RAA

Advocating for SA

Risky Roads 2024 survey results

Report – March 2025

RAA at a glance

South Australia's largest
member-owned
organisation

Advocating for South Australians for
122 years

826k+
current members
(67% of SA adults)

630k+
South Australian homes and cars insured

1,200+
staff employed across SA

344k+
roadside rescues per year

60,000+
uses of the MyRAA app fuel feature per month

14,000+
solar panels installed per year

40,000+
Holidays booked per year

33,000+
school students educated on road safety each year

9,500+
child restraints fitted or checked each year

$874k+
per year invested in community grants and sponsorships

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Verbatim survey responses quoted throughout this report are the views of individual survey respondents and do not necessarily reflect the views held by RAA.

Thank you

RAA would like to thank our members and local communities who have provided valuable feedback and commentary to inform this report. RAA also thanks the South Australian Department for Infrastructure and Transport for their provision of open-source data and continued engagement with RAA Risky Roads surveys.

Contents

Acknowledgement of Country

We acknowledge and respect Aboriginal peoples as the state's first peoples and nations, and recognise them as traditional owners and occupants of land and waters in South Australia.

Further, we acknowledge that the spiritual, social, cultural and economic practices of Aboriginal peoples come from their traditional lands and waters, that they maintain their cultural and heritage beliefs, languages and laws which are of ongoing importance, and that they have made and continue to make a unique and irreplaceable contribution to the state.

Executive Summary

The 2024 Risky Roads report is the fifth since the program's launch in 2013, giving South Australians a voice to highlight unsafe or difficult roads and intersections. By pinpointing high-risk locations, the survey informs RAA's advocacy for crucial road upgrades and maintenance across metro and regional networks.

The 2024 survey results contribute to *South Australia's Road Safety Strategy to 2031*, which aims to reduce lives lost on the road by 50% and serious injuries by 30% by 2031. By highlighting key risk areas, RAA continues to push for improvements that align with these ambitious road safety goals.

Between 4 November and 6 December 2024, RAA collected 1,840 nominations from road users across South Australia. Road maintenance was the most frequently raised issue for the top 10 metropolitan and regional roads, followed by concerns about road capacity, particularly in Adelaide's northern suburbs. Intersection nominations largely focused on design issues, capacity constraints, and sight distance challenges.

The survey allowed South Australians to nominate up to 10 roads or intersections through an online platform, phone, or email submission. To ensure broad community participation, RAA promoted the survey via media releases, *samove* print magazine and e-news, and RAA's social media channels.

A new methodology for collating Risky Roads nominations was introduced in 2024. Unlike previous years, where road and intersection nominations were considered separately, this year's approach incorporates nominations for intersections (other than the top 10) along a corridor into the total count for that corridor. This adjustment provides a more comprehensive assessment of road safety concerns along each of the corridors discussed within this report.

The 2024 Risky Roads survey reinforces the urgent need for targeted road safety improvements and aligns with RAA's key advocacy priorities, including:

- Increasing the annual road maintenance budget and improving transparency in spending
- Progressing the duplication of South Australia's national highways to improve safety and efficiency
- Upgrading roads and intersections in the northern suburbs to address growing traffic demand

The 2024 Risky Roads survey highlights critical road safety concerns across South Australia and serves as an essential tool for driving infrastructure improvements. By advocating for targeted upgrades, RAA continues its commitment to reducing road trauma and ensuring safer journeys for all road users.

RAA urges all levels of government to consider these findings and take action to address South Australia's most dangerous roads and intersections. The top 10 metropolitan roads, regional roads and intersections nominated by South Australians are presented on the following page.

South Australia's top 10 Risky Roads

Our Risky Roads survey gives South Australians a voice on road safety by identifying key trouble spots across the state through community nominations of risky roads and intersections.

Top 10 metro Risky Roads

1	**Curtis Road**	Road capacity, intersection safety
2	**Main North Road**	Maintenance, road capacity, intersection safety
3	**Black Top Road**	Maintenance
4	**Greenhill Road**	Maintenance, cyclist safety, driver behaviour
5	**Dalkeith Road**	Maintenance, intersection safety
6	**Womma Road**	Maintenance, road capacity, intersection safety
7	**Port Wakefield Highway**	Intersection safety
8	**North East Road**	Intersection safety, road geometry
9	**Brighton Road**	Intersection safety, maintenance, road capacity
10	**Marion Road**	Maintenance, intersection safety

Top 10 regional Risky Roads

1	**Victor Harbor Road**	Maintenance, road capacity, road geometry
2	**Main South Road**	Maintenance, road capacity, road geometry
3	**Main Road** McLaren Vale	Intersection safety, maintenance
4	**Shacks Road**	Maintenance, speed limit
5	**Sturt Highway**	Maintenance, road capacity
6	**Southern Ports Highway**	Maintenance
7	**Goolwa Road**	Maintenance, road capacity, intersection safety
8	**Horrocks Highway** Gawler to Clare	Maintenance
9	**Inman Valley Road**	Maintenance, road geometry, speed limit
10	**Barossa Valley Way**	Maintenance, intersection safety

Issues raised

Cyclist safety · Driver behaviour · Intersection capacity · Intersection design · Intersection safety · Maintenance · Pedestrian safety · Road capacity · Road geometry · Sight distance · Speed limit

South Australia's top 10 Risky Roads

Top 10 risky intersections

1	**Curtis Road/ Heaslip Road** Angle Vale	Intersection capacity, intersection design
2	**Andrews Road/ Curtis Road** Munno Para West	Intersection capacity, intersection design
3	**Angle Vale Road/ Dalkeith Road/ Andrews Road** Munno Para Downs	Intersection capacity, intersection design
4	**Blackwood Roundabout** Blackwood	Intersection design
5	**Bull Creek Road/ Paris Creek Road** Meadows	Sight distance
6	**Penfield Interchange/ Northern Expressway (Womma Road/ Heaslip Road)** Penfield	Intersection capacity, intersection design
7	**Britannia Roundabout** Adelaide	Intersection design
8	**Airport Road/ Caroona Road** Port Augusta West	Sight distance
9	**Fullarton Road/ Kitchener Street/ Claremont Avenue** Netherby	Intersection capacity, intersection design
10	**Main Road/ Sturt Avenue** Blackwood	Sight distance, pedestrian safety, intersection design

Crash data for top 10 Risky Roads and intersections (2019–23)

3551 minor injuries

545 serious injuries

77 lives lost

Most common FSI* crash types on the top 10 metro roads

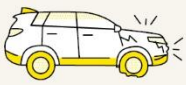
Right angle **20%**

Hit fixed object **18%**

Right turn **16%**

Most common FSI* crash types on the top 10 regional roads

Head on **15%**



Right angle **13%**

Hit fixed object **13%**

Most common crash types at the top 10 intersections

Right angle **51%**

Right turn **22%**

Rear end **16%**

Total Risky Roads nominations

1,840

1,140 for roads

700 for intersections

Total roads nominated:

346 roads and **378** intersections received at least one nomination

*FSI refers to crashes resulting in at least one fatality or serious injury

DP2425-3637

Notes

Crash data

Unless otherwise specified, South Australian crash data quoted within this report is sourced from the Road Crash Data dataset uploaded by the Department for Infrastructure and Transport on the Data SA website[1]. Crash data in this report mostly covers the ten-year period between 2014 and 2023 for long-term trends and looks at the most recent five-years of data (2019-2023) for further crash trend analysis.

Casualty crashes are defined as a crash where at least one person is injured or killed as a result of the crash.

Property damage only crashes have not been considered in most of the crash data analysis within this report, however, due to the discrete locations of intersections and the typically smaller datasets available, these have been considered to determine any underlying crash trends at intersections.

Units within the road crash database include animals and objects, but for the purpose of analysing the units involved in crashes, only human controlled units are considered unless otherwise specified.

Abbreviations used when referring to crash data throughout this report include:

- **PDO**: *Property damage only* – A crash where a vehicle is towed away from the crash, or the crash involves a motorcycle, quad bike, scooter, bicycle, pedestrian, train/tram, heavy vehicle or bus – resulting in no injuries to persons involved.
- **MI**: *Minor injury* – A crash where the most severe injuries sustained by at least one person are minor (i.e treated by private doctor or at hospital but not admitted).
- **SI**: *Serious injury* – A crash where the most severe injuries sustained by at least one person are serious (i.e admitted to hospital with overnight stay).
- **FSI**: *Fatality or serious injury* – A crash where the injuries sustained by at least one person are serious (i.e admitted to hospital with overnight stay) or fatal.
- **SVROR**: *Single vehicle run off road* – A crash type that typically involves a single vehicle departing the road being involved in a crash. These crash types include ‘hit fixed object’, ‘roll over’, ‘left road – out of control’ and ‘hit parked vehicle’.

Traffic volume data

Unless otherwise specified, recent traffic volume data quoted within this report is sourced from the Traffic Volumes dataset uploaded by the Department for Infrastructure and Transport on the Data SA website[2]. Traffic volume data quoted is from the most recent year available, however at times, this can be several years out of date.

Generally, this traffic volume data is only available for the state-maintained road network and is presented as average annual daily traffic (AADT). This is the sum of traffic travelling in both directions on a two-way road over the period of one year, divided by the number of days in the year. AADT provides a useful snapshot of the average volume of traffic on a road section. However, due to its nature as an annual average, it does not represent seasonal fluctuations which

[1] Data SA, Road Crash data, accessed at <https://data.sa.gov.au/data/dataset/road-crash-data>.

[2] Data SA, Traffic Volumes, accessed at <https://data.sa.gov.au/data/dataset/traffic-volumes>.

can be prevalent due to popular tourism and agricultural seasons throughout a region, where daily passenger and heavy vehicle traffic volumes can be several times higher than an AADT figure would otherwise imply.

AusRAP star ratings

AusRAP star ratings for roads are mentioned throughout this report. The AusRAP star rating system, a subsidiary of the International Road Assessment Program (iRAP), assesses key criteria to establish the safety rating of a road from one to five stars with the latter representing the safest. AusRAP star ratings are based on the international iRAP model which estimates an average 40% reduction in fatal and serious crashes for each incremental increase in star rating[3].

Table 1: Estimated reduction in fatalities and serious injuries with increases in AusRAP star rating (iRAP, 2020).

Star rating	Relative proportion of fatalities and serious injuries
1	1
2	0.6
3	0.36
4	0.216
5	0.1296

RAA advocates for all regional highways to be maintained/upgraded to achieve a minimum AusRAP star rating of three stars to reduce the number of lives lost and serious injuries on South Australian roads and has long been advocating for these ratings to form key metrics of state and national road safety planning. This has recently been acknowledged in both the South Australian (2022 – 2031) and National (2021 – 2030) road safety strategies, where a national target of 80% of travel on national highways and high-speed roads (80km/h or above) has been set.

A key outcome of the *South Australian Road Safety Action Plan 2023 – 2025* is to measure the annual share of the regional road network that has an improvement in star rating, with the 2023 annual report indicating that 1% (130km) of the state's regional road network had seen a star rating increase in the 12 months prior to the report. Furthermore, the report indicated that 43% of travel on national highways and high-speed roads (≥ 80km/h) covering 80% of travel were recognised as three stars or better.

[3] iRAP, 2020, *The Business Case for Safer Roads*, <https://www.vaccinesforroads.org/business-case-for-safer-roads/>.

Introduction

Background and objectives

In November 2024, RAA launched its fifth Risky Roads survey, building on the success of previous surveys conducted in 2013, 2017, 2019, and 2021. The survey plays a crucial role in identifying problematic roads and intersections across South Australia by gathering insights directly from road users.

Since its inception in 2013, the Risky Roads initiative has provided a platform for drivers, cyclists, pedestrians, and other road users to nominate roads and intersections they find confusing, difficult to navigate, or unsafe. These nominations highlight areas of concern in both metropolitan and regional road networks, offering valuable real-world perspectives on road safety issues.

The survey's findings are instrumental in shaping RAA's advocacy efforts. By pinpointing high-risk locations, RAA can push for necessary upgrades and maintenance, working with government and transport authorities to improve road conditions and overall safety. The data collected also supports long-term infrastructure planning by identifying trends and recurring issues over time.

The Risky Roads initiative aligns with South Australia's Road Safety Strategy 2031, which aims to reduce lives lost in crashes by 50% and serious injuries by 30% by 2031. By identifying and addressing hazardous roads and intersections, the survey directly supports efforts to enhance road infrastructure, mitigate risks, and prevent crashes in line with this strategy. Through the Risky Roads survey, RAA continues to provide a strong voice for the community, helping influence road safety improvements that contribute to achieving these ambitious targets, ultimately making South Australia's roads safer for all users.

Methodology

RAA conducted an online survey allowing South Australians to nominate up to 10 risky roads or intersections. In addition to the online platform, respondents could submit nominations via phone or email directly to RAA's Road Safety team.

The survey opened on Monday, 4 November 2024, and nominations were collected and collated until Friday, 6 December 2024.

To ensure broad community participation, the survey was promoted through an RAA media release and news outlets, the *samove* print magazine, e-news, and RAA's social media channels.

Progress on 2021 results

Significant improvements have been made to most of the top 10 metro roads nominated in the 2021 Risky Roads survey. This includes substantial maintenance works on roads like North East Road, Main North Road and Glynburn Road, and extends to extensive upgrades such as the Main South Road duplication and Main Road (Coromandel Valley – Chandlers Hill) upgrades.

Table 2: Progress on top 10 metropolitan roads raised in the 2021 Risky Roads survey

Rank	Top 10 metro roads in 2021	Upgrades/commitments since 2021	Nominations	
			In 2021	In 2024
1	Main South Road (Aldinga - Sellicks Beach)	The condition of the surface between Aldinga and Sellicks Beach was highly raised, with respondents also calling for already duplication work to be undertaken. Short-term pavement rehabilitation works were undertaken in late 2021, and at the time of writing, duplication works between Aldinga and Sellicks are underway.	224	0*
2	Main Road (Coromandel Valley - Chandlers Hill)	Main Road received a substantial upgrade as part of the $150m Adelaide Hills Productivity and Road Safety Package. This upgrade substantially improved safety by improving surface, widening shoulders and curves, and adding safety barriers.	38	0*
3	Main North Road (Gepps Cross to Gawler)	Pavement rehabilitation at Gepps Cross (December 2023), between Hogarth Road and The Grove Way (completed April 2022), and between Mawson Lakes and Pratt Avenue (completed August 2022) addressed key maintenance concerns raised in the 2021 survey. Capacity concerns and maintenance issues north of Elizabeth have not yet been addressed.	30	59
4	Glynburn Road (Payneham Rd - Magill Rd)	Resurfacing works between Payneham Road and Magill Road were completed in July 2022	23	0*
5	Kings Road	A planning study has been undertaken for Kings Road corridor and the level crossing in Parafield.	16	15
6	South Eastern Freeway	Pavement rehabilitation was completed in September 2022 at four locations between Bridgewater and Callington, addressing key areas of concern. The $200m managed motorway project between Crafers and Glen Osmond is expected to commence in 2026.	14	10
7	Greenhill Road (Burnside – Summertown)	RAA are not aware of any substantial works to occur on this section of Greenhill Road since our 2021 survey.	14	26
8	Heaslip Road	City of Playford upgraded footpaths, kerbing and drainage between Angle Vale Road and Woodbridge Drive, with completion in December 2023. In 2022, maintenance works were completed on the southern end of the road, immediately north of Waterloo Corner Road.	13	15
9	North East Road	Multiple resurfacing projects were undertaken between Hancock Road and Sudholz Road in 2022 to address the primary maintenance concerns raised in the 2021 survey.	12	0*
10	Grand Junction Road	Resurfacing works were completed between Sudholz Road and North East Road in April 2022, and between Sudholz Road and Hampstead Road in September 2022.	12	13

** These roads received nominations for other reasons, but no nominations for the primary issue raised in the 2021 survey.*

Improvements or funding commitments have been made for each of the top 10 regional roads nominated in the 2021 Risky Roads survey. These include major packages of work such as the Horrocks Highway upgrade and the Princes Highway Corridor Upgrade Package, as well as commitments to upgrade and undertake maintenance works on corridors such as Southern Ports Highway and Torrens Valley Road.

Table 3: Progress on top 10 regional roads raised in the 2021 Risky Roads survey

Rank	Top 10 regional roads in 2021	Upgrades/commitments since 2021	Nominations	
			In 2021	In 2024
1	Southern Ports Highway (Beachport to Millicent)	$2.09m of maintenance works were undertaken in 2023/24 including three sections totalling 8.3km. These sections included 2.4km at Mullins Swamp (incl Southend Access Rd turn-off), 3.1km between Lake Frome and Rendelsham, and 2.8km between McCall Rd and Bowman Rd in Millicent. In September 2024 $18.3m was pledged from the $168m Road Safety Program to undertake 30km of rehabilitation and repair works incorporating safety upgrades including road widening, line marking and safety barriers. This work is expected to begin in mid-2025, with completion by mid-2026.	61	19
2	Horrocks Highway (Gawler to Rhynie)	Substantial upgrades have been made since 2021 including shoulder sealing, pavement rehabilitation, barrier upgrades and overtaking lanes.	49	17
3	Upper Yorke Road (Arthurton to Kulpara)	At the time of writing, Upper Yorke Road is receiving a substantial upgrade between Arthurton and Kulpara to widen lanes, seal shoulders and improve line marking, which will increase the AusRAP star rating of this section from one to three stars.	35	2
4	Victor Harbor Road	Duplication of Victor Harbor Road between Main South Road and McLaren Vale was completed in 2024. Some minor maintenance works have been completed along the corridor, however, the previously announced overtaking lane between Mount Compass and Victor Harbor has not gone ahead due to community and environmental concerns.	28	77
5	Princes Highway	The Princes Highway Corridor Upgrade Package delivered new overtaking lanes along the corridor including along the Coorong, between Kingston and Millicent, between Millicent and Mount Gambier and between Mount Gambier and the Victorian border. Works also included pavement rehabilitation, intersection upgrades, rest area upgrades and line marking improvements.	27	14
6	Owen Road	Pavement rehabilitation works were completed between Horrocks Highway and Hamley Bridge in January 2023.	22	2
7	Inman Valley Road	Three kilometres of resurfacing and reconstruction was completed in October 2024 between Torrens Vale Road and Bald Hills Road, incorporating new line marking and safety barriers.	20	16
8	Long Valley Road	$6.6 m in upgrades were completed by mid-2022, which included localised road widening, shoulder sealing, intersection treatments, safety barriers, sight distance improvements, and two new overtaking lanes.	20	3
9	Torrens Valley Road	An upgrade between Houghton and Gumeracha is being planned under the $150m Adelaide Hills Productivity and Road Safety package, however, further details are limited at the time of writing.	13	3
10	Goolwa Road	Safety barriers and audio tactile line marking will be installed as part of $10m in state funding over four years to improve five regional roads.	12	17

Six of the top 10 intersections nominated in the 2021 survey have had improvements or commitments made to improve the safety or condition of the intersection. The $30m commitment to install a dual-lane roundabout at the intersection with Curtis Road and Heaslip Road is a highlight of these upgrades, as is the upgrade at the intersection with Hindmarsh Tiers Road in Hindmarsh Valley.

Table 4: Progress on top 10 intersections raised in the 2021 Risky Roads survey

Rank	Top 10 intersections in 2021	Upgrades/commitments since 2021	Nominations	
			In 2021	In 2024
1	Curtis Road and Heaslip Road (Angle Vale)	A dual-lane roundabout was first announced for this intersection in 2022 in the lead-up to the 2022 state election. This upgrade was subsequently reviewed as part of the Northern Adelaide Transport Study, and on 24 November 2024, while the 2024 Risky Roads survey was still open, $30m in federal and state government funding was announced, with construction expected to commence in 2025.	23	41
2	Britannia Roundabout	RAA are not aware of any improvements at this intersection since the 2021 Risky Roads survey.	16	12
3	Hindmarsh Tiers Road and Victor Harbor Road (Hindmarsh Valley)	As part of a $15m package to upgrade two intersections on Victor Harbor Road, this intersection is being upgraded to improve sight distance and add channelised right turn lanes from Victor Harbor Road onto Hindmarsh Tiers Road and Virgin Road.	15	1
4	Aldinga Beach Road and Main South Road (Aldinga)	A grade separation at this intersection is planned as part of the Main South Road Duplication Stage 2, which is under construction at the time of writing.	15	0
5	Blackwood Roundabout	RAA are not aware of any improvements at this intersection since the 2021 Risky Roads survey.	14	18
6	Strathalbyn Road and Whites Road (Flaxley)	An upgrade to this intersection has been included in the Mount Barker District Council's 2024 Road Safety Action Plan as RS3.1 under 'treatment of key intersections.	12	0
7	Gepps Cross Five-Way	Resurfacing works were completed at this intersection in April 2024	10	0
8	Lower North East Road and Payneham Road (Glynde)	Resurfacing works were completed at this intersection in 2023.	7	0
9	Bull Creek Road and Paris Creek Road (Meadows)	RAA are not aware of any improvements at this intersection since the 2021 Risky Roads survey	7	14
10	Main South Road and Sellicks Beach Road (Sellicks Beach)	An upgrade, including realignment of this intersection is planned as part of the Main South Road Duplication Stage 2, which is under construction at the time of writing.	6	0

Casualty crash data review

South Australia, like other states, is struggling to stay on track to meet its Road Safety Strategy targets, highlighting the urgent need for continued action and innovation to improve road safety

South Australia's Road Safety Strategy to 2031 aims to reduce lives lost by at least 50% and serious injuries by at least 30% (compared to the baseline 2018-2020 3-year average). To be on track for this target, the short-term 2024 strategy targets were a maximum 80 lives lost and 638 serious injuries. These short-term targets were not met, and South Australia is currently not on track to meet either of these, with 91 lives lost and 841 serious injuries recorded for the year.

While the 2024 lives lost figure was 9% below the previous five-year average, serious injuries were 6% higher than the previous five-year average. As the figures below indicate, annual lives lost and serious injuries on our roads have failed to consistently decrease in the past decade.

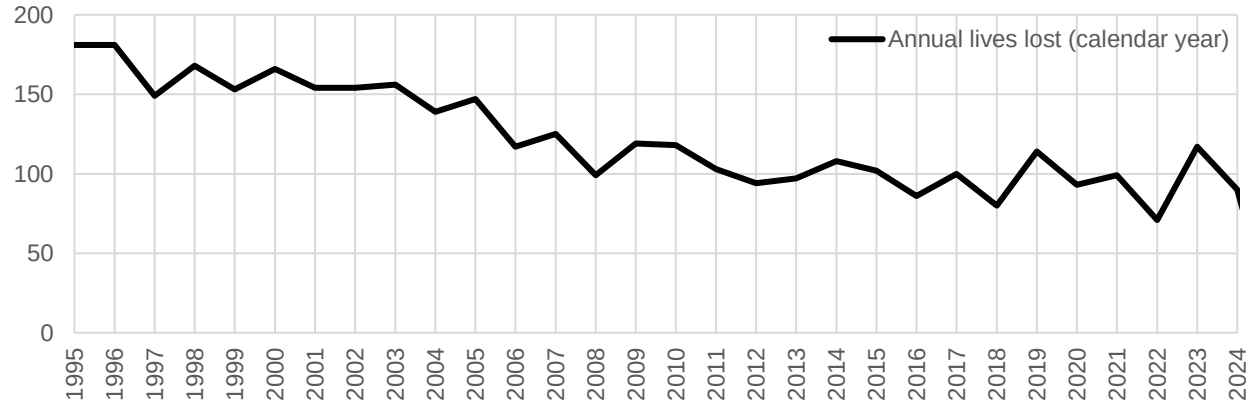


Figure 1: Annual lives lost in South Australian between 1995 and 2024

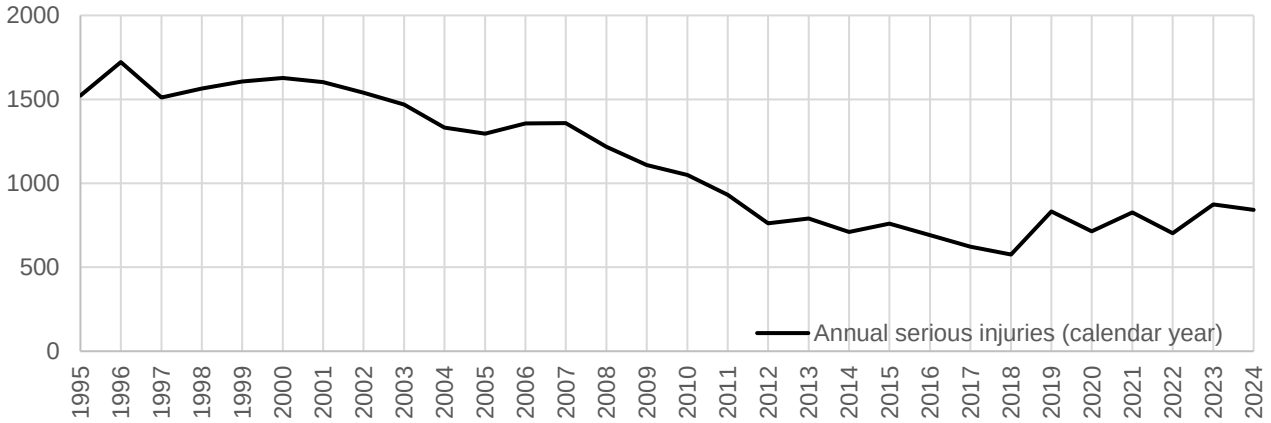


Figure 2: Annual serious injuries in South Australia between 1995 and 2024

Between 2019 and 2023, 494 lives were lost on South Australian roads, with 3,856 people suffering serious injuries and 20,873 sustaining minor injuries. Over the same period, the top ten nominated metro roads, regional roads, and intersections identified in the 2024 Risky Roads survey accounted for 77 fatalities, 545 serious injuries, and 3,551 minor injuries. This means that crashes on these roads alone contributed to 17% of all casualties in South Australia during those five years, highlighting their significant risk to road users.

Rear end crashes are the most frequently occurring casualty crash type on our roads, however, are one of the least likely crash types to result in serious injuries or lives lost.

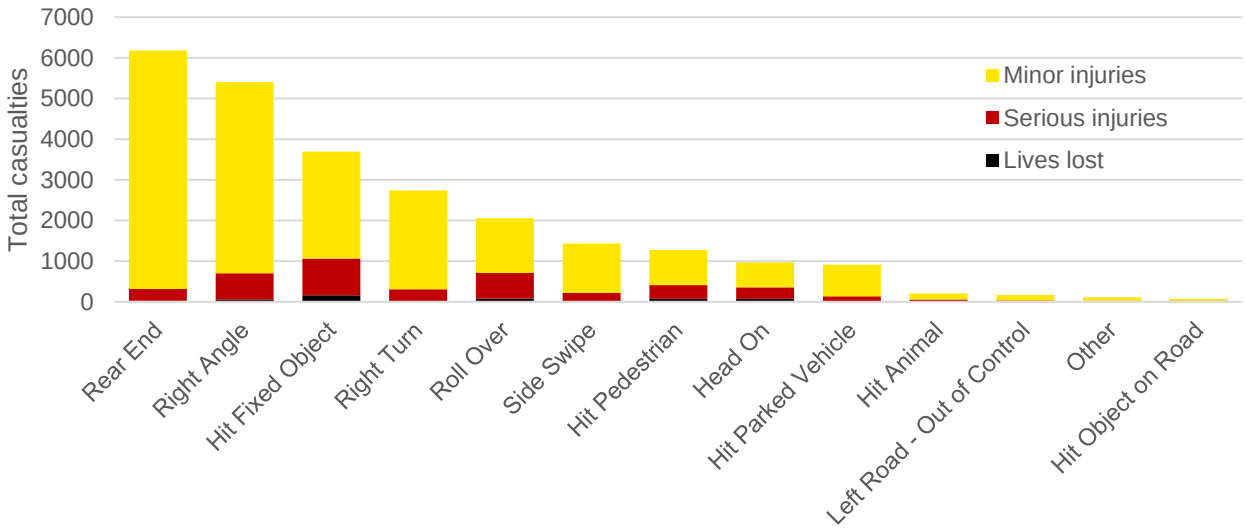


Figure 3: Total casualties by casualty crash type between 2019 and 2023

Collisions with fixed objects are the most common fatal and serious injury (FSI) crash type, and combined, account for 41% of lives lost and serious injuries on our roads. These crashes typically involve a single vehicle leaving the road and colliding with an object on the roadside, such as a tree, fence or pole.

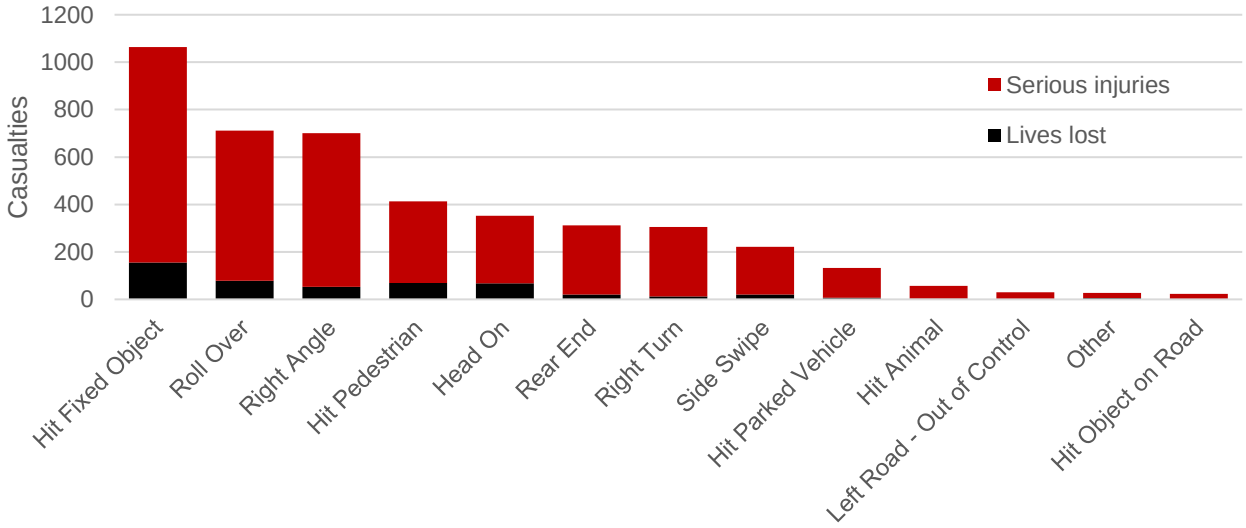


Figure 4: Total lives lost and serious injuries by casualty crash type between 2019 and 2023

There are substantial differences in the types of FSI crashes that occur in metro Adelaide and regional South Australia, with single-vehicle run-off-road crashes much more prevalent on regional roads, while intersection and pedestrian crashes are much more prevalent on metro roads.

Table 5: Fatal and serious injury crash types between 2019 and 2023, comparison between metro and regional South Australia

FSI crash type	Metro	Regional	All SA
Hit Fixed Object	19.0%	30.6%	24.5%
Roll Over	9.0%	24.6%	16.4%
Head On	4.6%	12.0%	16.1%
Right Angle	19.9%	11.8%	9.5%
Rear End	9.1%	5.0%	8.1%
Hit Pedestrian	14.5%	3.9%	7.2%
Side Swipe	6.2%	3.9%	7.0%
Hit Animal	0.4%	2.3%	5.1%
Right Turn	11.7%	1.8%	3.0%
Hit Parked Vehicle	4.4%	1.5%	1.3%
Left Road - Out of Control	0.1%	1.3%	0.7%
Hit Object on Road	0.3%	0.7%	0.6%
Other	0.6%	0.6%	0.5%

2024 results

Survey responses

A total of 1,840 nominations were received in RAA's 2024 Risky Roads survey, of which 1,140 were for roads and 700 were for intersections. Of all nominations received, 47% were for roads or intersections that featured in the top 10 metro roads, top 10 regional roads and top 10 intersections lists.

A total of 346 roads and 378 intersections received at least one nomination, with 144 roads and 89 intersections receiving multiple nominations during the survey period.

Top ten roads

The tables below detail the top 10 nominated metro and regional roads in the 2024 Risky Roads survey. The nomination count includes nominations for the road or sections of the road, and any intersections along its length that were nominated but did not make the top 10 intersections list. This methodology differs from previous Risky Roads surveys, where road and intersection nominations were considered independently. By incorporating intersection nominations along a corridor, the updated 2024 approach gives fairer weight to road corridors that may be seen to have safety issues at multiple intersections along the corridor.

Table 6: Top 10 nominated roads, total metro and regional combined

Rank	Road name	Rank	Road name
1	Curtis Road	6	Main Road (McLaren Vale)
2	Victor Harbor Road	7	Shacks Road, Commissariat Point
3	Main North Road	8	Greenhill Road
4	Main South Road	9	Sturt Highway
5	Black Top Road	10	Dalkeith Road

Table 7: Top 10 nominated metro roads

Rank	Metro road name	Top issues raised
1	Curtis Road	Road capacity, intersection safety
2	Main North Road	Maintenance, road capacity, intersection safety
3	Black Top Road	Maintenance
4	Greenhill Road	Maintenance, cyclist safety, driver behaviour
5	Dalkeith Road	Maintenance, intersection safety
6	Womma Road	Maintenance, road capacity, intersection safety
7	Port Wakefield Highway	Intersection safety
8	North East Road	Intersection safety, road geometry
9	Brighton Road	Intersection safety, maintenance, road capacity
10	Marion Road	Maintenance, intersection safety

Table 8: Top 10 nominated regional roads

Rank	Regional road name	Top issues raised
1	Victor Harbor Road	Maintenance, road capacity, road geometry
2	Main South Road	Maintenance, road capacity, road geometry
3	Main Road (McLaren Vale)	Intersection safety, maintenance
4	Shacks Road	Maintenance, speed limit
5	Sturt Highway	Maintenance, road capacity
6	Southern Ports Highway	Maintenance
7	Goolwa Road	Maintenance, road capacity, intersection safety
8	Horrocks Highway (Gawler to Clare)	Maintenance
9	Inman Valley Road	Maintenance, road geometry, speed limit
10	Barossa Valley Way	Maintenance, intersection safety

Top ten intersections

The list below details the top 10 most nominated intersections in the 2024 Risky Roads survey. To avoid double-counting in the top 10 lists, nominations for these intersections are not added to the total count for roads in Table 7 and Table 8. Other nominated intersections that are not in this top 10 list, have had their nominations combined with the total nominations for each intersecting road.

The list below details the top 10 nominated intersections in the 2024 Risky Roads survey. Nominations for intersections within this list are not counted towards the total nomination count for each of the intersecting roads, however, intersection nominations received for intersections outside of this list have been grouped with road nominations for each of the intersecting roads.

Table 9: Top 10 nominated intersections

Rank	Intersection name	Top issues raised
1	Curtis Road and Heaslip Road	Intersection capacity, intersection design
2	Andrews Road and Curtis Road	Intersection capacity, intersection design
3	Angle Vale Road, Dalkeith Road and Andrews Road	Intersection capacity, intersection design
4	Blackwood Roundabout	Intersection design
5	Bull Creek Road and Paris Creek Road	Sight distance
6	Penfield Interchange, Northern Expressway (Womma Road and Heaslip Road)	Intersection capacity, intersection design
7	Britannia Roundabout	Intersection design
8	Airport Road and Caroona Road	Sight distance
9	Fullarton Road and Kitchener Street	Intersection capacity, intersection design
10	Main Road and Sturt Avenue	Sight distance, pedestrian safety, intersection design

Top ten maps

The maps below detail the locations of the top 10 nominated metro roads, regional roads, and intersections across the state.

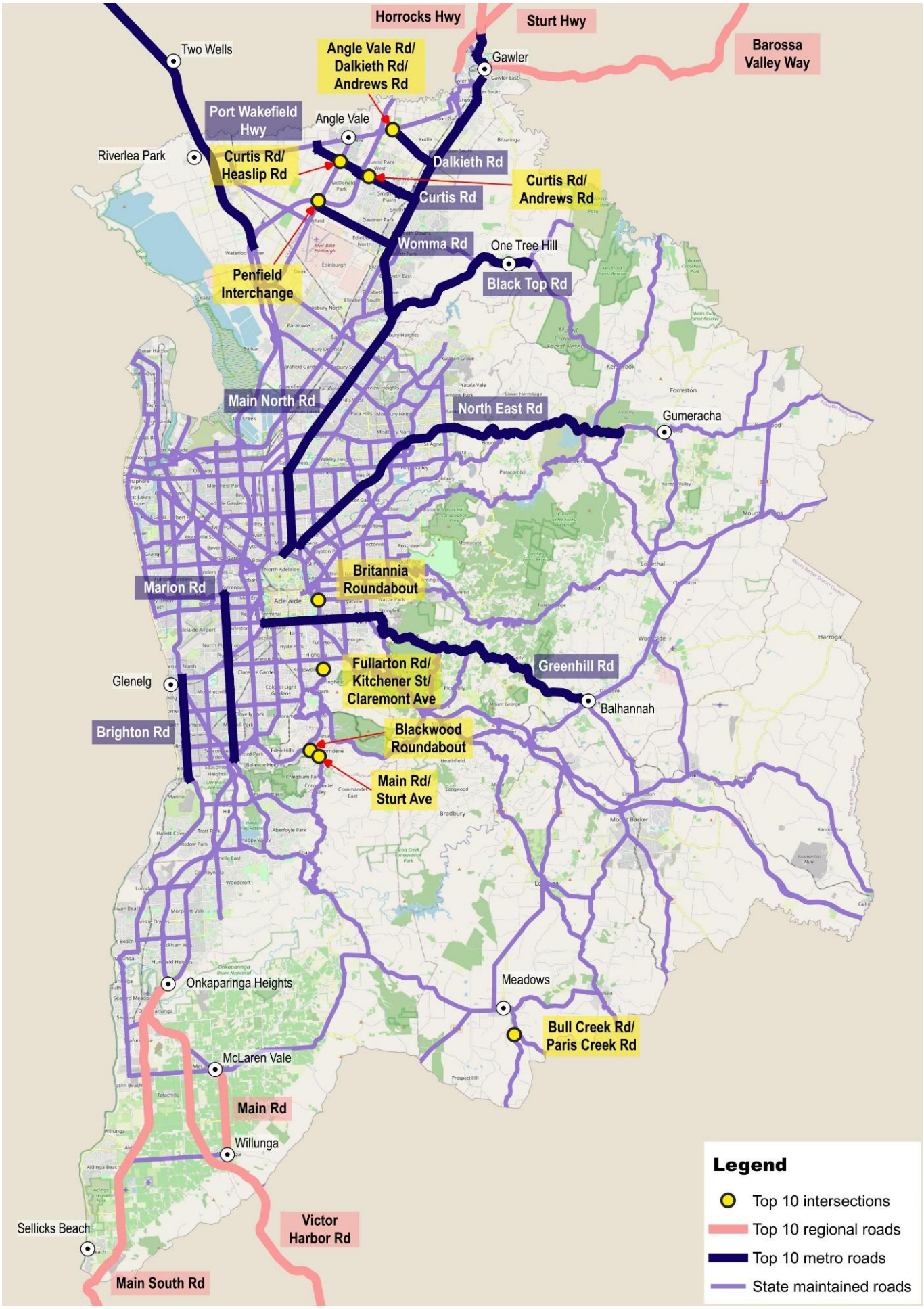


Figure 5: Map of top 10 nominated roads and intersections in and near metro Adelaide

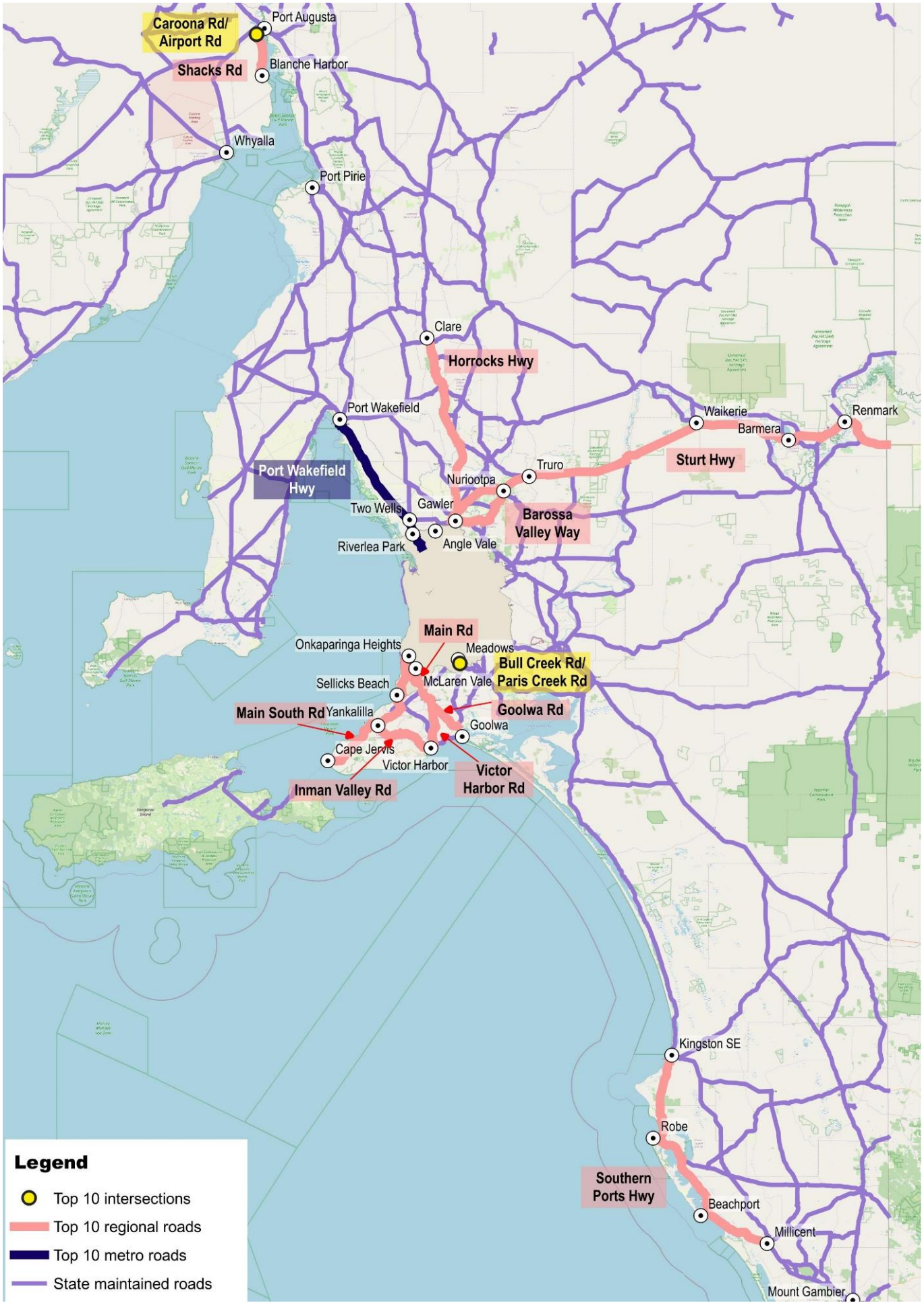


Figure 6: Map of top 10 nominated regional roads, including regional intersections

Location of respondents

As part of making a nomination, survey respondents were asked to enter their residential postcode. The table below depicts the number of nominations received ranked by residential postcode.

