



HOW SAFE ARE OUR ROADS?

AUSTRALIAN ROAD ASSESSMENT PROGRAM



Australian
Automobile
Association

Risk Mapping (2016)





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A LONG ROAD AHEAD TO GREATER SAFETY

Crashes on the road have severe and often irreversible consequences, not only for the people who are injured, but also for the communities of which they are members. On average, more than 100 Australians die on the road every month. Around 2,500 or more are seriously injured, often causing lower quality of life and loss of income through permanent disability.

Additional to the massive emotional burden of road trauma are financial costs stemming from property damage, hospitalisation and rehabilitation. In total, road trauma in Australia is estimated to cost \$34 billion per annum, which is equivalent to 18 per cent of health expenditure.¹ In comparison, Australian coal exports were valued at \$38 billion in 2014-15.²

It must be understood that every death or serious injury on the road is an avoidable tragedy. Each person lost is unique and irreplaceable. An annual road death and trauma count of more than 30,000 Australians is unacceptable.

Introduced in 2011, the National Road Safety Strategy (NRSS) aims for a reduction of at least 30 per cent in annual fatalities and serious injuries by 2020. It is the benchmark against which efforts to improve road safety are measured and tracked.

¹Bureau of Transport, Infrastructure and Regional Economics (2006), Research Report 118: Cost of Road Crashes in Australia 2006. The original figure of \$27 billion in this report was calculated in 2006 dollars. This has been updated to \$34 billion to reflect real 2016 dollars using the Consumer Price Index.

²Department of Foreign Affairs and Trade, Australia's Top Ten Goods & Services Exports and Imports, 2014.

Over the past two years, the downward trend in the national road toll has reversed. Research published by the Australian Automobile Association (AAA) in September 2016 shows road fatalities in all states and territories but Queensland behind the rate of improvement required to meet the NRSS target.³

It is crucial that all Australian governments re-double their efforts and take an apolitical, evidence-based approach to identifying and investing in the most effective road safety measures. This must be done not just to rescue the NRSS, but to save the lives of everyday Australians who are falling victim to unsafe roads.

Inadequate road infrastructure needs to be upgraded to protect Australian motorists. Where this has already been done, significant reductions in crash rates have been achieved.

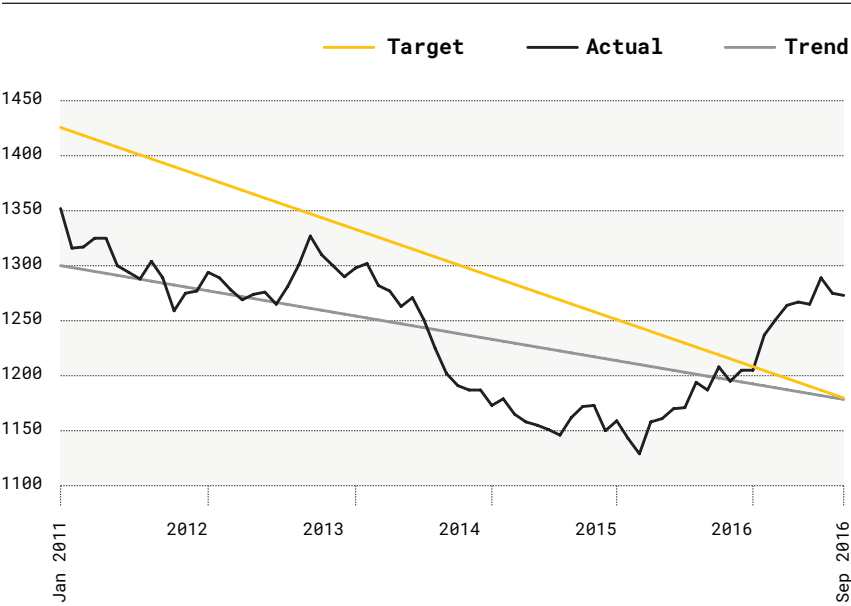
The Bruce Highway, for example, has consistently rated as one of Australia's highest-risk highways. The section from Cooroy to Gympie was identified in 2011 as especially dangerous: over a five-year period, 155 casualty crashes and 24 fatalities had occurred.⁴ Funding of \$388 million from the Australian Government and \$125 million from the Queensland Government led to the opening of a new 12-kilometre section with major safety enhancements. Since the upgrade, the number of crashes has been reduced by around 50 per cent on the improved section.

This example shows that with the right investment even the worst stretches of road can be made significantly safer. The challenge is to replicate this success across the rest of Australia.

³Australian Automobile Association (September 2016), Benchmarking the Performance of the National Road Safety Strategy (NRSS), p.4.

⁴Australian Automobile Association (2011), How Safe Are Our Roads? Rating Australia's National Network for Risk, p. 23, Table 12.

National fatalities per annum



The first step is identifying the most dangerous sections of the road network in a rigorous and scientific fashion. This is why Australia's motoring clubs conduct the Australian Road Assessment Program (AusRAP), which evaluates the safety of highways comprising the National Land Transport Network.

AUSRAP is a program run by the Australian Automobile Association (AAA) and the state and territory motoring clubs. The AAA is the peak organisation for Australia's motoring clubs and their eight million members. It advances the interests of its constituent clubs, and of all road users across Australia, with the aim of ensuring that motoring is safe, fair and sustainable.

In this report, the findings from the recently completed Risk Mapping component of AusRAP are presented. Based on casualty crash data supplied by state and territory road authorities, this analysis should be taken by governments across Australia as objective guidance on where safety improvements are most desperately needed on our highways.

THE AUSTRALIAN ROAD ASSESSMENT PROGRAM (AusRAP)

The Australian Road Assessment Program (AusRAP) is an analysis of the major highways and motorways in Australia, as defined in the National Land Transport Network Determination 2014. Eligibility for assessment typically requires that a road have a speed limit of 90km/h or more, though some lower speed limit sections are included where they form an integral part of the otherwise higher speed route.

The objectives of the Australian Road Assessment Program (AusRAP) are to:

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

AusRAP adheres to the principles of iRAP, the International Road Assessment Program, which is the standard bearer of best practice. AusRAP comprises two distinct yet complementary methods for assessing the safety of Australian highways:

1. **Risk mapping** is a measure of the real-life performance of a road network: it is based on crashes which have actually occurred. These crashes are a result of factors related to driver behaviour, the vehicle and the safety of the road. Highways are colour-coded on the map according to their risk ratings. Where a road has a poor risk rating, intervention through upgrades to infrastructure needs to be considered.
2. **Star ratings** measure the inherent safety of the road infrastructure. They show the degree to which built-in safety features prevent crashes from occurring and reduce the severity of those crashes that do occur. Star Ratings involve an inspection of several design elements such as lane and shoulder width, curvature of the road and the presence of safety barriers. Such features are known to influence the likelihood of a crash and its severity. Roads are assigned a score from one star (least safe) to five stars (most safe). By upgrading as much of the road network as possible to five stars, a safer overall road transport environment is created.

The preceding AusRAP reports are Star Rating Australia’s National Network of Highways (2013) and How Safe Are Our Roads? Rating Australia’s National Network for Risk (2011).

AusRAP Risk Mapping (2016)

This AusRAP release (2016) is a **risk mapping** report based on crash data from the five-year period from 2010 to 2014.

The crash and traffic volume data used in risk maps are obtained from the road authority in each state and territory, and the period 2010-2014 is the most recent for which every state and territory has crash data available. While there is consistency in the definition of a fatality across jurisdictions, namely a death occurring within 30 days of the crash, the severity definitions of non-fatal crashes are inconsistent. The way an injury is categorised at the crash scene can also vary by jurisdiction.

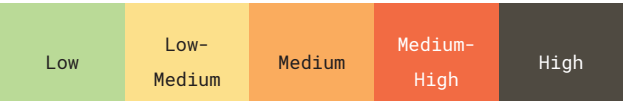
To address this definitional problem, the risk maps presented in this report are based on casualty crashes. A casualty crash is defined as any road crash in which at least one person is killed or injured.

There are two ways to assess the risk of a given section of road based on its number of casualty crashes.

1. **Collective risk** measures the density, or total number, of casualty crashes over a given length of road. Collective risk is calculated by dividing the number of casualty crashes per annum by the length of the highway.
2. **Individual risk** measures the casualty crash rates per vehicle kilometre travelled based on traffic volume, and so effectively represents the risk faced by an individual driver. Individual risk is calculated by dividing the frequency of crashes per annum by the distance travelled on each section per annum.

Both the collective risk and the individual risk reveal important aspects of the safety of a road section. Previous editions of AusRAP Risk Mapping have the two risk types presented on separate maps. In the interest of producing an easily comprehensible risk assessment, in this report the two risk types have been combined with equal weighting to produce a single risk score per road section (the **combined risk** score).

Once a section of highway has received a combined risk score, it is assigned a corresponding colour on the following scale:



The cut-off points between colours are determined by ranking sections from worst to least risk across Australia, calculating the total length of road assessed and then dividing this result into five colour bandings, each representing as close as possible to 20 per cent of the network assessed.

The maps in this report are colour-coded according to the combined risk ratings. They provide clear targets for infrastructure upgrades: governments should focus on roads coloured in red and black as a priority.

The report assesses the high speed sections of the highway network with speed limits of 90 km/h or higher.

Where gaps appear between highway sections on the map, this is typically due to the highway passing through an area without the required speed limit of 90km/h or above. In New South Wales, for example, the portion of the Great Western / Mitchell Highway passing through the Bathurst town centre has not been rated for this reason.



AusRAP RISK MAPPING 2016 RESULTS

In total, 20,664 kilometres of highways comprising the National Land Transport Network have been assessed in this report. During the period from 2010 to 2014, there were 15,339 casualty crashes on this network across Australia. These casualty crashes included 924 deaths.

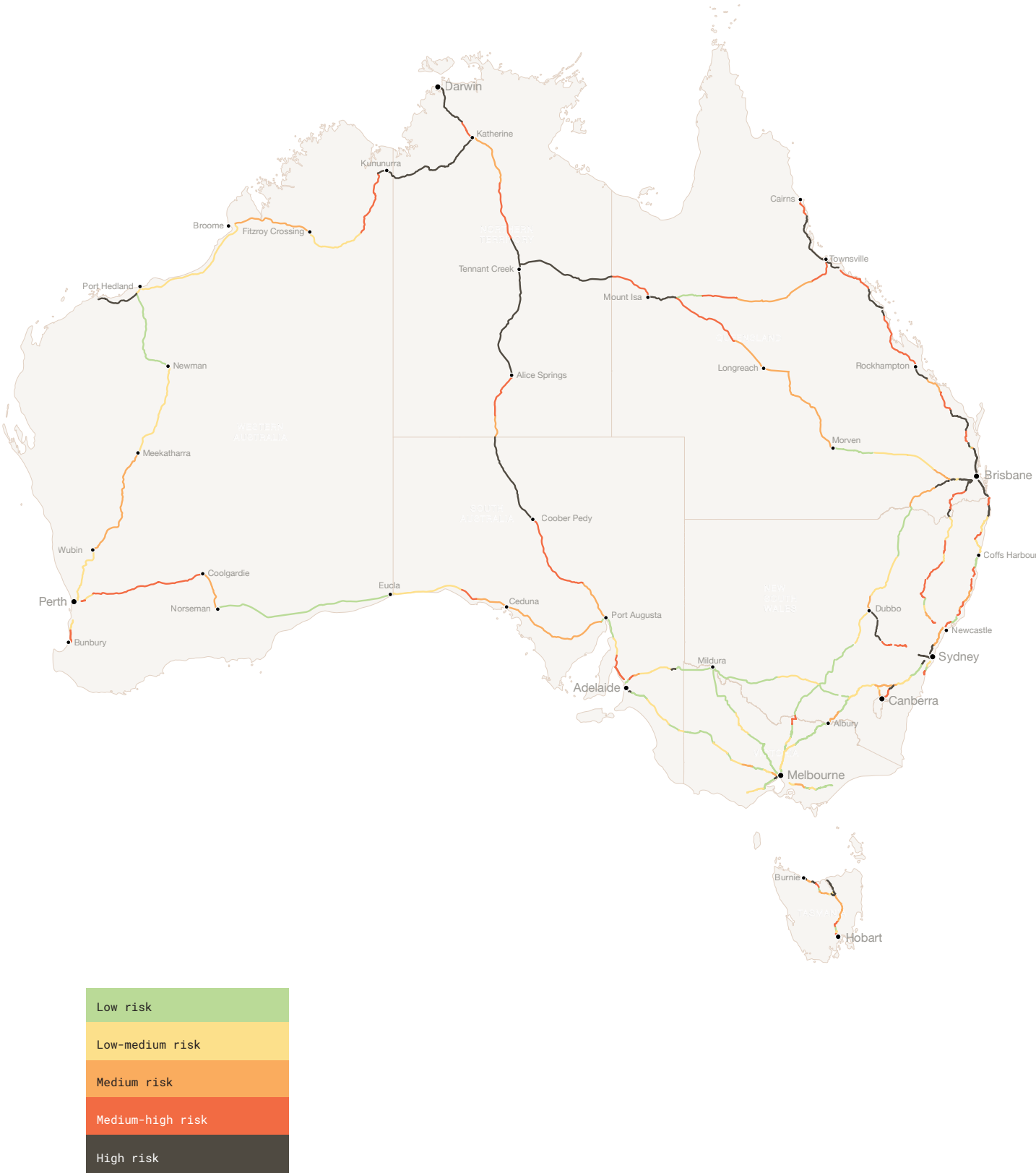
NATIONAL

NATIONAL OVERVIEW

The following table is an overview of casualty crashes and fatalities per jurisdiction. In absolute terms, most casualty crashes occurred in Australia's most populous states: New South Wales, Queensland and Victoria.

State or Territory	Length (km)	% Total	Casualty crashes	% Total	Deaths	% Total
NSW	3,735	18%	5,721	37%	278	30%
VIC	1,633	8%	1,517	10%	109	12%
QLD	4,789	23%	5,361	35%	281	30%
SA	2,664	13%	799	5%	82	9%
WA	4,774	23%	717	5%	81	9%
TAS	379	2%	662	4%	32	3%
NT	2,670	13%	548	4%	61	7%
ACT	20	0.10%	14	0.09%	0	0%
TOTAL	20,664		15,339		924	

In this report, the national highways have been analysed as 247 distinct highway sections, each of which has received its own risk rating based on its crash record. The national results are displayed on the following map. A full set of results is provided in the Appendix.



Risk Mapping

WORST 10 HIGHWAY SECTIONS
IN AUSTRALIA

The following table contains the worst 10 sections of national highway in Australia, ranked from highest to lowest risk. Queensland and Tasmania are most represented in the worst 10 list, with four and three sections respectively. New South Wales has two sections in the worst 10, ranked as worst and third-worst in Australia.

State or Territory	Number	Highway	Section	Carriageway	Length (km)	Combined risk rating
NSW	M4	Western Mtwy	Parramatta Rd, Concord to M7 Westlink	Dual	24	High
TAS	M2/A2	Bass Hwy	Nine Mile Rd to Stowport Rd	Dual	7	High
NSW	M31	Hume Mtwy/Fwy	South Western Mtwy/M5 to Narellan Rd, Campbelltown	Dual	45	High
QLD	M1	Pacific Mtwy	Gateway Mtwy to Logan Mtwy	Dual	15	High
TAS	A8	East Tamar Hwy	Alanvale Connector to Dalrymple Rd	Dual	20	High
QLD	M1	Pacific Mtwy	Smith St Mtwy to NSW border	Dual	29	High
TAS	M1	Midland Hwy	Evandale Main Rd to Howick St	Dual	10	High
QLD	M1	Pacific Mtwy	Logan Mtwy to Smith St Mtwy	Dual	35	High
QLD	A1	Bruce Hwy	Sarina to Mackay	Single	25	High
WA	M1	Great Northern / Victoria Hwy	Kununnurra T/off to NT border	Mixed	83	High

National Results

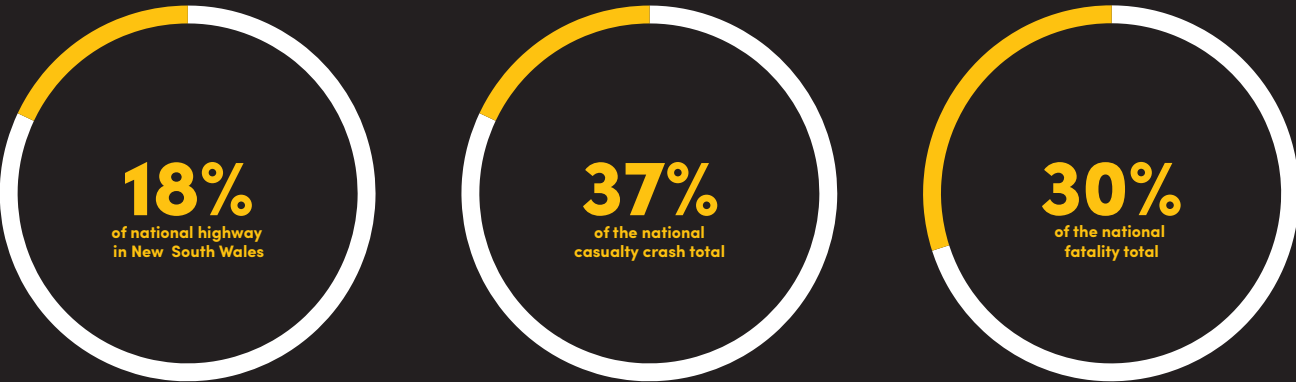
BEST 10 HIGHWAY SECTIONS
IN AUSTRALIA

The following table contains the best 10 sections of national highway in Australia, ranked from lowest to highest risk. Victoria is the state most represented in the table, with four sections in the best 10 list, and three in the top five.

