



How Safe Are Our Roads?

Rating South Australia's Highway Network for Risk

Benchmarking the performance of South Australia's roads in the Decade of Action

2011

Why Road Safety is Important

Many road crashes involve sudden loss, untold suffering and financial hardship, and they change the lives of people forever. Safe personal travel should be a key feature of modern society but unless road tragedy personally touches us or our loved ones, we sometimes don't reflect on how big a problem it is.

Across Australia around 1,400 people are killed each year and more than 32,500 are hospitalised. This averages four deaths and nearly 90 serious injuries on Australian roads and costs our community on average \$74 million each and every day.

Most crashes occur when ordinary people make everyday human mistakes. It has been estimated that around 1 in 500 driving decisions can be wrong, involving a mistake, an error of judgement, a missed signal or the like. Sober, drug-free, responsible drivers obeying the speed limit and wearing seatbelts frequently die on our roads. Safe roads minimise the chances of these crashes happening, and if they do occur, they minimise the severity of the crash. Engineering measures to improve safety don't have to be high cost and best of all, they last decades!

We need to create a genuinely safe road system, in which improving the safety of drivers, vehicles and roads is of mutual importance. A road system where we have five star drivers, in five star cars on five star roads should involve no deaths.

It is estimated that of all road fatalities which can be avoided through improved safety, half of these would be

avoided through road upgrades including investment in new road construction and expenditure on safety-related works. Australia's National Road Safety Strategy 2011-2020 recognises the critical need to improve road infrastructure, particularly those road features which are designed to reduce run-off-road, intersection and head-on crashes.

Making this happen requires the commitment of politicians, based on support from the public, funding from treasury, road authority action, and the design and construction skills of road engineers.

AusRAP is here to help all of these stakeholders, and aspires to help Australia become a nation free of high risk roads.

About AusRAP

The Australian Road Assessment Program (AusRAP) is a program run by the Australian Automobile Association and State and Territory automobile clubs, dedicated to saving lives through advocating for safer road infrastructure.

AusRAP's objectives are to:

- reduce deaths and injuries on Australia's roads by systematically assessing risk and identifying safety shortcomings that can be addressed with practical road-improvement measures; and
- put risk assessment at the heart of strategic decisions on road improvements, crash protection and standards of road management.

AusRAP works in partnership with government and non-government organisations to:

- inspect national and state highways and develop Star Ratings and Safer Roads Investment Plans;
- track road safety performance through risk maps so that funding agencies can assess the benefits of their investments; and
- explain the benefits of safer road infrastructure to the community by describing why some roads are safer than others.

Rating Australia's Network for Risk

In total, we have analysed more than 20,000 km of the highways which represents less than three per cent of the total road network in Australia, yet carries some 15 per cent of the nation's road traffic. This network experienced 1,170 road crash deaths, equating to 15 per cent of all road deaths in Australia during 2005-09.

The AusRAP analysis focuses on casualty crashes that occurred between 2005 and 2009 on rural sections of the National Land Transport Network and significant connecting roads. These are generally defined as being those with a speed limit of 90km/h or more, though some lower speed limit sections are included where they form an integral part of an otherwise higher speed route.

For the results of risk across Australia's network see the companion report *How Safe Are Our Roads? Rating Australia's National Network for Risk*, available from www.ausrap.org.

Rating South Australia's Network for Risk

This brochure is a companion report to *How Safe Are Our Roads? Rating Australia's National Network for Risk (AAA, 2011)* and provides detailed results for the most improved and persistently higher risk roads in South Australia. This brochure complements the broader national picture and provides an extra level of detail for South Australia's roads.

Six highways were assessed in South Australia, totalling 2,641km in length. The length of each highway and the number of casualty crashes and deaths that occurred during 2005-2009 are shown in Table 1.

The 2,641km long network in South Australia represents 13 per cent of the network analysed throughout Australia and the 85 deaths that occurred during 2005-09 account for seven per cent of the national network total.