Table 10: Postcodes where 30 or nominations were made from

Postcode	Associated suburbs	Nominations
5114	Andrews Farm, Blakeview, Craigmore, Gould Creek, Humbug Scrub, One Tree Hill, Sampson Flat, Smithfield, Smithfield Plains, Uleybury, Yattalunga	123
5117	Angle Vale	83
5000	Adelaide	78
5115	Munno Para, Kudla, Munno Para Downs, Munno Para West	78
5051	Blackwood, Coromandel Valley, Craigburn Farm, Hawthorndene	55
5700	Blanche Harbor, Commissariat Point, Cultana, Davenport, Miranda, Mundallio, Port Augusta, Port Augusta West, Port Paterson, Wami Kata, Winninowie	44
5211	Back Valley, Chiton, Encounter Bay, Hayborough, Hindmarsh Valley, Inman Valley, Lower Inman Valley, McCracken, Mount Jagged, Victor Harbor, Waitpinga, Willow Creek	43
5159	Aberfoyle Park, Chandlers Hill, Flagstaff Hill, Happy Valley	39
5214	Goolwa, Goolwa Beach, Goolwa North, Mundoo Island, Currency Creek, Goolwa South, Hindmarsh Island, Mosquito Hill	38
5118	Gawler East, Willaston, Bibaringa, Gawler River, Buchfelde, Kingsford, Concordia, Reid, Ward Belt, Gawler, Gawler Belt, Gawler South, Gawler West, Hewett, Kalbeeba, Kangaroo Flat	33
5171	Blewitt Springs, McLaren Flat, McLaren Vale, Tatachilla	33
5065	Dulwich, Glenside, Linden Park, Toorak Gardens, Tusmore	30

The maps over the next pages depict the spread of responses by residential postcode of nominees.

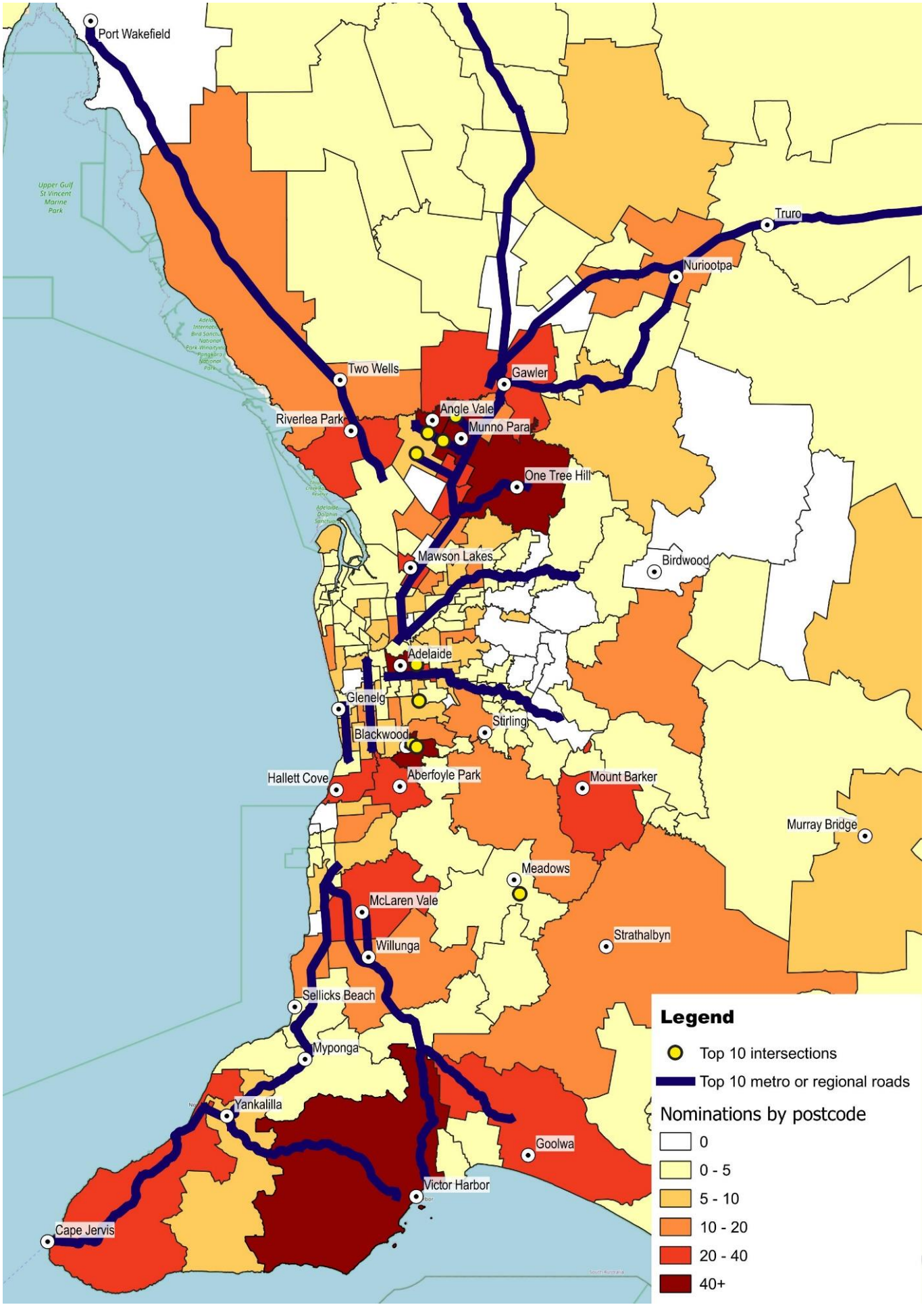


Figure 7: Nominations received by nominee postcode across metro Adelaide and inner regional areas of the state

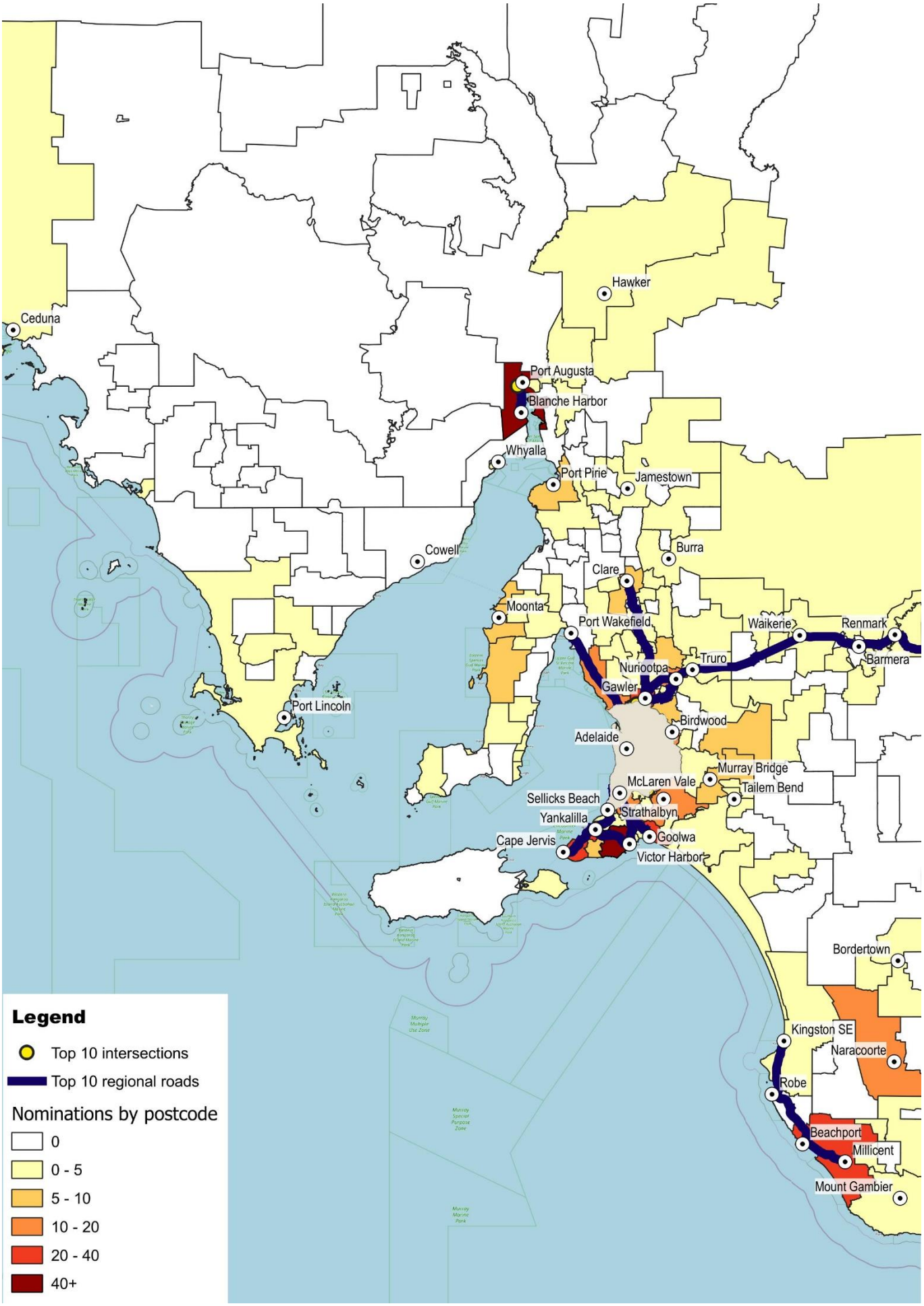


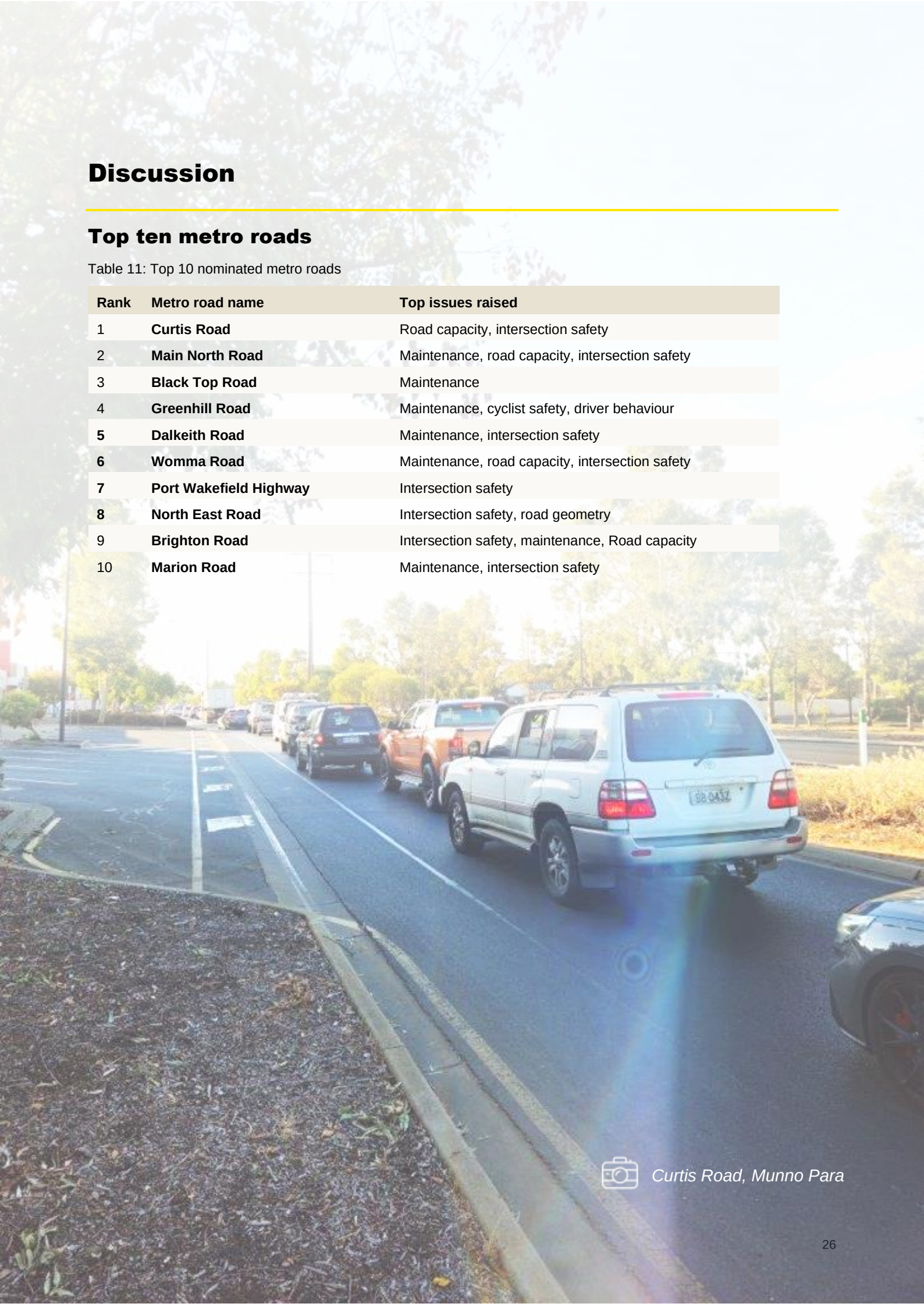
Figure 8: Nominations received by postcode across regional South Australia

Discussion

Top ten metro roads

Table 11: Top 10 nominated metro roads

Rank	Metro road name	Top issues raised
1	**Curtis Road**	Road capacity, intersection safety
2	**Main North Road**	Maintenance, road capacity, intersection safety
3	**Black Top Road**	Maintenance
4	**Greenhill Road**	Maintenance, cyclist safety, driver behaviour
5	**Dalkeith Road**	Maintenance, intersection safety
6	**Womma Road**	Maintenance, road capacity, intersection safety
7	**Port Wakefield Highway**	Intersection safety
8	**North East Road**	Intersection safety, road geometry
9	**Brighton Road**	Intersection safety, maintenance, Road capacity
10	**Marion Road**	Maintenance, intersection safety



Curtis Road, Munno Para

Metro rank #1: Curtis Road

Metro ranking:	1 (1 overall)			
Total nominations:	104			
Top issues:	Road capacity, intersection safety			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	143	169	18	1

For the first time, Curtis Road has been nominated as South Australia's riskiest road, marking its debut in the top 10 metro roads list. In the 2021 RAA Risky Roads survey, Curtis Road gained significant attention but ranked 12th among metro road nominations overall. Two intersections along Curtis Road—Heaslip Road (41 nominations) and Andrews Road (39 nominations)—were nominated among the top 10 intersections and are discussed separately in this report. As such, nominations for these intersections are excluded from Curtis Road's total nomination count.

Other intersections raised along Curtis Road included Frisby Road (5 nominations), Mingari Street (3 nominations), Coventry Road (2 nominations), Northern Expressway (2 nominations), Angle Vale Road (1 nomination) and Main North Road (1 nomination)

Curtis Road, managed by the City of Playford Council, serves as a vital link between Main North Road in Blakeview and Angle Vale Road in Angle Vale. Survey responses primarily referenced the section between Heaslip Road and Main North Road, which includes key intersections such as the Northern Expressway, Andrews Road, Stebonheath Road, Peachey Road, and the Gawler rail level crossing.

Survey participants identified significant frustration and concern regarding congestion, hazardous conditions, and inadequate infrastructure along Curtis Road and its intersections. A recurring theme was severe traffic build-up, particularly at major intersections like the Northern Expressway, Main North Road, and Peachey Road. Respondents cited long delays, poor traffic flow, and difficulties accessing or exiting Curtis Road safely, with banked-up traffic during peak hours posing a major challenge for both commuters and local residents.

Figure 9: Congestion and traffic delays on Curtis Road were highly raised issues on Curtis Road

To alleviate these issues, participants suggested infrastructure improvements to reduce congestion and enhance safety. Common suggestions included installing traffic lights, adding roundabouts, and duplicating Curtis Road to handle increasing traffic volumes. Respondents also called for better design and clearer traffic management, particularly at intersections such as Frisby Road and Mingari Street, where insufficient traffic control was described as hazardous. Furthermore, the rapid growth of nearby housing estates has added significant pressure on Curtis Road, highlighting the need for urgent upgrades to meet both current and future demand.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"The central issue is that it is a very rapidly expanding area with lots of new developments in recent years and for years to come. A single lane each way has been inadequate for at least 5 years already, which makes every intersection dangerous."

"With all the new developments in Playford, Munno Para, and Smithfield, Curtis Road is becoming a major highway. This road needs to be dual lanes for its entire length to help with congestion and reduce accidents."

"Banked traffic exiting the expressway onto Curtis Road results in the left lane of the expressway coming to a standstill. This becomes extremely dangerous when approaching at 110kmph after the corner when heading north. This requires rapid deceleration and often causes vehicles to make last-second lane changes."

"The amount of traffic that uses this road daily, with the amount of local infrastructure and housing being built deserves more than single lane each way."

"Near impossible to leave Munno Para [from Mingari Street], this is the only exit in this end, only 3 roads exit old Munno Para, it is impossible even at 5am to turn right into Curtis Road. At school times you are waiting 30 mins to turn left, turning right is worse, numerous complaints to council etc fall on deaf ears."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"The entire road from the Expressway to Main North Road needs to be upgraded drastically to multilane on both sides, especially as they're building more new houses—it's going to get much worse."

Complete dual lanes both ways, rail underpass, and footbridges as the only way to correct the safety and traffic flow issues."

"Lane duplication and better intersections."

"The road is single lane and takes far too much traffic for only one lane in each direction. There is ample room with wide median and wide footpaths/verges to double the width. The expanding population has outstripped this roads efficiency leading to long, frustrating, congested delays at each roundabout."

"Dual lanes from Main North Rd to the Northern Expressway in both directions. Remove the level crossing. Consider changing the roundabouts along the way to traffic signals."

Data analysis

Using Addinsight SCATS data (vehicle detections at inductive loops), RAA estimates daily traffic volumes at the signalised intersection with Curtis Road and Peachey Road to be increasing by about 3% annually since 2017. The chart below plots the average number of vehicles detected at the intersection inductive loops (all directions) for the entire month of September each year since 2017. Counts in 2024 are 23% higher than they were in 2017, and extrapolating this data indicates that intersection traffic volumes in 2030 will increase to between 37,000 and 40,000 vehicles per day.

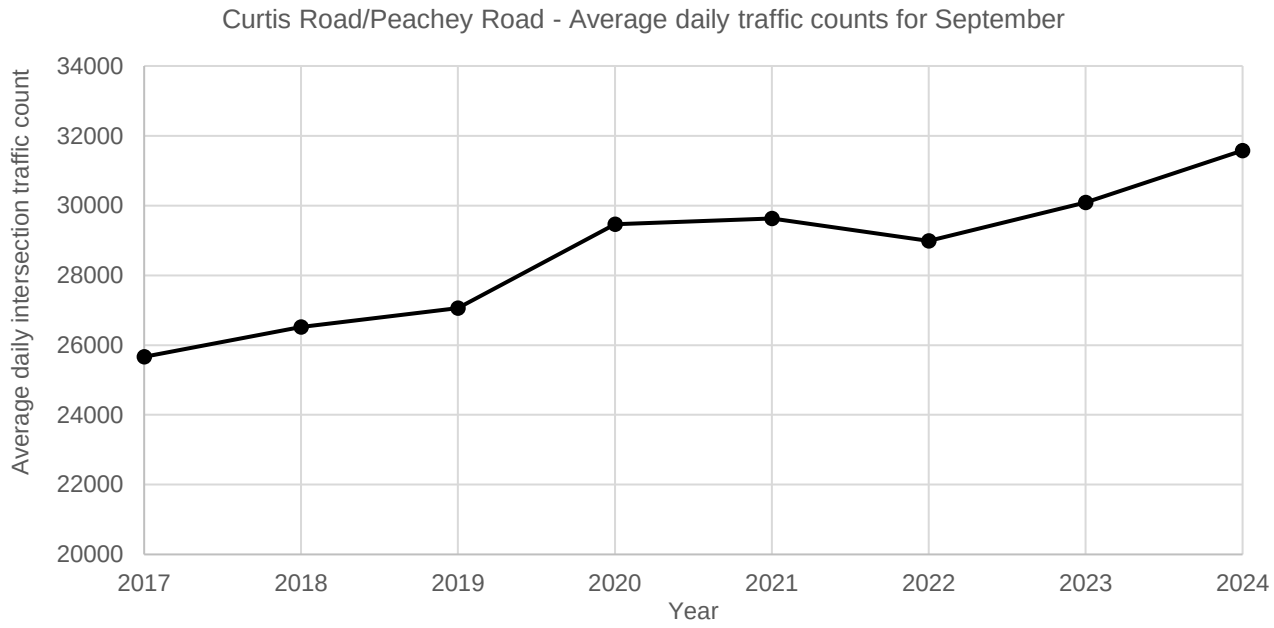


Figure 10: Average daily traffic counts in September at the Curtis Road/Peachey Road intersection (2017-2024)

Further to the above, RAA have estimated traffic volumes for the segment of Curtis Road just northeast of the intersection with Peachey Road to be approximately 24,400 vehicles per day in the month of September 2024 (inclusive of weekends). This is done by counting vehicle detections in all lanes that are entering or exiting this leg of the intersection. This represents a 21% increase since 2017, where estimates were approximately 20,200 vehicles per day using the same data. Extrapolating this data, RAA anticipates that traffic volumes north of Peachy Road will reach around 28,000 vehicles per day in 2030.

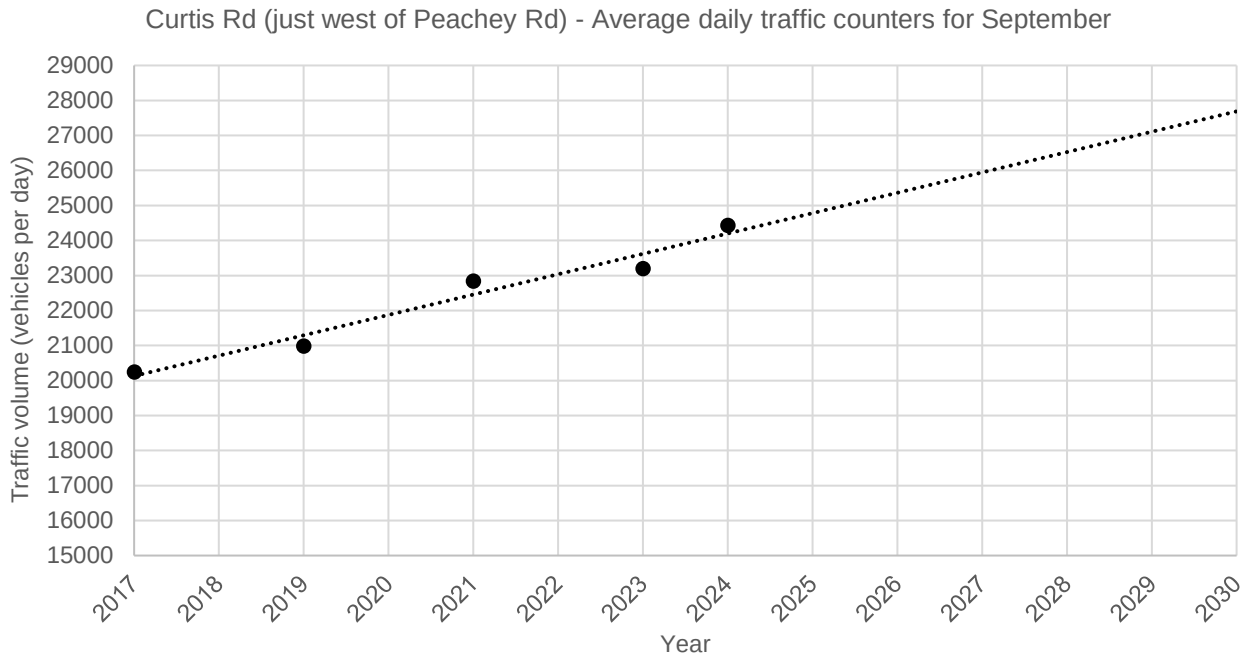


Figure 11: Average daily traffic counts in September on Curtis Road, just west of the Peachey Road intersection (2017-2024 projected to 2030)

These figures are an underestimate of true traffic volumes for the Stebonheath-Peachey midblock as they only capture vehicles that enter or exit this section of Curtis Road via the Peachey Road traffic signals, and do not include traffic:

- Travelling southeast and exiting Curtis Road via Ramsar Road or Market Street (i.e. to access Playford Marketplace and surrounding shopping centre/hospitality businesses)
- Travelling northeast that entered Curtis Road via Market Street or Featherstone Street

Considering these additional movements, traffic volumes for the Stebonheath-Peachey midblock are likely to be greater than 27,000 vehicles per day in 2024.

As traffic volumes increase, the crash rate along Curtis Road is also increasing, with 2023 recording a record-high 90 crashes reported, of which 28 resulted in minor injury and three resulted in serious injury.

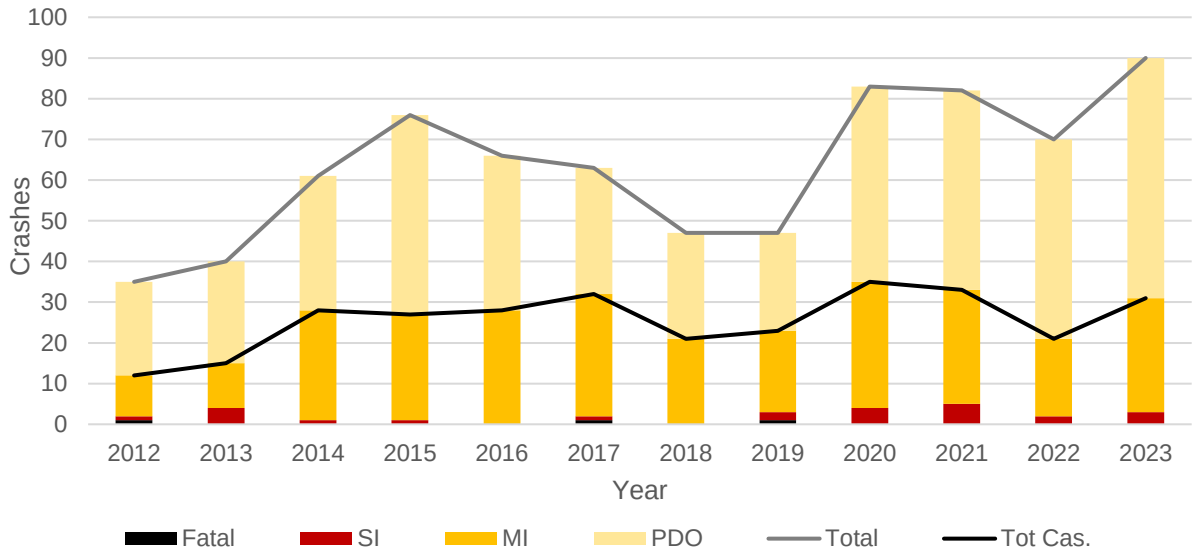


Figure 12: Ten-year trend in reported crashes on Curtis Road

Rear end crashes have been the most common crash type to occur in the past five years, accounting for half of all casualty crashes, and one quarter of all crashes resulting in serious injury. Right angle and right turn crashes at intersections have accounted for a combined 39% of casualty crashes over this time, and 69% of serious injury crashes.

Table 12: Casualty crash types occurring along Curtis Road between 2019 and 2023

Crash type	**No. of casualty crashes**	**Crash severity**		
		Minor inj.	*Serious inj.*	*Fatal*
Head On	3	3	0	0
Hit Fixed Object	4	3	1	0
Hit Pedestrian	3	3	0	0
Rear End	72	68	4	0
Right Angle	30	22	8	0
Right Turn	26	22	3	1
Roll Over	2	2	0	0
Side Swipe	3	3	0	0
Total	**143**	**126**	**16**	**1**

Most crashes on Curtis Road occurred between Andrews Road and Main North Road, with the biggest hotspot between Stebonheath Road and Douglas Drive/Coventry Road.

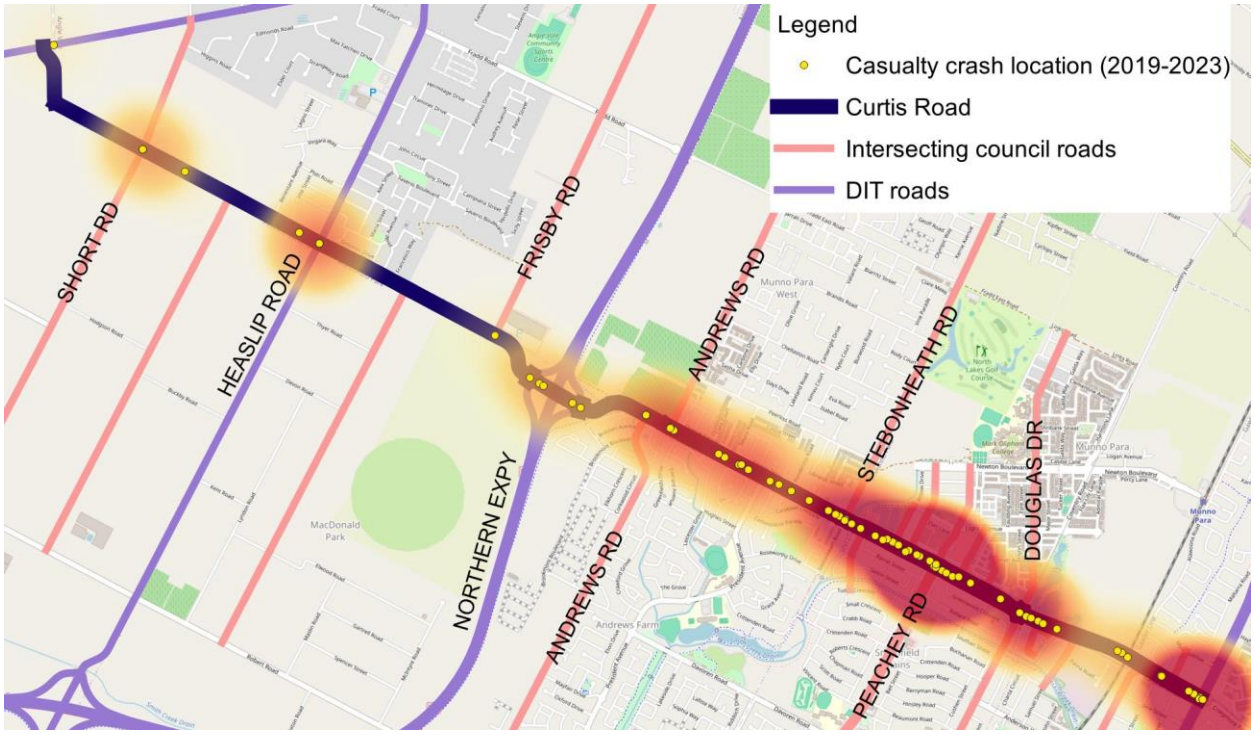


Figure 13: Heatmap of casualty crash locations on Curtis Road between 2019 and 2023

Intersection crashes are a significant issue on Curtis Road, with two-thirds of casualty crashes occurring at intersections. The map below highlights intersections with a history of casualty crashes over the past five years. Peachey Road (32) and Main North Road (22) have recorded the highest numbers, followed by Heaslip Road (6), Douglas Drive (6), and Market Street (6). With 32 casualty crashes in five years, Peachey Road ranks second statewide for casualty crashes at intersections, while Main North Road ranks seventh over the same period.

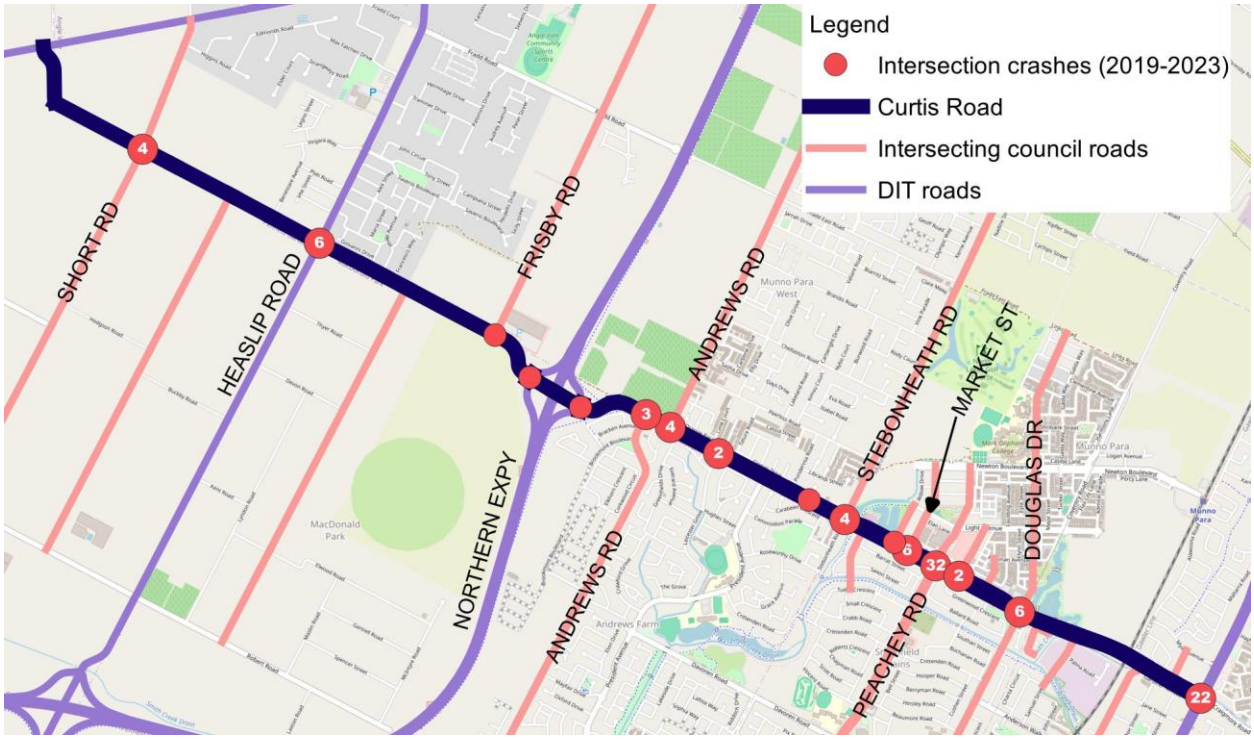


Figure 14: Heatmap of intersection casualty crash locations on Curtis Road between 2019 and 2023

Final comment

The feedback on Curtis Road highlights an urgent need for action to address issues along the corridor. Survey respondents expressed frustration over the road's inability to handle growing traffic volumes, emphasising the need for practical solutions such as widening, upgraded traffic lights, and intersection redesigns to improve traffic flow and safety.

RAA advocated for the duplication of Curtis Road ahead of the 2022 state election, aiming to secure commitments to upgrade several roads in the northern suburbs. Since then, various planning studies have been conducted, including the Curtis Road and Dalkeith Road traffic study and the Northern Adelaide Transport Study. However, it is now time to move from planning to implementation.

Upgrading Curtis Road—including duplication, intersection improvements, required service relocations, and potentially removing the level crossing—is estimated to cost hundreds of millions of dollars, far exceeding the capacity of local government budgets.

Given its role as an arterial corridor, RAA recommends transferring the management and funding responsibility of Curtis Road to the state government’s Department for Infrastructure and Transport to ensure the project receives the necessary attention and resources.

At the time of writing this report, construction is underway to extend Newton Boulevard west, connecting the current end point at Willow Drive with the roundabout recently constructed by City of Playford at Stebonheath Road and Peerless Road. This new road link is expected to open in mid-2025, and RAA considers that this will alleviate some traffic on Curtis Road in the short-term by providing an alternative route to retail precincts and Mark Oliphant College from properties northwest of Stebonheath Road.

Metro rank #2: Main North Road

Metro ranking:	2 (3 overall)			
Total nominations:	59			
Top issues:	Maintenance, road capacity, intersection safety			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	844	951	99	15

Main North Road has been nominated as the second riskiest metro road in our 2024 Risky Roads survey. Amongst metro roads, Main North Road was nominated second highest in both our 2017 and 2019 risky roads surveys, and third highest in our 2021 survey.

There were many intersections raised along Main North Road, with those receiving multiple nominations including:

- Fitzroy Terrace (Medindie) – 6 nominations
- Medlow Road (Blakeview) – 3 nominations
- Midway Road (Elizabeth East) – 2 nominations
- Frost Road (Brahma Lodge) – 2 nominations
- Stanbel Road (Salisbury Plain) – 2 nominations

A further 14 intersections along Main North Road received single nominations, including Regency Road, Dalkeith Road, and Redbanks Road.

Main North Road is a state government maintained road, under the care and control of the Department for Infrastructure and Transport. The corridor is a major arterial link between Adelaide and its northern suburbs, passing through the local government areas of Prospect, Walkerville, Port Adelaide Enfield, Salisbury, Playford and Gawler.

Traffic volumes on Main North Road are typically between 35,000 and 50,000 vehicles per day, with the busiest section between The Grove Way and John Rice Avenue carrying more than 63,000 vehicles per day. According to a review of traffic volume data published on Data SA[4], traffic volumes have slightly eased between The Grove Way and Adelaide over the past decade, which may be attributable to improvements along the North-South Corridor. Traffic volumes between The Grove Way and Gawler have continued to rise over this time however, largely due to rapid population growth in northern parts of the City of Playford.

Survey respondents were given open response fields to describe issues and provide suggestions as to how the risk should be reduced, often specific to the sections of Main North Road that they were nominating. The section between Grand Junction Road and Gawler attracted more than three quarters of nominations, with the figure below detailing the number of nominations received by section of Main North Road.