State or Territory	Number	Highway	Section	Carriageway	Length (km)	Combined risk rating
VIC	M39/A39	Goulburn Valley Fwy	Tabilk to Kirwans Bridge (Nagambie Bypass)	Dual	17	Low
QLD	A1	Bruce Hwy	Section B alignment (Sankeys Rd to Traveston Rd)	Dual	12	Low
ACT	A23	Federal Hwy	NSW border to Antill St	Dual	8	Low
VIC	M39/A39	Goulburn Valley Fwy/Hwy	Seymour to Tabilk	Mixed	16	Low
VIC	M1/A1	Princes Fwy West	Grovedale to Mt Moriac (Fwy i.e. Geelong Ring Rd)	Dual	7	Low
SA	A20	Sturt Hwy	Paringa to VIC Border	Single	22	Low
NSW	A20	Sturt Hwy	Wagga Wagga to Narrandera	Single	90	Low
WA	A94	Great Eastern / Coolgardie Esperance / Eyre Hwy	Cocklebidy to SA Border	Single	283	Low
WA	A95	Great Northern / Victoria Hwy	Newman to NW Coastal T/Off	Single	420	Low
VIC	M79/A79	Calder Fwy/Hwy	Western Ring Rd to Diggers Rest	Dual	9	Low

There are 3,735 kilometres of risk-rated national highway in New South Wales, which is 18 per cent of the total National Land Transport Network. During the period from 2010 to 2014, there were 5,721 casualty crashes on these roads, accounting for 37 per cent of the national total. These casualty crashes included 278 deaths, which equates to 30 per cent of total fatalities across the network over this period.

NEW SOUTH WALES



OVERVIEW OF HIGHWAYS RATED IN NEW SOUTH WALES

The following are the national highways in New South Wales, with information on aggregated casualty crashes and deaths per highway. Refer to the map for risk ratings.

Number	Highway	Section	Length (km)	% Total	Casualty crashes 2010-14	% Total	Deaths 2010-14	% Total
A25	Barton Hwy	Hume Hwy to ACT border	39	1%	71	1%	6	2%
M1	Pacific Mtwy	Wahroonga to New England Hwy	126	3%	594	10%	7	3%
M1/A1	Princes Mtwy/Hwy	Blakehurst to Wollongong	43	1%	210	4%	5	2%
M23	Federal Hwy	Hume Hwy to ACT border	66	2%	117	2%	7	3%
A32	Great Western / Mitchell Hwy	Lithgow to Newell Hwy, Dubbo	228	6%	252	4%	15	5%
M31	Hume Mtwy/ Fwy ^[1, 2, 3, 4]	South Western Mtwy/M5 to Albury	547	15%	1426	25%	49	18%
M15/A15	New England Hwy	Branxton to QLD border	493	13%	390	7%	41	15%
A39	Newell Hwy	VIC border to QLD border	986	26%	305	5%	27	10%
M1/A1	Pacific Mtwy/Hwy ^[5]	Hexham to Chinderah	598	16%	1178	21%	97	35%
A20	Sturt Hwy	Hume Hwy to Mildura	562	15%	155	3%	14	5%
M4	Western Mtwy	Parramatta Rd, Concord to Glenbrook	46	1%	1023	18%	10	4%
TOTAL			3735		5721		278	

The greatest number of casualty crashes in the New South Wales network occurred on the Hume Motorway/Freeway, which accounts for 25 per cent of casualty crashes and 18 per cent of fatalities. In terms of fatalities, the Pacific Motorway/Highway has performed worse still and is responsible for 35 per cent of fatalities, compared with 21 per cent of casualty crashes.

This indicates that when crashes occur on the Pacific Motorway/ Highway, they tend to have relatively severe outcomes.

These 11 highways in the table above consist of 70 sections, each of which has received its own risk rating based on its crash record. The results are displayed on the following map

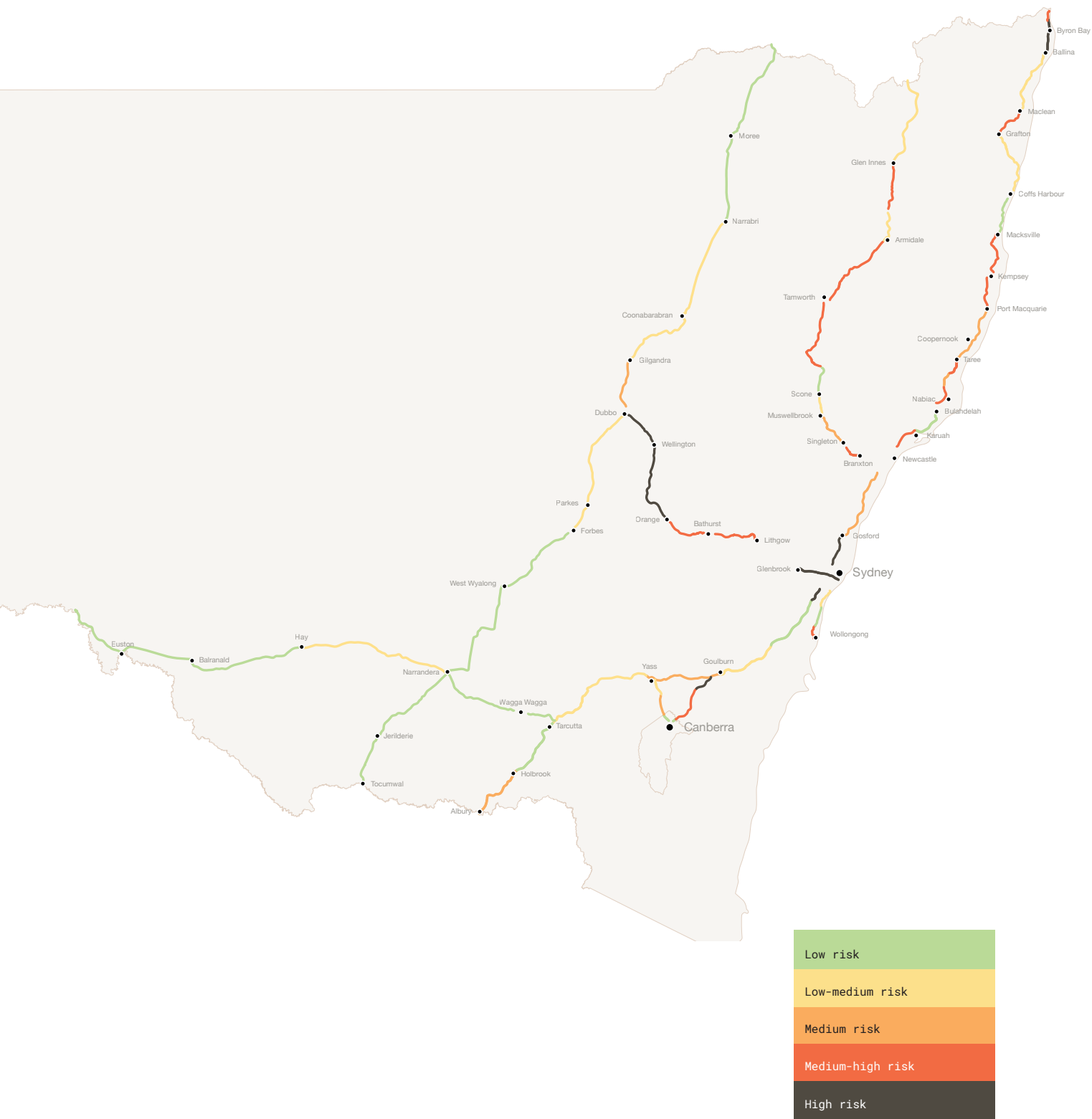
¹The South Western Motorway and Hume Highway were subject to ongoing roadworks during the period from 2010 to 2014. Large sections had speed limits in place.

²The Holbrook Bypass on the Hume Highway opened in 2011.

³The Woomargama Bypass on the Hume Highway opened in November 2011 and data since this date have been based on traffic using the bypass. Prior to this date, data were based on traffic through Woomargama.

⁴The Tarcutta Bypass on the Hume Highway opened in 2011.

⁵The Bulahdelah Bypass on the Pacific Highway opened in July 2013.



WORST 10 HIGHWAY SECTIONS
IN NEW SOUTH WALES

The following table contains the worst 10 sections of national highway in New South Wales, ranked from highest to lowest risk. The highest risk section of national highway in Australia is located in New South Wales: the Western Motorway from Parramatta Road to the M7 Westlink, which has recorded 788 casualty crashes from 2010 to 2014. The Hume Motorway from the M5 to Narellan Road also ranks in the top 10 worst highway sections in Australia.

Highway	Section	Carriageway	Length (km)	Combined risk rating
Western Mtwy	Parramatta Rd, Concord to M7 Westlink	Dual	24	High
Hume Mtwy/Fwy	South Western Mtwy/M5 to Narellan Rd, Campbelltown	Dual	45	High
Western Mtwy	M7 WestLink to Glenbrook	Single	22	High
Pacific Mtwy/Hwy	Ballina to Byron Bay	Mixed	30	High
Pacific Mtwy	Hawkesbury River to Calga Interchange	Dual	15	High
Great Western / Mitchell Hwy	Wellington to Newell Hwy, Dubbo	Single	40	High
Pacific Mtwy/Hwy	Byron Bay to Yelgun	Mixed	20	High
Pacific Mtwy	Wahroonga to Brooklyn (Hawkesbury River Bridge)	Dual	23	High
Federal Hwy	Hume Hwy to Collector	Dual	24	High
Great Western / Mitchell Hwy	Orange to Wellington	Single	92	High

BEST 10 HIGHWAY SECTIONS
IN NEW SOUTH WALES

The 10 sections of national highway with the best risk scores in New South Wales are presented in the table below, ranked from lowest to highest risk. They have all received a risk rating of low when compared against the entire Australian network.

Highway	Section	Carriageway	Length (km)	Combined risk rating
Sturt Hwy	Wagga Wagga to Narrandera	Single	90	Low
Princes Mtwy/Hwy	Waterfall to Bulli	Dual	21	Low
Pacific Mtwy/Hwy	Karuah to Bulahdelah	Mixed	36	Low
Newell Hwy	VIC border to Jerilderie	Single	52	Low
Hume Mtwy/Fwy	North of Tarcutta to South of Tarcutta (Tarcutta Bypass)	Dual	9	Low
New England Hwy	Scone to Blandford	Single	30	Low
Newell Hwy	Narrabri to Moree	Single	93	Low
Sturt Hwy	Balranald to Euston	Single	75	Low
Sturt Hwy	Euston to Mildura	Single	69	Low
Sturt Hwy	Hume Hwy to Wagga Wagga	Single	33	Low

UPGRADES

Several significant upgrades to the Pacific Highway were completed during the period of analysis from 2010 to 2014:

- A new 33-kilometre section of dual carriageway from Coopernook to Herons Creek, south of the Oxley Highway, was opened to traffic in July 2010.
- A bypass of Ballina was opened in stages from March 2011, with the upgrade fully operational from May 2012. The \$640 million project consists of a 12-kilometre dual carriageway.
- An upgrade at Glenugie, 15 kilometres south of Grafton, was completed in 2013. It consists of a seven kilometres-long duplication of the existing highway.
- In 2013, upgrades to the interchange at Tuggerah on the Central Coast were completed.
- A 14.5-kilometre bypass of the town of Kempsey on the Mid North Coast was opened to traffic in March 2013. Funding of \$618 million was supplied through the Australian Government's Building Australia Fund.
- An 8.6-kilometre bypass of Bulahdelah on the Mid North Coast was opened in June 2013. The project cost \$315 million.
- A 7.3-kilometre upgrade at Devils Pulpit was opened to traffic in March 2014. The new section is four-lane dual carriageway.
- Construction finished in 2014 on an \$850 million upgrade to the Pacific Highway north of Coffs Harbour, from Sapphire to Woolgoolga. It consists of a 25-kilometre four-lane divided highway.

The following upgrades to the Pacific Highway have been completed since 2014 and fall outside the data period of 2010-2014, meaning that their effects would not yet be visible in this analysis:

- The 17-kilometre Tintenbar to Ewingsdale section has been upgraded to four-lane divided road with an Australian Government contribution of \$566 million, and a NSW State Government contribution of \$295.9 million. Construction began in mid-2012 and the upgraded highway was opened to traffic in December 2015.
- In August 2013, major works began on the stretch of highway from Frederickton to Eungai. The \$675 million upgrade involves 26.5 kilometres of four-lane divided road in addition to a new interchange at Stuarts Point Road, and was opened to traffic in May 2016.
- The 22-kilometre stretch from Nambucca Heads to Urunga has been upgraded with two new interchanges and improvements to the existing Waterfall Way interchange at Raleigh. The \$780 million project was opened to traffic on 22 July 2016.

Risk Mapping

The Australian and NSW governments are jointly funding the \$400 million M1 Pacific Motorway Productivity package, which includes:

- Widening the motorway between the Kariong and Somersby interchanges.
- Upgrading three of the four ramps at the Kariong interchange.
- Widening the motorway to six lanes between the Tuggerah and Doyalson interchanges.
- Upgrading the intersection of Weakleys Drive and John Renshaw Drive in Beresfield, at the northernmost end of the motorway.

In the period from 2010 to 2014, the following upgrades to the Hume Highway were completed:

- The seven-kilometre Tarcutta Bypass was opened to traffic in November 2011, connecting the existing divided carriageways to the north and south of the village.
- Construction of the Woomargama Bypass, a four-lane carriageway with a wide median and 110 km/h speed limit, was completed in November 2011. It spans nine kilometres and required \$295 million of funding from the Australian and NSW governments.
- Construction on the 9.5 kilometre Holbrook Bypass commenced in May 2011 and was completed in June 2013. The \$247 million project received joint funding.

A \$2.5 million upgrade has also been made to the intersection of the Hume Highway with Picton Road. The upgrade was opened to traffic in March 2016.

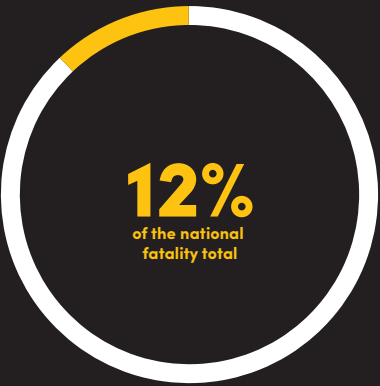
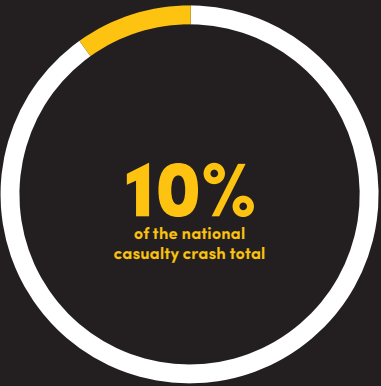
The following upgrades have also been completed:

- The intersection of the Princes Motorway (Mt Ousley Road) and Picton Road has been upgraded to improve safety by removing the T-intersection and building an acceleration lane on the motorway.
- The Moree Bypass on the Newell Highway was constructed in two phases, with completion of phase one on 13 December 2010 and completion of phase two on 3 August 2015. The Australian Government and the NSW State Government each contributed \$15 million to the second phase of the project. This is in addition to the Australian Government’s contribution of \$56.2 million for stage one.
- The New England Highway has been upgraded with the construction of the Fitzgerald Bridge at Aberdeen. The new two-lane bridge was completed in June 2014, allowing for higher mass vehicles between Muswellbrook and Tamworth.

Victoria Results

There are 1,633 kilometres of risk-rated national highway in Victoria, which is eight per cent of the total National Land Transport Network. During the period from 2010 to 2014, there were 1,517 casualty crashes on these roads, accounting for 10 per cent of the national total. These casualty crashes included 109 deaths, which equates to 12 per cent of total fatalities across the network over this period.

VICTORIA



OVERVIEW OF HIGHWAYS RATED
IN VICTORIA

The following are the national highways in Victoria, with information on aggregated casualty crashes and deaths per highway. Refer to the map for risk ratings.

Number	Highway	Section	Length (km)	% Total	Casualty crashes		Deaths	
					2010-14	% Total	2010-14	% Total
M79/A79	Calder Fwy/Hwy	Western Ring Rd to Mildura	475	29%	201	13%	20	18%
M39/A39	Goulburn Valley Fwy/Hwy [1]	Seymour to NSW border	118	7%	53	3%	6	6%
M31	Hume Fwy/Hwy	Metropolitan Ring Rd to NSW border	293	18%	365	24%	27	25%
M1/A1	Princes Fwy/Hwy East	Monash Fwy/Narre Warren to Sale	143	9%	284	19%	14	13%
M1/A1	Princes Fwy/Hwy West [2]	Western Ring Rd to Colac	119	7%	285	19%	18	17%
A20	Sturt Hwy	Mildura to SA border	102	6%	18	1%	1	1%
M8/A8	Western Fwy/Hwy [3,4]	Western Ring Rd to SA border	383	23%	311	21%	23	21%
TOTAL			1,633		1,517		109	

The highest level of road trauma in the Victorian network occurred on the Hume Freeway/Highway, which accounts for 24 per cent of casualty crashes and 25 per cent of fatalities. The Western Freeway/Highway was next, with 21 per cent of both casualty crashes and deaths, which is broadly consistent with its length at 23 per cent of the network in this state.

