



How Safe Are Our Roads?

Rating Queensland's Highway Network for Risk

Benchmarking the performance of Queensland'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.

TABLE 1: HIGHWAYS RATED IN QUEENSLAND

Highway	From – to	Length		Casualty crashes		Deaths	
		km	%	2005-09	%	2005-09	%
Bruce Hwy	Brisbane to Cairns	1,553	32%	2,869	50%	204	61%
Flinders Hwy	Townsville to Barkly Highway	756	16%	131	2%	13	4%
Gore/Leichhardt Hwy	Toowoomba to NSW border	219	5%	110	2%	10	3%
New England/Cunningham Hwy	Ipswich to NSW border	216	5%	291	5%	23	7%
Pacific Motorway [1]	Gateway Motorway to NSW border	78	2%	1,340	24%	25	8%
Warrego / Landsborough / Barkly Hwy	Cunningham Highway to NT border	1961	41%	943	17%	58	17%
Total		4,784	100%	5,684	100%	333	100%

[1] This link may include crashes on the Pacific Motorway section that was replaced by the Tugun Bypass, prior to the bypass opening in June 2008.

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 National 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 2005-2009.

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 Queensland's Network for Risk

This brochure is a companion report to *How Safe Are Our Roads? Rating Australia's National Network for Risk*

and provides detailed results for the most improved and persistently higher risk roads in Queensland. This brochure complements the broader national picture and provides an extra level of detail on Queensland's roads.

Six highways on the rural network in Queensland were assessed, totalling 4,784km in length. The length of each highway and number of casualty crashes and deaths that occurred during 2005-2009 are listed in Table 1.

The 4,784km long network in Queensland represents 23 per cent of the total national network analysed and the 333 deaths that occurred during 2005-2009 represents 28 per cent of the national network total.

Change in Network Crash Risk

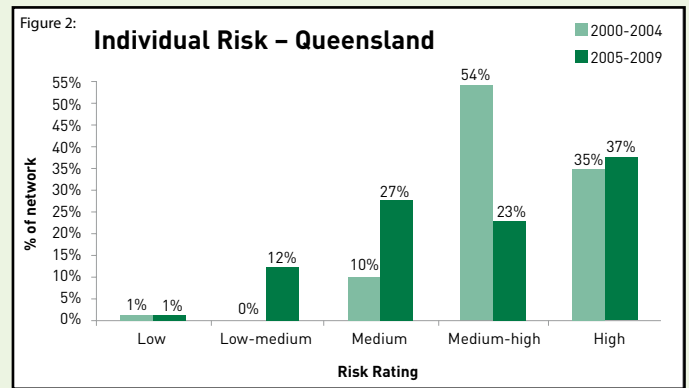
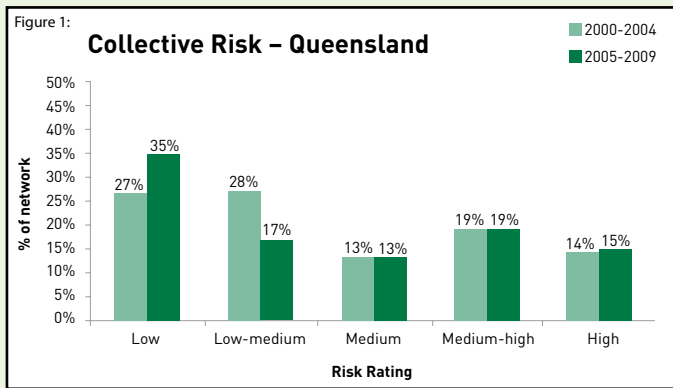
The collective risk graph for Queensland's network, Figure 1 over, shows an increase in percentage of categories at both ends of the scale, i.e. greater low risk and high risk roads, in the period 2005-2009 when compared to 2000-2004.

The same assessment can be made with the individual risk during these periods, Figure 2 over. Thirteen per cent of the network is now rated as low or low-medium risk versus only one per cent in the period 2000-2004. While this is a good result, there are concerns that 37 per cent of the national network is now rated as high individual risk, an increase of two per cent since the period 2000-2004.

Performance Tracking

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

During 2000-2004 there was a total of 4,722 casualty crashes (refer Table 2) while 5,684 occurred in the period 2005-2009, a total of 962 more casualty crashes (20%). Road deaths increased from 313 to 333 (6%), a total of 20 more road deaths during 2005 - 2009 compared to 2000 - 2004.

