

Rural & remote road safety



- Less than one third of the Australian population lives in regional and remote areas¹, but nearly two thirds of all fatal road crashes occur on rural and remote roads².
- The rural and remote road safety problem and associated challenges are acknowledged in the Safe System-based National Road Safety Strategy 2011-2020 (NRSS).

State of the Road A Fact Sheet of the Centre for Accident Research & Road Safety - Queensland (CARRS-Q)

THE FACTS

- Defining where 'urban' areas end and 'rural' areas begin is complex. Statistical analyses commonly use the Australian Statistical Geography Standard's (ASGS) five remoteness levels, including: Major Cities; Inner Regional; Outer Regional; Remote; Very Remote³. At the Inner Regional level, mixed land use and variable population densities often blur the urban-rural divide.
- Outcomes of rural and remote crashes tend to be more severe than those in major cities. All Fatal Five factors are prominent in rural and remote crashes, including Speed, Drink/Drug driving, Seatbelts, Distraction and Fatigue³.
- This Fact Sheet complements CARRS-Q's Indigenous Road Safety Fact Sheet.

Fatal crashes and injuries

- Regional and remote road crashes contribute substantially to the overall road toll in Australia, accounting for 65% of 11,120 fatal crashes from 2010-2018² (See **Figure 1**).
- The road crash fatality rate per population increases dramatically with level of remoteness^{2,3} (**Figure 2**). Young people (aged up to 25) and passengers tend to be disproportionately involved in rural and remote road trauma³.
- Indigenous Australians, most of whom live outside major cities, are up to three times more likely to be killed in a road crash and significantly more likely to be injured as passengers or pedestrians^{4,5}.

- The rate of serious (non-fatal) road-related injury among rural and remote residents is nearly twice that of those in major cities⁶.
- In the five years from 2013-2017, just over 58,000 people in regional and remote Australia were hospitalised for injuries sustained in crashes, accounting for 31% of all hospitalised injuries nationwide².
- Many fatal and serious injury crashes in rural and remote areas are not recorded in official road crash data, including crashes on public land and private property, where rates of seatbelt and helmet use are low compared with public roads. High proportions of public land and private property crashes involve motorcycles and quad bikes^{7,8}.

Characteristics of rural road crashes

- Most casualty crashes occur during daylight hours and more occur on a Friday, Saturday or Sunday than other days of the week³.
- Higher travel speeds results in a greater

risk of fatality or serious injury in the event of a crash^{1,3}.

- Most rural crashes involve local residents, with only a very small proportion of crashes attributable to international or interstate visitors.
- Most rural crashes are single-vehicle crashes, particularly run-off-road crashes.

Factors consistently associated with rural road crashes.

Human factors

- **Alcohol:** The proportion of serious crashes involving alcohol has been found to increase with the level of remoteness⁹. Fatal crashes are approximately twice as likely to involve alcohol compared with serious but non-fatal crashes⁷.
- **Distraction:** A North Queensland study of hospitalised road users found that 30% of rural drivers reported being distracted prior to the crash⁷.
- **Fatigue:** Longer travel distances and

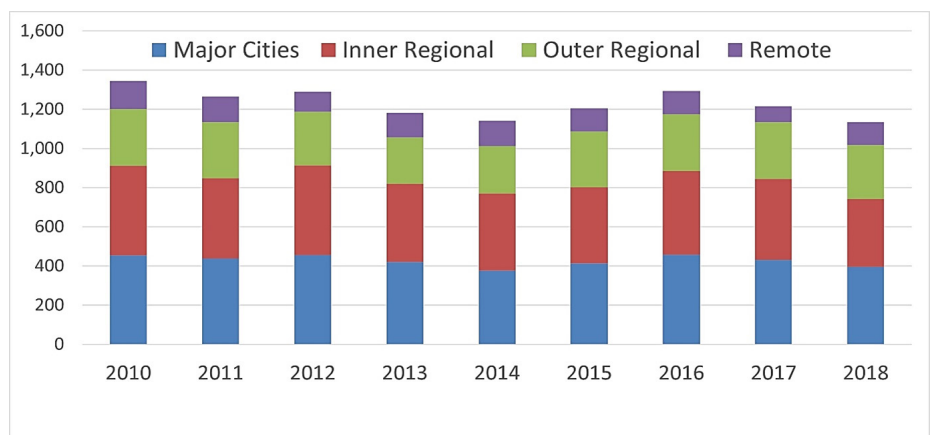


Figure 1: Fatal crashes by remoteness region (adapted from BITRE, 2019). Five remoteness Regions were classified by BITRE as per Australian Statistical Geography Standard (ASGS), from which the Remote and Very Remote categories are collapsed here into a single Remote category.

