



# 2016 summary

Preliminary fatal and critical injuries  
on Western Australian roads



Produced and published  
by The Road Safety Commission

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## Foreword

This Preliminary fatal and critical injuries on Western Australian roads booklet is an important insight into the road toll for 2016.

It was a year which presented significant challenges for the Road Safety Commission. The statistics show that we need to continue to create safer roads, promote better vehicles on the road and we also need to keep addressing driver behaviours and change the attitudes of road users.

Speed, fatigue, alcohol and distractions, particularly involving mobile phones, are all far too common.

In regional WA, we're reflecting a national trend of increased death and serious injury on the roads. As the figures show, we have to respond to drivers in rural areas of Western Australia.

We have now established the Great Eastern Highway Road Safety Alliance, which was a key recommendation of the Wheatbelt Highway Safety Review. This brings together road users, including local shires and transport industry groups, and road safety authorities to develop effective local road safety solutions along this major transport route.

We also installed permanent speed cameras for the first time on regional roads in 2016.

This preliminary summary of fatal and critical injuries provides a snapshot of road safety issues in 2016 and it is important information for us as we evaluate the best way to allocate funds from the Road Trauma Trust Account.

This report will assist setting the agenda in years to come.



A handwritten signature in black ink, appearing to be 'Kim Papalia'.

Kim Papalia  
Road Safety Commissioner



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# Preliminary fatal and critical injuries summary 2016

**This publication presents statistics for 2016 representing fatalities that occurred from 1 January up to and including 31 December 2016.**

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Unless otherwise identified, the Road Safety Commission (RSC) prepared the numbers reported in this publication based on preliminary fatal and critical injury data provided by the WA Police. Numbers may change in the future due to police investigation, coronial inquiry or upgrade of injuries. The publication adopts WA Police definitions. Please note that these may differ from those regularly reported by the RSC (or by the former Office of Road Safety). This publication reports on fatalities and critical injuries suffered in reportable road crashes which happened on roads open to the public and arising from normal road use in metropolitan and regional WA. Regional WA includes remote areas.

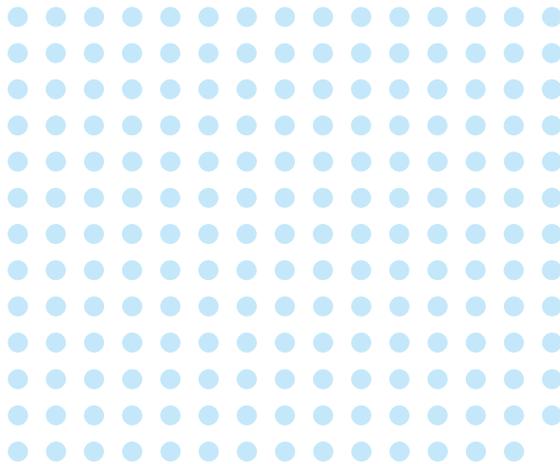
This will exclude injuries from crashes where there was a medical condition or premeditated intent to cause harm. The definition of a fatality is a person killed immediately or within 30 days of the crash, as result of the crash. The definition of a critical injury is that of such a nature as to endanger life or cause permanent injury.

This information should be considered with the following caveat:

- (1) These statistics have been derived from WA Police data however the calculations have not been endorsed by WA Police.
- (2) The information was sourced from the WA Police via the WA Police Traffic Enforcement and Crash Executive Information System.
- (3) The information is provisional and may be subject to revision.

# 194

people died on WA roads in 2016 – 119 in regional areas and 75 in the metropolitan area.



## 20-29

Overall, the most people killed in crashes were aged between 20 and 29.



Most motorbike fatalities were in metro WA (28).



More males died in regional WA than females (88-31) and, similarly, in metropolitan WA (53-22).



62 fatalities were in alcohol-related crashes.



24 motor vehicle occupants (includes passengers) killed were not wearing seatbelts.



65 fatalities were in speed-related crashes.

Of the 3 cyclists killed, two were not wearing helmets.



27 fatalities were in fatigue-related crashes





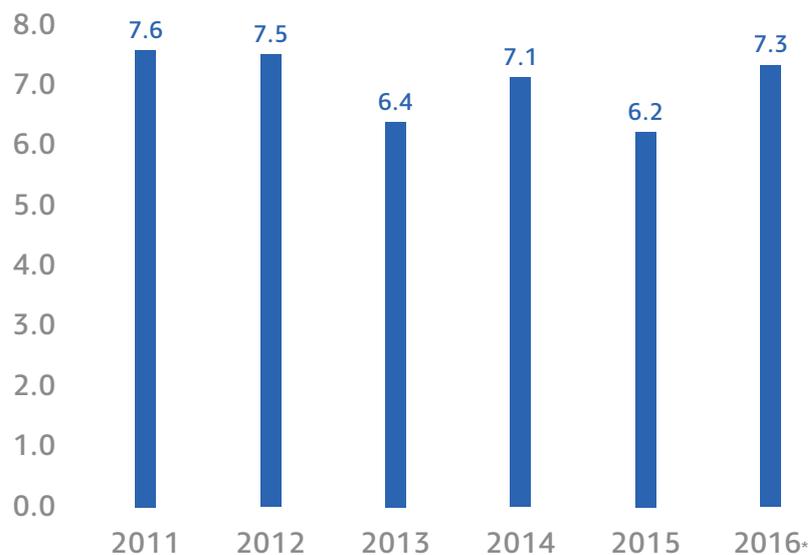


## Trends in Western Australian fatalities and critical injuries

WA's fatality rate has reduced significantly since 2001 but is higher than the expected trend line required to meet the ambitions of the Towards Zero Road Safety Strategy. There are more fatalities per 100,000 (7.3) than the national fatality rate (5.3<sup>2</sup>). (See Fig.1)

