

The background of the entire page is a photograph of a two-lane asphalt road stretching into the distance. The sun is low on the horizon, creating a bright, golden glow and long shadows. A dark-colored SUV is driving away from the viewer on the right side of the road. The road is flanked by trees and greenery. In the bottom right corner, there is a white, abstract geometric shape that overlaps the road and sky.

Cox Region

Western Sydney & Blue Mountains

Rate Your Road report

March 2021

Director's address

In January 2019, the NRMA launched a report revealing a \$2.2 billion backlog in council funding to maintain local roads across NSW. Alongside the report, 'Rate Your Road' was born – a state-wide survey that asked NRMA Members and the community to rate the condition and safety of their local roads.

'Rate Your Road' attracted more than 23,000 responses, making it the largest transport survey in the state's history. Promising news shortly followed, with the NRMA's policies to address the local roads funding backlog adopted by both sides of politics prior to the 2019 NSW State Election. The NRMA's policies were designed to elevate the condition of local roads across the state to at least a satisfactory level to improve safety and assist in stimulating local economies.

In March 2019, the NSW Government committed \$1 billion to help clear the council funding backlog, replace NSW's worst timber bridges, and transfer up to 15,000 kilometres of council-owned regional roads to the state to lessen the financial burden on councils. In May 2020, the Federal Government announced a \$1.8 billion commitment to provide a much needed boost to road infrastructure focusing on regional roads as part of their COVID recovery package, proving our advocacy has a real impact on Government decision making.

This report presents the results of the 'Rate Your Road' survey for Western Sydney and the Blue Mountains (the Cox Region), which incorporates eight Local Government Areas (Blacktown, Blue Mountains, Canterbury-Bankstown, Cumberland, Fairfield, Liverpool, Parramatta and Penrith), and includes busy arterial roads such as Parramatta Road and the M4. Aside from gaining some intriguing insights, the full and public release of the NRMA's survey results will assist in guiding government investment.

If you were one of the tens of thousands who participated in Rate Your Road, thank you for contributing to this outcome.

David Berger

Director – Cox Region

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Introduction

The NRMA is a national leader in advocating for safer roads and better transport outcomes for NSW and the ACT. Prior to the 2019 NSW State Election, the NRMA undertook a comprehensive survey with the public, asking them to rate roads in their local area against a number of characteristics including safety, congestion, condition and public transport.

The rate your road survey was developed by the NRMA as a platform for the public to identify key roads for improvement. The basis of the survey was that 'no one knows the roads you use like you do' and the analysis may be considered to support all levels of government in guiding funding commitments.

We want to thank NRMA Members and the public for taking the time to respond to the survey. The responses we received were extensive and from right across the state, from Parramatta Road in Sydney, to Billybingbone Road in Gongolgon, The Snowy River Way in Dalgety, and Dolgelly Road in Garah.

About the NRMA

Better transport infrastructure has been a core focus of the NRMA since 1920 when our founders lobbied for improvements to the condition of Parramatta Road in Sydney. Independent advocacy was the foundation activity of the organisation and remains critical to who we are 100 years later.

The NRMA has grown to one of the largest tourism and transport companies in Australia, representing over 2.6 million Australians principally from NSW and the ACT. We provide motoring, transport and tourism services to our Members and the community.

Today, we work with policy makers and industry leaders to advocate for transport solutions that help solve key pain points such as congestion, access and affordability and connect people and communities. We're passionate about facilitating travel across Australia, recognising the vital role tourism plays in supporting regional communities.

By working together with all levels of government to deliver integrated transport and tourism options we can provide for the future growth of our communities and continue to keep people moving for generations to come.

Background

Regional and Local roads are the backbone of our transport system, making up approximately 80% of the national road network.

In 2019, the NRMA released its Funding Local Roads report which sought to address and quantify the infrastructure backlog on regional and local roads in NSW. Under the national funding system, local government is largely responsible for funding, upgrading and maintaining thousands of kilometres of roadways. The local government tends to fund road infrastructure through payable rates, and though there are grants from the state and federal government, a significant shortfall remains.

Passenger, and in particular freight traffic, has sharply increased in recent times, and the damage to the road tends to be exponentially correlated with the volume and weight of vehicles. The poor condition of roads increases wear and tear to vehicles, increasing servicing costs to the public, and further, poor roads can lead

to relatively hazardous driving conditions, potentially leading to higher crash rates, leading to property damage, injury and deaths.

In recent years, interstate and intrastate rail freight services have considerably declined due to competitiveness pressures, and with the ongoing drought, water and fodder are increasingly being moved on regional roads to support regional areas.

