian | 0 | 6 | **6** |
| Hit Animal | 0 | 1 | **1** |
| Hit Object | 3 | 14 | **17** |
| Non Collision | 3 | 20 | **23** |
| Other/Unknown Single | 0 | 4 | **4** |
| **Total Single Vehicle** | **6** | **45** | **51** |
| **Total Crashes** | **12** | **66** | **78** |

### Table 145 High Priority Crash Type by Crash Severity - Pilbara-Gascoyne

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Crash Type** | **n** | **n** | **n** |
| Intersection | 0 | 7 | **7** |
| Run Off Road | 7 | 38 | **45** |
| Head On | 3 | 2 | **5** |
| Other | 2 | 19 | **21** |
| **Total Crashes** | **12** | **66** | **78** |

Note: High Priority Crash Types are not mutually exclusive and, therefore, some crashes may be counted more than once and may sum to greater than the total number of crashes.

## 6.8 South West

There were 23 fatal crashes in the South West region during 2012, in which 25 people died. Of persons killed or seriously injured where gender was known, 64% were males. While less than 10% of the South West population were aged 17 to 24 years, this group made up 22% of persons killed or seriously injured and had the highest age-specific rate for persons killed or seriously injured (Table 146). Drivers accounted for more than half (52%) of persons killed or seriously injured, while 26% were passengers and 14% were motorcyclists (Figure 31). The South West had the second lowest overall serious crash rate out of all non-Metropolitan regions (97.1 per 100,000 population) (Map 3).

Of police attended serious crashes in the South West, 12% had speed as a factor (Table 115). And the speed related serious crash rate was 11.0 per 100,000 population (Map 6) The South West had the second lowest percentage (9%) of serious crashes that were alcohol related (Table 116) and the lowest alcohol related serious crash rate (8.0 per 100,000 population) (Map 7) out of all non-Metropolitan regions. The South West had the lowest percentage (6%) of motor vehicle occupants killed or seriously injured who were not wearing a seat belt (Table 117) and the lowest KSI rate for not wearing a seat belt (5.3 per 100,000 population) of the non Metropolitan regions (Map 8).

Over half (59%) of serious crashes in the South West region were single vehicle crashes (Table 147). The South West had the second highest percentage of 'Right Angle' crashes of the non Metropolitan regions (16%) and the highest percentage of 'Intersection' crashes of non Metropolitan regions (33%) (Table 118). The South West region also has the highest percentage of multi-vehicle serious crashes of the non Metropolitan region (41%) (Table 147). Of the serious crashes in the South West, more than half (51%) were 'Run Off Road' (Table 148) and more than a third (39%) were 'Hit Object' (Table 147).

**Figure 30 Fatal Crashes and Fatalities by Year - South West**

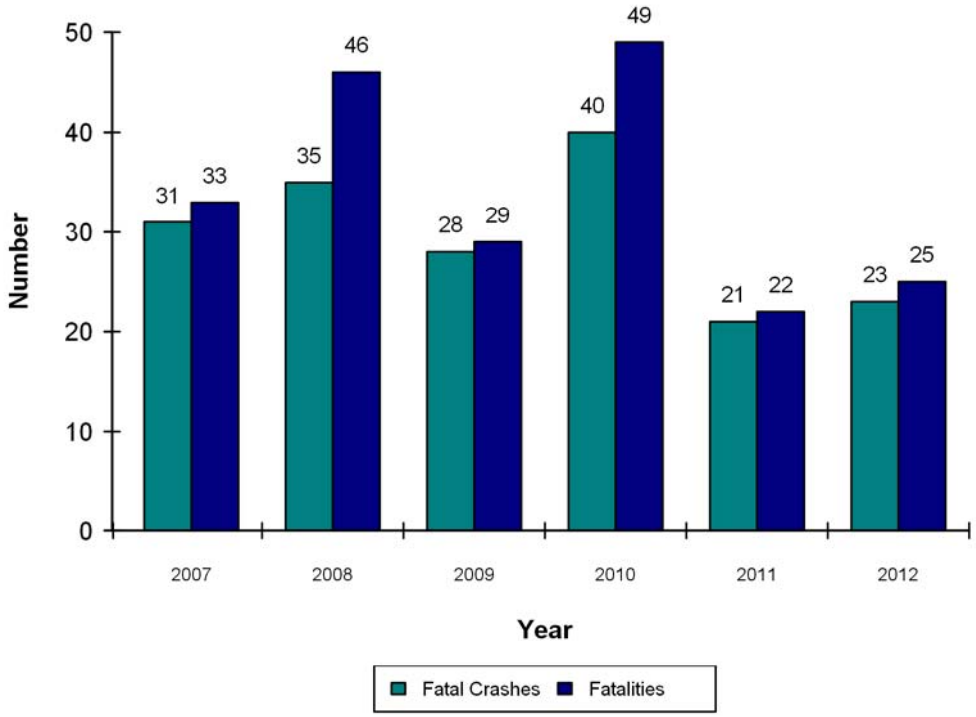



**Table 146 Persons Killed or Seriously Injured by Age Group by Gender - South West**

| | Gender | | | Percentage of Persons Killed or Seriously Injured | Percentage of Population | Age-Specific Rate[2] |
|---|---|---|---|---|---|---|
| | Male | Female | Total[1] | | | |
| **Age Group** | **n** | **n** | **n** | **%** | **%** | **Rate** |
| 0 - 16 | 13 | 13 | **34** | 10.4 | 22.7 | 59.2 |
| 17 - 24 | 35 | 25 | **71** | 21.7 | 9.5 | 294.8 |
| 25 - 59 | 112 | 50 | **168** | 51.4 | 46.0 | 144.0 |
| 60 and over | 27 | 16 | **44** | 13.5 | 21.8 | 79.6 |
| Unknown Age | 4 | 3 | **10** | 3.1 | N/A | N/A |
| **Total Persons KSI** | **191** | **107** | **327** | **100.0** | **100.0** | **129.0** |

Source: Population data from Australian Bureau of Statistics, Customised report, 2013.

1. Includes persons of unknown gender.
2. Age-specific KSI rates per 100,000 population.

**Figure 31 Persons Killed or Seriously Injured by Road User Type - South West**

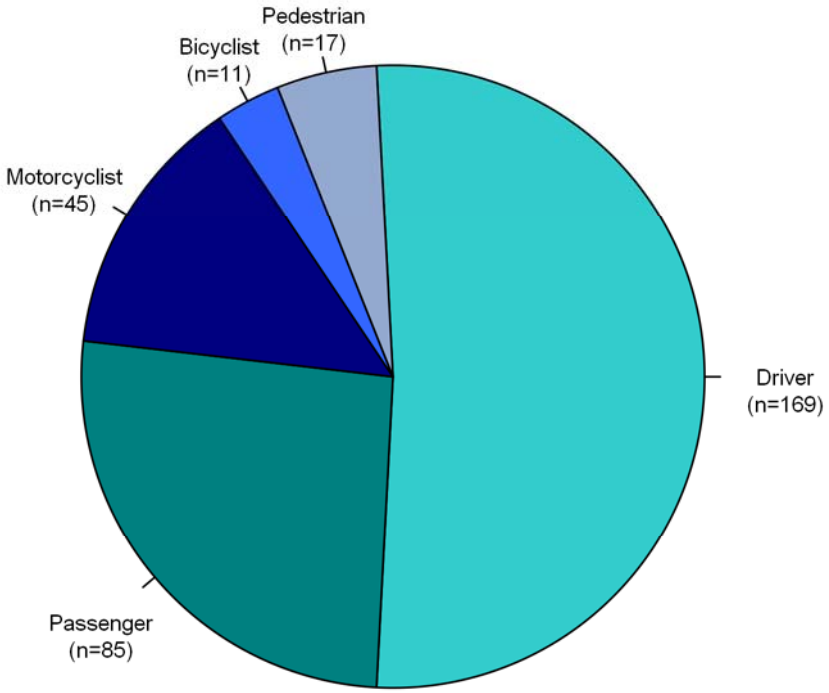



**Table 147 Crash Nature by Crash Severity - South West**

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Crash Nature** | **n** | **n** | **n** |
| **Multi-Vehicle Crashes** | | | |
| Rear End | 0 | 20 | **20** |
| Head On | 0 | 9 | **9** |
| Sideswipe Same Dir. | 3 | 9 | **12** |
| Right Angle | 1 | 41 | **42** |
| Right Turn Through | 2 | 11 | **13** |
| Other/Unknown Multi | 1 | 7 | **8** |
| **Total Multi Vehicle** | **7** | **97** | **104** |
| **Single-Vehicle Crashes** | | | |
| Hit Pedestrian | 1 | 12 | **13** |
| Hit Animal | 0 | 1 | **1** |
| Hit Object | 10 | 90 | **100** |
| Non Collision | 5 | 29 | **34** |
| Other/Unknown Single | 0 | 3 | **3** |
| **Total Single Vehicle** | **16** | **135** | **151** |
| **Total Crashes** | **23** | **232** | **255** |

## Table 148 High Priority Crash Type by Crash Severity - South West

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Crash Type** | **n** | **n** | **n** |
| Intersection | 6 | 79 | **85** |
| Run Off Road | 14 | 116 | **130** |
| Head On | 0 | 9 | **9** |
| Other | 4 | 39 | **43** |
| **Total Crashes** | **23** | **232** | **255** |

Note: High Priority Crash Types are not mutually exclusive and, therefore, some crashes may be counted more than once and may sum to greater than the total number of crashes.

## 6.9 Wheatbelt North

There were 23 fatal crashes in the Wheatbelt North region during 2012, in which 25 people were killed. Of persons killed or seriously injured where gender was known, 62% were males. While only 8% of the Wheatbelt North population were aged 17 to 24 years, 23% of persons killed or seriously injured were in this age group, which also had the highest age-specific rate for persons killed or seriously injured (Table 149). Drivers accounted for 60% of persons killed or seriously injured, followed by passengers (32%) and motorcyclists (6%) (Figure 33). There were no bicyclists killed or seriously injured in the Wheatbelt North in 2012. The Wheatbelt North had the second highest overall serious crash rate (201.0 per 100,000 population) and the second highest age and gender standardised KSI rate (263.0 per 100,000 population) (Map 3 and Map 9).

The Wheatbelt North had the second highest percentage of police attended serious crashes that were speed related (18%) (Table 115) and the highest speed related serious crash rate (33.2 per 100,000 population) (Map 6). Four of the 23 fatal crashes were speed related (Table 150). The Wheatbelt North had the second highest percentage (13%) of serious crashes that were alcohol related (Table 116) and the highest alcohol related serious crash rate (23.4 per 100,000 population) (Map 7). Five of the 22 fatal crashes in the Wheatbelt North region were alcohol related, of which four fatal crashes involved driver/riders with alcohol readings of greater than 0.15 g/100mL (Table 151). The Wheatbelt North had the second lowest percentage (8%) of motor vehicle occupants killed or seriously injured who were not wearing a seat belt (Table 117) out of all non Metropolitan regions. The rate of motor vehicle occupants killed or seriously injured who were not wearing a seat belt was 19.5 per 100,000 population (Map 8).

Almost three quarters (74%) of serious crashes in the Wheatbelt North region were single vehicle crashes (Table 152). The Wheatbelt North region had the highest multi-vehicle serious crash rate of all the regions (52.7 per 100,000 population) (Map 4). There were no ‘Hit Animal’ serious crashes in the Wheatbelt North in 2012 (Table 152). Of the serious crashes in the Wheatbelt North, almost two thirds (66%) were ‘Run Off Road’ (Table 153), half (50%) were ‘Hit Object’ and 21% were ‘Non Collision’ (Table 152).

**Figure 32 Fatal Crashes and Fatalities by Year - Wheatbelt North**

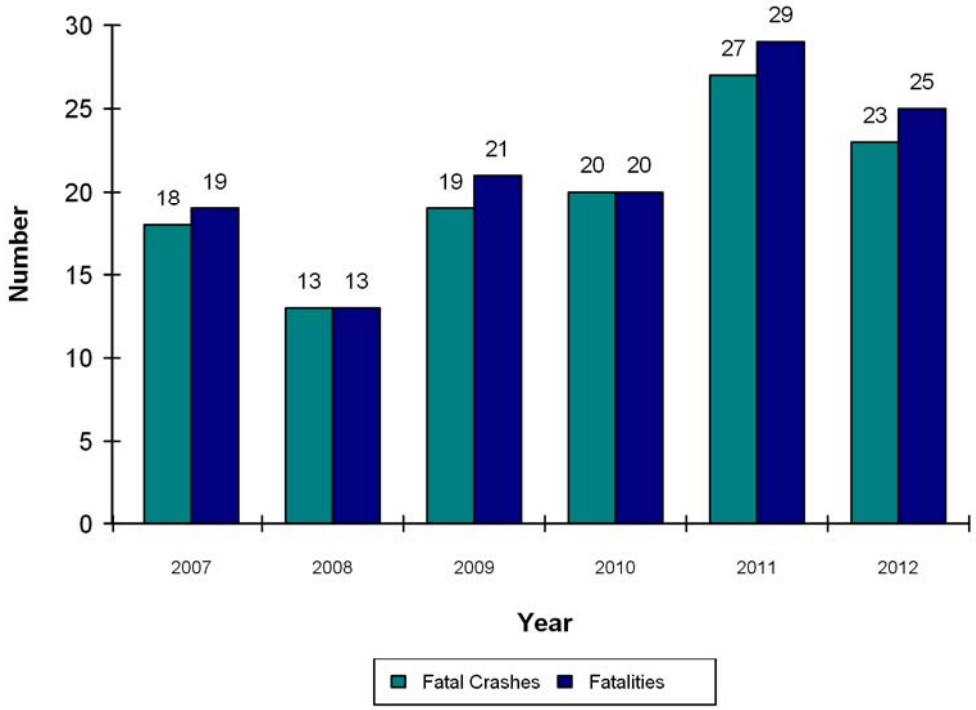



**Table 149 Persons Killed or Seriously Injured by Age Group and Gender - Wheatbelt North**

| | Gender | | | Percentage of Persons Killed or Seriously Injured | Percentage of Population | Age-Specific Rate[2] |
|---|---|---|---|---|---|---|
| | Male | Female | Total[1] | | | |
| **Age Group** | **n** | **n** | **n** | **%** | **%** | **Rate** |
| 0 - 16 | 5 | 0 | **14** | 9.7 | 22.7 | 119.3 |
| 17 - 24 | 22 | 8 | **33** | 22.8 | 8.1 | 784.2 |
| 25 - 59 | 37 | 33 | **78** | 53.8 | 47.3 | 318.7 |
| 60 and over | 9 | 4 | **16** | 11.0 | 21.8 | 141.9 |
| Unknown Age | 2 | 1 | **4** | 2.8 | N/A | N/A |
| **Total Persons KSI** | **75** | **46** | **145** | **100.0** | **100.0** | **280.5** |

Source: Population data from Australian Bureau of Statistics, Customised report, 2013.