WA's road network currently comprises 5,114 km of National Land Transport Routes, 13,400 km of State roads and 129,053 km of local roads.<sup>3</sup>

Figure 1. Fatality rates per 100,000 population <sup>1</sup>



<sup>1</sup> Australian Bureau of Statistics. (2016). Australian demographic statistics, Australia, March 2016, (Catalogue No. 3101.0). Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0>

<sup>2</sup> BITRE. Road Deaths Australia, October 2016. Retrieved from [https://bitre.gov.au/publications/ongoing/rda/files/RDA\\_Oct\\_2016\\_II.pdf](https://bitre.gov.au/publications/ongoing/rda/files/RDA_Oct_2016_II.pdf)

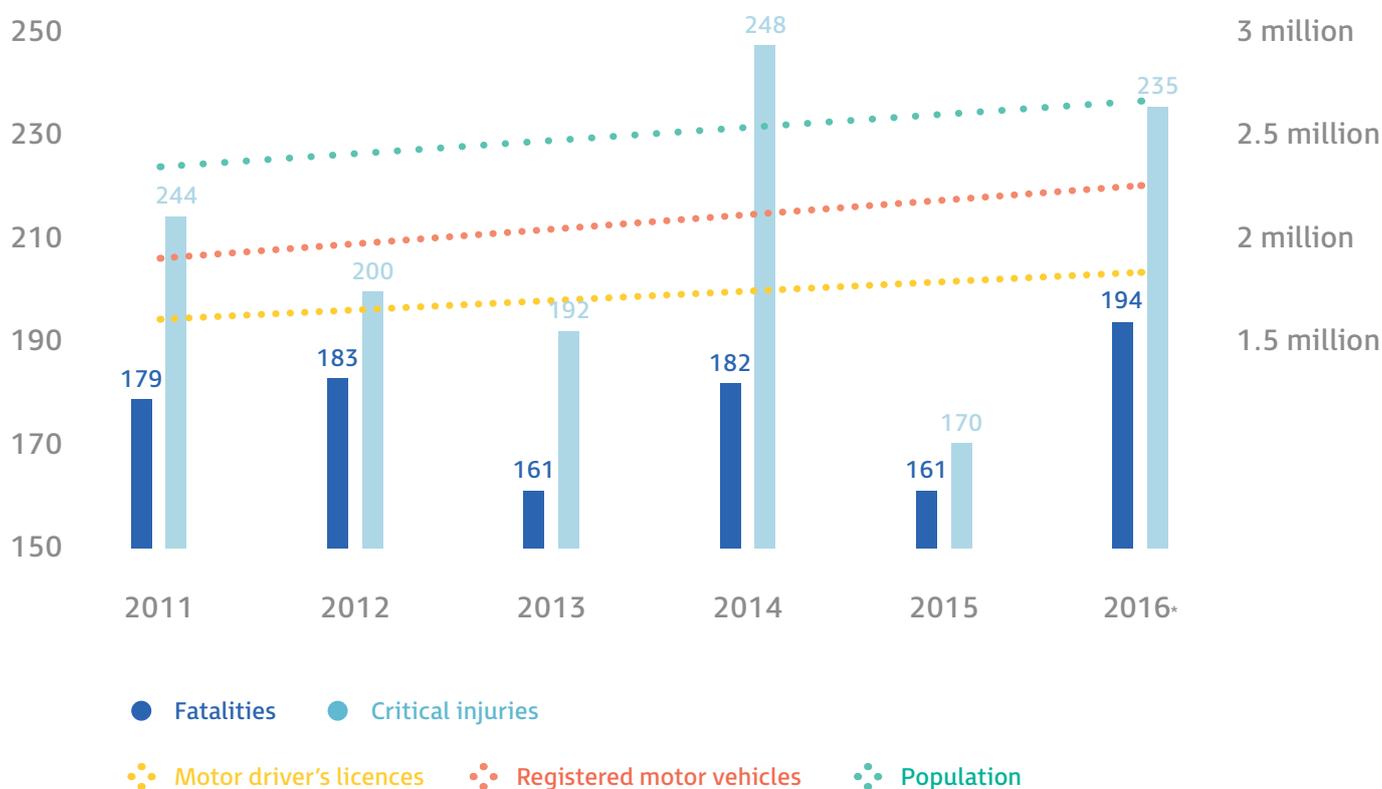
<sup>3</sup> Main Roads WA. (2016). Regional Road Digest 2015-16. Perth, Australia, Main Roads WA.

<sup>4</sup> Australian Bureau of Statistics. (2016). Australian demographic statistics, Australia, March 2016, (Catalogue No. 3101.0). Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0>

In 2016, there were 194 fatalities and 235 critical injuries in reported road crashes in Western Australia, compared to the preceding five-year average (2011-2015) of 173 fatalities and 211 critical injuries. This slight reduction has happened despite increases in WA's population, registered motor vehicles and licensed drivers.

The fatality rate per 100,000 persons has reduced over the past six years from 7.6 in 2011 to 7.3 in 2016. The critical injury rate per 100,000 persons has decreased from 10.4 in 2011 to 8.8 in 2016.

Figure 2. Fatalities, critical injuries and rates by year, WA, 2011-2016 <sup>4 5 6</sup>



<sup>5</sup> Australian Bureau of Statistics. (2016). Motor Vehicle Census, 31 January 2016, (Catalogue No. 9309.0). Retrieved from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/mf/9309.0>

<sup>6</sup> Western Australian Department of Transport.

