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Road Safety Commission

ROAD SAFETY COMMISSION
Saving Lives Together

Reported road crashes

in Western Australia 2014

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Reported road crashes in Western Australia 2014

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Abstract

This report presents information on road crashes in Western Australia in 2014. During this time there were 34,749 police-reported road crashes in which 182 people were killed.

Keywords

Road crash statistics, Fatal crashes, Blood alcohol concentration, Drink driving, Drugs, Fatality, Helmet use, Injury, Restraint use, Road environment, Metropolitan area, Regional area, Seat belt, Speeding, Vehicle type, Western Australia.

Note

This report is distributed in the interests of information exchange and is available on the Internet at the Road Safety Commission website http://rsc.wa.gov.au/.

Minister's foreword

This has been a year marked by an unusual spike in the number of fatal motorcycle crashes, with 44 riders killed on our roads this year.

Unfortunately, speeding, drug and alcohol use were contributing factors in many of those crashes.

While the rate of fatalities on Western Australian roads has dropped 25 per cent since 2008 - when the *Towards Zero 2008 –2020* road safety strategy began - we lost 182 people on our roads this year – each a loved one to somebody.

As the Minister for Road Safety, I acknowledge that the positive trend in the statistics will be of no comfort to the families of those taken so suddenly.

Our State's fatality rate remains higher than the national rate and the Liberal-National Government remains committed to our efforts to reduce deaths and serious injuries by 40 per cent – or 11,000 – by 2020.

The State Government's focus will remain on the four-pronged approach to road safety, with continued funding for safer roads and roadsides, research around safer vehicles and safer speeds and education on driver behaviour.

Sadly, alcohol, drugs and speeding remain strong contributing factors with speeding a factor in around a third and alcohol around a fifth of all fatal crashes. Illegal drugs were also a factor in a fifth of this year's fatalities.

We know that 25 per cent of the motorcyclists killed this year had illegal drugs in their system. This figure was 19 per cent for drivers.

A startling figure this year was that 31 per cent of motor vehicle occupants killed in crashes were not wearing a seat belt – most of those were men.

Once again we see a skew this year towards more regional road deaths, per head of population, than metropolitan.

And, the often forgotten toll of road trauma is those left with life-changing injuries.

This year more than 1,000 people were left seriously injured after a crash.

The data gathered in this report will inform the State Government's decision making around road safety education campaigns. It will also provide information for key evidence-based decisions to be made to continue to make WA roads safe for everyone.

Liza Harvey
Hon. Liza Harvey MLA
Minister for Road Safety

Key road crash facts for 2014

Fatalities

- There were 182 police-reported road crash fatalities in Western Australia. This is 21 more than in 2013.
- The number of fatalities was 13% more than the previous year.
- More fatalities occurred in Regional WA (59%) than in the Metropolitan region.

Trends in crashes

- The fatality rate per 100,000 population was 7.1 – compared to 4.9 for Australia as a whole.
- Around three quarters of fatalities were male (74%).
- The majority of fatalities were for drivers (42%), followed by motorcyclists (24%) and passengers (20%).

Speed

- Speed was a factor in 29% of police-attended fatal crashes.
- Most fatal crashes where speed was a factor occurred in 110km/h speed zones (32%).

Alcohol

- Almost one fifth (17%) of police attended fatal crashes involved at least one driver/rider with a blood alcohol content of 0.05g/100ml or above.

Illegal drugs

- Around a fifth of police attended fatalities had an illegal drug detected in their system.
- Drivers and motorcyclists comprised the majority of road crash fatalities with illegal drugs in their system (38% and 32%).

Seatbelts

- Of motor vehicle occupants killed in a road crash 31% were not wearing a seatbelt.

Crash nature

- The most common fatal crash types in 2014 were single vehicle “hit object” crashes (39%), followed by single vehicle non-collision (13%) and head-on crashes (11%).

Regional

- In Regional WA the Wheatbelt had the highest number of fatalities (34) followed by the South West (30).

Hospital inpatient

- Hospital inpatient data showed there were 4,079 people admitted to hospital due to a road crash, of whom 29 died after admission to hospital.
- Indigenous Australians made up 7% of hospital inpatients resulting from road crashes.

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1. Introduction

This report, published annually, provides road crash statistics for 2014 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 counting the number of road crash fatalities as well as the number of fatal crashes. For more detailed definitions of these and other terms, see the Glossary.

Previously this report has presented information on hospitalisations as recorded in IRIS by MRWA. Changes in the collection methodology of road crashes mean that comparison before and after such variation are not reliable. This report focuses on counting road crash fatalities and fatal crashes for which the most accurate data is available.

1.1. Data sources and acknowledgements

Data used in this report was sourced from a variety of government and research organisations.

Main Roads Western Australia (MRWA)

Most of the statistics presented here were extracted from data on police-reported road crashes. These data were obtained from the Integrated Road Information System (IRIS) maintained by MRWA. The dataset used was extracted from IRIS by MRWA on 26 October 2015 and changes made to the dataset after this date are not reflected in this report.

Australian Bureau of Statistics

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).

Bureau of Infrastructure, Transport Regional Economics

Comparisons across Australian States and Territories were derived from data extracted from the Australian Road Deaths Database maintained by the Bureau of Infrastructure, Transport and Regional Economics (BITRE).

Western Australia Police

Information on whether speed contributed to a crash was obtained from the Road Crash Casualty Database maintained by Western Australia Police. This database records information on crashes that were attended by police.

Chemistry Centre of Western Australia

Information on road crash fatalities with drugs detected in their system was provided by the Chemistry Centre of Western Australia.

Western Australia Department of Health

Information on road traffic casualties admitted to public and private hospitals in Western Australia during 2014 is given. Hospital inpatient data is captured using the Hospital Morbidity Data System and was extracted on the 4th March 2016.

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.

Western Australian Department of Transport

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

Acknowledgments

The Road Safety Commission would like to thank the following people and organisations for their assistance in providing data:

Chemistry Centre of Western Australia - Francois Oosthuizen

Western Australia Department of Health - Vikki Mirosevich, Michael Anagno

Main Roads Western Australia - Thandar Lim

Western Australian Police - Stephen Temby

1.2. Reading and interpreting the report

The statistics in this report should be read in conjunction with the glossary, which provides definitions of terms used in the report.

All tables and figures in this report refer to road crashes that occurred in Western Australia in 2014, 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. Also, 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.

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

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 Road Safety Commission web site < https://rsc.wa.gov.au/>.

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 road crash injury, 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, were identified as a priority. 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%.

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 comparisons to other geographical areas.

Table 1 Fatal crashes and fatalities by year

	Year					
	2009	**2010**	**2011**	**2012**	**2013**	**2014**
Crashes/Injuries	n	n	n	n	n	n
Fatal crashes	176	175	167	171	148	172
Fatalities	191	192	179	183	161	182

Figure 1 Fatalities by year, 1961 to 2014

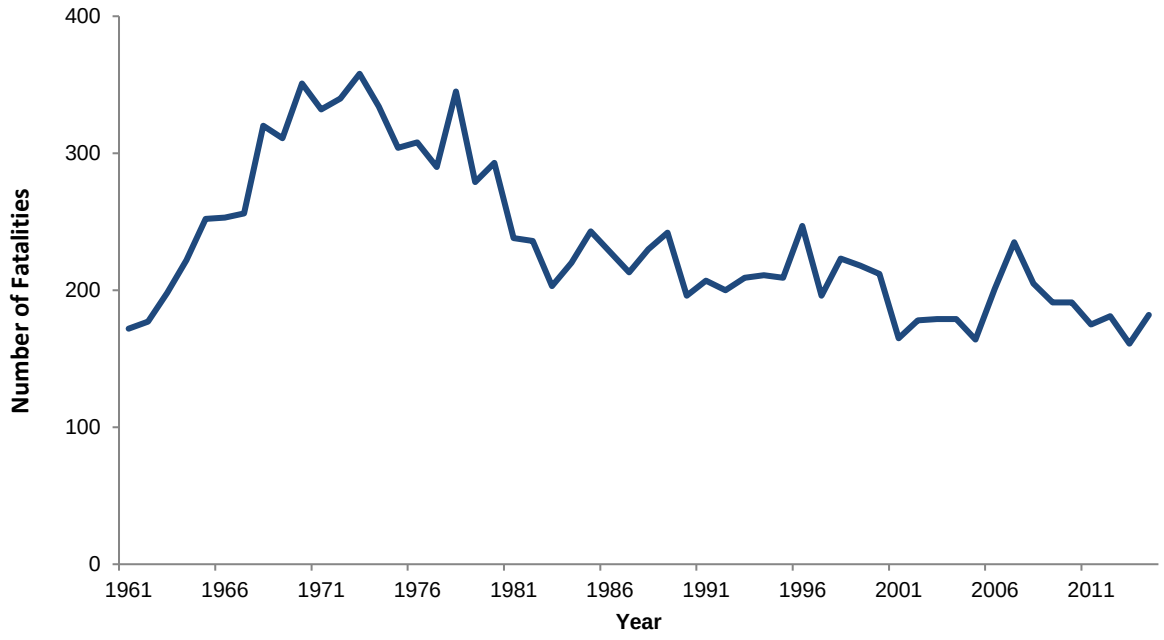


Table 2 Fatality rates per 100,000 population by year

	Year					
	2009	**2010**	**2011**	**2012**	**2013**	**2014**
	n	**n**	**n**	**n**	**n**	**n**
Fatality Rate	8.5	8.4	7.6	7.5	6.4	7.1
Estimated Population[1]	**2,240,250**	**2,290,845**	**2,353,409**	**2,437,994**	**2,519,007**	**2,573,389**

[1.] Source: Australian Bureau of Statistics, catalogue no. 3201.0.