The NRMA's Funding Local Roads report outlined that in recent years, the funding backlog increased by almost 30% from \$1.73 billion in 2014-15, to \$2.2 billion in 2016-17, with regional Councils responsible for approximately 75% of the backlog.

Whilst this is part of a broader discussion, subsequent reviews into road use have highlighted that the current road funding environment is unsustainable. Most recently, Infrastructure Australia has stated that 'road use, funding and expenditure is not adequately linked', highlighting that the current status is 'inequitable', 'inefficient', 'unsustainable' and 'not transparent'.

The NRMA is committed to advocating on behalf of Members for a fairer funding and financing system for all road and transport users which is sustainable over the long term.

Bureau of Infrastructure, Transport and Regional Economics (BITRE)

The Bureau of Infrastructure, Transport and Regional Economics (BITRE) provides economic analysis, research and statistics on infrastructure, transport and regional development issues to inform government policy development.

In the 2018 yearbook produced by BITRE, the following is a summary of the road network, and the demands we place upon it.

In 2017-18, it is estimated that NSW drivers drove a collective 80 billion kilometres, up from approximately 30 billion kilometres in the early 1970s. ACT drivers drove a collective 4.2 billion kilometres in 2017-18, up from 900 million kilometres in the early 1970s.

The freight task of the roads has grown significantly faster. In the early-to-mid 1970s, the freight task was approximately 10 billion tonne kilometres in NSW and

0.2 billion tonne kilometres in the ACT. By 2015-16, BITRE estimated NSW had a road freight task of 62.8 billion tonne kilometres, and the ACT, 0.6 billion tonne kilometres in the ACT.

In 2015, it was estimated that NSW had a collective 207,187km of public road, of which 201,397km was paved. Similarly, in 2015, the ACT had 3,448km of roads, of which 3,348km are paved.

BITRE estimates that road funding in NSW increased from an average of approximately \$6 billion annually during the 2010s, to an average of approximately \$8 billion in recent years. The ACT had road funding of approximately \$200 to \$250 million annually across the last 15 years.

The headline and per capita fatality rate on the roads has steeply declined since the 1970s. In 1971, NSW recorded 1,249 road fatalities, decreasing to 392 in 2017. On a per capita basis, the fatality rate dropped from 26.4 fatalities/100,000 population to five fatalities/100,000 population. Similarly, in the ACT, in 1971, the fatality rate was approximately 15 fatalities/100,000 population, decreasing to 2.5 fatalities/100,000 population during the 2010s.

NRMA regions

NRMA has divided NSW and the ACT into six regions, with each region represented by an NRMA Director.

Region	Area	Area (km ²)	Population
Cox	Western Sydney and the Blue Mountains	2,718	1,801,605
Harbour	Sydney's metropolitan north, the Eastern Suburbs and the Inner West	599	1,522,003
Hoddle	Sydney's metropolitan south, the Illawarra and the South Coast	18,894	1,221,800
Howe	Sydney's northern suburbs, the Central Coast and the Hunter	30,104	1,385,792
Mann	ACT and southern regional and rural NSW	244,497	1,056,053
Townsend	Northern regional and rural NSW, including Northern Tablelands, North Coast and Far North West NSW	498,144	858,429



Cox Region

Western Sydney & Blue Mountains

Cox overview

Blacktown

Fairfield

Blue Mountains

Liverpool

Canterbury-Bankstown

Parramatta

Cumberland

Penrith

Cumulatively, these regions cover an area of 2,718 square kilometres and are home to 1,801,605 residents as of the 2016 census. For the purposes of this report, a 'pin' is a point that a survey respondent identified for the purposes of completing the survey. More than 4,000 pins were dropped in the Cox region.

Centre for Road Safety

Based on the Centre for Road Safety, the following table identifies the number and types of crashes for the LGAs between the beginning of 2014 and the end of 2018 within the Cox region:

LGA	2014-2018 Crash History			
	Fatal Crashes	Injury Crashes	Non-injury Crashes	Total Crashes
Blacktown	25	3,291	2,299	5,615
Blue Mountains	8	732	471	1,211
Canterbury-Bankstown	33	5,249	2,717	7,999
Cumberland	27	3,439	1,757	5,223
Fairfield	32	2,784	1,424	4,240
Liverpool	24	2,915	1,517	4,456
Parramatta	27	3,274	1,937	5,238
Penrith	31	2,045	1,265	3,341
Total Cox	207	23,729	13,387	37,323

The above table is a staggering reminder of the societal cost of road trauma. In the Cox region, 207 people crashes resulted in someone losing their life, and there were more than 23,700 crashes resulting in injury. The economic cost of these accidents is also significant, in 2019, TfNSW estimated that the economic cost of

a fatal crash in NSW was \$8.586 million, a serious injury resulting in hospitalisation cost approximately \$500,000, a moderate/minor injury crash cost approximately \$90,000 and a property damage only crash cost \$10,000. Based on this, in the Cox region, the cost of road trauma aggregated to approximately \$7 billion.