Table 2. Fatalities by road user type and year, WA, 2011 - 2016

	Year	Total	Rate per 100,000 persons <sup>7</sup>	Rate per 100 million VKT (vehicle kilometres travelled) <sup>8</sup>	Rate per 10,000 registered vehicles <sup>9</sup>	Rate per 10,000 motor vehicle driver's licenses <sup>10</sup>
Fatalities	2011	179	7.6	0.7	0.9	1.1
	2012	183	7.5	0.7	0.9	1.1
	2013	161	6.4	0.6	0.8	0.9
	2014	182	7.1	0.7	0.8	1.0
	2015	161	6.2	0.6	0.7	0.9
	<b>2016</b>	<b>194</b>	<b>7.3</b>	<b>0.7</b>	<b>0.9</b>	<b>1.1</b>
Critical injuries	2011	244	10.4	0.9	1.3	1.5
	2012	200	8.2	0.7	1.0	1.2
	2013	192	7.6	0.7	0.9	1.1
	2014	248	9.7	0.9	1.2	1.4
	2015	170	6.6	0.6	0.8	0.9
	<b>2016</b>	<b>235</b>	<b>8.8</b>	<b>0.8</b>	<b>1.0</b>	<b>1.3</b>

In 2016, metropolitan WA showed a decrease in fatality counts compared to the preceding five-year average (9%). For regional WA there was an increase (30%). A similar relationship for critical injury

counts compared to the preceding five-year average occurred in 2016 where counts remained the same in the metropolitan area (116) and increased in regional WA (25%).

<sup>7</sup> Australian Bureau of Statistics. (2016). Australian demographic statistics, Australia, March 2016, (Catalogue No. 3101.0). Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0>

<sup>8</sup> Australian Bureau of Statistics. (2014). Survey of motor vehicle use, Australia, 12 months ended 31 October 2014, (Catalogue No. 9208.0). Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/9208.0/>

<sup>9</sup> Australian Bureau of Statistics. (2016). Motor Vehicle Census, 31 January 2016, (Catalogue No. 9309.0). Retrieved from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/mf/9309.0>

<sup>10</sup> Motor drivers' licences: Western Australian Department of Transport.

Figure 3. Fatalities by region and year, 2011 - 2016

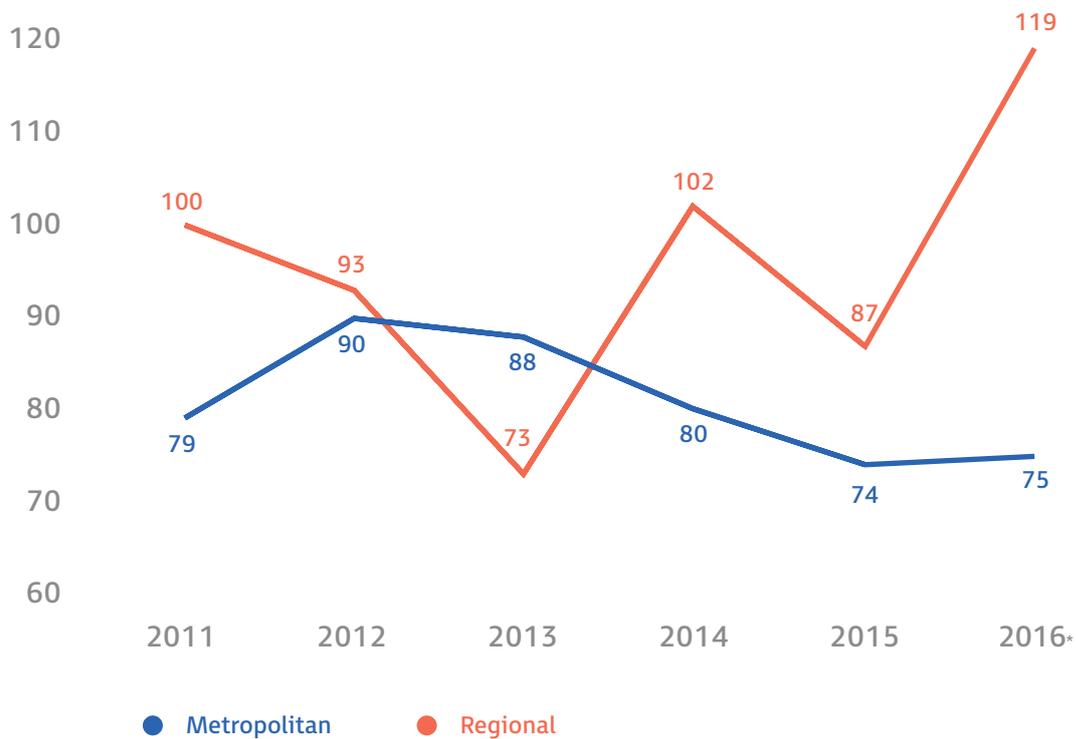
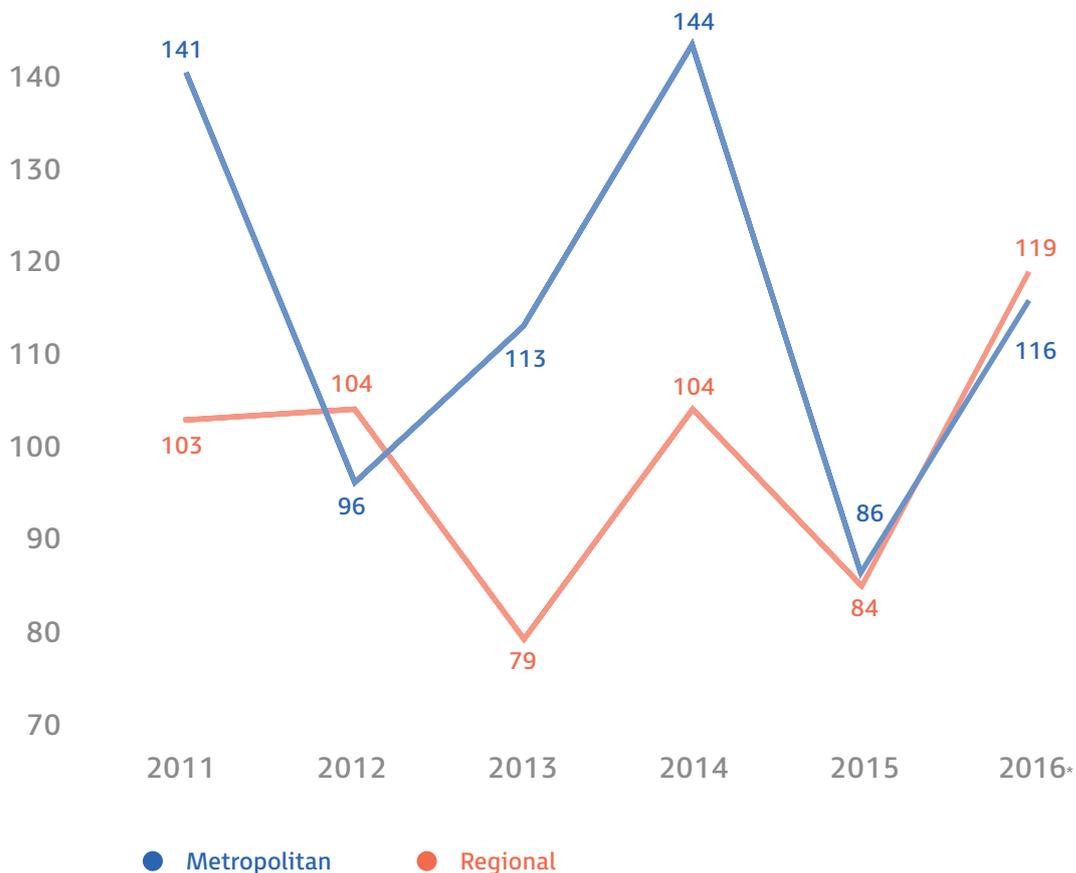