Table 3 Fatality rates per 100,000 registered vehicles by year

	Year					
	2009	**2010**	**2011**	**2012**	**2013**	**2014**
	n	**n**	**n**	**n**	**n**	**n**
Fatality Rate	1.0	1.0	0.9	0.9	0.8	0.8
Registered Vehicles[1]	**1,828,346**	**1,870,068**	**1,912,739**	**1,977,756**	**2,048,388**	**2,142,307**

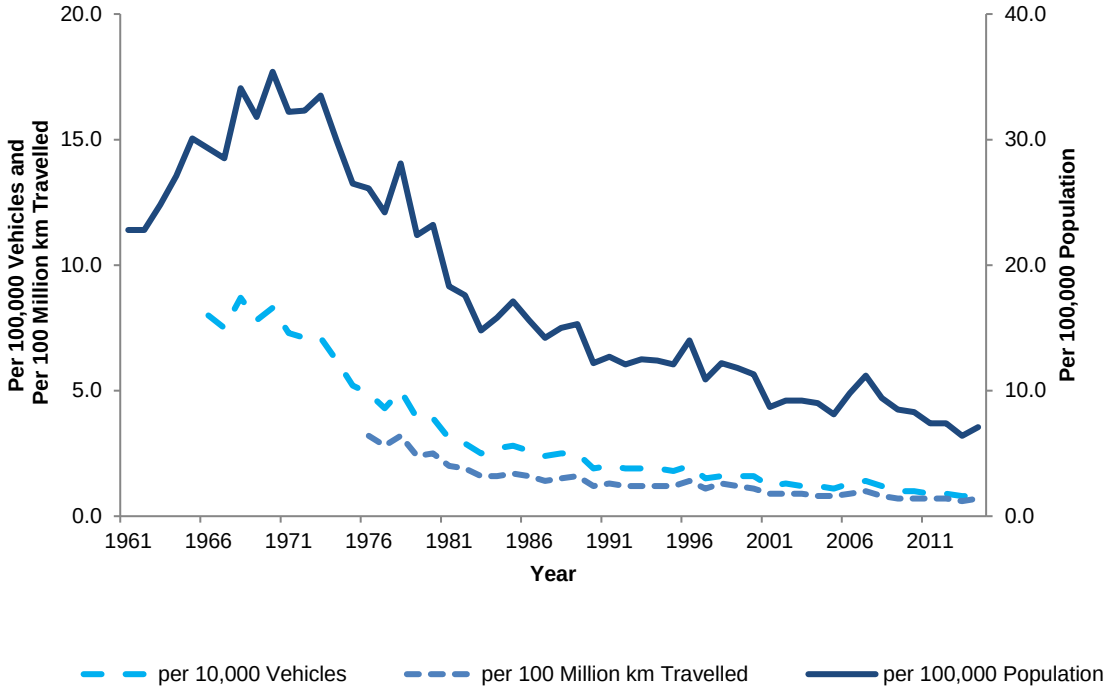
[1]Source: Australian Bureau of Statistics, Motor Vehicle Census, Catalogue No. 9309.0.

Table 4 Fatality rates per 100 million kilometres travelled by severity and year

	Year					
	2009	**2010**	**2011**	**2012**	**2013**	**2014**
	n	**n**	**n**	**n**	**n**	**n**
Fatality Rate	0.7	0.7	0.7	0.7	0.6	0.7
Vehicle Kilometres Travelled (millions)[1]	**25,902**	**26,285**	**26,740**	**27,500**	**26,835**	**27,581**

[1]Source: Australian Bureau of Statistics, Survey of Motor Vehicle Use, Catalogue No. 9208.0 (June 2012 release for 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. The 2013 figure is an estimate based on the 2012 average kilometres travelled per vehicle and the 2013 number of vehicles registered.

Figure 2 Fatality rates by year, 1961 to 2014



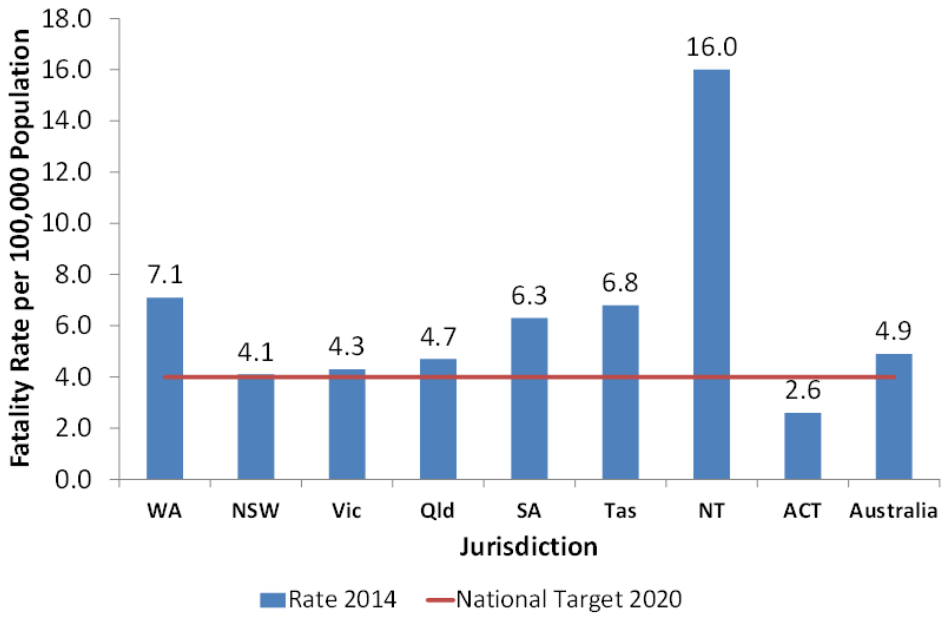
2.2. Comparison with other jurisdictions

Table 5 Fatality rates per 100,000 population by year – Australian states and territories[1]

State / Territory	Year											
	2009		2010		2011		2012		2013		2014	
	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate
WA	**191**	**8.5**	**192**	**8.4**	**179**	**7.6**	**183**	**7.5**	**161**	**6.4**	**182**	**7.1**
NSW	454	6.4	405	5.7	364	5.0	369	5.0	333	4.5	307	4.1
Vic.	290	5.4	288	5.3	287	5.2	282	5.0	243	4.2	249	4.3
Qld.	331	7.6	249	5.7	269	6.0	280	6.1	271	5.8	223	4.7
SA	119	7.4	118	7.3	103	6.3	94	5.7	98	5.9	107	6.3
Tas.	63	12.5	31	6.1	24	4.7	31	6.1	36	7.0	35	6.8
NT	31	13.7	50	21.8	45	19.5	49	20.8	37	15.3	39	16.0
ACT	12	3.4	19	5.3	6	1.6	12	3.2	7	1.8	10	2.6
Australia	**1,491**	**6.9**	**1,352**	**6.1**	**1,277**	**5.7**	**1,300**	**5.7**	**1,186**	**5.1**	**1,152**	**4.9**

[1]Sources: The number of fatalities for Western Australia from MRWA Integrated Road Information System. For all other states and territories data extracted from the Australian Road Deaths Database maintained by the Bureau of Infrastructure, Transport and Regional Economics. Rates calculated using population data from the Australian Bureau of Statistics, Catalogue No. 3101.0.

Figure 3 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. Source: Bureau of Infrastructure, Transport and Regional Development.

Table 6 Comparison with other Australian states and territories, fatality rates 2014[1]

State/Territory	Fatalities n	Fatalities per 100,000 population Rate	Fatalities per 10,000 registered vehicles Rate	Fatalities per 100 million km travelled Rate
WA	**182**	**7.1**	**0.8**	**0.7**
NSW	307	4.1	0.6	0.4
Vic.	249	4.3	0.6	0.4
Qld.	223	4.7	0.6	0.4
SA	107	6.3	0.8	0.6
Tas.	35	6.8	0.8	0.7
NT	39	16.0	2.6	1.9
ACT	10	2.6	0.4	0.3
Australia	**1,152**	**4.9**	**0.7**	**0.5**

[1]Sources: The number of fatalities for Western Australia from MRWA Integrated Road Information System. For all other states and territories data extracted from the Australian Road Deaths Database maintained by the Bureau of Infrastructure, Transport and Regional Economics. Rate denominators extracted from Australian Bureau of Statistics publications: Australian Demographic Statistics, Catalogue No. 3101.0; Motor Vehicle Census, Australia, Catalogue Mo. 9309.0; and Survey of Motor Vehicle Use, Australia, Catalogue No. 9208.0.