By contrast, the Princes Freeway/Highway East constitutes nine per cent of the length of the whole network, while it has disproportionately high casualty crashes and fatalities figures at 19 and 13 per cent respectively.

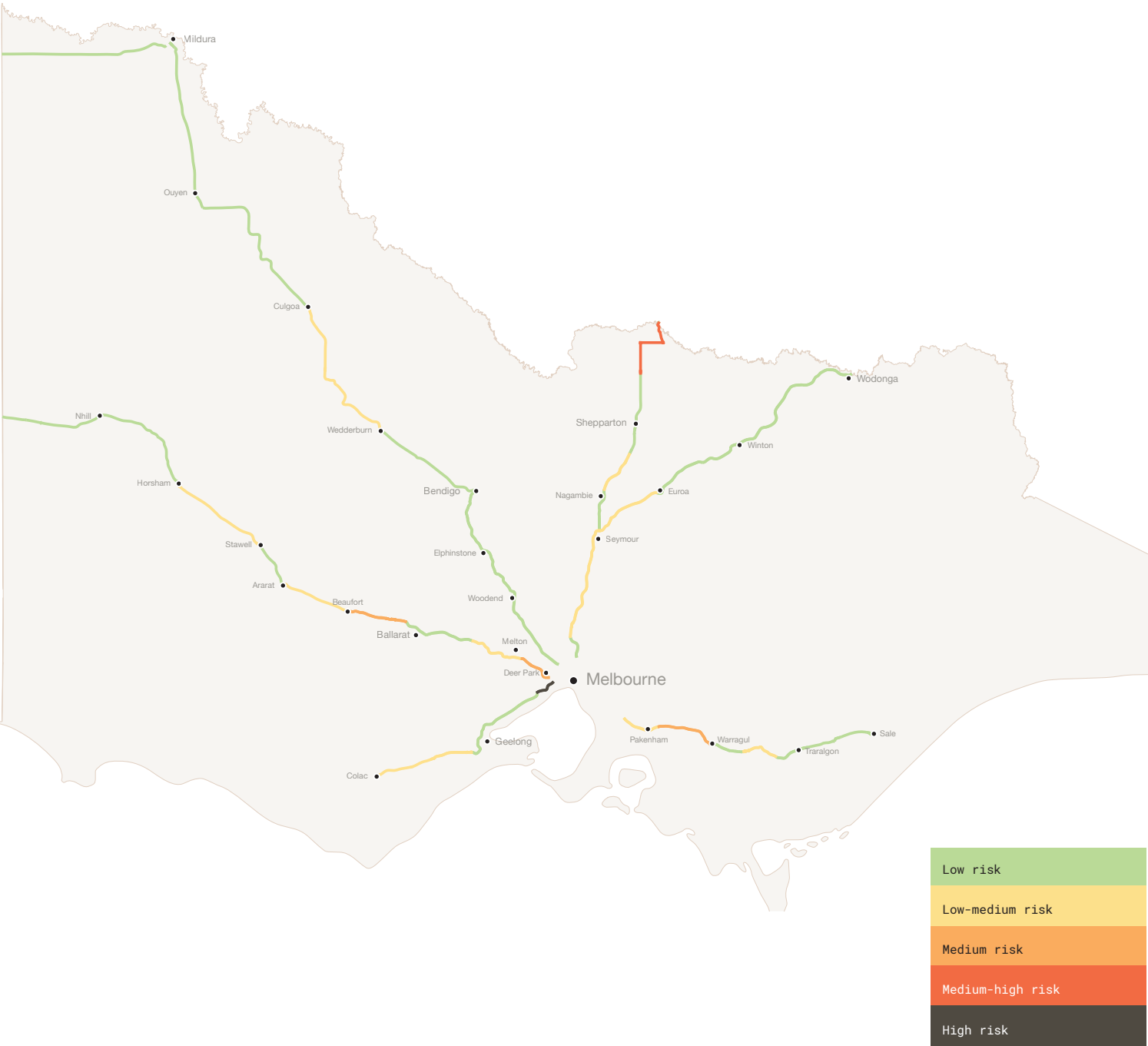
The seven highways in the table above consist of 44 sections, each of which has received its own risk rating based on its crash record. The results are displayed on the following map.

¹The Nagambie Bypass opened on 31 April 2013 and has been assessed using 1.7 years of data.

²The Geelong Ring Rd opened in January 2013 and has been assessed using 1.9 years of data.

³The Ballarat to Burrumbeet section was completed in April 2013 and west of Trawalla was completed in March 2013 and has been assessed using 1.8 years of data.

⁴The Anthony’s Cutting realignment opened on 26 June 2011 and has been assessed using 3.5 years of data.



Risk Mapping

WORST 10 HIGHWAY SECTIONS
IN VICTORIA

The following table contains the worst 10 sections of national highway in Victoria, ranked from highest to lowest risk. Compared with the other states and territories, only one of the worst 10 highway sections in Victoria has received a risk rating of high.

Highway	Section	Carriageway	Length (km)	Combined risk rating
Princes Fwy/Hwy West	Western Ring Rd to Hoppers Crossing	Dual	12	High
Goulburn Valley Fwy/Hwy	Numurkah to NSW border	Single	36	Medium-high
Western Fwy/Hwy	Western Ring Rd to Melton (Deer Park Bypass)	Dual	20	Medium
Princes Fwy/Hwy East	Nar Nar Goon to Warragul	Dual	38	Medium
Western Fwy/Hwy	Ballarat (Sunraysia Hwy) to Beaufort (inc Trawalla Bypass)		36	Medium
Princes Fwy/Hwy East	Monash Fwy/Narre Warren to Nar Goon (Pakenham Bypass)	Dual	20	Low-medium
Calder Fwy/Hwy	Wedderburn to Culgoa	Single	97	Low-medium
Princes Fwy/Hwy West	Mt Moriac to Winchelsea	Single	21	Low-medium
Hume Fwy/Hwy	Seymour to Euroa	Dual	44	Low-medium
Princes Fwy/Hwy East	Trafalgar to Strzelecki Hwy	Dual	21	Low-medium

Victoria Results

BEST 10 HIGHWAY SECTIONS
IN VICTORIA

The 10 sections of national highway with the best risk scores in Victoria are presented in the table below, ranked from lowest to highest risk. They have all received a risk rating of low when compared against the entire Australian network, and four featured in the overall best 10 highway sections in Australia, based on casualty crash records.

Highway	Section	Carriageway	Length (km)	Combined risk rating
Goulburn Valley Fwy	Tabilk to Kirwans Bridge (Nagambie Bypass)	Dual	17	Low
Goulburn Valley Fwy/Hwy	Seymour to Tabilk	Mixed	16	Low
Princes Fwy West	Grovedale to Mt Moriac (Fwy i.e. Geelong Ring Rd)	Dual	7	Low
Calder Fwy/Hwy	Western Ring Rd to Diggers Rest	Dual	9	Low
Princes Fwy/Hwy East	Strzelecki Hwy to Traralgon	Dual	8	Low
Princes Fwy/Hwy West	Hoppers Crossing to Little River	Dual	17	Low
Western Fwy/Hwy	Nhill to SA border	Single	60	Low
Calder Fwy/Hwy	Bendigo to Wedderburn	Single	58	Low
Hume Fwy/Hwy	Euroa to Winton	Dual	58	Low
Princes Fwy/Hwy West	Little River to Corio	Dual	17	Low

UPGRADES

Substantial upgrades to the Victorian network have been completed during the rating period of 2010–2014:

- The Nagambie Bypass on the Goulburn Valley Highway was completed in April 2013.
- Upgrades were made to the Western Freeway/Highway on the segment from Ballarat to Beaufort (completed March and April 2013) and Anthony’s Cutting realignment (completed June 2011).
- The Princes Highway West (Geelong Ring Road) has been duplicated at Waur n Ponds (completed January 2013).
- The Princes Highway East is being duplicated in stages from Traralgon to Sale. The first stage was completed in January 2011, with no date set for completion of the final stage.
- A route safety program has been implemented along the Princes Highway East from Longwarry to the NSW border. Works started in 2011, and the final stage was completed in 2015.

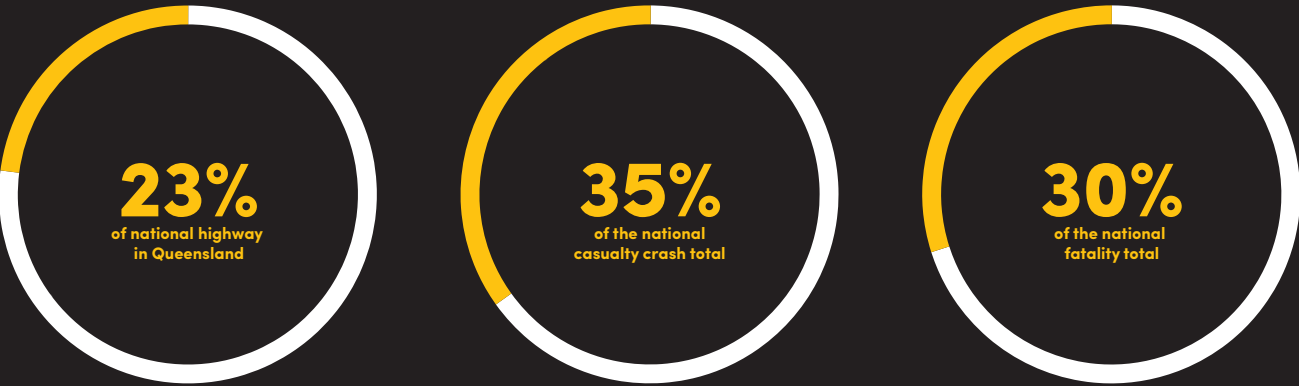
As these improvements have not been in place for the full five-year rating period, it is expected that the risk maps will start to illustrate the benefits of investing in safer road infrastructure as the risk mapping exercise is carried out in future years. A \$1 billion 10-year program to improve the safety of Victoria’s roads is also underway, including crash barriers and other low-cost road improvements. Some of this program has been spent on roads assessed as part of this study.

Since 2014, funding has been budgeted by the Australian and Victorian governments to improve Victoria’s roads. Major works that have started since 2014 include:

- The Western Highway from Burrumbeet to Beaufort (completed in June 2015), and from Beaufort to Buangor including the Buangor Bypass (completed in April 2016).
- The Princes Highway West has been duplicated from Waur n Ponds to Winchelsea. Duplication from Winchelsea to Colac began in 2016 and is due to be completed by 2019.

There are 4,789 kilometres of risk-rated national highway in Queensland, which is 23 per cent of the total National Land Transport Network. During the period from 2010 to 2014, there were 5,361 casualty crashes on these roads, accounting for 35 per cent of the national total. These casualty crashes included 281 deaths, which equates to 30 per cent of total fatalities across the network over this period.¹

QUEENSLAND



¹ There were some difficulties in obtaining crash data for Queensland. The analysis has been carried out as best as possible with the available data. Approximately 10 to 15 per cent of hospitalisation data for 2014, and medical treatment/minor injury data from 1 July 2012 to 31 December 2014, may be incomplete.

OVERVIEW OF HIGHWAYS RATED
IN QUEENSLAND

The following are the national highways in Queensland, with information on aggregated casualty crashes and deaths per highway. Refer to the map for risk ratings.

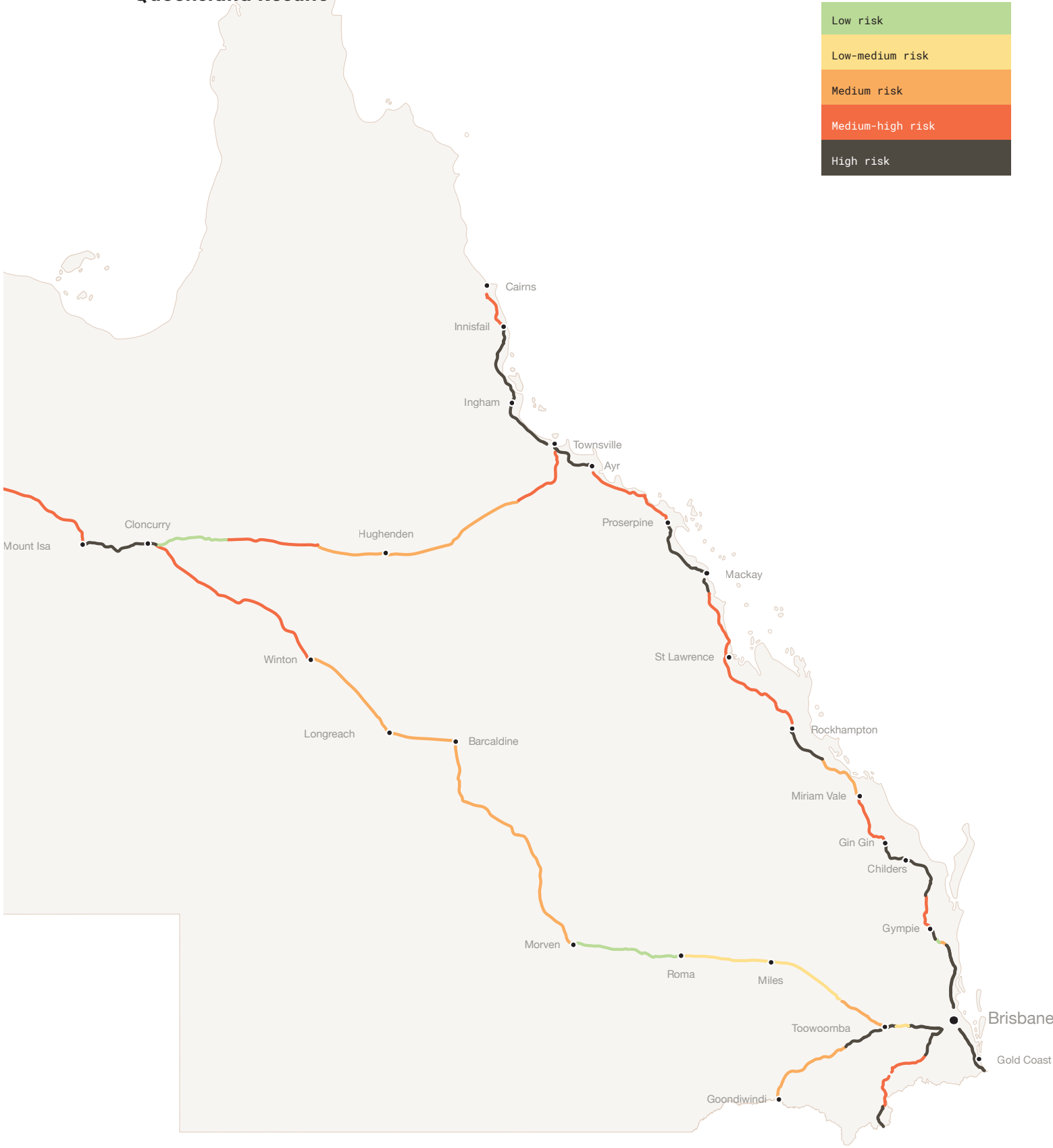
Number	Highway	Section	Length (km)	% Total	Casualty crashes		Deaths	
					2010-14	% Total	2010-14	% Total
A1	Bruce Hwy [1]	Bald Hills to Cairns	1,558	33%	2,559	48%	166	59%
A6	Flinders Hwy	Townsville to Barkly Hwy	756	16%	132	2%	9	3%
A39	Gore/Leichhardt Hwy	Toowoomba to NSW border	219	5%	109	2%	5	2%
A15	New England/ Cunningham Hwy	Ipswich to NSW border	216	5%	269	5%	24	9%
M1	Pacific Mtwy	Gateway Mtwy to NSW border	78	2%	1,474	27%	23	8%
A2	Warrego / Landsborough / Barkly Hwy	Cunningham Hwy to NT border	1,961	41%	818	15%	54	19%
TOTAL			4,789		5,361		281	

The upgraded section of the Bruce Highway from Cooroy to Curra opened in January 2013, and has been assessed using 1.9 years of data.

The highest level of road trauma in the Queensland network occurred on the Bruce Highway, which accounts for 48 per cent of casualty crashes and more than half of Queensland's fatalities. While the Pacific Motorway accounts for only 2 per cent of the Queensland network in terms of length, it has the second highest percentage of casualty crashes at 27 per cent. This indicates a high density of crashes.

The six highways in the table above consist of 49 sections, each of which has received its own risk rating based on its crash record. The results are displayed on the following map.

Queensland Results



⁴ There were some difficulties in obtaining crash data for Queensland. The analysis has been carried out as best as possible with the available data. Approximately 10 to 15 per cent of hospitalisation data for 2014, and medical treatment/minor injury data from 1 July 2012 to 31 December 2014, may be incomplete.

WORST 10 HIGHWAY SECTIONS
IN QUEENSLAND

The following table contains the worst 10 sections of national highway in Queensland, ranked from highest to lowest risk. Disturbingly, Queensland has four of the 10 worst sections of the National Land Transport Network in Australia.