Figure 4. Critical injuries by region and year, 2011 - 2016



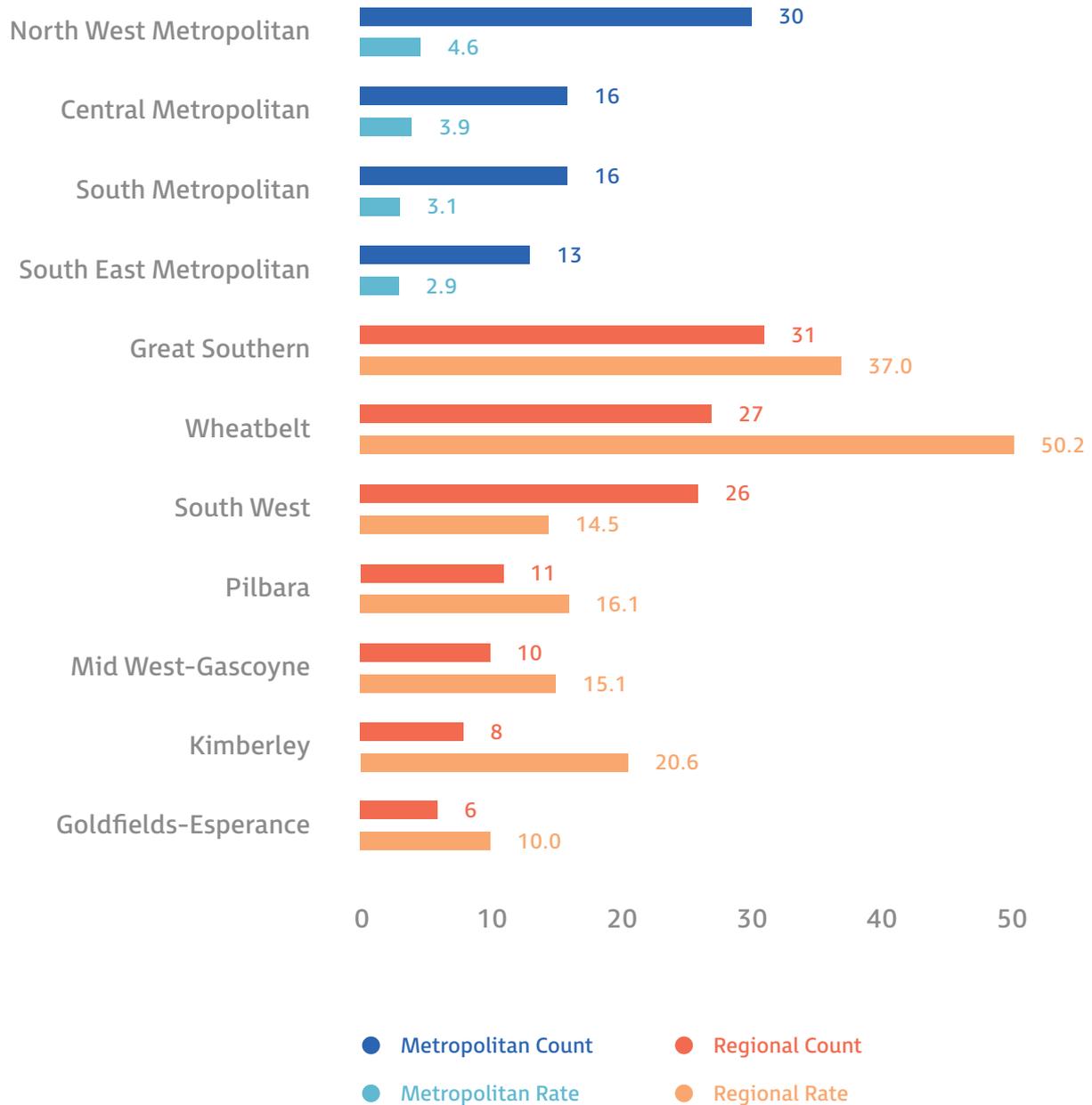
## Police district

The districts reported here are based on WA Police boundaries for operational districts and do not equate to those regions normally reported by the RSC. As shown in Figure 5, fatality rates per 100,000 are consistently higher in regional WA than the metropolitan area.

