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Road Safety Performance Local Government Roads 2015-2019

Supporting Notes
July 2022

All of Western Australia

The primary source for data in this report is the Government of Western Australia, Road Safety Commission, December 2021, unless otherwise specified in these notes.

Killed and Seriously Injured

This pie chart shows number of people killed and seriously injured (KSI) in the five year period, 2015-2019, on local and state roads, and the percentage of KSI on local roads.

Definitions

- Road crash fatality in WA – a person who was killed immediately or died within 30 days of the date of a road crash, as a result of the crash.
- Road crash serious injury in WA – a person admitted to hospital as an inpatient for treatment of injuries sustained in a crash but did not die within 30 days of the crash.

Road Network

This section is a summary of the Western Australian road network, grouped into state roads managed by Main Roads WA (which includes national highways) and local roads managed by Local Government. State road length is sourced from the *Main Roads WA Annual Report 2020*[1]. The local road network includes all roads owned and managed by Local Governments. Local road length is sourced from the *Report on Local Government Road Assets & Expenditure 2019/20*[2].

Local Governments manage approximately 127,000 kilometres or 87.2 per cent of the WA public road network (excludes roads in National Parks and on other land managed by the Department of Biodiversity, Conservation and Attractions)[2] where an estimated 40 per cent of travel, or 10,934 Million Vehicle Kilometres Travelled (MVKT) occurred.

Length:

- Total length of roads in kilometres.
- Percentage of the road network for which Main Roads WA and Local Governments are responsible.

Travel/Use:[3]

- An estimate of travel based on Million Vehicle Kilometres Travelled (MVKT).
- Percentage of MVKT on Local Government and Main Roads WA managed roads.

[1] Main Roads Western Australia, *Main Roads Western Australia 2020 Annual Report*
[2] Western Australian Local Government Association, *Report on Local Government Road Assets and Expenditure 2019-2020*
[3] MVKT data from ABS via MRWA and is for 2021. Originally cited by the Road Safety Commission

Safety Performance

This section is grouped into state roads managed by Main Roads WA (which includes national highways) and local roads managed by Local Government. It shows the Average Annual KSI rate per 100,000 population. The arrows below show the change in the KSI rate from the previous five year reporting period, 2014-2018.

⬆ Increased ⬇ Decreased ➡ Remains the same

The average annual KSI rate is the average number of people KSI in a set time period. The 2015-2019 average annual KSI rate data was calculated using population data from 2019 and 2015-2019 crash data. Population data was sourced from the Australian Bureau of Statistics through the *Report on Local Government Road Assets and Expenditure 2019-2020*[2].

Local Roads

For every death on Western Australian local roads from 2015-2019, there were more than 12 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.

This pie chart shows the breakdown of the number of people killed and the number of people seriously injured on local roads between 2015-2019.

Average Cost Per Annum

Road crashes on local roads cost the community $928.8 million per year (on average) over the five year period, 2015-2019.

This infographic shows crash costs for local roads for the five year period from 2015-2019 based on the willingness to pay (WTP) model to calculate the average crash cost for WA. WTP is derived by determining the amount that people are willing to pay for reducing the risk of becoming a fatal victim or of suffering a serious injury[4].

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 five year period, 2015-2019. The numbers which have previously been reducing have now plateaued.

Metro vs Regional KSI Numbers and Rates

It is important to consider where death and serious injury crashes occur. The KSI infographic shows that in the five year period, 2015-2019, just over 70 per cent of all KSI crashes on local roads occurred in the metropolitan region of WA.

However, this translates to an average annual KSI rate of 46.6 per 100,000 population in regional WA (not shown in report) compared to the metropolitan region where the average annual KSI rate is 38.3 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.

Average Annual KSI Rate per 100,000 Population 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].

The graph shows the average annual KSI rate per 100,000 population by region with the arrows indicating the change in the average annual KSI rate from the previous reporting period, 2014-2018.

Increased Decreased Remains the same

Crash Type

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.

This table shows the crash types responsible for all KSI crashes on local roads for the five year period, 2015-2019 for all of WA with the arrows indicating the change in the percentage of KSI crashes from the previous reporting period 2014-2018.

Increased Decreased Remains the same

Definitions:

- **Off Carriageway Non-Collision** - RUM Codes 71, 73, 81, 83, which are loss of control off carriageway.
- **Non-Collision** - defined by the RUM Codes 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 an 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 Local Governments in allocating funds. Road user types represented by icons are;


Driver/passenger


Motorcyclist


Pedestrian


Cyclist


Bus/truck

No icon - represents 2% of road user type
Other/unknown

[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.

Priority Treatment Areas

The most common crash types provide information that can assist Local Governments to prioritise their time, resources, and effort towards implementing road safety interventions, specifically those that target the crashes that are causing the most harm to 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.

Examples of Treatments by Crash Type and RUM Code

Crash Type	Treatments	RUM Codes
Run-off-Road	**Examples** Reduce travel speed, clear zones, widen shoulders, wire rope barriers, audible edge lining, consistent road design and delineation, reflective guide posts. **Relevant Austroads Guides:** Safe System Assessment Framework (AP-R509-16) Guide to Road Safety Part 2: Safe Roads (AGRS02-21) Safe System Roads for Local Government (AP-518-16)	71. Left off carriageway 72. Left off carriageway into object/vehicle 73. Right off carriageway 74. Right off carriageway into object/vehicle 81. Off carriageway right bend 82. Off carriageway right bend into object 83. Off carriageway left bend 84. Off carriageway left bend into object RUM Codes
Non-Collison	**Examples** Reduce travel speed, widen shoulders, consistent road design and delineation, audible edge lining, reflective guide posts. **Relevant Austroads Guides** Safe System Assessment Framework (AP-R509-16) Guide to Road Safety Part 2: Safe Roads (AGRS02-21) Safe System Roads for Local Government (AP-518-16)	75. Lost control on carriageway 85. Out of control on carriageway 76. Left turn (intersection) 77. Right turn (intersection) RUM Codes
Intersection	**Examples** Reduce travel speed, roundabouts, intersection platforms, grade separation, ban selected movements. **Relevant Austroads Guides** Safe System Assessment Framework (AP-R509-16) Guide to Road Safety Part 2: Safe Roads (AGRS02-21) Safe System Roads for Local Government (AP-518-16)	11. Thru - thru 12. Right - thru 13. Left - thru 14. Thru - right 15. Right - right 16. Left - right 17. Thru - left 18. Right - left 19. Left - left RUM Codes
Hit Pedestrian	**Examples** Reduce travel speed, grade separation, footpaths, raised crossings, pedestrian refuge islands, improved lighting. **Relevant Austroads Guides** Safe System Assessment Framework (AP-R509-16) Guide to Road Safety Part 2: Safe Roads (AGRS02-21) Safe System Roads for Local Government (AP-518-16)	1. Near side 2. Emerging 3. Far side 4. Play/work/stand on carriageway 5. Walking with traffic 6. Walking against traffic 7. Driveway 8. On footway 9. Struck while boarding or alighting RUM Codes