Rate Your Road data collection

Data collection ran for approximately one month between January 2019 and February 2019 with members and the broader public encouraged to participate through NRMA media and communication channels. The survey was run through a dedicated website www.rateyourroad.com.au, with more than 23,000 surveys fully completed.

The survey asked respondents for their residential postcode, the road they wanted to rate, the condition, congestion, safety and public transport on the basis of

very poor, poor, average, good or excellent. The survey also allowed people the opportunity to input a free text comment. Finally, the survey asked respondents to identify their age bracket.

Survey Participation

In terms of summarising participation in the survey on an area and per capita basis, the following table shows a summary.

LGA	Area km ²	Population (2016 census)	Density (ppl/km ²)	Road length (sealed & unsealed)	Pins	Pins/100 km ²	Pins / 1,000 population	Pins/popn/area X 1,000,000	Pins/100 km of road
Blacktown	247	336,962	1,364	1901.9	655	265.18	1.94	7.87	34.4
Blue Mountain	1432	76,904	54	1119.7	330	23.04	4.29	3.00	29.5
Canterbury-Bankstown	72	346,302	4,810	1153.3	716	994.44	2.07	28.72	62.1
Cumberland	72	216,079	3,001	775.7	184	255.56	0.85	11.83	23.7
Fairfield	102	198,817	1,949	841.8	100	98.04	0.50	4.93	11.9
Liverpool	306	204,326	668	1242.4	1066	348.37	5.22	17.05	85.8
Parramatta	82	226,149	2,758	882.5	991	1,208.54	4.38	53.44	112.3
Penrith	405	196,066	484	1458.9	399	98.52	2.04	5.02	27.3

Parramatta had the most pins by an area metric, and Liverpool had the most pins by a population metric. Similarly, Parramatta had the most pins per km of road. Fairfield was the most poorly represented area for responses across a range of metrics.

LGA assessment

To commence with a strategic assessment, the specific location of the pin was disregarded and considered only by the Local Government Area that pin was

located in. This allows a broad comparison between the various local government areas. The results are as follows:

LGA	Condition Score	Condition Ratings	Congestion Score	Congestion Ratings	Safety Score	Safety Ratings	Public Transport Score	Public Transport Rating
Blacktown	52.04	574	47.27	549	47.34	574	58.77	600
Blue Mountains	56.82	291	54.61	272	45.74	279	60.26	294
Canterbury-Bankstown	49.75	655	41.70	602	46.87	612	60.46	673
Cumberland	56.50	154	44.75	154	48.79	151	56.10	164
Fairfield	55.43	83	42.93	85	53.44	78	56.58	86
Liverpool	50.47	1,021	44.58	942	45.35	986	50.89	1,011
Parramatta	54.20	892	43.85	787	49.78	816	63.04	897
Penrith	53.91	370	48.52	335	49.54	355	49.87	357
Cox Region Average	53.02	4,040	45.84	3,726	48.01	3,851	57.72	4,082
Survey Average	48.92	22,580	49.54	21,521	44.92	21,955	-	-

Within the Cox region, Canterbury-Bankstown tends to have the roads in the poorest perceived condition. In contrast, Blue Mountains and Fairfield tend to have the roads in the best perceived condition.

The Blue Mountains has the lowest level of congestion for the Cox region. In contrast, Canterbury-Bankstown and Fairfield have the greatest perceived congestion.

Fairfield and Parramatta were reported as having the roads with the greatest perceived safety, whilst Liverpool and the Blue Mountains were reported as having roads which are perceived as the least safe.

Parramatta and Canterbury-Bankstown were reported have the most satisfaction around public transport services, whilst the areas of Penrith and Liverpool reported the greatest dissatisfaction with public transport services.

When comparing the averages to the state, roads in the Cox region tend to be reported in a better condition, are more congested, and tend to be perceived safer than the state average. The public transport score reported in the Cox region is far lower than what is reported in the Harbour region.

Road specific

Whilst a high level assessment is beneficial in that it allows a macro-comparison, the survey allowed individuals to highlight and rate a specific section of road. 9 roads

received at least 100 votes, accounting for 43% of votes. Roads which received at least 25 votes are outlined below (accounting for 67% of votes in the region).