1. Includes persons of unknown gender.
2. Age-specific KSI rates per 100,000 population.

**Figure 33 Persons Killed or Seriously Injured by Road User Type - Wheatbelt North**

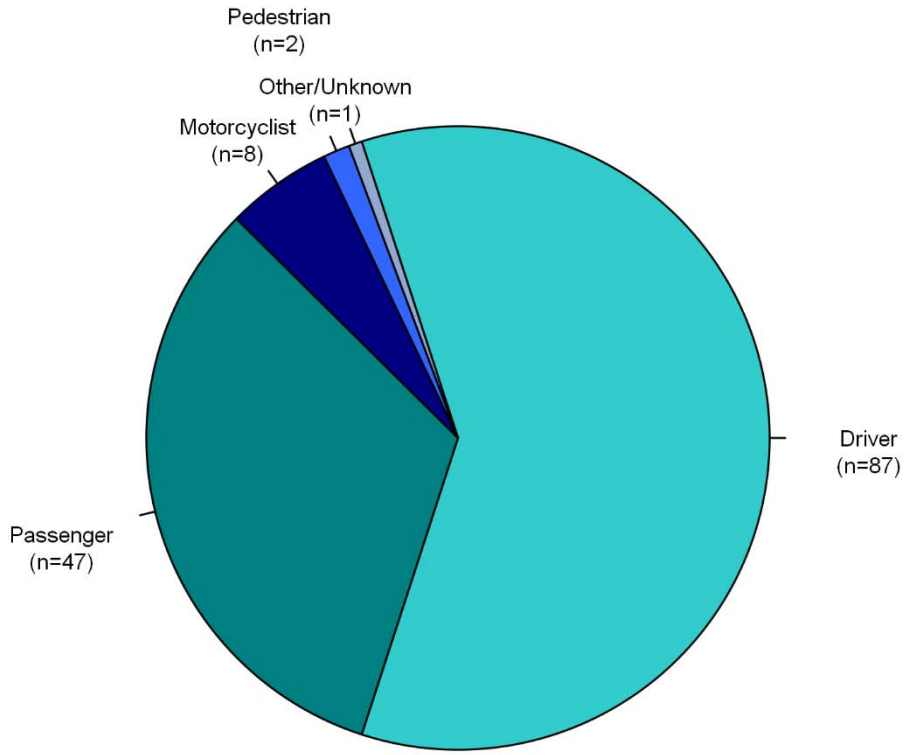



**Table 150 Speed a Factor by Crash Severity, Police-Attended Crashes - Wheatbelt North**

| Speed a Factor in Police-Attended Crashes | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| | n | n | n |
| Yes | 4 | 13 | **17** |
| No | 3 | 25 | **28** |
| Unknown | 16 | 31 | **47** |
| **Total Police-Attended Crashes** | **23** | **69** | **92** |

## Table 151 Highest Driver/Rider BAC in Crash by Crash Severity, Police-Attended Crashes - Wheatbelt North

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Highest Driver/Rider BAC in Crash (g/100mL)** | **n** | **n** | **n** |
| Nil | 11 | 32 | **43** |
| < 0.05 | 3 | 2 | **5** |
| 0.05 to < 0.08 | 0 | 0 | **0** |
| 0.08 to < 0.15 | 1 | 5 | **6** |
| ≥ 0.15 | 4 | 2 | **6** |
| **Subtotal ≥ 0.05** | **5** | **7** | **12** |
| Unknown | 3 | 27 | **30** |
| **Total Crashes**[1] | **22** | **68** | **90** |

1. Excludes persons killed or seriously injured in police-attended crashes that did not involve any drivers/riders (n=2).

## Table 152 Crash Nature by Crash Severity - Wheatbelt North

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Crash Nature** | **n** | **n** | **n** |
| **Multi-Vehicle Crashes** | | | |
| Rear End | 0 | 3 | **3** |
| Head On | 5 | 2 | **7** |
| Sideswipe Same Dir. | 0 | 3 | **3** |
| Right Angle | 3 | 6 | **9** |
| Right Turn Through | 0 | 0 | **0** |
| Other/Unknown Multi | 1 | 4 | **5** |
| **Total Multi Vehicle** | **9** | **18** | **27** |
| **Single-Vehicle Crashes** | | | |
| Hit Pedestrian | 2 | 0 | **2** |
| Hit Animal | 0 | 0 | **0** |
| Hit Object | 9 | 42 | **51** |
| Non Collision | 3 | 19 | **22** |
| Other/Unknown Single | 0 | 1 | **1** |
| **Total Single Vehicle** | **14** | **62** | **76** |
| **Total Crashes** | **23** | **80** | **103** |

## Table 153 High Priority Crash Type by Crash Severity - Wheatbelt North

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Crash Type** | **n** | **n** | **n** |
| Intersection | 3 | 10 | **13** |
| Run Off Road | 12 | 56 | **68** |
| Head On | 5 | 2 | **7** |
| Other | 3 | 13 | **16** |
| **Total Crashes** | **23** | **80** | **103** |

Note: High Priority Crash Types are not mutually exclusive and, therefore, some crashes may be counted more than once and may sum to greater than the total number of crashes.

## 6.10 Wheatbelt South

There were 5 fatal crashes in the Wheatbelt South region during 2012, in which 5 people died. These numbers were lower than in 2010 and 2011 (Figure 34). Of persons killed or seriously injured where gender was known, 57% were males. Despite persons aged 17 to 24 only making up 7% of the Wheatbelt South population, 34% of persons killed or seriously injured fell in this age bracket, and this age group had the highest age specific rate for persons killed or seriously injured in all regions (Table 154). Almost two thirds (66%) of persons killed or seriously injured were drivers, 28% were passengers and 4% were motorcyclists (Figure 35). There were no bicyclists killed or seriously injured in the Wheatbelt South in 2012. The Wheatbelt South had the highest overall serious crash rate (248.2 per 100,000 population) and the highest age and gender standardised KSI rate (328.7 per 100,000 population) (Map 3 and Map 9).

The Wheatbelt South had the lowest percentage of police attended serious crashes that were speed related (6%) (Table 115). The speed related serious crash rate for the Wheatbelt South region was 13.1 per 100,000 population (Map 6) In the Wheatbelt South, 10% of serious crashes were alcohol related (Table 116). The Wheatbelt South had the second highest alcohol related serious crash rate (21.8 per 100,000 population) (Map 7). Ten per cent of persons killed or seriously injured in the Wheatbelt South region were not wearing a seat belt (Table 117). The rate of motor vehicle occupants killed or seriously injured who were not wearing a seat belt was 26.1 per 100,000 population (Map 8).

Over four fifths (84%) of serious crashes in the Wheatbelt South region were single vehicle crashes (Table 155), this is the highest percentage of all regions. The Wheatbelt South region had the highest single vehicle serious crash rate (209.0 per 100,000 population) (Map 5). The Wheatbelt South had the highest percentage of 'Hit Object' crashes (63%) and the highest percentage of 'Run Off Road' crashes of all regions (81%) (Table 118). There were no 'Head On' serious crashes in the Wheatbelt South in 2012 (Table 156). All of the five fatal crashes in the Wheatbelt South were single-vehicle crashes (Table 155).

**Figure 34 Fatal Crashes and Fatalities by Year - Wheatbelt South**

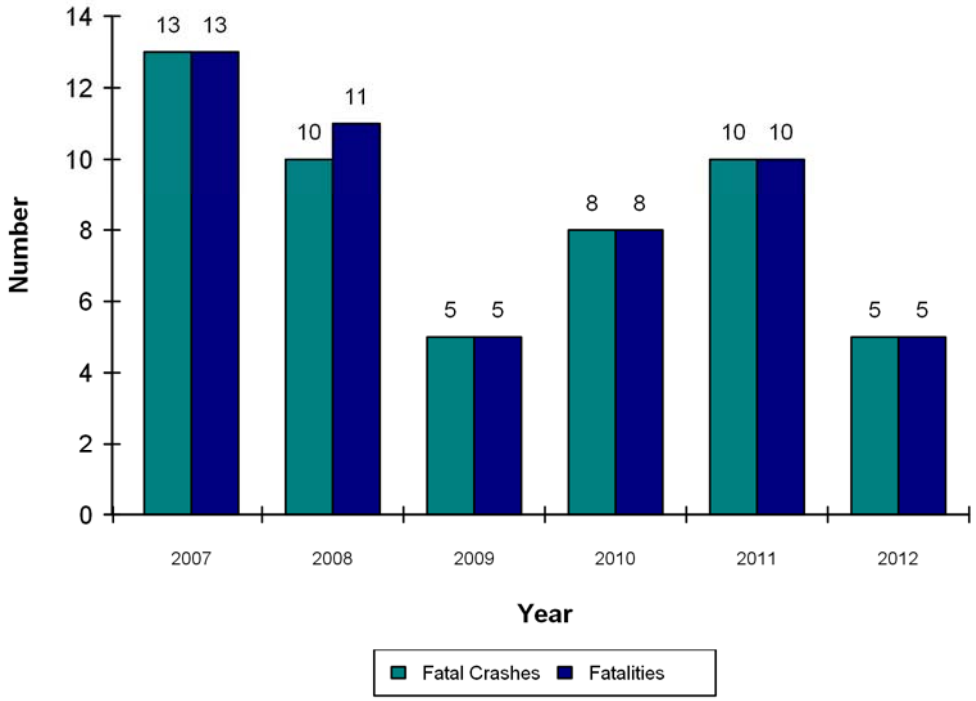



**Table 154 Persons Killed or Seriously Injured by Age Group and Gender - Wheatbelt South**

| | Gender | | | Percentage of Persons Killed or Seriously Injured | Percentage of Population | Age-Specific Rate[2] |
|---|---|---|---|---|---|---|
| | Male | Female | Total[1] | | | |
| **Age Group** | **n** | **n** | **n** | **%** | **%** | **Rate** |
| 0 - 16 | 1 | 2 | **4** | 6.0 | 23.5 | 71.5 |
| 17 - 24 | 11 | 11 | **23** | 34.3 | 7.0 | 1,383.9 |
| 25 - 59 | 17 | 9 | **29** | 43.3 | 47.4 | 256.5 |
| 60 and over | 5 | 4 | **9** | 13.4 | 22.1 | 170.6 |
| Unknown Age | 1 | 0 | **2** | 3.0 | N/A | N/A |
| **Total Persons KSI** | **35** | **26** | **67** | **100.0** | **100.0** | **281.0** |

Source: Population data from Australian Bureau of Statistics, Customised report, 2013.

1. Includes persons of unknown gender.
2. Age-specific KSI rates per 100,000 population.

**Figure 35 Persons Killed or Seriously Injured by Road User Type - Wheatbelt South**

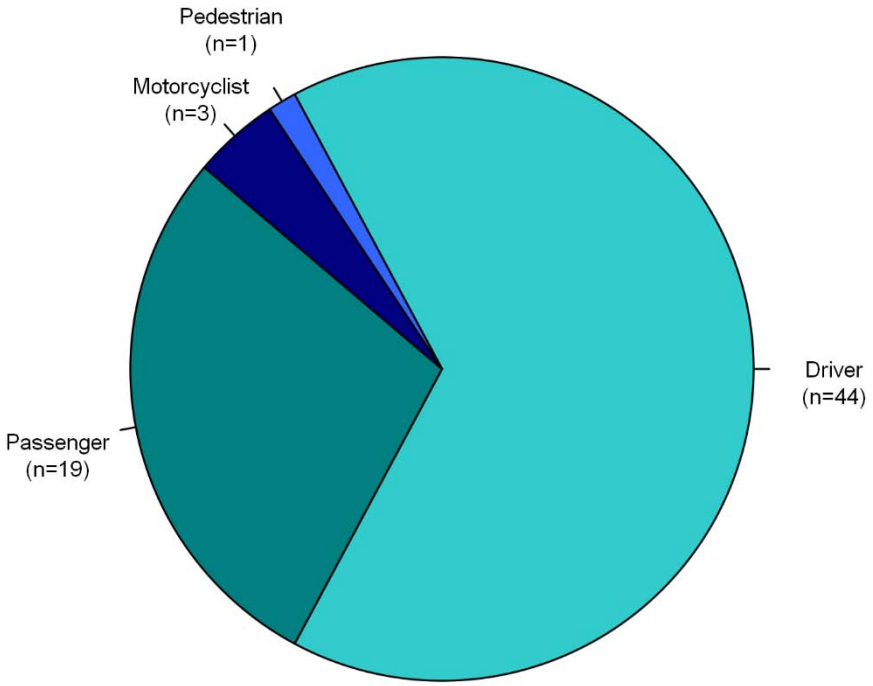



**Table 155 Crash Nature by Crash Severity - Wheatbelt South**

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Crash Nature** | **n** | **n** | **n** |
| **Multi-Vehicle Crashes** | | | |
| Rear End | 0 | 2 | **2** |
| Head On | 0 | 0 | **0** |
| Sideswipe Same Dir. | 0 | 4 | **4** |
| Right Angle | 0 | 2 | **2** |
| Right Turn Through | 0 | 0 | **0** |
| Other/Unknown Multi | 0 | 1 | **1** |
| **Total Multi Vehicle** | **0** | **9** | **9** |
| **Single-Vehicle Crashes** | | | |
| Hit Pedestrian | 1 | 0 | **1** |
| Hit Animal | 0 | 1 | **1** |
| Hit Object | 4 | 32 | **36** |
| Non Collision | 0 | 9 | **9** |
| Other/Unknown Single | 0 | 1 | **1** |
| **Total Single Vehicle** | **5** | **43** | **48** |
| **Total Crashes** | **5** | **52** | **57** |

## Table 156 High Priority Crash Type by Crash Severity - Wheatbelt South

| | Crash Severity | | |
|---|---|---|---|
| | Fatal | Hospitalisation | Total Serious |
| **Crash Type** | **n** | **n** | **n** |
| Intersection | 0 | 4 | **4** |
| Run Off Road | 4 | 42 | **46** |
| Head On | 0 | 0 | **0** |
| Other | 1 | 7 | **8** |
| **Total Crashes** | **5** | **52** | **57** |

Note: High Priority Crash Types are not mutually exclusive and, therefore, some crashes may be counted more than once and may sum to greater than the total number of crashes.

# 7. HOSPITAL INPATIENT DATA

This section presents information on road traffic casualties who were admitted to public and private hospitals in Western Australia during 2012. The data was extracted on the 18th of April 2013 by the WA Hospital Morbidity Data Collections, Data Integrity, Performance Activity & Quality Division of the Western Australian Department of Health. Hospital inpatient data is captured using the Hospital Morbidity Data System. This data offers an alternative data source to the police-reported data, and it should be noted that some definitions may vary.

The hospital inpatient data presented refers to the number of persons admitted to hospital and not the number of hospital admissions. Multiple admissions by patients often occur for the same injury event, resulting in a need to identify and exclude re-admissions in order to minimise over-counting. Those identified as new injury events are accepted as new admissions and thus, included. If more than 12 months have elapsed since the patient's previous relevant admission, any subsequent hospital admissions are considered to be a new injury event and thus included.

The hospital inpatient data includes only those records where the external cause of injury code indicates that the injuries are the result of a traffic crash (i.e. where the ICD-10-AM external cause of injury code is in the range V00.0 to V89.9 and is identified as a traffic crash). A traffic crash is defined by the National Centre for Classification in Health (NCCH) for ICD-10-AM as "any vehicle crash occurring on a public highway; where a public highway is specified as a traffic way or street which includes the entire width between property lines of land open to the public as a matter of right or custom for purposes of moving persons or property from one place to another".

The road user types referred to in the police-reported section of this report are defined differently to the road user groups identified by ICD-10-AM and, therefore, are not directly comparable. Hospital inpatient data may include the mode of transport but not whether the person injured was the driver or passenger. This is normally due to insufficient information being provided when the patient is admitted to hospital. In particular, the hospital inpatient data did not record for a relatively large number of motor vehicle occupants whether they were drivers or passengers. For police-reported data, nearly all road users who were identified as motor vehicle occupants were also further identified as either the driver or passenger.

The hospital inpatient data also differs from police-reported data, in that road users who die at the scene of a crash or en-route to hospital are not admitted to hospital and, therefore, are not included in this section of the report. Hence, the number of fatalities reported by hospitals is lower than the true number of people killed in road crashes each year. Additionally, only those casualties requiring admission to hospital are included in inpatient data. Patients presenting to Accident and Emergency departments, but not admitted to hospital, are not included in hospital inpatient data.

For some road user groups (motorcyclists, bicyclists and pedestrians), there are considerably more hospital admissions recorded than the corresponding number of police-reported hospitalisations. One explanation for this may be that these road user groups tend to under-report their crashes to police, but may still require treatment in hospital for their injuries. It is not known why this under-reporting to police exists, but it has been suggested that persons involved in these crashes may not be aware that they are required to report the crash to police, may not be able to report their crash, or may have chosen not to report the crash to police. In addition, some

casualties may have occurred off road, but been classified as on road due to incorrect or insufficient information being provided when the patient was admitted.