The Wheatbelt police district had the highest fatality rate per 100,000 persons (50.2). This is compared to the South East Metropolitan police district which had the lowest fatality rate (2.9) in 2016<sup>11</sup>.



Figure 5. Indicative fatality rates per 100,000 persons and fatality counts by WA Police district, 2016 <sup>11</sup>



<sup>11</sup>The rate denominators were prepared for the WA Police by the Australian Bureau of Statistics and are estimated population counts for 2015 by WA Police district. District boundaries may have changed since then and this may affect reliability of the calculated rates.

## Age representation

The highest number of fatalities in 2016 was in the 20-29 year age bracket (n=56, 29%). This was the same for critical injuries (n=78, 33%). As shown in Figure 6, the 20-29, 30-39 and 40-49 year age groups showed an increase in fatality counts. Fatalities for those aged 60 and over decreased (15).

For critical injury counts there was a decrease for the 17-19 year age group compared to the preceding five-year average (15%).

The 20-29 year age group fatality rate was higher than the Statewide rate (13.8 and 7.3 respectively) and was also the highest age-specific fatality rate for 2016<sup>12</sup>.

The age group with the lowest fatality rate was for the 0-16 age group (2.3 per 100,000 population). When compared to the preceding five-year average most age groups remained relatively stable.

**29% of fatalities  
involved those aged  
between 20 and 29**



<sup>12</sup> Age-specific rates use population counts of that age group as the denominator.

Figure 6. Fatalities by age, WA, five-year average and 2016

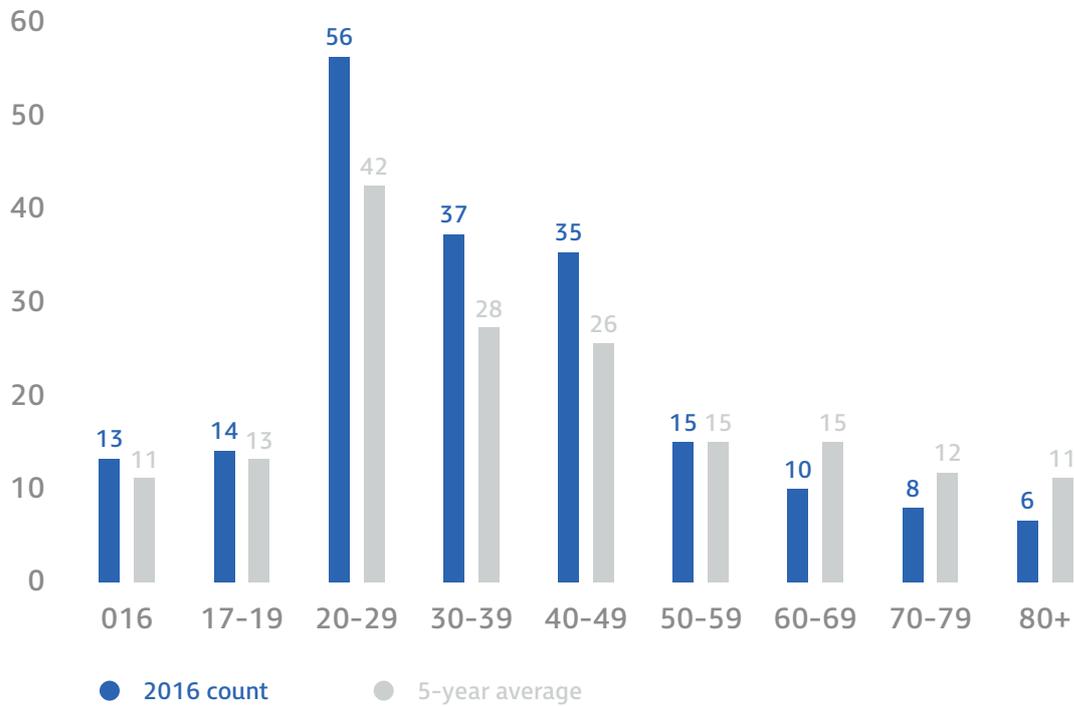
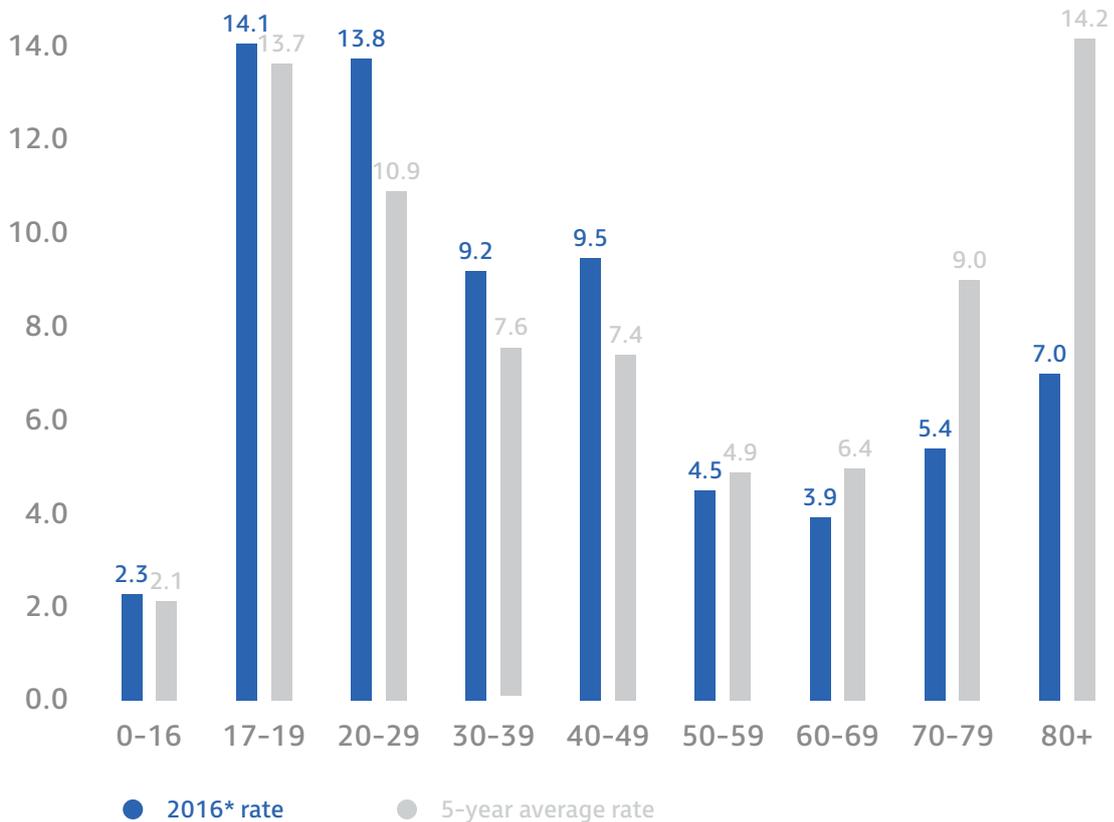


