



Road Safety Performance Local Government Roads 2013-2017

Supporting Notes

June
2020

All of Western Australia

Road Network

This section is a summary of the Western Australian road network, grouped into roads managed by Local Government and those managed by Main Roads WA (which includes national highways). Information is sourced from *Main Roads WA Annual Report 2018*². The **local** road network includes all roads owned and managed by Local Governments. Information is sourced from *WALGA's Report on Local Government Road Assets and Expenditure 2017/18*¹.

Local Governments manage 127,610 kilometres or 87.3% of the WA public road network (excludes roads in National Parks and on other land managed by the Department of Biodiversity, Conservation and Attractions) where an estimated 41% of travel (11,138 Million Vehicle Kilometres Travelled) occurred.

Included in the first table is:

- the total length of roads in kilometres,
- the percentage of the road network for which Main Roads WA and Local Governments are responsible,
- an estimate of travel based on Million Vehicle Kilometres Travelled (MVKT), and
- the percentage of MVKT on Local Government and Main Roads WA managed roads.

The second table shows:

- the number of people Killed and Serious Injured (KSI) in the five year period,
- the percentage of KSI by road infrastructure manager, and
- the average annual rate of KSI per 100,000 population.

Average Annual KSI rate is the average number of people killed and seriously injured in a set time period. The 2014 – 2017 Average Annual KSI rate data is sourced from *WALGA's Report on Local Government Road Assets and Expenditure 2017/18*.

Population data was sourced from the Bureau of Infrastructure, Transport and Regional Economics 2018³.

¹ WA Local Government Association, *Report on Local Government Road Assets & Expenditure 2017/18*; <https://walga.asn.au/Policy-Advice-and-Advocacy/Infrastructure/Roads/Report-on-Local-Government-Road-Assets-and-Expendi.aspx>.

² Main Roads WA, *Annual Report 2018*; <https://annualreports.mainroads.wa.gov.au/AR-2018/about-us/our-minister-legislation-role-and-operations.html>.

³ Bureau of Infrastructure, Transport and Regional Economics, 2018; <https://www.bitre.gov.au/>.



Between 2013 and 2017, Local Governments managed the roads where 5,399 people or 58.2% people were killed or seriously injured (KSI). This equates to average annual KSI rate of 41.9 per 100,000 population.

Trend

KSI numbers and rates are changing over time. This graph depicts the progress that has been made in reducing and preventing road trauma on WA roads during the four year period 2014 – 2017. Although the numbers have been reducing, they are beginning to plateau.

Road Safety Performance Overall

For every death on Western Australian local roads from 2013-2017, there were more than 11 other people seriously injured. Many of these serious injuries result in permanent disability and change lives forever, placing a huge burden on public health resources and the community.

The definition of a road crash fatality in WA is: A person who was killed immediately or died within 30 days of the date of a road crash, as a result of the crash.

The definition of a serious injury in WA is: Admitted to hospital as an inpatient for treatment of injuries sustained in a crash, but did not die within 30 days of the crash.

The two graphs on page one show:

1. The number and percent of people killed or seriously injured on state and local roads between 2013-2017.
2. The breakdown of the number of people killed and the number of people seriously injured on local roads between 2013-2017.

Average Annual Cost

Road crashes on local roads cost the community \$965.1M per year (on average) over the five year period from 2013-2017.

This infographic shows crash costs for local roads for the five year period from 2013-2017 based on the Willingness to Pay (WTP) model to calculate the average crash cost for WA. Willingness to Pay is derived by calculating the amount that people are willing to pay for reducing the risk of becoming a fatal victim or of suffering a serious injury.⁴

Metro vs Regional KSI Numbers and Rates

It is important to consider where death and serious injury crashes occur. This infographic shows that in the five year period 2013-2017, almost three quarters of all KSI crashes on local roads occurred in the metropolitan region of WA.

However this translates to an Average Annual KSI rate of 49.6 per 100,000 population in regional WA compared to the metropolitan region where the Average Annual KSI rate is 39.4 per 100,000 population.

⁴ Rizzi, L & Ortuzar, JDD 2005, 'Estimating the willingness-to-pay for road safety improvements', Transport Reviews, vol. 26, no. 4, pp. 471-485.

⁵ Wegman, F & Oppe, S. (2010). Benchmarking road safety performances of countries. Safety Science, Volume 48, Issue 9, Pages 1203-1211

⁶ Chen, F et al. (2016). Benchmarking road safety performance: Identifying a meaningful reference (best-in-class), Accident Analysis & Prevention, Volume 86, Pages 76-89.



Average Annual KSI Rate by Region

It can also be useful to consider the KSI rates to see the comparable differences, in the extent of road trauma, between regions.

Benchmarking and comparing road safety performance are increasingly being used as an approach to encourage improvements in road safety.⁵

Result comparisons help to promote best practice, encourage the adoption of ambitious road safety performance targets and boost political leadership to create a safer road transport system for all.⁶

Crash Types

Information on crash types gives road owners and managers the opportunity to pin-point the types of crashes occurring on their network. It also allows road infrastructure managers to identify priorities and develop strategies that relate specifically to the unique needs, in each region.