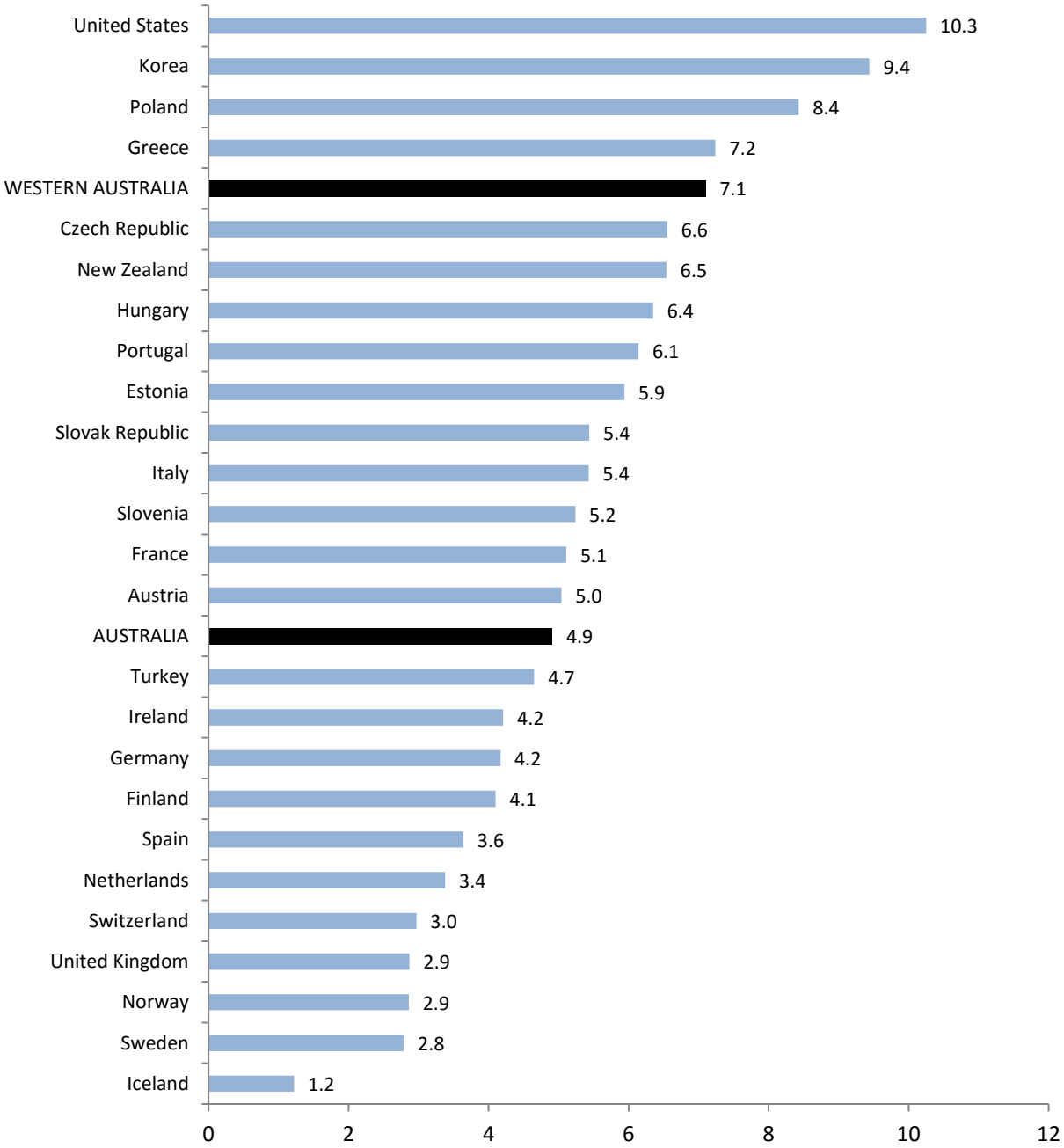
Table 7 Comparison with other countries, fatality rates per 100,000 population - 2014

Jurisdiction	Fatalities n	Fatalities per 100,000 population rate
United States	32,675	10.25
Korea	4,762	9.44
Poland	202	8.43
Greece	793	7.24
Western Australia	**182**	**7.10**
Czech Republic	688	6.55
New Zealand	295	6.54
Hungary	626	6.35
Portugal	638	6.14
Estonia	78	5.94
Slovak Republic	295	5.44
Italy	330	5.43
Slovenia	108	5.24
France	3 384	5.11
Austria	430	5.04
Australia	**1,153**	**4.91**
Turkey	3,524	4.65
Ireland	194	4.21
Germany	3,377	4.17
Finland	224	4.10
Spain	1,688	3.64
Netherlands	570	3.38
Switzerland	243	2.97
United Kingdom	1,854	2.87
Norway	147	2.86
Sweden	270	2.79
Iceland	4	1.22

Source: Organisation for Economic Co-operation and Development (OECD) (2016), Road accidents (indicator). doi: 10.1787/2fe1b899-en (Accessed on 04 April 2016).

Some data is preliminary or provisional.

Figure 4 Comparison with other countries, fatality rates per 100,000 population - 2014



Source: Organisation for Economic Co-operation and Development (OECD) (2016), Road accidents (indicator). doi: 10.1787/2fe1b899-en (Accessed on 04 April 2016).

Some data is preliminary or provisional.

2.3. Cost of crashes

Estimates of the financial cost of road traffic injuries and crashes in Western Australia have been calculated using two different methods, both are shown in table 9.

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 2014 yields an estimate of $1.9 billion, 26% of which was due to fatal crashes and 50% from hospitalisation crashes. In contrast, the willingness-to-pay approach gives an estimate of $2.6 billion, of which 52% was due to fatal crashes and 20% from hospitalisation crashes.

Table 8 Estimated cost of fatal crashes to the western Australian community, 2014

		Human Capital Approach		Willingness-to-Pay Approach	
Region	Fatal Crashes n	Cost per Crash[1] $	Total Cost $	Cost per Crash[2] $	Total Cost $
Metropolitan fatal crashes	72	2,766,587	199.2M	7,208,944	519.0M
Non-metropolitan fatal crashes	100	2,993,541	299.4M	8,302,125	830.2M

1. Human capital costs per crash were provided by the Road Safety Commission and were derived using:
   - Austroads "Guide to Project Evaluation Part 4: Project Evaluation Data" (2008).
   - Average weekly earnings for Western Australia, for the May quarter, Australian Bureau of Statistics, Catalogue No. 6302 (August 2015 release).
   - The consumer price index for Perth, for the June quarter, Australian Bureau of Statistics, Catalogue No. 6401 (January 2016 release)
2. Willingness-to-pay costs per crash were provided by the Road Safety Commission and were derived using:
   - Costs per injury from NSW RTA "Economic Valuation of Safety Benefits: Serious injuries – Final Report".
   - Consumer price index (CPI) categories: CPI – All Groups, CPI – Motor Vehicle Repair and Servicing and CPI – Health, for the June quarter, Australian Bureau of Statistics, Catalogue No. 6401 (January 2016 release).
3. "Other" refers to crashes that resulted in property damage only.
4. Excludes one medical attention and three property damage only crashes for which the region was unknown.

2.4. Road crashes by demographics

Summaries of the number of persons killed are provided by age group, gender and road user type.

Table 9 Fatalities by road user, gender and age - 2014

		Road User					
		Driver	Passenger	Motorcyclist	Bicyclist	Pedestrian	All persons
Gender/age		n	n	n	n	n	n
Male	0 to 6	0	2	0	0	0	2
	7 to 16	1	0	1	0	1	3
	17 to 18	2	3	1	1	1	8
	19 to 24	9	3	7	0	1	20
	25 to 59	27	8	27	4	6	72
	60 to 84	15	2	5	1	0	23
	85 and over	1	0	0	0	5	6
	Total Male	**55**	**18**	**41**	**6**	**14**	**134**
Female	0 to 6	0	2	0	0	1	3
	7 to 16	0	2	0	0	0	2
	19 to 24	3	6	1	0	0	10
	25 to 59	9	3	1	1	1	15
	60 to 84	6	4	1	1	1	13
	85 and over	4	0	0	0	0	4
	Total Female	**22**	**17**	**3**	**2**	**3**	**47**
Unknown gender/age		0	1	0	0	0	1
Total fatalities		**77**	**36**	**44**	**8**	**17**	**182**

Table 10 Fatalities by gender and age group - 2014

	Gender				Percentage of fatalities	Percentage of population[1]	Age-specific fatality rate[1,2]
	Male	Female	Unknown	Total[3]			
Age group	n	n	n	n	%	%	Rate
0 to 6	2	3	1	6	3.3	9.3	2.5
7 to 16	3	2	0	5	2.7	12.3	1.6
17 to 18	8	0	0	8	4.4	2.5	12.4
19 to 24	20	10	0	30	16.5	8.5	13.7
25 to 59	72	15	0	87	47.8	49.6	6.8
60 to 84	23	13	0	36	19.8	16.2	8.6
85 and over	6	4	0	10	5.5	1.6	25
Total fatalities [3]	**134**	**47**	**1**	**182**	**100**	**100**	**7.1**

[1] Source: Population data from the Australian Bureau of Statistics [2] Age specific fatality rates per 100,000 population.

[3] Includes Unknown gender.

3. Safe system

3.1. Safe road use

3.1.1. Speeding

Speed is a contributing factor in the occurrence and severity of crashes by reducing an individual's 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 factor in the crash 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.

Information on whether speed was a factor in the crash have been derived from the WA Police Road Crash Casualty Database. This is the first time the Road Safety Commission have used this data source in this annual crash statistics publication series, hence figures are not comparable to previous years books.

These speed-related crashes include crashes where:

- the police recorded speed as a primary crash factor, either alone or in combination with other factors, and/or
- where police record speed as a contributing factor.

This information should be considered with the following caveat:

1. The information was supplied courtesy of the WA Police.
2. The information was sourced from the WA Police via the:
    i. WA Police Image and Infringement Processing System
    ii. WA Police Briefcase
    iii. WA Police Incident Management System
    iv. WA Police Traffic Enforcement and Crash Executive Information System
3. The information is provisional and may be subject to revision.

Table 11 Fatal crashes and fatalities by speed was a factor, police attended - 2014[1]

	Speed a factor		
	Yes	No	Total
Crashes/injuries	n	n	n
Total fatal crashes	50	122	172
Total fatalities	53	129	182

[1] Source: Fatal and Critical Injury Casualty Database - WA Police.