Highway	Section	Carriageway	Length (km)	Combined risk rating
Pacific Mtwy	Gateway Mtwy to Logan Mtwy	Dual	15	High
Pacific Mtwy	Smith St Mtwy to NSW border	Dual	29	High
Pacific Mtwy	Logan Mtwy to Smith St Mtwy	Dual	35	High
Bruce Hwy	Sarina to Mackay	Single	25	High
Warrego / Landsborough / Barkly Hwy	Cunningham Hwy to Gatton	Dual	55	High
New England/Cunningham Hwy	Stanthorpe to NSW border	Single	36	High
Bruce Hwy	Childers to Gin Gin	Single	55	High
Bruce Hwy	Caloundra to Cooroy	Dual	41	High
Warrego / Landsborough / Barkly Hwy	Helidon to Toowoomba	Dual	16	High
Bruce Hwy	Bald Hills to Caloundra	Dual	61	High

BEST 10 HIGHWAY SECTIONS
IN QUEENSLAND

The 10 sections of national highway with the best risk scores in Queensland are presented in the table below, ranked from lowest to highest risk. Even though they compare favourably with the rest of the national highway network in Queensland, when analysed at the national level only three sections receive a risk rating of low.

Highway	Section	Carriageway	Length (km)	Combined risk rating
Bruce Hwy	Section B alignment (Sankeys Rd to Traveston Rd)	Dual	12	Low
Warrego / Landsborough / Barkly Hwy	Roma to Morven	Single	175	Low
Flinders Hwy	Julia Creek to Barkly Hwy	Single	123	Low
Warrego / Landsborough / Barkly Hwy	Dalby to Miles	Single	125	Low-medium
Warrego / Landsborough / Barkly Hwy	Gatton to Helidon	Dual	20	Low-medium
Warrego / Landsborough / Barkly Hwy	Miles to Roma	Single	137	Low-medium
Warrego / Landsborough / Barkly Hwy	Morven to Barcaldine	Single	413	Medium
Bruce Hwy	Cooroy to Sankeys Rd	Single	13	Medium
Warrego / Landsborough / Barkly Hwy	Barcaldine to Winton	Single	285	Medium
Warrego / Landsborough / Barkly Hwy	Toowoomba to Dalby	Single	74	Medium

UPGRADES

Substantial upgrades to the Queensland network have been completed during the rating period of 2010–2014:

In 2007, the Australian and Queensland State governments each committed \$455 million towards progressive upgrading of the Pacific Motorway between the Gateway Motorway and Tugun. Of this \$910 million, \$490 million has been allocated to upgrading the 16 kilometres between the Gateway and Logan Motorway. This project comprises three components. Stage one covers the 3.3 kilometres from Springwood south to Daisy Hill and includes upgrading of the road surface to heavy-duty asphalt, wider road shoulders and installation of safety barriers. Works commenced in November 2009 and the upgraded section was opened to traffic in 2012.

The Bruce Highway Upgrade Program commenced in 2013 and will continue to deliver safety, capacity and flooding improvements over 10 years, totalling over \$8 billion in investment from the Australian and Queensland governments. Wide centre-line treatments have been applied to over 700 kilometres of the Bruce Highway since 2013.

In the previous AusRAP Risk Mapping report analysing crash data from 2005–2009, a 40-kilometre section of the Bruce Highway from Cooroy to Gympie was identified as one of Queensland’s highest risk national highway sections, recording 155 casualty crashes and 24 fatalities over the five-year period.

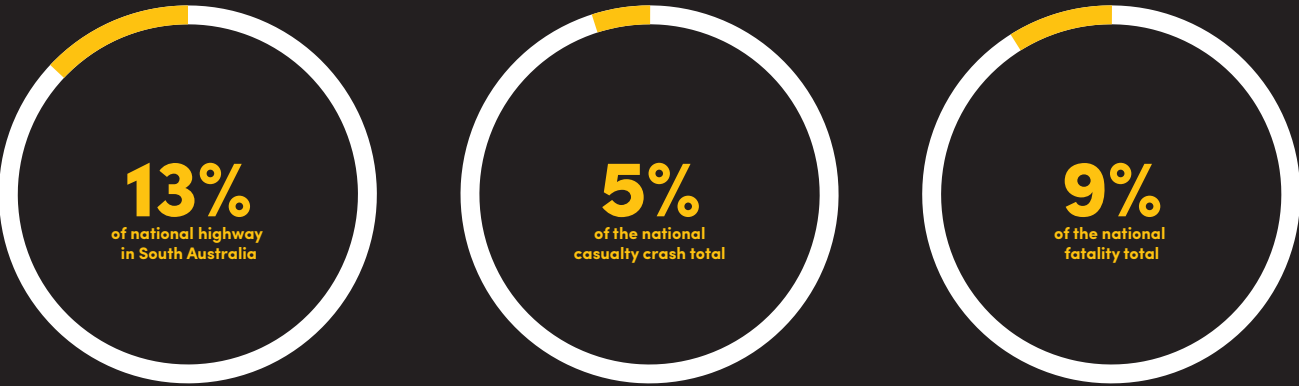
In addition to a speed reduction to 90km/h and wide centre-line treatment in 2010, major funding of \$388 million from the Australian Government and \$125 million from the Queensland State Government enabled the construction of 12 kilometres of upgraded highway between Sankeys Road and Traveston Road. The upgraded four-lane divided highway includes major safety enhancements, improved traffic efficiency and improved access during major flooding. The safety enhancements are designed to reduce the likelihood and severity of head-on, run-off and intersection crashes. The upgraded highway has recorded 33 casualty crashes and five fatalities in the two-year period since the new section opened in 2013. The crash data for 2013 and 2014 suggest that crashes have reduced by approximately 50 per cent for the 16,000 vehicles that travel this route each day. The Star Rating of the new section of road has been assessed as 80 per cent four star, with the remaining 20 per cent of the length scoring a maximum five stars for safety. This is in comparison to the Old Bruce Highway which was predominantly a two-star road through this area.

The following upgrades have also been made:

- With funding of \$152 million from the Australian Government’s Nation Building Program, the Calliope Crossroads, at the intersection of the Bruce and Dawson highways, have been upgraded. The interchange is located between Benaraby and Rockhampton and was opened to traffic in early 2014.
- The Warrego Highway Upgrade Strategy is a jointly-funded long-term strategy to upgrade the Warrego Highway, initially comprising 15 projects being delivered between Toowoomba and Miles, under a \$635 million funding arrangement between the Australian and Queensland governments.
- The \$93 million upgrade to the intersection of the Warrego and Brisbane Valley Highways at Blacksoil was jointly funded by the Australian and Queensland governments and was opened to traffic in 2014.

There are 2,664 kilometres of risk-rated national highway in South Australia, which is 13 per cent of the total National Land Transport Network. During the period from 2010 to 2014, there were 799 casualty crashes on these roads, accounting for five per cent of the national total. These casualty crashes included 82 deaths, which equates to nine per cent of total fatalities across the network over this period.

SOUTH AUSTRALIA



Risk Mapping

OVERVIEW OF HIGHWAYS RATED
IN SOUTH AUSTRALIA

The following are the national highways in South Australia, with information on aggregated casualty crashes and deaths per highway. Refer to the map for risk ratings.

Number	Highway	Section	Length (km)	% Total	Casualty crashes		Deaths	
					2010-14	% Total	2010-14	% Total
A1	Eyre Hwy	WA border to Port Augusta	941	35%	109	14%	9	11%
A87	Stuart Hwy	NT border to Port Augusta	926	35%	106	13%	19	23%
A1	Pt Augusta / Pt Wakefield Rd	Port Augusta to Northern Exwy	272	10%	232	29%	18	22%
A20	Sturt Hwy	Gawler Bypass to VIC border	226	8%	135	17%	12	15%
M1	South East Fwy	Crafers Interchange to Tailem Bend	85	3%	115	14%	9	11%
A8	Dukes Hwy	Tailem Bend to VIC border	191	7%	85	11%	15	18%
M20	Northern Exwy [1]	Waterloo Corner to Gawler	23	1%	17	2%	0	0%
TOTAL			2,664		799		82	

The Northern Expressway opened in late 2010 and has been assessed using 4.2 years of data.

The highest level of road trauma in the South Australian network occurred on Pt Augusta/Pt Wakefield Road, which accounts for 29 per cent of casualty crashes and 22 per cent of fatalities. The highest percentage of fatalities occurred on the Stuart Highway at 23 per cent. By contrast, the same highway recorded 13 per cent of casualty crashes, indicating that when crashes do occur, they tend to have severe outcomes.

The highways in the table above consist of 27 sections, each of which has received its own risk rating based on its crash record. The results are displayed on the following map.

South Australia Results



WORST 10 HIGHWAY SECTIONS
IN SOUTH AUSTRALIA

The following table contains the worst 10 sections of national highway in South Australia, ranked from highest to lowest risk.

Highway	Section	Carriageway	Length (km)	Combined risk rating
Sturt Hwy	Barmera to Berri	Single	15	High
Stuart Hwy	NT Border to Coober Pedy	Single	391	High
South East Fwy	Crafers Interchange to Verdun Interchange	Dual	9	High
Sturt Hwy	Gawler Bypass to Daveyston	Single	16	Medium-high
Pt Augusta / Pt Wakefield Rd	Port Wakefield to Northern Exwy	Dual	68	Medium-high
Eyre Hwy	Yalata to Fowler Bay	Single	95	Medium-high
Pt Augusta / Pt Wakefield Rd	Snowtown to Port Wakefield	Single	50	Medium-high
Stuart Hwy	Coober Pedy to Woomera	Single	365	Medium-high
Stuart Hwy	Woomera to Port Augusta	Single	170	Medium
Eyre Hwy	Ceduna to Kyancutta	Single	219	Medium

BEST 10 HIGHWAY SECTIONS
IN SOUTH AUSTRALIA

The 10 sections of national highway with the best risk scores in South Australia are presented in the table below, ranked from lowest to highest risk. When compared against the entire Australian network, eight of the 10 received a risk rating of low. Two received a risk rating of low-medium. Further safety upgrades could help more of the South Australian network become low risk.

Highway	Section	Carriageway	Length (km)	Combined risk rating
Sturt Hwy	Paringa to VIC Border	Single	22	Low
South East Fwy	Verdun Interchange to Mt Barker Interchange	Dual	8	Low
Northern Exwy	Waterloo Corner to Gawler	Dual	23	Low
Dukes Hwy	Keith to Bordertown	Single	46	Low
South East Fwy	Mt Barker Interchange to Tailem Bend	Dual	67	Low
Pt Augusta / Pt Wakefield Rd	Port Augusta to Port Pirie	Single	82	Low
Eyre Hwy	Lincoln Hwy to Port Augusta	Single	23	Low
Sturt Hwy	Berri to Renmark	Single	12	Low
Sturt Hwy	Blanchetown to Barmera	Single	88	Low-medium
Sturt Hwy	Truro to Blanchetown	Single	48	Low-medium

UPGRADES

Substantial upgrades have been made to the South Australian network. They are summarised as follows:

Eyre Highway

- With joint funding from the Heavy Vehicle Safety and Productivity Programme and the South Australian State Government, a new rest area has been built on the Eyre Highway. Seven other rest areas are also scheduled for upgrades. The Australian Government has contributed \$3.2 million to this specific project.
- In June 2015, the Australian Government also announced \$4 million for new overtaking lanes on the Eyre Highway between Port Augusta and Whyalla. An agreement with the State Government was finalised in May 2016 and it is anticipated that construction will begin in 2017.

Stuart Highway

- In 2014 the South Australian State Government’s Motor Accident Commission completed a \$2 million upgrade to widen the shoulders of 20 kilometres of the Stuart Highway beginning approximately 40 kilometres north of Marla. This upgrade is situated on the highway section Stuart Highway, NT border to Coober Pedy, which has been rated as high risk in this report, with 42 casualty crashes and 11 fatalities over the period 2010-2014. The effects of the upgrade would not have appeared yet in the AusRAP analysis.
- In 2014, the Motor Accident Commission also completed a \$3.05 million upgrade to install audio tactile line markings on the Stuart Highway from Port Augusta to Marla.
- The Heavy Vehicle Safety Productivity Programme also provides for the construction of three new rest areas on the Stuart Highway, with upgrades to one more also planned.

Pt Augusta / Pt Wakefield Road

- In September 2012, plans were announced to install a kilometre of guardrail between Port Wakefield and Port Pirie on the Augusta Highway. The \$200,000 project, part of the Nation Building Program, was completed in October 2012.
- Rebuilding of road shoulders and installation of 8 kilometres of safety barriers commenced in November 2014 along the Augusta Highway from Crystal Brook to Port Wakefield. The Motor Accident Commission funded the \$3.5 million project. Construction finished in April 2015.
- In December 2014, the Motor Accident Commission provided funding to improve two major intersections on the Augusta Highway. \$1.95 million was provided to improve driver sightlines and entry and exit points onto the Augusta Highway at Snowtown, while \$1.3 million was allocated to construct a dedicated right turn lane into Mount Remarkable National Park and improvements to the rest area at Mambray Creek. Both works were completed in 2015.
- In June 2015, the Australian Government announced \$3.1 million to be spent on new overtaking lanes on the Augusta Highway between Port Augusta and Adelaide. An agreement with the State Government was finalised in May 2016 and it is anticipated that construction will begin in 2017.

Sturt Highway

- Construction on the Sturt Highway upgrade project commenced in 2006 and finished in 2010. The highway between Gawler and Nuriootpa was duplicated, in conjunction with intersection upgrades and overtaking lane extensions. The project received \$156 million of funding from the Australian Government. The upgrades affect the highway sections Sturt Highway, Gawler Bypass to Daveyston and Daveyston to Truro, which have been rated as medium-high and medium risk respectively in this report.
- New rest areas have also been installed on the Sturt Highway between Nuriootpa and Paringa. The Australian Government provided \$3.4 million for this project. Between February and November 2014, audio tactile line markings were also installed at Truro, Monash and Barmera. The upgrades received \$200,000 through the Federal Infrastructure Investment Programme.
- In January 2015, the Australian Government funded a \$500,000 upgrade to the Sturt Highway, widening the highway east of Truro over Anna Creek. The upgrade features sealed shoulders and safety barriers.
- In March 2015, it was announced that the Australian Government (\$20 million) and the South Australian State Government (\$5 million) would commit \$25 million to upgrading the Sturt Highway through the National Highway Upgrade Programme. Further details have not yet been released, though 11 kilometres of shoulder sealing are scheduled to be installed near Monash at a cost of \$750,000. Monash is located on the highway section Sturt Highway, Barmera to Berri, which recorded 17 casualty crashes including two deaths in the period 2010-2014, and has been rated as high risk in this report.

South East Freeway and Dukes Highway

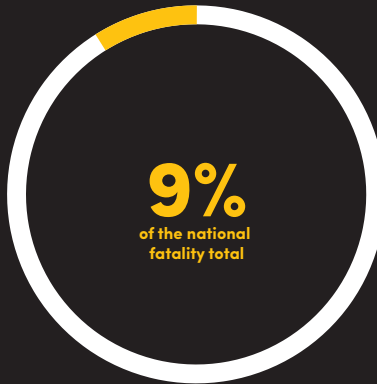
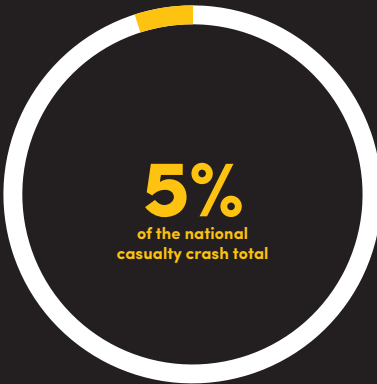
- Between 2009 and 2014, a total of \$100 million was spent on improving safety on the South East Freeway and the Dukes Highway. The upgrades include 91 kilometres of wide centrelines, 86 kilometres of roadside safety barriers, shoulder widening, audio tactile line marking and the removal of roadside hazards. Upgrades or new construction of 21 rest areas was also completed, funded with \$80 million from the Australian Government through the Nation Building Program, and \$20 million from the South Australian State Government.
- The Australian and South Australian governments, in cooperation with the District Council of Mount Barker, have built a new interchange on the South East Freeway at Bald Hills Road, Mount Barker. Funding contributions of \$16 million, \$8 million and \$3 million respectively enabled the project, which was opened to traffic in August 2016.
- In December 2015, the speed limit at Swanport Bridge was reduced from 110 to 80 km/h in response to several crashes, including a fatality due to a head-on collision.
- In October 2016, the Australia Government announced \$11.3 million in funding to fix Black Spots in South Australia. A \$420,000 upgrade to the South East Freeway between Murray Bridge and Swanport Bridge has been proposed. The upgrade would involve the installation of a wire rope barrier to divide traffic.

Northern Expressway

- The Northern Expressway, which runs between Waterloo Corner and Gawler was opened in September 2010. It is a 23-kilometre road costing \$564 million and was jointly funded by the Australian and South Australian governments.

There are 4,774 kilometres of risk-rated national highway in Western Australia, which is 23 per cent of the total National Land Transport Network. During the period from 2010 to 2014, there were 717 casualty crashes on these roads, accounting for five per cent of the national total. These casualty crashes included 81 deaths, which equates to nine per cent of total fatalities across the network over this period.