The results of the *Most Improved* highway sections in Queensland are presented in Table 3 over.

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, improvements in vehicle safety and changes in police enforcement.

Unfortunately the analysis has also identified a number of sections of highway where numbers of crashes have not significantly reduced. The top 16 persistently high risk sections of highway are shown in Table 4 over.

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.

A total of 41 road links were assessed in this study. Of these 41 road links, 18 (44%) had a reduction in crashes over the periods 2000-2004 and 2005-2009, 22 links showed an increase (54%) and one link (2%) recorded no change.

More information

For detailed information on the risk ratings for Queensland's network, including maps and the best and worst road links, see pages 20 to 23 of the *How Safe Are Our Roads? Rating Australia's National Network for Risk*, published in 2011, available from www.ausrap.org

TABLE 2: CASUALTY CRASHES AND DEATHS 2000-04, 2005-09

Highway	From - to	Casualty crashes				Deaths			
		2000-04	2005-09	Ch	%	2000-04	2005-09	Ch	%
Bruce Hwy	Brisbane to Cairns	2,494	2,869	375	15%	185	204	19	10%
Flinders Hwy	Townsville to Barkly Hwy	167	131	-36	-22%	9	13	4	44%
Gore/Leichhardt Hwy	Toowoomba to NSW border	120	110	-10	-8%	12	10	-2	-17%
New England/Cunningham Hwy	Ipswich to NSW border	275	291	16	6%	29	23	-6	-21%
Pacific Motorway	Gateway Motorway to NSW border	919	1,340	421	46%	17	25	8	47%
Warrego / Landsborough / Barkly Hwy	Cunningham Hwy to NT border	747	943	196	26%	61	58	-3	-5%
Total		4,722	5,684	962	20%	313	333	20	6%

TABLE 3: QUEENSLAND'S MOST IMPROVED ROAD LINKS

Highway	From – to	Road type	Casualty crashes	Individual Risk Rating	Casualty crashes	Individual Risk Rating	Change in casualty crashes
			2000-2004		2005-2009		
Flinders Hwy	Richmond to Julia Creek	Single	28	High	11	Medium	-60.7%
Warrego / Landsborough / Barkly Hwy	Helidon to Toowoomba	Dual	103	High	63	Medium	-38.8%

No other road in Queensland classifies 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 4: QUEENSLAND'S PERSISTENTLY HIGH RISK ROAD LINKS

Highway	From - to	Road type	Casualty crashes	Individual Risk Rating	Casualty crashes	Individual Risk Rating	Change in casualty crashes
			2000-2004		2005-2009		
Bruce Highway	Sarina to Mackay	Single	54	Medium-high	108	High	100.0%
Bruce Highway	Childers to Miriam Vale	Single	158	High	202	High	27.8%
Warrego/Landsborough/Barkly Hwy	Mt Isa to NT border	Single	30	High	43	High	43.3%
Bruce Highway	Innisfail to Cairns	Single	98	High	142	High	44.9%
Bruce Highway	Proserpine to Ayr	Single	133	High	163	High	22.6%
Warrego/Landsborough/Barkly Hwy	Winton to Flinders Hwy	Single	27	Medium-high	23	High	-14.8%
Bruce Highway	Miriam Vale to Rockhampton	Single	164	Medium-high	206	High	25.6%
Bruce Highway	Mackay to Proserpine	Single	111	Medium-high	153	High	37.8%
Warrego/Landsborough/Barkly Hwy	Cunningham Hwy to Gatton	Dual	257	Medium-high	404	High	57.2%
Flinders Hwy	Julia Creek to Barkly Hwy	Single	17	High	15	High	-11.8%
Bruce Highway	St Lawrence to Sarina	Single	78	Medium-high	89	High	14.1%
New England/Cunningham Hwy	Kalbar to Warwick	Single	89	High	98	Medium-high	10.1%
Bruce Highway	Townsville to Ingham	Single	145	Medium-high	183	Medium-high	26.2%
Bruce Highway	Ingham to Innisfail	Single	140	High	144	Medium-high	2.9%
Bruce Highway	Cooroy to Gympie	Single	191	High	155	Medium-high	-18.8%
Pacific Motorway	Smith St Fwy to NSW border	Dual	363	Medium-high	529	Medium-high	45.7%

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); percentages may not sum due to rounding. Some of the roads listed may have had measures implemented since 2009.