Figure 7. Comparison of 2016 fatality age-specific rates to the preceding five-year averages



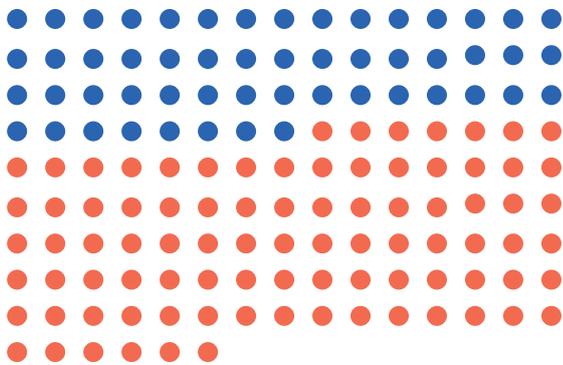
## Gender representation

Of the 194 fatalities in 2016, 141 (73%) were male and 53 (27%) were female. This gender distribution is similar to the preceding five-year average, where 127 (73%) were male and 46 (27%) were female.

Of the 235 critical injuries in 2016, 155 (66%) were male and 80 (34%) were female. There has been a slight increase to the female average gender distribution of critical injuries in the preceding five years, where 148 (70%) were male and 62 (30%) were female.

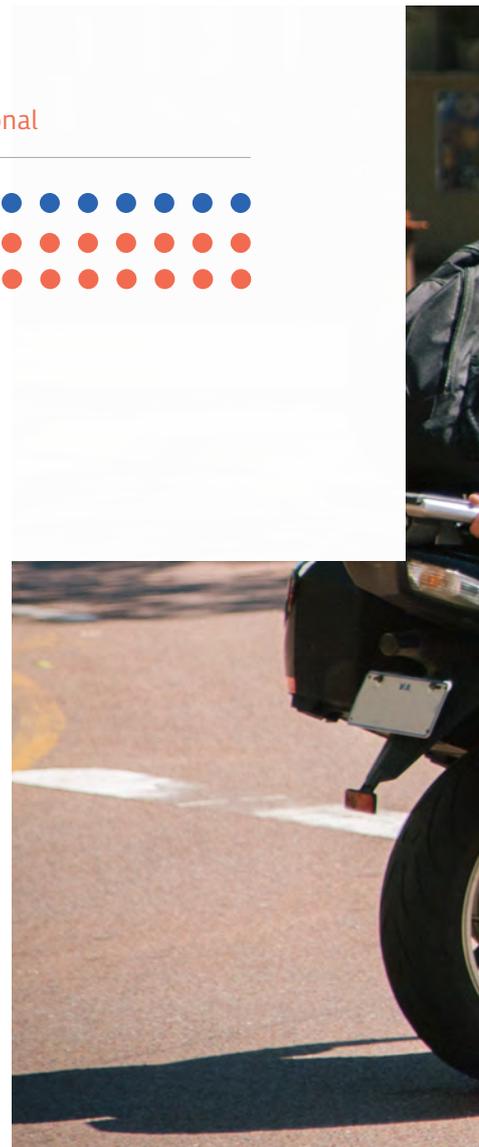
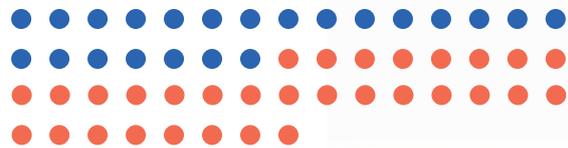
### Males

53 metropolitan, 88 regional



### Females

22 metropolitan, 31 regional



## Licence type

In 2016, the vast majority of motor vehicle drivers and riders involved in fatal crashes were driving with the appropriate licence. However, 42 (19%) had either

no licence or an expired, inappropriate, suspended or cancelled licence. This number is greater than the preceding five-year average of 29 (14%).