### Table 157 Hospital Inpatients by Injury Severity by Year

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011 |
| **Injury Severity** | **n** | **n** | **n** | **n** | **n** | **n** | **%** |
| Fatal[1] | 28 | 29 | 30 | 22 | 32 | 34 | 6.3 |
| Serious | 3,580 | 3,811 | 3,935 | 3,995 | 4,202 | 4,292 | 2.1 |
| **Total Hospital Inpatients** | **3,608** | **3,840** | **3,965** | **4,017** | **4,234** | **4,326** | **2.2** |

1. The number of fatalities excludes persons killed in road crashes who died before reaching a hospital.

### Table 158 Hospital Inpatients by Road User by Year

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2012 Change from 2011 |
| **Road User Group** | **n** | **n** | **n** | **n** | **n** | **n** | **%** |
| Motor Vehicle Driver | 1,011 | 1,069 | 1,056 | 1,138 | 1,337 | 1,292 | -3.4 |
| Motor Vehicle Passenger | 638 | 646 | 683 | 604 | 623 | 659 | 5.8 |
| Motor Vehicle Occupant Unknown | 308 | 320 | 317 | 264 | 273 | 278 | 1.8 |
| Motor Cyclist | 761 | 854 | 889 | 944 | 946 | 983 | 3.9 |
| Pedal Cyclist | 470 | 491 | 590 | 592 | 586 | 656 | 11.9 |
| Pedestrian | 258 | 277 | 317 | 333 | 337 | 325 | -3.6 |
| Other/Unknown | 162 | 183 | 113 | 142 | 132 | 133 | 0.8 |
| **Total Hospital Inpatients** | **3,608** | **3,840** | **3,965** | **4,017** | **4,234** | **4,326** | **2.2** |

### Table 159 Hospital Inpatients by Age Group and Gender

| | Gender | | | | | |
|---|---|---|---|---|---|---|
| | Male | | Female | | Total | |
| **Age** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| 0 - 11 | 82 | 5.6 | 140 | 4.9 | **222** | **5.1** |
| 12 - 16 | 79 | 5.4 | 196 | 6.8 | **275** | **6.4** |
| 17 - 20 | 141 | 9.7 | 289 | 10.1 | **430** | **9.9** |
| 21 - 24 | 133 | 9.1 | 329 | 11.5 | **462** | **10.7** |
| 25 - 29 | 158 | 10.8 | 351 | 12.3 | **509** | **11.8** |
| 30 - 39 | 237 | 16.2 | 503 | 17.6 | **740** | **17.1** |
| 40 - 49 | 162 | 11.1 | 421 | 14.7 | **583** | **13.5** |
| 50 - 59 | 173 | 11.8 | 300 | 10.5 | **473** | **10.9** |
| 60 and over | 296 | 20.3 | 336 | 11.7 | **632** | **14.6** |
| **Total Hospital Inpatients** | **1,461** | **100.0** | **2,865** | **100.0** | **4,326** | **100.0** |

## Table 160 Hospital Inpatients by Road User Group by Gender

| | Gender | | | | | |
|---|---|---|---|---|---|---|
| | Male | | Female | | Total | |
| **Road User Group** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Motor Vehicle Driver | 533 | 36.5 | 759 | 26.5 | **1,292** | **29.9** |
| Motor Vehicle Passenger | 358 | 24.5 | 301 | 10.5 | **659** | **15.2** |
| Motor Vehicle Occupant Unknown | 143 | 9.8 | 135 | 4.7 | **278** | **6.4** |
| Motorcyclist | 120 | 8.2 | 863 | 30.1 | **983** | **22.7** |
| Bicyclist | 144 | 9.9 | 512 | 17.9 | **656** | **15.2** |
| Pedestrian | 114 | 7.8 | 211 | 7.4 | **325** | **7.5** |
| Other/Unknown | 49 | 3.4 | 84 | 2.9 | **133** | **3.1** |
| **Total Hospital Inpatients** | **1,461** | **100.0** | **2,865** | **100.0** | **4,326** | **100.0** |

## Table 161 Hospital Inpatients by Road User Group by Age Group

| | Road User Group | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Motor Vehicle Driver | | Motor Vehicle Passenger | | Motor Vehicle Occupant Unk | | Motorcyclist | | Bicyclist | | Pedestrian | | Other/ Unknown | | Total | |
| **Age** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| 0 – 16[1] | 13 | 1.0 | 136 | 20.6 | 18 | 6.5 | 95 | 9.7 | 156 | 23.8 | 67 | 20.6 | 12 | 9.0 | **497** | **11.5** |
| 17 - 20 | 136 | 10.5 | 91 | 13.8 | 15 | 5.4 | 113 | 11.5 | 31 | 4.7 | 27 | 8.3 | 17 | 12.8 | **430** | **9.9** |
| 21 - 24 | 173 | 13.4 | 60 | 9.1 | 29 | 10.4 | 124 | 12.6 | 39 | 5.9 | 22 | 6.8 | 15 | 11.3 | **462** | **10.7** |
| 25 - 29 | 165 | 12.8 | 87 | 13.2 | 27 | 9.7 | 135 | 13.7 | 46 | 7.0 | 32 | 9.8 | 17 | 12.8 | **509** | **11.8** |
| 30 - 39 | 237 | 18.3 | 93 | 14.1 | 40 | 14.4 | 198 | 20.1 | 105 | 16.0 | 47 | 14.5 | 20 | 15.0 | **740** | **17.1** |
| 40 - 49 | 188 | 14.6 | 46 | 7.0 | 32 | 11.5 | 156 | 15.9 | 115 | 17.5 | 27 | 8.3 | 19 | 14.3 | **583** | **13.5** |
| 50 - 59 | 143 | 11.1 | 48 | 7.3 | 30 | 10.8 | 104 | 10.6 | 88 | 13.4 | 43 | 13.2 | 17 | 12.8 | **473** | **10.9** |
| 60 and over | 237 | 18.3 | 98 | 14.9 | 87 | 31.3 | 58 | 5.9 | 76 | 11.6 | 60 | 18.5 | 16 | 12.0 | **632** | **14.6** |
| **Total Hospital Inpatients** | **1,292** | **100.0** | **659** | **100.0** | **278** | **100.0** | **983** | **100.0** | **656** | **100.0** | **325** | **100.0** | **133** | **100.0** | **4,326** | **100.0** |

[1] The 0 – 11 and 12 – 16 year old age groups have been combined in this table due to confidentially reasons.

## Table 162 Hospital Inpatients by Indigenous Status by Year

| | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** | **2012 Change from 2011** |
| **Indigenous Status** | **n** | **n** | **n** | **n** | **n** | **n** | **%** |
| Non-indigenous | 3,311 | 3,565 | 3,657 | 3,745 | 3,957 | 4,031 | 1.9 |
| Indigenous | 297 | 275 | 308 | 272 | 277 | 295 | 6.5 |
| **Total Hospital Inpatients** | **3,608** | **3,840** | **3,965** | **4,017** | **4,234** | **4,326** | **2.2** |

## Table 163 Hospital Inpatients by Indigenous Status by Gender

| | Indigenous Status | | | | | |
|---|---|---|---|---|---|---|
| | Non-Indigenous | | Indigenous | | Total | |
| **Gender** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Male | 2,668 | 66.2 | 197 | 66.8 | 2,865 | 66.2 |
| Female | 1,363 | 33.8 | 98 | 33.2 | 1,461 | 33.8 |
| **Total Hospital Inpatients** | **4,031** | **100.0** | **295** | **100.0** | **4,326** | **100.0** |

**Figure 36 Hospital Inpatients by Indigenous Status by Age Group**

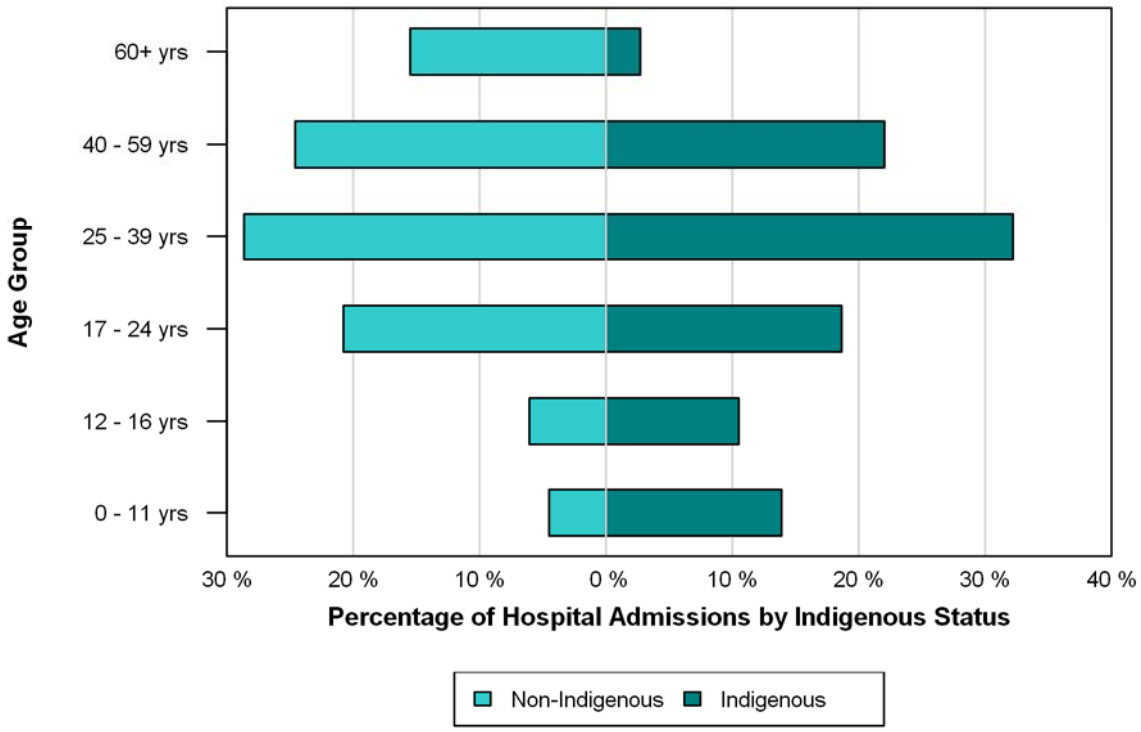



**Table 164 Hospital Inpatients by Indigenous Status by Age Group**

| | Indigenous Status | | | | | |
|---|---|---|---|---|---|---|
| | Non-Indigenous | | Indigenous | | Total | |
| **Age Group** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| 0 - 11 | 181 | 4.5 | 41 | 13.9 | **222** | **5.1** |
| 12 - 16 | 244 | 6.1 | 31 | 10.5 | **275** | **6.4** |
| 17 - 20 | 400 | 9.9 | 30 | 10.2 | **430** | **9.9** |
| 21 - 24 | 437 | 10.8 | 25 | 8.5 | **462** | **10.7** |
| 25 - 29 | 460 | 11.4 | 49 | 16.6 | **509** | **11.8** |
| 30 - 39 | 694 | 17.2 | 46 | 15.6 | **740** | **17.1** |
| 40 - 49 | 547 | 13.6 | 36 | 12.2 | **583** | **13.5** |
| 50 - 59 | 444 | 11.0 | 29 | 9.8 | **473** | **10.9** |
| 60 and over | 624 | 15.5 | 8 | 2.7 | **632** | **14.6** |
| **Total Hospital Inpatients** | **4,031** | **100.0** | **295** | **100.0** | 4,326 | 100.0 |

**Figure 37 Hospital Inpatients by Indigenous Status by Road User Group**

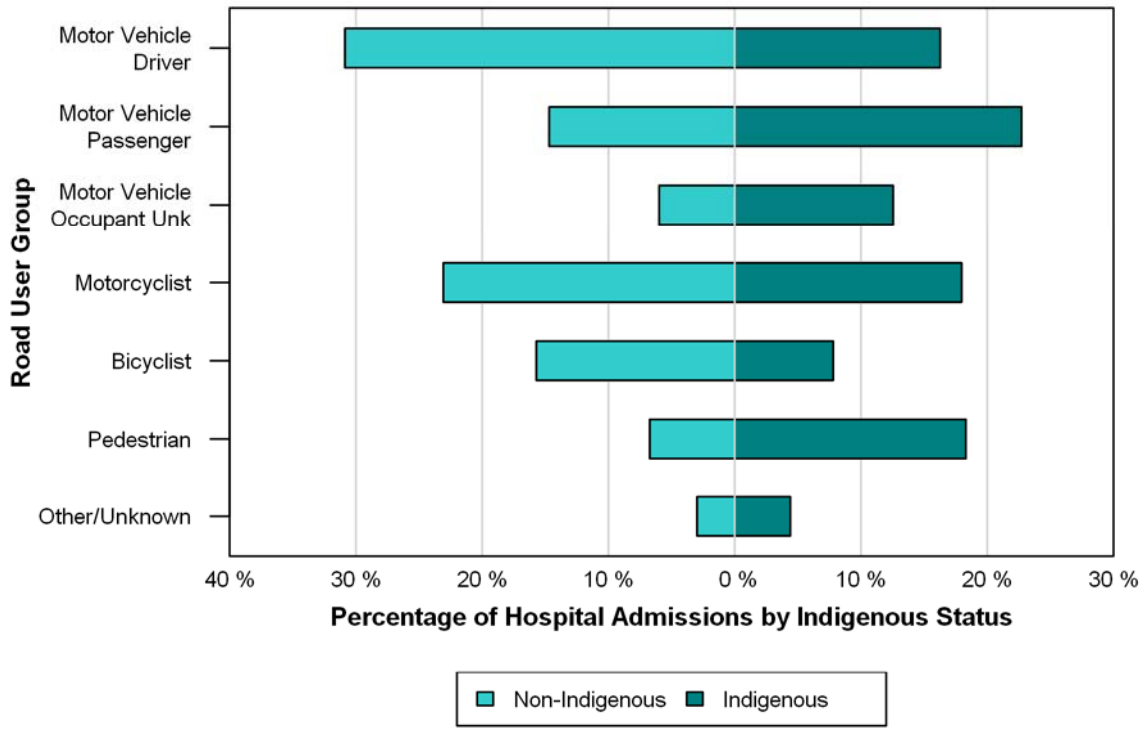



**Table 165 Hospital Inpatients by Indigenous Status by Road User Group**

| | Indigenous Status | | | | | |
|---|---|---|---|---|---|---|
| | Non-Indigenous | | Indigenous | | Total | |
| **Road User Group** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| Motor Vehicle Driver | 1,244 | 30.9 | 48 | 16.3 | **1,292** | **29.9** |
| Motor Vehicle Passenger | 592 | 14.7 | 67 | 22.7 | **659** | **15.2** |
| Motor Vehicle Occupant Unknown | 241 | 6.0 | 37 | 12.5 | **278** | **6.4** |
| Motorcyclist | 930 | 23.1 | 53 | 18.0 | **983** | **22.7** |
| Bicyclist | 633 | 15.7 | 23 | 7.8 | **656** | **15.2** |
| Pedestrian | 271 | 6.7 | 54 | 18.3 | **325** | **7.5** |
| Other/Unknown | 120 | 3.0 | 13 | 4.4 | **133** | **3.1** |
| **Total Hospital Inpatients** | **4,031** | **100.0** | **295** | **100.0** | **4,326** | **100.0** |