Road	Condition Score	Congestion Score	Safety Score	Public Transport Score
Camden Valley Way	61.6	38.6	47.4	63.0
Canterbury Road	43.6	35.0	42.1	48.1
Cowpasture Road	68.1	30.0	61.8	48.2
Dunheved Road	54.8	38.5	50.0	52.0
Great Western Highway	57.0	46.9	51.8	53.0
Hawkesbury Road	57.4	40.3	47.9	50.1
Heathcote Road	46.8	53.3	52.4	47.9
Henry Lawson Drive	53.8	44.0	51.1	68.6
Hill Road	56.3	51.9	52.6	46.1
Homebush Bay Drive	57.6	34.5	51.8	58.5
Hume Highway	62.8	31.1	51.1	56.6
James Ruse Drive	68.3	56.2	62.1	55.4
King Georges Road	58.8	23.6	57.8	67.3
Luxford Road	49.7	53.8	55.1	46.5
Mulgoa Road	44.2	23.8	44.0	48.4
Old Windsor Road	56.8	36.1	64.1	75.5
Parramatta Road	44.8	26.5	46.1	61.1
Prospect Highway	50.2	34.5	50.8	55.4
Richmond Road	55.8	27.1	43.1	41.6
South Western Motorway	70.0	30.8	58.7	50.5

Road	Condition Score	Congestion Score	Safety Score	Public Transport Score
Stacey Street	48.9	25.3	46.7	59.4
Sunnyholt Road	39.3	33.9	53.6	69.9
The Northern Road	50.9	43.6	45.2	54.1
Victoria Road	65.0	52.7	61.7	44.1
Wallgrove Road	60.6	25.0	45.0	36.8
Western Motorway	55.9	41.8	55.4	46.7
Windsor Road	62.0	28.4	51.3	59.7
Woodville Road	54.5	37.1	45.2	55.5
Average of all Cox Responses	53.0	45.8	48.0	57.7

Of these roads, the M5 South Western Motorway was reported to have the best condition, with other arterial roads including Victoria Road, James Ruse Drive and Cowpasture Road all also reported to be in good condition. Roads reported to be in poor condition included Canterbury Road, Stacey Street, Heathcote Road and Parramatta Road to name a few.

Parramatta Road, Henry Lawson Drive and King Georges Road are roads identified to have good public transport services, whilst roads such as Hill Road and Richmond Road are identified as areas with comparatively poor public transport services.

Other assessments

Determining whether there are patterns in the outputs may support the validity of the data. The condition, congestion, safety and public transport scores were tested for their correlation to determine if there are underlying relationships between the outputs. The r-squared was calculated for the relationships between the categories.

This is reported as a number between 0 and 1. 0 indicates that there is an absence of a relationship between data points, whilst a value of 1 means that there is a perfect relationship between data points.

	Condition	Congestion	Safety	Public Transport
Condition				
Congestion	0.0007			
Safety	0.559	0.028		
Public Transport	0.0017	0.0461	0.0179	

There is a moderate correlation between the perceived condition of a road, and its perceived safety (0.559). In other words, where the condition of the road is perceived as poor, its safety will also be perceived poorly. In contrast, where the

condition of the road is perceived as good, its safety will also be perceived as good. In simplistic terms, the 0.559 output means that 55.9% of variation in the perceived safety of the road can be explained by (attributed to) its condition.

Local streets

It is acknowledged the public did take time to nominate issues that they have with their local streets. As a result of this, the following table highlights a small random selection of local roads and the qualitative comments which were made with them.

Street	Suburb	Comment, verbatim
Cabramatta Road	Bonnyrigg	<ul style="list-style-type: none"> • Four lanes but always parked cars creating traffic and dangerous driving with people trying to get out • Too many parked cars
Newton Road	Blacktown	<ul style="list-style-type: none"> • Every time it rains the road brakes up when repaired it is only ever a patch up job
Victory Street	South Penrith	<ul style="list-style-type: none"> • Not a problem just no concrete footpath
Luxford Road	Lethbridge Park	<ul style="list-style-type: none"> • Lots of pot holes that get temperley fixed time and time again. Whole road needs to be completely redone not just a patch up job.
Lurline St	Katoomba	<ul style="list-style-type: none"> • Needs tree line and speed humps to slow down the tourist buses
Sun Valley Road	Sun Valley	<ul style="list-style-type: none"> • This road was resurfaced in 1992. It has been in worse condition than then for about 10 years.
Glenhaven Road	Glenhaven	<ul style="list-style-type: none"> • This road is gaining increasing traffic almost to "highway" status. It is too narrow and has an uneven surface. In places the pedestrians must walk beside the roadway as there are no pathways and this is plain dangerous. • The intersection with Bannerman Road causes significant delays during school hours. There is far too much traffic for a roundabout to operate effectively.