WESTERN AUSTRALIA



OVERVIEW OF HIGHWAYS RATED IN WESTERN AUSTRALIA

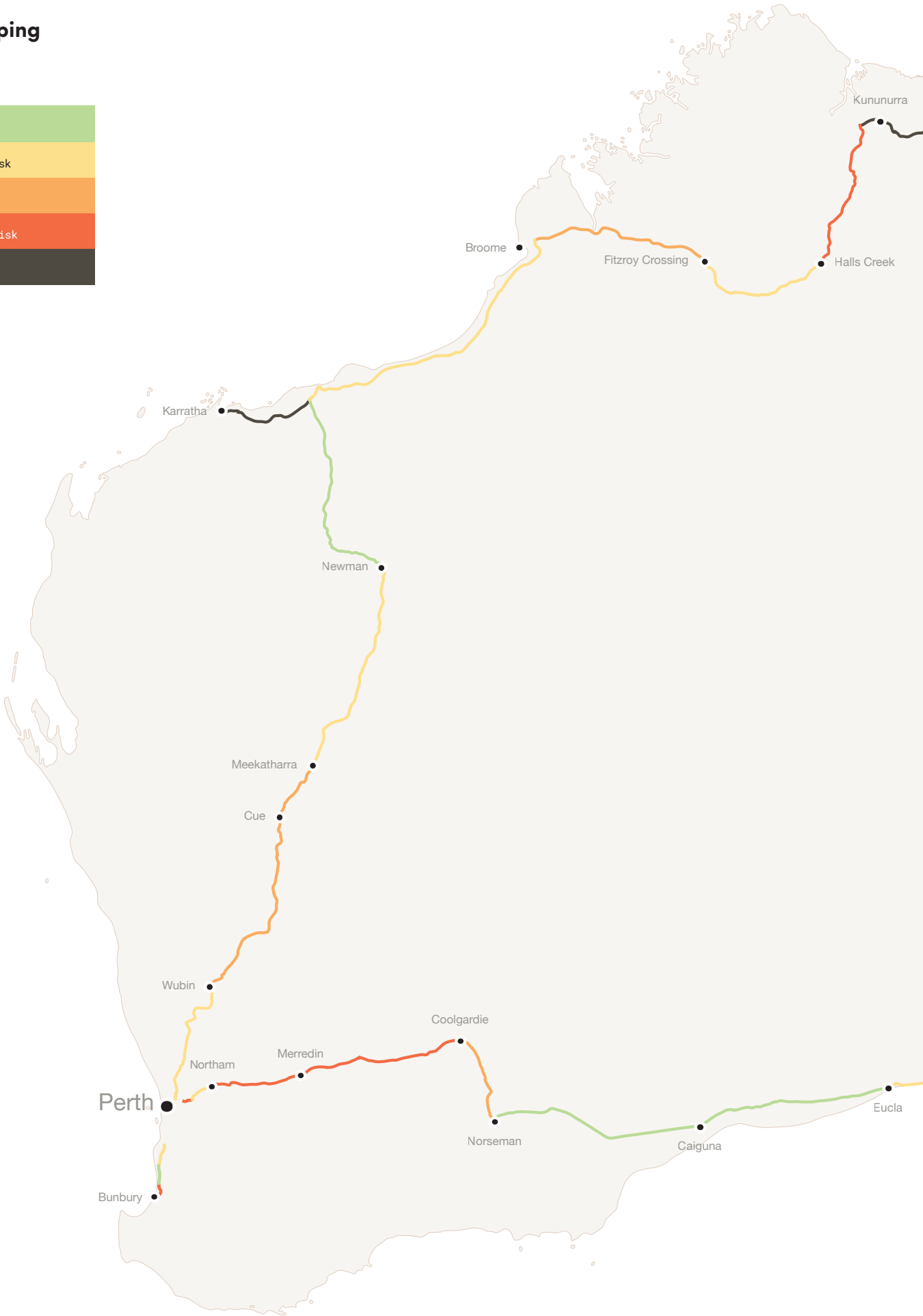
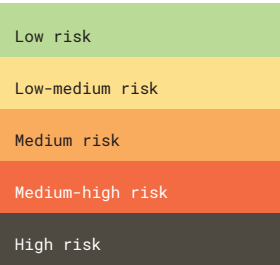
The following are the national highways in Western Australia, with information on aggregated casualty crashes and deaths per highway. Refer to the map for risk ratings.

Number	Highway	Section	Length (km)	% Total	Casualty crashes		Deaths	
					2010-14	% Total	2010-14	% Total
A1	North West Coastal Hwy	Karratha Rd to Great Northern Hwy	182	4%	40	6%	1	1%
A94	Great Eastern / Coolgardie Esperance / Eyre Hwy	Mundaring to SA Border	1,376	29%	239	33%	29	36%
M1	Great Northern / Victoria Hwy	Roe Hwy to NT border	3,127	66%	284	40%	38	47%
M1	Forrest Hwy (Perth-Bunbury Hwy)	Pinjarra Rd, Mandurah to Bunbury (Koombana Drive)	88	2%	154	21%	13	16%
TOTAL			4,774		717		81	

The highest level of road trauma in the Western Australian network occurred on the Great Northern/Victoria Highway, which accounts for 40 per cent of casualty crashes and 47 per cent of fatalities. These high numbers are in fact relatively low compared to the length of the highway, which is 66 per cent of the network. By contrast, the Forrest Highway constitutes just two per cent of the length of the whole network, yet it has disproportionately high casualty crashes and fatalities figures at 21 and 16 per cent respectively.

The four highways in the table above consist of 22 sections, each of which has received its own risk rating based on its crash record. The results are displayed on the following map.

Risk Mapping



Western Australia Results

WORST 10 HIGHWAY SECTIONS
IN WESTERN AUSTRALIA

The following table contains the worst 10 sections of national highway in Western Australia, ranked from highest to lowest risk. Western Australia has one highway section in the national worst 10 list: *Great Northern / Victoria Highway, Kununnurra T/off to NT border*.

Highway	Section	Carriageway	Length (km)	Combined risk rating
Great Northern / Victoria Hwy	Kununnurra T/off to NT border	Mixed	83	High
North West Coastal Hwy	Karratha Rd to Great Northern Hwy	Single	182	High
Great Eastern / Coolgardie Esperance / Eyre Hwy	Northam to Southern Cross	Mixed	252	Medium-high
Great Northern / Victoria Hwy	Halls Creek to Kununurra T/off	Single	300	Medium-high
Forrest Hwy (Perth-Bunbury Hwy)	Binningup Rd to Bunbury (Koombana Dr)	Dual	22	Medium-high
Great Eastern / Coolgardie Esperance / Eyre Hwy	Southern Cross to Coolgardie	Single	184	Medium-high
Great Eastern / Coolgardie Esperance / Eyre Hwy	Mundaring to The Lakes	Dual	11	Medium-high
Great Northern / Victoria Hwy	Broome T/Off to Fitzroy Crossing	Single	357	Medium
Great Northern / Victoria Hwy	Wubin to Meekathara	Single	402	Medium
Great Eastern / Coolgardie Esperance / Eyre Hwy	Coolgardie to Norseman	Single	162	Medium

BEST 10 HIGHWAY SECTIONS
IN WESTERN AUSTRALIA

The 10 sections of national highway with the best risk scores in Western Australia are presented in the table below, ranked from lowest to highest risk. The best two sections in this state also appear in the top 10 best sections for Australia.

Highway	Section	Carriageway	Length (km)	Combined risk rating
Great Eastern / Coolgardie Esperance / Eyre Hwy	Cocklebiddy to SA Border	Single	283	Low
Great Northern / Victoria Hwy	Newman to NW Coastal T/Off	Single	420	Low
Great Eastern / Coolgardie Esperance / Eyre Hwy	Norseman to Cocklebiddy	Single	434	Low
Forrest Hwy (Perth-Bunbury Hwy)	Old Coast Rd to Binningup Rd	Dual	29	Low
Great Northern / Victoria Hwy	NW Coastal T/Off to Sandfire Rdhouse	Single	240	Low-medium
Great Northern / Victoria Hwy	Meekathara to Newman	Single	421	Low-medium
Great Northern / Victoria Hwy	Fitzroy Crossing to Halls Creek	Single	282	Low-medium
Great Northern / Victoria Hwy	Roe Hwy to Muchea	Single	37	Low-medium
Forrest Hwy (Perth-Bunbury Hwy)	Pinjarra Rd, Mandurah to Old Coast Rd	Dual	38	Low-medium
Great Northern / Victoria Hwy	Sandfire Rdhouse to Broome T/Off	Single	331	Low-medium

UPGRADES

Substantial upgrades have been made to the Western Australian network. They are summarised as follows:

Great Northern Highway

- In December 2009, construction was completed on upgrades to the Great Northern Highway between Halls Creek and the turn-off to Kununurra. This project was fully funded by the Australian Government and consisted of road realignment, improved pavement strength, better road safety and overall flood serviceability.
- In late 2010, a six-year \$75 million project funded by the Australian Government was completed. The project consists of numerous upgrades to the Great Northern Highway through the Swan Valley, north-east of Perth. It affects the section Great Northern/Victoria Highway, Roe Highway to Muchea, which has recorded 30 casualty crashes in the period 2010-2014, and received a rating of low-medium in this report.
- In December 2012, the Big McPhee bridge replacement on the Great Northern Highway was opened to traffic.
- A major upgrade to the Great Northern Highway at Port Hedland, with join funding from the Australian and Western Australian governments, was completed in 2014. It includes eight kilometres of new road and better access for heavy vehicles travelling to and from the port.

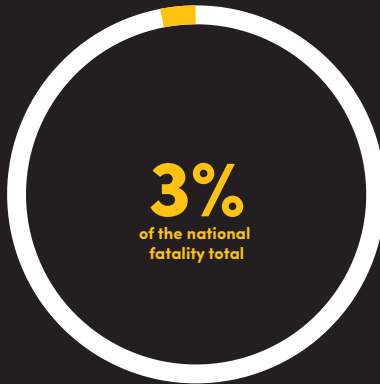
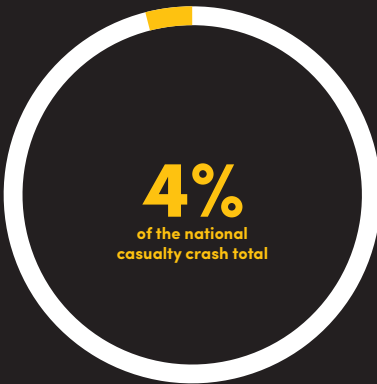
- Significant upgrades are scheduled for 218 kilometres of the Great Northern Highway between Muchea and Wubin, with joint funding of \$420 million from the Australian and Western Australian governments:
 - The first stage of the project was completed between 2003 and 2006. The \$385 million second stage began in 2013 and is scheduled for completion in 2019.
 - As part of the second stage of the project, a \$35 million upgrade to the Bindi Bindi bends was completed in February 2015.
 - Realignment of 21 kilometres of the highway from Batty Bog Road to Walebing has been completed. The \$65 million new section was opened to traffic in 2015.
- Separate to the Muchea to Wubin upgrade, in June 2016 the Western Australian State Government announced a \$2.1 million refurbishment of the Logue River bridge in the Kimberley.

Great Eastern Highway

- A significant upgrade to the 26 kilometres of the Great Eastern Highway between Bullabulling and Coolgardie was completed in 2015. The \$27 million project received joint funding from the Australian and Western Australian governments.
- This upgrade will be completed by further significant upgrades to the Great Eastern Highway from Southern Cross to Kalgoorlie. New overtaking lanes, totalling 44 kilometres in length, will be distributed across the highway between these two locations. An additional 6.7 kilometres of highway overlay and widening works will be completed by late 2017. Audio tactile line markings and safety barriers will also be installed at selected locations.

There are 379 kilometres of risk-rated national highway in Tasmania, which is just under two per cent of the total National Land Transport Network. During the period from 2010 to 2014, there were 662 casualty crashes on these roads, accounting for four per cent of the national total. These casualty crashes included 32 deaths, which equates to three per cent of total fatalities across the network over this period.

TASMANIA



OVERVIEW OF HIGHWAYS RATED IN TASMANIA

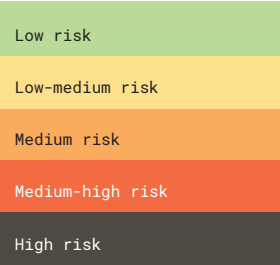
The following are the national highways in Tasmania, with information on aggregated casualty crashes and deaths per highway. Refer to the map for risk ratings.

Number	Highway	Section	Length (km)	% Total	Casualty crashes 2010-14	% Total	Deaths 2010-14	% Total
M1	Midland Hwy	East Derwent Hwy to Howick St	177	47%	228	34%	14	44%
M2/A2	Bass Hwy	Midland Hwy to Stowport Rd	138	36%	297	45%	13	41%
A8	East Tamar Hwy	Alanvale Connector to Bell Bay Rd	42	11%	85	13%	2	6%
M1	Brooker Hwy	Berriedale Rd to Granton	8	2%	33	5%	2	6%
B52	Illawarra Main Road	Midland Highway, Perth to Bass Highway, Longford	14	4%	19	3%	1	3%
TOTAL			379		662		32	

The highest level of road trauma in the Tasmanian network occurred on the Bass Highway, which accounts for 45 per cent of casualty crashes and 41 per cent of fatalities. By length, the Bass Highway constitutes 36 per cent of the network, meaning that its casualty crash and fatality rates are disproportionately high.

The five highways in the table above consist of 19 sections, each of which has received its own risk rating based on its crash record. The results are displayed on the following map.

Risk Mapping



Tasmania Results

WORST 10 HIGHWAY SECTIONS
IN TASMANIA

The following table contains the worst 10 sections of national highway in Tasmania, ranked from highest to lowest risk. Three of Tasmania's worst 10 sections also rank in the worst 10 across all of Australia on the National Land Transport Network.

Highway	Section	Carriageway	Length (km)	Combined risk rating
Bass Hwy	Nine Mile Rd to Stowport Rd	Dual	7	High
East Tamar Hwy	Alanvale Connector to Dalrymple Rd	Dual	20	High
Midland Hwy	Evandale Main Rd to Howick St	Dual	10	High
Illawarra Main Rd	Midland Hwy, Perth to Bass Hwy, Longford	Single	14	High
Bass Hwy	Formby Rd underpass to Forth River Bridge	Dual	12	High
East Tamar Hwy	Dalrymple Rd to Bell Bay Rd	Dual	22	High
Midland Hwy	Quoin Rd underpass to Lower Marshes Rd	Single	22	Medium-high
Brooker Hwy	Berriedale Rd to Granton	Dual	8	Medium-high
Bass Hwy	Parramatta Creek to Formby Rd underpass	Mixed	22	Medium-high
Bass Hwy	Forth River Bridge to Knights Rd	Dual	11	Medium

The risk assessment in this report is based solely on casualty crash numbers to ensure statistical significance in the results. No special weighting is given to fatalities and it should be noted that the difference between a crash resulting in a casualty or fatality may depend on small changes in parameters such as travel speed or angle of impact. However, it should be highlighted that, during the period 2010-2014, six deaths have occurred on the sections

Midland Highway, Campbell Town to Evandale Main Rd and Bass Highway, Midland Highway to Hagley Station St overpass. Four deaths have occurred on the section Midland Highway, Sorrell Springs Rd to Campbell Town. Safety upgrades could help reduce the severity of crashes on these three highway sections.

BEST HIGHWAY SECTIONS
IN TASMANIA

The nine of the 19 sections of national highway with the best risk scores in Tasmania are presented in the table below, ranked from lowest to highest risk. Only two of the top nine received a risk rating of low. This shows that even the best highways in this state have significant room for improvement when compared against the entire Australian network.

Highway	Section	Carriageway	Length (km)	Combined risk rating
Midland Hwy	Shene Rd to Quoin Rd underpass	Single	18	Low
Bass Hwy	Railton Rd to Parramatta Creek	Single	17	Low
Midland Hwy	East Derwent Hwy to Shene Rd	Mixed	10	Low-medium
Bass Hwy	Midland Hwy to Hagley Station St overpass	Mixed	36	Low-medium
Bass Hwy	Hagley Station St overpass to Railton Rd	Mixed	19	Medium
Midland Hwy	Sorell Springs Rd to Campbell Town	Single	37	Medium
Midland Hwy	Lower Marshes Rd to Sorell Springs Rd	Single	24	Medium
Midland Hwy	Campbell Town to Evandale Main Rd	Mixed	56	Medium
Bass Hwy	Knights Rd to Nine Mile Rd	Dual	14	Medium

UPGRADES

Substantial upgrades have been made to the Tasmanian network, and particularly to the Midland Highway. They are summarised as follows:

Midland Highway

In the 2013 AusRAP Star Rating report, most of the Midland Highway received only one or two stars, out of a possible five stars. The Australian and Tasmanian governments have committed to investing \$500 million over 10 years to increase the safety rating of the highway to a minimum of three stars. Key upgrades to be made include lane separation to reduce the risk and severity of head-on collision crashes, improved overtaking opportunities and audible edge lines to reduce the risk of run-off-road crashes. The vast majority of upgrades had not been completed by 2014, meaning that their effects will not be seen until the next iteration of the AusRAP Risk Mapping. Key upgrades include:

- The 9.5-kilometre Brighton Bypass was opened in November 2012. It received joint funding of \$191 million from the Australian and Tasmanian governments.
- Safety upgrades are scheduled for the Midland Highway between Mangalore and Bagdad, with construction to be completed in two stages. Construction on stage one of the project commenced in early 2016 and will provide a central median turn lane, widening of sealed shoulders and removal of roadside hazards. It is due to be completed by early 2017. Construction of stage two, which extends from the Pontville roundabout to Eddington Road, will commence in late 2017. A key safety measure will be the introduction of a 2.1-metre median with a flexible safety barrier. Upgrades to the overtaking facilities between Dysart and Kempton were completed in 2015. This stretch of the highway now features a central median barrier.