# Appendix A Trends Over Time

## Appendix A (i) Western Australia Road Crash Trends 1961 to 2012

| | Counts and Rates | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Deaths | | | | Persons Killed or Seriously Injured | | | |
| Year | Fatal Crashes | Fatalities | per Vehicle[1] | per Population[2] | per Km[3] | Persons KSI | per Vehicle[1] | per Population[2] | per Km[3] |
| 1961 | N/A | 172 | N/A | 22.78 | N/A | N/A | N/A | N/A | N/A |
| 1962 | | 177 | | 22.77 | | | | | |
| 1963 | | 198 | | 24.78 | | | | | |
| 1964 | | 222 | | 27.14 | | | | | |
| 1965 | | 252 | | 30.06 | | | | | |
| 1966 | | 253 | 7.97 | 29.28 | | | | | |
| 1967 | | 256 | 7.54 | 28.54 | | | | | |
| 1968 | | 320 | 8.74 | 34.12 | | | | | |
| 1969 | | 311 | 7.81 | 31.84 | | | | | |
| 1970 | | 351 | 8.29 | 35.40 | | | | | |
| 1971 | | 332 | 7.33 | 32.22 | | | | | |
| 1972 | 305 | 340 | 7.13 | 32.28 | | | | | |
| 1973 | 332 | 358 | 7.06 | 33.50 | | | | | |
| 1974 | 303 | 334 | 6.21 | 29.89 | | | | | |
| 1975 | 259 | 304 | 5.17 | 26.51 | | | | | |
| 1976 | 255 | 308 | 4.88 | 26.14 | 3.21 | | | | |
| 1977 | 259 | 290 | 4.29 | 24.23 | 2.84 | | | | |
| 1978 | 304 | 345 | 4.96 | 28.10 | 3.19 | | | | |
| 1979 | 259 | 279 | 3.88 | 22.38 | 2.44 | | | | |
| 1980 | 268 | 293 | 3.93 | 23.16 | 2.50 | 3,337 | 44.79 | 263.77 | 28.46 |
| 1981 | 217 | 238 | 3.08 | 18.31 | 1.98 | 2,989 | 38.66 | 229.91 | 24.85 |
| 1982 | 203 | 236 | 2.93 | 17.63 | 1.91 | 3,048 | 37.82 | 227.65 | 24.71 |
| 1983 | 191 | 203 | 2.51 | 14.83 | 1.57 | 2,665 | 32.93 | 194.66 | 20.64 |
| 1984 | 203 | 220 | 2.65 | 15.81 | 1.63 | 2,882 | 34.72 | 207.15 | 21.37 |
| 1985 | 220 | 243 | 2.81 | 17.13 | 1.73 | 3,139 | 36.23 | 221.28 | 22.33 |
| 1986 | 208 | 228 | 2.57 | 15.63 | 1.57 | 2,982 | 33.61 | 204.38 | 20.56 |
| 1987 | 193 | 213 | 2.35 | 14.24 | 1.42 | 2,832 | 31.26 | 189.27 | 18.94 |
| 1988 | 199 | 230 | 2.46 | 14.98 | 1.49 | 2,847 | 30.42 | 185.45 | 18.49 |
| 1989 | 214 | 242 | 2.45 | 15.33 | 1.55 | 3,225 | 32.70 | 204.32 | 20.64 |
| 1990 | 181 | 196 | 1.89 | 12.15 | 1.24 | 2,824 | 27.22 | 175.07 | 17.82 |
| 1991 | 185 | 207 | 1.95 | 12.65 | 1.29 | 2,766 | 26.05 | 169.06 | 17.21 |
| 1992 | 171 | 200 | 1.85 | 12.06 | 1.21 | 2,738 | 25.31 | 165.13 | 16.61 |
| 1993 | 190 | 209 | 1.88 | 12.46 | 1.24 | 2,777 | 24.99 | 165.53 | 16.42 |
| 1994 | 195 | 211 | 1.85 | 12.39 | 1.22 | 2,721 | 23.82 | 159.78 | 15.68 |
| 1995 | 194 | 209 | 1.76 | 12.05 | 1.18 | 2,898 | 24.42 | 167.15 | 16.34 |
| 1996 | 220 | 247 | 2.04 | 13.99 | 1.41 | 2,839 | 23.44 | 160.83 | 16.19 |
| 1997 | 183 | 196 | 1.53 | 10.92 | 1.13 | 3,094 | 24.08 | 172.37 | 17.86 |
| 1998 | 199 | 223 | 1.64 | 12.23 | 1.25 | 3,181 | 23.40 | 174.52 | 17.80 |
| 1999 | 189 | 218 | 1.62 | 11.79 | 1.23 | 2,740 | 20.37 | 148.13 | 15.48 |
| 2000 | 184 | 212 | 1.56 | 11.31 | 1.07 | 2,349 | 17.30 | 125.32 | 11.82 |
| 2001 | 151 | 165 | 1.20 | 8.68 | 0.89 | 2,098 | 15.30 | 110.35 | 11.27 |
| 2002 | 159 | 178 | 1.27 | 9.24 | 0.93 | 3,056 | 21.74 | 158.66 | 15.95 |
| 2003 | 154 | 179 | 1.24 | 9.17 | 0.86 | 3,053 | 21.22 | 156.32 | 14.67 |
| 2004 | 163 | 179 | 1.21 | 9.03 | 0.84 | 3,360 | 22.70 | 169.47 | 15.76 |
| 2005 | 151 | 164 | 1.07 | 8.13 | 0.76 | 3,239 | 21.18 | 160.58 | 14.96 |
| 2006 | 182 | 201 | 1.26 | 9.76 | 0.89 | 2,965 | 18.52 | 143.98 | 13.11 |
| 2007 | 213 | 235 | 1.40 | 11.16 | 0.97 | 3,019 | 18.01 | 143.34 | 12.43 |
| 2008 | 185 | 205 | 1.17 | 9.44 | 0.81 | 3,095 | 17.72 | 142.52 | 12.22 |
| 2009 | 176 | 191 | 1.04 | 8.53 | 0.74 | 2,759 | 15.09 | 123.16 | 10.65 |
| 2010 | 174 | 191 | 1.02 | 8.34 | 0.73 | 2,722 | 14.56 | 118.82 | 10.36 |
| 2011 | 163 | 175 | 0.91 | 7.44 | 0.65 | 2,644 | 13.82 | 112.35 | 9.89 |
| **2012** | **169** | **181** | **0.92** | **7.43** | **0.66** | **2,615** | **13.22** | **107.40** | **9.51** |

N/A - denotes information not available.

1. Rate is per 10,000 motor vehicles registered (see Appendix A (ii)).
2. Rate is per 100,000 estimated resident population (see Appendix A (ii)).
3. Rate is per 100 million estimated kilometres travelled (see Appendix A (ii)).

## Appendix A (i) Western Australian Road Crash Trends, 1961 to 2012 *continued*

| | Counts and Rates | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Casualties | | | | Reported Crashes | | | |
| Year | Casualties[4] | per Vehicle[1] | per Population[2] | per Km[3] | Crashes | per Vehicle[1] | per Population[2] | per Km[3] |
| 1961 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 1962 | | | | | | | | |
| 1963 | | | | | | | | |
| 1964 | | | | | | | | |
| 1965 | | | | | | | | |
| 1966 | | | | | | | | |
| 1967 | | | | | | | | |
| 1968 | | | | | | | | |
| 1969 | | | | | | | | |
| 1970 | | | | | | | | |
| 1971 | | | | | | | | |
| 1972 | | | | | | | | |
| 1973 | | | | | | | | |
| 1974 | | | | | | | | |
| 1975 | | | | | | | | |
| 1976 | 5,799 | 92 | 492 | 60 | 29,754 | 471 | 2,525 | 310 |
| 1977 | 7,052 | 104 | 589 | 69 | 33,918 | 502 | 2,833 | 333 |
| 1978 | 8,482 | 122 | 691 | 78 | 37,163 | 534 | 3,027 | 344 |
| 1979 | 9,225 | 128 | 740 | 81 | 36,062 | 501 | 2,893 | 316 |
| 1980 | 8,682 | 117 | 686 | 74 | 33,668 | 452 | 2,661 | 287 |
| 1981 | 8,510 | 110 | 655 | 71 | 32,375 | 419 | 2,490 | 269 |
| 1982 | 8,616 | 107 | 644 | 70 | 32,544 | 404 | 2,431 | 264 |
| 1983 | 8,221 | 102 | 600 | 64 | 32,239 | 398 | 2,355 | 250 |
| 1984 | 8,919 | 107 | 641 | 66 | 34,550 | 416 | 2,483 | 256 |
| 1985 | 10,114 | 117 | 713 | 72 | 35,950 | 415 | 2,534 | 256 |
| 1986 | 10,540 | 119 | 722 | 73 | 38,368 | 432 | 2,630 | 264 |
| 1987 | 10,809 | 119 | 722 | 72 | 37,093 | 409 | 2,479 | 248 |
| 1988 | 12,117 | 129 | 789 | 79 | 39,966 | 427 | 2,603 | 260 |
| 1989 | 12,394 | 126 | 785 | 79 | 39,174 | 397 | 2,482 | 251 |
| 1990 | 11,593 | 112 | 719 | 73 | 35,206 | 339 | 2,183 | 222 |
| 1991 | 10,986 | 103 | 671 | 68 | 33,430 | 315 | 2,043 | 208 |
| 1992 | 10,750 | 99 | 648 | 65 | 32,387 | 299 | 1,953 | 196 |
| 1993 | 11,120 | 100 | 663 | 66 | 34,441 | 310 | 2,053 | 204 |
| 1994 | 11,210 | 98 | 658 | 65 | 35,516 | 311 | 2,085 | 205 |
| 1995 | 11,411 | 96 | 658 | 64 | 37,287 | 314 | 2,151 | 210 |
| 1996 | 11,628 | 96 | 659 | 66 | 37,386 | 309 | 2,118 | 213 |
| 1997 | 11,726 | 91 | 653 | 68 | 36,556 | 285 | 2,037 | 211 |
| 1998 | 12,232 | 90 | 671 | 68 | 39,104 | 288 | 2,145 | 219 |
| 1999 | 12,671 | 94 | 685 | 72 | 39,549 | 294 | 2,138 | 223 |
| 2000 | 12,211 | 90 | 651 | 61 | 38,117 | 281 | 2,033 | 192 |
| 2001 | 11,885 | 87 | 625 | 64 | 37,526 | 274 | 1,974 | 202 |
| 2002 | 10,709 | 76 | 556 | 56 | 36,366 | 259 | 1,888 | 190 |
| 2003 | 10,276 | 71 | 526 | 49 | 36,010 | 250 | 1,844 | 173 |
| 2004 | 10,503 | 71 | 530 | 49 | 37,826 | 256 | 1,908 | 177 |
| 2005 | 10,259 | 67 | 509 | 47 | 38,905 | 254 | 1,929 | 180 |
| 2006 | 10,457 | 65 | 508 | 46 | 39,534 | 247 | 1,920 | 175 |
| 2007 | 10,454 | 62 | 496 | 43 | 41,630 | 248 | 1,977 | 171 |
| 2008 | 10,214 | 58 | 470 | 40 | 39,297 | 225 | 1,810 | 155 |
| 2009 | 9,672 | 53 | 432 | 37 | 37,226 | 204 | 1,662 | 144 |
| 2010 | 10,469 | 56 | 457 | 40 | 39,615 | 212 | 1,729 | 151 |
| 2011 | 10,544 | 55 | 448 | 39 | 39,457 | 206 | 1,677 | 148 |
| **2012** | **9,181** | **46** | **377** | **33** | **39,008** | **197** | **1,602** | **142** |

N/A - denotes information not available.

1. Rate is per 10,000 motor vehicles registered (see Appendix A (ii)).
2. Rate is per 100,000 estimated resident population (see Appendix A (ii)).
3. Rate is per 100 million estimated kilometres travelled (see Appendix A (ii)).
4. Casualties include persons killed, persons admitted to hospital, persons requiring medical attention only, and exclude persons injured not requiring medical attention.

## Appendix A (ii) Western Australian Demographics, 1961- 2012

| | Demographics | | | |
|---|---|---|---|---|
| Year | Vehicles[1] | Population[2] | Travel[3] | MDLs[4] |
| 1961 | N/A | 755,213 | N/A | N/A |
| 1962 | | 777,248 | | |
| 1963 | | 798,895 | | |
| 1964 | | 818,121 | | |
| 1965 | | 838,248 | | |
| 1966 | 317,400 | 864,093 | | |
| 1967 | 339,400 | 896,988 | | |
| 1968 | 366,100 | 937,800 | | |
| 1969 | 398,100 | 976,620 | | |
| 1970 | 423,200 | 991,400 | | |
| 1971 | 453,000 | 1,030,500 | | |
| 1972 | 476,900 | 1,053,200 | | |
| 1973 | 506,800 | 1,068,500 | | |
| 1974 | 537,900 | 1,117,400 | | 536,794 |
| 1975 | 587,800 | 1,146,700 | | 562,764 |
| 1976 | 631,500 | 1,178,340 | 9,586 | 561,264 |
| 1977 | 675,800 | 1,197,100 | *10,197 | 621,288 |
| 1978 | 695,500 | 1,227,900 | *10,809 | 654,949 |
| 1979 | 719,700 | 1,246,600 | 11,420 | 675,033 |
| 1980 | 745,000 | 1,265,100 | *11,725 | 700,398 |
| 1981 | 773,200 | 1,300,056 | *12,030 | 731,000 |
| 1982 | 806,000 | 1,338,899 | 12,336 | 757,000 |
| 1983 | 809,300 | 1,369,050 | *12,911 | 781,000 |
| 1984 | 830,000 | 1,391,237 | *13,485 | 800,000 |
| 1985 | 866,300 | 1,418,564 | 14,059 | 819,200 |
| 1986 | 887,357 | 1,459,019 | *14,506 | 846,135 |
| 1987 | 906,051 | 1,496,248 | *14,954 | 879,614 |
| 1988 | 935,761 | 1,535,167 | 15,401 | 918,290 |
| 1989 | 986,245 | 1,578,434 | *15,624 | 953,857 |
| 1990 | 1,037,655 | 1,613,049 | *15,847 | 997,719 |
| 1991 | 1,061,643 | 1,636,067 | 16,070 | 1,014,738 |
| 1992 | 1,081,710 | 1,658,045 | *16,487 | 1,066,548 |
| 1993 | 1,111,030 | 1,677,669 | *16,916 | 1,100,478 |
| 1994 | 1,142,381 | 1,703,009 | *17,356 | 1,106,096 |
| 1995 | 1,186,742 | 1,733,787 | 17,735 | 1,141,064 |
| 1996 | 1,210,991 | 1,765,256 | *17,531 | 1,154,165 |
| 1997 | 1,269,581 | 1,794,992 | *17,328 | 1,199,053 |
| 1998 | 1,327,203 | 1,822,668 | 17,873 | 1,260,196 |
| 1999 | 1,344,809 | 1,849,733 | 17,702 | 1,258,896 |
| 2000 | *1,358,075 | 1,874,459 | 19,875 | 1,273,234 |
| 2001 | 1,371,341 | 1,901,159 | 18,610 | 1,288,492 |
| 2002 | 1,405,676 | 1,926,111 | 19,160 | 1,270,966 |
| 2003 | 1,438,441 | 1,953,070 | 20,810 | 1,320,777 |
| 2004 | 1,480,206 | 1,982,637 | 21,324 | 1,341,116 |
| 2005 | 1,529,615 | 2,017,088 | 21,647 | 1,360,598 |
| 2006 | 1,600,566 | 2,059,381 | 22,616 | 1,389,332 |
| 2007 | 1,676,495 | 2,106,139 | 24,289 | 1,480,873 |
| 2008 | 1,746,579 | 2,171,700 | 25,325 | 1,716,446 |
| 2009 | 1,828,346 | 2,240,250 | 25,902 | 1,790,500 |
| 2010 | 1,870,068 | 2,290,845 | 26,285 | 1,677,489 |
| 2011 | 1,912,739 | 2,353,409 | 26,740 | 1,739,251 |
| **2012** | **1,977,756** | **2,434,738** | **27,500** | **1,794,329** |

N/A - Denotes information not available.

* Denotes estimated figure.

1. Motor vehicles registered. From 1997 onwards, data taken from ABS, Motor Vehicle Census, Catalogue No. 9309.0.
2. Estimated resident population. From 1983, population data taken from ABS, Catalogue No. 3101.0 for June.
3. Estimated kilometres travelled (million). Data taken from ABS, Survey of Motor Vehicle Use, Catalogue No. 9208.0. 2008, 2009 and 2011 estimates based on average kilometres travelled per vehicle (interpolated between 2007, 2010 and 2012 figures) and number of registered vehicles.
4. Western Australian Motor Driver Licences on record (Department of Transport).