Change in Network Crash Risk

The collective risk graph for South Australia's Network, which measures the density, or total number, of casualty crashes over a given length of road (over) shows that risk has reduced since 2000-04, with 63 per cent of the network in the lowest risk category (low). However, it is still concerning that, 19 per cent of the network assessed rated as medium, medium-high or high risk.

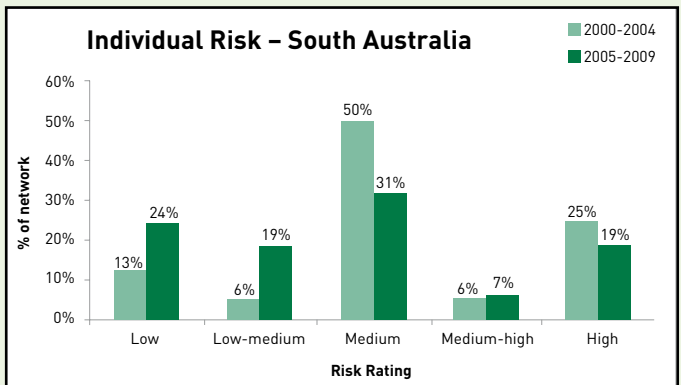
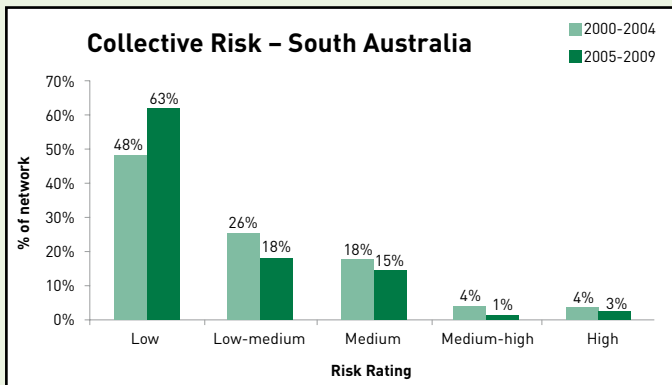
Sturt Highway between Gawler and Daveyston was rated as medium-high, this is because the Sturt Highway Duplication project between Gawler and Nuriootpa was only completed in October 2010, as such it is expected that crash number are likely to reduce in future years, resulting in a better rating.

TABLE 1: HIGHWAYS RATED IN SOUTH AUSTRALIA

Highway	From - to	Length		Casualty crashes		Deaths	
		km	%	2005-09	%	2005-09	%
Dukes Highway	Tailem Bend to VIC border	191	7%	82	11%	23	27%
Eyre Highway	WA border to Port Augusta	941	36%	93	12%	12	14%
Pt Augusta / Pt Wakefield Road	Port Augusta to Old Port Wakefield Rd	272	10%	218	29%	16	19%
South East Freeway	Crafers Interchange to Tailem Bend	85	3%	115	15%	4	5%
Stuart Highway	NT border to Port Augusta	926	35%	112	15%	15	18%
Sturt Highway ^[1]	Gawler Bypass to VIC border	226	9%	144	19%	15	18%
Total ^[2]		2,641	100%	764	100%	85	100%

[1] The Sturt Highway duplication between Gawler and Nuriootpa was completed in October 2010; crash numbers are likely to reduce in future years.

[2] Percentages may not total 100 per cent due to rounding



The graph for individual risk on South Australia’s Network, which measures the casualty crash rates per vehicle kilometre travelled – (above) shows an improved level of risk when 2000-04 is compared to 2005-09. Almost three quarter (74 per cent) of the assessed network achieved low to medium rating in 2005-09. However almost 20 per cent of the network are still ranked in high-risk ranking category.

While the assessment shows some improvement in both collective and individual risk in South Australia, there are still sections of the highway network that ranked in the high-risk category. It is anticipated that future rating will reflect greater improvements as the result of recent completion of significant infrastructure investments on South Australia’s National Highway Network, such as the duplication of Sturt Highway between Gawler and Nuriootpa and safety improvements along Dukes Highway.