The risk of sustaining a road crash injury increases with the degree of remoteness.

associated driving time in rural areas lead to increased risk of fatigue¹⁰. Fatigue is estimated to be the primary contributing factor in 30% of fatal crashes on rural roads¹¹. The sparse roadside environment in rural and remote areas may also lead to a sense of 'monotony' and fatigue-like effects¹².

- **Seatbelt use:** Despite high levels of seatbelt use in the general community, the non-use of restraints has been found to increase with remoteness, from 2.6% in major cities to 13% in very remote areas. This is a substantial contributor to increased severity⁷.
- **Speed:** While exceeding the speed limit is often cited as a cause of crashes, inappropriate speed for the road conditions is also frequently reported. Excessive speed can lead to a crash even when driving within the speed limit, while higher speeds are also generally associated with increased crash severity¹³.
- **Age:** Young drivers 17-24 years are at an elevated level of crash risk generally, but male drivers and riders aged 30-50 years make up the majority of serious rural road

crash casualties. Rural bravado, e.g. "being a hero" amongst young males has been found in some research⁴.

Environmental factors

- **Travel distances:** Greater travel distances and time spent driving result in increased exposure and therefore higher crash risk. Distance from population centres can also compromise emergency service response times and access to medical treatment.
- **Road conditions:** Lower quality road conditions (e.g. narrow shoulder, unsealed surface) and variability of conditions interact with other issues such as inappropriate speeds.
- **Higher speed limits:** Rural and remote roads in Australia have high default speed limits (100km/hour in most jurisdictions) and it has been found that the proportion of crashes in higher speed zones increases with remoteness.
- **Unsealed roads:** From 2005 to December 2014, 2.8% of crashes in Queensland occurred on unsealed roads. Crashes on unsealed roads were more severe, with almost double the rate of fatalities

compared to those on sealed roads.

- **Unique hazards and unpredictability:** Wildlife and livestock often appear on roads without warning, while farm and mining vehicles movements may also be unpredictable. Research has found driving on unfamiliar roads to be associated with higher crash risk⁷.
- **Vehicle factors:** Research suggests that inexperience with a particular vehicle type is related to higher crash risk.
- **Safe System implementation for rural and remote:** New vehicle technologies offering potential safety benefits may have little impact without the infrastructure upgrades required to accommodate Advanced Driver Assistance Systems (ADAS)¹.

CARRS-Q WORK IN THIS AREA

- [Risk and safety perception on urban and rural roads.](#)
- Road safety strategies for rural and remote populations through increased understanding of crash causation and the role of culture.
- National protocol for development and delivery of Indigenous road safety programs.
- Examining the contribution of rural road surface defects to motorcycle crashes.
- Exploring possible contribution of prescribed drugs to rural and remote road deaths.
- Investigating rural/urban differences in RBT effectiveness and drink driving factors between rural and urban areas.
- Examining quad bike related injuries across Australia.

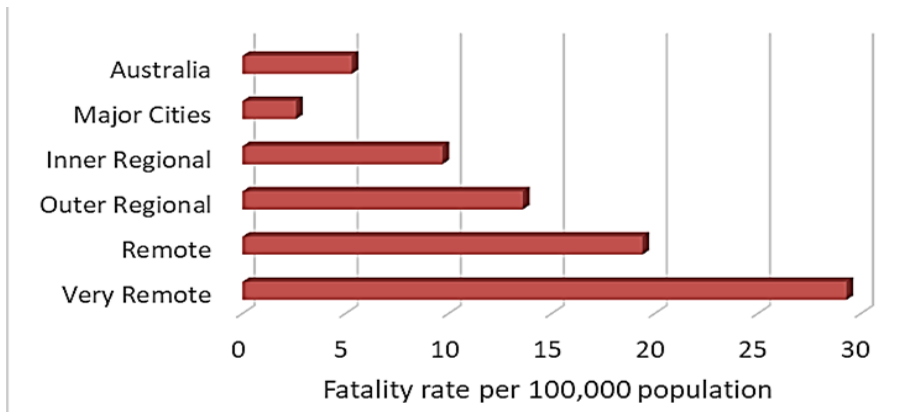


Figure 2: Road crash fatalities per 100,000 population by remoteness region 2010-2018 (adapted from BITRE, 2019).

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