## Road user type

Of the 40 motorbike riders and their pillion killed in 2016, 35 were male. The highest numbers of motorcyclist fatalities were in the 30-39 and 40-49 year age group (both 11). Of these motorcyclists, 20 were involved in speed-related crashes and 12 were recorded as being involved in alcohol-related crashes.

Of the 14 pedestrians killed, three were in the 40 - 49 year age group and 9 were male. Two of the pedestrians were killed as a result of an alcohol-related crashes.

Of the three cyclists killed, two were male. All were in the metropolitan area.



135 motor vehicle occupants



40 motorcyclists



14 pedestrians



3 cyclists



2 others

Table 2. Fatalities by road user type and year, WA, 2011 - 2016

	2011		2012		2013		2014		2015		2016	
Motor vehicle occupant	122	68%	123	67%	96	60%	113	62%	120	75%	<b>135</b>	<b>69%</b>
Motorcyclist	28	16%	34	19%	25	16%	44	24%	23	14%	<b>40</b>	<b>21%</b>
Pedestrian	26	15%	23	13%	31	19%	16	9%	13	8%	<b>14</b>	<b>7%</b>
Bicyclist	3	2%	3	2%	6	4%	8	4%	4	2%	<b>3</b>	<b>2%</b>
Other <sup>13</sup>	0	0%	0	0%	3	2%	1	1%	1	1%	<b>2</b>	<b>1%</b>
<b>Total</b>	<b>179</b>	<b>100%</b>	<b>183</b>	<b>100%</b>	<b>161</b>	<b>100%</b>	<b>182</b>	<b>100%</b>	<b>161</b>	<b>100%</b>	<b>194</b>	<b>100%</b>

<sup>13</sup> Other includes gophers, horse and skateboard riders.

## Common behavioural factors definitions

Common behavioural factors include alcohol use, speed, fatigue and inattention. These categories should not be summed, as they are not mutually exclusive.

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**Speed-related crashes** include those crashes where 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. Police may record speed as a contributing factor where at least one vehicle is travelling in excess of the speed limit or at an inappropriate speed for the prevailing conditions.



**Fatigue-related crashes** include those crashes where police suspected fatigue as a contributing factor and/or the primary crash factor.



**Alcohol-related crashes** include those crashes where the attending police officer suspected alcohol as a primary crash factor, either alone or in combination with other factors, and/or where police suspected that at least one driver or rider in control of a motor vehicle had consumed alcohol.



**Inattention-related crashes** include those crashes where police suspected inattention as the primary crash factor.

## Common behavioural factors

Overall, in 2016, 121 (62%) fatalities were a result of crashes police suspect involved at least one driver behavioural factor.

Around a third (n=65, 33%) of those killed were in speed-related crashes - an increase of 25% on the preceding five-year average (52).

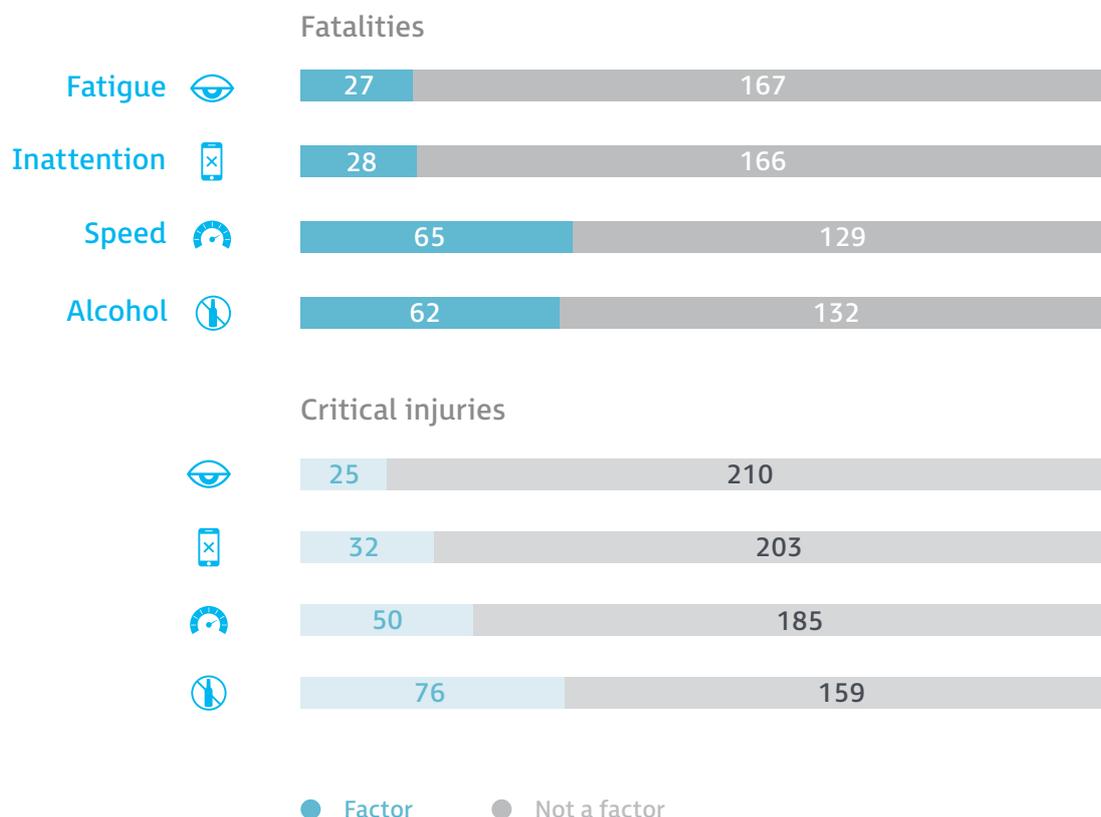
Approximately one third (n=62, 32%) of those killed were in alcohol-related crashes – an increase of 38% on the preceding five-year average (45).