- In 2016, construction began on an overtaking lane between Kempton and Muddy Plains Road. It is scheduled for completion in 2017.
- An upgraded intersection of the Midland Highway with Mudwalls Road was completed in May 2015. Works are also set to begin by the end of 2017 along the highway from St Peters Pass to the south of Turnbridge.
- In April 2016, construction was completed on the two-stage upgrade to the Midland Highway south of Turnbridge. The upgrade provides an additional south-bound overtaking lane, central and roadside flexible safety barriers, a wide central median, and straightening of curves to improve travel times and safety. This upgrade will affect the medium-risk highway section Midland Highway, Sorrell Springs Rd to Campbell Town, which recorded 29 casualty crashes and four fatalities in the period 2010-2014. Further works on this section began in March 2016. The project includes alignment upgrades at Mona Vale Junction and White Lagoon, and an overtaking lane between White Lagoon and Mona Vale. They are scheduled for completion in mid-2017. Early planning has commenced for the stretch of highway from Macquarie River (Ross) to Campbell Town. The upgrade will improve safety through road widening, extension of sealed shoulders, additional overtaking lanes, and flexible safety barrier to reduce the risk of head-on crashes.

UPGRADES cont.

- In 2015, the upgraded junction at Esk Main Road was opened to traffic. It is located on the medium-risk highway section Midland Highway, Campbell Town to Evandale Main Rd, which has recorded 59 casualty crashes and six fatalities in the period 2010-2014. Several overtaking lanes — between Campbell Town and Conara, Epping Forest and Powranna, and between Symmons Plains and Perth — are either already under construction, or planned for the coming years.
- The highway section Midland Highway, Evandale Main Rd has been assessed as high risk in this report, with 82 casualty crashes in the period 2010-2014. In 2015, a new roundabout was built at the intersection with Kings Meadows Connector to address queuing onto the Midland Highway. In early 2016, works commenced on the duplication of the Midland Highway from Perth to Breadalbane, a stretch of highway critical for freight transport. The upgrade will provide a four-lane divided dual carriageway highway, which is expected to be opened to traffic in mid-2018.
- Additional to the works on the Midland Highway, a 3.2 kilometre stretch of Bass Highway between the Birralelee Road Overpass and Exton was upgraded to dual carriageway, with funding of \$7.68 million from the Australian Government, and \$1.92 million from the Tasmanian State Government.

East Tamar Highway

- In early 2010, construction of the Dilston Bypass on the East Tamar Highway commenced. The upgrade includes two kilometres of dual carriageway and seven kilometres of three-lane highway separated by a wire rope safety barrier. The bypass was opened to traffic in mid-2011.
- In late 2016, works will commence to close the right-hand turn from University Way onto the East Tamar Highway, due to a high crash rate at this location.

Illawarra Main Road

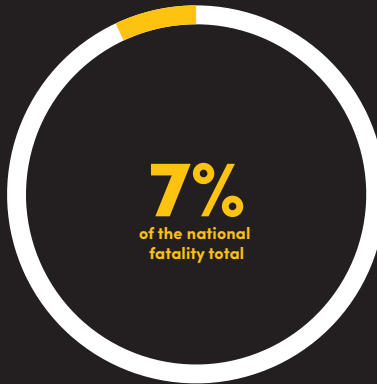
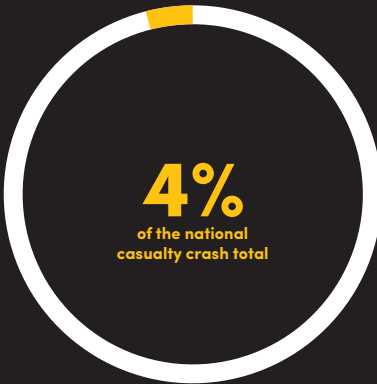
Construction of upgrades to the Illawarra Main Road, including a bypass of Perth, is set to commence in 2018, with a targeted completion date of 2024.

Bass Highway

A 3.2 kilometre stretch of Bass Highway between the Birralelee Road Overpass and Exton was upgraded to dual carriageway, with funding of \$7.68 million from the Australian Government, and \$1.92 million from the Tasmanian State Government.

NORTHERN TERRITORY

There are 2,670 kilometres of risk-rated national highway in the Northern Territory, which is 13 per cent of the total National Land Transport Network. During the period from 2010 to 2014, there were 548 casualty crashes on these roads, accounting for four per cent of the national total. These casualty crashes included 61 deaths, which equates to just under seven per cent of total fatalities across the network over this period.



OVERVIEW OF HIGHWAYS RATED IN THE NORTHERN TERRITORY

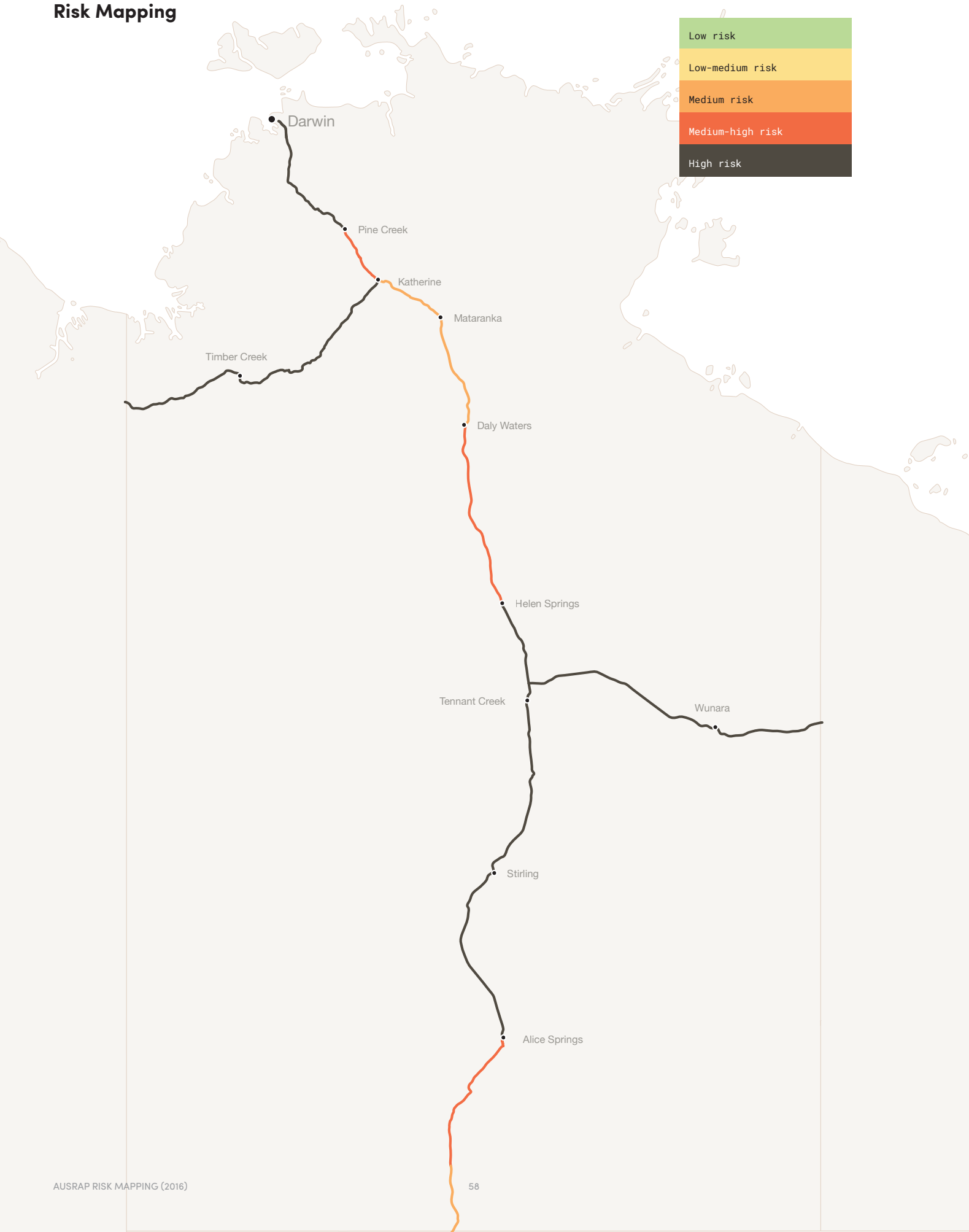
The following are the national highways in the Northern Territory, with information on aggregated casualty crashes and deaths per highway. Refer to the map for risk ratings.

Number	Highway	Section	Length (km)	% Total	Casualty crashes 2010-14	% Total	Deaths 2010-14	% Total
A66	Barkly Hwy	Stuart Hwy to QLD border	435	16%	31	6%	0	0%
A87	Stuart Hwy	Tiger Brennan Dr (Palmerston) to SA border	1,766	66%	459	84%	50	82%
A1	Victoria Hwy	Katherine (Stuart Hwy) to Timber Creek	469	18%	58	11%	11	18%
TOTAL			2,670		548		61	

The Stuart Highway constitutes 66 per cent of the total length of the assessed network in the Northern Territory. It has disproportionately high casualty crash and fatality figures at 84 and 82 per cent respectively.

The three highways in the table above consist of 14 sections, each of which has received its own risk rating based on its crash record. The results are displayed on the following map.

Risk Mapping



Northern Territory Results

WORST 10 HIGHWAY SECTIONS
IN THE NORTHERN TERRITORY

The following table lists the sections of national highway in the Northern Territory with the highest combined risk. The combined risk scores for the top six highway sections in the Northern Territory (marked with asterisks) are statistically very similar, such that it is difficult to distinguish which of these sections should be prioritised for safety improvement on the basis of combined risk scoring alone.

Highway	Section	Carriageway	Length (km)	Combined risk rating
* Stuart Hwy	Helen Springs to Barkly Hwy	Single	118	High
* Stuart Hwy	Barkly Hwy to Stirling	Single	282	High
* Victoria Hwy	Katherine (Stuart Hwy) to Timber Creek	Single	286	High
* Stuart Hwy	Livingstone (Cox Peninsula Rd) to Pine Creek	Single	180	High
* Stuart Hwy	Tiger Brennan Dr (Palmerston) to Livingstone (Cox Peninsula Rd)	Dual	28	High
* Stuart Hwy	Stirling to Alice Springs (Dalgety Rd)	Single	249	High
Victoria Hwy	Timber Creek to WA border	Single	184	High
Barkly Hwy	Stuart Hwy to Wunara	Single	280	High
Barkly Hwy	Wunara to QLD border	Single	155	High
Stuart Hwy	Pine Creek to Katherine (Emungalan Rd)	Single	88	Medium-High

BEST HIGHWAY SECTIONS
IN THE NORTHERN TERRITORY

The four of the 14 sections of national highway with the best risk scores in the Northern Territory are presented in the table below, ranked from lowest to highest risk. This shows that even the best highways in this jurisdiction have significant room for improvement.

Highway	Section	Carriageway	Length (km)	Combined risk rating
Stuart Hwy	Katherine (Uralla Rd) to Daly Waters	Single	270	Medium
Stuart Hwy	Erdunda to SA border	Single	95	Medium
Stuart Hwy	Alice Springs (Santa Teresa Rd) to Erdunda	Single	199	Medium-high
Stuart Hwy	Daly Waters to Helen Springs	Single	259	Medium-high

UPGRADES

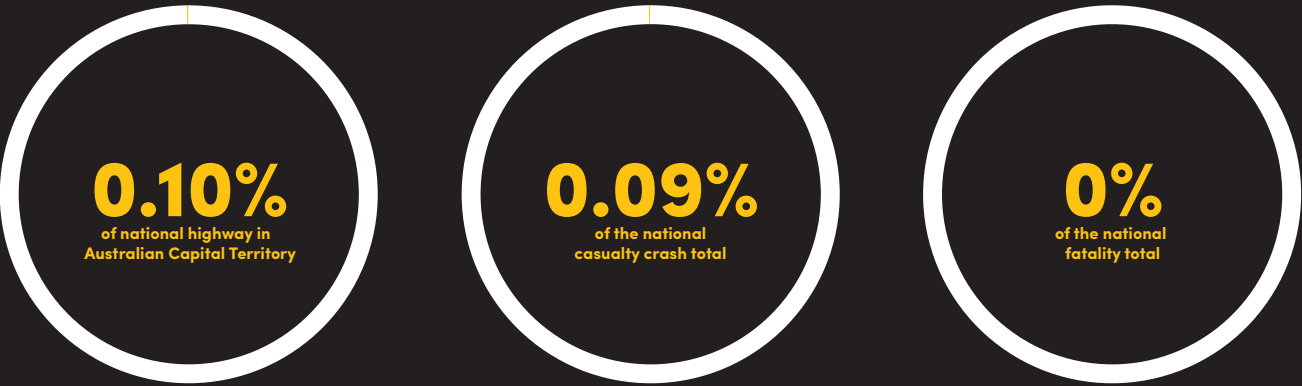
Between early 2010 and 2015, significant works were undertaken on the Stuart, Barkly and Victoria highways through the \$160 million Improve Flood, Immunity, Road Safety and Productivity on Northern Territory Highways project. The suite of works was designed to improve safety and efficiency on key Northern Territory highways, especially for heavy vehicles. It included:

- Upgrading of narrow and strength deficient pavements on the Stuart, Barkly and Victoria highways;
- Upgrading existing truck parking bays and rest areas, including intersection improvements, access management and localised by-passes;
- Construction of overtaking lanes on the Stuart Highway between Darwin and Katherine;
- Construction of a rail overpass near Alice Springs;
- The first stage of a heavy vehicle bypass of Katherine; and
- Flood immunity improvements on the Stuart and Victorian highways.

Between 2014-15 and 2018-19, the Australian Government has made available \$20.01 million to the Northern Territory through its National Highway Upgrade Programme. The funding will be directed toward the \$35.5 million upgrade of the Victoria Highway over Little Horse and Big Horse creeks. The existing bridges will be replaced with bridges better able to cope with severe floods.

There are 20 kilometres of risk-rated national highway in the Australian Capital Territory, which is 0.1 per cent of the total National Land Transport Network. During the period from 2010 to 2014, there were 14 casualty crashes on these roads, accounting for 0.09 per cent of the national total. No fatalities occurred over this period.

AUSTRALIAN CAPITAL TERRITORY



OVERVIEW OF HIGHWAYS RATED IN THE AUSTRALIAN CAPITAL TERRITORY

The following are the national highways in the Australian Capital Territory, with information on aggregated casualty crashes and deaths per highway. Refer to the map for risk ratings.

Number	Highway	Section	Length (km)	% Total	Casualty crashes 2010-14	% Total	Deaths 2010-14	% Total
A25	Barton Hwy	NSW border to Bellenden St	12	60%	10	71%	0	0%
A23	Federal Hwy	NSW border to Antill St	8	40%	4	29%	0	0%
TOTAL			20		14		0	

Each of the two highway sections has received its own risk rating based on its crash record. The results are displayed on the following map.



HIGHWAY SECTIONS
IN THE AUSTRALIAN CAPITAL TERRITORY

The following table provides information for the two sections of national highway in the Australian Capital Territory, ranked from highest to lowest risk. The Barton Highway and the Federal Highway have both been rated as low risk.

Highway	Section	Carriageway	Length (km)	National priority
Barton Hwy	NSW border to Bellenden St	Dual	12	Low
Federal Hwy	NSW border to Antill St	Dual	8	Low

UPGRADES

The Australian Capital Territory has been allocated \$3.2 million from the Australian Government through the National Highway Upgrade Programme. The funds are available over five years between 2014-15 and 2018-19. The proposed project consists of two truck lay-bys and decoupling areas on the Federal Highway to assist in freight efficiency. The ACT Government will contribute \$800,000 to the project.