Performance Tracking

Performance Tracking uses the data compiled for each risk map to assess how the risk has changed over time on the network as a whole, and on individual road sections. It is a way of measuring the success and effectiveness of

investment in safer roads.

Since 2005, AAA and the State and Territory Motoring Clubs have been mapping the rate of death and serious injury on Australia’s main highways. This year, for the first time, and to coincide with the start of the *Decade of Action*, we have also tracked the risk rates across Australia. For this report, crash and traffic data for the period 2000-2004 has been compared to 2005-2009, and we have identified the most improved and persistently high-risk sections of highway.

The results of the *Most Improved* highway sections in South Australia are presented in Table 2 below.

It is often difficult to be definitive about the cause of a reduction in casualty crashes on any given section of road. Frequently, the improvement in safety is the result of a combination of factors, which can include reductions in traffic volumes, road upgrades, and improvements in vehicle safety as well as changes in police enforcement.

Improvements that have occurred on the above lengths of road includes: \$80 million commitment from the governments for a suite of safety-related measures as well as pavements rehabilitation projects on the Dukes Highway.

TABLE 2: SOUTH AUSTRALIA’S MOST IMPROVED HIGHWAY SECTIONS

Highway	From-To	Type	Casualty crashes	Individual Risk Rating	Casualty crashes	Individual Risk Rating	Change in casualty crashes
			2000-2004	2005-2009	2005-2009		
Dukes Highway	Tailem Bend to Keith	Single	95	Medium	54	Low	-43.2%

South Australia does not have any additional sections of highway which rate as Most Improved.

Ranked by percentage reduction in the number of casualty crashes between 2000-2004 and 2005-2009; significant reduction in the number of casualty crashes between data periods at the 98% confidence level; section lengths are greater than 7km; AusRAP Risk Rating based on the number of casualty crashes per 100 million vehicle km travelled: black (high risk), red (medium-high risk), orange (medium risk), yellow (low-medium risk), green (low risk).

TABLE 3: SOUTH AUSTRALIA'S PERSISTENTLY HIGH RISK HIGHWAY SECTIONS

Highway	From-To	Type	Casualty crashes	Individual Risk Rating	Casualty crashes	Individual Risk Rating	Change in casualty crashes
			2000-2004		2005-2009		
Dukes Highway	Bordertown to VIC Border	Single	12	Medium-high	13	High	8.3%
Stuart Highway	NT Border to Coober Pedy	Single	41	High	45	High	9.8%
Eyre Highway	Yalata to Fowler Bay	Single	16	High	11	High	-31.3%
Sturt Highway	Barmera to Berri	Single	8	Medium-high	12	Medium-high	50.0%
Stuart Highway	Woomera to Port Augusta	Single	46	High	38	Medium-high	-17.4%

Ranked by AusRAP Risk Rating 2005-2009; no significant reduction in the number of casualty crashes between data periods; section lengths are greater than 7km; AusRAP Risk Rating above average of the medium-high (red) category or high risk (black) category in both data periods; AusRAP Risk Rating based on the number of fatal or serious crashes per 100 million vehicle km travelled: black (high risk), red (medium-high risk), orange (medium risk), yellow (low-medium risk), green (low risk).

Unfortunately our analysis has also identified a number of sections of highway where numbers of crashes have not significantly reduced. After statistical testing it was found that five of these sections were considered to be persistently high risk. The results of the five *Persistently High Risk* highway sections are shown in Table 3, above.

While it can sometimes be difficult to be sure about the factors that might have caused a reduction in crashes, it is often more difficult to explain an increase. One of the common reasons for a decline in safety is that there has been an increase in traffic volumes and thus greater exposure to risk.

More information

For detailed information on the risk ratings for South Australia's network, including maps and the best and worst roads, see pages 24 to 27 of the *How Safe Are Our Roads? Rating Australia's National Network for Risk*, published in 2011, available from www.ausrap.org.