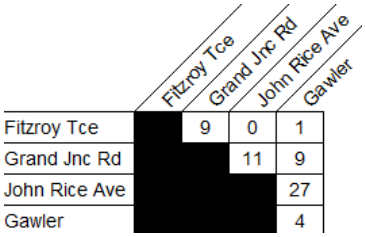


Figure 15: Nominations received for various sections of Main North Road

[4] Data SA, Traffic Volumes, accessed at <https://data.sa.gov.au/data/dataset/traffic-volumes>.

Six of the nine nominations between Fitzroy Terrace and Grand Junction Road related to the intersection with Fitzroy Terrace, which was nominated as the eighth riskiest intersection in our 2019 Risky Roads survey. Concerns here relate to the right turn into Fitzroy Terrace, with drivers regularly changing lanes just prior to the intersection reported to cause near misses and frustration.

Nominations for the section between Grand Junction Road and John Rice Avenue largely referred to the capacity of Main North Road, with frustration with the regular zip merges that occur between Gepps Cross and The Grove Way as the road frequently changes between two and three lanes in each direction.

Nominations between John Rice Avenue and Gawler mostly referred to maintenance issues, with some respondents suggesting a third lane was required between the Midway Road/Woodford Road intersection and Gawler.

Figure 16: Maintenance was a highly raised issue on Main North Road (photo taken March 2025, Elizabeth North)

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"Main North Road from Gepps Cross to Gawler needs to be revamped. You go from 2 lanes to 3 then 2 back to 3 back to 2. It's a nightmare. Then you're driving and all you see is the road has cracking! The left and right turning lanes at the ends need constant repairs, craters and potholes in 90% of the turning lanes."

"[Sefton Park area] Impossible to turn right onto Main North Road from any side road approaching on west or east side. Impossible to cross over the road east to west and the west to east at any of the cross roads along it as there are no waiting bays. The traffic is extremely busy both ways especially at peak hour and you can be waiting for a long time to find a safe time to cross if at all. Most motorists I see with their turn right indicator on give up and end up turning left then chucking an illegal u-ey."

"Fundamentally, there's sufficient space on both sides and in the centre of Main North Rd to create independent, isolated cycling lanes. So why do I as a cyclist have to contend with this danger and hazard which results from inadequate and incompetent engineering? And yes, I'm also a vehicle owner so I do pay taxes."

"This section of road from Elizabeth Vale to Gawler needs to be resealed. In 40 years of living out here it has never been done, and the road itself is falling apart."

"Drivers are doing U-turns at the Medlow Road crossover heading south to head back north. It is a 90km/h road, and a small crossover. It is an issue as it is causing near misses with vehicles braking heavily in the right lane to do a U-turn to go back to Alawoona Road".

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Widening the road, more crossings to service all the growing areas, and a dedicated bike lane all the way through. I know, the above would be massively expensive, but we need to upgrade slowly and need to keep pace with the massive expansion to the north and northeast area. The motorway is of great help, but it bypasses many new suburbs which border Main North Road."

"Concrete barriers in road centre e.g. toll gate SE Freeway."

"Three lanes from Montague Rd all the way to Gawler. Speed and traffic cameras all the way along."

"Extend third lane around Mawson Lakes. Construct overpasses around Elizabeth area. Repair road surfaces."

Data analysis

Over the past ten years, the number of casualty crashes along Main North Road has been declining, largely driven by a reduction in minor injury outcomes of crashes. This may be partially attributable to recent upgrades along the corridor such as the Nottage Terrace intersection upgrade, Kings Road intersection upgrade, third lane near Parafield airport, and opening of the Northern Connector in 2020.

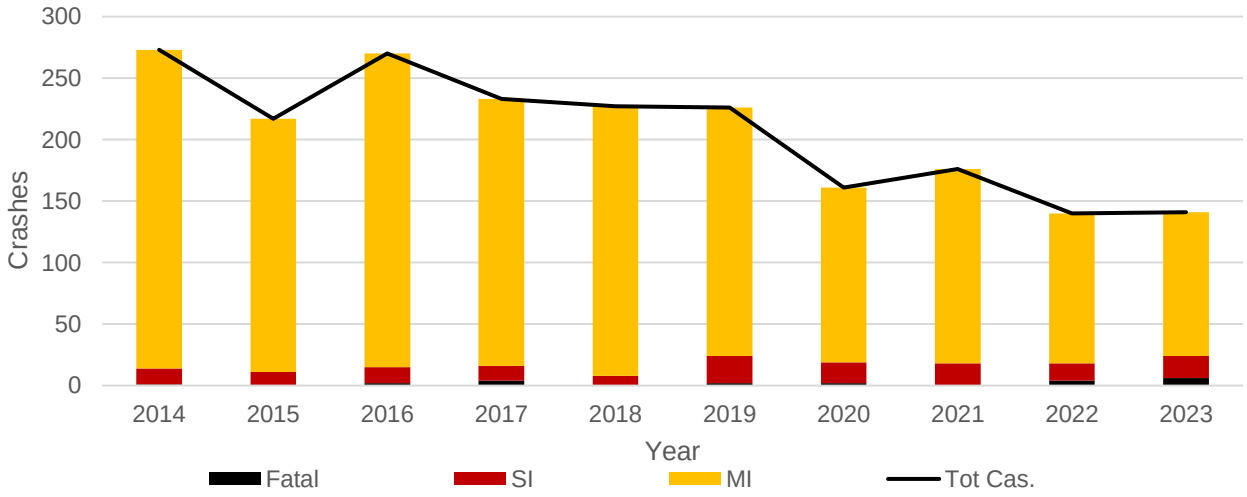


Figure 17: Ten-year trend in casualty crashes on Main North Road

While the rate of minor injury crashes has been declining, there is an increasing trend of fatalities and serious injuries (FSI's) occurring on Main North Road. For the five years between 2019 and 2023, an average of 20.4 FSI's occurred each year, which is a 61% increase on the 2014-2018 figure of 12.8 FSI's per year along the corridor.

Rear end crashes are the most common casualty crash type, accounting for more than half of casualty crashes on Main North Road.

Table 13: Casualty crash types occurring along Main North Road between 2019 and 2023

Crash type	**No. of casualty crashes**	**Crash severity**		
		Minor inj.	*Serious inj.*	*Fatal*
Rear End	458	435	21	2
Right Angle	100	77	22	1
Right Turn	93	78	11	4
Hit Fixed Object	63	47	13	3
Side Swipe	57	52	5	0
Hit Pedestrian	36	24	9	3
Roll Over	17	11	4	1
Hit Parked Vehicle	11	10	1	0
Head On	5	4	1	0
Left Road - Out of Control	2	1	1	0
Hit Animal	1	1	0	0
Other	1	1	0	0
Total	**843**	**741**	**88**	**14**

Casualty crashes occur at a similarly high rate along most sections of Main North Road.

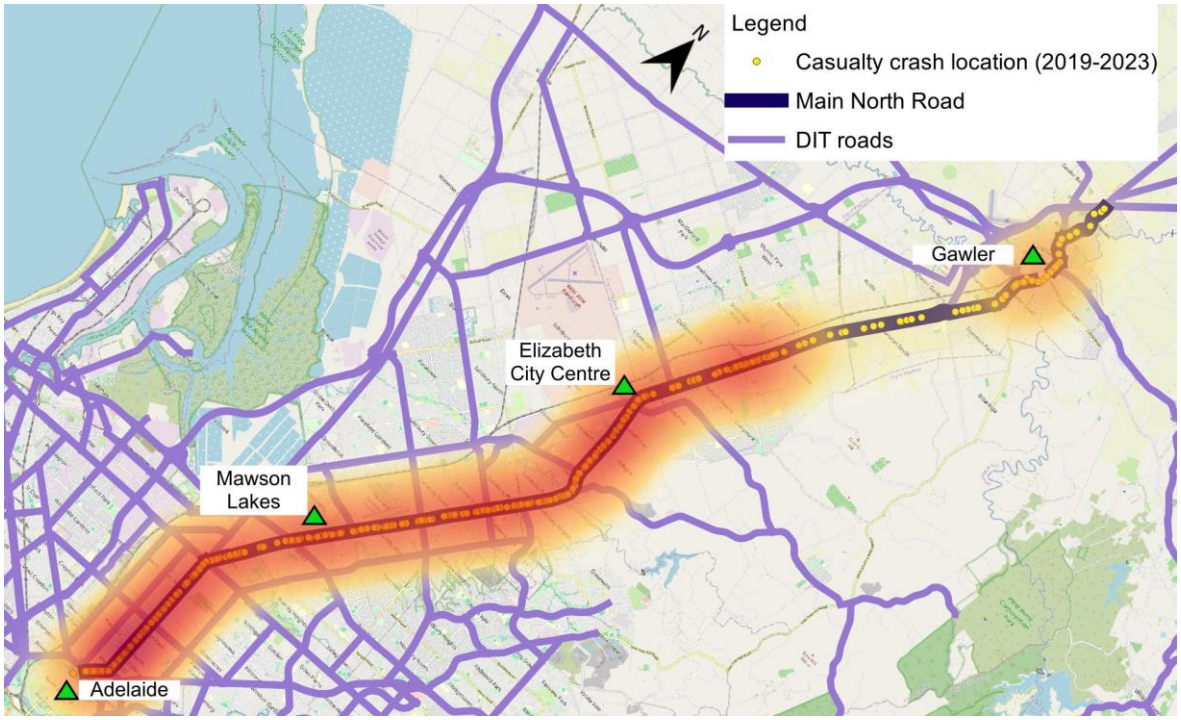


Figure 18: Heatmap of casualty crash locations on Main North Road between 2019 and 2023

Crashes occur at a higher per kilometre rate between Adelaide and Grand Junction Road, at a rate of 6.6 casualty crashes per kilometre per year over the past five years. Table 14 details the casualty crash rate per kilometre of road along sections of Main North Road.

Table 14: Casualty crash rates on Main North Road, by section (Note: crash rates are not weighted by traffic volume)

Section	Length (m)	Casualty crashes (2019-2023)	FSI crashes (2019-2023)	Casualty crashes per kilometre per year	FSI crashes per kilometre per year
Adelaide to Gepps Cross (GJ Road)	5870	193	22	6.6	0.75
Gepps Cross to John Rice Avenue	13660	313	37	4.6	0.54
John Rice Avenue to Gawler	14250	267	36	3.7	0.51
Gawler	6970	72	7	2.1	0.20

Final comment

The feedback for Main North Road highlights concerns relating to road maintenance, capacity and safety with respondents emphasising the need to improve these aspects of Main North Road.

RAA previously called for the addition of a third lane between Gepps Cross and The Grove Way and welcomed the addition of a third lane in this section between Kesters Road and Kings Road in 2021. Traffic volumes and crash rates on this section of Main North Road remain high and are likely to increase further in the coming decade as housing developments at Dry Creek and Munno Para progress. Furthermore, traffic volumes between Midway Road/Woodford Road and Curtis Road/Craigmore Road continue to increase as land divisions in the area progress, so there may be a future need to add a third lane along this section of Main North Road also.

Significant pavement rehabilitation works between The Grove Way and Hogarth Road were undertaken in 2021 which addressed the most highly raised part of Main North Road in our 2021 Risky Roads Survey. Further maintenance works are still required on the northern end of Main North Road, between Hogarth Road and Gawler.

Intersections along the corridor including at the City Ring Route in Medindie and Grand Junction Road in Gepps Cross have previously been nominated in the top 10 intersections and are still cause for concern. Furthermore, despite not receiving many nominations, the intersection with Regency Road in Sefton Park has a particularly poor crash history (third highest number of intersection casualty crashes, with 30 between 2019-2023), and a recently conducted planning study at this intersection should be progressed to upgrade the intersection and improve safety for the estimated 70,000 vehicles that travel through this intersection daily.

Metro rank #3: Black Top Road

Metro ranking:	3 (5 overall)			
Total nominations:	37			
Top issues:	Maintenance			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	15	21	6	0

Black Top Road has been nominated as the third riskiest metro road in our 2024 Risky Roads survey, and this is the first time the road has been nominated in the top 10 metro Risky Roads.

Black Top Road is under the care and control of the Department for Infrastructure and Transport and provides a crucial 10km link between Main North Road in Hillbank and the township of One Tree Hill. The corridor is also important for residents of nearby localities including Sampson Flat, Humbug Scrub, Kersbrook and Williamstown on the fringes of the Adelaide Hills and Barossa Valley.

Traffic volumes on Black Top Road are relatively high, with 5,700 vehicles per day using the corridor between One Tree Hill Road (One Tree Hill) and Yorktown Road, reducing to 3,400 vehicles per day between Yorktown Road and Skyline Drive in Hillbank. The built-up section through Hillbank carries 6,400 vehicles per day through to Main North Road.

Survey respondents raised significant concerns about Black Top Road, citing severe undulations, deep dips, potholes, and an uneven surface that make it hazardous for all types of vehicles. Many have reported that these issues cause damage to cars and introduce difficulty in steering. The problems are particularly severe in the section between Gulf View Drive and Williams Road, where Black Top Road passes the One Tree Hill substation. In this section, the road's condition has reportedly been worsening for decades, with respondents frustrated with temporary fixes that fail to address the root causes. Drivers have also expressed frustration over insufficient signage, poor visibility, and a lack of effective long-term solutions from local or state authorities.

Figure 19: Poor surface of Black Top Road between Yorktown Road and One Tree Hill (photo taken December 2024)

Residents overwhelmingly want the road to be fully resurfaced and rebuilt with a suitable subgrade to ensure long-term durability. There are also calls for interim measures to be implemented, such as lowering speed limits and installing better warning signs until permanent repairs can be made. Ultimately, road users highlight the importance of a thorough, permanent fix rather than the short-term patchwork solutions that have failed repeatedly over the years.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

'The road is really undulating both sides and you need to slow down more than the speed limit when heading towards One Tree Hill near Williams Road."

"The road surface is atrocious in many sections from the one tree hill township to Hillbank. Turning out of Gulf View Drive has poor visibility and road is too narrow."

"The road along power station is so uneven and bumpy whilst the rest leading down the hill to main north is so rough and dangerous, car takes a battering."

"This has been a constant issue for decades. It starts with lowering the speed limit. They eventually dig it up and re-lay it, but it inevitably goes back to being undulated and bouncy to the point of dangerous."

"Huge dips and uneven surface in 100km zone: very bad for vehicle suspension."

"No government has ever fixed this road, and it has been an issue for decades. Black Top Road in the One Tree Hill township has not been resurfaced in over 25 years and has degraded badly with thousands of cars now using it daily."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Interim containment: lower speed limit and proper warning signs. The current warning sign is a pathetic "traffic hazard ahead". Permanent containment: Proper subsurface management and/or a suspended road. They do a cursory patch job for every two years or so and have done so for as long as I've had working memory (30 years). It's a useless short-term method and costs more in the long run."

"Resurface the road in a material that won't move up and down every 12-24 months, maybe concrete."

"Instead of resurfacing it every few years, rip it up and replace it with concrete similar to the northern expressway."

"Replace entire section of road through One Tree Hill township."

"Reduce the speed to 60km until it is fixed."

"Renew the road, perhaps a cement road like in West lakes/Semaphore."

Data analysis

The overall casualty crash rate on Black Top Road has declined in recent years, largely due to a reduction in minor injury crashes, whereas FSI crashes continue to occur at a consistent rate.

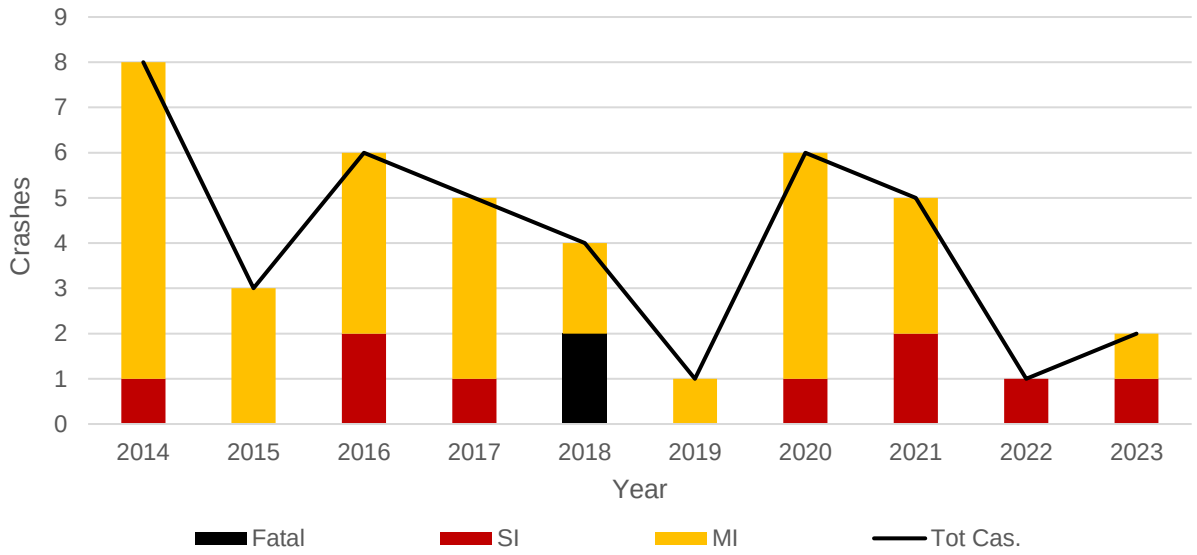


Figure 20: Ten-year trend in casualty crashes on Black Top Road

A wide range of crash types have occurred on Black Top Road over the past five years, with collisions with fixed object the most common type, accounting for almost half of crashes. Four of these crashes involved a tree, one involved a sign, and two involved an 'other fixed obstruction'.

Table 15: Casualty crash types occurring along Black Top Road between 2019 and 2023

Crash type	**No. of casualty crashes**	**Crash severity**		
		Minor inj.	*Serious inj.*	*Fatal*
Hit Fixed Object	7	5	2	0
Right Angle	2	1	1	0
Head On	1	0	1	0
Hit Animal	1	1	0	0
Hit Object on Road	1	1	0	0
Other	1	1	0	0
Rear End	1	1	0	0
Roll Over	1	0	1	0
Total	**15**	**10**	**5**	**0**

Casualty crashes are mostly dispersed along the incline between the One Tree Hill township and the built-up area of Hillbank, west of Main North Road. Three casualty crashes occurred at the intersection with Yorktown Road including a right-angle crash, a rear end crash and a collision with a fixed object.

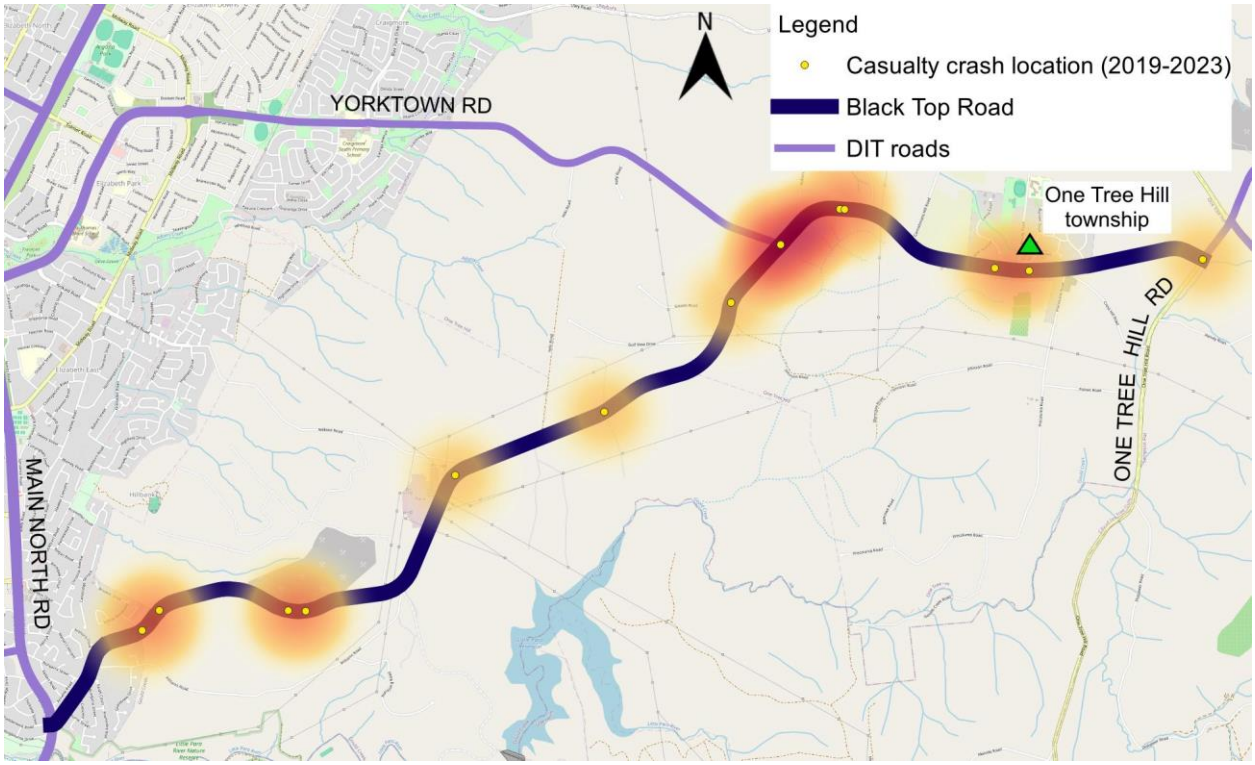


Figure 21: Heatmap of casualty crash locations on Black Top Road between 2019 and 2023

Final comment

Survey respondents were very clear about their frustration at the condition of Black Top Road. Recent repair works were deemed to be unsatisfactory as the road condition deteriorated rapidly following these works. Road resurfacing works were undertaken on the section between Williams Road and Willison Road in May 2021, and prior to that in May 2019.

Ultimately, a long-term fix involving full-depth reconstruction of this section of Black Top Road is needed to address the underlying issues likely caused by reactive soils in the area.

Furthermore, the road surface between Yorktown Road and the One Tree Hill Township is in poor condition with potholes and delamination present, which will require resurfacing works rather than regular pothole maintenance to prevent this recurring maintenance issue in the longer term.

Metro rank #4: Greenhill Road

Metro ranking:	4 (8 overall)			
Total nominations:	26			
Top issues:	Maintenance, cyclist safety, intersection safety, driver behaviour			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	258	266	28	1

Greenhill Road has been nominated as the fourth riskiest metro road in our 2024 Risky Roads survey, with nominations scattered along the full length of the road between Anzac Highway in Keswick, through to its terminus in Balhannah in the Adelaide Hills. Sections of Greenhill Road have featured in recent Risky Roads surveys, with the Burnside to Summertown section nominated 7th for metro roads in 2021 and the Glynburn Road to Glen Osmond Road section nominated 9th for metro roads in 2019. Greenhill Road was also nominated as the states “riskiest ride” in our 2022 Risky Rides cycling survey, largely for the section forming part of the City Ring Route.

Most midblock nominations for Greenhill Road were for the section in the Adelaide Hills, while intersection nominations were all for the section of Greenhill Road between Anzac Highway and Hallett Road. Intersections nominated along Greenhill Road included:

- Anzac Highway (2 nominations)
- Glynburn Road (2 nominations)
- Hallett Road (2 nominations)
- Conyngham Street (1 nomination)
- Birkin Street (1 nomination)
- Fullarton Road (1 nomination)
- George Street (1 nomination)
- Peacock Road (1 nomination)

Greenhill Road is under the care and control of the Department for Infrastructure and Transport. The 3.8km long section between Anzac Highway and Fullarton Road forms one of the busiest sections of the City Ring Route, while the 4.1km section between Fullarton Road and Hallett Road is a major arterial feeder road. The section through the Adelaide Hills spans 20km between Burnside and Balhannah and is crucial for access to the Adelaide Hills community and is one of the most direct alternatives to using the South Eastern Freeway.

Traffic volumes on Greenhill Road are typically 40-55,000 vehicles per day between Anzac Highway and Fullarton Road, 25-35,000 vehicles per day between Fullarton Road and Glynburn Road, and 2-5,000 vehicles per day through the Adelaide Hills.

Survey respondents raised numerous concerns regarding Greenhill Road, focusing on safety, driver behaviour, and road maintenance. For the section in the Adelaide Hills (east of Hallett Road), the road surface is described as patchy, uneven, and falling apart, with potholes, tree roots, and undulations causing hazards for vehicles and cyclists alike. Visibility was noted to be poor for cyclists, especially where bike lanes are missing, requiring them to merge with traffic to navigate around parked cars. Some bus stops in the Hills were cited to be unsafe due to inadequate platforms, poor lighting, overgrown vegetation, and their proximity to fast-moving traffic. Drivers cutting corners on bends, crossing into oncoming lanes, and tailgating are frequent issues in the Adelaide Hills, particularly in areas with blind crests and sharp bends. Additionally, the 80km/h speed limit between Burnside and Summertown is seen as inappropriate for the road's conditions, as most vehicles cannot safely reach that speed without encroaching into the opposing travel lane.

Figure 22: Some respondents were concerned about the 80km.h speed limit between Burnside and Summertown (Image source: Google Street View, June 2023)

Respondents proposed several solutions to address their concerns. Specifically, they recommend resurfacing the road between Burnside and Balhannah, and not just applying temporary fixes, as well as removing or relocating parked cars to create clearways or dedicated parking spaces in the metro area. Lowering the speed limit to 60km/h between Burnside and Summertown and improving line markings and signage to discourage tailgating, and corner-cutting, were widely suggested. Cyclists' safety could be improved with proper bike lanes, bike boxes at intersections, and regulations promoting high-visibility clothing. Respondents also call for safer, more accessible bus stops with platforms and lighting, as well as redesigning sharp bends and improving problematic intersections to manage congestion and improve traffic flow.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"Visibility of cyclists is challenging on this road even during the day, particularly when cyclists wear dark coloured clothing. Cyclists blend in with the landscape. One light on a bike is insufficient. The bus stops along Greenhill Road are significantly dangerous for residents/ pedestrians. Bus stop 17B and 18 have virtually no platform to stand on, in wet or foggy conditions, opposite Christopher Avenue, there is a danger of slipping down the landscape waiting for the bus behind the railing. Grasses are well overgrown in often these sections, adding to accessibility issues for public transport users as well as bus drivers."

"No one can get up to 80km/h, why even imply that it's achievable with the sign posted speed limit - how unsafe!"

"Drivers continually crossing onto the wrong side of the road both on blind corners and straight sections. Potholes, tree roots, uneven surfaces are dangerous. Road verges need to be maintained and cleaned regularly."

"Needs major resurfacing on some sections. Also, lazy drivers cutting blind corners instead of staying in their lanes."

"[Glynburn Road intersection] Roundabout just doesn't work for the amount of traffic at this intersection. Roundabout too small and should be replaced with lights."

"[Anzac Highway intersection] The line markings on this intersection are so faded they are barely visible. It's unsafe and should have been fixed months ago. Cars don't know where the stop line is, lane markers for cars to stay in their lane when crossing over Anzac Hwy."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Removing the 80km/h speed limit and making it 60km/h along the entire section; fixing some of the undulations and bumps caused by tree roots, collapsed road etc; improving bus shelters and providing lighting nearby."

"Road maintenance or replacement from the top of Burnside all the way to Uraidla and beyond to Balhannah. Improve line markings, clean roadsides and vegetation. Driver education. Don't admire the view as you're driving."

Regulations, or at least educational campaigns promoting cyclists to wear high vis clothing on dangerous roads in the hills at all times. Working with councils and bus services etc. to improve accessibility and management of bus stops (more people will use it if it's safer). Reduce speed limit for section of Greenhill Road up to end of Yarrabee Road from 80km/h to 6km/h. Signs that warn against tailgating on this road. Fix uneven surfaces.

"Resurfacing. A reminder sign before twisty sections could be useful to help reduce corner cutting. E.g. "Do not cross double lines, fines apply" etc."

"[Birkin Street intersection] A proper crossing for people to safely cross Greenhill Road."

Data analysis

Over the past ten years, casualty crashes have gradually declined along the length of Greenhill Road. Of concern is the rate of fatal or serious injury (FSI) crashes that has risen in recent years to an average of 5.8 FSI crashes per year between 2019 and 2023 from an average of 4.2 FSI crashes per year between 2014 and 2018.

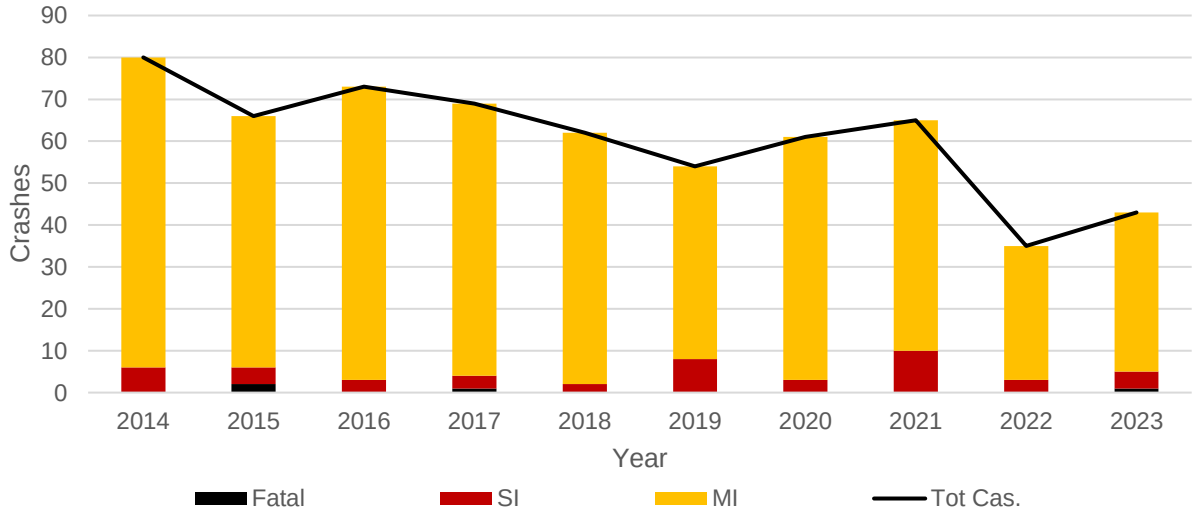


Figure 23: Ten-year trend in casualty crashes on Greenhill Road

Intersection crash types including rear end, right turn and right angle are the most common crash types between Anzac Highway and Hallett Road.

Table 16: Casualty crash types occurring along Greenhill Road (plains section) between 2019 and 2023

Crash type	No. of casualty crashes	Crash severity		
		Minor inj.	*Serious inj.*	*Fatal*
Rear End	83	83	0	0
Right Angle	39	36	3	0
Right Turn	33	30	3	0
Side Swipe	25	22	3	0
Roll Over	11	7	4	0
Hit Pedestrian	7	4	3	0
Hit Fixed Object	6	4	2	0
Hit Parked Vehicle	4	3	1	0
Head On	1	1	0	0
Hit Object on Road	1	1	0	0
Total	**210**	**191**	**19**	**0**

Single vehicle crash types including hit fixed object and roll over crashes occur at a higher rate in the Adelaide Hills, typical of regional roads through non-built-up areas.

Table 17: Casualty crash types occurring along Greenhill Road (Hills section) between 2019 and 2023

Crash type	No. of casualty crashes	Crash severity		
		Minor inj.	*Serious inj.*	*Fatal*
Hit Fixed Object	14	13	1	0
Head On	8	6	1	1
Roll Over	8	6	2	0
Rear End	6	4	2	0
Side Swipe	4	3	1	0
Hit Animal	2	1	1	0
Hit Pedestrian	2	1	1	0
Right Angle	2	2	0	0
Hit Object on Road	1	1	0	0
Right Turn	1	1	0	0
Total	**48**	**38**	**9**	**1**

The heatmaps below detail the casualty crash locations along Greenhill Road between 2019 and 2023, with a separate map used to look at crashes in the Adelaide Hills compared to crashes on the plains. Intersections are particular hotspots between Anzac Highway and Glynburn Road, with 70% of crashes along this section of Greenhill Road occurring at intersections. The intersection with Anzac Highway recorded the highest number of intersection casualty crashes with 17, followed by Fullarton Road, with 15.

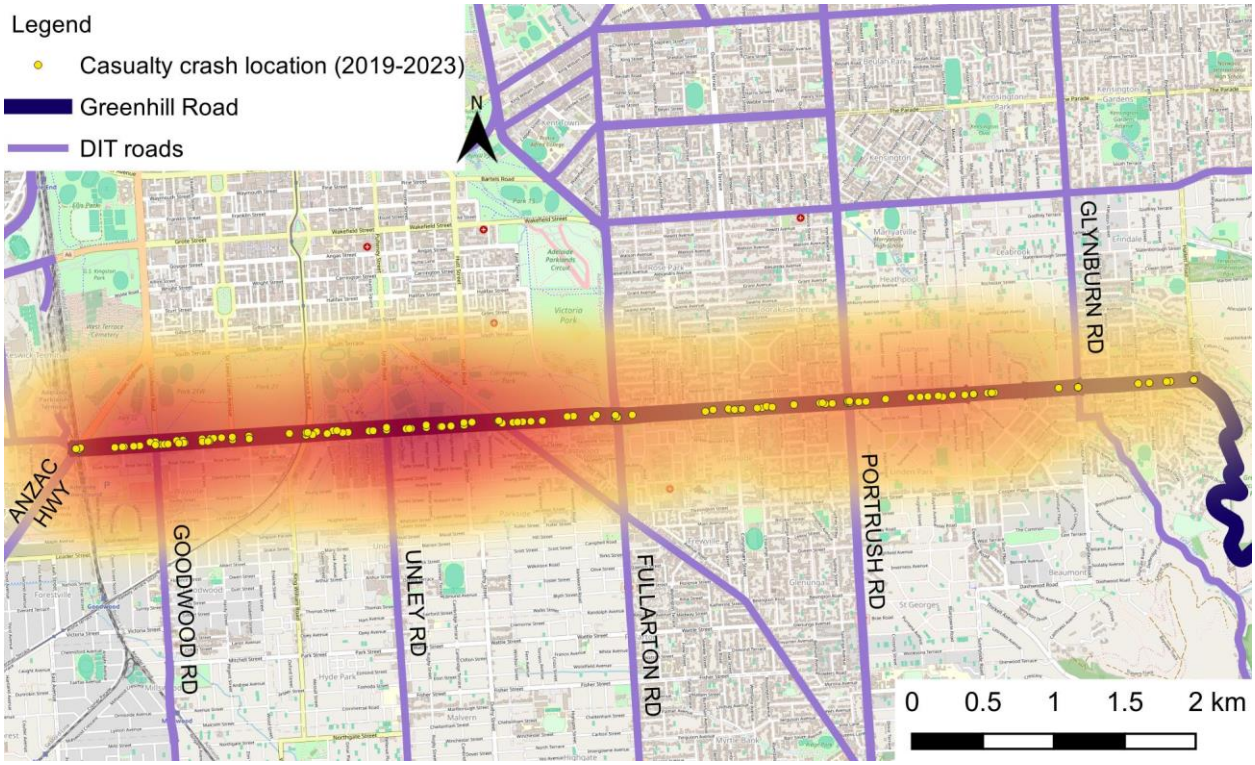


Figure 24: Heatmap of casualty crash locations on Greenhill Road (plains section) between 2019 and 2023

In the hills, the section between Burnside and Summertown is of particular concern, with 70% of casualty crashes along this section of Greenhill Road occurring within this stretch.

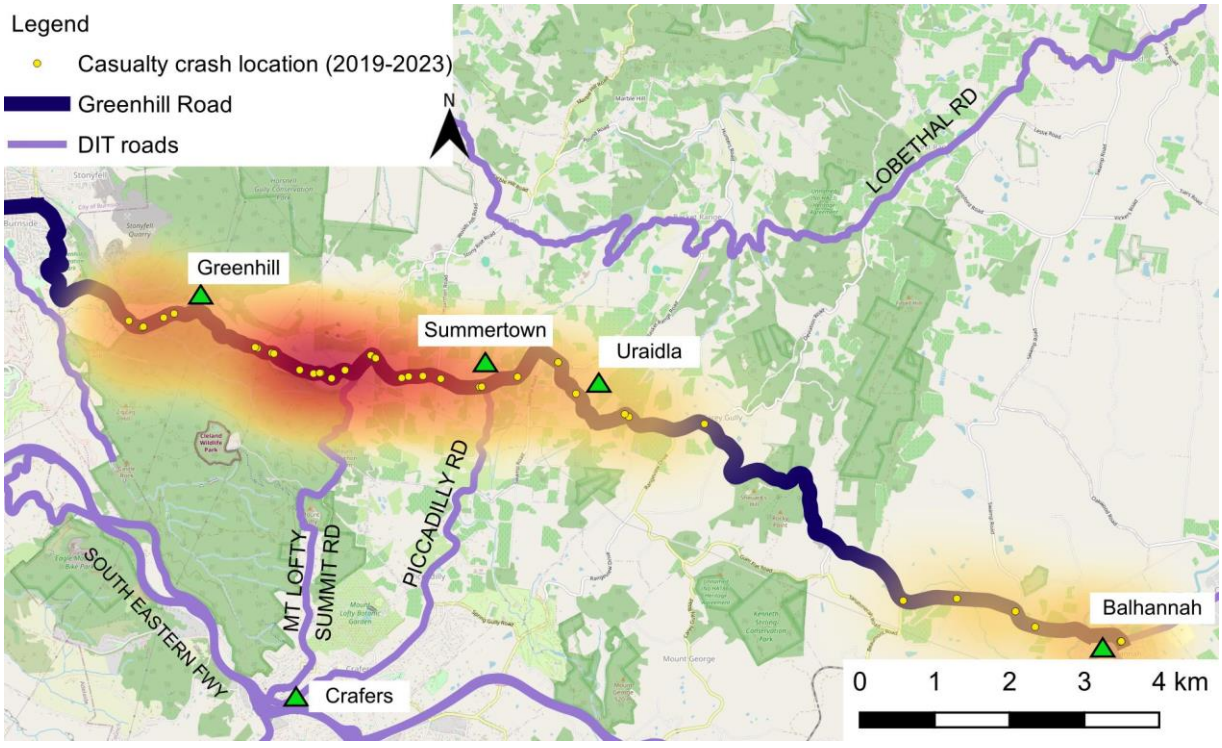


Figure 25: Heatmap of casualty crash locations on Greenhill Road (Hills section) between 2019 and 2023

Final comment

Feedback for Greenhill Road reveals a wide range of concerns along the entire length of the corridor. In the metro area, on-street parking continues to cause concern outside of peak hours because drivers attempt to travel in the left lane which impacts the safe flow of traffic in the centre lane. Intersection safety is also a key issue, and intersection upgrades along the corridor could seek to improve safety, implement new and improved cycle infrastructure while also optimising efficiency of the City Ring Route.

RAA's 2020 Adelaide Hills regional road assessment reviewed conditions along Greenhill Road and resulted in several recommendations for the corridor including:

- Installing centre line ATLM to deter drivers and riders from crossing the centre line
- Reviewing the speed limit between Burnside and Summertown, considering a 60km/h limit
- Resealing around curves exhibiting pavement failures, with consideration to a full reseal between Burnside and Summertown

As one of inner Adelaide's most popular east-west cycling routes, improvements to cycle infrastructure along Greenhill Road should be investigated further, including:

- Provision of continuous cycle lanes including buffer or physical separation where possible along the full length of Greenhill Road, prioritising the intersection with Fullarton Road and the section between Fullarton Road and Glen Osmond Road
- Construction of a shared use or dedicated cycling path on the southern boundary of the Adelaide Parklands, adjacent Greenhill Road
- Improvements to the continuity of the Glenside Bikeway and Mike Turtur Bikeway across Greenhill Road
- Changing current part-time cycle lanes to full-time cycle lanes

Metro rank #5: Dalkeith Road

Metro ranking:	5 (10 overall)			
Total nominations:	22			
Top issues:	Maintenance, intersection safety			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	41	55	4	2

Dalkeith Road has been nominated as the fifth riskiest metro road in our 2024 Risky Roads survey, marking the first time the road itself has been nominated in the top ten list. The intersection with Main North Road in Kudla was ranked as the fifth highest intersection in our 2017 survey, prior to its signalisation in 2018.