In 2016, 27 (or 14%) of those killed were in fatigue-related crashes and 28 (14%) were in inattention-related crashes. Compared to the preceding five-year fatality counts these categories increased (18 and 13, respectively).

**33% of fatalities  
were as a result of  
speed-related crashes.**



Figure 8. Number of fatalities and critical injuries by behavioural factor, WA, 2016 <sup>14</sup>



Of the critical injuries, 125 (53%) were a result of crashes police suspect involved at least one driver behavioural factor.

50 (21%) people suffered critical injuries in speed-related crashes – an 11% decrease on the preceding five-year average (56).

76 (32%) people suffered critical injuries in alcohol-related crashes - a 38% increase on the preceding five-year average (55).

25 (11%) of critical injuries were a result of fatigue-related crashes – an 39% increase on the preceding five-year average (18).

<sup>14</sup> Do not add categories, as they are not mutually exclusive.

## Seatbelts and helmets

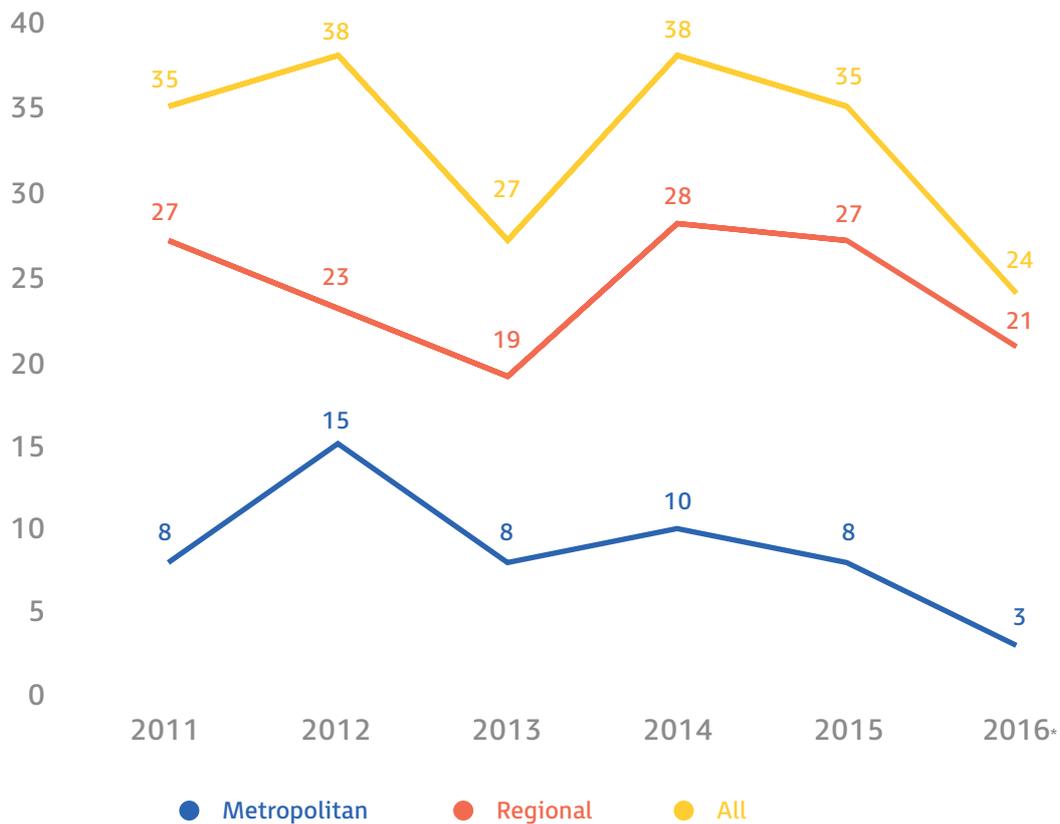
Of the 135 known motor vehicle occupant (MVO) fatalities in 2016, 24 (18%) were recorded as not wearing a seat belt at the time of the crash.

Twenty one (21%) of the 101 MVOs killed in regional WA were not wearing a seatbelt. Three (9%) of the 34 MVOs in the metropolitan area were not wearing a seatbelt.

Of the 40 motorcyclists killed in 2016, six were not wearing a helmet.

Two of the three cyclists killed were not wearing a helmet.

Figure 9. Motor vehicle occupant fatalities recorded as not wearing appropriate restraint by region and year, 2011-2016



## Speed zone

93 (48%) of the 194 fatalities and 80 (34%) of the 235 critical injuries in WA in 2016 resulted from crashes in 110 km/h speed zones.

This speed zone represented the highest proportion of fatalities Statewide.

Most metropolitan area fatalities occurred in 60 km/h speed zones (n=18, 24%).

Most regional fatalities were in 110 km/h speed zones (n=90, 76%).

Nearly two-thirds of critical injuries in regional WA happened in 110 km/h speed zones (n=71, 60%).

Around one third of critical injuries in the metropolitan area occurred in 60km/h speed zones (n=31, 27%).

110

Most fatalities (93) resulted from crashes in 110km/h speed zones.

60

Most metro area fatalities happened in 60km/h speed zones



## Crash nature

Most of the 2016 fatalities resulted from collisions with objects such as walls and trees (n=68, 27%). This is an increase on the preceding five-year average (54).

Metropolitan WA recorded in the same number of fatalities from hit object crashes (22) and a decrease in

fatalities arising from pedestrians being hit compared to the preceding five year average (8 and 15 respectively).

Regional WA recorded a 46% increase in fatalities from hit object crashes in 2016 (46) compared to the preceding five-year average (31).



**Most fatalities resulted from collisions with objects such as walls and trees.**

Figure 10. Fatalities by nature of crash, WA, five-year average and 2016