# Appendix B Additional Crash and Injury Tables

## Appendix B (i) Crash Severity by Month - Metropolitan

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| Month | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| January | 6 | 7.5 | 103 | 7.6 | **109** | **7.6** | 2,119 | 6.7 | **2,228** | **6.8** |
| February | 7 | 8.8 | 91 | 6.7 | **98** | **6.8** | 2,661 | 8.4 | **2,759** | **8.4** |
| March | 11 | 13.8 | 100 | 7.4 | **111** | **7.7** | 2,897 | 9.2 | **3,008** | **9.1** |
| April | 8 | 10.0 | 118 | 8.7 | **126** | **8.8** | 2,526 | 8.0 | **2,652** | **8.0** |
| May | 6 | 7.5 | 142 | 10.5 | **148** | **10.3** | 2,918 | 9.3 | **3,066** | **9.3** |
| June | 6 | 7.5 | 111 | 8.2 | **117** | **8.2** | 2,888 | 9.2 | **3,005** | **9.1** |
| July | 6 | 7.5 | 120 | 8.9 | **126** | **8.8** | 2,671 | 8.5 | **2,797** | **8.5** |
| August | 4 | 5.0 | 111 | 8.2 | **115** | **8.0** | 2,837 | 9.0 | **2,952** | **9.0** |
| September | 4 | 5.0 | 107 | 7.9 | **111** | **7.7** | 2,589 | 8.2 | **2,700** | **8.2** |
| October | 5 | 6.3 | 118 | 8.7 | **123** | **8.6** | 2,546 | 8.1 | **2,669** | **8.1** |
| November | 9 | 11.3 | 114 | 8.4 | **123** | **8.6** | 2,577 | 8.2 | **2,700** | **8.2** |
| December | 8 | 10.0 | 120 | 8.9 | **128** | **8.9** | 2,315 | 7.3 | **2,443** | **7.4** |
| **Total Crashes** | **80** | **100.0** | **1,355** | **100.0** | **1,435** | **100.0** | **31,544** | **100.0** | **32,979** | **100.0** |

## Appendix B (ii) Crash Severity by Month - Regional

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| Month | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| January | 2 | 3.8 | 20 | 5.5 | **22** | **5.3** | 296 | 8.0 | **318** | **7.7** |
| February | 8 | 15.4 | 29 | 7.9 | **37** | **8.9** | 340 | 9.1 | **377** | **9.1** |
| March | 4 | 7.7 | 33 | 9.0 | **37** | **8.9** | 374 | 10.1 | **411** | **9.9** |
| April | 2 | 3.8 | 32 | 8.7 | **34** | **8.1** | 326 | 8.8 | **360** | **8.7** |
| May | 7 | 13.5 | 37 | 10.1 | **44** | **10.5** | 308 | 8.3 | **352** | **8.5** |
| June | 5 | 9.6 | 26 | 7.1 | **31** | **7.4** | 317 | 8.5 | **348** | **8.4** |
| July | 5 | 9.6 | 45 | 12.3 | **50** | **12.0** | 259 | 7.0 | **309** | **7.5** |
| August | 2 | 3.8 | 33 | 9.0 | **35** | **8.4** | 292 | 7.9 | **327** | **7.9** |
| September | 5 | 9.6 | 36 | 9.8 | **41** | **9.8** | 314 | 8.4 | **355** | **8.6** |
| October | 4 | 7.7 | 23 | 6.3 | **27** | **6.5** | 312 | 8.4 | **339** | **8.2** |
| November | 4 | 7.7 | 26 | 7.1 | **30** | **7.2** | 280 | 7.5 | **310** | **7.5** |
| December | 4 | 7.7 | 26 | 7.1 | **30** | **7.2** | 301 | 8.1 | **331** | **8.0** |
| **Total Crashes** | **52** | **100.0** | **366** | **100.0** | **418** | **100.0** | **3,719** | **100.0** | **4,137** | **100.0** |

## Appendix B (iii) Crash Severity by Month - Remote

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| Month | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| January | 1 | 2.7 | 13 | 4.8 | **14** | **4.6** | 105 | 6.6 | **119** | **6.3** |
| February | 3 | 8.1 | 14 | 5.2 | **17** | **5.6** | 118 | 7.4 | **135** | **7.1** |
| March | 1 | 2.7 | 20 | 7.4 | **21** | **6.9** | 125 | 7.9 | **146** | **7.7** |
| April | 1 | 2.7 | 29 | 10.8 | **30** | **9.8** | 128 | 8.1 | **158** | **8.4** |
| May | 3 | 8.1 | 25 | 9.3 | **28** | **9.2** | 135 | 8.5 | **163** | **8.6** |
| June | 4 | 10.8 | 23 | 8.6 | **27** | **8.8** | 150 | 9.5 | **177** | **9.4** |
| July | 4 | 10.8 | 29 | 10.8 | **33** | **10.8** | 147 | 9.3 | **180** | **9.5** |
| August | 5 | 13.5 | 20 | 7.4 | **25** | **8.2** | 163 | 10.3 | **188** | **9.9** |
| September | 4 | 10.8 | 19 | 7.1 | **23** | **7.5** | 132 | 8.3 | **155** | **8.2** |
| October | 4 | 10.8 | 24 | 8.9 | **28** | **9.2** | 138 | 8.7 | **166** | **8.8** |
| November | 4 | 10.8 | 29 | 10.8 | **33** | **10.8** | 127 | 8.0 | **160** | **8.5** |
| December | 3 | 8.1 | 24 | 8.9 | **27** | **8.8** | 118 | 7.4 | **145** | **7.7** |
| **Total Crashes** | **37** | **100.0** | **269** | **100.0** | **306** | **100.0** | **1,586** | **100.0** | **1,892** | **100.0** |

## Appendix B (iv) Injury Severity by Month - Metropolitan

| | Injury Severity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Serious | | Total Persons KSI | | Minor | | None/Unknown | | Total | |
| Month | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| January | 6 | 7.1 | 127 | 8.1 | **133** | **8.1** | 418 | 6.4 | 5,606 | 6.9 | **6,157** | **6.9** |
| February | 7 | 8.3 | 109 | 7.0 | **116** | **7.0** | 573 | 8.7 | 6,768 | 8.4 | **7,457** | **8.4** |
| March | 11 | 13.1 | 116 | 7.4 | **127** | **7.7** | 585 | 8.9 | 7,407 | 9.2 | **8,119** | **9.1** |
| April | 8 | 9.5 | 139 | 8.9 | **147** | **8.9** | 544 | 8.3 | 6,609 | 8.2 | **7,300** | **8.2** |
| May | 6 | 7.1 | 160 | 10.2 | **166** | **10.0** | 655 | 10.0 | 7,337 | 9.1 | **8,158** | **9.2** |
| June | 7 | 8.3 | 122 | 7.8 | **129** | **7.8** | 598 | 9.1 | 7,329 | 9.1 | **8,056** | **9.0** |
| July | 6 | 7.1 | 138 | 8.8 | **144** | **8.7** | 621 | 9.5 | 6,780 | 8.4 | **7,545** | **8.5** |
| August | 4 | 4.8 | 122 | 7.8 | **126** | **7.6** | 596 | 9.1 | 6,976 | 8.6 | **7,698** | **8.6** |
| September | 4 | 4.8 | 126 | 8.0 | **130** | **7.9** | 527 | 8.0 | 6,581 | 8.1 | **7,238** | **8.1** |
| October | 6 | 7.1 | 129 | 8.2 | **135** | **8.2** | 470 | 7.2 | 6,771 | 8.4 | **7,376** | **8.3** |
| November | 10 | 11.9 | 142 | 9.1 | **152** | **9.2** | 544 | 8.3 | 6,588 | 8.2 | **7,284** | **8.2** |
| December | 9 | 10.7 | 138 | 8.8 | **147** | **8.9** | 434 | 6.6 | 6,057 | 7.5 | **6,638** | **7.5** |
| **Total Persons** | **84** | **100.0** | **1,568** | **100.0** | **1,652** | **100.0** | **6,565** | **100.0** | **80,809** | **100.0** | **89,026** | **100.0** |

## Appendix B (v) Injury Severity by Month - Regional

| | Injury Severity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Serious | | Total Persons KSI | | Minor | | None/Unknown | | Total | |
| **Month** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| January | 2 | 3.7 | 28 | 5.7 | **30** | **5.5** | 71 | 7.3 | 717 | 8.1 | **818** | **7.9** |
| February | 8 | 14.8 | 40 | 8.2 | **48** | **8.9** | 100 | 10.2 | 769 | 8.7 | **917** | **8.8** |
| March | 4 | 7.4 | 44 | 9.0 | **48** | **8.9** | 97 | 9.9 | 902 | 10.2 | **1,047** | **10.1** |
| April | 2 | 3.7 | 45 | 9.2 | **47** | **8.7** | 89 | 9.1 | 795 | 9.0 | **931** | **9.0** |
| May | 7 | 13.0 | 45 | 9.2 | **52** | **9.6** | 63 | 6.4 | 674 | 7.6 | **789** | **7.6** |
| June | 5 | 9.3 | 40 | 8.2 | **45** | **8.3** | 76 | 7.8 | 737 | 8.3 | **858** | **8.3** |
| July | 5 | 9.3 | 60 | 12.3 | **65** | **12.0** | 77 | 7.9 | 664 | 7.5 | **806** | **7.8** |
| August | 2 | 3.7 | 39 | 8.0 | **41** | **7.6** | 75 | 7.7 | 678 | 7.6 | **794** | **7.6** |
| September | 5 | 9.3 | 49 | 10.1 | **54** | **10.0** | 82 | 8.4 | 735 | 8.3 | **871** | **8.4** |
| October | 6 | 11.1 | 30 | 6.2 | **36** | **6.7** | 76 | 7.8 | 773 | 8.7 | **885** | **8.5** |
| November | 4 | 7.4 | 35 | 7.2 | **39** | **7.2** | 70 | 7.2 | 656 | 7.4 | **765** | **7.4** |
| December | 4 | 7.4 | 32 | 6.6 | **36** | **6.7** | 101 | 10.3 | 769 | 8.7 | **906** | **8.7** |
| **Total Persons** | **54** | **100.0** | **487** | **100.0** | **541** | **100.0** | **977** | **100.0** | **8,869** | **100.0** | **10,387** | **100.0** |

## Appendix B (vi) Injury Severity by Month - Remote

| | Injury Severity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Serious | | Total Persons KSI | | Minor | | None/Unknown | | Total | |
| **Month** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** | **n** | **Col %** |
| January | 1 | 2.3 | 18 | 4.7 | **19** | **4.5** | 33 | 6.8 | 231 | 6.0 | **283** | **6.0** |
| February | 3 | 7.0 | 20 | 5.3 | **23** | **5.5** | 32 | 6.6 | 242 | 6.3 | **297** | **6.3** |
| March | 1 | 2.3 | 25 | 6.6 | **26** | **6.2** | 34 | 7.0 | 264 | 6.9 | **324** | **6.8** |
| April | 1 | 2.3 | 41 | 10.8 | **42** | **10.0** | 44 | 9.0 | 325 | 8.5 | **411** | **8.7** |
| May | 3 | 7.0 | 38 | 10.0 | **41** | **9.7** | 53 | 10.9 | 301 | 7.9 | **395** | **8.3** |
| June | 5 | 11.6 | 33 | 8.7 | **38** | **9.0** | 31 | 6.4 | 523 | 13.7 | **592** | **12.5** |
| July | 5 | 11.6 | 43 | 11.3 | **48** | **11.4** | 53 | 10.9 | 366 | 9.6 | **467** | **9.9** |
| August | 6 | 14.0 | 35 | 9.2 | **41** | **9.7** | 47 | 9.7 | 413 | 10.8 | **501** | **10.6** |
| September | 4 | 9.3 | 25 | 6.6 | **29** | **6.9** | 35 | 7.2 | 297 | 7.8 | **361** | **7.6** |
| October | 6 | 14.0 | 38 | 10.0 | **44** | **10.4** | 59 | 12.1 | 304 | 7.9 | **407** | **8.6** |
| November | 5 | 11.6 | 32 | 8.4 | **37** | **8.8** | 39 | 8.0 | 292 | 7.6 | **368** | **7.8** |
| December | 3 | 7.0 | 31 | 8.2 | **34** | **8.1** | 27 | 5.5 | 269 | 7.0 | **330** | **7.0** |
| **Total Persons** | **43** | **100.0** | **379** | **100.0** | **422** | **100.0** | **487** | **100.0** | **3,827** | **100.0** | **4,736** | **100.0** |

## Appendix B (vii) Crash Severity by Day Of Week - Metropolitan

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| Day of Week | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| Monday | 5 | 6.3 | 178 | 13.1 | **183** | **12.8** | 4,475 | 14.2 | **4,658** | **14.1** |
| Tuesday | 11 | 13.8 | 184 | 13.6 | **195** | **13.6** | 4,917 | 15.6 | **5,112** | **15.5** |
| Wednesday | 12 | 15.0 | 185 | 13.7 | **197** | **13.7** | 5,122 | 16.2 | **5,319** | **16.1** |
| Thursday | 14 | 17.5 | 192 | 14.2 | **206** | **14.4** | 5,001 | 15.9 | **5,207** | **15.8** |
| Friday | 10 | 12.5 | 226 | 16.7 | **236** | **16.4** | 5,517 | 17.5 | **5,753** | **17.4** |
| Saturday | 16 | 20.0 | 219 | 16.2 | **235** | **16.4** | 3,818 | 12.1 | **4,053** | **12.3** |
| Sunday | 12 | 15.0 | 171 | 12.6 | **183** | **12.8** | 2,694 | 8.5 | **2,877** | **8.7** |
| **Total Crashes** | **80** | **100.0** | **1,355** | **100.0** | **1,435** | **100.0** | **31,544** | **100.0** | **32,979** | **100.0** |

## Appendix B (viii) Crash Severity by Day of Week - Regional

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| Day of Week | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| Monday | 8 | 15.4 | 59 | 16.1 | **67** | **16.0** | 543 | 14.6 | **610** | **14.7** |
| Tuesday | 9 | 17.3 | 34 | 9.3 | **43** | **10.3** | 505 | 13.6 | **548** | **13.2** |
| Wednesday | 5 | 9.6 | 43 | 11.7 | **48** | **11.5** | 525 | 14.1 | **573** | **13.9** |
| Thursday | 4 | 7.7 | 48 | 13.1 | **52** | **12.4** | 536 | 14.4 | **588** | **14.2** |
| Friday | 11 | 21.2 | 46 | 12.6 | **57** | **13.6** | 635 | 17.1 | **692** | **16.7** |
| Saturday | 12 | 23.1 | 69 | 18.9 | **81** | **19.4** | 539 | 14.5 | **620** | **15.0** |
| Sunday | 3 | 5.8 | 67 | 18.3 | **70** | **16.7** | 436 | 11.7 | **506** | **12.2** |
| **Total Crashes** | **52** | **100.0** | **366** | **100.0** | **418** | **100.0** | **3,719** | **100.0** | **4,137** | **100.0** |

## Appendix B (ix) Crash Severity by Day of Week - Remote

| | Crash Severity | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Hospitalisation | | Total Serious | | Other | | Total | |
| Day of Week | n | Col % | n | Col % | n | Col % | n | Col % | n | Col % |
| Monday | 3 | 8.1 | 38 | 14.1 | **41** | **13.4** | 215 | 13.6 | **256** | **13.5** |
| Tuesday | 3 | 8.1 | 30 | 11.2 | **33** | **10.8** | 236 | 14.9 | **269** | **14.2** |
| Wednesday | 5 | 13.5 | 28 | 10.4 | **33** | **10.8** | 226 | 14.2 | **259** | **13.7** |
| Thursday | 2 | 5.4 | 46 | 17.1 | **48** | **15.7** | 230 | 14.5 | **278** | **14.7** |
| Friday | 8 | 21.6 | 41 | 15.2 | **49** | **16.0** | 252 | 15.9 | **301** | **15.9** |
| Saturday | 13 | 35.1 | 50 | 18.6 | **63** | **20.6** | 230 | 14.5 | **293** | **15.5** |
| Sunday | 3 | 8.1 | 36 | 13.4 | **39** | **12.7** | 197 | 12.4 | **236** | **12.5** |
| **Total Crashes** | **37** | **100.0** | **269** | **100.0** | **306** | **100.0** | **1,586** | **100.0** | **1,892** | **100.0** |

# Appendix C P72 Form

## WA Police Report of Road Traffic Crash

# WESTERN AUSTRALIA POLICE

## REPORT OF ROAD TRAFFIC CRASH

**P72**

**Local No.**

**Crash No.**

**THERE IS NO COMPULSION TO REPORT A TRAFFIC CRASH IF:**

- **Damage to ALL VEHICLES and/or PROPERTY is LESS than $1000, and**
- **There is NO INJURY TO ANY PERSON involved in this crash, and**
- **The PROPERTY OWNER has been advised of your details, and**
- **The crash is NOT a Hit and Run crash**

Please print clearly. Please enter as many details as possible. Where more than two parties involved - use an additional form.

**1)** ***POLICE USE ONLY*** ☐ **POLICE CRASH** **OFFICER ON DUTY (Y/N)……..**

Police Officer attending scene: Name……..……PD No. ……..…… Sub District/Unit.....……..……..……

Crash attended at: (time)……(date)…….…… Police Crash (Y/ N)…… Photographs (Y/N)…..…. Scene Marked (Y/N)…..……

**DRIVER 1** – Prelim. *POS / NEG* BAC **0**.___ ___ ___CALC TO **0**.___ ___ __ **DRIVER 2** – Prelim. *POS / NEG* BAC **0**. ___ ___ ___CALC TO **0**. ___ ___ ___

Blood test taken (Y/N)…… Driver Number…… **Contributing factors -** Excessive Speed (Yes / No) / Fatigue (Yes / No) / Inattention (Yes / No) / Unknown

**2) PRECISE LOCATION OF CRASH**

NAME OF SUBURB, TOWN OR LOCALITY……..……POSTCODE……..…...

**A)** OCCURRED AT THE INTERSECTION OF……..……..……..……..……..……

AND……..……..……

**OR**

**B)** ON……..……..…..…… ……. Metres N / S / E / W OF..……..…..

(street crash occurred on) ……...Kilometres (nearest cross street, landmark etc)

AREA SPEED ZONE ……KPH

**3) DAY OF CRASH** ☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday

TIME OF CRASH ___ ___ ___ ___ 24 hours

DATE OF CRASH ……/……/……..

**4) HIT AND RUN** (Y/N)…….. Driver (M/F)…..… Estimated age……. Description of Driver ……

Description of Vehicle (include any accessories fitted to vehicle)……..

**NUMBER OF VEHICLES INVOLVED IN CRASH** - ___ ___

**5) INVOLVED VEHICLE 1 – YOUR Details** SEATBELT WORN (Y/N) …… PURPOSE OF TRAVEL: PRIVATE / BUSINESS

DRIVER'S FAMILY NAME……..……..……..……GIVEN NAMES…… SEX: (M/F) …….