Table 12 Fatal crashes by speed was a factor by speed zone, police attended - 2014[1]

	Speed a factor		
	Yes	No	Total
Speed zone (km/h)	**n**	**n**	**n**
<50	1	4	5
50	7	10	17
60	13	15	28
70	3	18	21
80	4	10	14
90	3	7	10
100	2	11	13
110	16	44	60
Unknown zone	1	3	4
Total fatal crashes	**50**	**122**	**172**

[1] Source: Fatal and Critical Injury Casualty Database - WA Police.

Table 13 Fatal crashes by speed was a factor by crash nature, police attended - 2014[1]

	Speed a factor		
	Yes	No	Total
Crash nature	**n**	**n**	**n**
Multi-vehicle crashes			
Rear end	3	3	6
Head on	2	17	19
Sideswipe same direction	3	2	5
Right angle	6	11	17
Right turn through	2	6	8
MV other/unknown	2	4	6
Total multi-vehicle	**18**	**43**	**61**
Single-vehicle crashes			
Hit pedestrian	0	15	15
Hit object	26	41	67
Non collision	6	17	23
SV other/unknown	0	6	6
Total single-vehicle	**32**	**79**	**111**
Total fatal crashes	**50**	**122**	**172**

[1] Source: Fatal and Critical Injury Casualty Database - WA Police.

3.1.2. 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. 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.

Since alcohol involvement in crashes is based on the BAC of all drivers and motorcycle riders who are in control of a vehicle (referred to as drivers/riders), crashes that did not involve a driver or rider were excluded from some of the tables 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.

This data does not take into account the different BAC requirements for different classes of licences such as probationary licences.

Table 14 Highest driver/rider BAC in fatal crashes, police attended - 2014[1]

	Fatal crashes
Highest driver/rider BAC in crash	**n**
Nil	79
< 0.05	6
0.05 - 0.079	6
0.08 - 0.149	7
≥ 0.15	17
Subtotal ≥ 0.05	**30**
Unknown	53
Total fatal crashes	**168**

[1] Excludes crashes that did not involve a driver/rider.

Table 15 Drivers/riders involved in fatal crashes by driver/rider BAC by gender and age group, police attended - 2014

		Driver/rider BAC (g/100ml)							
		Nil	< 0.05	0.05 - 0.079	0.08 - 0.149	≥ 0.15	Subtotal ≥0.05	Unknown	Total
Gender / age		n	n	n	n	n	n	n	n
Male	7 to 16	1	0	0	0	1	**1**	0	2
	17 to 18	3	0	0	0	0	**0**	2	5
	19 to 24	11	1	2	2	1	**5**	19	36
	25 to 59	31	2	3	2	13	**18**	47	98
	60 to 84	16	1	1	1	1	**3**	8	28
	85 and over	1	0	0	0	0	**0**	1	2
	Total male	**63**	**4**	**6**	**5**	**16**	**27**	**77**	**171**
Female	17 to 18	0	0	0	0	0	**0**	2	2
	19 to 24	2	0	0	0	1	**1**	6	9
	25 to 59	6	2	0	2	0	**2**	17	27
	60 to 84	7	0	0	0	0	**0**	2	9
	85 and over	4	0	0	0	0	**0**	0	4
	Total female	**19**	**2**	**0**	**2**	**1**	**3**	**27**	**51**
Unknown gender		0	0	0	0	0	**0**	9	9
Total drivers/riders involved in fatal crashes		**82**	**6**	**6**	**7**	**17**	**30**	**113**	**231**

Table 16 Fatalities by highest driver/rider BAC in crash, gender by age group, police attended – 2014[1]

		Highest driver/rider BAC (g/100ml)							
		Nil	< 0.05	0.05 - 0.079	0.08 - 0.149	≥ 0.15	Subtotal ≥0.05	Unknown	Total
Gender/age		n	n	n	n	n	n	n	n
Male	0 to 6	0	1	0	0	0	**0**	1	2
	7 to 16	1	0	0	0	1	**1**	1	3
	17 to 18	3	0	0	0	0	**0**	4	7
	19 to 24	11	1	1	2	1	**4**	4	20
	25 to 59	31	2	4	2	13	**19**	18	70
	60 to 84	17	1	1	1	1	**3**	2	23
	85 and over	1	0	0	0	0	**0**	4	5
	Total male	**64**	**5**	**6**	**5**	**16**	**27**	**34**	**130**
Female	0 to 6	0	1	0	0	0	**0**	3	4
	7 to 16	0	1	0	0	0	**0**	1	2
	19 to 24	3	0	0	1	1	**2**	5	10
	25 to 59	5	2	0	2	1	**3**	5	15
	60 to 84	6	0	0	0	0	**0**	7	13
	85 and over	4	0	0	0	0	**0**	0	4
	Total female	**18**	**4**	**0**	**3**	**2**	**5**	**21**	**48**
Total fatalities		**82**	**9**	**6**	**8**	**18**	**32**	**55**	**178**

[1] Excludes crashes that did not involve a driver/rider.

Table 17 Pedestrian fatalities by BAC and region, police attended - 2014[1]

	Pedestrian BAC (g/100mL)					
	Nil	0.08 - 0.149	≥ 0.15	Subtotal ≥0.05	Unknown	Total
Towards Zero region	n	n	n	n	n	n
Metropolitan	6	1	2	3	2	11
Regional	2	0	1	1	1	4
Total pedestrian fatalities	**8**	**1**	**3**	**4**	**3**	**15**

3.1.3. 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 testing does not determine 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. This process resulted in 169 of 182 fatalities from the crash data being matched to a record within the drug dataset. There were also 16 records of fatalities from the drug data that could not be matched to records in the crash data. Of these 16 fatalities, one had cannabis detected in their system. The remaining 15 did not have any illegal drugs detected in their systems.

It is likely that many of the 13 fatalities from the crash data 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 169 crash fatalities who were matched to the drug data.

Table 18 Fatalities by gender and drug use - 2014[1]

	Gender		
	Male	**Female**	**Total**
Drugs detected	**n**	**n**	**n**
None	**96**	**39**	**135**
Total with drugs detected	**30**	**4**	**34**
Amphetamines and Cannabis	4	0	4
Alcohol and Other illegal substances	1	0	1
Alcohol and Amphetamines	4	0	4
Alcohol and Cannabis	10	2	12
Cannabis	4	1	5
Alcohol and Amphetamines and Cannabis	3	0	3
Amphetamines	4	1	5
Total fatalities	**126**	**43**	**169**

[1]Source: Forensic Science Laboratory, Chemistry Centre of Western Australia.

Table 19 Fatalities by age group and drug use – 2014[1]

	Age group				
	0 to 16	17 to 24	25 to 59	60 and over	Total
Drugs detected	**n**	**n**	**n**	**n**	**n**
None	**6**	**29**	**60**	**40**	**135**
Total with drugs detected	**2**	**8**	**22**	**2**	**34**
Amphetamines	0	1	4	0	5
Cannabis	0	1	4	0	5
Alcohol and Amphetamines	0	0	4	0	4
Alcohol and Cannabis	2	3	6	1	12
Alcohol and Other illegal substances	0	1	0	0	1
Amphetamines and Cannabis	0	1	3	0	4
Alcohol and Amphetamines and Cannabis	0	1	1	1	3
Total fatalities	**8**	**37**	**82**	**42**	**169**

[1]Source: Forensic Science Laboratory, Chemistry Centre of Western Australia.

Table 20 Fatalities by road user and drug use - 2014[1]

	Road user					
	Driver	Passenger	Motorcyclist	Bicyclist	Pedestrian	Total
Drugs detected	**n**	**n**	**n**	**n**	**n**	**n**
None	**55**	**25**	**33**	**7**	**15**	**135**
Total with drugs detected	**13**	**7**	**11**	**1**	**2**	**34**
Amphetamines	2	1	2	0	0	5
Cannabis	0	1	3	0	1	5
Alcohol and Amphetamines	2	1	1	0	0	4
Alcohol and Cannabis	7	3	1	0	1	12
Alcohol and Other illegal substances	0	0	1	0	0	1
Amphetamines and Cannabis	2	0	1	1	0	4
Alcohol and Amphetamines and Cannabis	0	1	2	0	0	3
Total fatalities	**68**	**32**	**44**	**8**	**17**	**169**

[1]Source: Forensic Science Laboratory, Chemistry Centre of Western Australia.

Table 21 Fatalities by day of week and drug use - 2014[1]

	Day of week						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Drugs detected	**n**	**n**	**n**	**n**	**n**	**n**	**n**
None	**13**	**17**	**11**	**29**	**15**	**21**	**29**
Total with drugs detected	**6**	**3**	**0**	**6**	**4**	**5**	**7**
Amphetamines	2	0	0	1	0	1	1
Cannabis	0	0	0	1	2	0	2
Alcohol and Amphetamines	1	0	0	2	0	0	1
Alcohol and Cannabis	2	1	0	2	1	4	2
Alcohol and Other illegal substances	0	0	0	0	0	0	1
Amphetamines and Cannabis	1	2	0	0	1	0	0
Alcohol and Amphetamines and Cannabis	0	1	0	0	1	1	0
Total fatalities	**19**	**21**	**11**	**35**	**20**	**27**	**36**

[1]Source: Forensic Science Laboratory, Chemistry Centre of Western Australia.

3.1.4. Seat belts

The use of seat belts is only reported for occupants of motor vehicles that are likely to have seat belts fitted. As seat belt usage is more reliably recorded for police-attended crashes this section will focus on police-attended crashes.