Intersections raised along Dalkeith Road included Coventry Road (4 nominations), Stebonheath Road (3 nominations) and Main North Road (1 nomination). The intersection with Angle Vale Road received enough nominations (22 when combined with the nearby Andrews Road/Angle Vale Road intersection) to be nominated the third highest intersection, with this intersection discussed separately in this report. As such, these intersection nominations are not included in the Dalkeith Road total.

Dalkeith Road forms the boundary between Town of Gawler and City of Playford and maintenance and management is shared between the Town of Gawler and City of Playford councils. Dalkeith Road forms part of a direct link between Main North Road and the Northern Expressway (via Angle Vale Road), and traffic volumes are expected to increase in coming years as residential development in Munno Para and Angle Vale progresses. Traffic volume data for Dalkeith Road is not publicly available.

Survey respondents highlighted numerous concerns with Dalkeith Road, primarily focusing on the poor condition of the road surface. Potholes, cracks, loose surfaces, and sunken utility trenches were reported, creating significant hazards for drivers. Some users reported damage to their vehicles and described the road as dangerous, particularly at night when visibility is reduced. Survey respondents were concerned that maintenance work has not been adequate, leading to patchwork repairs that fail to address long-term deterioration. Concerns were also raised about the increasing traffic volume due to nearby housing developments with congestion on alternate routes exacerbating the issues.

Figure 26: Cracked road surface at the intersection with Moss Road, Kudla (March 2025)

Respondents overwhelmingly called for the entire length of Dalkeith Road to be properly resurfaced with a new, durable layer of asphalt. Recommendations include widening the road to accommodate higher traffic volumes and improving signage to enhance safety. Respondents also urged authorities to consider future development impacts when planning upgrades, ensuring that the road can handle increased traffic and heavier vehicles.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"This is now a major thoroughfare due to Curtis Road being such a car park."

"Often 10-30 pot holes. Some of them become huge, I have popped a tyre due to one of them. Often don't see them until you're driving over them or know the road is well. Poor visibility at night and you cannot avoid them."

"With all the new development the road has become a patchwork of fixed, partially fixed and not fixed potholes. The road surface is cracking and there has been surface movement where the heavy dirt trucks turn, making it undulating."

"Dalkeith Road has some of the worst potholes, and also Sunken Water, utility Trenches, that cross the road at right angles, these trenches have sunk into the Road surface by a 2 to 3 inches and are a traffic hazard. There is a lot of new housing Development in the area, yet Dalkeith Rd hasn't been sheeted in over 30 years, the Road surface is totally unsustainable for the Posted speed limit of 80 kph. The Road surface has severe cracking and is sinking in many places, it's a very Dangerous Road to Drive on."

"Unnecessarily dangerous layout with limited opportunity for cars coming off Coventry Rd, heading onto Dalkeith Road, left or right turning. Speed limit is 80kph, which during peak hour increases the risk of a collision, due to more risk taking to make a turn."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Resurfacing, widening and better signage."

"Resurface the road to accommodate the thousands of new homes to be put in."

"Rip up and redo the entire road during school holidays."

"This intersection [Coventry Road] could easily be reformed into a standard 4 entry roundabout and greatly reduce the chance of accidents."

Data analysis

Despite reportedly increasing traffic volumes, the total casualty crash trend on Dalkeith Road has tended to decrease over the past decade. However, when considering FSI crashes, there has been a substantial spike in the most recent five-year (2019-2023) period, with six FSI crashes (including two fatal crashes) occurring in this time compared to two between 2014 and 2018.

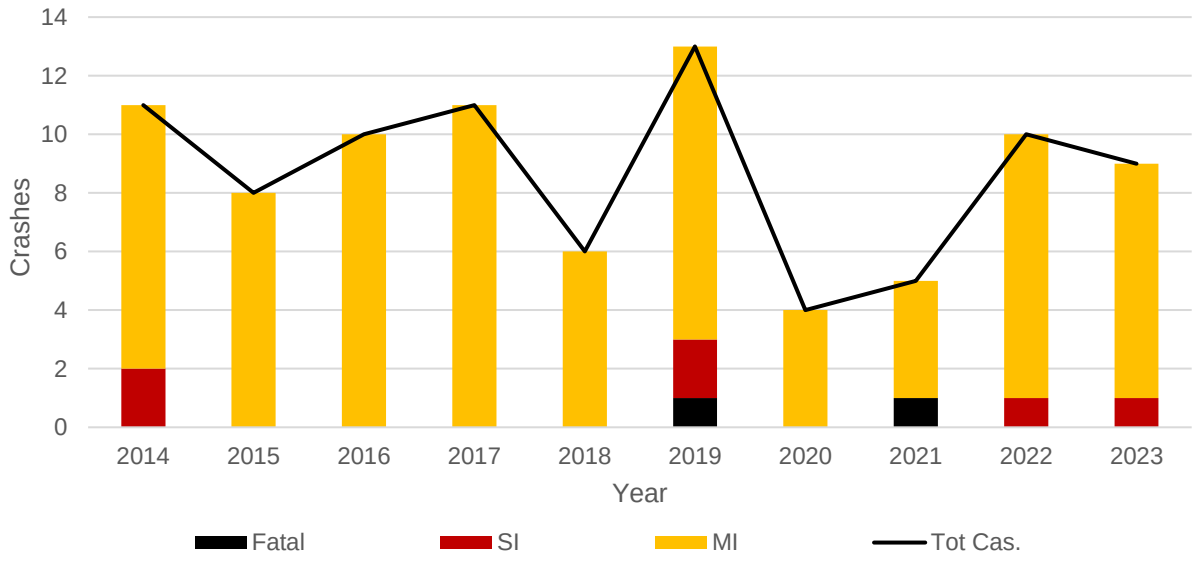


Figure 27: Ten-year trend in casualty crashes on Dalkeith Road

Intersection crashes are most common types on Dalkeith Road and account for 85% of crashes along the corridor, highlighted by crash data indicating that right angle and rear end crashes are prominent.

Table 18: Casualty crash types occurring along Dalkeith Road between 2019 and 2023

Crash type	**No. of casualty crashes**	**Crash severity**		
		Minor inj.	*Serious inj.*	*Fatal*
Right Angle	17	14	3	0
Rear End	15	15	0	0
Hit Fixed Object	5	2	1	2
Right Turn	3	3	0	0
Roll Over	1	1	0	0
Total	**41**	**35**	**4**	**2**

The worst intersections for casualty crashes are Angle Vale Road (13), the Coventry Road dog-leg (8), Main North Road (7) and Stebonheath Road (6), with the heatmap in Figure 28 indicative of this.

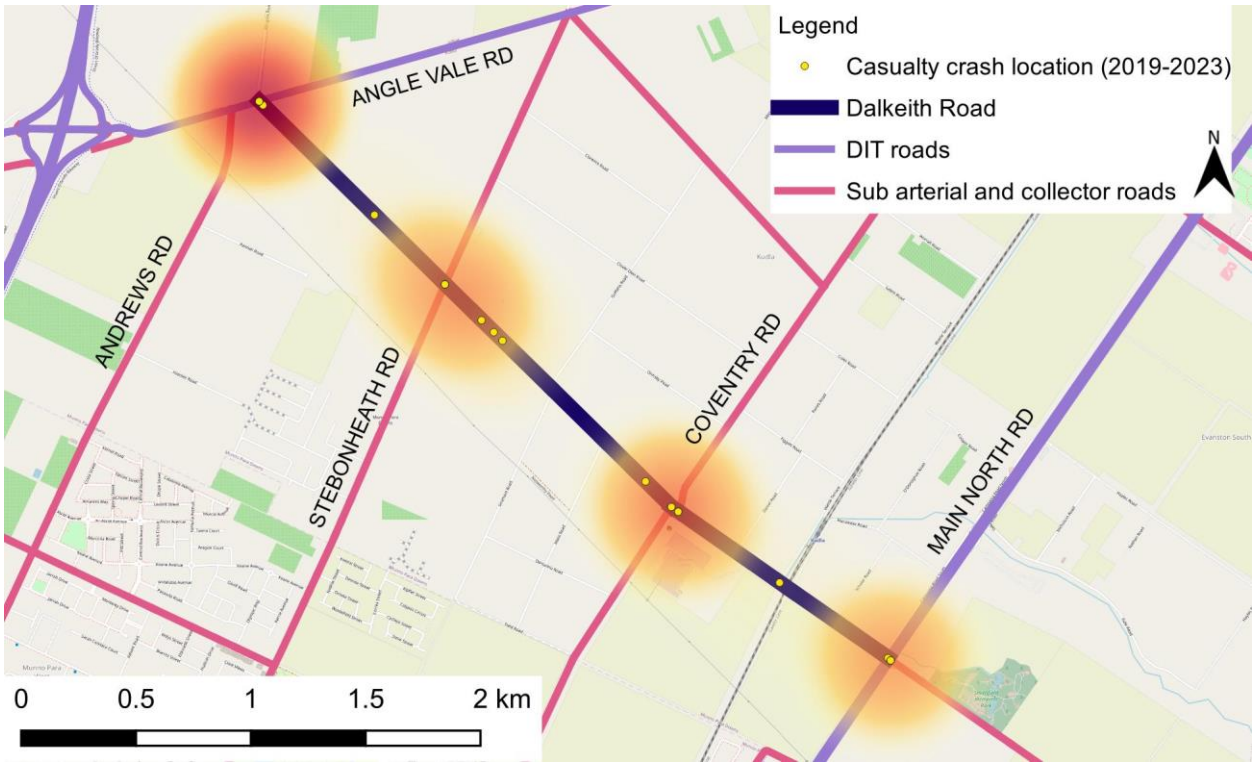


Figure 28: Heatmap of casualty crash locations on Dalkeith Road between 2019 and 2023

Final comment

Maintenance of Dalkeith Road was the most significant issue raised along Dalkeith Road, followed by concerns with the ability of the road to cope with expected residential growth in the surrounding area. Intersection safety was also a major concern, especially at Angle Vale Road (discussed separately in this report), Coventry Road and Stebonheath Road, noting the latter is about to be upgraded.

The City of Playford and Town of Gawler submitted the Dalkeith Road and Stebonheath Road intersection to the Federal Government Black Spot Program for 2023-24 and have received $2m towards the cost of this upgrade. The detailed design of a single lane roundabout for this intersection is in progress, with project completion expected in 2026.

RAA advocated for the duplication of Curtis Road ahead of the 2022 state election and continues this advocacy in an aim to secure commitments to upgrade several east-west connecting roads in the northern suburbs. Since 2022, various planning studies have been conducted, including the Curtis Road and Dalkeith Road Traffic Study and the Northern Adelaide Transport Study.

The Greater Adelaide Regional Plan (GARP) draft[5], released in November 2024 proposes a Kudla Growth Area between Hillier and Blakeview, separated from the urban area of Gawler by proposed Northern Park Lands. This area is close to the Gawler rail line and is anticipated to be planned and

[5] State Planning Commission, 2024, *Greater Adelaide Regional Plan Draft: September 2024*, accessed at <https://plan.sa.gov.au/__data/assets/pdf_file/0007/1425382/draft-Greater-Adelaide-Regional-Plan.pdf>.

delivered over the next 30 years. Figure 29 is adapted from the GARP draft and highlights Dalkeith Road in red with respect to the identified Kudla Growth Area outlined in black.

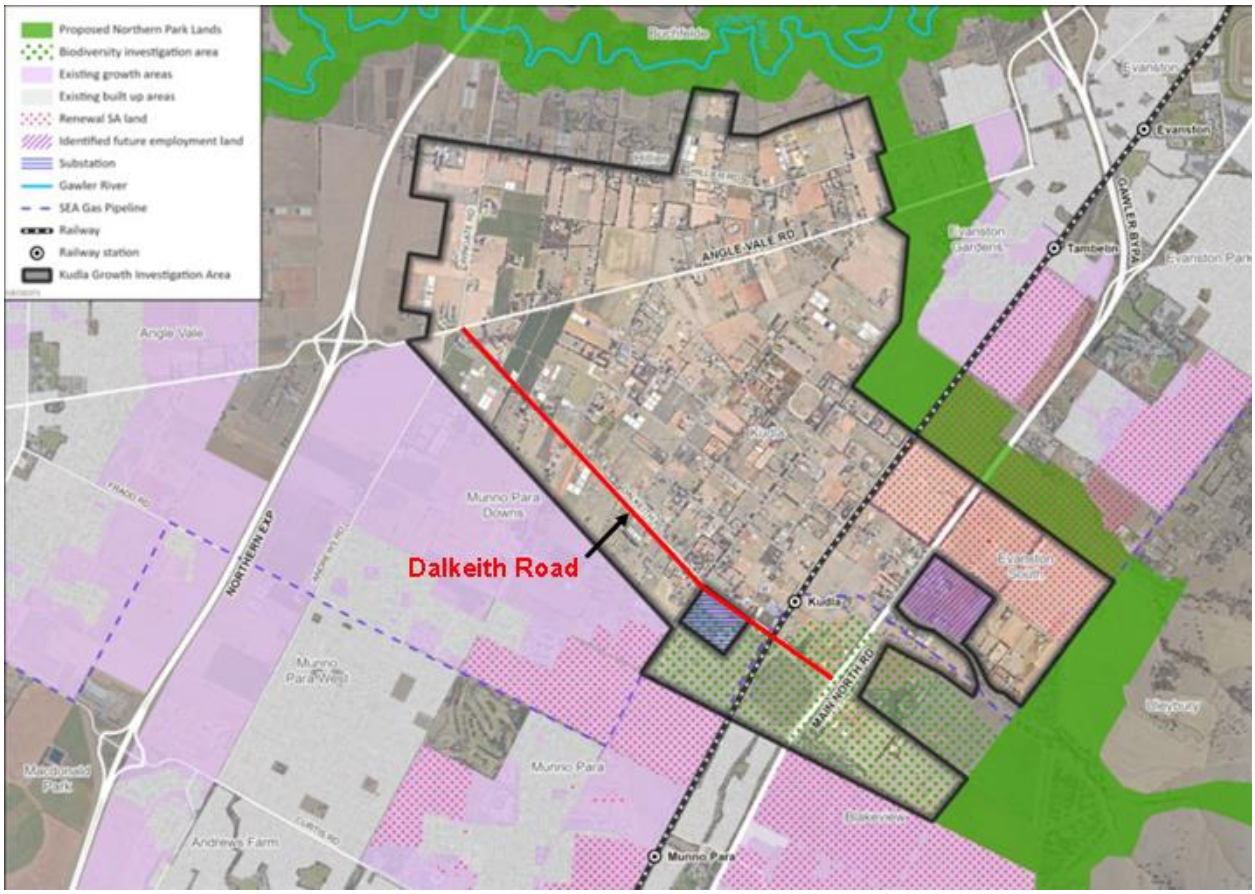


Figure 29: Location of Dalkeith Road with respect to the Kudla Growth Area identified in the GARP

While the Town of Gawler Council had previously envisaged an Inter Urban Break along Dalkeith Road, the State Planning Commission has proposed this be situated further north as shown by the green shaded area in the map in Figure 29. The ultimate location of this land reserve is important in the context of Dalkeith Road as it will largely determine how the corridor will function into the future.

Dalkeith Road will continue to be a highly important east-west link road in the northern suburbs, with its significance to the surrounding transport network only set to increase. As such Dalkeith Road should be managed and funded by state government to ensure necessary infrastructure improvements such as the intersection upgrades required can be implemented to support the predicted increase of the Kudla Growth Area.

In the shorter-term, maintenance works are required along the full length of Dalkeith Road to address potholes, cracking and edge breakup.

Metro rank #6: Womma Road

Metro ranking:	6 (11 overall)			
Total nominations:	22			
Top issues:	Maintenance, road capacity, intersection safety, drainage			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	96	121	15	0

Womma Road has been nominated as the sixth riskiest metro road in our 2024 Risky Roads survey, receiving 22 nominations excluding those for the roundabout at the Heaslip Road/Northern Expressway junction in Penfield which, when combined with other nominations for this interchange, was nominated as the sixth riskiest intersection, and is discussed separately in this report.

Womma Road is under the care and control of the Department for Infrastructure and Transport (DIT) and extends 6km between the Northern Expressway/Heaslip Road roundabout and Main North Road. Womma Road is part of the only east-west road corridor within the City of Playford under the care and control of DIT, with Penfield Road providing the state-government maintained link between Virginia and the Northern Expressway.

Traffic volumes on Womma Road are high, with 2024 estimates indicating 18,700 vehicles per day use the busiest section between the Heaslip Road/Northern Expressway roundabout and the Andrews Road intersection, while other sections carry between 11,000 and 17,000 vehicles per day.

While most nominations were for the length of Womma Road, there were five nominations specifically for the intersection with Andrews Road in Eyre.

Survey respondents raised Womma Road for traffic congestion due to an increase in residential developments and inadequate infrastructure. Nominations also indicated concerns about maintenance, with numerous potholes, uneven surfaces, and rough patches, making it unsafe for vehicles, motorcyclists, and pedestrians. Heavy vehicle traffic and insufficient turning lanes at intersections can lead to risky driving behaviour and exacerbate traffic delays. Some respondents also cited a lack of lighting, footpaths, and cycle lanes that further compound safety concerns. Some respondents nominated the intersection with Andrews Road, where frequent collisions were reported, as well as delays causing significant frustration.

Residents and road users are calling for Womma Road to be widened to two lanes each way and resurfaced along its entire length. They want to see the addition of cycle lanes, footpaths, and proper lighting to enhance safety for all road users. There is a strong demand for roundabouts or traffic lights at major intersections, such as at Andrews Road, to improve traffic flow and reduce crashes. Suggestions also include adding turning lanes at side roads and implementing stormwater drainage systems to address flooding and better accommodate the growing traffic demand.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"Dangerous to drive on with the road condition, speed, heavy vehicles turning, and inability to go around turning traffic unless willing to likely damage vehicle. I now travel at 10km/h under the speed limit to reduce impact to car and passengers."

"Whole road is uneven, small and cannot support current flow of traffic at any time of day. Trying to ride motorcycle down this road, so many bumps and uneven road it's very dangerous to ride the speed limit as can almost have an accident, causing cars behind to become annoyed and tailgating making the stretch of road unsafe."

"A very busy access road for north south motorway. Alot of trucks and b-doubles using this ill-equipped road. It is only going to get worse in the next 24 months when a dozen or so truck and retail businesses start as well as the expanding housing out here. There are no cycle lanes and no footpaths."

"Numerous collisions [at the intersection with Andrews Road]. Extensive delays with vehicles trying to turn off Womma Rd toward RAAF Base Edinburgh."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Widen it to 2 lanes each way and add more roundabouts or stoplights for intersections."

"The road needs to be dual lane and another roundabout at Andrew and Womma Road roundabout."

"Dual lanes from the Heaslip Womma Rd intersection to Peachy Rd and roundabout at Womma Rd/Andrews Rd intersection."

"Replace whole road, upgrade to multilane, traffics lights places at Andrew's Road, speed limit reduced to 60 for entire road after multilane upgrade."

"Dual lanes each way. Resealing the road. Better lighting at night."

Data analysis

Notwithstanding the annual fluctuation in crash numbers, there has been a reduction in recent years due to the construction of a new roundabout at Stebonheath Road in 2021. This intersection recorded 41 casualty crashes in the five years between 2016 and 2020 at an average of 8.2 per year. Between 2021 and 2023, during and post construction, only three casualty crashes occurred, at an average of one per year, with no casualty crashes recorded in 2023.

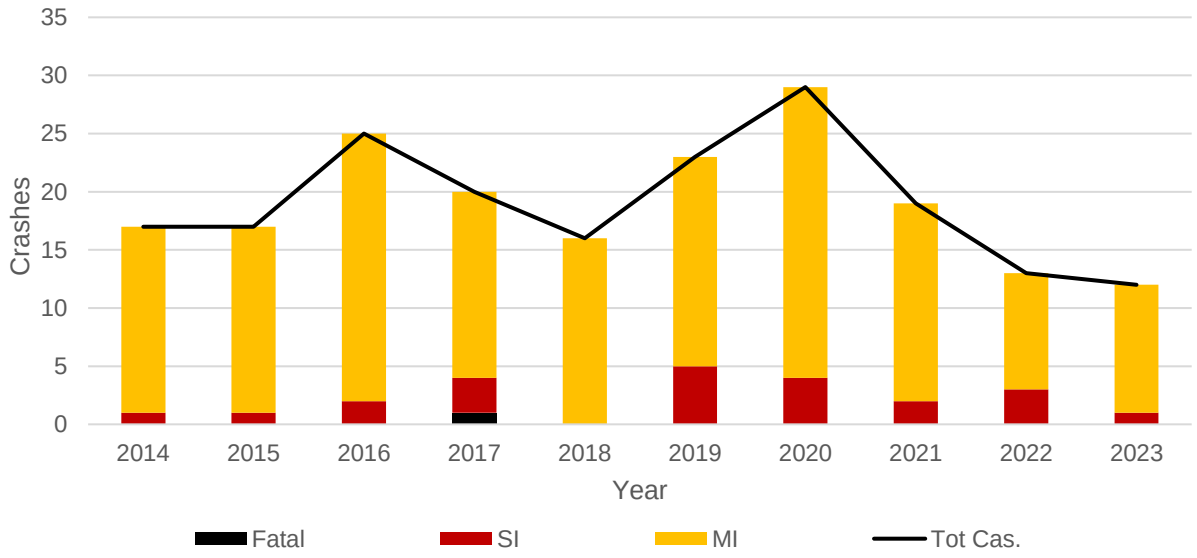


Figure 30: Ten-year trend in casualty crashes on Womma Road

Figure 31 shows the ten-year trend of crashes on Womma Road, excluding the Stebonheath Road intersection, highlighting a generally increasing rate of crashes along the corridor with 15.2 crashes occurring per year between 2019 and 2023 compared with 12.8 per year between 2014 and 2018.

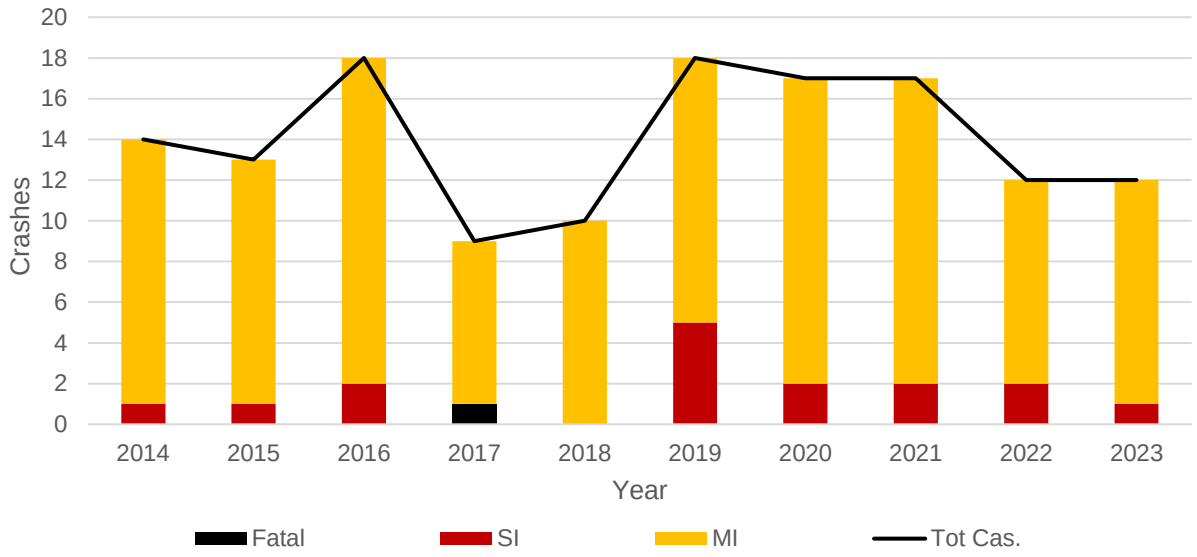


Figure 31: Ten-year trend in casualty crashes on Womma Road excluding the intersection with Stebonheath Road

Figure 32 shows the ten-year trend of casualty crashes at the Womma Road/Stebonheath Road intersection, highlighting the positive safety impact made by the roundabout installed in 2021.

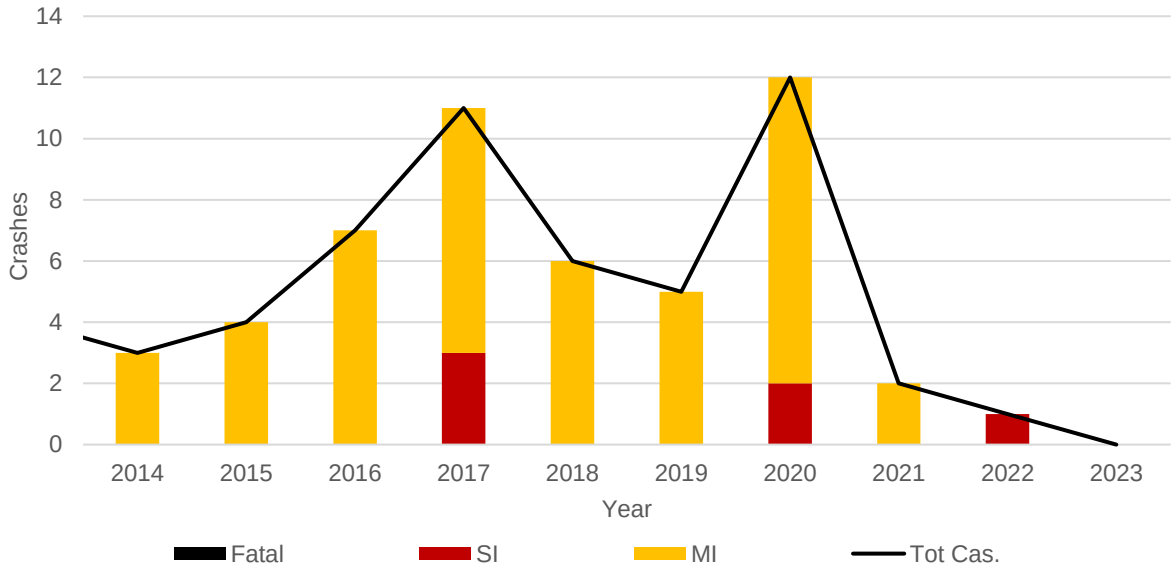


Figure 32: Ten-year trend in casualty crashes at the Womma Road/Stebonheath Road intersection

Intersection crashes accounted for 75% of casualty crashes on Womma Road between 2019 and 2023, with right angle and rear end crashes the most commonly occurring and often associated with high volumes of traffic and undesirable intersection design.

Table 19: Casualty crash types occurring along Womma Road between 2019 and 2023

Crash type	No. of casualty crashes	Crash severity		
		Minor inj.	*Serious inj.*	*Fatal*
Right Angle	41	35	6	0
Rear End	28	27	1	0
Hit Fixed Object	9	5	4	0
Side Swipe	6	6	0	0
Right Turn	4	3	1	0
Roll Over	4	3	1	0
Head On	2	0	2	0
Hit Parked Vehicle	1	1	0	0
Other	1	1	0	0
Total	96	81	15	0

Casualty crashes are dispersed along Womma Road but largely focussed on key intersections. Between 2019 and 2023, the intersections with the most casualty crashes were:

- Stebonheath Road, 20 casualty crashes (upgraded in 2021)
- Main North Road, 13 casualty crashes
- Andrews Road, 9 casualty crashes
- Heaslip Road/Northern Expressway, 8 casualty crashes
- Peachey Road, 8 casualty crashes

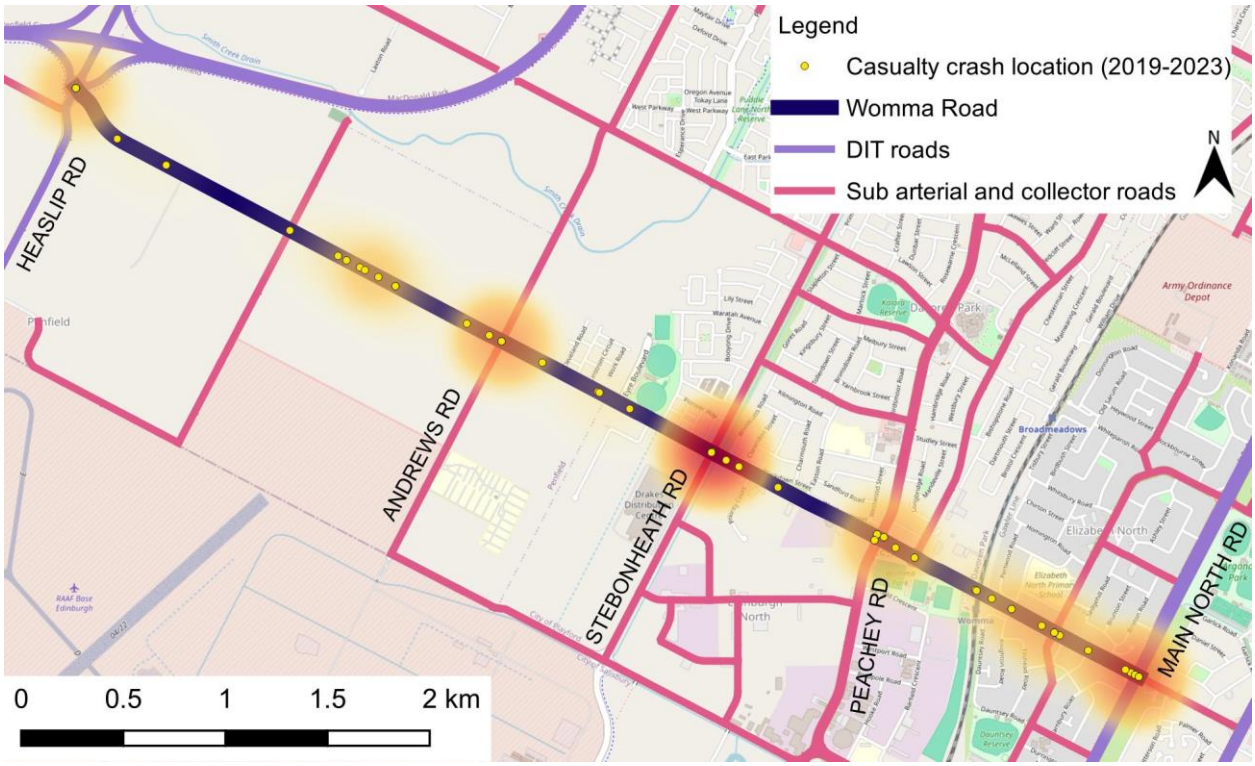


Figure 33: Heatmap of casualty crash locations on Womma Road between 2019 and 2023

Final comment

As part of a primary east-west route in the northern suburbs, Womma Road serves an important function to road transport. Roundabouts at intersections have previously shown to improve road safety outcomes on Womma Road, with the Stebonheath Road roundabout built in 2021 the most recent example.

Following RAA's site investigation in March 2025, it is evident that maintenance is urgently required on Womma Road, particularly between Stebonheath Road and Heaslip Road.

Figure 34: Womma Road is in very poor condition between Stebonheath Road and the Northern Expressway (photo March 2025, Penfield)

RAA considers that the changes recommended by survey respondents would substantially improve the safety of the corridor for the rapidly expanding community. While duplication was frequently suggested and may be necessary in future, RAA considers Curtis Road to be a higher priority at this stage. Nevertheless, duplication of Womma Road may be less complex than Curtis Road, with land available, and potentially fewer challenges relating to service relocation indicating that less capital would be required to deliver the project. As a minimum, resurfacing works are needed between Stebonheath Road and Heaslip Road, as well as planning towards an upgrade at the intersection with Andrews Road in Eyre.

RAA advocated for the duplication of Curtis Road ahead of the 2022 state election and aimed to secure commitments to upgrade several east-west connecting roads in the northern suburbs. Since then, various planning studies have been conducted, including the Curtis Road and Dalkeith Road traffic study and the Northern Adelaide Transport Study. RAA will continue to call on state government to invest in key transport infrastructure to deliver safer, more liveable communities in this rapidly growing area.

RAA understands that Womma Road between Heaslip Road and Stebonheath Road is a candidate for resurfacing works in 2025/2026, subject to other statewide priorities.

Metro rank #7: Port Wakefield Highway

Metro ranking:	7 (13 overall)			
Total nominations:	21			
Top issues:	Intersection safety			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	99	98	37	9

Port Wakefield Highway has been nominated as the 7th riskiest metro road in our 2024 Risky Roads survey. The highway has been included in the list of metro roads as most of the feedback related to the southernmost section between Two Wells and Waterloo Corner.

More than three quarters of nominations were for intersections along the corridor including:

- Angle Vale Road, 6 nominations
- Old Port Wakefield Road, 6 nominations
- Mallala Road, 2 nominations
- Reedy Road, 1 nomination
- Copper Coast Highway (Port Wakefield), 1 nomination

Port Wakefield Highway is part of the National Land Transport Network, and as such is managed and operated by the state government, with additional federal funding available.

According to 2024 DIT traffic volume estimates, the section between Waterloo Corner and Two Wells carries 18,800 vehicles per day, including 20% commercial vehicle traffic. North of Two Wells, traffic volumes reduce to about 10,000 vehicles per day through to Port Wakefield.

Respondents were consistent in their concerns that increasing residential development in Virginia, Two Wells and Riverlea Park was exacerbating safety issues on Port Wakefield Highway. especially at intersections. There was significant concern about the recent installation of traffic signals at Angle Vale Road/Riverlea Boulevard, while the intersections with Old Port Wakefield Road (Virginia) and Mallala Road (Two Wells) were seen to be insufficient for the growing traffic levels.

Figure 35: The signalised intersection at Angle Vale Road was a highly raised concern on Port Wakefield Highway

Survey respondents suggested that the Angle Vale Road traffic signals should be replaced with an overpass, while the length of channelised turn lanes and acceleration lanes at other intersections was also a source of concern and should be extended as a lower-cost intersection treatment.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"Too many accidents that result in serious injury or deaths. Countless times there are incidents never reported as vehicles/drivers avoided disastrous accidents. Seems only South Australia does nothing about these situations."

"[Angle Vale Road intersection] This is a poorly created intersection, requiring traffic travelling on Port Wakefield Road to drop 30kmh of speed to stop for traffic lights. The traffic sequence is incredibly slow for traffic coming from Angle Vale Rd or Riverlea and changes quickly resulting in either long delays or people running the light to continue their journey. I have witnessed at least 5 trucks and who knows how many vehicles in the last few weeks run the red lights here or cut yellows very close. No one slows to 80 on the Pt Wakefield Rd section either. Someone will die here eventually."

"[Mallala Road intersection] Where the road from Mallala enters Port Wakefield Road at Two Wells, it's road train gazetted but it has not been improved since it was only for 23 metre b-doubles. Bad enough trying to turn left in a car with no slip lane but just dangerous in a road train."

"[Old Port Wakefield Road intersection] The lane for turning right from Port Wakefield Road into Old Port Wakefield Road is too short. The population and traffic growth in Virginia means this right turning lane is no longer long enough. The amount of unduly hesitant drivers only makes the problem worse. At busy times, the traffic will queue down the lane for turning right and extend into the right-hand lane of Port Wakefield Road. As this road is a 90km/h road, this is a very bad accident just waiting to happen especially when considering the poor driving ability of the average Adelaide motorist."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Eliminate T Junctions on major highway. Introduce merge only lanes (not 90-degree corners into fast moving traffic). No crossing of multiple lanes in both directions. Ensure adequate U turn lanes to allow traffic to change travel directions."

"Upgrade between Northern Connector and Two Wells to modern motorway standards. The road was great in its time but there was much less traffic when it was first built. Intersections need upgrades or grade separated ramps, and a cycle path is needed from Two Wells to Waterloo Corner via Virginia and Riverlea."

"[Old Port Wakefield Road intersection] Put up warning flashing lights to reduce speed as there are side roads, put up STOP signs for cars turning in and out of Old Port Wakefield Rd. Paint better lines to show the intersection and reflective paint at night. Need a slip lane for cars turning LEFT out of Old Port Wakefield Rd and REDUCE SPEED signs when travelling south on Port Wakefield Highway."

"[Mallala Road intersection] Make longer to be able to merge safely."

"[Angle Vale Road intersection] Create overpass like north of Port Wakefield before lives are lost."

Data analysis

The annual casualty crash rate on Port Wakefield Highway has remained fairly steady in recent years, with a reduction in minor injury crashes since 2017 and a steady rate of FSI crashes occurring annually.

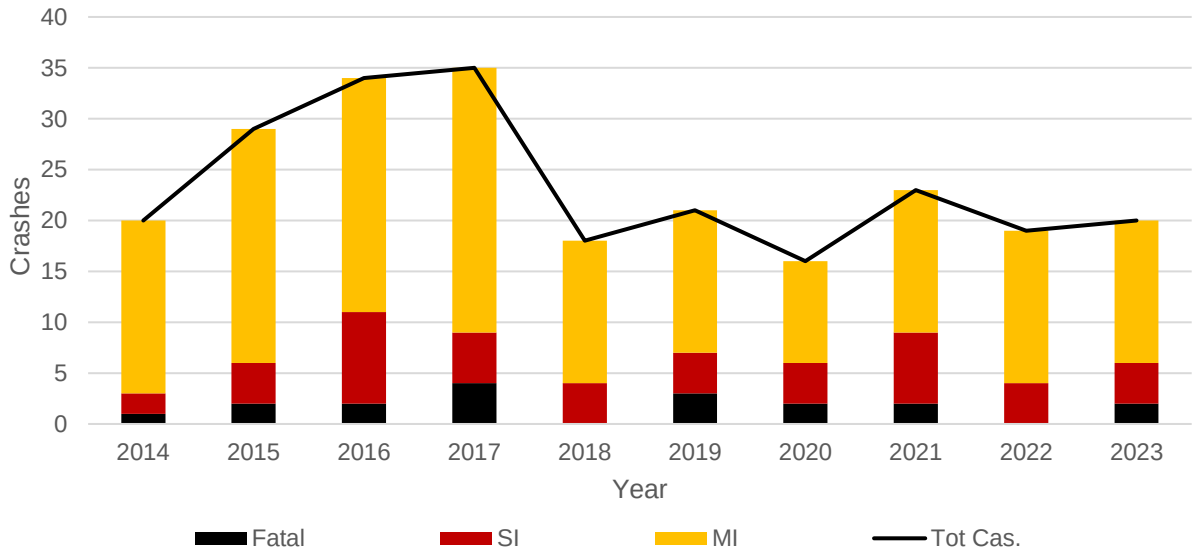


Figure 36: Ten-year trend in casualty crashes on Port Wakefield Highway

Crash types are varied along the corridor, with collisions with fixed objects the most frequently occurring, followed by right angle and rear end crashes.

Table 20: Casualty crash types occurring along Port Wakefield Highway between 2019 and 2023

Crash type	No. of casualty crashes	Crash severity		
		Minor inj.	*Serious inj.*	*Fatal*
Hit Fixed Object	31	22	9	0
Right Angle	22	17	2	3
Rear End	15	12	2	1
Roll Over	10	3	5	2
Right Turn	8	6	2	0
Side Swipe	6	3	2	1
Head On	4	2	1	1
Hit Parked Vehicle	1	0	0	1
Left Road - Out of Control	1	1	0	0
Other	1	1	0	0
Total	**99**	**67**	**23**	**9**

More than half (54%) of casualty crashes on Port Wakefield Highway occurred on the section between the Northern Expressway in Waterloo Corner and Mallala Road in Two Wells, with more than half of these crashes occurring at intersections.