ADDRESS……..……SUBURB……..……..……POSTCODE……..

OCCUPATION……EMPLOYER……..……..

PHONE No.: Work……..……...Home……..……Mobile……..……..…… DATE OF BIRTH……/……/……..

DRIVERS LICENCE: No……..……..…… STATE OF ISSUE……..… LICENCE CLASS/ES……

LICENCE TYPE (Ordinary, Probationary, Learner, Expired, Cancelled etc.)……..……..…… EXPIRY DATE……/……/……..

VEHICLE MAKE AND MODEL……..……..……..…… COLOUR……..…… BODY TYPE……

**HEAVY VEHICLES**: Configuration No:…… (see page 4 for ID number ) Was it Loaded (Yes/No)…… Type of load ……

REGISTRATION No……..…..STATE OF REGISTRATION……..EXPIRY DATE……/……/……No. OF OCCUPANTS ___ ___

OWNERS NAME……..…… ADDRESS……..……..

OWNERS INSURANCE COMPANY……..……. DESCRIPTION OF DAMAGE……..……..……

VEHICLE TOWED (Y/N) …… POLICE AUTHORITY (Y/N)…… TOWING COMPANY……..……..……

WHERE TOWED ……

**6) INVOLVED VEHICLE 2** SEATBELT WORN (Y/N) …… PURPOSE OF TRAVEL: PRIVATE / BUSINESS

DRIVER'S FAMILY NAME……..……..……..……GIVEN NAMES…… SEX: (M/F) …….

ADDRESS……..……SUBURB……..……..……POSTCODE……..

OCCUPATION……EMPLOYER……..……..

PHONE No.: Work……..……...Home……..……Mobile……..……..…… DATE OF BIRTH……/……/……..

DRIVERS LICENCE: No……..……..…… STATE OF ISSUE……..… LICENCE CLASS/ES……

LICENCE TYPE (Ordinary, Probationary, Learner, Expired, Cancelled etc.)……..……..…… EXPIRY DATE……/……/……..

VEHICLE MAKE AND MODEL……..……..……..…… COLOUR……..…… BODY TYPE……

**HEAVY VEHICLES**: Configuration No :……(see page 4 for ID number)…Was it Loaded (Yes/No)…… Type of load……..

REGISTRATION No……..…..STATE OF REGISTRATION……..EXPIRY DATE……/……/……No. OF OCCUPANTS ___ ___

OWNERS NAME……..…… ADDRESS……..……..

OWNERS INSURANCE COMPANY……..……. DESCRIPTION OF DAMAGE……..……..……

VEHICLE TOWED (Y/N) …… POLICE AUTHORITY (Y/N)…… TOWING COMPANY……..……..……

WHERE TOWED ……

## 7) INJURIES AND ALL PERSONS IN YOUR VEHICLE: – refer to KEY below when completing involved persons details:

| KEY: Include one of the following for Position | PERSON | INJURY | SEATBELT/HELMET | AIRBAG |
|---|---|---|---|---|
| **Seating position** 9 6 3 / 8 5 2 / 7 4 1<br>10. Back of the vehicle/wagon<br>11. Towed device<br>12. Bus seat<br>13. On tray (utility/truck)<br>14. Riding externally on vehicle<br>99. Unknown<br>For M/C or Cyclist use 1 and 4 | 1. Driver / Rider<br>2. Passenger<br>3. Pedestrian | 1. Killed<br>4. Admitted to hospital as inpatient<br>2. Injured, medical treatment only<br>5. Injured, no medical treatment<br>6. No injury | 1. Worn<br>2. Not worn<br>3. Child restraint worn<br>4. Child restraint not worn<br>5. Unknown | 1. Deployed<br>2. Fitted not deployed<br>3. Not fitted |

| INJURIES AND ALL INVOLVED PERSONS : ( include drivers)<br>Enter full details for each person. (Your vehicle is vehicle No 1) | Veh No | Seating Position | Person | Injury | Seatbelt / Helmet | AIRBAG |
|---|---|---|---|---|---|---|
| 1 NAME: | | | | | | |
| ADDRESS | | | Date of Birth / / | | | |
| 2 NAME: | | | | | | |
| ADDRESS | | | Date of Birth / / | | | |
| 3 NAME: | | | | | | |
| ADDRESS | | | Date of Birth / / | | | |
| 4 NAME: | | | | | | |
| ADDRESS | | | Date of Birth / / | | | |
| 5 NAME: | | | | | | |
| ADDRESS | | | Date of Birth / / | | | |
| 6 NAME: | | | | | | |
| ADDRESS | | | Date of Birth / / | | | |
| 7 NAME: | | | | | | |
| ADDRESS | | | Date of Birth / / | | | |
| 8 NAME: | | | | | | |
| ADDRESS | | | Date of Birth / / | | | |

## CRASH FEATURES (Cross all appropriate boxes)

**8) TRAFFIC CONTROL**
- ☐ 1. Traffic Lights
- ☐ 2. Stop Sign
- ☐ 3. Give Way Sign
- ☐ 4. Pedestrian Crossing
- ☐ 5. School Crossing
- ☐ 6. No Sign or Control
- ☐ 7. Other – specify:

.....

**Rail Level Crossing**
- ☐ 8. Boom Gates
- ☐ 9. Flashing Lights Only
- ☐ 10. Stop Sign
- ☐ 11. Give Way
- ☐ 12. Unguarded

**9) ROAD FEATURE**
- ☐ 1. 4 Way intersection (crossroads)
- ☐ 2. 3 Way Junction / T Junction
- ☐ 3. Multiple intersection
- ☐ 4. Roundabout
- ☐ 5. Median opening
- ☐ 6. Slow Point (eg. speed hump)
- ☐ 7. Railway crossing
- ☐ 8. Bridge
- ☐ 9. Subway
- ☐ 10. Driveway
- ☐ 11. Pedestrian Island
- ☐ 12. No special feature
- ☐ 13. Other – specify:

……..……..……

**10) ROAD ALIGNMENT**
- ☐ 1. Left Curve ☐ 2. Right Curve
- ☐ 3. Straight

**12) ROAD GRADE**
- ☐ 1. Level
- ☐ 2. Crest of Hill
- ☐ 3. Up Slope ☐ 4. Down Slope

**14) ATMOSPHERIC CONDITIONS**
- ☐ 1. Clear
- ☐ 2. Fog / mist
- ☐ 3. Raining
- ☐ 4. Smoke, dust
- ☐ 5. Overcast
- ☐ 6. Sun Glare
- ☐ 7. Other – ……..……..……..…...

**11) ROAD CONDITION**
- ☐ 1. Wet
- ☐ 2. Dry

**13) ROAD SURFACE**
- ☐ 1. Sealed
- ☐ 2. Unsealed
- ☐ 3. Off road

**15) LIGHTING**
- ☐ 1. Daylight
- ☐ 2. Dawn or Dusk

**Darkness**
- ☐ 3. Street lights on
- ☐ 4. Street lights off
- ☐ 5. Street lights not provided

**16) ESTIMATE of combined damage of ALL vehicles AND property: Less than $1000 ☐ Over $1000 ☐**

**17) Type of Crash (Cross all appropriate boxes)**

**( 1 ) Vehicle to Vehicle Collisions**
- ☐ 1. Right turn into oncoming vehicle
- ☐ 2. Right angle collision
- ☐ 3. Side impact - same direction
- ☐ 4. Side impact - opposite direction
- ☐ 5. Head on collision
- ☐ 6. Rear end collision
- ☐ 7. Collision with parked vehicle
- ☐ 8. Collision with one vehicle reversing

**( 2 ) Single Vehicle Collision**

**On Road**
- ☐ 1. Struck pedestrian
- ☐ 2. Struck animal
- ☐ 3. Struck object
- ☐ 4. Overturned
- ☐ 5. Fall from moving vehicle

**OR**

**Off Road**
- ☐ 6. Struck pedestrian
- ☐ 7. Struck animal
- ☐ 8. Struck object
- ☐ 9. Overturned
- ☐ 10. Fall from moving vehicle

If you hit an object, state each object and distance of each object from the road…….metres

**3 Vehicle Movement Prior to Crash (Select appropriate vehicle numbers and enter into boxes, e.g. V 1, V 2 or V3**

| A Direction | Veh | B Lane | Veh | | Veh | C Approach | Veh |
|---|---|---|---|---|---|---|---|
| 1 North bound | | 1 1st lane ( kerb or left) | | 5 Left turn lane | | 1 Approaching intersection | |
| 2 South bound | | 2 2nd lane | | 6 Merge lane | | 2 Within intersection | |
| 3 East bound | | 3 3rd lane | | 7 Shoulder | | 3 Not related with intersection | |
| 4 West bound | | 4 Right turn lane | | 8 On wrong side of road | | 4 Into driveway | |
| | | | | | | 5 Out of driveway | |

| D Action | Veh | | Veh | E Other | Veh | | Veh |
|---|---|---|---|---|---|---|---|
| 1 Straight ahead | | 5 Overtaking right side | | 1 Proceeding normally | | 4 Out of control | |
| 2 Right turn | | 6 Overtaking left side | | 2 Slowing | | 5 Changing lanes | |
| 3 Left turn | | 7 Backing | | 3 Stopped | | 6 Turn - Into parking | |
| 4 U-turn | | 8 Parked | | | | 7 Turn - Out of parking | |

| 18) INDEPENDENT Witnesses (Not Passengers) | | Telephone Number | | |
|---|---|---|---|---|
| NAME | ADDRESS | Work | Home | Mobile |
| | | | | |
| | | | | |
| | | | | |

**19) DESCRIPTION and DETAILS of CRASH -** Briefly describe how the crash happened, **stating clearly speeds of vehicles before and at impact: if vehicle lights on, if vehicle fitted with roo bar/bull bar, and if Ambulance attended.**

……

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1. What colour were the Traffic Control Lights (Red / Amber / Green) facing: **you** ……

2. How far were you from the vehicle / pedestrian when you first sighted them / it……

3. Did you sound your horn (Y/N) ……

**20) Sketch of Locality**

Label all vehicles and objects

1. Show street names
2. Show control signs, road markings
3. Show all objects struck and by which vehicle
4. Select appropriate symbols for diagram
5. Show **NORTH** point

PEDESTRIAN

VEHICLE 1 [1] (front)

VEHICLE 2 [2] (front)

**21)** Number of sheets used to report this crash:……..

**I understand and acknowledge that this form may be adduced in evidence in any court proceedings resulting from the investigation of this crash. Information may be released in accordance with the Western Australia Police Service Privacy Statement.**

**Please retain a copy of this form as it may be required by your Insurance Company and/or Solicitor.** ***Costs apply for additional copies.***

**22)** ***ONLY SIGN AT TIME FORM IS HANDED TO RECEIVING OFFICER***

Signature…… Time……..24 Hours Date ……/……/……..

Police / Staff Signature…… Print Surname …… PD No……

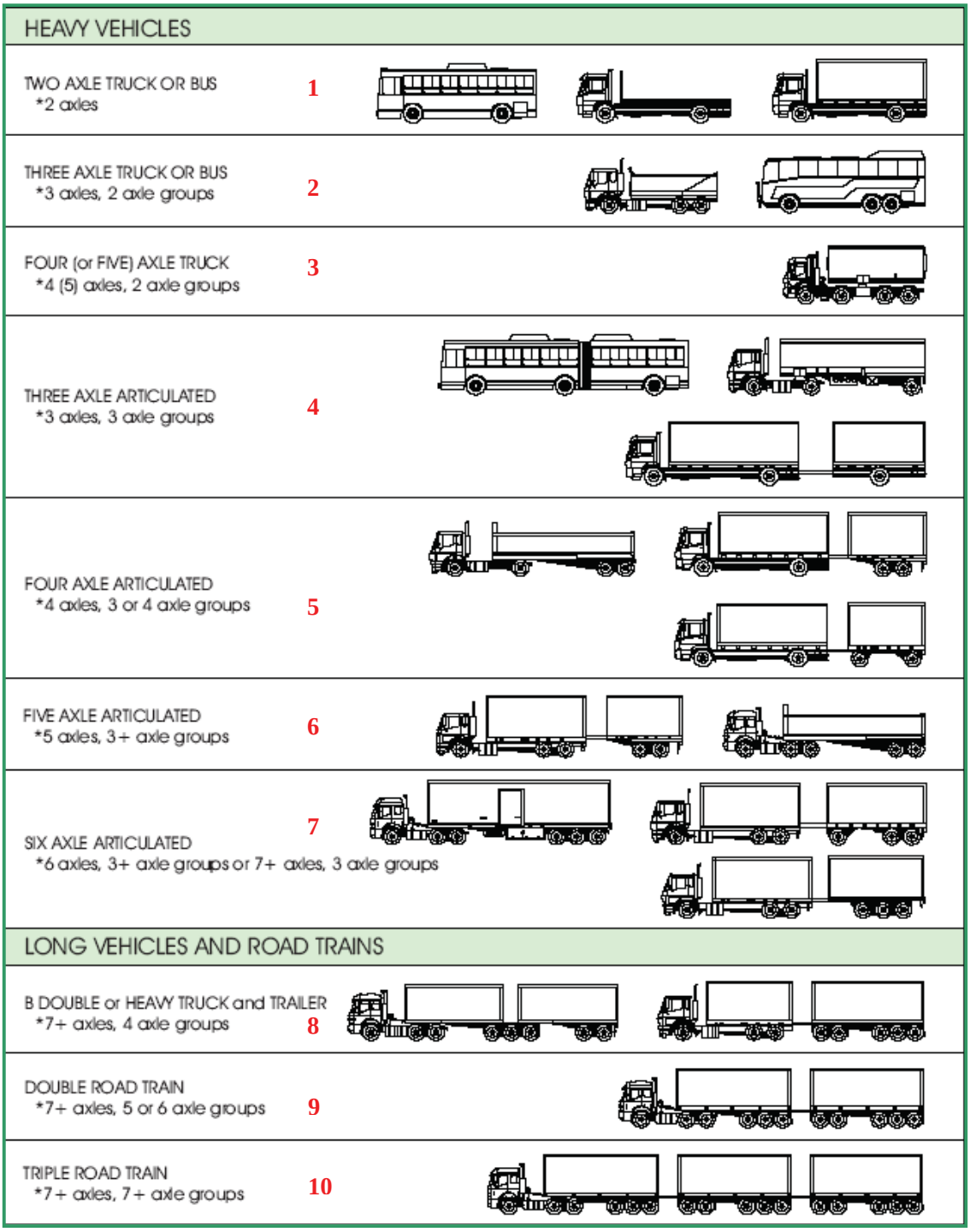
Sub District / Unit…… A/L……

**For self-reported crashes only**

Copy provided ☐**Yes** ☐**No -** Reason if No……

# Heavy vehicle identification chart

Select the number of the vehicle configuration which best suits the Heavy Vehicle involved in your crash and place the number on the P72 Crash detail form at the heading of Heavy Vehicle Configuration.



# WESTERN AUSTRALIA POLICE SERVICE P72 – ADDITIONAL VEHICLES

## `6a) INVOLVED VEHICLE 3

SEATBELT WORN (Y/N) …… PURPOSE OF TRAVEL: PRIVATE / BUSINESS

DRIVER'S FAMILY NAME……..……..……..……..…GIVEN NAMES…….……..…… SEX: (M/F) …….

ADDRESS……..…SUBURB……..……..……POSTCODE……..

OCCUPATION……EMPLOYER……..……..

PHONE No.: Work……..……...Home……..……Mobile……..……..……..…… DATE OF BIRTH……./……./…….

DRIVERS LICENCE: No……..……..……STATE OF ISSUE……..…LICENCE CLASS/ES……..……

LICENCE TYPE (Ordinary, Probationary, Learner, Expired, Cancelled etc.)……..……..……..…… EXPIRY DATE……./……./……..

VEHICLE MAKE AND MODEL……..……..……..…… COLOUR……..…… BODY TYPE……

**HEAVY VEHICLES**: Configuration……Was it Loaded (Yes/No)…… Type of load ……..

REGISTRATION No……..…STATE OF REGISTRATION…….EXPIRY DATE……/……/……No. OF OCCUPANTS ___ ___

OWNERS NAME……..…… ADDRESS……..……..

OWNERS INSURANCE COMPANY……. DESCRIPTION OF DAMAGE……..……..

VEHICLE TOWED (Y/N) …… POLICE AUTHORITY (Y/N)…… TOWING COMPANY……..……..……

WHERE TOWED ……

## 6b) INVOLVED VEHICLE 4

SEATBELT WORN (Y/N) …… PURPOSE OF TRAVEL: PRIVATE / BUSINESS

DRIVER'S FAMILY NAME……..……..……..……..…GIVEN NAMES…….……..…… SEX: (M/F) …….