Table 22 Motor vehicle occupant fatalities, by seat belt usage, gender and age group, police attended - 2014

		Seat belt usage			
		Worn	Not worn	Unknown	Total
Gender/age		n	n	n	n
Male	0 to 6	1	0	1	**2**
	7 to 16	0	1	0	**1**
	17 to 18	1	2	2	**5**
	19 to 24	6	1	5	**12**
	25 to 59	12	16	7	**35**
	60 to 84	11	4	2	**17**
	85 and over	0	1	0	**1**
	Total male	31	25	17	**73**
Female	0 to 6	1	1	1	**3**
	7 to 16	1	0	1	**2**
	19 to 24	6	3	0	**9**
	25 to 59	5	3	4	**12**
	60 to 84	6	3	1	**10**
	85 and over	3	0	1	**4**
	Total female	22	10	8	**40**
Total motor vehicle occupant fatalities		**53**	**35**	**25**	**113**

Table 23 Motor vehicle occupant fatalities, by seat belt usage by occupant type, police attended - 2014

	Seat belt usage			
	Worn	Not worn	Unknown	Total
Road user	n	n	n	n
Driver	42	19	16	77
Passenger	11	16	9	36
Total motor vehicle occupant fatalities	**53**	**35**	**25**	**113**

3.1.5. Helmets

This section shows statistics for the use of helmets by motorcyclists and bicyclists killed in crashes reported to police. This data tables police-attended crashes only.

Table 24 Fatalities by helmet usage, police attended - 2014

	Helmet usage			
	Worn	Not worn	Unknown	Total
Road user	**n**	**n**	**n**	**n**
Motorcyclist (incl. pillion)	35	3	6	44
Bicyclist	4	3	0	7
Total motorcyclist and bicyclist fatalities	**39**	**6**	**6**	**51**

3.2. Safe roads and roadsides

3.2.1. Road factors

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

Table 25 Fatal crashes by road factors - 2014

	Fatal crashes
Road factor	**n**
Road classification	
State roads	80
Local roads	86
Other	6
Road surface	
Sealed	158
Unsealed	14
Unknown	0
Road alignment	
Curve	50
Straight	122
Other	0
Road gradient	
Level	117
Crest of hill	4
Slope	51
Other	0
road conditions	
Wet	11
Dry	161
Unknown	0
Light	
Daylight	95
Dawn or dusk	4
Night	
Street lights on	34
Street lights off	0
No street lights	36
Unknown	3
Total fatal crashes	**172**

3.2.2. 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.

Table 26 Fatal crashes by crash nature - 2014

	Fatal crashes
Crash nature	**n**
Multi-vehicle	
Rear end	6
Head on	19
Sideswipe same direction	5
Right angle	17
Right turn through	8
Other/unknown	6
Single-vehicle	
Hit pedestrian	15
Hit object	67
Non collision	23
Other/unknown	6
Total fatal crashes	**172**

Table 27 Fatal crashes by high priority crash type - 2014

	Fatal crashes
Crash type	**n**
Intersection crash	33
Run off road	79
Head on crash	19
Other crash	35
Total fatal crashes	**177**

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%.

3.3. Safe speeds

3.3.1. Speed zones

Table 28 Fatal crashes by speed zone - 2014

	Fatal crashes
Speed zone (km/h)	**n**
<50	5
50	17
60	28
70	21
80	14
90	10
100	13
110	60
Unknown	4
Total fatal crashes	**172**

3.3.2. Speed compliance

General road user compliance with speed limits is shown in this section. The percentages of vehicles exceeding the speed limit are calculated from surveys conducted by collecting two days of speed data from a subset of selected sites.

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 29 Percentage of vehicles exceeding the speed limit by speed zone - 2014

	Region	
	Metropolitan	**Non-metropolitan**
Speed zone (km/h)	**%**	**%**
60	38.3	34.9
70	32.0	25.6
80	27.6	23.4
90	24.0	28.0
100	35.0	32.3
110	n/a	37.2
Total vehicles	**33.4**	**30.1**

Source: Trends in Driver Speed Behaviours on Perth Metropolitan Road Network 2000 to 2014 and Trends in Driver Speed Behaviours on Rural Road Network 2000 to 2014, MRWA.

3.4. Safe vehicles

3.4.1. Vehicle type

Table 30 Vehicles involved in fatal crashes type - 2014

	Vehicles
Vehicle type	**n**
Motor cycle	43
Utility	37
Station wagon	26
4WD	13
Rigid truck	11
Articulated truck	11
Bicycle	9
Panel van	4
Bus (≥ 12 seats)	3
Unknown	2
Other	1
Multi seater van	0
Moped	0
Motor cycle	43
Total vehicles in fatal crashes	**241**

4. Other factors

4.1. Temporal factors

This section provides crash and injury numbers by crash month and day of week for the whole state.

Table 31 Fatal crashes and fatalities by crash month - 2014

Month	Fatal crashes n	Fatalities n
January	7	7
February	12	15
March	19	19
April	13	15
May	9	9
June	17	17
July	16	17
August	13	13
September	15	16
October	19	22
November	16	16
December	16	16
Total	**172**	**182**

Table 32 Fatal crashes and fatalities by day of week - 2014

Day of week	Fatal crashes n	Fatalities n
Monday	18	20
Tuesday	24	24
Wednesday	13	13
Thursday	34	36
Friday	23	23
Saturday	28	28
Sunday	32	38
Total	**172**	**182**

5. 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.

The population of a region should be considered when comparing numbers of crashes across the different regions, as a region with a higher population is likely to have a higher number of crashes.

Table 33 Fatal crashes and fatalities by region - 2014

	Fatal crashes	Fatalities
Region	**n**	**n**
Total metropolitan	**72**	**74**
Total regional	**100**	**108**
Goldfields-Esperance	13	17
Great Southern	9	9
Kimberley	6	6
Mid West-Gascoyne	7	7
Pilbara	5	5
South West	28	30
Wheatbelt	32	34
Unknown	0	0
Total Western Australia	**172**	**182**

Table 34 Fatality rates per 100,000 population by year – 2014[1]

Region	Fatality rate per 100,000 population n
Total metropolitan	**3.8**
Total regional	**16.6**
Goldfields-Esperance	28.2
Great Southern	14.5
Kimberley	15.3
Mid West-Gascoyne	10.5
Pilbara	7.4
South West	10.7
Wheatbelt	45.5
Unknown	0
Total Western Australia fatality rate	**7.1**

[1] Source: Australian Bureau of Statistics. Special Data request: Estimated Resident Population at 30 June 2014 by single year of age by sex for all Local Government Areas (2014 boundaries) in Western Australia.

Table 35 Fatalities by gender by region - 2014

	Gender			
	Male	**Female**	**Unknown**	**Total**
Region	**n**	**n**	**n**	**n**
Total metropolitan	**57**	**17**	**0**	**74**
Total regional	**77**	**30**	**1**	**108**
Goldfields-Esperance	13	4	0	17
Great Southern	6	3	0	9
Kimberley	4	2	0	6
Mid West-Gascoyne	5	2	0	7
Pilbara	1	4	0	5
South West	26	4	0	30
Wheatbelt	22	11	1	34
Total Western Australia fatalities	**134**	**47**	**1**	**182**

Table 36 Fatalities by age by region – 2014

	Age							
	0 to 6	7 to 16	17 to 18	19 to 24	25 to 59	60 to 84	85 and over	Total
Region	**n**	**n**	**n**	**n**	**n**	**n**	**n**	**n**
Total metropolitan	**1**	**2**	**3**	**14**	**35**	**13**	**6**	**74**
Total regional	**5**	**3**	**5**	**16**	**52**	**23**	**4**	**108**
Goldfields-Esperance	2	1	3	3	6	2	0	17
Great Southern	0	0	0	1	6	2	0	9
Kimberley	0	0	0	0	4	2	0	6
Mid West-Gascoyne	0	0	1	1	1	4	0	7
Pilbara	1	0	0	0	4	0	0	5
South West	1	0	0	4	17	7	1	30
Wheatbelt	1	2	1	7	14	6	3	34
Total Western Australia fatalities	**6**	**5**	**8**	**30**	**87**	**36**	**10**	**182**

Table 37 Fatalities by road user by region - 2014

	Road user					
	Driver	Passenger	Motorcyclist	Bicyclist	Pedestrian	Total
Region	**n**	**n**	**n**	**n**	**n**	**n**
Total metropolitan	**21**	**8**	**24**	**8**	**13**	**74**
Total regional	**56**	**28**	**20**	**0**	**4**	**108**
Goldfields-Esperance	7	7	3	0	0	17
Great Southern	6	2	1	0	0	9
Kimberley	2	1	2	0	1	6
Mid West-Gascoyne	2	4	1	0	0	7
Pilbara	2	3	0	0	0	5
South West	12	7	9	0	2	30
Wheatbelt	25	4	4	0	1	34
Total Western Australia fatalities	**77**	**36**	**44**	**8**	**17**	**182**

Table 38 Fatal crashes by speed a factor by region, police attended - 2014[1]

	Speed a factor		
	Yes	No	Total
Region	n	n	n
Total metropolitan	**22**	**50**	**72**
Total regional	**28**	**72**	**100**
Goldfields-Esperance	3	10	13
Great Southern	5	4	9
Kimberley	1	5	6
Mid West-Gascoyne	1	6	7
Pilbara	2	3	5
South West	10	18	28
Wheatbelt	6	26	32
Total Western Australia fatal crashes	**50**	**122**	**172**

[1] Source: Fatal and Critical Injury Casualty Database - WA Police.

Table 39 Fatal crashes by highest driver/rider bac in the crash by region, police attended - 2014

	Highest driver/rider BAC in the crash				
	Unknown	Nil	< 0.05	≥ 0.05	Total
Region	n	n	n	n	n
Total metropolitan	**25**	**36**	**4**	**6**	**71**
Total regional	**31**	**43**	**2**	**24**	**100**
Goldfields-Esperance	4	7	1	1	13
Great Southern	5	0	0	4	9
Kimberley	2	1	0	3	6
Mid West-Gascoyne	3	4	0	0	7
Pilbara	4	0	0	1	5
South West	9	12	0	7	28
Wheatbelt	4	19	1	8	32
Total Western Australia fatal crashes	**56**	**79**	**6**	**30**	**171**

Note: One fatal crash was not attended by Police.