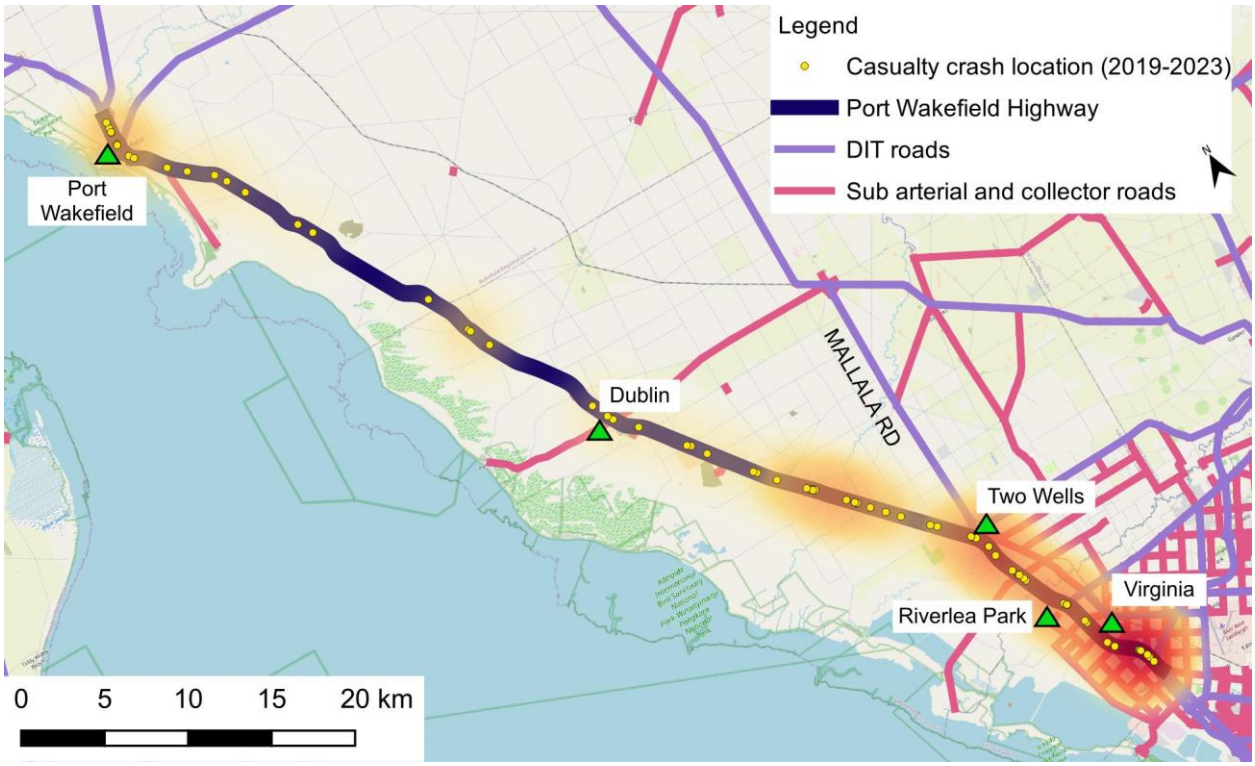


Figure 37: Heatmap of casualty crash locations on between 2019 and 2023

Between 2019 and 2023, the intersections with the most casualty crashes were:

- Old Port Wakefield Road, 13 casualty crashes
- Angle Vale Road, 8 casualty crashes
- Brooks Road, 5 casualty crashes (including 2 fatal crashes)
- Mallala Road, 3 casualty crashes

Final comment

As part of a major interstate transport corridor, Port Wakefield Highway serves a significant movement function in South Australia's land transport network. Increasing residential development between Waterloo Corner and Two Wells is beginning to strain the limitations of existing design from a safety perspective. Seagull intersections such as what is used at Mallala Road and Old Port Wakefield Road have traditionally been notorious for serious crashes in South Australia. Recent examples have seen seagull intersections near Port Wakefield (Port Wakefield Highway/Copper Coast Highway) and Barmera (Sturt Highway/Old Sturt Highway) replaced with an overpass and a roundabout, delivering significant safety benefits to these intersections with tragic crash histories.

RAA's 2019 Yorke Peninsula Regional Road Assessment reviewed conditions along Port Wakefield Highway north of Two Wells, suggesting improvements to lane lengths, signage and line marking at Mallala Road.

This section of Port Wakefield Highway carries more traffic than the South Eastern Freeway between Mount Barker and Murray Bridge, including road trains, however, the road design is far inferior to this section of the South Eastern Freeway, where grade separated junctions are provided for access and egress from the corridor. Intersections at Old Port Wakefield Road, Angle Vale Road, and Mallala Road each carry more daily traffic than the Callington or Monarto Interchanges, and as developments progress, could carry equivalent volumes to the White Hill and Swanport interchanges at Murray Bridge.

Ultimately, Port Wakefield Highway should be upgraded between Waterloo Corner and Two Wells to ensure safety for users of the highway as residential development increases. While the highway has two wide lanes in each direction, roadside hazards are prominent and both inside and outside shoulders are relatively narrow. Intersection design is no longer appropriate for the high volumes of traffic including freight, travelling at high speed. Improvements should include:

- Shoulder widening
- Additional hazard protection
- Intersection upgrades to extend acceleration lanes and limit right turn movements as a minimum, considering construction of full access interchanges at Virginia, Two Wells and Riverlea Park, while limiting access to the corridor from other locations.

Metro rank #8: North East Road

Metro ranking:	8 (14 overall)			
Total nominations:	20			
Top issues:	Intersection safety, road geometry			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	487	518	59	3

North East Road has been nominated as the eighth riskiest metro road in our 2024 Risky Roads survey. North East Road has appeared in the top ten nominated metro roads several times previously, including third in 2013 and 2017 and ninth in 2021.

80% of nominations for North East Road were for intersections along the corridor including:

- Fosters Road (Hillcrest), 4 nominations
- Tolley Road (St Agnes), 3 nominations
- Kelly Road (Valley View), 2 nominations
- McIntyre Road (Modbury), 1 nomination
- O G Road (Klemzig), 1 nomination
- Tarton Road (Holden Hill) 1 nomination
- Tilmouth Road (Inglewood), 1 nomination
- Houghton Hollow Road (Houghton), 1 nomination
- Tippett Road (Chain of Ponds), 1 nomination

North East Road is one of Adelaide's busiest metro arterial corridors, extending 15km between Adelaide and Tea Tree Gully. Traffic volumes on this section of North East Road are typically between 40,000 and 50,000 vehicles per day, reducing substantially east of McIntyre Road. East of Tea Tree Gully, North East Road continues through the Adelaide Hills for 12km towards Gumeracha, where it continues beyond Gorge Road as Torrens Valley Road. This section typically carries 5,000 to 8,000 vehicles per day.

Respondents raising midblock sections of North East Road typically referred to the section between Tea Tree Gully and Gumeracha, where high traffic, and the narrow road width were raised, however most comments related to several intersections along the corridor. The Fosters Road intersection in Hillcrest was the most highly raised location along the corridor, with respondents concerned mostly about dangerous turn movements, and difficulty turning onto this section of North East Road from Fosters Road. Concerns about congestion were raised at the Tolley Road intersection, while the seagull island treatment at Kelly Road was seen as confusing and poorly delineated. Three intersections in the Adelaide Hills received a single nomination each, with sight distance and intersection layout common themes across all nominations.

Figure 38: Long queues to turn right onto Fosters Road from North East Road extend beyond the channelised turn lane

To reduce risk, survey respondents suggested solutions such as lower speed limits, overtaking lanes, and additional safety barriers in the Hills, as well as improving sight distance and intersection layout to make intersections in the Hills safer. At Fosters Road, respondents called for traffic signals to be installed, while some cited that the Muller Road intersection was too close, and that right turn bans might be effective. Traffic lights or a roundabout were suggested at Tolley Road, while traffic lights or improved signage were suggested for Kelly Road.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"This road carries a large amount of traffic for a narrow windy road and has a high crash rate. There are no overtaking opportunities, and despite cyclists and even pedestrians using this road (to access houses and also Anstey Hill Conservation Park), there is no room for cyclists/pedestrians. In addition, there are many trees and embankments that aren't protected by guard rail or verge space. Often vegetation and embankments sit right on the white 'fog' line on the side of the road. The corners are tight and allow no margin for error, which makes it hard for trucks and buses. Cars cutting corners across double white lines are a significant risk here too."

"[Fosters Road intersection] Dangerous to turn right from Fosters onto North East Road. From the northern side of North East Road to turn right the only traffic lights available are Hampstead Road, Poole Avenue, Muller Road, Sudholz Road. A lot of rat runs through the suburbs."

"[Fosters Road intersection] Busy intersection. Traffic often pulls out of Fosters Road in front of other traffic. The line up to turn right onto Fosters Road can queue so far back and block lanes of North East Road."

"[Tolley Road intersection] Tolley Road has buses from the depot and lots of traffic trying to get onto North East Road. There are often queues of 15 cars. The Whiting Road intersection adds to the danger and congestion."

"[Houghton Hollow Road intersection] For cars coming out of Houghton Hollow Road, it is hard for them to see traffic coming from the east. This is due to the windy and very undulating section of North East Road. In addition, it is an 80kph speed zone, with a high rate of speeding in this area too. It is hard for a vehicle to come from standstill at this intersection and start the incline on North East Rd without having cars approach fast from behind. It should also be noted that this intersection and Houghton Hollow Road is used by the local bus service (approx. 15 runs through here a day)."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Lower speed limit to 60km/h, for the western half of this road [towards Tea Tree Gully], provide overtaking lanes on both sides, widen corners and provide increased protection for road users from trees and embankments."

"[Fosters Road intersection] Possibly no access between the two roads. Or only access to Fosters Road to vehicles travelling north on North East Road?"

"[Fosters Road intersection] Traffic signals are needed - but already very close to Muller Road intersection!"

"[Tolley Road intersection] This intersection has become busier with more residents moving into the surrounding areas and a roundabout or traffic lights are required to make it a safer intersection".

Data analysis

Figure 39 displays the crash trend along the length of North East Road (Nottage Terrace, Medindie to Gorge Road, Chain of Ponds) and indicates a decreasing trend in recent years. This is due to a 31% decline in reported minor injuries in 2019-2023 compared to the five years prior (2013-2018). Over these same two timeframes, FSI crashes increased by 20%.

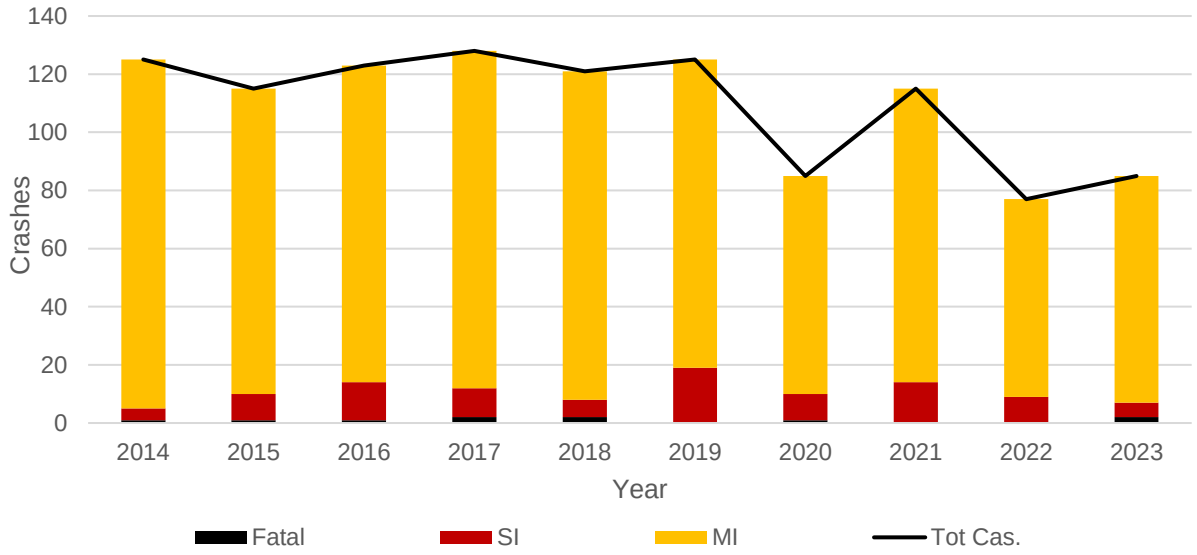


Figure 39: Ten-year trend in casualty crashes on North East Road

Rear end crashes are the most frequently occurring casualty crash on North East Road, accounting for more than 40% of casualty crashes, they are generally lower-severity and only account for 9% of FSI crashes. Crash types in the Hills (Haines Road – Gorge Road) vary substantially, and the most common crash types on this section are hit fixed object (43%), head on (24%) and roll over (11%).

Table 21: Casualty crash types occurring along North East Road between 2019 and 2023

Crash type	**No. of casualty crashes**	**Crash severity**		
		Minor inj.	*Serious inj.*	*Fatal*
Rear End	197	192	5	0
Right Turn	72	65	7	0
Right Angle	71	60	10	1
Hit Fixed Object	54	41	12	1
Hit Pedestrian	25	19	6	0
Side Swipe	25	23	2	0
Head On	18	11	6	1
Roll Over	17	11	6	0
Hit Object on Road	4	3	1	0
Hit Parked Vehicle	3	2	1	0
Left Road - Out of Control	1	1	0	0
Total	**487**	**428**	**56**	**3**

Most casualty crashes (85%) occur along the metro part of North East Road (Nottage Tce – Haines Road). When looking at FSI crashes, the section in the Hills is over-represented, with 36% of FSI crashes occurring along this section, which is shorter than the metro section and carries significantly lower traffic volumes.

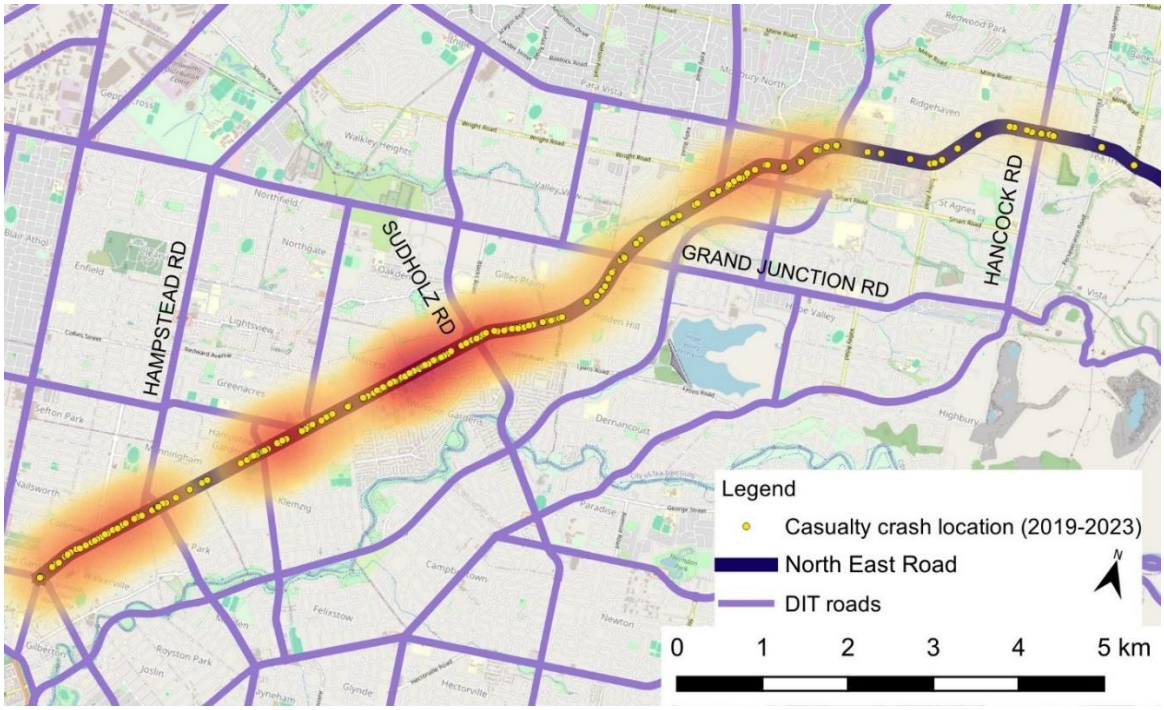


Figure 40: Heatmap of casualty crash locations on North East Road (metro section) between 2019 and 2023

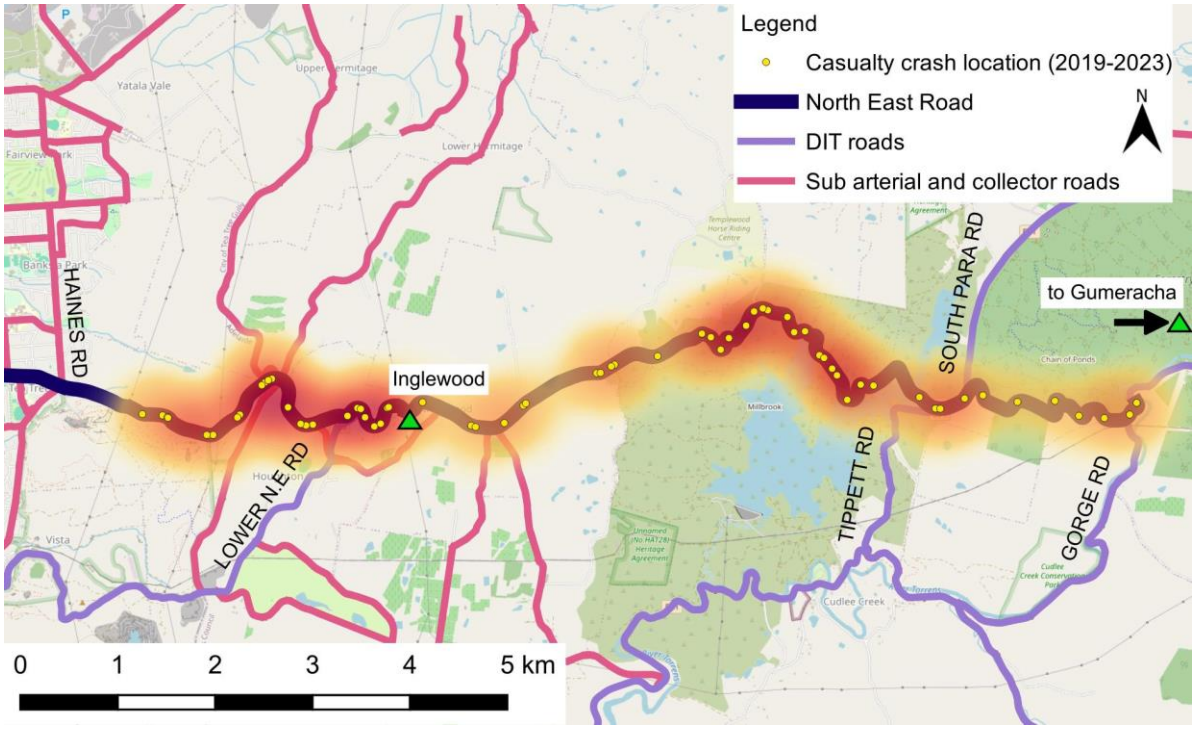


Figure 41: Heatmap of casualty crash locations on North East Road (Hills section) between 2019 and 2023

Intersections recording more than ten casualty crashes between 2019 and 2023 include:

- Sudholz Rd, 17 casualty crashes
- Nottage Terrace, 17 casualty crashes (upgraded 2023)
- Muller Road, 12 casualty crashes
- Ascot Avenue, 11 casualty crashes
- Wright Road, 11 casualty crashes
- Galway Avenue, 10 casualty crashes
- Reservoir Road, 10 casualty crashes (upgraded 2024)

Despite recording the highest number of intersection casualty crashes, the intersection with Sudholz Road is the state's second busiest signalised intersection[6], and as such has comparatively low crash numbers compared to other intersections carrying similar volumes of traffic. This intersection received a substantial upgrade in 2015 which has reduced the crash rate at this location.

Across the same five years, highly raised intersections at Fosters Road, and Tolley Road recorded five and two casualty crashes, respectively.

[6] 2023, Department for Infrastructure and Transport, *Traffic volumes on top 40 intersections in SA*, accessed at <https://data.sa.gov.au/data/dataset/traffic-volumes-on-top-40-intersections-in-sa>.

Final comment

While road maintenance concerns were highly raised in our 2021 Risky Roads survey, where North East Road was nominated as the 9th riskiest metro road, maintenance was much less of an issue in the 2024 survey due to substantial road maintenance works that were completed between Hancock Road and Sudholz Road in 2022.

Intersections at Fosters Road and at Tolley Road are highly raised concerns, with congestion and near misses regularly reported. The Fosters Road intersection has previously been investigated for signalisation, however, this was deemed not suitable due to the proximity of the signalised intersection of North East Road and Muller Road. Ultimately, a solution is needed to improve safety as increasing traffic is expected to use Muller Road to access the North-South corridor via Regency Road and Fosters Road traffic is set to increase with the ongoing 1,500 home Oakden Rise land development on the northern end of Fosters Road.

In the Adelaide Hills, RAA's 2020 Adelaide Hills Regional Road Assessment outlined several recommendations for the corridor including:

- Additional safety barrier protection due to high crash rate between Inglewood and Gumeracha
- Audio-tactile centre line marking between Inglewood and Gumeracha
- Pavement rehabilitation in Chain of Ponds
- Intersection improvements at Houghton Hollow Road and Lower North East Road

Upgrades for North East Road/Torrens Valley Road between Houghton and Mount Pleasant are currently being investigated as part of the Adelaide Hills Productivity and Road Safety Package. This $150m package is co-funded by the Australian Government (80%) and South Australian Government (20%) over five years to 2026/27.

Metro rank #9: Brighton Road

Metro ranking:	9 (15 overall)			
Total nominations:	19			
Top issues:	Intersection safety, maintenance, road capacity			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	154	150	27	2

Brighton Road has been nominated as the ninth riskiest metro road in our 2024 Risky Roads survey, largely due to interactions at various intersections along the corridor which accounted for more than half of nominations received. Intersections raised along Brighton Road included:

- Wheatland Street, 3 nominations
- Scholefield Road, 2 nominations
- Jetty Road (Glenelg), 2 nominations
- Anzac Highway, 1 nomination
- Seacombe Road, 1 nomination
- Shoreham Road, 1 nomination

Brighton Road is an arterial road under the care and control of the Department for Infrastructure and Transport. Brighton Road is part of a major north-south corridor and links Lonsdale Road (Ocean Boulevard) in the south with Tapleys Hill Road in the north.

Traffic volumes on Brighton Road are high, with most segments carrying more than 35,000 vehicles per day and the busiest section between Diagonal Road and Anzac Highway carrying more than 43,000 vehicles per day.

The main issues raised on Brighton Road relate to congested or inefficient intersections, confusing lane markings near Jetty Road, and poorly aligned intersections. Many drivers are reported to struggle where Brighton Road widens to three lanes, including a right turn onto Anzac Highway, which frequently leads to near-collisions and frustration. Damage to the road was also reported, with gum tree roots in the median strip the primary cause. Survey respondents found turning onto or off of Brighton Road difficult and dangerous. Cyclists and pedestrians also face risks due to inadequate infrastructure, with limited safe spaces to navigate the busy road. There was also concern about the impact that future housing developments in Port Noarlunga, Port Stanvac and Seacliff will have on Brighton Road traffic.

Figure 42: The intersection at Scholefield Road was raised by multiple survey respondents.

To improve Brighton Road, residents want to see road widening and resurfacing to accommodate increasing traffic volumes. They are calling for clearer lane markings and better signage to reduce confusion and improve traffic flow. Many suggest installing traffic lights or dedicated turning lanes at high-risk intersections to enhance safety and traffic flow. There are also requests for improved pedestrian and cyclist infrastructure, including safer crossings and dedicated cycle lanes. Additional measures such as rail grade separation for the Seaford rail line and Glenelg tram line were suggested to ease congestion and create a safer, more efficient road network.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"This road has undergone increased volumes of traffic over the last five years and will continue to increase volume as housing estates in Port Noarlunga and Port Stanvac come on line, approx. 6500 homes."

"Gum trees in the centre strip causing damage to road surface and foot path. Road and train intersection Causing Traffic queues and delays. Large trucks using excessive speed and negligent driving."

"Instead of the right lane splitting to create the right lane and right turning lane (onto ANZAC highway) the left lane splits. This ends up having the consequence that lots of cars pull across trying to get into the new right lane. There are many times they either don't give way, fail to indicate. There have been many near misses and I have experience being hit."

"[Wheatland Street intersection] Trying to turn right onto Brighton Road is notoriously dangerous and frustrating. The traffic is fast flowing in both directions and constant. I believe making it a turn left only intersection is the only option as Seacombe Rd intersection is so close."

"Brighton Road is very busy - intersections are not very efficient and the cycle lanes aren't safe. It's a bad mix of traffic with regular drivers, trucks, tourists and cyclists without much space for them all to intermingle."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Resurfacing, widening (additional lanes) overpass at Brighton and Glenelg rail and tram crossings."

"Traffic lights [at Scholefield Road]. The traffic lights at the intersection of Edwards Street and Brighton Road Brighton have been an effective and welcome outcome."

"Definitely some overhead signs might help. It's been done haphazardly to make a right lane only to turn onto Anzac highway. People also use right lane to speed past and cut in to left lanes."

"No right turn from Wheatland Street into Brighton Rd."

Data analysis

The total number of casualty crashes occurring on Brighton Road has tended to decrease slightly over the past decade, driven by a reduction in crashes resulting in minor injury. Serious crashes have increased in the second half of the past decade, with 5.4 FSI crashes occurring per year between 2019 and 2023 compared to an average of 3.2 per year between 2014 and 2018.

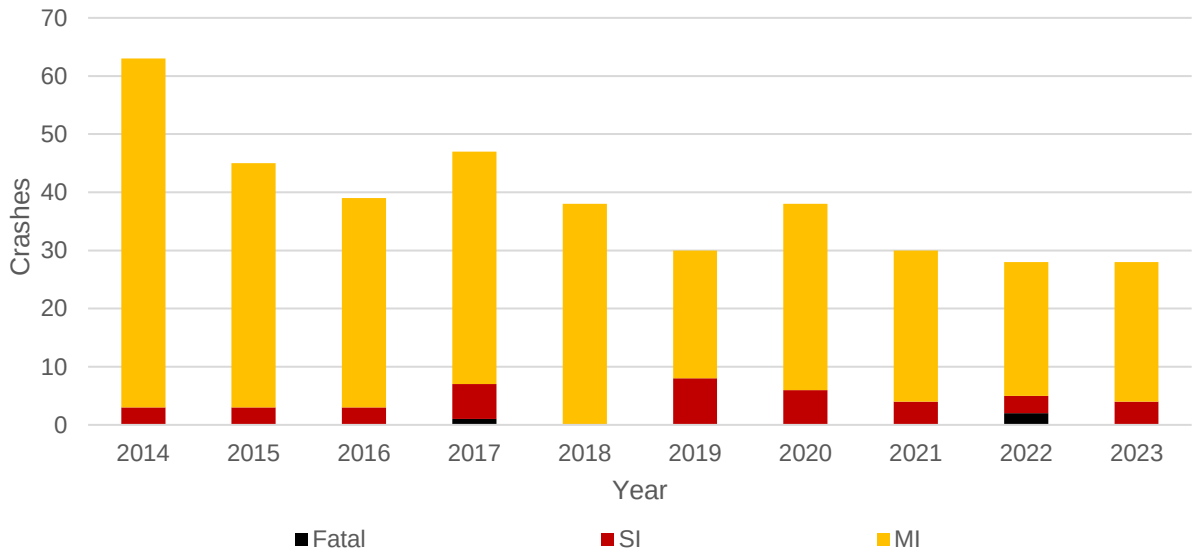


Figure 43: Ten-year trend in casualty crashes on Brighton Road

Rear end crashes account for more than one third of crashes on Brighton Road, while right turn and right angle made up almost one third of crashes. In total, 62% of casualty crashes occurred at intersections, substantiating community concerns about intersection safety along the corridor.

Table 22: Casualty crash types occurring along Brighton Road between 2019 and 2023

Crash type	No. of casualty crashes	Crash severity		
		Minor inj.	*Serious inj.*	*Fatal*
Rear End	60	57	3	0
Right Turn	25	18	7	0
Right Angle	23	22	1	0
Hit Fixed Object	19	13	6	0
Side Swipe	14	11	3	0
Hit Pedestrian	10	4	5	1
Roll Over	2	1	0	1
Hit Parked Vehicle	1	1	0	0
Total	**154**	**127**	**25**	**2**

While casualty crashes are dispersed along the corridor, larger crash clusters occur near the intersection with Jetty Road (Brighton) and between Jetty Road (Glenelg) and Anzac Highway.

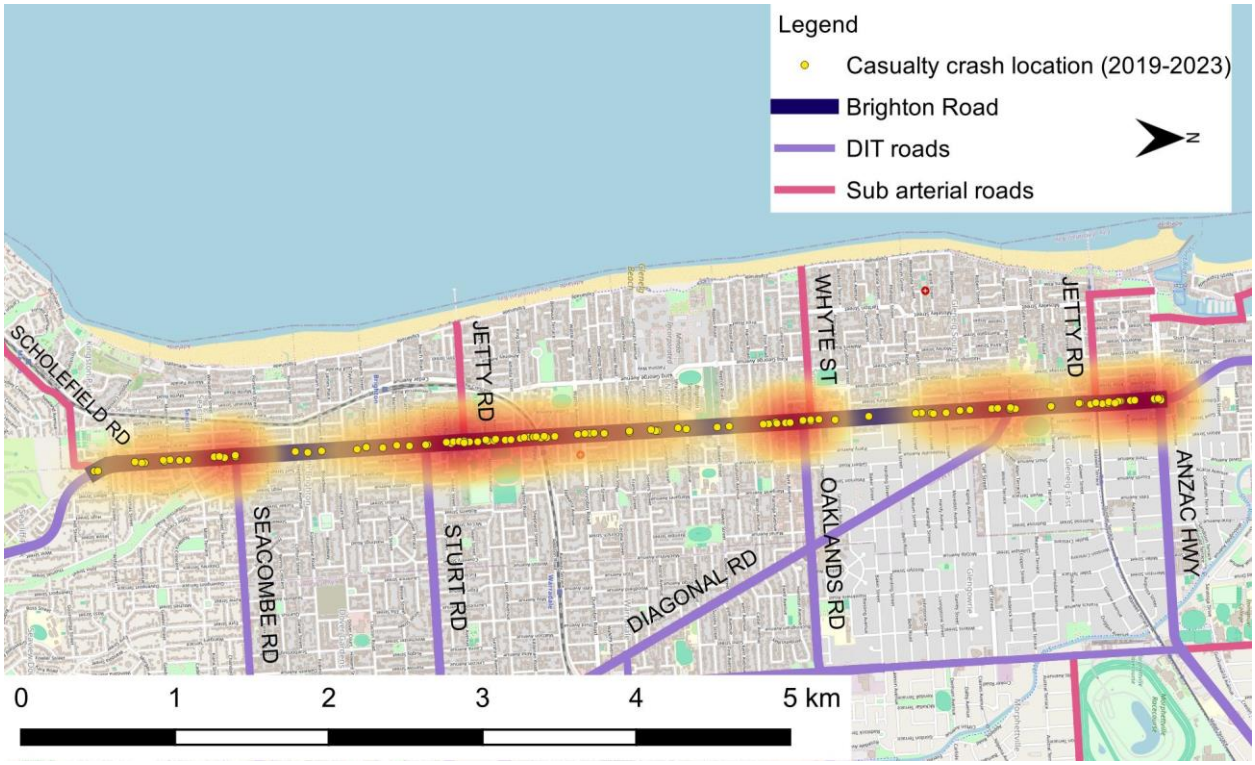


Figure 44: Heatmap of casualty crash locations on between 2019 and 2023

The intersections with the highest casualty crash numbers between 2019 and 2023 are Anzac Highway (11), Seacombe Road (9), Diagonal Road (7), Sturt Road (6). Other nominated intersections to record recent casualty crashes include Scholefield Road (2), Wheatland Street (2), Jetty Road (Glenelg) (2), and Shoreham Road (1).

Final comment

Survey respondents' concerns along Brighton Road were varied, with high, and potentially increasing traffic volumes a key cause for these concerns. The Majors Road interchange, due for completion at the end of 2025 may alleviate future traffic increases to some degree, by providing an additional access point to the Southern Expressway and ultimately the North-South Motorway for residents of Hallett Cove and Trott Park, and potentially even Marino upon completion of the upgrade at the Scholefield Road intersection. However, for road users travelling to or from coastal suburbs, Brighton Road may still be a better option.

The intersection with Scholefield Road has been a key concern for Marino and Kingston Park residents for some time, and RAA welcomes the announcement in January 2025 that traffic signals will be installed here at a cost of $30m. This project is necessitated by adjacent and nearby housing developments, and is expected to be start in mid-2026, with completion by early 2027.

Recent signalisation at the Edwards Street intersection in Brighton has also been well-received by the community, resolving a major pain-point for local access. Similar pain-points exist on Wheatland Street and Shoreham Road, which both provide access over the rail corridor, which results in higher traffic use than other local streets between Brighton Road and the shoreline.

The Hove level crossing was proposed for a $171m grade separation prior to 2021, when the project was cancelled, partially due to community concerns regarding land acquisition, amenity and the design options presented as an underpass was not economically viable at the site. The tram level crossing in Glenelg is a transition point where the tramline shifts from a dedicated corridor to an on-road corridor via Jetty Road (Glenelg). While a grade separation may be physically possible, the benefits of such a project are likely to be outweighed by the disbenefits including cost, and possible land acquisition.

Another concern raised is on the approach to the Anzac Highway intersection. South of Jetty Road (Glenelg), Brighton Road diverges from two into three lanes, with the left lane ultimately becoming two through lanes onto Tapleys Hill Road, and the right lane becoming a dedicated right turn lane onto Anzac Highway. To alleviate concerns with unsafe lane changing, survey respondents suggested that the right lane should diverge instead, creating a right turning lane and a through lane onto Tapleys Hill Road. This lane allocation should be reviewed, to ensure it is functioning optimally with respect to the ratio of traffic turning right onto Anzac Highway and traffic continuing ahead onto Tapleys Hill Road.

Metro rank #10: Marion Road

Metro ranking:	10 (16 overall)			
Total nominations:	18			
Top issues:	Maintenance, intersection safety			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	378	427	46	2

Marion Road has been nominated as the 10th riskiest metro road in our 2024 Risky Roads survey and has not previously been nominated highly enough to feature in the top ten metro Risky Roads. While more than half of nominations related to midblock issues, several intersections were also raised. The Sturt Road intersection received four nominations, while intersections at Cross Road, Henley Beach Road, Finniss Street, and Second Avenue each received a single nomination.

Marion Road is a busy 11.3km north-south arterial road corridor under the care and control of the Department for Infrastructure and Transport. On the southern end, Marion Road continues across Main South Road to Flagstaff Road and has direct entry and exit points to the Southern Expressway. Marion Road crosses several major east-west routes including Daws Road, Cross Road, Anzac Highway, Richmond Road, Sir Donald Bradman Drive before it's terminus at the intersection with Henley Beach Road.

Traffic volumes on Marion Road are high. The section south of Cross Road carries 40-50,000 vehicles per day, while the section north of Cross Road carries 35-40,000 vehicles per day. RAA anticipates that traffic volumes on Marion Road will fluctuate at various times over the next six years as works on the Torrens to Darlington Project (South Road) progress.

Survey respondents raised maintenance concerns on sections of Marion Road, notably the section between Raglan Avenue and Oaklands Road. Another concern raised was the level of sunken service pit (utility hole) covers along the corridor. Respondents also raised safety concerns at intersections, especially the intersection with Marion Road and Sturt Road, in Marion.

Figure 45: Cracking and multiple patches between Second Ave and Third Ave, Park Holme (Photo: December 2024)

To address their concerns, respondents suggested that further road maintenance was required, particularly on the southern half of Marion Road. At the intersection with Sturt Road, respondents suggested that controlled right turns and additional turn lanes were required to improve safety, while discontinuous cycle lanes were also raised.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"Southbound side from Richmond Road intersection to Daws Road/Oaklands Road intersection. Particularly the left lane of the southbound side. Lots of ups and downs in the road itself where side streets meet the main road. It's a bit like a roller-coaster to be honest!"

"I do notice that you have identified the intersection with Sturt Road as a major accident hotspot. I do not really understand why but the section to the north of this section is an area where you need to take extra care often due to poor driver behaviour. This is accentuated by the many businesses and entry and exit points from car parks along the stretch. I would not mind a reduced speed limit along this stretch."

"[Sturt Road intersection] So many crashes at this intersection. Feels difficult turning right at peak hours".

"[Sturt Road intersection] The bike lane beyond the intersection for north bound cyclists terminates about 50m north (for about 100m). Leaves a gap in bike lane."

"[Henley Beach Road intersection] Cars driving west down Henley beach road constantly run red lights endangering vehicles making right hand turn from Henley beach road into Marion Road."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Surface the road and remove/make smooth utility pits."

"Sunken manholes don't exist in most other states."

"[Sturt Road intersection] More right turn lanes, and right turn arrows as part of a bigger intersection upgrade."

"[Sturt Road intersection] Turning arrows 24 hours."

Data analysis

Marion Road has a relatively steady casualty crash tend, with annual figures tending downwards in 2022 and 2023. This decline is driven by a reduction in minor injuries, with FSI crashes increasing by 26% from an average of 7 per year between 2014-2018, to an average of 8.8 per year between 2019-2023.

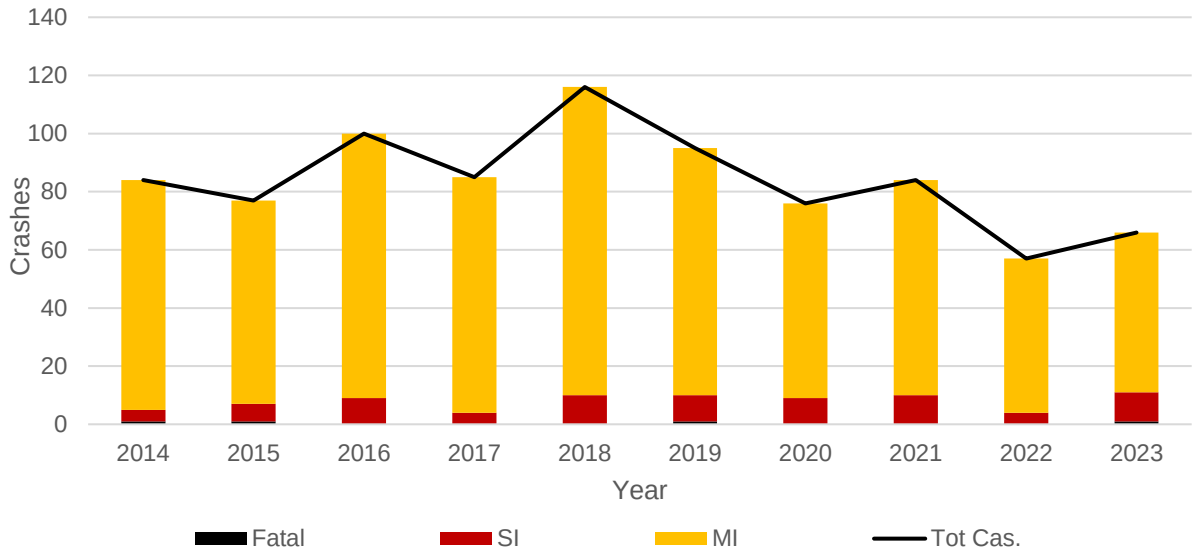


Figure 46: Ten-year trend in casualty crashes on Marion Road

Rear end crashes are the most frequently occurring casualty crashes along Marion Road and are typically associated with busier stop-start traffic. Right turn and right-angle crashes are also commonly occurring crashes with a higher likelihood of resulting in serious injuries due to the impact angles of these crashes.

Table 23: Casualty crash types occurring along Marion Road between 2019 and 2023

Crash type	**No. of casualty crashes**	**Crash severity**		
		Minor inj.	*Serious inj.*	*Fatal*
Rear End	150	143	7	0
Right Turn	110	97	12	1
Right Angle	56	51	5	0
Side Swipe	27	25	2	0
Hit Pedestrian	17	8	8	1
Hit Fixed Object	12	8	4	0
Roll Over	3	1	2	0
Other	2	1	1	0
Head On	1	0	1	0
Total	**378**	**334**	**42**	**2**

Casualty crashes occur more frequently on the busier, southern section of Marion Road, with clusters near Anzac Highway and Sturt Road, as well as in the Mitchell Park area near Finniss Street.