Street	Suburb	Comment, verbatim
Govetts Leap Road	Blackheath	<ul style="list-style-type: none"> Govetts Leap Road is in need of a resurfacing along the Section between Boreas Street and McLaren Crescent which is rather rough . It had been done some possibly 3 to 5 Years ago but was only done with loose Hot Bitumen over I think Gravel which then did not do the Road or in fact our Cars much good with the Tar sticking onto the Tyres and the loose Stuff coming up underneath. As I have seen of recent upgrades around Blackheath and Katoomba that have been done they have used the correct method and the Sections that are finished are really nice and smooth. I have written letters into the local Council about Govetts Leap Road but just seem to get ignored. I hope that perhaps this may be taken notice of Also around our Residential Area there are many side Roads in bad need of maintenance Thank You
Birnie Avenue	Auburn	<ul style="list-style-type: none"> Lots of small pot holes massive bumps from land movement unsealed roads heaps of rocks left on the road from passing trucks
Pembroke Road	Minto	<ul style="list-style-type: none"> Too narrow. Too many potholes

Cost of road trauma

Costs of road trauma were analysed using Centre for Road Safety data and Economic Parameter values established by Transport for NSW.

The Centre for Road Safety statistics are reported by LGA and cover the 5 years from the beginning of 2014 to the end of 2018. It is important to be cognisant that these figures represent only the reported crashes, and that over the years, reporting requirements around minor crashes have evolved.

The Economic Parameter Values handbook, aggregates the total economic costs of different types of road crashes, and includes all costs associated with an accident

including (for example), emergency response, hospital care, rehabilitation costs and crash accident research reporting and loss of economic productivity. The costs are generally summarised as follows:

• Fatal Accident	\$8,586,767
• Serious Injury Accident	\$574,265
• Moderate Injury Accident	\$97,512
• Minor Injury Accident	\$89,313
• Non-Injury Accident (Towaway only)	\$10,338

LGA	Deaths	Serious Injury	Moderate Injury	Minor Injury	Towaway	Cost of Trauma (\$)	Cost of Trauma/person (\$)	Cost of Trauma/km (\$)	Cost of trauma/person/km (\$)
Blacktown	25	821	1337	1133	2299	941,472,975	2,794	495,025	1.47
Blue Mountains	8	218	378	136	471	247,759,208	3,222	221,282	2.88
Canterbury-Bankstown	33	1345	1877	2027	2717	1,447,905,557	4,181	1,255,421	3.63
Cumberland	27	758	1312	1369	1757.0	935,504,686	4,329	1,206,074	5.58
Fairfield	32	663	1052	1069	1424	868,293,772	4,367	1,031,456	5.19
Liverpool	24	813	1088	1014	1517	885,299,037	4,333	712,590	3.49
Parramatta	27	708	1160	1406	1937.0	897,135,033	3,967	1,016,571	4.50
Penrith	31	591	948	506	1265	756,291,716	3,857	518,382	2.64

Cost of road trauma continued:

The headline cost of trauma varies in the Cox region from nearly \$1.5 billion in Canterbury-Bankstown, to around \$250 million in the Blue Mountains, with an aggregated cost of \$7 billion. There is significant variance of these due to the population and size of the road network of the respective LGAs.

But on average, the cost of road trauma is approximately \$870 million per LGA (median of \$890 million).

When adjusted per head of population, each LGA is in a much narrower band of approximately \$3,000 to \$4,500 per person. It is also important to remember that LGAs such as Parramatta have a significant number of people who are employed within it, but might not be a resident for the purposes of population.

Some LGAs might have a disproportionately large or small road network, and a road trauma cost/km may be beneficial. On average, each kilometre of road network has around \$1 million worth of road trauma.

Adjusting for both population and road network size might be considered a pseudo-equitable outcome. On this specific metric, the Blacktown LGA represents the 'safest' LGA in the NRMA Cox region, with a road trauma cost of \$1.47/person/km. In contrast, Cumberland is the 'least safe' LGA, with a road trauma cost of \$5.58/person/km. At a headline level, Canterbury-Bankstown has the highest level of trauma, but as it is the largest metropolitan Council and one of the largest populations, after normalising for this difference, it is broadly in line with the other LGAs in the Cox region.