Table 40 Motor vehicle occupants fatalities by seat belt usage by region, police attended - 2014

	Seat Belt Usage			
	Worn	Not worn	Unknown	Total
Region	n	n	n	n
Total metropolitan	**15**	**9**	**5**	**29**
Total regional	**38**	**26**	**20**	**84**
Goldfields-Esperance	9	3	2	14
Great Southern	5	2	1	8
Kimberley	1	2	0	3
Mid West-Gascoyne	2	3	1	6
Pilbara	0	5	0	5
South West	7	5	7	19
Wheatbelt	14	6	9	29
Total Western Australia motor vehicle occupant fatalities	**53**	**35**	**25**	**113**

Table 41 Fatal crashes by crash nature by region – 2014

Region	Crash nature										
	Multi-Vehicle						Single-vehicle				
	Rear end	Head on	Sideswipe same dir.	Right angle	Right turn through	Other/ unknown	Hit pedestrian	Hit object	Non collision	SV other/ unknown	Total fatal crashes
	n	n	n	n	n	n	n	n	n	n	n
Total metropolitan	**5**	**8**	**3**	**9**	**7**	**4**	**11**	**18**	**3**	**4**	**72**
Total regional	**1**	**11**	**2**	**8**	**1**	**2**	**4**	**49**	**20**	**2**	**100**
Goldfields-Esperance	0	1	1	0	0	2	0	5	4	0	13
Great Southern	0	1	0	0	0	0	0	6	2	0	9
Kimberley	0	0	0	1	0	0	1	2	2	0	6
Mid West-Gascoyne	0	0	1	0	0	0	0	3	3	0	7
Pilbara	0	0	0	0	0	0	0	1	3	1	5
South West	0	5	0	4	0	0	2	14	3	0	28
Wheatbelt	1	4	0	3	1	0	1	18	3	1	32
Total Western Australia fatal crashes	**6**	**19**	**5**	**17**	**8**	**6**	**15**	**67**	**23**	**6**	**172**

Table 42 Fatal crashes by high priority crash type by region - 2014[1]

	High priority crash type			
	Intersection	Run-off-road	Head-on	Other
Region	**n**	**n**	**n**	**n**
Total metropolitan	**21**	**18**	**8**	**26**
Total regional	**12**	**61**	**11**	**19**
Goldfields-Esperance	0	6	1	6
Great Southern	0	7	1	1
Kimberley	2	3	0	1
Mid West-Gascoyne	0	4	0	3
Pilbara	0	3	0	2
South West	5	17	5	2
Wheatbelt	5	21	4	4
Total Western Australia fatal crashes	**33**	**79**	**19**	**45**

[1] High Priority Crash Types are not mutually exclusive and therefore should not be expected to sum to 100%.

Table 43 Fatal crashes by other contributing factors by region - 2014

	Road Classification					
	Freeway	Highway	Main road	Local road	Other	Total fatal crashes
Region	**n**	**n**	**n**	**n**	**n**	**n**
Total metropolitan	**2**	**22**	**0**	**45**	**3**	**72**
Total regional	**0**	**36**	**20**	**41**	**3**	**100**
Goldfields-Esperance	0	7	0	5	1	13
Great Southern	0	3	3	3	0	9
Kimberley	0	3	0	3	0	6
Mid West-Gascoyne	0	4	0	3	0	7
Pilbara	0	1	0	2	2	5
South West	0	10	5	13	0	28
Wheatbelt	0	8	12	12	0	32
Total Western Australia fatal crashes	**2**	**58**	**20**	**86**	**6**	**172**

Table 44 Fatal crashes by other contributing factors by region - 2014

		Region									
		Total metropolitan	Total regional	Goldfields-Esperance	Great Southern	Kimberley	Mid West-Gascoyne	Pilbara	South West	Wheatbelt	Total Western Australia
		n	n	n	n	n	n	n	n	n	n
Road classification	Freeway	2	0	0	0	0	0	0	0	0	2
	Highway	22	36	7	3	3	4	1	10	8	58
	Main Road	0	20	0	3	0	0	0	5	12	20
	Local road	45	41	5	3	3	3	2	13	12	86
	Other	3	3	1	0	0	0	2	0	0	6
Road surface	Sealed	72	86	9	8	5	5	2	26	31	158
	Unsealed	0	14	4	1	1	2	3	2	1	14
Road alignment	Curve	15	35	4	4	2	1	2	14	8	50
	Straight	57	65	9	5	4	6	3	14	24	122
Road conditions	Wet	7	4	0	1	0	1	0	2	0	11
	Dry	65	96	13	8	6	6	5	26	32	161
Total Western Australian fatal crashes		**72**	**100**	**13**	**9**	**6**	**7**	**5**	**28**	**32**	**172**

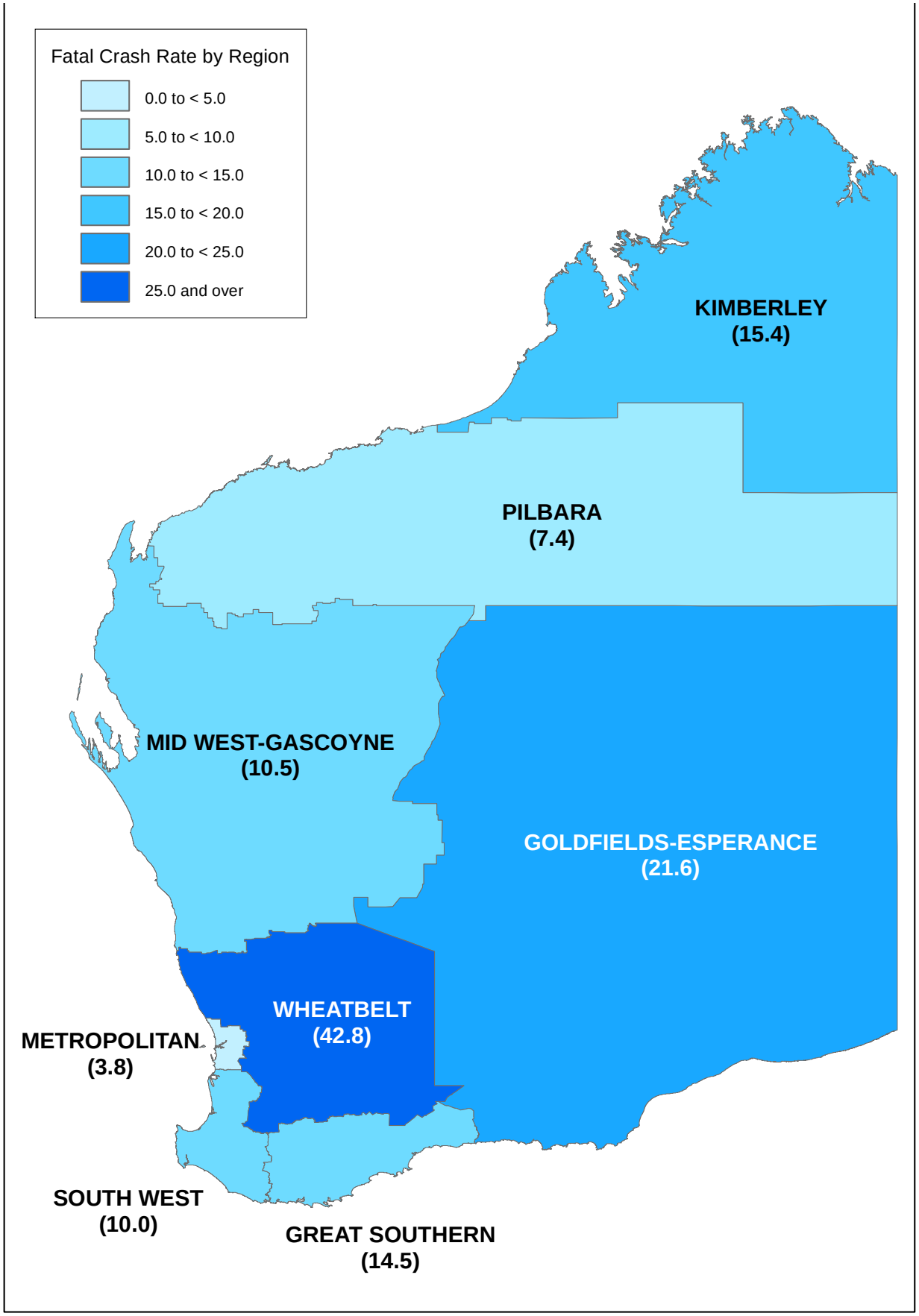
Table 45 Fatal crashes by crash month by region - 2014

	Month											
	January	February	March	April	May	June	July	August	September	October	November	December
Region	**n**	**n**	**n**	**n**	**n**	**n**	**n**	**n**	**n**	**n**	**n**	**n**
Total metropolitan	**5**	**3**	**7**	**5**	**6**	**8**	**8**	**8**	**4**	**9**	**5**	**4**
Total regional	**2**	**9**	**12**	**8**	**3**	**9**	**8**	**5**	**11**	**10**	**11**	**12**
Goldfields-Esperance	1	1	2	0	0	1	2	0	3	1	1	1
Great Southern	0	0	1	0	0	1	1	1	1	2	0	2
Kimberley	0	0	2	1	0	1	0	0	1	0	1	0
Mid West-Gascoyne	0	1	0	2	0	1	2	1	0	0	0	0
Pilbara	0	0	1	0	0	0	0	1	1	1	1	0
South West	0	2	4	3	3	2	1	0	2	3	5	3
Wheatbelt	1	5	2	2	0	3	2	2	3	3	3	6
Total Western Australia fatal crashes	**7**	**12**	**19**	**13**	**9**	**17**	**16**	**13**	**15**	**19**	**16**	**16**