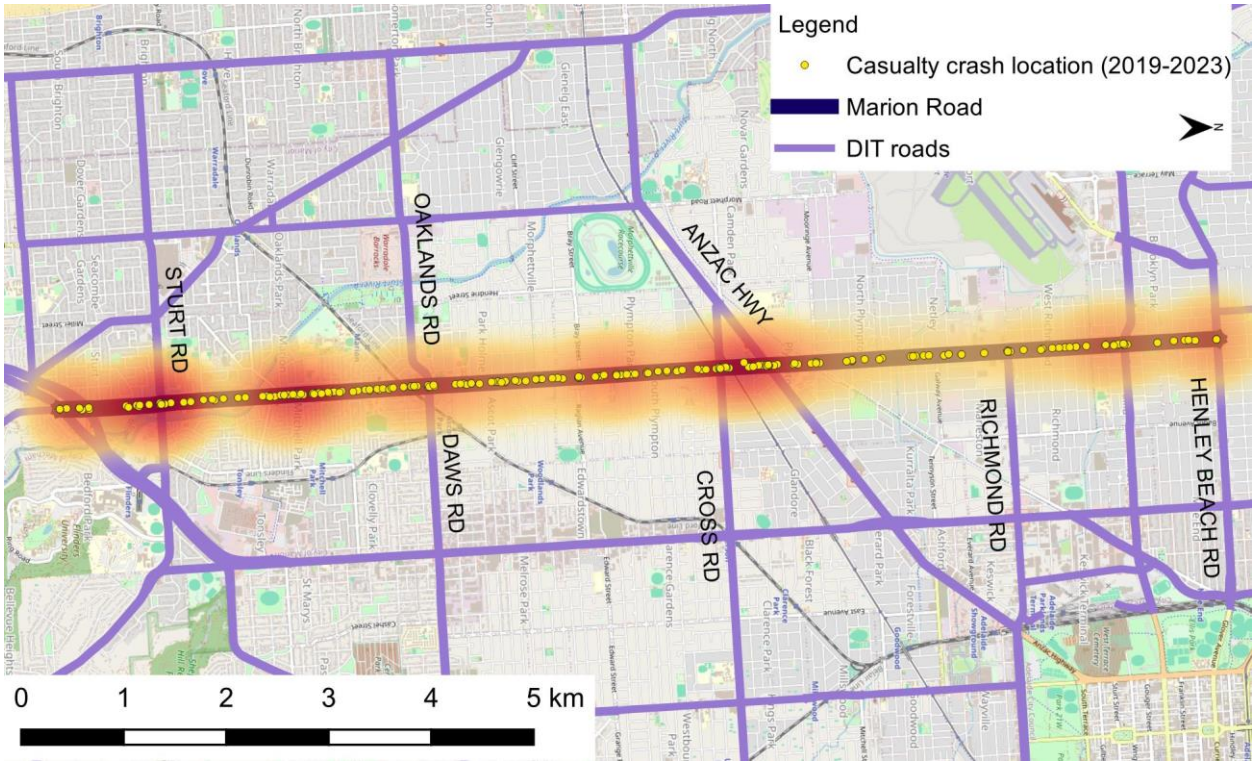


Figure 47: Heatmap of casualty crash locations on Marion Road between 2019 and 2023

The intersections with the highest number of casualty crashes include:

- Sturt Road, 36 (more casualty crashes than any other South Australian intersection)
- Henley Beach Road, 21
- Cross Road, 17
- Anzac Highway, 16
- Southern Expressway on-ramp, 16
- Finniss Street, 9
- Oaklands Road/Daws Road, 9
- Sir Donald Bradman Drive, 9

Final comment

Road maintenance on Marion Road was the frequently raised concern and needs to be addressed. In 2021/22, pavement renewal works were completed between Richmond Road and Henley Beach Road, substantially improving the surface of this section of Marion Road. However, there are still sections of Marion Road south of Richmond Road requiring maintenance works. It is important that utility owners such as SA Water are also involved in this process to ensure that pit covers are levelled concurrently. In 2018 and 2024, RAA reviewed sunken service covers along Marion Road, with our 2024 review[7] identifying 22 sites (36 covers in total) where traversing the cover exceeded our pre-calculated comfort benchmark.

[7] RAA, 2024, *RAA Sinking pit cover assessment – Marion Road from Henley Beach Rd to Sturt Road*, accessed at <https://www.raa.com.au/motor/safety-and-advice/road-safety/road-assessments>.

RAA had previously called for a grade separation of Marion Road and the Glenelg Tram line, which is commencing in early 2025 thanks to $400m in funding (50:50) from the federal and state governments. This upgrade is strongly welcomed by RAA, as is additional funding to grade separate the Morphett Road level crossing and widen the South Road overpass in preparation for construction of the North-South Motorway.

The intersection with Marion Road and Sir Donald Bradman Drive, in Brooklyn Park is also receiving an $85m upgrade which will substantially improve capacity of this significant pinch-point in the western suburb's road transport network. Construction started in late 2024 and is expected to be completed in early 2026.

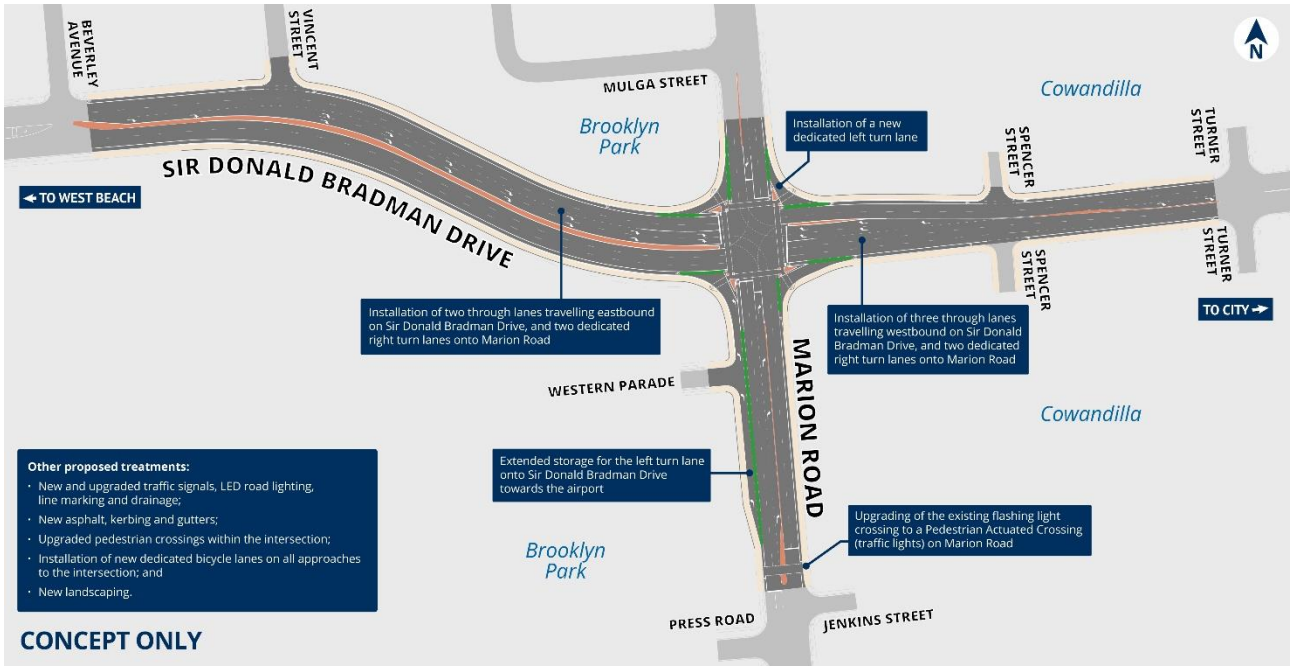


Figure 48: Concept plan for the Marion Road and Sir Donald Bradman Drive intersection upgrade (Source: DIT)

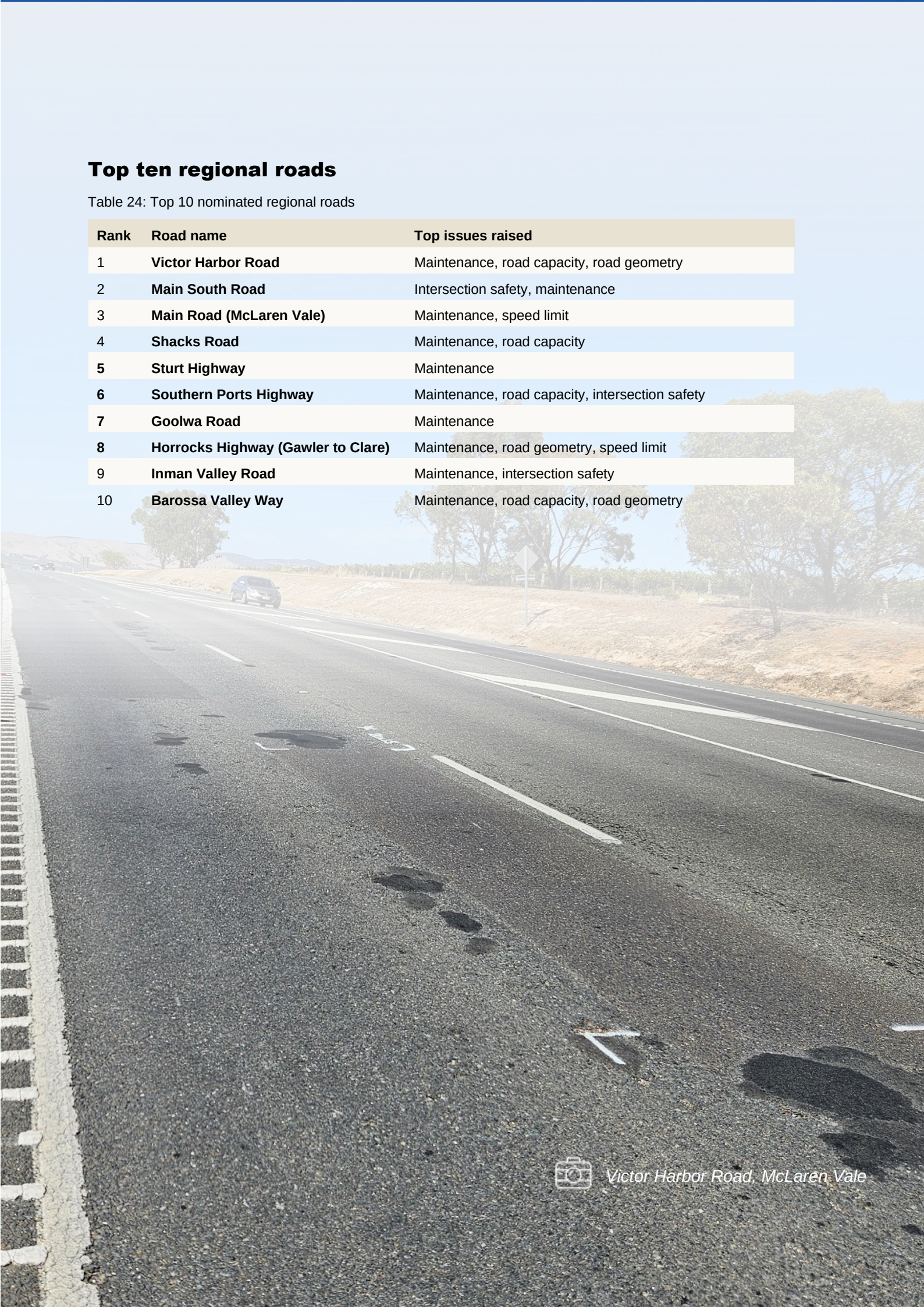
In 2023, RAA submitted the pedestrian actuated crossing in Mitchell Park, adjacent Hamilton Secondary College to the annual Black Spot Program. This submission sought funding to upgrade the crossing with mast arms due to a history of crashes at the location. While this location did not receive funding at the time, RAA still considers it a priority location for safety improvements.

Furthermore, the intersection with Sturt Road in Marion recorded more casualty crashes between 2019 and 2023 than any other intersection in South Australia. 81% of casualty crashes involve vehicles approaching from Marion Road, with right turn crashes the prominent crash type. An upgrade of this intersection to improve safety is a high priority for the Marion Road corridor, however, due to the high traffic volumes, will likely require the addition of new turn lanes to maintain capacity. Emerging road safety treatments such a raised safety platforms on intersection approaches could also be considered at this site, however, due to a lack of South Australian trials, may not be appropriate at one of the state's busiest intersections.

Top ten regional roads

Table 24: Top 10 nominated regional roads

Rank	Road name	Top issues raised
1	**Victor Harbor Road**	Maintenance, road capacity, road geometry
2	**Main South Road**	Intersection safety, maintenance
3	**Main Road (McLaren Vale)**	Maintenance, speed limit
4	**Shacks Road**	Maintenance, road capacity
5	**Sturt Highway**	Maintenance
6	**Southern Ports Highway**	Maintenance, road capacity, intersection safety
7	**Goolwa Road**	Maintenance
8	**Horrocks Highway (Gawler to Clare)**	Maintenance, road geometry, speed limit
9	**Inman Valley Road**	Maintenance, intersection safety
10	**Barossa Valley Way**	Maintenance, road capacity, road geometry



Victor Harbor Road, McLaren Vale

Regional rank #1: Victor Harbor Road

Regional ranking:	1 (2 overall)			
Total nominations:	77			
Top issues:	Maintenance, road capacity, road geometry			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	120	164	39	9

Victor Harbor Road has been nominated as South Australia's riskiest regional road in our 2024 Risky Roads survey. This follows the road being nominated fourth highest in 2021, and third highest in 2019. Several intersection nominations were also received, with four nominations for the Goolwa Road intersection, two for the Hindmarsh Tiers Road intersection and one each for Communication Road, Nangkita Road and Pages Flat Road.

Victor Harbor Road is a major rural arterial corridor under the care and control of the Department for Infrastructure and Transport. Victor Harbor Road extends for 47km between Main South Road in Old Noarlunga and Port Elliot Road in Hayborough (including Adelaide Road) and is the primary route between Adelaide and Victor Harbor. While the road bypasses McLaren Vale and Willunga, both with grade separated interchanges, it continues through the regional township of Mount Compass.

Average traffic volumes between Main South Road and McLaren Vale exceed 26,000 vehicles per day. Between McLaren Vale and Mount Compass, volumes average more than 12,000 vehicles per day, with the McLaren Vale to Willunga section carrying 13,700. Around 6,700 vehicles use the section south of Goolwa Road each day, increasing to 8,100 south of Hindmarsh Tiers Road.

The most frequent issue raised by survey respondents is the poor road surface, especially between McLaren Vale and Willunga, where reports mention potholes, patches, and undulations, which make driving hazardous, especially in wet conditions. Many respondents also noted that the road is insufficient for the current volume of traffic, leading to dangerous driving situations, particularly due to the lack of sufficient overtaking lanes. Additionally, high speed limits, particularly the 100km/h sections, are considered unsafe given the road's geometry and condition. At Goolwa Road, respondents found the intersection layout confusing and reported witnessing frequent near misses.

To address these issues, respondents suggested several improvements. The most common suggestion is for road maintenance works to improve surface quality, particularly between McLaren Vale and Willunga. Widening the road and adding more overtaking lanes were also frequently mentioned to accommodate the high traffic volume and reduce dangerous driving manoeuvres. Duplication of Victor Harbor Road was also a highly raised solution. Finally, many respondents proposed reducing the speed limit, particularly in the more hazardous sections, to enhance overall safety for all road users. At the Goolwa Road intersection, three of four respondents suggested that a roundabout would be their preferred treatment.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

> "Apart from the passage through Mount Compass this road has a speed limit of 100kmh once you've passed through the short 80kmh start after the Waterport Rd roundabout. It's a windy road with speed indicators of 75kmh in the area I'm talking about. And yet it has the same 100kmh rating as far more suitable parts of the road. There is an ageing population in Victor Harbor, Middleton, and Port Elliot. They should not feel nervous about driving to Adelaide because they feel uncomfortable driving at an inappropriate speed. A reduction to 80 would be brilliant, 90 acceptable."

[Goolwa Road intersection] The junction is a high speed (100 km/h) environment, vehicles turning right from Goolwa Rd onto Victor Harbour Rd are guided into an acceleration lane to the right of through traffic. Sometimes this traffic gets confused and strays onto the through lane, risking a severe collision.

“This section of the Victor Harbor Road is appalling and a disgrace. It carries a huge amount of traffic. The uneven, patched surfaces, potholes and undulations has made it hazardous.”

“There are very windy parts of this road that makes it feel unsafe with a speed limit of 100. Too many vehicle accidents occur along this strip. Lots of dangerous tailgating and illegal passing over solid lines.”

Verbatim responses: What do you think would be the most effective way to reduce this risk?

“Rebuild the road between McLaren Vale and Willunga. We drive this road regularly and there is a new pot hole every week. Also, the undulations travelling north at the end of the overtaking lane are so dangerous because towing vehicles have to slow down to well under the 100km speed limit to avoid being bounced over to the other side of the road. This causes hard braking by everyone travelling at 100kms. For the amount of traffic on this road, and in one of our best tourist areas it is an absolute disgrace and dangerous road if you don’t know it.”

[Goolwa Road intersection] Reduce speed to 80 km/h. Install a roundabout.

“Widen the road to dual carriageway both directions as a priority”.

“Initially reduce the speed on the narrow sections but eventually widen the road right through to Victor Harbor. The section between McLaren Vale and Mt Compass has some particularly poor sections.”

“The whole road needs full duplication and widening and the bendy section needs to be straightened out”.

Data analysis

Over the past ten years, the casualty crash rate on Victor Harbor Road has marginally increased, with an average of 24 casualty crashes per year between 2019 and 2023, compared to an average of 21.4 per year between 2014 and 2018.

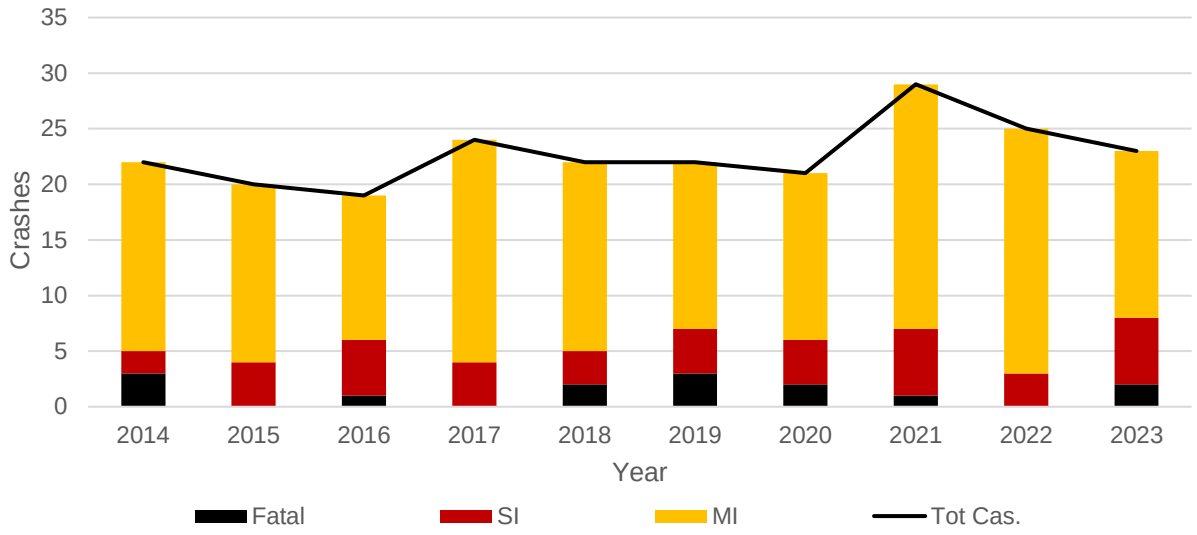


Figure 49: Ten-year trend in casualty crashes on Victor Harbor Road

A wide variety of casualty crash types were reported on Victor Harbor Road between 2019 and 2023, with rear end collisions the most commonly occurring crash type. High severity crash types including right angle, hit fixed object, and head on are the next most common types of crashes leading to significant trauma along the corridor.

Table 25: Casualty crash types occurring along Victor Harbor Road between 2019 and 2023

Crash type	**No. of casualty crashes**	**Crash severity**		
		Minor inj.	*Serious inj.*	*Fatal*
Rear End	31	25	6	0
Right Angle	29	25	3	1
Hit Fixed Object	23	17	6	0
Head On	17	6	6	5
Hit Animal	5	5	0	0
Right Turn	5	3	2	0
Roll Over	3	2	0	1
Hit Pedestrian	2	1	0	1
Side Swipe	2	2	0	0
Hit Object on Road	1	1	0	0
Left Road - Out of Control	1	1	0	0
Other	1	1	0	0
Total	**120**	**89**	**23**	**8**

The busiest section of Victor Harbor Road between Main South Road and McLaren Vale has been a hotspot for casualty crashes, and RAA will monitor changes in this data over the coming years, with the duplication of this section of Victor Harbor Road completed in 2024.

When mapping crashes along the remainder of Victor Harbor Road, intersections at Brookman Road and Hindmarsh Tiers are both evident hotspots, along with the section through Mount Jagged and Hindmarsh Valley.

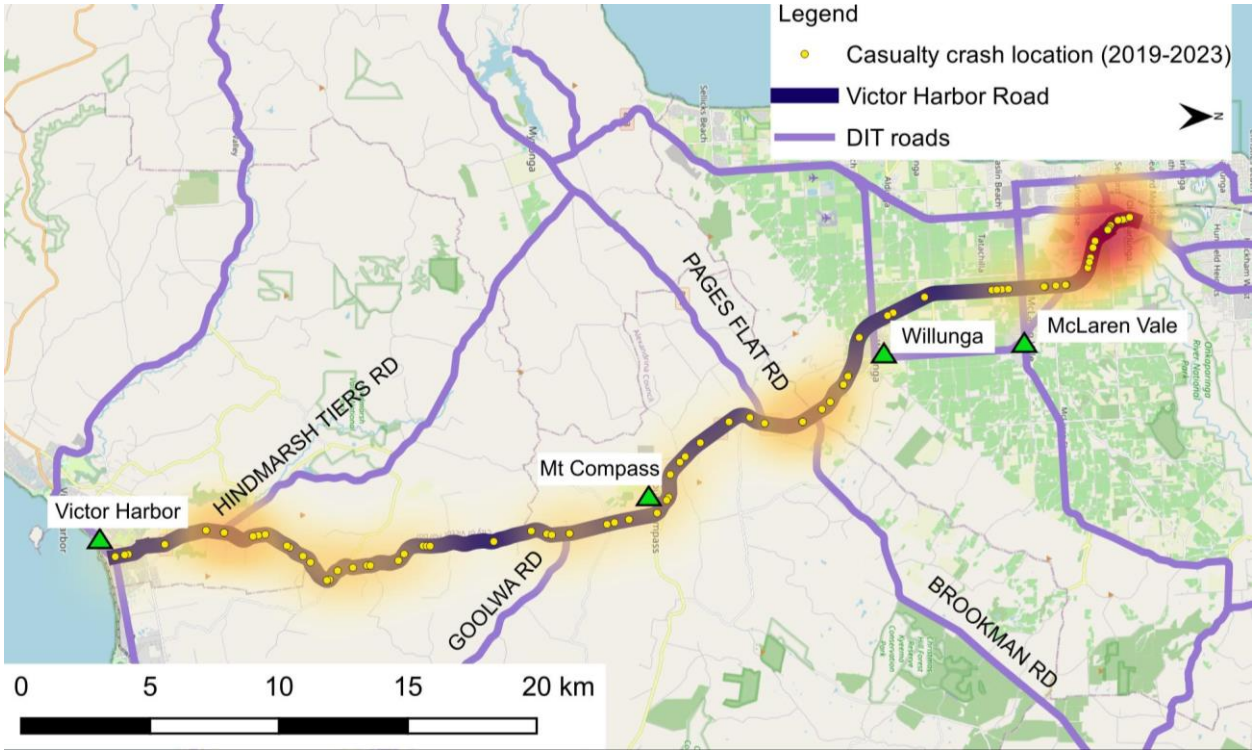


Figure 50: Heatmap of casualty crash locations on Victor Harbor Road (in full) between 2019 and 2023

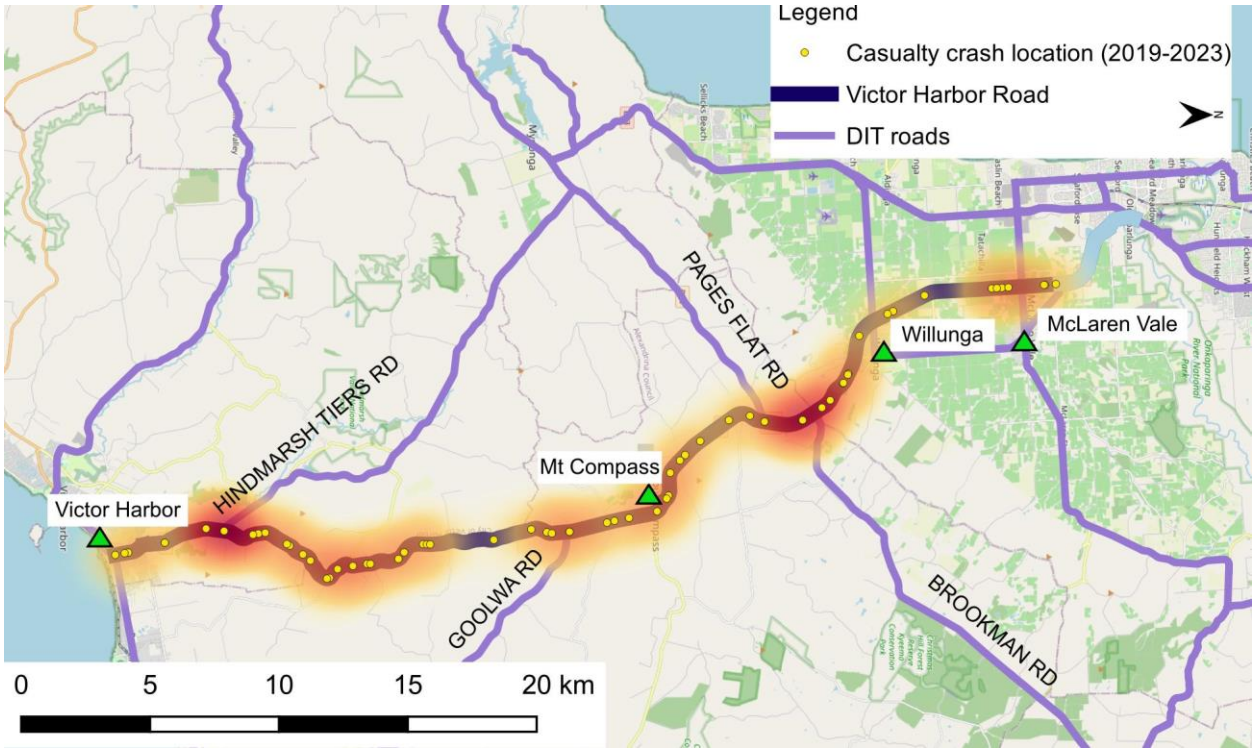


Figure 51: Heatmap of casualty crashes on Victor Harbor Road (McLaren Vale to Victor Harbor) between 2019 and 2023

Intersections with the most casualty crashes over the past five years include:

- Hindmarsh Tiers Road, 7 (including one fatal crash)
- Brookman Road, 7
- Robinson Road, 6 (upgraded to a roundabout as part of duplication project)

Previous analysis by RAA in our 2021 Highway Assessment indicated that the crash rate per vehicle kilometre travelled was more than three times higher along the section south of Mount Compass than it was along the section between McLaren Vale and Mount Compass, emphasising the increased road safety risk on this section of the road.

Final comment

Victor Harbor Road was the most highly raised road in the Fleurieu Peninsula region during our 2021 regional road assessment survey, which attracted more than 1,000 responses from the Fleurieu Peninsula community. As such, RAA undertook a detailed assessment of the corridor, which outlines fourteen recommendations to improve the AusRAP star rating along the corridor to a minimum of three stars. The full list of recommendations is included in the report, however, some key recommendations included:

- Widening of sealed shoulders
- Installing overtaking lanes south of Mount Compass
- Pavement rehabilitation between McLaren Vale and Willunga
- Planning for future duplication between McLaren Vale and Mount Compass
- Continued rollout of safety barriers incorporating motorcycle underrun
- Intersection upgrades at Nangkita Road, Goolwa Road, Crows Nest Road, Hindmarsh Tiers Road

Recent or planned upgrades to Victor Harbor Road have included:

- Commenced 2024, $15m Victor Harbor Road Safety Improvement project to upgrade the intersection with Hindmarsh Tiers Road, and the intersection with Brookman Road
- Completed 2024, 4km of duplication between Main South Road and McLaren Vale
- Completed 2021, new barrier systems and audio tactile edge lines installed
- Completed 2021, $3m for 3.5km of resurfacing between Willunga and Mount Compass
- Completed 2020, $600k upgrade at the intersection with Goolwa Road

RAA welcomes the ongoing upgrades at Hindmarsh Tiers Road and Brookman Road. In our 2021 Risky Roads survey, the Hindmarsh Tiers Road intersection was nominated as the state's third riskiest intersection. This upgrade will add channelised right turn lanes from Victor Harbor Road, and improve the left turn slip lane from Victor Harbor Road to Hindmarsh Tiers Road to improve visibility for vehicles turning from Hindmarsh Tiers Road. Victor Harbor Road will also be re-profiled to remove a dip in the road which reduces sight distance. While the upgrade is an improvement on the former layout, RAA's preference for this intersection remains a roundabout in the longer-term. The upgraded intersection will maintain high speeds and impact angles with low safe system alignment, while a roundabout would reduce speeds and impact angles should a crash occur, meaning the likelihood of serious crashes occurring would be greatly reduced.

At the intersection with Goolwa Road, RAA also considers a roundabout and speed limit reduction the most appropriate measure to improve safety.

While ongoing infrastructure upgrades to improve road safety and road capacity are still required along Victor Harbor Road, in the shorter-term, road maintenance works are required to ensure a smooth and safe journey along the existing road. A site assessment by RAA has identified maintenance works are of a highest priority between McLaren Vale and Willunga, where the surface is in very poor condition, especially in the overtaking lanes. However, maintenance works

are also required at other sections between Willunga and Victor Harbor, such as near the Goolwa Road intersection south of Mount Compass.

Figure 52: Potholes, rutting and undulations in the southbound overtaking lane between McLaren Vale and Willunga (photo March 2025)

Regional rank #2: Main South Road (Southern Expressway – Cape Jervis)

Regional ranking:	2 (4 overall)			
Total nominations:	45			
Top issues:	Maintenance, road geometry, road capacity, speed limit			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	185	206	58	4

Main South Road has been nominated as the second riskiest regional road in our 2024 Risky Roads survey. In the 2021 Risky Roads survey, Main South Road was nominated highest amongst both regional and metro roads, with the majority of nominations referring to the section between Aldinga and Sellicks Beach. In the 2019 survey, it was nominated second overall, once again with the majority of nominations between Aldinga and Sellicks Beach. The majority of nominations (64%) in 2024 were for the regional section of Main South Road, south of Sellicks Beach, while many (24%) of the remaining nominations related to the section between Victor Harbor Road and the Southern Expressway.

The intersection with Malpas Road in Tatachilla received two nominations, while eight intersections received individual nominations including: Seacombe Road, Black Road, Lander Road, Pages Flat Road, Seaford Road, Robinson Road, and Forest Road (Second Valley).

Main South Road spans both metro and regional areas, commencing at the North-South Motorway in Darlington, and extending about 98km south to Cape Jervis, where the Sealink Ferry transfers vehicles and passengers to Kangaroo Island.

Traffic volumes in the metro section vary significantly and typically range between 15,000 and 25,000 vehicles per day. The busiest section, between the Southern Expressway and Victor Harbor Road carries 58,500 vehicles per day. On the Fleurieu, the section between Sellicks Beach and Yankalilla/Normanville carries 4,000-5,000 vehicles per day, while the section between Normanville and Cape Jervis carries 1,200-2,200 vehicles per day.

The majority of responses received in the 2024 survey referred to the section in Wattle Flat, between Myponga and Yankalilla. This followed a fatal crash (4/11/2024) where two people were killed in a crash on this section of Main South Road during the survey period, as well as a highly publicised near miss involving a recumbent tricycle and a truck (10/11/24). These survey respondents raised concerns about the narrow, windy nature of the road, as well as poor surface condition, with this combination of factors contributing to several concerns that the speed limit was too high.

Figure 53: Narrow lanes, tight geometry and hazardous roadsides are all present on Main South Road

The section between the Southern Expressway and Victor Harbor Road was also attracted a high number of nominations, with capacity of this section of the road questioned, and frustration with the zip merge from three to two lanes expressed.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"Main South Road between Myponga and Cape Jervis needs urgent upgrades. The condition of the surface is disgusting for a main road with heavy volumes of traffic. There have been several collisions on the road over the past 5 years."

"Road surface is terrible with pot holes on dangerous bends where people are doing 90-100km per hour. The roads are too narrow with really sharp bends that do not accommodate large vehicles and trucks especially at such high speeds".

"No bike lanes and we have b double trucks and logging trucks when coming around the narrow corners are on my side of the lane. It has happened so many times I am now very careful, but tourists aren't so lucky like the 2 who died in October. They have put up so many guard rails on the road that if a logging truck is on my side it's not going to end nice for me."

"Road cracking up, very uneven surface in places, dangerous sections of road that make car swerve, not enough signals on sharp corners and heavy traffic with semi-trailers heading to kangaroo Island with little overtaking sections."

"The recent serious accident, near misses and deaths says it all."

"Speed limit too high from end of expressway southbound and traffic mounts up at peak hours because lights at Seaford Road control flow. Slower traffic should reduce rear end collisions. The merge on from Seaford Road on northbound side is a major "panic point" and motorists too tentative. The entrance to Expressway should be marked (left lane must exit, maybe arrows) so Morphett Vale travellers use the right lane to get out of the way of the Expressway Traffic using the left lanes."

"The section from Victor Harbor Rd, Main South Rd and Seaford Rd is a nightmare especially peak hour traffic times. Cars cutting in all in a hurry to beat the trucks, people in the right-hand lane cutting across the 2-3 lanes to get on the expressway and build up at traffic lights can be unbelievable. Every morning, I need to use the road, I pray I get through it without being hit by another car. Can't understand why they don't widen the bridge and make it three lanes."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Fix the Road surface from Myponga to Yankalilla."

"Reduce speed and widen road, more overtaking."

"Ban push bikes on these roads."

"Realign tight bends, replace aged/broken culverts, replace thin, aging bridges and complete resurface of asphalt."

"Redesign the road markings for continuous travel onto the expressway without having to merge into one lane. 95% of the traffic travels to the expressway, it is beyond belief why this intersection hasn't been redesigned already."

"The bridge over the Onkaparinga River is outdated and inadequate for the volume of traffic that comes from the southern suburbs now. It really needs replacing and made wider. The merging traffic heading north, from 3 lanes to two, particularly at peak hour, is a nightmare. And ideally there should be two clear dedicated lanes veering left on to the Expressway, with one dedicated lane heading north towards Morphett Vale."

Data analysis

Main South Road has an increasing trend of FSI crashes over the past decade. In the most recent five years of data available (2019-2023), four lives were lost in four fatal crashes along the road. In 2024, there were five fatal crashes along the corridor, resulting in the loss of six lives. At the time of writing, serious and minor injury data is not available for 2024.

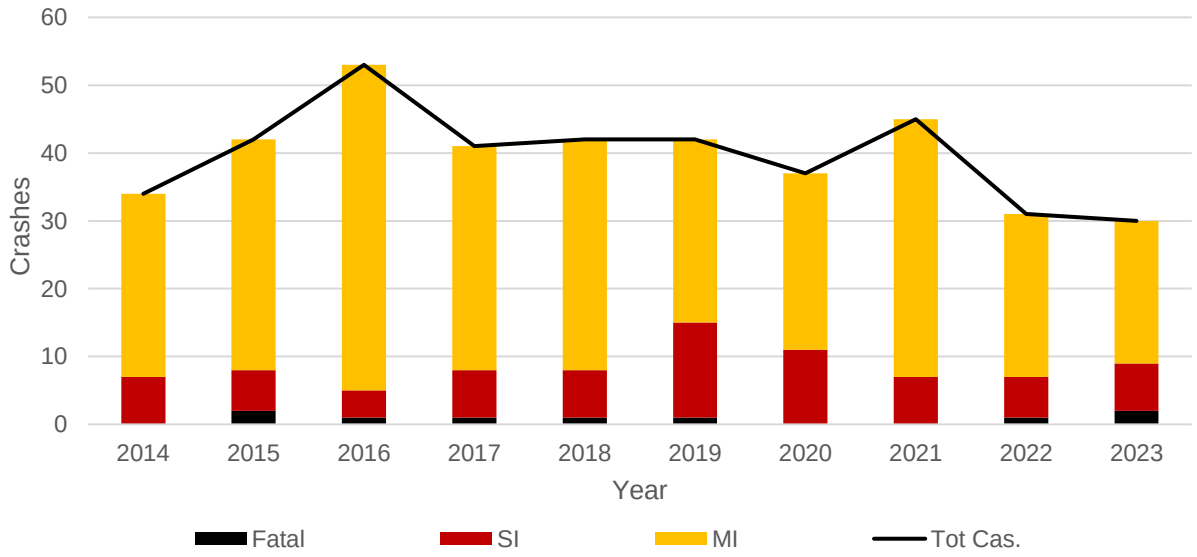


Figure 54: Ten-year trend in casualty crashes on Main South Road (Southern Expressway – Cape Jervis)

Over the past five years, rear end crashes have been the predominant casualty crash type on this section of Main South Road, however, 89% of these rear end crashes occurred between the Southern Expressway and Sellicks Beach, which is predominantly a built-up area with higher traffic volumes and congestion levels. Overall, 71% of crashes on this section of Main South Road occurred between the Southern Expressway and Sellicks Beach. However, when looking at FSI crashes only, 53% of FSI crashes occurred between the Southern Expressway and Sellicks Beach, which when considering the disparity in traffic volumes, highlights the higher risk of serious crashes occurring when driving south of Sellicks Beach.

Between Sellicks Beach and Cape Jervis, collisions with fixed objects (30%), head on (22%), and roll over (19%) crashes were the most common casualty crash types, with these crashes all typically associated with lane departure.

Table 26: Casualty crash types occurring along Main South Road (Southern Expressway – Cape Jervis) between 2019 and 2023

Crash type	**No. of casualty crashes**	**Crash severity**		
		Minor inj.	*Serious inj.*	*Fatal*
Rear End	65	59	5	1
Hit Fixed Object	29	16	12	1
Right Angle	28	20	8	0
Right Turn	18	16	2	0
Head On	16	7	8	1
Roll Over	14	7	6	1
Side Swipe	10	7	3	0
Hit Animal	3	2	1	0
Other	2	2	0	0
Total	**185**	**136**	**45**	**4**

Between the Southern Expressway and Sellicks Beach, the primary crash hotspot is between Victor Habor Road and the Southern Expressway, aligning with nominations for this section. South of Sellicks Beach, there are several crash hotspots, however most are between Sellicks Beach and Yankalilla.