ADDRESS……..…SUBURB……..……..……POSTCODE……..

OCCUPATION……EMPLOYER……..……..

PHONE No.: Work……..……...Home……..……Mobile……..……..……..…… DATE OF BIRTH……./……./…….

DRIVERS LICENCE: No……..……..……STATE OF ISSUE……..…LICENCE CLASS/ES……..……

LICENCE TYPE (Ordinary, Probationary, Learner, Expired, Cancelled etc.)……..……..……..…… EXPIRY DATE……./……./……..

VEHICLE MAKE AND MODEL……..……..……..…… COLOUR……..…… BODY TYPE……

**HEAVY VEHICLES**: Configuration……Was it Loaded (Yes/No)…… Type of load ……..

REGISTRATION No……..…STATE OF REGISTRATION…….EXPIRY DATE……/……/……No. OF OCCUPANTS ___ ___

OWNERS NAME……..…… ADDRESS……..……..

OWNERS INSURANCE COMPANY……. DESCRIPTION OF DAMAGE……..……..

VEHICLE TOWED (Y/N) …… POLICE AUTHORITY (Y/N)…… TOWING COMPANY……..……..……

WHERE TOWED ……

## 6c) INVOLVED VEHICLE 5

SEATBELT WORN (Y/N) …… PURPOSE OF TRAVEL: PRIVATE / BUSINESS

DRIVER'S FAMILY NAME……..……..……..……..…GIVEN NAMES…….……..…… SEX: (M/F) …….

ADDRESS……..…SUBURB……..……..……POSTCODE……..

OCCUPATION……EMPLOYER……..……..

PHONE No.: Work……..……...Home……..……Mobile……..……..……..…… DATE OF BIRTH……./……./…….

DRIVERS LICENCE: No……..……..……STATE OF ISSUE……..…LICENCE CLASS/ES……..……

LICENCE TYPE (Ordinary, Probationary, Learner, Expired, Cancelled etc.)……..……..……..…… EXPIRY DATE……./……./……..

VEHICLE MAKE AND MODEL……..……..……..…… COLOUR……..…… BODY TYPE……

**HEAVY VEHICLES**: Configuration……Was it Loaded (Yes/No)…… Type of load ……..

REGISTRATION No……..…STATE OF REGISTRATION…….EXPIRY DATE……/……/……No. OF OCCUPANTS ___ ___

OWNERS NAME……..…… ADDRESS……..……..

OWNERS INSURANCE COMPANY……. DESCRIPTION OF DAMAGE……..……..

VEHICLE TOWED (Y/N) …… POLICE AUTHORITY (Y/N)…… TOWING COMPANY……..……..……

WHERE TOWED ……

## 6d) INVOLVED VEHICLE 6

SEATBELT WORN (Y/N) …… PURPOSE OF TRAVEL: PRIVATE / BUSINESS

DRIVER'S FAMILY NAME……..……..……..……..…GIVEN NAMES…….……..…… SEX: (M/F) …….

ADDRESS……..…SUBURB……..……..……POSTCODE……..

OCCUPATION……EMPLOYER……..……..

PHONE No.: Work……..……...Home……..……Mobile……..……..……..…… DATE OF BIRTH……./……./…….

DRIVERS LICENCE: No……..……..……STATE OF ISSUE……..…LICENCE CLASS/ES……..……

LICENCE TYPE (Ordinary, Probationary, Learner, Expired, Cancelled etc.)……..……..……..…… EXPIRY DATE……./……./……..

VEHICLE MAKE AND MODEL……..……..……..…… COLOUR……..…… BODY TYPE……

**HEAVY VEHICLES**: Configuration……Was it Loaded (Yes/No)…… Type of load ……..

REGISTRATION No……..…STATE OF REGISTRATION…….EXPIRY DATE……/……/……No. OF OCCUPANTS ___ ___

OWNERS NAME……..…… ADDRESS……..……..

OWNERS INSURANCE COMPANY……. DESCRIPTION OF DAMAGE……..……..

VEHICLE TOWED (Y/N) …… POLICE AUTHORITY (Y/N)…… TOWING COMPANY……..……..……

WHERE TOWED ……

# Appendix D Safe Systems Diagram

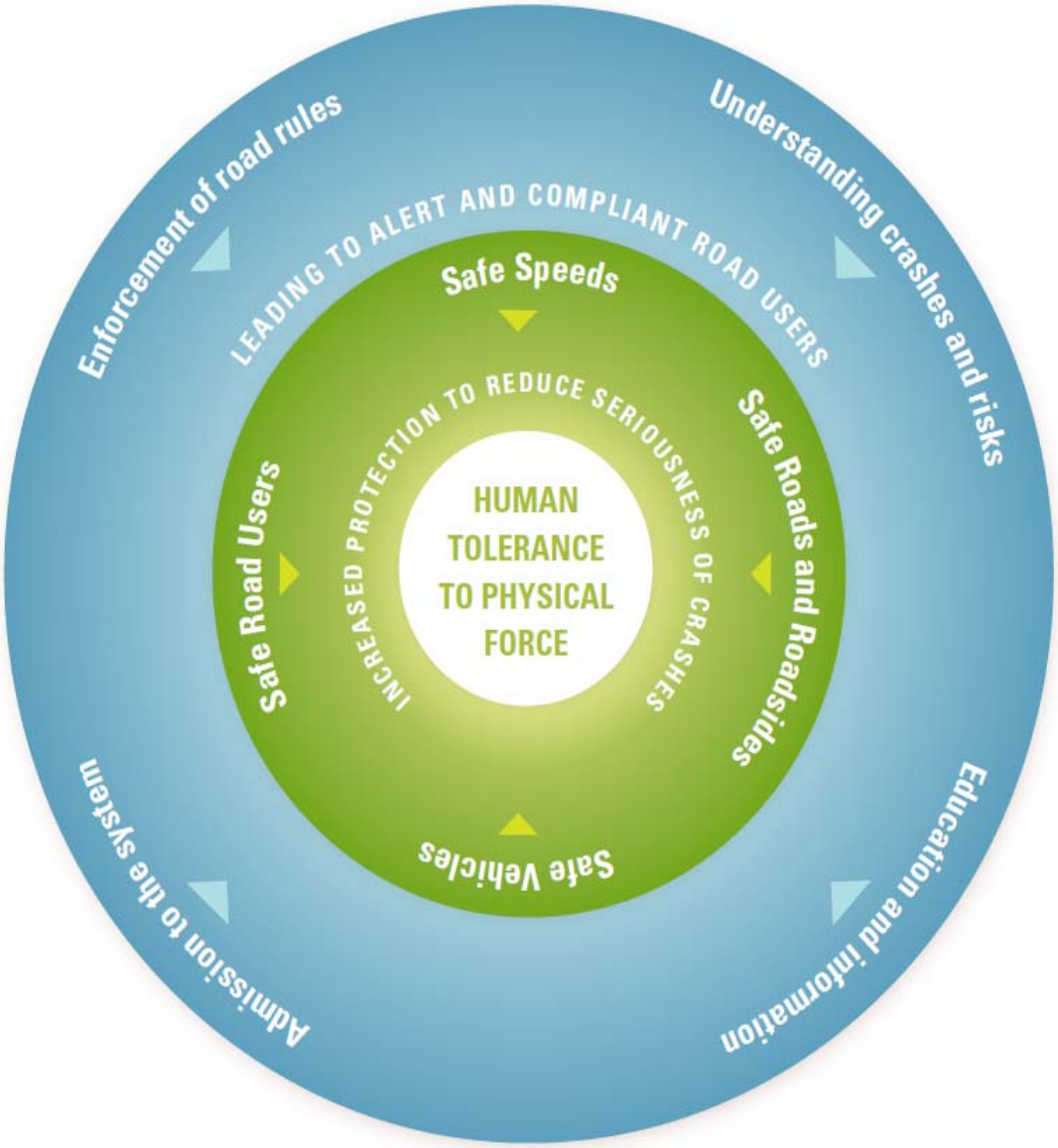



**Figure 9: The Safe System** (adapted from Australian Transport Council, 2007)

# Appendix E Road Safety-Related Legislation and Other Initiatives

The following is a brief listing of road safety-related legislation and other initiatives, which could have contributed to reductions in road crashes and injury in WA.

**1919** **First Road Traffic Act** introduced.

**1953** **First Traffic Control signals** introduced (West Perth Subway).

**1954** **Stop sign** regulation introduced.

**1960 (circa)** **Amphometer Speed Detection Device** introduced (Air pressure tapes).

**1964** **Probationary Licence Scheme** introduced.

**1968** **First Breath Analysis Apparatus** used.

**1968** **Preliminary Breath Testing** introduced. (Aico Test - a tube with crystals that changed colour)

**1968** **Blood alcohol concentration (BAC)** limits of:

- 0.08gm%; and
- 0.15gm% (driving under the influence - DUI).

**1969** **On-the-spot** traffic infringement notices (TIN) introduced.

**1969** **Seat belts** required to be fitted to motor car front seats.

**1970** **Legal drinking age** changed from 21 years to 18 years.

**1971** **Seat belts** required to be fitted to motor cars for all seats and wearing of seat belts made compulsory.

**1971** **Head Supports** required to be fitted for all cars manufactured on or after January 1 1972.

**1974** **Road Traffic Act 1974** and its regulations enacted bringing all traffic enforcement under police control. (Previously most rural and several Metropolitan Local Councils controlled traffic enforcement in their areas)

**1974** **Compulsory Wearing of Safety Helmets.** Motorcycle riders required to wear an approved protective helmet. Pillion passengers of six years of age and older also required to wear an approved helmet.

**1974** **Motoring went Metric** (Mph to Km/h)

**1975** **Demerit points** introduced an accrual of 12 points results in a three month suspension of licence.

**1977** **Child restraints** required to be used for children aged 1 to 7 years old (older must wear seat belts).

**1977** **Speed Gun JF 100 Mobile Radar Detection Device** introduced (operated from within the patrol vehicle.

**1978** **Maximum speed of 60km/h** introduced in built-up areas, except where zoned for a different speed limit.

**1978** **Maximum speed of 110 km/h** introduced in areas other than those zoned otherwise, or in built-up areas.

**1979** **Preliminary Breath Testing Apparatus "Liar*' Electronic introduced.**

**1979** **Drivers responsible for children aged one to seven years wearing seat belt.**

**1979** **Red light cameras** introduced for use at traffic light controlled intersections.

**1981** **Road Traffic Board** established to administer the Road Traffic Act.

**1982** **Infra Red (Digitector)** high volume speed detection device introduced.

**1982** **BAC limit of 0.02gm% for probationary drivers** introduced with a penalty of cancellation of probationary licence and a $100 fine.

**1986** **Fairy Slant Radar Speed Detection Devices** introduced.

**1987** **Breath Analysis Evidentiary Equipment improved -** DRAGER 71 10 introduced.

**1987** **Motor Vehicle (Third Party Insurance) Act 1943** amended to limit cover to injury caused through "driving of a motor vehicle", following a High Court decision.

**1988** **Random breath testing (RBT)** introduced.

**1988** **Speed Camera Radars** introduced.

**1989** **Penalty for failing to wear a seat belt** increased from $50 to $100.

**1989** **Seat belt exemption** for passengers over 70 years of age repealed.

**1989** **Prime Minister's 10 point road safety package** was devised.

**1990** **Penalties** for most traffic offences increased.

**1991** **Speed limiting device** legislation for heavy vehicles introduced.

**1992** **Compulsory bicycle helmet wearing legislation** came into effect. From July 1, 1992 a rider had the opportunity to buy a helmet or be fined and from January 1, 1993 a rider was fined if found not to be wearing a correctly fastened helmet. Helmet subsidy scheme applied.

**1992** **Maximum speed limit for drivers of heavy vehicles** increased to 100km/h.

**1992** **Penalties** increased for speeding offences committed by drivers of heavy vehicles.

**1993** **BAC limit of 0.05gm%** introduced. Penalties of $100 and three demerit points were applied.

**1993** **Local traffic area 40km/h** legislation introduced.

**1993** **Threshold on General Damages** introduced to eliminate non-pecuniary loss for minor personal injury claims.

**1994** **Speed limits** (max) increased for:

- probationary drivers from 80km/h to 90km/h where applicable; and
- freeways from 90km/h to 100km/h.

**1995** **Seat belt regulations repealed and new regulations became effective.** From January 1st all children, regardless of age were to be correctly restrained.

**1995** **Revised Towed agricultural implements regulations** introduced impacting on the use of agricultural implements being towed on the road.

**1995** **Suspension of motor driver's licence** for non-payment of fines introduced.

**1995** **Young Offenders Act** introduced.

**1996** **Restricted use of right lane** regulation introduced regardless of speed limit - all vehicles to keep left unless overtaking, intending to turn right, or providing good reason for being in the right hand lane. (Note – changed to apply to 90km/h roads and higher in 2000).

**1997** **Alcohol Preliminary Testing Units with electrical digital reading** capabilities (LION SD 400) introduced.

**1997** **Road Safety Council (RSC)** formed to replace the Traffic Board of Western Australia.

**1998** **Penalties** for some traffic offences increased (and penalty units introduced).

**1999** **New Practical driving assessment** introduced as first component of the Graduated Driver Training and Licensing System (March).

**2000** **Road Traffic Code 2000** commenced (1 December 2000) with provisions similar to the Australian Road Rules (apart from a few exceptions).

**2000** **Restricted use of right lane regulation** applied to roads where speed limit 90km/h or greater (all vehicles are required to keep left unless overtaking, intending to turn right, or providing good reason for being in the right hand lane).

**2001** **Regulation prohibiting passengers riding in the open load space** of some vehicles (utilities) introduced on 1 January, 2001.

**2001** **Road Traffic Act 1974 amended** to give effect to the Graduated Driver Training and Licensing system for novice drivers. Probation period extended from 1 to 2 years or until 19 years of age (whichever is the greater period).

**2001** **Probationary licences** no longer cancelled for non-payment of Fines (only suspension of licence).

**2001** **Using a Hand-held Mobile Phone** whilst driving banned from July 1, 2001.

**2001** **National driver licence classes and minimum standard assessment vehicles** for testing of drivers introduced (7 May ).

**2001** **Compulsory Photographs and signatures on licence** (7 May).

**2001** **Industry training and assessment for MC licence applications**

**2001** **Default built-up area speed limit** reduced from 60km/h to 50km/h. Applied to all roads in a built-up area except within a speed zone in which another speed limit is signed (1 December).

**2002** **Speed limit of 90km/h for Probationary drivers** removed (6 February).

**2002** **Hazard perception test** introduced for learner drivers.

**2002** **A trial of Double Demerit points** during holiday periods introduced for offences in relation to speeding, drink driving and failure to use restraints.

**2002** **Heavy Vehicle Accreditation Scheme** implemented (requiring the introduction of a quality systems approach to the management of heavy vehicle maintenance and driver fatigue).

**2002** **Road Safety Council Act 2002 passed.** Under the Act the functions of the Road Safety Council and administration of the Road Trauma Trust Fund were transferred from the *Road Traffic Act 1974.*

**2002** **Road Traffic (Vehicle Standards) Rules and Regulations 2002** introduced.

**2004** **Road Traffic Amendment (Impounding and Confiscation of Vehicles) Act 2004.** This amendment allows police to impound vehicles and suspend driver's licences for reckless and dangerous driving.

**2004** **Automatic Number Plate Recognition Devices** introduced.

**2004** **Double Demerit Points for Nominated Offences** (Drink Driving 0.05%<0.08%, Speeding, Not wearing a Seat Belt and Occupying Open Load Spaces) gazetted into legislation for nominated dates.

**2004** **Road Traffic Act amended to introduce hoon legislation**, including inter alia, 48 hour impounding (December).

**2004** **Redefinition of "driving"** by the High Court to exclude claims for personal injury arising from vehicles not in motion.

**2005** **Changes for converting overseas licences** commenced 1 January. Testing of licence holders from non-recognised countries for all classes of licence. Licence holders from recognised countries tested for classes other than car and motorcycle.

**2006** **Final phase of the Open Load Space** regulations came into effect prohibiting the carriage of passengers in the load space of utilities, panel vans and trucks (1 January).

**2006** **Owner-onus regulations** came into effect requiring responsible persons (vehicle owners) to identify who was driving their vehicle at a particular time and introducing an offence for failing to take reasonable measures to ensure that if a request for the identity of a driver is made in relation to the vehicle, the responsible person will be able to comply (1 January).