APPENDIX

New South Wales

Number	Highway	Section	Carriageway	Length (km)	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National ranking
A25	Barton Hwy	Hume Hwy to Murrumbateman	Mixed	18	13200	84796800	22	0	0.25	5.190447915	0.078832075	Low-medium	179
		Murrumbateman to ACT border	Single	21	16500	126472500	49	6	0.466666667	7.74369492	0.133166204	Medium	117
M1	Pacific Mtwy	Wahroonga to Brooklyn (Hawkesbury River Bridge)	Dual	23	24900	209944350	125	1	1.082251082	11.91250062	0.242082615	High	31
		Hawkesbury River to Calga Interchange	Dual	15	63050	342897425	146	3	1.959731544	8.514953915	0.259735457	High	23
		Calga Interchange to Wyong	Dual	25	56700	521526600	133	2	1.055555556	5.098217777	0.139630896	Medium	109
		Wyong to Ryhope	Dual	40	24400	357130600	126	1	0.628428928	7.059971358	0.135574968	Medium	111
		Ryhope to New England Hwy	Dual	23	19800	162607500	64	0	0.568888889	7.881033811	0.143077144	Medium	103
M1/A1	Princes Mtwy/Hwy	Blakehurst to Waterfall	Dual	4	53800	78548000	14	1	0.7	3.566232401	0.089625741	Low-medium	163
		Waterfall to Bulli	Dual	21	66300	508189500	46	1	0.438095238	1.810440171	0.043549542	Low	228
		Bulli to Wollongong via Princes Mtwy (Mt Ousley Rd)	Dual	18	78800	520592200	150	3	1.657458564	5.76146889	0.195845825	Medium-high	54
M23	Federal Hwy	Hume Hwy to Collector	Dual	24	8800	76124400	48	5	0.405063291	12.5832588	0.199712002	High	49
		Collector to ACT border	Dual	42	8800	134582800	69	2	0.329355609	10.23140568	0.159221482	Medium-high	85
A32	Great Western / Mitchell Hwy	Lithgow to Bathurst	Mixed	51	8200	153540900	92	5	0.358674464	11.96856489	0.187076569	Medium-high	59
		Bathurst to Orange	Single	45	9150	149620800	71	6	0.316964286	9.482886195	0.147237741	Medium-high	96
		Orange to Wellington	Single	92	2450	82271000	58	1	0.126086957	14.00123213	0.199076246	High	51
		Wellington to Newell Hwy, Dubbo	Single	40	2450	35948850	31	3	0.154228856	17.12622836	0.247286916	High	28

New South Wales

Number	Highway	Section	Carriageway	Length (km)	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National ranking
M31	Hume Mtwy/Fwy	South Western Mtwy/M5 to Narellan Rd, Campbelltown	Dual	45	39950	650346050	726	7	3.255605381	22.33328358	0.563306027	High	3
		Narrellan Rd, Campbelltown to Berrima	Dual	69	31050	786527550	145	10	0.417867435	3.68496676	0.069605325	Low	194
		Berrima to Goulburn	Dual	71	20500	532005750	150	10	0.421940928	5.634270918	0.098637889	Low-medium	154
		Goulburn to Yass	Dual	85	7850	244692350	96	6	0.224824356	7.827053293	0.115733452	Medium	137
		Yass to Coolac	Dual	74	10100	270957750	96	3	0.26122449	7.1031163	0.10787668	Low-medium	142
		Coolac to North of Tarcutta	Dual	60	8800	191114000	65	1	0.218487395	6.825750914	0.100492733	Low-medium	152
		North of Tarcutta to South of Tarcutta (Tarcutta Bypass)	Dual	9	8250	25896750	5	1	0.11627907	3.858759995	0.048894834	Low	218
		Tarcutta to North of Holbrook	Dual	67	7750	188492342	50	4	0.15007241	5.310737374	0.072893718	Low	186
		North of Holbrook to South of Holbrook (inc Holbrook Bypass)	Dual	8	8800	26980800	11	0	0.261904762	8.156727213	0.123451561	Medium	124
		Holbrook to Albury (includes Woomargama Bypass)	Dual	60	9850	216074525	82	7	0.272878536	7.588433077	0.115925881	Medium	136

New South Wales

Number	Highway	Section	Carriageway	Length (km)	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National ranking
M15/A15	New England Hwy	Branxton to Singleton	Mixed	17	14550	90282750	46	5	0.541176471	10.19511285	0.17503114	Medium-high	67
		Singleton to Muswellbrook	Single	38	9750	134164875	52	8	0.275862069	7.733762424	0.118297168	Medium	129
		Muswellbrook to Scone	Single	21	11400	85300500	23	1	0.224390244	5.385332628	0.079727148	Low-medium	178
		Scone to Blandford	Single	30	6350	70227825	15	1	0.099009901	4.276182367	0.053712027	Low	212
		Blandford to Tamworth	Single	89	2750	89534500	60	6	0.134529148	13.42559682	0.191247071	Medium-high	56
		Nemingha to Armidale	Single	96	4250	149230250	89	9	0.185031185	11.8916992	0.172545622	Medium-high	72
		Armidale to Guyra	Single	38	6450	90403200	29	1	0.151041667	6.415972244	0.089251451	Low-medium	165
		Guyra to Glen Innes	Single	55	2200	44245300	30	4	0.108892922	13.49876114	0.190346848	Medium-high	57
		Glen Innes to QLD border	Single	109	3000	119245500	46	6	0.084481175	7.766776196	0.104016372	Low-medium	147
A39	Newell Hwy	VIC border to Jerilderie	Single	52	3100	59290600	12	1	0.045801527	4.065573072	0.046503592	Low	221
		Jerilderie to Narrandera	Single	103	2400	90578400	23	3	0.044487427	5.07483489	0.061271209	Low	204
		Narrandera to West Wyalong	Single	133	2350	113737650	33	5	0.049773756	5.865127404	0.073322143	Low	185
		West Wyalong to Forbes	Single	93	2550	86373600	24	1	0.051724138	5.607639199	0.069679176	Low	193
		Forbes to Parkes	Single	27	2600	25433200	10	0	0.074626866	7.90338483	0.105268597	Low-medium	146
		Parkes to Dubbo	Single	112	2650	108041825	32	2	0.057296329	5.93073498	0.074869162	Low-medium	182

New South Wales

Number	Highway	Section	Carriageway	Length (km)	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National ranking
A39	Newell Hwy	Brocklehurst to Gilgandra	Single	53	3050	58779600	25	2	0.09469697	8.571499294	0.116660269	Medium	134
		Gilgandra to Coonabarabran	Single	88	2200	70824600	25	2	0.056689342	7.048496852	0.091289825	Low-medium	161
		Coonabarabran to Narrabri	Single	112	3950	162052700	51	2	0.090747331	6.3101913	0.083040645	Low-medium	175
		Narrabri to Moree	Single	93	3700	126136700	29	0	0.062098501	4.569165561	0.055180294	Low	210
		Moree to QLD border	Single	120	3200	140043200	41	9	0.068390325	5.861107116	0.074699391	Low	184
M1/A1	Pacific Mtwy/Hwy	Hexham to Karuah	Dual	29	11400	119004600	70	1	0.48951049	11.78545713	0.194474382	Medium-high	55
		Karuah to Bulahdelah	Mixed	36	26450	345622150	48	2	0.268156425	2.778755383	0.044702631	Low	225
		Bulahdelah to Coolongolook	Dual	25	5950	54945275	28	1	0.221343874	10.17485858	0.150054086	Medium-high	94
		Coolongolook to Nabiac	Dual	17	11500	69258750	26	2	0.315151515	7.510253482	0.118035927	Medium	130
		Nabiac to Taree	Dual	22	17300	135761750	66	1	0.613953488	9.71707017	0.173603905	Medium-high	68
		Taree to Coopersnook	Mixed	20	15800	117646800	41	1	0.401960784	6.979881411	0.116920491	Medium	132
		Coopersnook to Oxley Hwy	Mixed	41	15500	230826000	89	13	0.43627451	7.706330918	0.130270642	Medium	120
		Oxley Hwy to Kempsey	Single	39	11350	161981525	93	5	0.475703325	11.49157116	0.189079311	Medium-high	58
		Kempsey to Macksville	Mixed	43	9550	149190100	71	7	0.331775701	9.500541527	0.148640716	Medium-high	95
		Macksville to Sawtell	Mixed	48	19750	342415625	67	7	0.282105263	3.909945717	0.062444274	Low	201
		Coffs Harbour to Grafton	Mixed	76	26100	725919300	182	15	0.477690289	5.012370115	0.093777381	Low-medium	159
		Grafton to McLean	Mixed	39	7950	114328950	64	3	0.324873096	11.22374834	0.173495358	Medium-high	69
		McLean to Ballina	Single	83	1250	37686250	121	18	0.292978208	6.345666947	0.099167663	Low-medium	153

New South Wales

Number	Highway	Section	Carriageway	Length (km)	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National ranking
M1/A1	Pacific Mtwy/Hwy	Ballina to Byron Bay	Mixed	30	14050	154360325	92	12	0.611295681	16.04966639	0.266694208	High	19
		Byron Bay to Yelgun	Mixed	20	7100	51052550	40	5	0.406091371	15.65650939	0.245068192	High	29
		Yelgun to Chinderah	Dual	32	16200	188033400	80	4	0.503144654	8.50073415	0.147134018	Medium-high	97
A20	Sturt Hwy	Hume Hwy to Wagga Wagga	Single	33	8950	107802750	24	1	0.145454545	4.443110459	0.059755029	Low	205
		Wagga Wagga to Narrandera	Single	90	7100	232198400	28	4	0.0625	2.414547442	0.023468224	Low	241
		Narrandera to Hay	Single	167	1650	100756425	39	4	0.046622833	7.737629732	0.100665776	Low-medium	151
		Hay to Balranald	Single	128	1550	72585725	20	3	0.031176929	5.446968775	0.065726642	Low	197
		Balranald to Euston	Single	75	2950	81186950	19	1	0.050397878	4.715638859	0.056435387	Low	208
		Euston to Mildura	Single	69	4300	107981600	25	1	0.072674419	4.643417777	0.05709027	Low	207
M4	Western Mtwy	Parramatta Rd, Concord to M7 Westlink	Dual	24	94050	834176475	788	6	6.485596708	18.89363216	0.761861044	High	1
		M7 WestLink to Glenbrook	Single	22	58650	464537325	235	4	2.165898618	10.12059642	0.29929878	High	12

Victoria

Number	Highway	Section	Carriageway	Length	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National priority
M79/A79	Calder Fwy/Hwy	Western Ring Rd to Diggers Rest	Dual	9	92500	303862500	17	1	0.377777778	1.119330509	0.028713558	Low	238
		Diggers Rest to Woodend	Dual	42	21100	325345312	57	6	0.269858199	3.50729379	0.055567181	Low	209
		Woodend to Pyrenees Hwy	Dual	32	12250	143080000	26	2	0.1625	3.63334178	0.049140307	Low	217
		Pyrenees Hwy to Bendigo	Dual	33	15000	180675000	31	4	0.187878788	3.433101857	0.048148516	Low	219
		Bendigo to Wedderburn	Single	58	3400	71978000	13	0	0.044827586	3.594594283	0.039489716	Low	231
		Wedderburn to Culgoa	Single	97	1450	51337250	20	3	0.041237113	7.900586915	0.102650985	Low-medium	148
		Culgoa to Sunraysia Hwy	Single	106	950	36755500	11	1	0.020754717	6.114219173	0.074752761	Low	183
		Sunraysia Hwy to Mildura	Single	98	2550	91213500	26	3	0.053061224	5.708372426	0.071266406	Low	189
M39/A39	Goulburn Valley Fwy/Hwy	Seymour to Tabilk	Mixed	16	6950	40588000	4	0	0.05	1.975763962	0.016039303	Low	244
		Tabilk to Kirwans Bridge (Nagambie Bypass)	Dual	17	6350	39401750	1	0	0.035435861	1.528890566	0.008331926	Low	247
		Kirwans Bridge to Arcadia	Mixed	23	6350	53308250	17	1	0.147826087	6.384702753	0.088542653	Low-medium	169
		Arcadia to Shepparton	Mixed	10	6800	24820000	5	1	0.1	4.036924402	0.050263541	Low	215
		Shepparton to Numurkah	Single	16	5450	31820000	8	2	0.1	5.005589575	0.064534463	Low	198
		Numurkah to NSW border	Single	36	2500	32850000	18	2	0.1	11.01766499	0.153107751	Medium-high	90

Victoria

Number	Highway	Section	Carriageway	Length	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National priority
M31	Hume Fwy/Hwy	Metropolitan Ring Rd to Mickleham (Craigieburn bypass)	Dual	16	44750	261340000	31	3	0.3875	2.371858435	0.047916685	Low	220
		Mickleham to Seymour	Dual	71	24150	625847250	149	9	0.41971831	4.761545249	0.085608902	Low-medium	171
		Seymour to Euroa	Dual	44	10800	173448000	52	2	0.236363636	6.001330864	0.089726263	Low-medium	162
		Euroa to Winton	Dual	58	10650	225460500	37	4	0.127586207	3.289378153	0.041378851	Low	230
		Winton to Springhurst	Dual	59	12350	265957250	45	9	0.152542373	3.380353	0.044644791	Low	226
		Springhurst to NSW border	Dual	45	15050	247196250	51	0	0.226666667	4.126276187	0.06135367	Low	203
M1/A1	Princes Fwy/Hwy East	Monash Fwy/Narre Warren to Nar Nar Goon (Pakenham Bypass)	Dual	20	41850	305505000	73	4	0.73	4.780114723	0.109824176	Low-medium	140
		Nar Nar Goon to Warragul	Dual	38	19600	271852000	101	6	0.531578947	7.438559451	0.133679484	Medium	114
		Warragul to Trafalgar	Dual	18	22150	144972503	26	0	0.289990854	3.586347385	0.058285302	Low	206
		Trafalgar to Strzelecki Hwy	Dual	21	22500	170100585	43	2	0.415210212	5.052837838	0.089552539	Low-medium	164
		Strzelecki Hwy to Traralgon	Dual	8	21250	62050000	8	0	0.2	2.576141069	0.036458573	Low	236
		Traralgon to Rosedale	Single	18	10400	68328000	17	2	0.188888889	4.971218109	0.070886853	Low	191
		Rosedale to Sale	Single	20	8500	62050000	16	0	0.16	5.149054398	0.071277738	Low	188

Victoria

Number	Highway	Section	Carriageway	Length	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National priority
M1/A1	Princes Fwy/Hwy West	Western Ring Rd to Hoppers Crossing	Dual	12	131750	554505549	150	2	2.601709761	5.410499164	0.263534666	High	20
		Hoppers Crossing to Little River	Dual	17	51350	323955438	31	1	0.358706897	1.912974219	0.038934434	Low	234
		Little River to Corio	Dual	17	52700	327003500	33	8	0.388235294	2.01896553	0.042774404	Low	229
		Geelong North to Grovedale	Dual	22	26850	215605500	34	1	0.309090909	3.155083489	0.053405461	Low	213
		Grovedale to Mt Moriac (Fwy i.e. Geelong Ring Rd)	Dual	7	26350	67324250	2	0	0.149120191	1.55046857	0.017421841	Low	243
		Mt Moriac to Winchelsea	Single	21	6950	53271750	19	3	0.180952381	7.1161715	0.101875127	Low-medium	149
		Winchelsea to Colac	Single	23	6200	52049000	16	3	0.139130435	6.141449088	0.084287936	Low-medium	174
A20	Sturt Hwy	Mildura to SA border	Single	102	1900	70737000	18	1	0.035294118	5.13431218	0.061438095	Low	202
M8/A8	Western Fwy/Hwy	Western Ring Rd to Melton (Deer Park Bypass)	Dual	20	35200	256960000	82	3	0.82	6.379899685	0.140337616	Medium	107
		Melton to Ballan - after Anthony's Cutting realignment i.e Western Fwy	Dual	36	24350	319959000	49	2	0.388888889	4.37331559	0.07751045	Low-medium	181
		Ballan to Ballarat (Sunraysia Hwy)	Dual	45	17250	283331250	52	3	0.231111111	3.67132466	0.054994005	Low	211
		Ballarat (Sunraysia Hwy) to Beaufort		36	6600	86724000	35	4	0.194444444	8.096117102	0.117353302	Medium	131
		Beaufort to Ararat	Single	40	5900	86140000	27	4	0.135	6.251205865	0.085586226	Low-medium	172
		Ararat to Stawell	Single	21	6200	47523000	9	3	0.085714286	3.787639669	0.045488635	Low	224
		Stawell to Horsham	Single	58	4250	89972500	29	1	0.1	6.482001642	0.086285799	Low-medium	170
		Horsham to Nhill	Single	67	3650	89260750	18	1	0.053731343	4.011148765	0.046313656	Low	222
		Nhill to SA border	Single	60	2500	54750000	10	2	0.033333333	3.652968037	0.039462801	Low	232

Queensland

Number	Highway	Section	Carriageway	Length	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National priority
M1	Bruce Hwy	Bald Hills to Caloundra	Dual	61	69800	1561248394	578	13	1.886401428	7.402999346	0.237695277	High	34
		Caloundra to Cooroy	Dual	41	31050	460312415	253	8	1.24581139	10.98721243	0.241071252	High	32
A1	Bruce Hwy	Cooroy to Sankeys Rd	Single	13	15900	76025850	27	2	0.41221374	7.098146551	0.11945397	Medium	127
		Section B alignment (Sankeys Rd to Traveston Rd)	Dual	12	15700	68766000	2	0	0.083333333	1.45465562	0.01093408	Low	246
		Section B end to Gympie	Single	15	15750	85253963	48	5	0.64733648	11.27436082	0.199122661	High	50
		Gympie to Tiaro	Single	57	9900	207053550	107	6	0.373472949	10.35598418	0.164460988	Medium-high	79
		Tiaro to Childers	Single	81	8000	236169600	163	21	0.403066271	13.82367015	0.21783235	High	40
		Childers to Gin Gin	Single	55	4150	83311250	69	9	0.250909091	16.65102632	0.247745931	High	27
		Gin Gin to Miriam Vale	Single	97	3650	128961800	82	7	0.169421488	12.74153223	0.183861379	Medium-high	61
		Miriam Vale to Mt Larcom	Single	94	5450	186989500	93	7	0.19787234	9.988153239	0.145492347	Medium	99
		Mt Larcom to Rockhampton	Single	70	6100	156344830	102	10	0.290515523	13.00924955	0.197149299	High	52
		Rockhampton to Marlborough	Single	93	3100	105229500	55	12	0.11827957	10.45662214	0.146252624	Medium-high	98
		Marlborough to St Lawrence	Single	72	2400	63396120	36	1	0.099488738	11.3568104	0.158064783	Medium-high	86
		St Lawrence to Sarina	Single	118	2950	126604265	78	9	0.132675625	12.35283979	0.175299589	Medium-high	66
		Sarina to Mackay	Single	25	9750	90605775	87	6	0.68342498	19.17634226	0.318323742	High	9
		Mackay to Proserpine	Single	118	5200	223337660	158	13	0.268547633	14.21238874	0.213179557	High	42
		Proserpine to Bowen	Single	59	3550	76449250	47	6	0.159322034	12.22054546	0.175406622	Medium-high	65
		Bowen to Ayr	Single	101	3200	117629280	63	5	0.125111707	10.75134292	0.151121793	Medium-high	93
		Ayr to Townsville	Single	74	5750	154593925	106	6	0.287808851	13.75993251	0.207999934	High	44