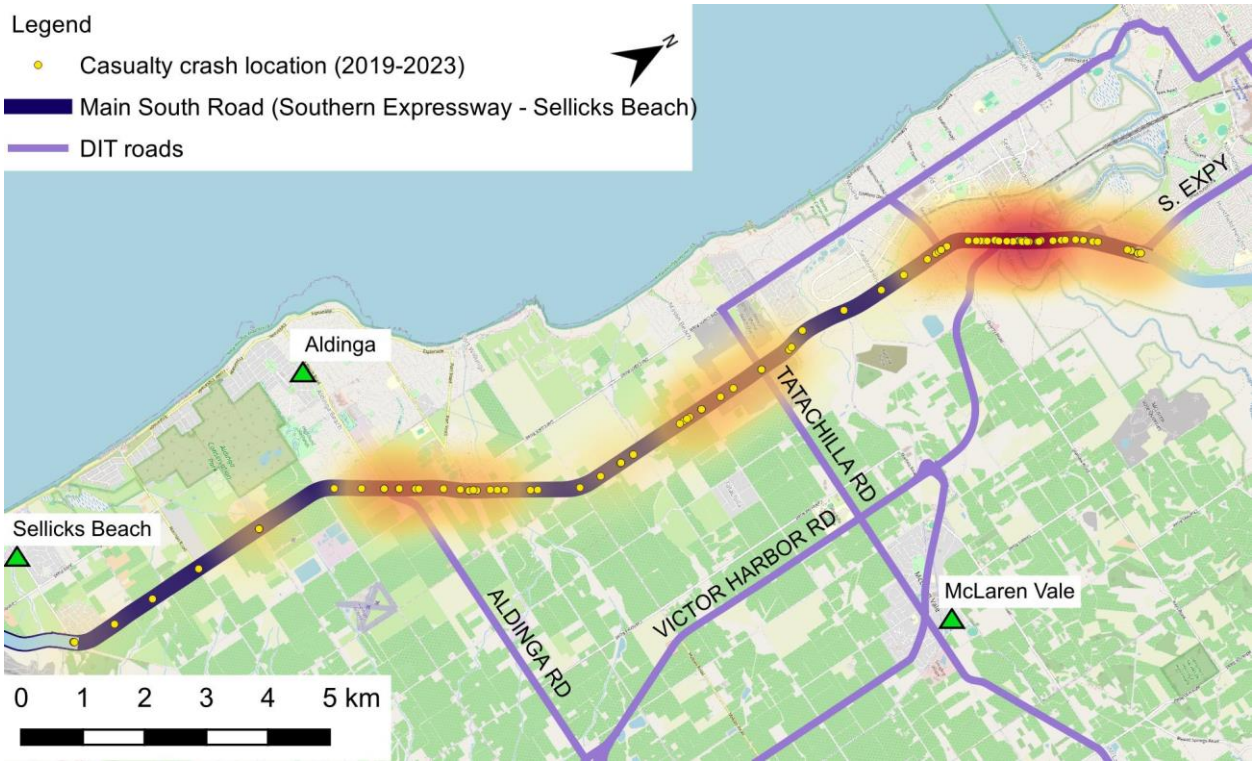


Figure 55: Heatmap of casualty crash locations on Main South Road (Darlington to Sellicks Beach) between 2019 and 2023

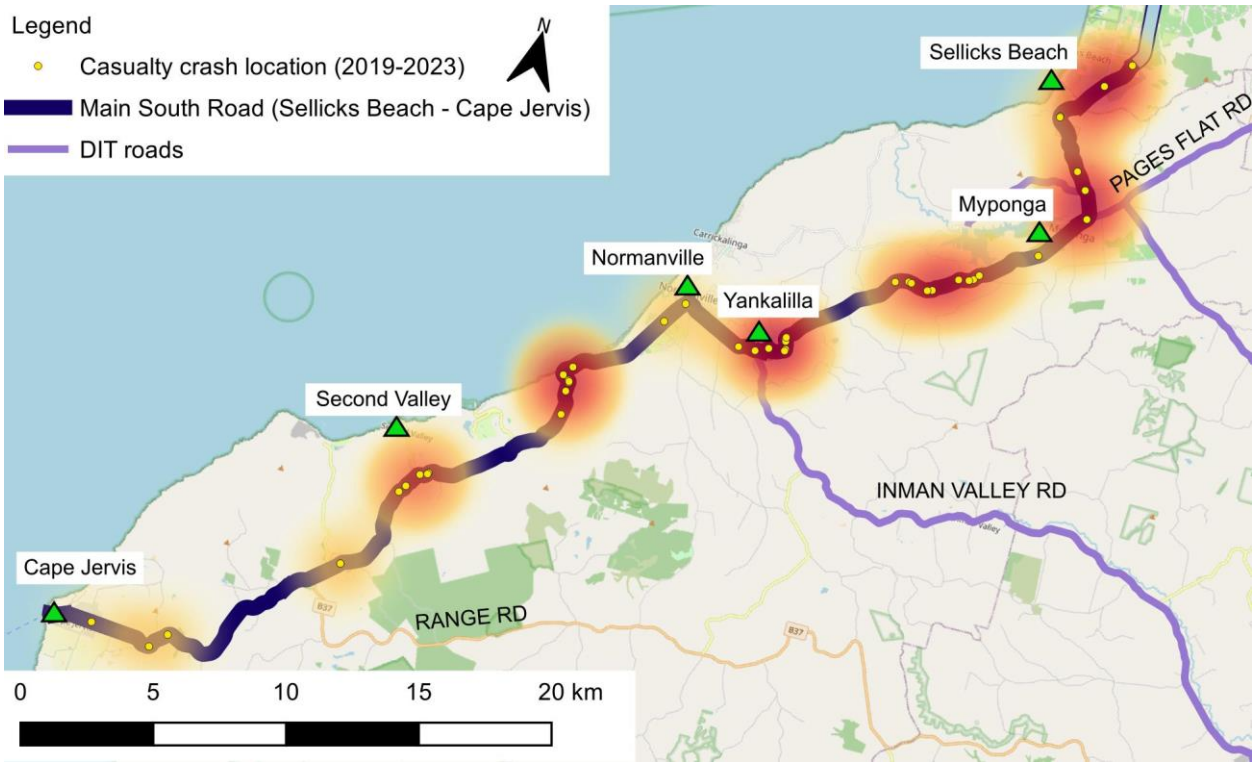


Figure 56: Heatmap of casualty crash locations on Main South Road (Sellicks Beach to Cape Jervis) between 2019 and 2023

The intersections with the highest number of casualty crashes along this section of Main South Road are Seaford Road (9), Southern Expressway (8), Aldinga Beach Road (8), Tatachilla Road (7), Griffiths Drive (6), Sherriff Road , Maslin Beach (6), Hahn Road (6), Country Road (6), and Pages Flat Road (4). Tatachilla Road has been recently upgraded, and Aldinga Beach Road, Sherriff Road and Hahn Road will all be improved during stage two of the Main South Road duplication project.

Final comment

Main South Road has always been a highly nominated road in RAA Risky Roads survey, and 2024 was no exception. While previous survey nominations have emphasised the communities desire to see the corridor duplicated between Seaford and Sellicks Beach, the 2024 results highlighted other emerging concerns to the north and south of this segment which is currently being duplicated.

Residential development is continuing to expand in Aldinga, Sellicks Beach and many parts of the Fleurieu Peninsula feeding traffic onto Main South Road and the Southern Expressway. The four-lane bridge between Seaford Road and the Southern Expressway struggles to meet existing traffic demands and requires widening or duplication to cater for both current and future traffic volumes.

Figure 57: High traffic volumes and congestion at the four-lane Onkaparinga River Bridge was the primary concern along the metro section of Main South Road

The section of Main South Road south of Sellicks Beach has been on RAA's radar for some time and was particularly bough to the forefront during our 2021 Fleurieu Peninsula and McLaren Vale regional road assessment[8]. This assessment set out numerous recommendations for the corridor including:

- Safety barrier installations and improvements
- Installation of audio-tactile line marking
- Widening of narrow bridges between Myponga and Second Valley
- Extend existing overtaking lanes where feasible
- Installing four new overtaking lanes
- Improved signposting of speed limits
- Intersection upgrades (Sellicks Beach Road, Country Road, Pages Flat Road)
- Exploring feasibility of a South Coast Freight Corridor (Cape Jervis to SE Freeway) and/or a heavy vehicle bypass of Yankalilla and Normanville

RAA also submitted the intersection with Country Road for Black Spot Funding in the 2022-23 program, however, due to high cost, an upgrade was not eligible to receive funding under this program.

Since our last Risky Roads survey, stage one of the Main South Road duplication has been completed between Seaford and Aldinga, and at the time of writing, stage two is under construction with an expected completion in 2026.

Further to this, $31.8m (50:50) has been committed by the South Australian and Australian governments to install three new overtaking lanes on Main South Road, including:

- Between Second Valley and Normanville (northbound)
- Between Delamere and Second Valley (southbound)
- Between Cape Jervis and Delamere (northbound)

Maintenance works are also required between Myponga and Cape Jervis, with localised pavement and surface failures present along the length of Main South Road.

A proposed South Coast Freight Corridor would direct freight from Cape Jervis to the South Eastern Freeway via Victor Harbor, Middleton, Goolwa and Strathalbyn, and RAA is not aware of any current plans to implement this corridor. RAA has previously supported this corridor if it can be shown to create a safer, more efficient freight route that avoids travelling through township main streets as much as possible. It is however, not known by RAA whether this would cause a reduction in freight traffic along Main South Road..

[8] RAA, 2021, *Regional Road Assessment: Fleurieu Peninsula and McLaren Vale* – August 2021, accessed at <www.raa.com.au/roadassessments>.

Regional rank #3: Main Road (McLaren Vale to Willunga)

Regional ranking:	3 (6 overall)			
Total nominations:	30			
Top issues:	Intersection safety, maintenance			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	18	20	22	2

Main Road, between McLaren Vale and Willunga has been nominated as the third riskiest regional road in our 2024 Risky Roads survey. The majority of nominations for Main Road were for intersections, with the McMurtrie Road intersection and the Malpas Road intersection attracting 13, and 12 nominations, respectively. As these intersections are near to each other, and concerns raised at both locations relate to ongoing road upgrades along Main Road, these nominations have been combined with nominations for Main Road.

Main Road is an arterial road under the care and control of the Department for Infrastructure and Transport. The section raised between McLaren Vale and Willunga is about 5.2km long and carries 4,100 vehicles per day.

Some survey respondents referred to undulations and an uneven surface on Main Road as their primary issue, however, the majority referred to intersections. At the intersection with McMurtrie Road, some respondents reported that a crash had occurred while the upgrade was still under construction, which, thankfully did not result in any casualties, however, the primary concern was that it was difficult for two vehicles to turn right concurrently. At the intersection with Malpas Road, a recently installed guard rail is restricting sight distance, and there is evidently some confusion around the rural junction activated warning signage (RJAWS) that has been installed.

Figure 58: The RJAWS-Lite system installed on Main Road sets a 50km/h advisory speed when a vehicle is detected approaching from the side road (Malpas Road)

Along Main Road, maintenance works to the pavement and shoulders were suggested by survey respondents. At the intersection with McMurtrie Road, most respondents suggested that a roundabout should be installed, or that the give way signs should be replaced with stop signs. At the Malpas Road intersection, survey respondents wanted to see stop signs installed on the side roads, while maintaining an 80km/h speed limit on Main Road.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"There is severe undulation on this road between Binney Road and McMurtrie Road causing the vehicle to be bouncing like on a roller coaster."

"[McMurtrie Road intersection] There has been recent upgrades but has not stopped accidents happening here. There is a give way sign which should be upgraded to a stop sign."

"[McMurtrie Road intersection] The design of the intersection is totally confusing and dangerous to motorists wanting to turn right from McMurtrie Road to McLaren Vale or from Johnson Road to Willunga if there are cars waiting at the junction on both roads."

"[Malpas Road intersection] Guard rail on intersection obstructs visibility to drivers approaching from Malpas Road."

"[Malpas Road intersection] New signage causes confusion for motorists. Signs on Main Road flash and reduce the speed from 80km to 50km when a car is approaching on Malpas Road."

"[Malpas Road intersection] 50km/h flashing signs have been put in on Main Road to indicate when side road traffic is incoming to the intersection. When a vehicle is coming down either Malpas or Binney Roads, the lights flash 50km/h - down from 80km/h. The issue is this, when cars are waiting to enter Main Road from the side roads, they see a car slowing down and then assume it will be turning, and the side road car pulls out in front of the car on Main Road. This has happened multiple times, to the point it is safer to not slow down and thus exceeding the temporary limit. a firm STOP sign on the side roads would be a lot safer. The new signage is dangerous and there has already been at least one crash that I have seen."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Redo road edges on both sides to make them safer."

"[McMurtrie Road intersection] Implementation of a stop sign on McMurtrie and Johnston Rd so that the drivers have visibility of Main Rd. A roundabout would be preferable, but a change of signal would be adequate and cheapest option."

"[McMurtrie Road intersection] Put back stop signs, remove tear drops, maybe put a roundabout instead."

"[Malpas Road intersection] Put a stop sign in and lower railing/raise height of road."

"[Malpas Road intersection] Put the '50' warning signs on Malpas and Binney Roads, not Main Road. Put Stop signs in place of Give Way signs. Add rumble strips on Malpas and Binney Roads on approach to Main Road to enhance Stop signs."

Data analysis

Main Road has a relatively stable crash trend, however, serious crashes have occurred more frequently in recent years. 2021 was a particularly bad year with two lives lost in separate crashes at the intersection with McMurtrie Road, and at the intersection with Malpas Road.

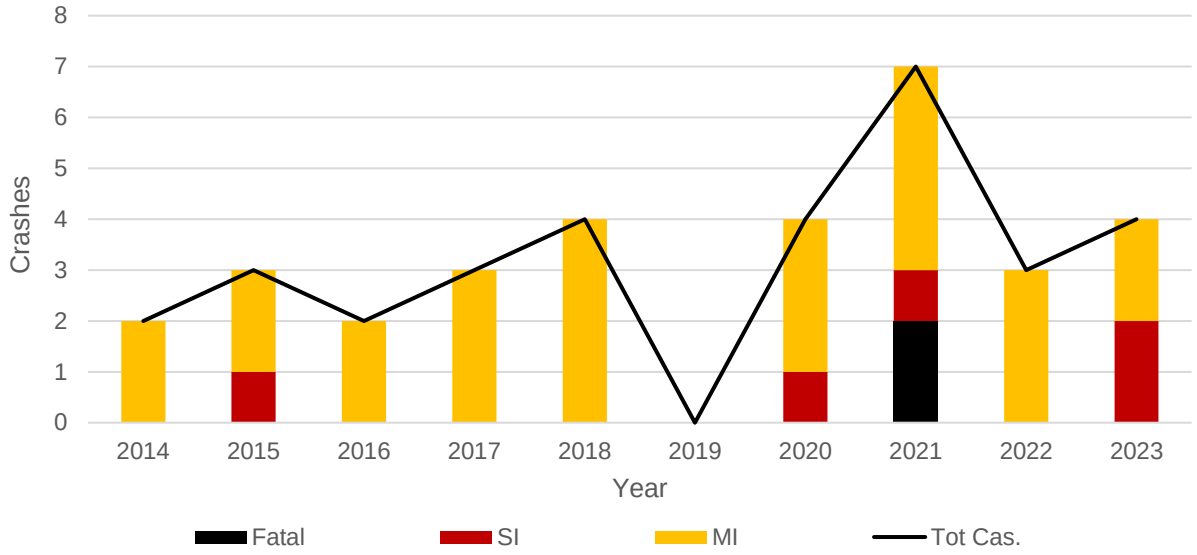


Figure 59: Ten-year trend in casualty crashes on Main Road (McLaren Vale to Willunga)

Right angle crashes are the most commonly occurring along Main Road, accounting for 61% of all casualty crashes and 83% of FSI crashes.

Table 27: Casualty crash types occurring along Main Road (McLaren Vale to Willunga) between 2019 and 2023

Crash type	**No. of casualty crashes**	**Crash severity**		
		Minor inj.	*Serious inj.*	*Fatal*
Right Angle	11	6	3	2
Hit Fixed Object	2	1	1	0
Right Turn	2	2	0	0
Roll Over	2	2	0	0
Side Swipe	1	1	0	0
Total	**18**	**12**	**4**	**2**

Intersections are the primary locations for crashes to occur, with 83% of casualty crashes between 2019 and 2023 occurring at intersections.

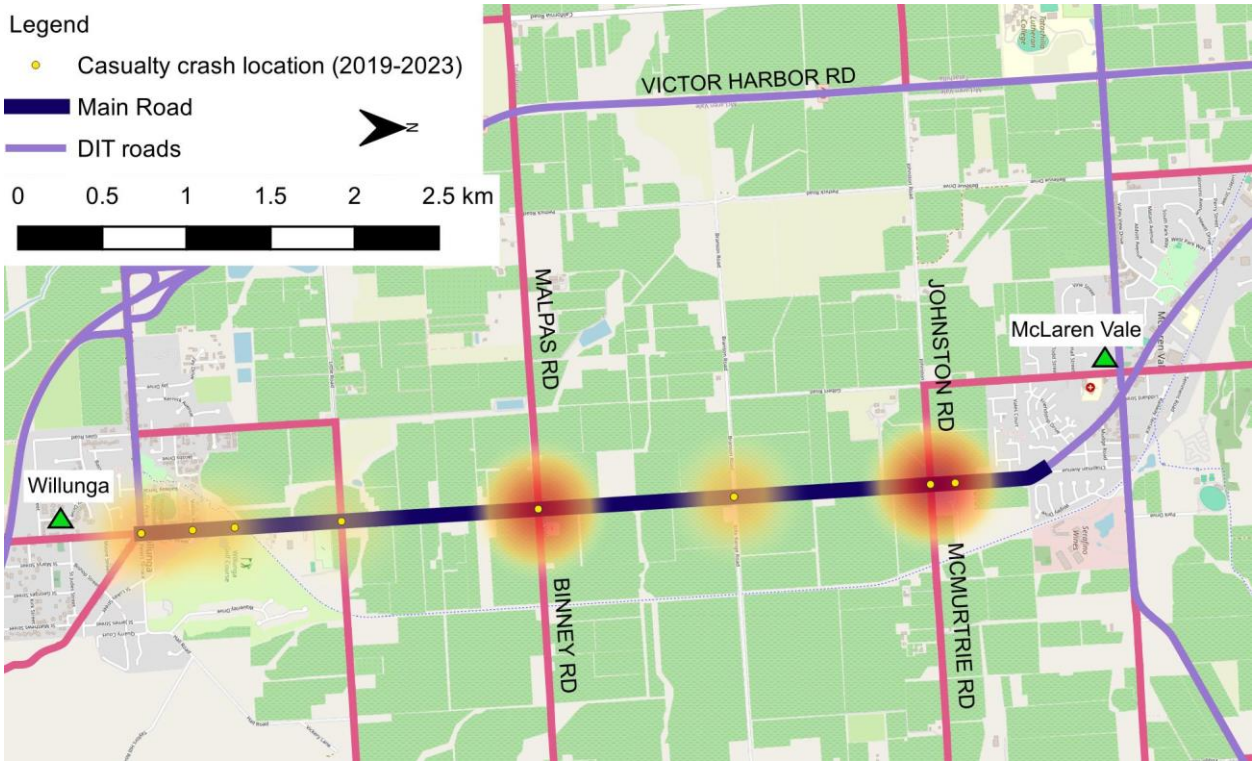


Figure 60: Heatmap of casualty crash locations on Main Road between 2019 and 2023

The intersections to record multiple casualty crashes between 2019 and 2023 are McMurtrie Road (5), Malpas Road (5), Rifle Range Road (2) and Aldinga Road (2).

Final comment

In 2021, two tragic crashes at intersections on Main Road saw this corridor gain significant media and political attention. Following this, City of Onkaparinga Council undertook an audit of intersections along the corridor and subsequently undertook a broader assessment of intersections across the McLaren Vale region. As part of a 2021 election commitment, a $4.2m road safety package was granted by the Department for Infrastructure and Transport to treat the 21 intersections with the highest risk.

Feedback received acknowledged the recent upgrades, however, there was evidently some confusion and community concern about the effectiveness or the purpose of these upgrades. RAA welcome the recent upgrades to intersections along Main Road as low-cost measures to improve safety.

RJAWS treatments, like that installed at the Malpas Road intersection are a safety treatment that aims to reduce speeds of approaching vehicles on the major leg of an intersection. The Malpas Road treatment displays a non-enforceable advisory speed limit to Main Road traffic when a vehicle is detected on Malpas Road or Binney Road. By reducing travel speed, the likelihood of a crash occurring is reduced, and the severity of any crash that occurs is also reduced. Even though not all drivers fully adjust their speed when the signs are activated, research by the *Centre for Automotive Safety Research (CASR)*[9] indicated that the relative risk of casualty crashes occurring at junctions under a trial of this treatment was between 42% and 65% compared to before RJAWS installation. Comparatively, RJAWS Lite systems relate to a FSI crash likelihood reduction of

[9] University of Adelaide, 2022, Centre for Automotive Safety Research, *Preliminary evaluation of Rural Junction Activated Warning System (RJAWS) in rural South Australia*, accessed at <https://casr.adelaide.edu.au/publications/list/?id=1899>..

26.2%, following a 2023 CASR evaluation[10] of this system. The suggestions of survey respondents to reduce speed on the side roads instead will not achieve this desired effect and will not reduce the severity of crashes due to driver error from the side road (e.g. fail to give way).

Teardrop islands, like those installed at the McMurtrie Road intersection are a low-cost delineation and side-road deflection treatment. These islands improve conspicuity of the intersection, reducing the likelihood of drivers failing to give way at the intersection. Some respondents indicated concerns about concurrent right turns from opposite directions on McMurtrie Road and Johnston Road. This scenario isn't adequately covered under the Australian Road Rules, as typical intersections allow both vehicles to turn right concurrently by each vehicle passing to the right of the centre of the intersection (rule 33(3)). If considering the location as two separate T-intersections, the Australian Road rules (rule 73(2)) only state that a driver turning right is required to give way to any vehicle travelling on the continuing road, meaning that a right turning vehicle should give way if another right turning vehicle has already commenced their turn (and is therefore travelling on Main Road to complete their turn). In practice, it would be courteous for the driver arriving at the intersection later, to give way to the driver who arrived earlier.

Stop signs were called for at both intersections, by multiple respondents. Under *Australian Standard 1742.2:2022 Manual of uniform traffic control devices, Part 2: Traffic control devices for general use*, stop signs shall only be used where intersection sight distance is reduced beyond certain criteria, which are not met at either location following a site investigation and measurements by RAA. As such, RAA do not consider that stop signs will be more effective that give way signs at improving road safety outcomes in either location.

RAA previously called for upgrades including roundabouts along Main Road in the lead up to the 2022 state election and state budget submission for 2022-23. Our 2021 Fleurieu Peninsula regional road assessment report identified several relevant recommendations in the region including:

- Improve safety at four-way crossroad intersections in the McLaren Vale region through various safety upgrades including enhanced signage, delineation, and horizontal deflection. This should also include a holistic review of the local road network to identify opportunities for partial or full road closures and right turn bans at intersections where appropriate.
- Install 2.5m wide sealed shoulders along Main Road which will allow vehicles to leave the through lanes when accessing properties, provide additional space to drivers if they inadvertently leave the road and provide additional space for road cyclists.
- Undertake road resealing works on Main Road between Branson Road and Willunga.
- Intersection upgrades including roundabouts at Malpas Road and McMurtrie Road, and delineation/lane improvements at Little Road and Rifle Range Road.

Ultimately, RAA still considers these recommendations to be relevant and important safety upgrades. Substantial progress has been made across the McLaren Vale region to improve safety at 21 intersections, and RAA considers the treatments used to be appropriate and effective low-cost solutions in locations that may not qualify for funding otherwise. Recently installed upgrades such as RJAWS and the teardrop islands, are welcome short to mid-term road safety improvements that serve a far greater benefit than doing nothing until funding becomes available for a more substantial upgrade.

Due to feedback received that indicates some level of misunderstanding, RAA will aim to educate road users around the operation RJAWS and teardrop intersections.

[10] University of Adelaide, 2023, Centre for Automotive Safety Research, *A novel low-cost Safe System-aligned treatment for regional and remote intersections*, accessed at <https://casr.adelaide.edu.au/publications/list/?id=2084>.

Regional rank #4: Shacks Road, Commissariat Point

Regional ranking:	4 (7 overall)			
Total nominations:	30			
Top issues:	Maintenance, speed limit, wildlife			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	2	1	0	1

Shacks Road has been nominated as the fourth riskiest regional road in our 2024 Risky Roads survey and is the first time this road has been nominated in a Risky Roads report, with it not receiving any nominations in our 2021 survey. No intersections along Shacks Road were nominated.

Shacks Road is a sealed road under the care and control of Port Augusta City Council, extending for about 22km south of its intersection with Caroona Road. Via Commissariat Point and Blanche Harbour.

Survey respondents raising Shacks Road were mostly concerned with road maintenance, with several indicating that wildlife frequently entered the road, and that the 100km/h speed limit may not be appropriate given this combination of factors.

Figure 61: A poor section of Shacks Road, near Blanche Harbour (Image Source: Google Street View, July 2023)

Suggestions to improve Shacks Road were largely to resurface or reconstruct the road, and improve drainage, while some respondents suggested that a lower speed limit should be considered until safety issues are rectified.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"The road is really bad. Cars are forever avoiding the damaged surfaces, and it is becoming very dangerous for all traffic users. Travelling at night is also a major concern. Users not only have to tend with road and weather conditions but also the ever-present danger of wandering fauna."

"Parts of the road where works have commenced but lay unattended for months. Loose gravel, uneven sections and pot holes are rarely repaired."

"Flooding in heavy rain."

"There are many turnoffs into shack areas where people enter and exit. Some are on blind spots, crests or partly obstructed by bushes. At times dangerous to pull out onto main road. Speed limit is 100km/h, but road surface is very poor in many areas. At night lots of kangaroos on road and verges. Heavy trucks use road to access some shacks and army land, causing damage."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Start from the start and repair the 25km road. They are doing bits here and there and don't finish them off, has been 6mths and the road is getting very unsafe."

"Lower speed. Council are working on areas of road but it's an ongoing patch up due to original surface being unsuitable."

"Needs to be better drainage under the road, keep army vehicles and contractors off the road and better base material. If the army were prepared to contribute and construct an all-weather, all-vehicle road this would resolve many of the problems. Pt Augusta Council are not funded adequately to do what is necessary. There is about 26 kms of road servicing around 300 shacks and houses. many families have relocated permanently."

Data analysis

Three casualty crashes have occurred on Shacks Road over the past ten years. In 2021, a fatality occurred about 3km south of Caroona Road, involving a northbound vehicle rolling over. According to publicly available crash data, this crash involved several of the "fatal five" crash factors and was driving an older vehicle (1999 year of manufacture).

The 2017 crash was also a rollover crash, occurring on the southern end of the road in Blanche Harbour.

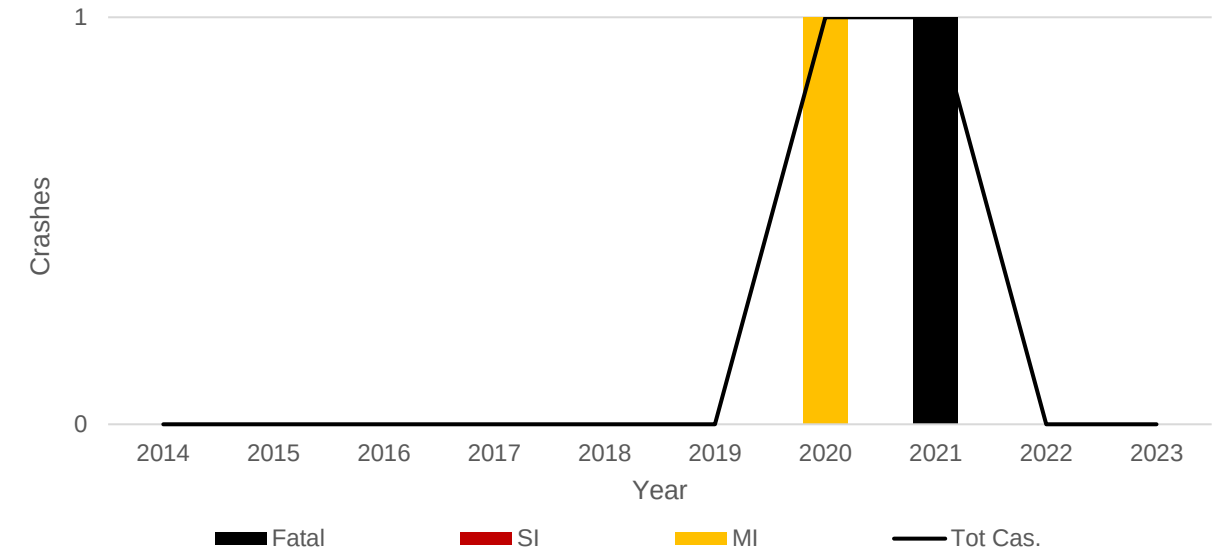


Figure 62: Ten-year trend in crashes on Shacks Road

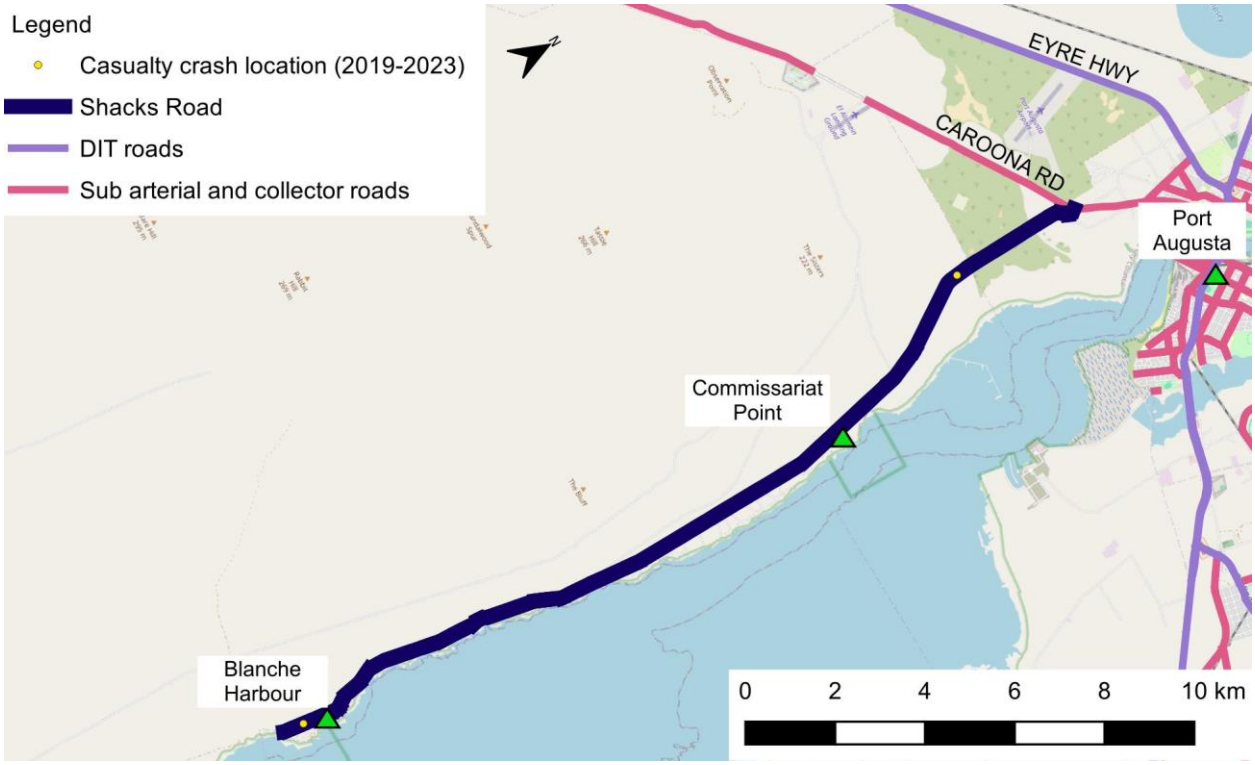


Figure 63: Heatmap of casualty crash locations on Shacks Road between 2019 and 2023

Final comment

It is apparent from survey feedback that additional maintenance funding is required for Shacks Road. Given the nature of this road, RAA anticipates that the cost for a full-depth reconstruction would be high and beyond the capacity of council to fund.

Port Augusta City Council should explore all avenues of external funding available such as the Roads to Recovery, Special Local Roads, and Supplementary Local Road programs. Current crash data means the corridor is not eligible for reactive black spot funding, with the key purpose of the Black Spot program to deliver infrastructure enhancements rather than maintenance works.

Regional rank #5: Sturt Highway

Regional ranking:	5 (9 overall)			
Total nominations:	27			
Top issues:	Maintenance, road capacity			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	123	123	48	20

Sturt Highway has been nominated as the fifth riskiest regional road in our 2024 Risky Roads survey. Sturt Highway has not previously received enough nominations to be in the top ten regional roads in earlier Risky Roads reports.

Sturt Highway was mostly raised for midblock sections, with 40% of midblock nominations in Truro, 40% in the Barossa Valley, and 20% in the Riverland.

Several intersections along Sturt Highway were also raised, including Belvidere Road (2 nominations), Jury Road (2 nominations), Horrocks Highway (1 nomination), Twentyfirst Street (1 nomination) and Rogers Road (1 nomination)

Sturt Highway is a part of the National Land Transport Network, and as such is managed and operated by the state government, with additional federal funding available. Sturt Highway forms part of a highly used road link between Adelaide and Canberra/Sydney via the Riverland (SA), Mildura, Wagga Wagga, joining the Hume Highway about 350km southwest of Sydney.

Figure 64: Sturt Highway is a nationally significant freight corridor

Traffic volumes on Sturt Highway are high, with 11,000-16,000 vehicles per day using the duplicated section between Gawler and Greenock, 4,500-7,200 between Greenock and Truro, 3,200-4,000 between Truro and Waikerie, and 4,000-9,000 using most sections in the Riverland.

Survey responses related to a range of issues, however road maintenance was the most frequently raised issue, and the majority of maintenance related nominations were through Truro and the

Barossa Valley, particularly in the vicinity of Shea-Oak Log. Survey respondents also raised the high volume of heavy vehicle traffic, and capacity of the road to cater for its current levels of use.

To address concerns, many respondents suggested that further maintenance work was needed, extending beyond routine patching to prevent issues from recurring. Several respondents also highlighted the need to duplicate Sturt Highway and construct a bypass of Truro. Local improvements were also suggested, where changes to intersection layout or speed limit were seen to have positive safety benefits.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"Sturt Highway should be dual lane from Nuriootpa to the Riverland. Lots of trucks on this 'national' highway that is currently one lane up and back."

"High volume b-triple b-double semis use with lack of safe passing sections".

"Dangerous dips in road [Shea-Oak Log] are a nightmare for trucks."

"By far the most concerning thing I have witnessed is children running across the Sturt Highway to get to the McDonalds [Nuriootpa]. On more than one occasion, children have narrowly missed being hit by trucks doing 80km/h as they run across the road without looking (as kids do). I've even closed my eyes a couple of times whilst waiting at the Belvidere Rd intersection in case a child actually got hit as I don't want to have that image burned in memory for life!!!"

"[Jury Road intersection] This intersection has only recently been improved but with major flaws. Two reasons: 1. speed limit set to high at 80 km/h. 2. No turn-off lane into Fuller Road. Coming from Berri and turning left into Fuller Road is a constant battle for us because there is no slip lane provided into Fuller Road. Drivers following behind abuse us for slowing down by flicking lights, activating their horns or giving us the finger. We cannot turn sharp left at the 80 km/h speed limit. This is still in a residential area with houses either side of the road and the speed limit should be maximum 60 km/h not the listed 80 km/h. An additional problem emerges at certain times of the day. The main road at this point runs east to west. Near sunset, drivers behind us are blinded and can hardly see our indicators nor the fact that we are slowing down. Very dangerous!"

[Belvidere Road intersection] Residents having to travel from Belvidere Road and turn right onto the Sturt Huw towards Adelaide sometimes have to wait 5, even up to 10mins just to get through this one intersection. This of course leads to frustrations, poor decision making by many and not exactly in line with government goals of emissions reductions by having so many vehicles sitting idling for long just to get through one intersection.

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"[Truro] Resurface fully. It's a section that has been neglected and is horrible."

"[Twentyfirst Street, Renmark] A roundabout or lights."

"[Near Cobdogla Primary School] Speed limit should be reduced from 110km/h to 80km/h (approx. 500m from Sturt Highway)"

"[Daveyston] Resurface correctly and fully."

"Please pursue the bypass for Truro. There are so many trucks going through. They're huge. Too much traffic to maintain a safe space for other motorists and pedestrians."

Data analysis

Sturt Highway has a declining casualty crash trend, likely reflecting the impact of the recent $87.5m upgrade package. In the past five years, an average of 24.6 casualty crashes occurred per year, 29% down from the 2014-2018 average of 34.8 casualty crashes per year. This change isn't reflected only in minor crashes, with the annual number of FSI crashes reducing by 24% in this time. RAA acknowledges that, while three fatal crashes occurred in 2023, each of these resulted in two lives lost.

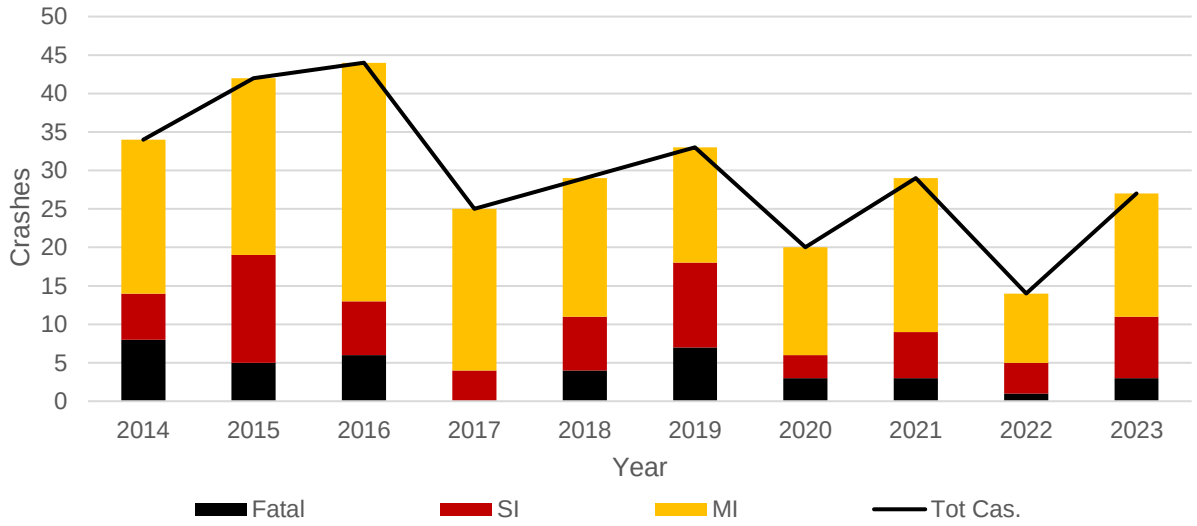


Figure 65: Ten-year trend in casualty crashes on Sturt Highway

Single-vehicle run off road (hit fixed object, roll over, left road – out of control) crashes account for one third of casualty crashes, while right angle intersection crashes are also high on Sturt Highway. While head on crashes are infrequent, the outcomes of these crashes can be catastrophic, with more than half of head on casualty crashes having fatal outcomes.

Table 28: Casualty crash types occurring along Sturt Highway between 2019 and 2023

Crash type	**No. of casualty crashes**	**Crash severity**		
		Minor inj.	*Serious inj.*	*Fatal*
Right Angle	22	18	3	1
Hit Fixed Object	21	15	5	1
Roll Over	18	10	5	3
Rear End	17	9	7	1
Right Turn	13	11	2	0
Head On	12	1	4	7
Side Swipe	10	4	3	3
Hit Pedestrian	3	1	2	0
Hit Animal	2	2	0	0
Hit Parked Vehicle	2	0	1	1
Left Road - Out of Control	2	2	0	0
Other	1	1	0	0
Total	**123**	**74**	**32**	**17**

Crash hotspots on Sturt Highway align with the busiest sections of the corridor, in the Barossa Valley and the Riverland, however there is a casualty crash history along the full length of the corridor.

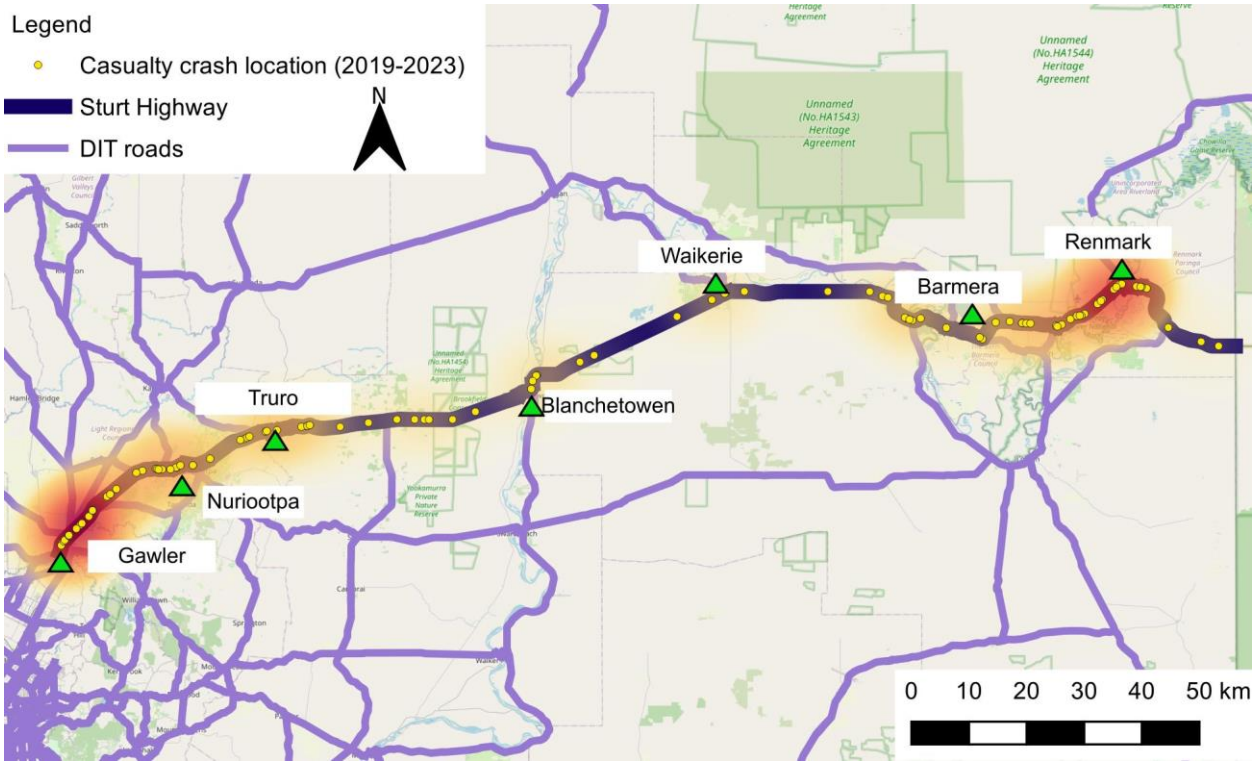


Figure 66: Heatmap of casualty crash locations on between 2019 and 2023

The intersections with the most casualty crashes included, Horrocks Highway interchange (11), Gomersal Road (7), Twentyfirst Street, Renmark (3), Webber Road, Monash (3), and Para Street, Renmark (3).