**2006** **New regulations for push-type motorised scooters** introduced. Electric motors with 200W or less power permitted and only to be used where wheeled recreational devices permitted (29 December).

**2007** **Penalties increased for speeding, seat belts and penalties for other offences amended** (January) based on review by Road Safety Council. Fines for seat belt non-wearing increased further in April 2007.

**2007** **Indemnity** for persons reporting unsafe or dangerous drivers (6 July).

**2007** **New drug driving laws** introduced (12 October).

**2008** **Zero BAC for novice drivers introduced** (previously 0.02% BAC).

**2008** **Night time driving restrictions for novices in their first 6 months on a probationary licence (p1)** introduced (1 July).

**2008** **Fines increased for some speeding and seat belt offences** (1 March)– light vehicles: 20km/h to 29km/h increased from 5PU ($250) to 6PU ($300), 30km/h-39km/h increased from 7PU ($350) to 14 PU ($700). Heavy vehicles 20km/h – 29km/h increased from 7PU to 8PU, 30km/h – 39km/h increased from 10PU to 17PU. Driver responsibility extended from passengers under 16 to all passengers (irrespective of age) with fines increasing depending on numbers of unrestrained passengers and whether driver restrained or not. If driver restrained but passengers not: 1 passenger=10PU, 2=12PU, 3=14PU, 4 or more 16PU. Penalties greater if driver also not wearing a seat belt.

**2008** **Driving in contravention of a driver's licence class condition** constitute unlicensed driving (30 June).

**2008** **Licences with photographs and signatures** valid for 10 years (30 June).

**2008** **Learners permit validity** extended from 1 to 3 years (30 June).

**2008** **Compulsory surrender of all driver's licence** documents (i.e. driver's licence cards) at commencement of a licence disqualification or cancellation. (30 June).

**2008** **Disqualification of a WA driver's licence in another Australian jurisdiction** recognised in WA (30 June).

**2008** **Overseas visitor licence** 12 month recognition replaced by allowance to drive while visitor (30 June).

**2008** **New demerit point disqualification period** based on the number of demerit points accrued introduced with good behaviour option and double disqualification if re-offence in probationary period. No extraordinary licences able to be obtained in period (June 2008).

**2008** **Penalties increased for 'hoon' behaviour** including roadside impounding for 1 week for first offence (July).

**2009** **Definition of unauthorised driving offences amended.** Broaden circumstances where a vehicle could be impounded for unauthorised driving offences. Roadside impoundment unauthorised driving offences increased to 28 days. Hoon impounding offences increased to 3 months roadside impoundment for a second charge (1 July).

**2009** **Enhanced Speed Enforcement Program commenced** to upgrade entire traffic camera fleet and processing systems to digital (July).

**2010** **Hoon legislation amended to remove the requirement of circumstances of aggravation.** All s.60 Reckless driving offences are now impounding offences. (1 January).

**2010** **Novice Driver Graduated Demerit Point Scheme**

From 1 December 2010 a novice driver who hold a licence up to 1 year are restricted to 3 demerit points in that year and 7 demerit points over 2 years. Any demerit points accumulated above theserestrictions will result in a 3 month disqualification period.

**2010** **Immediate Disqualification for drivers charged with drink driving offences.**

Drivers who are charged with an offence of drving with a BAC 08 and above are served with a notice disqualifying the person from driving for a period of 2 months.

**2010** **Introduction of Redflex Red light/speed cameras and Vitronic PoliScan digital speed cameras** into the speed camera fleet (July).

**2010** **Child car restraints regulations** amended to ensure that children aged under seven years are restrained in an age-appropriate restraint. Children under four years are also restricted from being seated in the front seat of a vehicle with two or more rows (1 October).

**2010** **Restraints regulations** amended to ensure all passengers are restrained in either a seat belt or child restraint. The total number of passengers must, therefore, not be greater than the total number of seat belts (1 October).

**2011** **Hands-free use of mobile phones whilst driving** banned for all functions except making and receiving a phone call and use of the satellite navigation function (1 March).

**2011** Last of the wet film **Multanova radar speed cameras** retired (April).

**2011** **Penalties increased for certain drink and drug driving offences** (1 October).

**2011** **Zero Blood Alcohol Concentration (BAC) applicable to a prescribed class of drivers** introduced. (1 October).

**2011** **LTI TruCam hand held speed cameras** introduced into the speed camera fleet (August).

**2011** **First fixed site speed camera** installed on Mitchell Freeway (December).

**2012** **Mandatory Supervised Learner Driving Hours** increased from 25 hours over six months after the Practical Driving Assessment to 50 hours in total, with 25 hours now required before the Practical test (November).

**2012** **Mandatory medical assessments for drivers aged 75 and 78 cease** as there is a requirement for all driver's licence holders, regardless of age, to advise they have a medical condition and/or take any medication that may affect their ability to drive a vehicle (April)

**2013** **Learner Approved Motorcycle Scheme (LAMS)** introduced which increased the range, frame size and style of suitable scooters and motorcycles that can be ridden on an R-E class licence (January).

**2013** **Removal of practical driving test requirement for over 85s** based upon research into older driver behaviour suggesting older drivers do not pose an unacceptable road safety risk and requiring a mandatory PDA is potentially discriminatory (December).

**2013** **EPTs permitted to be used** by tour operators in certain areas (April)

**2013** **Extension of changes for converting overseas licences** to provide for an experienced driver recognition category. This category recognises a person's driving experience and age (minimum 25 years old) as a substitute for novice driver licensing measures (March).

# GLOSSARY OF TERMS

**Alcohol-Related Crash:** A crash that involved at least one driver/rider with a BAC of 0.05 g/100mL or above.

**ARIA:** (Accessibility/Remoteness Index of Australia). A geographical measure of remoteness. For more information see < http://www.gisca.adelaide.edu.au >.

**Articulated Truck:** A vehicle consisting of a prime mover having no significant load carrying area, but with a turn-table device that can be linked to a trailer. With or without a trailer the Gross Combination Mass (i.e., the combined prime mover and trailer) must exceed 3.5 tonnes.

**BAC:** Blood alcohol concentration measured as grams of alcohol per 100mL of blood. A BAC of 0.05 g/100mL is equivalent to a BAC of 0.05 gm%.

**Bicycle:** A vehicle with one or more wheels that is designed to be propelled by human power through a belt, chain or gears. It does not include a wheelchair, wheeled recreational device, wheeled toy, or any vehicle with an auxiliary motor capable of generating a power output over 200 watts (whether or not the motor is operating).

**Bicyclist:** A person riding a bicycle, including pillion passengers.

**Child Restraint:** A device used for restraining a young child travelling in a motor vehicle (e.g. baby capsule, baby seat, booster seat, etc.).

**Child Road User:** A road user under 17 years of age.

**Col %:** Column percentage.

**Crash Severity:** Derived from the most serious injury in a crash. The three levels are:

1. Fatal crash – involved a fatality;
2. Hospitalisation Crash – involved a person who was seriously injured, but no fatalities;
3. Other – involved minor or no/unknown injuries only.

**Driver:** Any person that is driving a vehicle (excluding a motorcycle, bicycle, animal or animal drawn vehicle).

**Driver/Rider:** Any person in control of a vehicle (excluding a bicycle, animal or animal drawn vehicle). Includes motor vehicle drivers and motorcycle riders, but excludes motor vehicle passengers and motorcycle pillion and sidecar passengers.

**Drivers/Riders *Involved* in Crashes:** All persons in control of vehicles (excluding bicycles, animals and animal drawn vehicles) that were in crashes. Includes drivers/riders who were not injured as well as those who were injured or killed.

**Fatal Crash:** A road crash in which at least one person was killed immediately or died within 30 days of the crash, as a result of the crash.

**Fatality:** A person who was killed immediately or died within 30 days of the day of a road crash as a result of the crash.

**Helmet:** A protective device worn on the head to prevent injuries in the event of a crash. Motorcyclists and bicyclists are required by legislation to wear a helmet that meets Australian standards.

**Hospital Admissions:** The total number of times road users were admitted to hospital as a result of road crashes. A single road user can be admitted to hospital more than once for treatment of injuries sustained in a single crash and each admission is counted, hence the number of hospital admissions will be higher than the number of people admitted to hospital as a result of road crashes.

**Hospitalisation Crash:** A road crash that involved at least one serious injury but no fatalities.

**In Scope Crashes:** Crashes that occur on state or local roads, or any roads that are open to public access (e.g. Kings Park, CALM roads and laneways). Does not include crashes that occur off road or in car parks. Does not include collisions that occur due to a medical condition, suicide attempts or police chases.

**Injury Severity:** The level of injury sustained by a person involved in a crash. The four levels used in this report are:

1. Fatal – the person died within 30 days of the crash, due to injuries received in the crash;
2. Serious – the person was admitted to hospital as an inpatient for treatment of injuries sustained in the crash, but did not die within 30 days of the crash. (In earlier volumes of this series of reports, the term hospitalised was used instead of serious injury);
3. Minor – the person was injured and may have received medical attention, but was not admitted to hospital as an inpatient. Includes injuries for which no medical treatment was required;
4. None/Unknown – the person was not injured or it was not recorded whether any injuries were sustained.

**KSI:** Killed or seriously injured.

**KSI Rate:** Number of persons killed or seriously injured per specified unit. In this report the following KSI rates are provided:

1. per 10,000 registered vehicles,
2. per 100 million vehicle kilometres travelled and
3. per 100,000 population.

**Mature Adult Road User:** A road user aged 25 to 59 years.

**Medical Attention Crash:** A road crash in which the most serious injury resulted in a person requiring medical treatment, but without being admitted to hospital.

**Metropolitan:** The area equivalent to the Perth Statistical Division as defined by the Australian Bureau of Statistics.

**Minor Injuries:** Injuries from a road crash in which the person was not admitted to hospital. Includes injuries such as sprains and bruises, which may not require medical treatment.

**Motorcycle:** A motor vehicle with two or three wheels. Includes motor vehicles that have a sidecar attached, motor scooters, mopeds, trail bikes and mini-bikes.

**Motorcycle Pillion:** A pillion or sidecar passenger of a motorcycle.

**Motorcycle Rider:** A person riding a motorcycle, motor scooter, moped, trail bike or mini-bike. Excludes pillion and sidecar passengers – see Motorcycle Pillion.

**Motorcyclists:** A motorcycle rider or motorcycle pillion.

**Motor Vehicle Occupant:** An occupant of a motorised vehicle, excluding motorcycles, tractors and trailer type vehicles (caravans, campers etc.). Excludes occupants and riders of non-motorised transport, such as bicycles, animal drawn vehicles and ridden animals.

**Multi-Vehicle Crash:** A crash involving two or more moving vehicles.

**n:** Number.

**N/R:** Not reported. Where a count is less than ten, percentage changes are not reported.

**Off-Road:** Locations that are not classified as roads. Includes car parks, cycle paths, beaches, parking areas, petrol stations, driveways and recreational areas.

**'Other' Road User:** Persons riding an animal or persons in an animal drawn vehicle.

**Out of Scope Crashes:** Crashes that occur due to a medical condition, deliberate acts (e.g. suicide attempts), police chases or in off-road locations such as beaches, car parks, cycle paths, driveways, petrol stations, recreational areas or ramps at boat harbours.

**Passenger:** Any person other than the driver travelling in a motor vehicle. Excludes persons riding on an animal, bicycle or motorcycle and persons in an animal drawn vehicle.

**Pedestrian:** A person on foot or sitting or lying, a person in or on a wheeled recreational device or wheeled toy, an occupant of a non-motorised wheelchair, an occupant of a motorised wheelchair/gopher, a person pushing a motorised or non-motorised wheelchair. Includes a person on roller skates, in-line skates or a skateboard, but excludes a person riding a bicycle. Also includes a person who has just alighted from a vehicle.

**Persons Killed or Seriously injured:** The number of fatalities and persons seriously injured as the result of a crash. Includes persons who were killed outright or died within 30 days of the day of the road crash as a result of the crash and persons admitted to hospital as a result of a road crash and who did not die from injuries sustained in the crash within 30 days of the crash.

**Person Seriously Injured:** A person admitted to hospital as a result of a road crash and who does not die from injuries sustained in the crash within 30 days of the crash.

**Region:** Subdivisions of Western Australia used by Main Roads Western Australia.

**Restraint:** A device designed to hold a person within the body of a vehicle and limit movement during a crash, thereby reducing severity of injury. Includes inertia reel and fixed lap or sash seat belts, and child restraints such as capsules. (See also Seat belt).

**Rider:** Used as an abbreviation for Motorcycle Rider in some tables and graphs. A person riding a motorcycle, motor scooter, moped, trail bike or mini-bike. Excludes bicycle riders, motorcycle pillion and sidecar passengers.

**Rigid Truck:** A vehicle constructed primarily for load carrying with a gross vehicle mass (GVM) exceeding 3.5 tonnes.

**Road:** Any thoroughfare, highway or road that is open to or used by the public for the purpose of driving or riding of motor vehicles.

**Road Crash:** Any unpremeditated incident where in the course of the use of any vehicle on a road that was not temporarily closed off to the public, a person is injured or property is damaged. The crash must involve vehicle movement. Does not include collisions that occur due to a medical condition, deliberate acts (e.g. suicide attempts) or police chases.

**Road User:** Includes drivers, passengers, motorcycle riders, motorcycle pillion, bicycle riders, persons riding an animal, persons in an animal drawn vehicle and pedestrians.

**Road User Groups:** Categories used to separate different road users. These categories are used for hospital admission data only and are not directly comparable with the 'Road User Types' used for police-reported data.

**Road User Types:** Categories used to separate different road users. These categories are used for police-reported data only and are not directly comparable with the 'Road User Groups' used for hospital admission data.

**Run-Off-Road Crash:** Crashes in which a vehicle involved exits the carriageway, through a loss of control, swerving to avoid a collision or for other reasons. After the vehicle has left the carriageway it may also collide with a person, object, or vehicle, or it may roll over, and/or a person may fall or be ejected from the vehicle.

**Seat belt:** A device designed to hold a person within the body of a vehicle and limit movement during a crash, thereby reducing severity of injury. Includes inertia reel and fixed lap or sash seat belts, and child restraints such as capsules. The device must meet the relevant Australian Vehicle Design Rules and the Australian Standards. Drivers and passengers of motor vehicles must wear seat belts.

**Senior Adult Road User:** A road user aged 60 years or over.

**Serious Crash:** A road crash that resulted in at least one fatality and/or where at least one person was seriously injured.

**Serious Injury Rate:** The number of persons seriously injured per specified unit. In this report the following serious injury rates are provided:

1. per 10,000 registered vehicles;
2. per 100 million vehicle kilometres travelled; and
3. per 100,000 population.

**Seriously Injured:** Admitted to hospital as an inpatient for treatment of injuries sustained in a crash, but did not die within 30 days of the crash.

**Single-Vehicle Crash:** A crash in which only one moving vehicle was involved. Includes collisions with pedestrians, animals and fixed objects such as a tree, pole, bridge, dropped load, or parked vehicle, and includes non-collisions such as a roll-over.

**Speeding:** A vehicle is considered to be speeding if it travels at excessive speed for the prevailing conditions, or above the posted speed limit.

**Speed-Related Crash**: A crash in which speed was found to be a factor in causing the road crash.

**Vehicle:** Includes motor vehicles, trailers, trams, bicycles, animal drawn vehicles or animals that are being ridden and motorised golf buggies. Excludes non-motorised wheelchairs, motorised wheelchairs/gophers, trains, wheeled recreational devices and wheeled toys.

**Wheelchair:** A chair mounted on two or more wheels that is built to transport a person who is unable to walk or has difficulty in walking. Does not include a pram, stroller or trolley.

**Wheeled Recreational Device:** A wheeled device built to transport a person that is propelled by human power or gravity and ordinarily used for recreation or play. Includes in-line skates, roller skates, skateboards and similar wheeled devices. Does not include a golf buggy, pram, stroller, trolley, bicycle, wheelchair or wheeled toy.

**Wheeled Toy:** A child's pedal car, child's scooter, child's tricycle or a similar toy. Does not include a bicycle.

**Young Adult Road User:** A road user aged 17 to 24 years.

## FEEDBACK QUESTIONNAIRE

*We would appreciate your comments on this report. Please complete this questionnaire and return it to the address below.*

1. Which of the following best describes your area of work or study?

☐ Planning and Infrastructure
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☐ Other (please specify) _____

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3. Did you find all of the information you were looking for in this report?

☐ Yes
☐ No

4. What additional information would you like to have seen in this report?

_____
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Attention: Matthew Legge
Office of Road Safety
Main Roads WA
Waterloo Crescent
EAST PERTH, Western Australia 6004