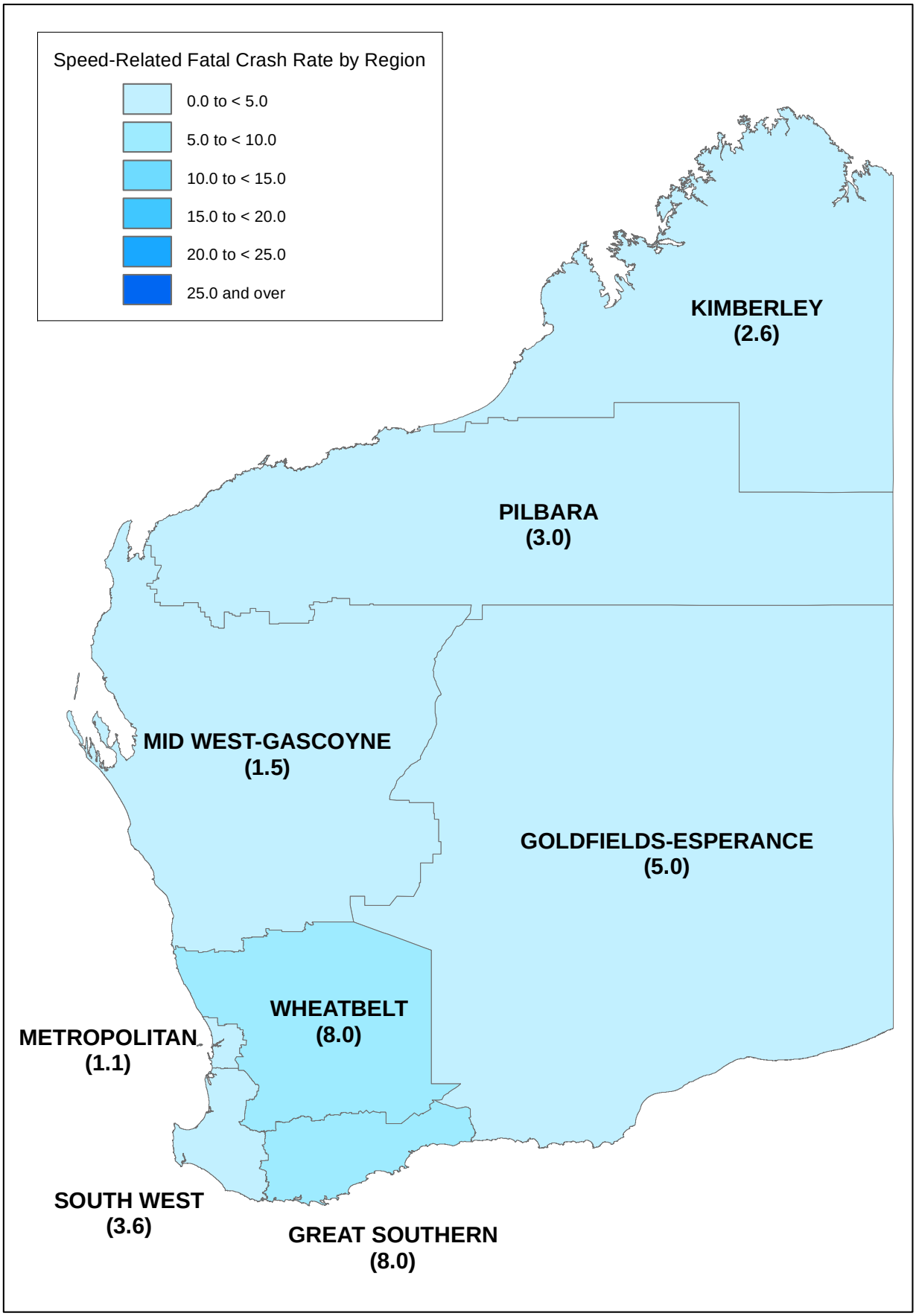
Table 46 Fatal crashes by day of week of the crash by region - 2014

	Day of the Week						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Region	n	n	n	n	n	n	n
Total metropolitan	**10**	**8**	**4**	**14**	**12**	**12**	**12**
Total regional	**8**	**16**	**9**	**20**	**11**	**16**	**20**
Goldfields-Esperance	0	3	3	2	0	2	3
Great Southern	1	1	0	1	2	2	2
Kimberley	1	2	1	0	0	2	0
Mid West-Gascoyne	1	1	0	3	1	0	1
Pilbara	0	0	0	1	2	1	1
South West	3	4	1	7	3	5	5
Wheatbelt	2	5	4	6	3	4	8
Total Western Australia fatal crashes	**18**	**24**	**13**	**34**	**23**	**28**	**32**

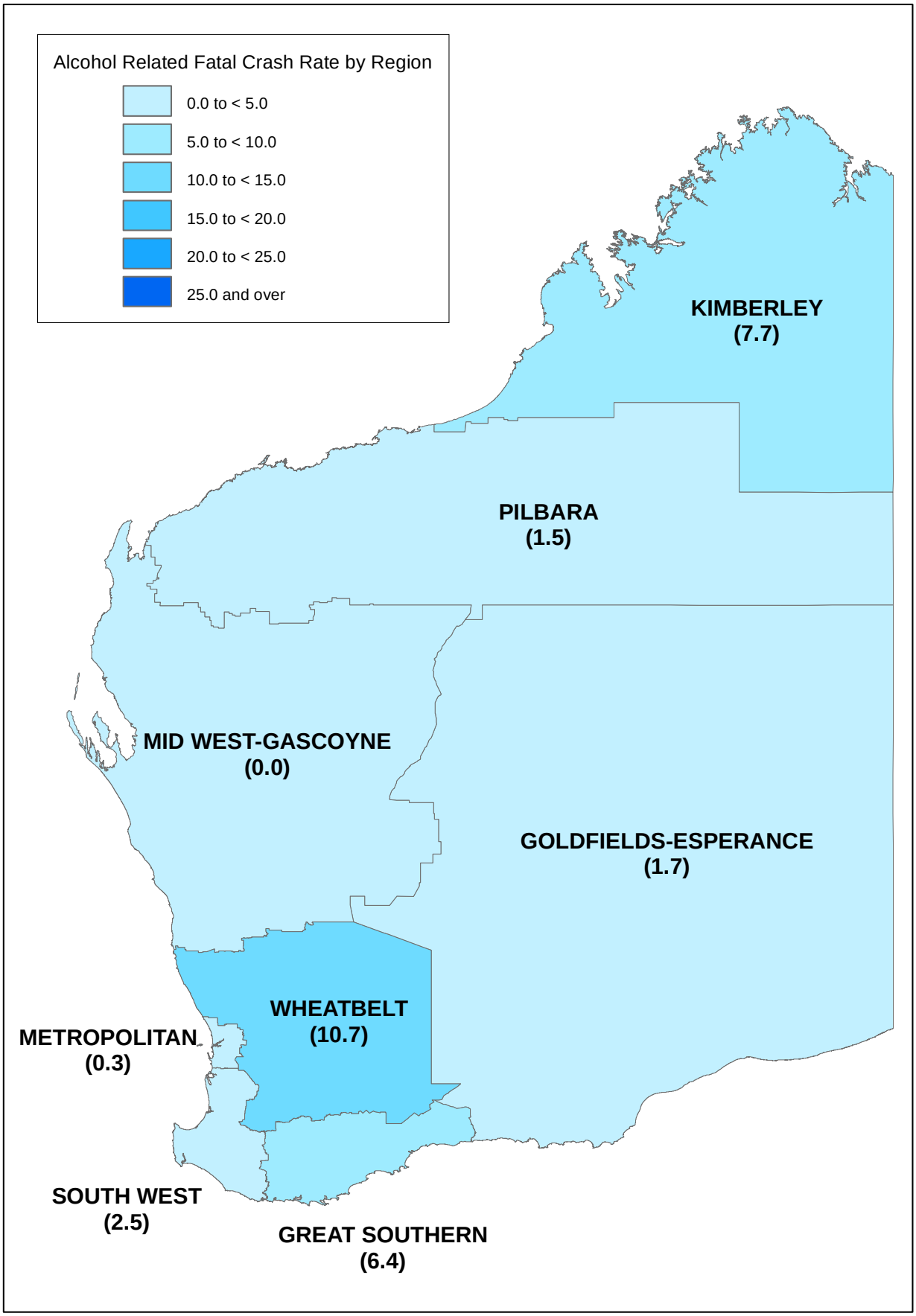
Map 1 fatal crash rate per 100,000 population by region