This data can provide a rationale that may be used to support the allocation of funds in road program budgets for the installation of safe system treatments that will counteract the road crash type. For example, the installation of roadside barriers or sealing shoulders can be used to alleviate run-off road crashes.

Priority Treatment Areas

The most common crash types provides information that can assist Local Governments to prioritise their time, resources and effort towards implementing road safety interventions which target the crashes that are killing and injuring the most people in their area.

Run off road crashes include: Off Carriageway, Hit Object crashes and Off Carriageway, Non-collision crashes.

Intersection crashes include: Right angle and right turn thru crashes.

Crash Type Definitions

“**Off Carriageway. Non-Collision**” are defined by the RUM code 71, 73, 81, 83, which are loss of control **off** carriageway.

“**Non-Collision**” are defined by the RUM Code 75, 85 which are also loss of control **on** carriageway.

The RUM Code 76 and 77 **may** refer to the crash type “Non-Collision” which are also loss of control but **at intersection**, depending whether an object was hit or not.

RUM Code details are available on the [Main Roads WA](#) website.

Road User Type

Information about road user type helps prioritise which user groups are involved in crashes and who road safety interventions might target. This information can also assist Governments in allocating funds.

Examples of Treatments by Crash Type and RUM Code

Please refer to the table on the next page for examples of treatments by crash type and RUM code.

⁵ Wegman, F & Oppe, S. (2010). Benchmarking road safety performances of countries. Safety Science, Volume 48, Issue 9, Pages 1203-1211

⁶ Chen, F et al. (2016). Benchmarking road safety performance: Identifying a meaningful reference (best-in-class), Accident Analysis & Prevention, Volume 86, Pages 76-89.

Examples of Treatments by Crash Type and RUM Code



Crash Type	Treatments	RUM Codes
Run-off Road	<p>Examples: Reduce travel speed, clear zones, widen shoulders, wire rope barriers, audible edge lining, consistent road design and delineation, reflective guide posts.</p> <p><u>Links:</u></p> <p>Austroads Guide (AP-R509-16) – Safe System Assessment Framework</p> <p>Austroads Guide to Road Safety: Part 8 Treatment of Crash Locations (AGRS08-15)</p> <p>Austroads Guide (AP-518-16) - Safe System Roads for Local Government</p>	<p>71. Left off carriageway</p> <p>72. Left off carriageway into object/ vehicle</p> <p>73. Right off carriageway</p> <p>74. Right off carriageway into object/ vehicle</p> <p>81. Off carriageway right bend</p> <p>82. Off carriageway right bend into object</p> <p>83. Off carriageway left bend</p> <p>84. Off carriageway left bend into object</p> <p>RUM Codes</p>
Non-Collision	<p>Examples: Reduce travel speed, widen shoulders, consistent road design and delineation, audible edge lining, reflective guide posts.</p> <p><u>Links:</u></p> <p>Austroads Guide (AP-R509-16) – Safe System Assessment Framework</p> <p>Austroads Guide to Road Safety: Part 8 Treatment of Crash Locations (AGRS08-15)</p> <p>Austroads Guide (AP-518-16) - Safe System Roads for Local Government</p>	<p>75. Lost control on carriageway</p> <p>85. Out of control on carriageway</p> <p>76. Left turn (intersection)</p> <p>77. Right turn (intersection)</p> <p>RUM Codes</p>
Intersection	<p>Examples: Reduce travel speed, roundabouts, intersection platforms, grade separation, ban selected movements.</p> <p><u>Links:</u></p> <p>Austroads Guide (AP-R509-16) – Safe System Assessment Framework</p> <p>Austroads Guide to Road Safety: Part 8 Treatment of Crash Locations (AGRS08-15)</p> <p>Austroads Guide (AP-518-16) - Safe System Roads for Local Government</p>	<p>11. Thru - thru</p> <p>12. Right - thru</p> <p>13. Left - thru</p> <p>14. Thru - right</p> <p>15. Right - right</p> <p>16. Left - right</p> <p>17. Thru - left</p> <p>18. Right - left</p> <p>19. Left – left</p> <p>RUM Codes</p>
Hit Pedestrian	<p>Examples: Reduce travel speed, grade separation, footpaths, raised crossings, pedestrian refuge islands, improved lighting.</p> <p><u>Links:</u></p> <p>Austroads Guide (AP-R509-16) – Safe System Assessment Framework</p> <p>Austroads Guide to Road Safety: Part 8 Treatment of Crash Locations (AGRS08-15)</p> <p>Austroads Guide (AP-518-16) - Safe System Roads for Local Government</p>	<p>1. Near side</p> <p>2. Emerging</p> <p>3. Far side</p> <p>4. Play/work/stand on carriageway</p> <p>5. Walking with traffic</p> <p>6. Walking against traffic</p> <p>7. Driveway</p> <p>8. On footway</p> <p>9. Struck while boarding or alighting</p> <p>RUM Codes</p>