Queensland

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A1	Bruce Hwy	Townsville to Ingham	Single	100	7000	255423350	166	7	0.33209963	12.9682605	0.199754103	High	48
		Ingham to Innisfail	Single	137	4000	200282800	156	8	0.227438402	15.68072643	0.2316399	High	35
		Innisfail to Cairns	Single	65	6450	153497100	83	5	0.254601227	10.83335835	0.162321653	Medium-high	81
A6	Flinders Hwy	Townsville to Charters Towers	Single	122	2350	104739853	62	6	0.101547785	11.80200435	0.16478251	Medium-high	78
		Charters Towers to Hughenden	Single	245	700	62692291	35	2	0.028528229	10.87235913	0.145452178	Medium	100
		Hughenden to Richmond	Single	117	800	34273500	18	1	0.030670927	10.64222278	0.142227012	Medium	105
		Richmond to Julia Creek	Single	148	350	18906617	12	0	0.016216545	12.25402208	0.164857632	Medium-high	77
		Julia Creek to Barkly Hwy	Single	123	400	17927340	5	0	0.008143986	5.728805307	0.068101568	Low	195
A39	Gore/Leichhardt Hwy	Toowoomba to Yandilla	Single	64	3650	85879233	65	3	0.201669826	15.1514753	0.22185434	High	38
		Yandilla to NSW border	Single	155	1600	90468024	44	2	0.056806812	9.727677905	0.130770096	Medium	118
A15	New England/Cunningham Hwy	Ipswich to Willowbank	Dual	18	20850	136579635	74	0	0.824659549	10.83227095	0.206291998	High	46
		Willowbank to Kalbar	Single	37	5100	69472669	47	3	0.251870271	13.55840644	0.202257875	High	47
		Kalbar to Warwick	Single	68	5000	124102920	73	6	0.214700831	11.73224803	0.172485842	Medium-high	73
		Warwick to Stanthorpe	Single	57	3550	73983438	42	7	0.147118062	11.27890895	0.160592229	Medium-high	82
		Stanthorpe to NSW border	Single	36	2850	37578823	33	8	0.182699973	17.52697262	0.255387771	High	25
M1	Pacific Mtwy	Gateway Mtwy to Logan Mtwy	Dual	15	121050	652286700	383	1	5.188572681	11.74093141	0.556403531	High	4
		Logan Mtwy to Smith St Mtwy	Dual	35	137200	1758986111	563	19	3.205700583	6.401457436	0.32473866	High	8
		Smith St Mtwy to NSW border	Dual	29	79100	824096180	528	3	3.699605065	12.81020829	0.457266241	High	6

Queensland

Number	Highway	Section	Carriageway	Length	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National priority
A2	Warrego / Landsborough / Barkly Hwy	Cunningham Hwy to Gatton	Dual	55	26900	542675368	356	18	1.288205143	13.10875025	0.275598096	High	14
		Gatton to Helidon	Dual	20	14350	105293964	33	1	0.328310841	6.272624133	0.100817862	Low-medium	150
		Helidon to Toowoomba	Dual	16	20100	120259174	76	3	0.927287258	12.64315542	0.240889844	High	33
		Toowoomba to Dalby	Single	74	7450	200402199	86	14	0.233386162	8.599741343	0.127777767	Medium	122
		Dalby to Miles	Single	125	3550	161968750	59	4	0.0944	7.3072084	0.098011108	Low-medium	155
		Miles to Roma	Single	137	1900	95169005	40	4	0.058296291	8.516312558	0.113038508	Low-medium	138
		Roma to Morven	Single	175	850	54204708	12	0	0.013736814	4.426590345	0.049348151	Low	216
		Morven to Barcaldine	Single	413	450	67897665	31	2	0.014998307	8.99693797	0.11677843	Medium	133
		Barcaldine to Winton	Single	285	700	72770488	33	1	0.023172855	9.353071061	0.122655942	Medium	125
		Winton to Flinders Hwy	Single	334	300	36596871	23	2	0.013763472	11.65673234	0.155868741	Medium-high	87
		Flinders Hwy to Mt Isa	Single	131	1100	52771554	42	2	0.063909431	15.89211835	0.222136159	High	37
		Mt Isa to NT border	Single	195	600	42690765	27	3	0.027701542	13.10366689	0.178261275	Medium-high	63

South Australia

Number	Highway	Section	Carriageway	Length	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National priority
A1	Eyre Hwy	WA Border to Yalata	Single	279	500	50997800	21	2	0.01503006	8.235649381	0.105565147	Low-medium	145
		Yalata to Fowler Bay	Single	95	550	19055190	11	0	0.023177413	11.54541099	0.154955082	Medium-high	88
		Fowler Bay to Ceduna	Single	106	750	28987388	15	3	0.028331287	10.17299671	0.13513358	Medium	112
		Ceduna to Kyancutta	Single	219	600	47884350	27	0	0.024697004	10.57234775	0.140736619	Medium	106
		Kyancutta to Lincoln Hwy	Single	219	700	55980050	29	4	0.026471931	10.07303296	0.133517387	Medium	115
		Lincoln Hwy to Port Augusta	Single	23	2700	22834035	6	0	0.051791109	5.255312957	0.064493674	Low	199
A87	Stuart Hwy	NT Border to Coober Pedy	Single	391	300	42813405	42	11	0.021483925	18.39377176	0.255718327	High	24
		Coober Pedy to Woomera	Single	365	450	59977530	34	4	0.018621974	11.33757926	0.151541685	Medium-high	92
		Woomera to Port Augusta	Single	170	900	55831860	30	4	0.035302424	10.74655224	0.144121424	Medium	102
A1	Pt Augusta / Pt Wakefield Rd	Port Augusta to Port Pirie	Single	82	3800	113983660	29	5	0.070576783	5.101874628	0.063682659	Low	200
		Port Pirie to Snowtown	Single	73	4100	108870375	39	6	0.107216495	7.164483451	0.096897339	Low-medium	157
		Snowtown to Port Wakefield	Single	50	3700	67119850	36	4	0.144869215	10.72707999	0.15228885	Medium-high	91
		Port Wakefield to Northern Exwy	Dual	68	9500	234992475	128	3	0.377748266	10.89396586	0.172716726	Medium-high	71

South Australia

Number	Highway	Section	Carriageway	Length	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National priority
A20	Sturt Hwy	Gawler Bypass to Daveyston	Single	16	10700	61941230	34	3	0.428751576	10.97814816	0.177892422	Medium-high	64
		Daveyston to Truro	Single	26	5050	47353093	21	2	0.163487738	8.869536873	0.126359103	Medium	123
		Truro to Blanchetown	Single	48	3400	59121240	20	0	0.083963056	6.765757958	0.089228827	Low-medium	166
		Blanchetown to Barmera	Single	88	3200	103111040	32	2	0.072496602	6.206900832	0.080110664	Low-medium	177
		Barmera to Berri	Single	15	3000	16282650	17	2	0.228648285	20.88112193	0.308348418	High	11
		Berri to Renmark	Single	12	8200	35407190	9	2	0.152155537	5.083713223	0.069709807	Low	192
		Paringa to VIC Border	Single	22	1950	15594443	2	1	0.018256504	2.565016351	0.022271137	Low	242
M1	South East Fwy	Crafers Interchange to Verdun Interchange	Dual	9	40800	136261800	60	2	1.31147541	8.806576752	0.214011609	High	41
		Verdun Interchange to Mt Barker Interchange	Dual	8	28400	84690220	10	2	0.244798042	2.361547768	0.036753732	Low	235
		Mt Barker Interchange to Tailem Bend	Dual	67	10300	252976755	45	5	0.133749443	3.55763912	0.045806586	Low	223
A8	Dukes Hwy	Tailem Bend to Keith	Single	126	4100	188110050	68	15	0.108194113	7.229810422	0.097935207	Low-medium	156
		Keith to Bordertown	Single	46	3400	56788160	11	0	0.048076923	3.874046984	0.043857493	Low	227
		Bordertown to VIC Border	Single	19	2400	16827960	6	0	0.062467465	7.13098914	0.092950994	Low-medium	160
M20	Northern Exwy	Waterloo Corner to Gawler	Dual	23	16645	139734775	17	0	0.175983437	2.896644051	0.039327258	Low	233

Western Australia

Number	Highway	Section	Carriageway	Length	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National priority
A1	North West Coastal Hwy	Karratha Rd to Great Northern Hwy	Single	182	800	53170280	40	1	0.043934318	14.98978768	0.207301211	High	45
A94	Great Eastern / Coolgardie Esperance / Eyre Hwy	Mundaring to The Lakes	Dual	11	10600	41456335	20	1	0.373308446	9.620570652	0.153613768	Medium-high	89
		The Lakes to Northam	Mixed	50	6200	114123090	43	6	0.170533413	7.509077936	0.106859707	Low-medium	143
		Northam to Southern Cross	Mixed	252	1500	137997375	97	14	0.076968855	14.08641125	0.196541143	Medium-high	53
		Southern Cross to Coolgardie	Single	184	1050	70452848	42	5	0.045694392	11.73290664	0.159454811	Medium-high	84
		Coolgardie to Norseman	Single	162	550	32609830	15	3	0.018468358	8.939618349	0.116201718	Medium	135
		Norseman to Cocklebiddy	Single	434	550	87105425	14	0	0.0064531	3.267971434	0.031716703	Low	237
		Cocklebiddy to SA Border	Single	283	550	56816265	8	0	0.005653311	2.862943165	0.025687886	Low	240
		Roe Hwy to Muchea	Single	37	7050	95081588	30	2	0.162381597	6.314848644	0.088636643	Low-medium	168
A95	Great Northern / Victoria Hwy	Muchea to Wubin	Single	254	1100	102093420	44	4	0.034607519	8.443020596	0.110130876	Low-medium	139
		Wubin to Meekathara	Single	402	550	80749680	39	2	0.019391408	9.320551845	0.121885069	Medium	126
		Meekathara to Newman	Single	421	550	84503705	27	1	0.012828432	6.557161933	0.080666842	Low-medium	176
		Newman to NW Coastal T/Off	Single	420	1100	168453340	26	6	0.012393937	3.020995589	0.028536518	Low	239
		NW Coastal T/Off to Sandfire Roadhouse	Single	240	600	52457070	17	4	0.014194464	6.364802439	0.077938298	Low-medium	180
		Sandfire Roadhouse to Broome T/Off	Single	331	450	54347040	20	2	0.012088975	7.527381603	0.094903609	Low-medium	158
		Broome T/Off to Fitzroy Crossing	Single	357	400	52189160	29	7	0.016225592	10.58420853	0.140257695	Medium	108
		Fitzroy Crossing to Halls Creek	Single	282	350	35970568	12	3	0.008523635	6.828194609	0.084327686	Low-medium	173
		Halls Creek to Kununurra T/off	Single	300	350	38372268	24	3	0.015980291	12.80164301	0.172907263	Medium-high	70

Western Australia

Number	Highway	Section	Carriageway	Length	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National priority
M1	Great Northern / Victoria Hwy	Kununnurra T/off to NT border	Mixed	83	450	13708305	16	4	0.038341721	22.16156325	0.312528325	High	10
M1	Forrest Hwy (Perth-Bunbury Hwy)	Pinjarra Rd, Mandurah to Old Coast Rd	Dual	38	13600	186224460	53	3	0.282553645	5.687873445	0.088672306	Low-medium	167
		Old Coast Rd to Binningup Rd	Dual	29	14500	153456038	36	6	0.248318676	4.687048837	0.071285983	Low	187
		Binningup Rd to Bunbury (Koombana Dr)	Dual	22	17750	141755050	65	4	0.594149909	9.179023169	0.164149026	Medium-high	80

Tasmania

Number	Highway	Section	Carriageway	Length	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National priority
M1	Midland Hwy	East Derwent Hwy to Shene Rd	Mixed	10	9400	33006220	5	1	0.24321503	7.072949249	0.106042611	Low-medium	144
		Shene Rd to Quoin Rd underpass	Single	18	7950	52318553	13	1	0.144204104	4.978323308	0.067543601	Low	196
		Quoin Rd underpass to Lower Marshes Rd	Single	22	4150	33309353	21	2	0.190995907	12.60299755	0.183485115	Medium-high	62
		Lower Marshes Rd to Sorell Springs Rd	Single	24	4550	40605338	19	0	0.155419223	9.389329441	0.133394405	Medium	116
		Sorell Springs Rd to Campbell Town	Single	37	4700	62924540	29	4	0.158124318	9.174445378	0.13043734	Medium	119
		Campbell Town to Evandale Main Rd	Mixed	56	6350	128982788	59	6	0.212039533	9.148507509	0.134215369	Medium	113
		Evandale Main Rd to Howick St	Dual	10	18900	72089325	82	0	1.56937799	22.75918763	0.439469411	High	7

Tasmania

Number	Highway	Section	Carriageway	Length	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National priority
M2/A2	Bass Hwy	Midland Hwy to Hagley Station St overpass	Mixed	36	9750	128292938	46	6	0.25520111	7.188044845	0.108663124	Low-medium	141
		Hagley Station St overpass to Railton Rd	Mixed	19	8200	57854690	23	3	0.237972064	7.94030274	0.118416399	Medium	128
		Railton Rd to Parramatta Creek	Single	17	7600	45798740	12	0	0.145366445	5.224507828	0.071260218	Low	190
		Parramatta Creek to Formby Rd underpass	Mixed	22	11900	97077225	50	2	0.447427293	10.32015659	0.169639559	Medium-high	75
		Formby Rd underpass to Forth River Bridge	Dual	12	14800	64878020	45	0	0.74937552	13.85253099	0.24497917	High	30
		Forth River Bridge to Knights Rd	Dual	11	17050	66153148	27	0	0.507996237	8.171023968	0.142650895	Medium	104
		Knights Rd to Nine Mile Rd	Dual	14	12500	63464375	27	1	0.388209921	8.498512381	0.138232787	Medium	110
		Nine Mile Rd to Stowport Rd	Dual	7	14700	40187595	67	1	1.789052069	33.35496781	0.612522734	High	2
A8	East Tamar Hwy	Alanvale Connector to Dalrymple Rd	Dual	20	4600	34318760	60	2	0.587084149	35.05775332	0.544863882	High	5
		Dalrymple Rd to Bell Bay Rd	Dual	22	4200	33741330	25	0	0.227169468	14.8256814	0.219022143	High	39
M1	Brooker Hwy	Berriedale Rd to Granton	Dual	8	27650	79224163	33	2	0.840764331	8.327177793	0.170628216	Medium-high	74
B52	Illawarra Main Rd	Midland Highway, Perth to Bass Hwy, Longford	Single	14	4200	21109410	19	1	0.275962237	18.03150304	0.270017024	High	16

Northern Territory

Number	Highway	Section	Carriageway	Length	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National priority
A66	Barkly Hwy	Stuart Hwy to Wunara	Single	280	250	25531750	21	0	0.015010722	16.66052184	0.229683631	High	36
		Wunara to QLD border	Single	155	250	14134625	10	0	0.012911556	15.42891698	0.211376959	High	43
A87	Stuart Hwy	Tiger Brennan Drive (Palmerston Interchange) to Livingstone (Cox Peninsula Rd)	Dual	28	12500	125560000	96	4	0.697674419	15.3132809	0.262510445	High	21
		Livingstone (Cox Peninsula Rd) to Pine Creek	Single	180	1450	95005668	90	11	0.100272965	18.85270793	0.268559088	High	18
		Pine Creek to Katherine (Emungalan Rd)	Single	88	1550	49548385	33	3	0.075359671	13.38529628	0.186087755	Medium-high	60
		Katherine (Uralla Rd) to Daly Waters	Single	270	900	88606305	44	5	0.032625218	9.713788699	0.128699593	Medium	121
		Daly Waters to Helen Springs	Single	259	400	37742460	24	6	0.018567947	12.4121597	0.167368842	Medium-high	76
		Helen Springs to Barkly Hwy	Single	118	400	17242600	17	1	0.028789162	19.78690793	0.276806476	High	13
		Barkly Hwy to Stirling	Single	282	450	46318500	43	6	0.030496454	19.64438183	0.274838438	High	15
		Stirling to Alice Springs (Dalgety Rd)	Single	249	800	72708000	67	5	0.053815261	18.50533517	0.259856666	High	22
		Alice Springs (Santa Teresa Rd) to Erdunda	Single	199	900	65269665	39	9	0.039257134	11.77458613	0.15957215	Medium-high	83
		Erdunda to SA border	Single	95	300	10406880	6	0	0.012626263	10.95395582	0.145427292	Medium	101
A1	Victoria Hwy	Katherine (Stuart Hwy) to Timber Creek	Single	286	450	46909800	44	8	0.030812325	19.26267196	0.269239245	High	17
		Timber Creek to WA border	Single	184	250	16770838	14	3	0.015234779	18.35493407	0.254663957	High	26

Australian Capital Territory

Number	Highway	Section	Carriageway	Length	Average vehicles per day	Vehicle kilometres travelled	Casualty crashes	Deaths	Collective risk	Individual risk	Combined risk	Combined risk rating	National priority
A25	Barton Hwy	NSW border to Bellenden St	Dual	12	12050	52779000	10	0	0.166666667	3.796632615	0.051867504	Low	214
A23	Federal Hwy	NSW border to Antill St	Dual	8	18500	54020000	4	0	0.1	1.480932988	0.012607233	Low	245



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