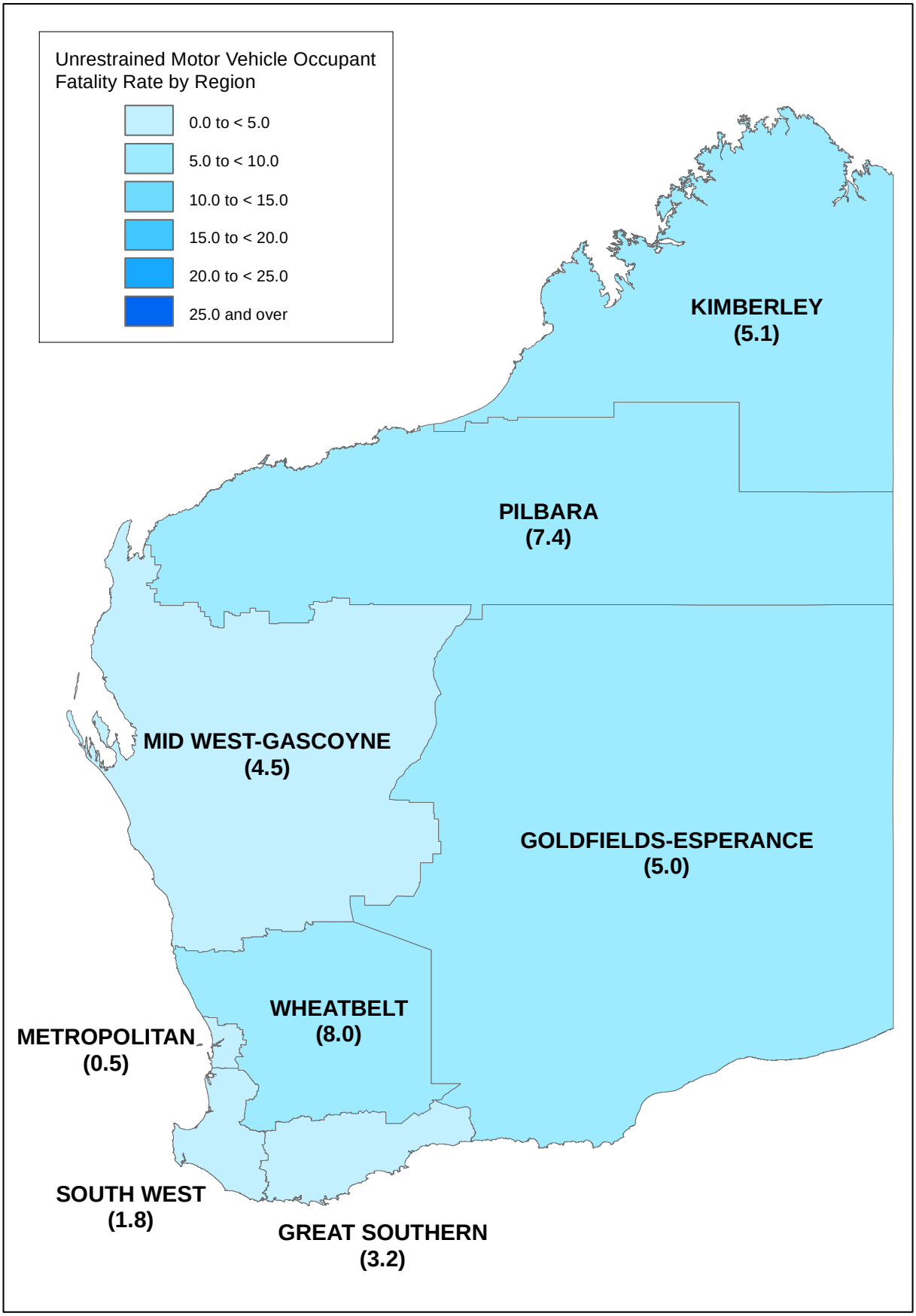
Map 2 Speed-related fatal crash rate per 100,000 population by region, police attended crashes



Map 3 Alcohol-related fatal crash rate per 100,000 population by region, police attended crashes



Map 4 Unrestrained motor vehicle occupant fatality rate per 100,000 population by region, police attended crashes



6. Hospital inpatient data

This section presents information on road traffic casualties who were admitted to public and private hospitals in Western Australia during 2014. The data was extracted on 3rd December 2015 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.

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 7 Hospital inpatients by injury severity - 2014

Injury severity	n
Fatal	29
Serious	4,111
Total hospital inpatients	**4,140**

Table 47 Hospital inpatients by road user - 2014

Road user group	n
Motor vehicle - driver	1,208
Motor vehicle - passenger	577
Motor vehicle - occupant-unknown	188
Motor cyclist	1,004
Pedal cyclist	761
Pedestrian	278
Other/unknown	124
Total hospital inpatients	**4,140**

Table 48 Hospital inpatients by age group and gender - 2014

	Gender		
	Male	Female	Total
Age	n	n	n
0-6	59	36	95
7-16	211	89	300
17-18	117	61	178
19-24	441	209	650
25-59	1,540	735	2,275
60-84	308	259	567
85 and over	37	38	75
Total hospital inpatients	**2,713**	**1,427**	**4,140**

Table 49 Hospital inpatients by road user group and gender - 2014

	Gender		
	Male	Female	Total
Road user	**n**	**n**	**n**
Motor vehicle - driver	658	550	1,208
Motor vehicle - passenger	242	335	577
Motor vehicle - occupant-unknown	93	95	188
Motor cyclist	899	105	1,004
Pedal cyclist	588	173	761
Pedestrian	160	118	278
Other/unknown	73	51	124
Total hospital inpatients	**2,713**	**1,427**	**4,140**

Table 50 Hospital inpatients by road user group and age group - 2014

	Road User						
	Motor vehicle - driver	Motor vehicle - passenger	Motor vehicle - occupant-unknown	Motor cyclist	Pedal cyclist	Pedestrian	Other / unknown
Age	**n**	**n**	**n**	**n**	**n**	**n**	**n**
0-6	0	43	5	<5	27	14	<5
7-16	8	59	<5	77	113	36	<5
17-18	54	36	5	49	21	9	<5
19-24	203	122	32	180	56	36	21
25-59	690	242	95	626	424	131	67
60-84	221	65	36	67	120	36	22
85 and over	32	10	12	<5	0	16	<5

Table 51 Hospital inpatients by indigenous status by gender - 2014

	Non-Indigenous	Indigenous
Gender	**n**	**n**
Male	2,545	168
Female	1,310	117
Total hospital inpatients	**3,855**	**285**

Table 52 Hospital inpatients by indigenous status by age group - 2014

	Non-Indigenous	Indigenous
Age	**n**	**n**
0-6	69	26
7-16	256	44
17-18	163	15
19-24	601	49
25-59	2,131	144
60-84	560	7
85 and over	75	0
Total hospital inpatients	**3,855**	**285**

Table 53 Hospital inpatients by indigenous status by road user group - 2014

	Non-Indigenous	Indigenous
Road user	**n**	**n**
Motor vehicle - driver	1,156	52
Motor vehicle - passenger	489	88
Motor vehicle - occupant-unknown	168	20
Motor cyclist	966	38
Pedal cyclist	734	27
Pedestrian	237	41
Other/unknown	105	19
Total hospital inpatients	**3,855**	**285**

APPENDIX A

Appendix A – Trends over time

Appendix A (i) – Western Australia road crash trends 1961 to 2014

Year	Fatal crashes	Fatalities	per Vehicle [1]	per Population [2]	per Km [3]
1961		172		22.78	
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
1981	217	238	3.08	18.31	1.98
1982	203	236	2.93	17.63	1.91
1983	191	203	2.51	14.83	1.57
1984	203	220	2.65	15.81	1.63
1985	220	243	2.81	17.13	1.73
1986	208	228	2.57	15.63	1.57
1987	193	213	2.35	14.24	1.42
1988	199	230	2.46	14.98	1.49
1989	214	242	2.45	15.33	1.55
1990	181	196	1.89	12.15	1.24
1991	185	207	1.95	12.65	1.29
1992	171	200	1.85	12.06	1.21
1993	190	209	1.88	12.46	1.24
1994	195	211	1.85	12.39	1.22

Year	Fatal crashes	Fatalities	per Vehicle [1]	per Population [2]	per Km [3]
1995	194	209	1.76	12.05	1.18
1996	220	247	2.04	13.99	1.41
1997	183	196	1.53	10.92	1.13
1998	199	223	1.64	12.23	1.25
1999	189	218	1.62	11.79	1.23
2000	184	212	1.56	11.31	1.07
2001	151	165	1.20	8.68	0.89
2002	159	178	1.27	9.24	0.93
2003	154	179	1.24	9.17	0.86
2004	163	179	1.21	9.03	0.84
2005	151	164	1.07	8.13	0.76
2006	182	201	1.26	9.76	0.89
2007	213	235	1.40	11.16	0.97
2008	185	205	1.17	9.44	0.81
2009	176	191	1.04	8.53	0.74
2010	175	192	1.03	8.38	0.73
2011	167	179	0.94	7.61	0.67
2012	171	183	0.93	7.51	0.67
2013	148	161	0.79	6.39	0.60
2014	172	182	0.85	7.07	0.66

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 (ii) – Western Australia demographics, 1961 to 2014

Year	Vehicles [1]	Population [2]	Travel [3]	MDLs [4]
1961		755,213		
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

Year	Vehicles [1]	Population [2]	Travel [3]	MDLs [4]
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	2,437,994	27,500	1,794,329
2013	2,048,388	2,515,387	26,835	1,729,146
2014	2,142,307	2,560,521	27,581	1,762,614

N/A - Denotes information not available.

* - Denotes an 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 onwards, 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. Estimates for 2008, 2009 and 2011 are based on the average kilometres travelled per vehicle (interpolated between 2007, 2010 and 2012 figures) and the number of registered vehicles.

4. Western Australian Motor Driver licences on record (Department of Transport).

Appendix B - 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 novice driverS 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 these restrictions 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 driving 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).

2014 Double demerits on long weekends and public holidays extended to include use of mobile phones while driving and running a red light (April).

2014 Amended **penalties for speeding, mobile phones, non-use of restraints, failure to giving way, keeping left and a range of other offences under the *Road Traffic Code 2000*** came into effect (September).

2014 A new offence for **intentionally altering or obscuring a number plate** was introduced (September).