Final comment

RAA have recently reviewed Sturt Highway (Greenock – Victoria) as part of our 2024 update to our 2018 Riverland Regional Road Assessment[11]. This identified that many of our 2018 recommendations had been addressed as part of the $87.5m Sturt Highway upgrade package, including:

- Improvements to rest stops
- Install of audio-tactile line marking where not yet installed, and refresh worn markings
- Maintenance works between Truro and Blanchetown
- Install additional barrier protection between Waikerie and Barmera
- Install two new overtaking lanes between Waikerie and Barmera
- Install a roundabout at the intersection with Old Sturt Highway (Barmera)
- Upgrade the intersection with Old Sturt Highway (Monash)

[11] RAA, 2025, *Riverland – 2024 Update of 2018 Regional Road Assessment, January 2025,* accessed at <www.raa.com.au/roadassessments>.

This upgrade package also delivered maintenance works, other intersection upgrades, sealed shoulder widening, and a total of six overtaking lanes between Truro and Barmera taking the total number of overtaking lanes on the highway to 27.

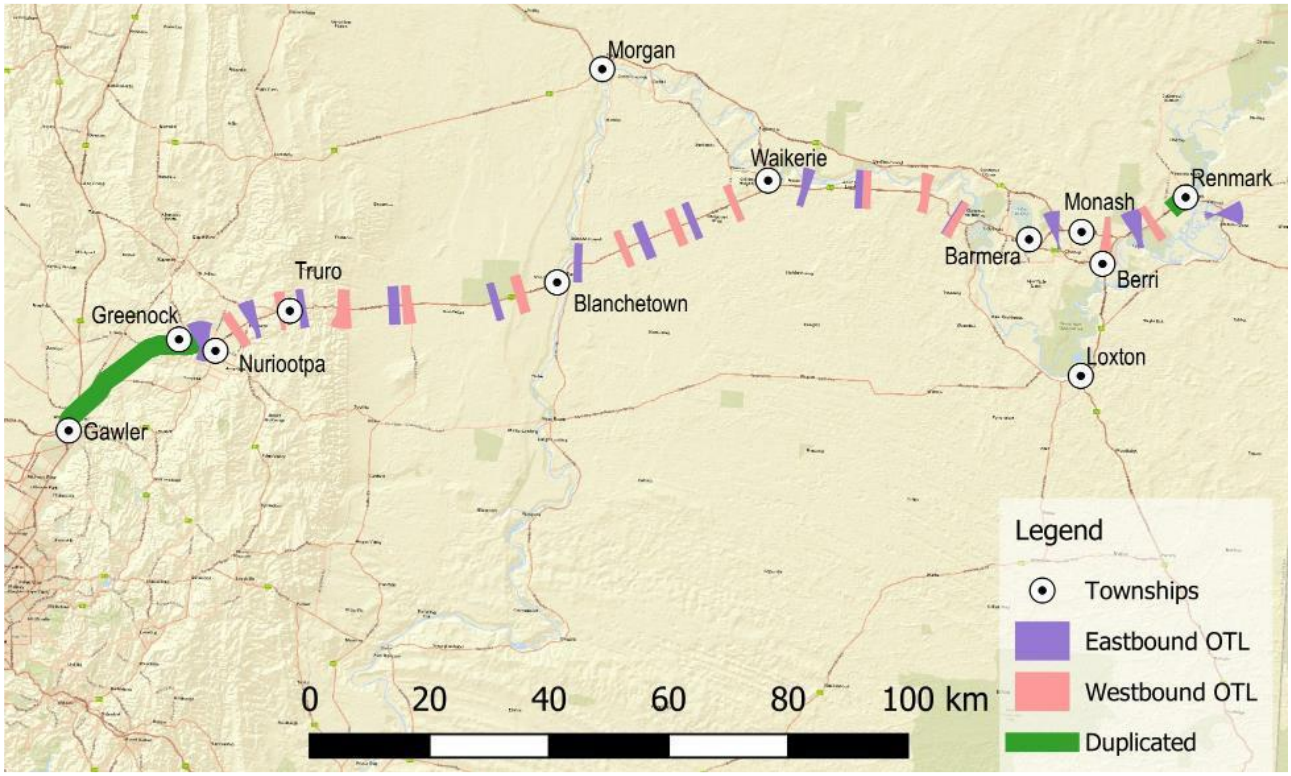


Figure 67: Locations of overtaking lanes on Sturt Highway

High priority recommendations that are still outstanding include:

- Duplication of Sturt Highway, bypassing Truro
- Safety improvements at the 'Waikerie Bypass' rest area, including a speed limit reduction
- An upgrade at Airport Road, Renmark
- An upgrade at Twentyfirst Street, Renmark

There are sections of the duplicated highway in Shea-Oak Road and Daveyston that have suffered from subsidence. Undulations in the road have been patched several times, however, often reappear within months. Long-term repairs are ultimately needed for localised sections of this otherwise well-constructed road.

RAA reviewed Moorundie Street (Sturt Highway) through Truro in October 2024 as part of our 2024 update to our 2018 Riverland regional road assessment. This section of Sturt Highway was scheduled for re-sealing, which occurred between November and December 2024. Other poor sections of Sturt Highway in Barmera and Waikerie were also resealed at this time.

Duplication of Sturt Highway is one of RAA's high priorities, along with duplication of the Augusta and Dukes Highways. The highest priority sections of Sturt Highway are between Greenock and Truro (through to Halfway House Road), and between Berri and Barmera.

While the Truro Bypass Project had its funding revoked in the 2023 infrastructure review, RAA still considers this project essential for improving amenity within Truro and as part of a greater border-border high productivity network. The State Government are incorporating the Truro Bypass Project into a strategic business case to be considered for future funding.

Regional rank #6: Southern Ports Highway

Regional ranking:	6 (12 overall)			
Total nominations:	19			
Top issues:	Maintenance			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	14	15	4	1

Southern Ports Highway has been nominated as the sixth riskiest regional road in our 2024 Risky Roads survey. After being nominated as South Australia's riskiest regional road in 2021, a substantial $18.3m has now been committed to improving two 15km sections of Southern Ports Highway; Beachport – Southend Access Road, and Robe – Clay Wells Road.

No intersections were nominated along Southern Ports Highway.

Southern Ports Highway is a state maintained arterial corridor under the care and control of the Department for Infrastructure and Transport. The highway extends approximately 120km between Kingston and Millicent along the coastline, bypassing the town centres of Beachport and Robe.

Traffic volumes vary along the corridor, with the busiest section between Millicent and Beachport carrying 1,300-2,100 vehicles per day. Most of the section between Beachport and Clay Wells Road carries below 500 vehicles per day, while the Clay Wells Road to Kingston (via Robe) section carries around 1,000 vehicles per day.

Survey responses all related to maintenance, with the section between Millicent and Beachport most highly raised. Respondents suggested that the road needed to be rebuilt and widened to prevent recurring maintenance issues.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"The section of road between Beachport and Millicent is extremely unsafe due to crumbling road shoulders and potholes that are never properly fixed."

"Pot holes and crumbling edges. Road is extremely dangerous and even more so when wet."

"The whole length of this road from Robe Via Beachport to Millicent is deplorable."

"The additional risk of wildlife at night makes this road even more dangerous."

"This road between Millicent and Beachport has been patched up for years. Complete waste of money as it has so many problems. Caravans and cyclists as well as day trippers are putting their lives at risk."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Rebuild the road. It has had patches on patches for too many years."

"Have shoulders on the complete Southend to Beachport Road. Rebase and reseal the complete section. Have turning lanes on the Southend exit and one at the Robe Road intersection."

Rebuild the entire road from scratch. It is obvious the base has deteriorated and needs to be replaced."

"Completely re-do large sections of this road and have a wider sealed road shoulder, not just Band-Aid fixes like have been done previously."

Data analysis

The casualty crash rate on Southern Ports Highway has tended to decline over the past decade from an average of 3.8 casualty crashes per year between 2014-2018 to an average of 2.8 casualty crashes per year between 2019-2023.

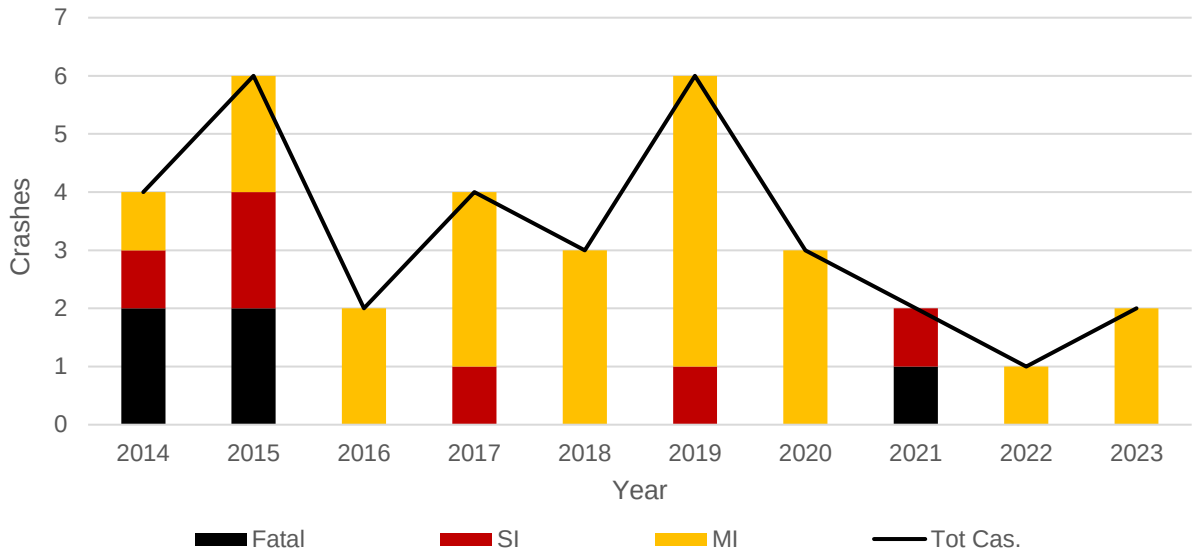


Figure 68: Ten-year trend in casualty crashes on Southern Ports Highway

Single-vehicle run-off-road crashes are most common on Southern Ports Highway, accounting for 71% of casualty crashes between 2019 and 2023.

Table 29: Casualty crash types occurring along Southern Ports Highway between 2019 and 2023

Crash type	**No. of casualty crashes**	**Crash severity**		
		Minor inj.	*Serious inj.*	*Fatal*
Roll Over	5	5	0	0
Hit Fixed Object	3	1	1	1
Left Road - Out of Control	2	2	0	0
Head On	1	1	0	0
Hit Animal	1	1	0	0
Rear End	1	0	1	0
Right Angle	1	1	0	0
Total	**14**	**11**	**2**	**1**

These crashes were dispersed along the length of Southern Ports Highway.

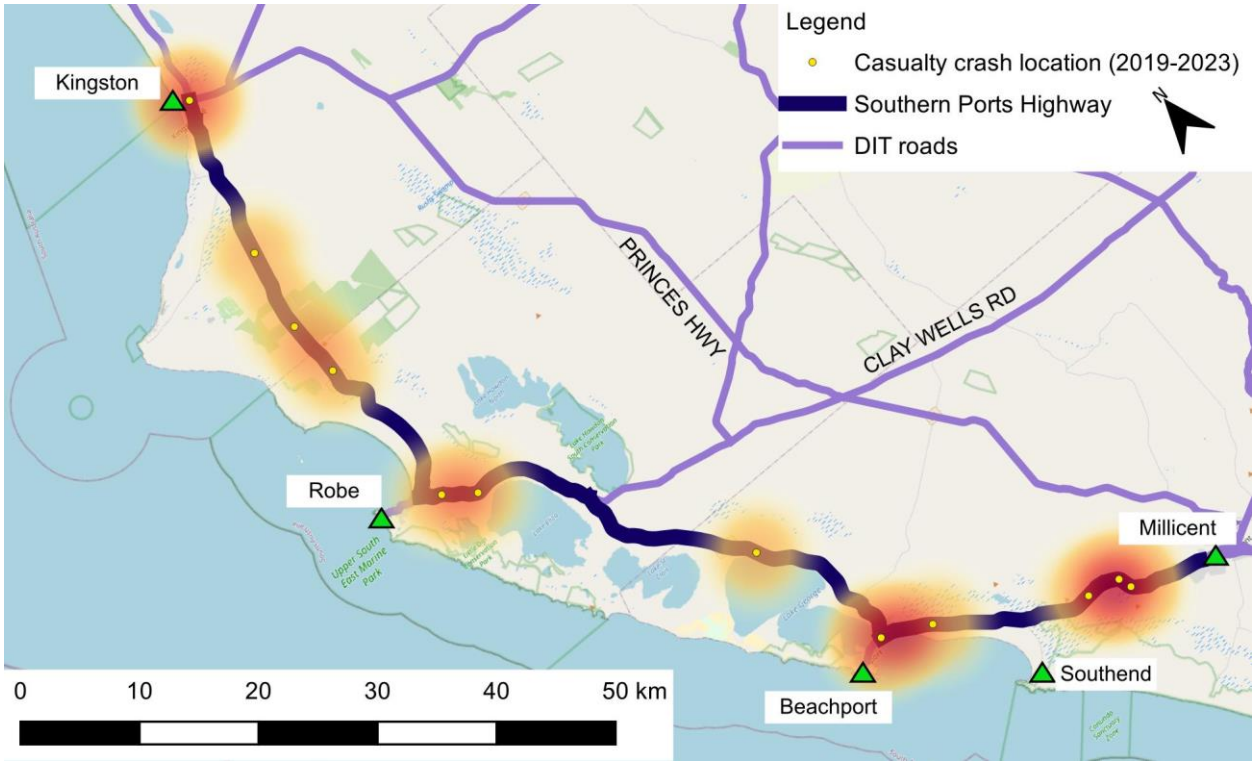


Figure 69: Heatmap of casualty crash locations on Southern Ports Highway between 2019 and 2023

Two intersections recorded multiple casualty crashes, the intersection with Millicent Road, in Beachport, and the intersection with Princes Highway in Kingston.

Final comment

RAA have advocated for upgrades to Southern Ports Highway for several years, including after it was nominated as the state's riskiest regional road in our 2021 Risky Roads survey.

A recently announced $18.3m Southern Ports Highway upgrade will be allocated to two 15km sections: Beachport – Southend Access Road, and Robe – Clay Wells Road. The upgrades will include lane widening, shoulder sealing, pavement rehabilitations, culvert extensions, safety barriers, audio tactile line marking and vegetation removal, which will result in more sections of Southern Ports Highway achieving a three-star AusRAP rating. The upgrade works will begin in mid-2025 and are scheduled for completion by mid-2026.

Both of these sections were raised as priority locations during our 2019 Limestone Coast regional road assessment, and again in 2023 when RAA last reviewed the condition of Southern Ports Highway.

Figure 70: Southern Ports Highway, between Southend and Beachport was highly raised (Photo: RAA June 2023)

Furthermore, the Southend Access Road intersection is being upgraded by Wattle Range Council with a $400,000 contribution from the Department for Infrastructure and Transport. RAA completed a road safety audit at this intersection in 2019 and submitted this location for funding consideration in the 2020-21 Black Spot Program and welcome this long-awaited upgrade.

The full list of recommendations in our 2019 Limestone Coast Regional Road Assessment was:

- Seal shoulders to 1.0 metre wide where there is no current shoulder seal between Robe and Clay Wells Road, and between Beachport and Southend **(upgrade scheduled 2025/26)**
- Widen Shoulder seal between Clay Wells Road and Beachport
- Roll out ATLM treatment to cover the entire length of the highway **(partially addressed)**
- Bridge widening near Robe, and 10km south of Kingston
- Reseal and reconstruct 15km of narrow undulating carriageway between Robe and Clay Wells Road **(upgrade scheduled 2025/26)**
- At the Clay Wells Road intersection
    - Extend left turn lane for traffic continuing north on Southern Ports Highway.
    - Extend left turn lane for traffic turning left from Clay Wells Road onto Southern Ports Highway.
    - Delineation improvements including line marking and RRPM
- At the Southend Access Road intersection **(upgraded 2025)**
    - Install channelised left turn lane from Southern Ports Highway onto Southend Access Road
    - Modification of southbound lane layout
    - Improvements to signage and vegetation maintenance to ensure sight distance

Regional rank #7: Goolwa Road

Regional ranking:	7 (20 overall)			
Total nominations:	17			
Top issues:	Maintenance, road capacity, intersection safety (Victor Harbor Road)			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	11	14	2	0

Goolwa Road has been nominated as the seventh riskiest regional road in our 2024 Risky Roads survey. This follows the corridors nomination as the 10th riskiest regional road in our 2021 survey.

The intersection with Victor Harbor Road received four nominations.

Goolwa Road is a regional arterial road extending for 30km between Mount Compass and Currency Creek, and traffic volumes are high with the road traversed by 3,100 vehicles per day, with 2019 counts the most recently available and a potential 2,500 home development in Goolwa could substantially impact this in the medium-term.

Survey respondents were concerned about maintenance in some sections, as well as safety with overtaking opportunities limited and no overtaking lanes. Respondents also found the Victor Harbor Road intersection dangerous, raising concerns about layout, speed limit and sight distance.

Figure 71: Road maintenance concerns were raised along Goolwa Road (Photo: March 2025)

Other than suggestions to undertake road maintenance works, survey respondents were calling for overtaking lanes to be constructed along the corridor to provide safer overtaking opportunities, particularly near the steep Mosquito Hill section. At the intersection with Victor Harbor Road, three of the four respondents nominating this intersection suggested that a roundabout be installed, and an 80km/h speed limit was deemed more appropriate.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"The road is rough and narrow. no one can sit on speed limit without cutting blind corners, but they all try to."

"Proudly being a Goolwa-ite, I often travel the Goolwa to Adelaide road via Mount Compass. The distance to Mount Compass via Goolwa is similar (the same) as the distance from Victor Harbor (check the sign posts etc). The traffic volumes are similar- probably 60/40 Ifo the victor line. My concern is with the number of passing lanes to Goolwa/Middleton verse the Victor Harbor route. Goolwa run, nil vs Victor, quite a few."

"This road is a main access road for the population of Goolwa and surrounds to join with the Victor Harbor Road, near Mount Compass, for people journeying into and back from Adelaide. It carries significant traffic and is no longer suitable for the increasing population. It is another of the regional roads in the area that has had little to no development in the past 50 years. It is single lane with few safe areas to pull over and let built up traffic pass. Recently going up the windy, hilly section a long line of traffic was nearly at a standstill due to large trucks and an unevenly loaded caravan that was not coping with the incline. If stuck behind a truck with a load or farm machinery travel may be as slow 40/50/60km/h for extended lengths. Some impatient drivers then take unsafe overtaking manoeuvres putting all at risk. There are wildlife hazards and there can even be fog in the summertime in parts of this road. It is long overdue for an upgrade to improve safety."

"[Victor Harbor Road intersection] The junction is a high speed (100km/h) environment, vehicles turning right from Goolwa Rd onto Victor Harbor Rd are guided into an acceleration lane to the right of through traffic. Sometimes this traffic gets confused and strays onto the through lane, risking a severe collision."

"[Victor Harbor Road intersection] Visual Blind spot when looking toward Mount Compass when stopped at Goolwa/Victor Harbor Roads intersection. There have been multiple accidents at this intersection since the 'upgrade' some time ago and the issue of being able to see oncoming traffic increased (not decreased) due to a dip in the Mount Compass road section just before the slip lane to turn into Goolwa Road. Also, when in a car on the Goolwa Road part of the intersection it is also difficult to see past cars that are turning left into Goolwa Road as the road has been changed to slow the traffic in the left turning slip lane and the turn into Goolwa Road is a 45 degree turn. Not only is seeing cars in this section impossible, it is difficult to determine how many cars are approaching as cars enter the slip lane section. The issue of speed is also a factor in determining a safe time to enter the Victor Harbor Road. Also, the entry into a slip lane beside oncoming traffic on Victor Harbor is confusing and dangerous."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Check it out - even one passing lane in the right place and with appropriate signage (e.g. "passing lane 2km" etc) would be a start. Or do we have to kill/ maim/injure a few before this can happen?"

"Some long overdue maintenance would be a start. But there needs to be some significant upgrades applied to this road such as roundabout at both ends (VH Road junction and Strathalbyn Road junction), widening at tight bends and ideally overtaking lanes especially on the hill climbing sections."

"Reduce speed to 80km/h until road is made safer by widening in places and resurfacing."

“In the short term, safe areas to pull over to allow built up traffic to pass slow vehicles, improved road surfaces and suitable passing lanes. Longer term, a full redevelopment of the road to allow safe passage for the increased and increasing population for whom this road is the major access route to journey to and from Adelaide.”

“[Victor Harbor Road intersection] Reduce speed to 80km/h. Install a roundabout.”

“[Victor Harbor Road intersection] In addition to this blind spot dip in the road being rectified, the speed limit must be reduced both ways along this section to at least 80km. (An 80km speed limit was introduced around the Goolwa to Strathalbyn and Currency Creek Finniss intersection to reduce traffic accidents). The left turn slip lane into Goolwa Road needs to be further to the east than is at present to enable more separation between a vehicle/s following the vehicle that is turning left. Signage needs to indicate to road users the type of intersection they are approaching also due to the slip land entry into and alongside higher speed traffic on the Victor Harbor Road.”

Data analysis

In recent years, Goolwa Road has had a relatively low crash rate, with 10 minor injury crashes and one serious injury crash in the past five years.

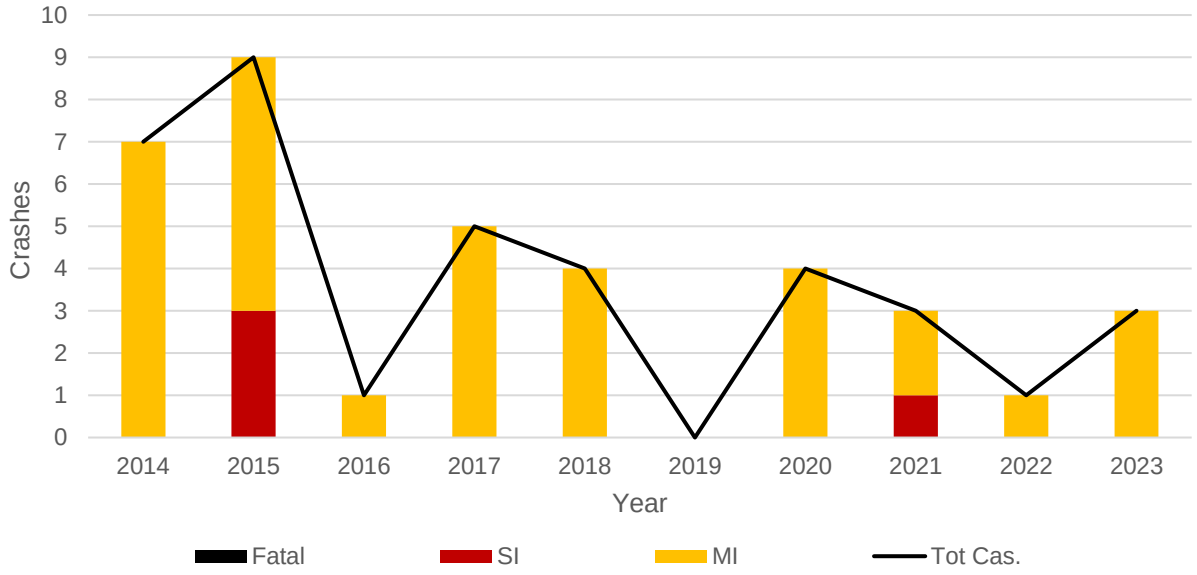


Figure 72: Ten-year trend in casualty crashes on Goolwa Road

There are no predominant crash types occurring on Goolwa Road, however, most crashes occurred at midblock sections, other than three intersection crashes at the intersection with Victor Harbor Road.

Table 30: Casualty crash types occurring along Goolwa Road between 2019 and 2023

Crash type	No. of casualty crashes	Crash severity		
		Minor inj.	*Serious inj.*	*Fatal*
Hit Fixed Object	3	3	0	0
Hit Animal	2	2	0	0
Right Angle	2	2	0	0
Head On	1	1	0	0
Other	1	1	0	0
Roll Over	1	1	0	0
Side Swipe	1	0	1	0
Total	**11**	**10**	**1**	**0**

While crashes were somewhat dispersed along the length of Goolwa Road, a cluster of five casualty crashes occurred along a 1,200m stretch, about halfway between Victor Harbor Road and Alexandrina Road. This section of road is immediately east of the steep section traversing Mosquito Hill and is one of few relatively straight sections of the corridor and presents a rare overtaking opportunity.

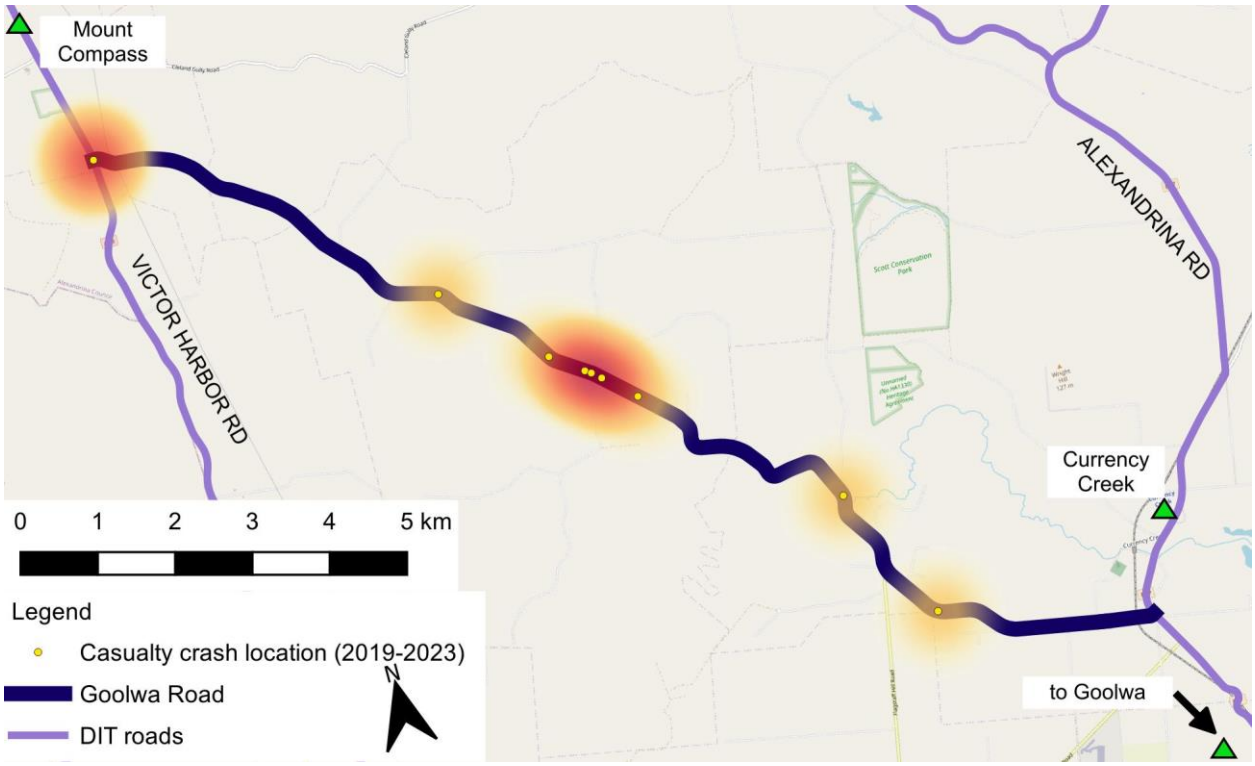


Figure 73: Heatmap of casualty crash locations on Goolwa Road between 2019 and 2023

The intersection with Victor Harbor Road recorded three casualty crashes between 2019 and 2023, with two in 2020 and one in 2021.

Final comment

While maintenance works were seen as important for Goolwa Road, safety upgrades including overtaking lanes and an intersection upgrade at Victor Harbor Road were higher priorities to survey respondents.

Goolwa Road is included in the DIT Forward Work Plan[12] under the Regional Road Resurfacing Program, with commencement currently expected in 2026/27. Furthermore, safety barriers and audio tactile line marking will be installed as part of $10m in state government funding over four years (2024-2027) to improve five regional roads.

Goolwa Road was reviewed in our 2021 Fleurieu Peninsula Regional Road Assessment[13], with the findings of our 2021 review indicating that Goolwa Road exceeded the Austroads criteria for the provision of overtaking lanes, with at least two overtaking lanes recommended for construction on Goolwa Road.

Other recommendations of our 2021 assessment included installation of a roundabout at the intersection with Victor Harbor Road, pavement rehabilitation between Victor Harbor Road and Kokoda Road, installation of safety barriers, and pavement reconstruction at the Currency Creek level crossing.

The cluster of crashes in Mosquito Hill may render this section of Goolwa Road eligible to receive Black Spot funding, and this should be explored to improve safety along this section.

[12] DIT, 2024, Forward Work Plan: Major Programs 2024-27, accessed at <https://www.dit.sa.gov.au/__data/assets/pdf_file/0004/1407316/Industry_Forward_Works_Plan_-_September_2024.pdf>.

[13] RAA, 2021, *Regional Road Assessment: Fleurieu Peninsula and McLaren Vale* – August 2021, accessed at <www.raa.com.au/roadassessments>.

Regional rank #8: Horrocks Highway (Gawler to Clare)

Regional ranking:	8 (21 overall)			
Total nominations:	17			
Top issues:	Maintenance			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	64	68	13	1

Horrocks Highway has been nominated as the eighth riskiest regional road in our 2024 Risky Roads survey. This position reflects recent upgrades to the corridor and is the lowest Horrocks Highway has ranked in recent surveys, with it being nominated the riskiest regional road in 2017 and 2019, and second riskiest in 2021.

Four intersections received a single nomination, including at Sturt Highway (Gawler), Barrier Highway (Giles Corner), Jolly Way (Sevenhill) and Acacia Road (Wilmington).

Horrocks Highway is a regional highway extending for 283km between Gawler on the fringe of the metro Adelaide and Quorn, in the Flinders Ranges. The highway passes through many townships in the Clare Valley and Flinders Ranges regions and is critical to the tourism and agriculture industries which rely on the corridor to transport visitors and goods. The highway is under the care and control of the Department for Infrastructure and Transport, and traverses six local government areas - Light Regional Council, Clare and Gilbert Valleys Council, Wakefield Regional Council, Northern Areas Council, the DC of Mount Remarkable and the Flinders Ranges Council.

The section between Gawler and Clare is the busiest, with volumes varying between 1,800 and 7,100 vehicles per day (near Roseworthy). Volumes on road sections north of Clare are much lower with this part of the highway typically carrying fewer than 1,000 vehicles per day, on average.

Maintenance was the primary issue raised along Horrocks Highway, with respondents acknowledging that recent works have been completed, but undulating sections remained. The most raised section was between Gawler and Tarlee, near Roseworthy, and the main street of Clare. Further maintenance was seen as necessary by survey respondents to improve safety.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"It's shocking ... particularly south of Rhynie (between Rhynie and the overtaking lane)"

"Due to trucks using the Silos and Grain storage North of Roseworthy the road is so bad, cars are just about airborne when they hit certain areas. The road is so uneven and a real danger."

"The Horrocks Highway has bumpy sections shortly after leaving the Gawler turnoff. It's riddled with potholes throughout the Clare Valley in particular and is quite dangerous."

"From Roseworthy up until Tarlee. Closer to Roseworthy is atrocious."

"Poor surface in the 50km/h zone [Clare]."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Bay of Biscay soil requires special reinforced support, generally reinforced concrete similar to used on Northern Expressway".

"Rework the surfaces to smooth out dips and remove railway lines at crossing and make road smooth".

“Parts have been resurfaced, but the entire section needs to be done.”

Data analysis

Horrocks Highway has experienced a consistent crash trend in recent years, however 2022 and 2023 represented two of the lowest years this decade. RAA will continue to monitor this trend, however, substantial recent upgrades are likely to have contributed to this.

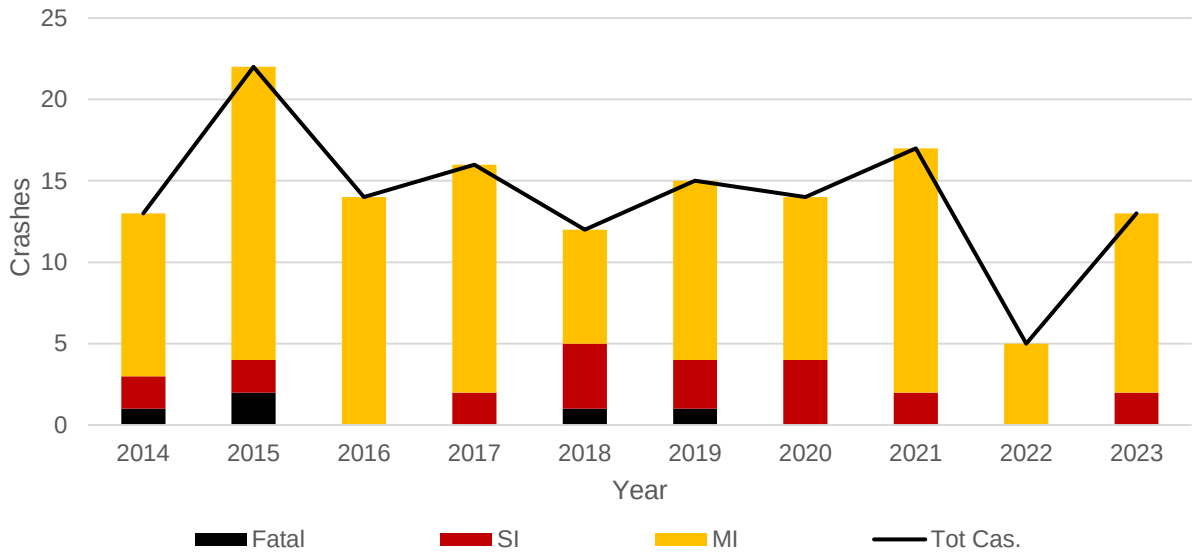


Figure 74: Ten-year trend in casualty crashes on Horrocks Highway

Collisions with fixed objects are the most common crash types, while right angle and roll over crashes are also common along this section of Horrocks Highway.

Table 31: Casualty crash types occurring along Horrocks Highway between 2019 and 2023

Crash type	**No. of casualty crashes**	**Crash severity**		
		Minor inj.	*Serious inj.*	*Fatal*
Hit Fixed Object	16	10	5	1
Right Angle	15	13	2	0
Roll Over	9	8	1	0
Rear End	8	8	0	0
Head On	3	3	0	0
Other	3	3	0	0
Hit Animal	2	1	1	0
Hit Pedestrian	2	1	1	0
Right Turn	2	2	0	0
Side Swipe	2	2	0	0
Hit Parked Vehicle	1	1	0	0
Left Road - Out of Control	1	0	1	0
Total	**64**	**52**	**11**	**1**

Crashes are dispersed along the length of Horrocks Highway and largely at midblock locations, with the section between Gawler and Roseworthy more pronounced due to clusters of five crashes at each of the Sturt Highway and Thiele Highway junctions.

Figure 75: Heatmap of casualty crash locations on between 2019 and 2023

The intersections to record multiple casualty crashes between 2019 and 2023 were Sturt Highway (5, junctions north of overpass only), Thiele Highway (5), Gartrell Street/Roseworthy Road (2), Templers Road (2), and Owen Road (2).

Final comment

Close to $100m of upgrades have been implemented along Horrocks Highway since our 2019 Risky Roads survey, which has resulted in this road, nominated in the state's top two riskiest regional roads in our past three surveys, being nominated eighth in the 2024 survey. Upgrades to Horrocks Highway have included shoulder widening and sealing, pavement rehabilitation and reconstruction, safety barriers, overtaking lanes, as well as bridge and intersection upgrades.

In late September 2021, RAA completed a review of completed works at the time, identifying substantial improvements to AusRAP star rating where works had been completed. Upgrades have resulted many one-star sections now being rated as two or three stars, and two-star sections rated three stars or higher which RAA expects has contributed to the reducing crash trend on the highway.

Maintenance works are still required in some sections, however, notably the section between Gawler and Tarlee, and in Clare.

Figure 76: Undulations and deteriorating surface immediately north of Roseworthy (Photo: RAA, January 2025)

Regional rank #9: Inman Valley Road

Regional ranking:	9 (22 overall)			
Total nominations:	16			
Top issues:	Maintenance, road geometry, speed limit			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	10	8	4	0

Inman Valley Road has been nominated as the ninth riskiest regional road in our 2024 Risky Roads survey, following its rank of seventh in our 2021 survey.

No intersections along Inman Valley Road were nominated.

Inman Valley Road is a regional arterial road extending for 30km between Yankalilla and Victor Harbor, on the Fleurieu Peninsula, and is the most direct link between these two popular tourist destinations.

Traffic volumes on Inman Valley Road are moderate, with 1,700 vehicles per day using the eastern end of the road near Victor Harbor, reducing to 1,000 vehicles per day through Inman Valley and 1,300 vehicles per day near Yankalilla. Commercial vehicles make up between 8 and 10% of this traffic, with 140 commercial vehicle movements per day on the eastern end of the road.

All nominations for Inman Valley Road were for its poor condition, with potholes, narrow lanes and shoulders, and a high-speed limit cited by most respondents. To improve safety, respondents suggested that maintenance was critical, and upgrades to widen the road would also be welcomed. Several respondents suggested that the 100km/h speed limit should be reduced until such time as upgrades can be made.

Figure 77: Road maintenance was a key concern raised on Inman Valley Road (Photo: March 2025)

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"Narrow roads, blind corners, narrow bridges, hidden driveways, kangaroos, birds, cyclists, trees, speed limit too high."

"We have used the road for 6 years and it has uneven surface, is narrow, has some very sharp bends, and is breaking up in places. Couple that with some bad driver behaviour where motorists ignore 2 solid white lines, and this can be hairy at times."

"Road is too rough and uneven to be safe at 100kph. everyone tries to sit on 100 and cut corners while road is rough and narrow."

"I have been using this road for 50 years and the only maintenance it has had is filling numerous pot holes which makes it so uneven that vehicles bounce over the road causing a lack of traction even when doing well under the speed limit. This includes for modern cars as well as classics."

"Gums close to road edge, high weeds blocking vision, narrow and sharp curves on bridges. Road surface not acceptable for traffic needs."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Pot holes and uneven surfaces need to be addressed as a matter of urgency."

"Rebuild the road and until that is done apply an 80km/h limit."

"It would take hundreds of millions to fix this road, however timely filling of potholes would make a big improvement."

"Reduce the speed on this road and provide passing areas for slower vehicles Repair and maintenance to this busy road should be a priority."

"MAINTENANCE. Start with weed reduction and trees removed from road edge. You can't just put a reflector on a dangerous tree. Then, dig up the whole road and start again. It's dangerous. Sharp and narrow corners leading onto bridges. So many drivers pull off to let other drivers pass. Says it all to me!"

Data analysis

Annual casualty crash figures for Inman Valley Road are relatively low, with a stable crash trend over the past decade.

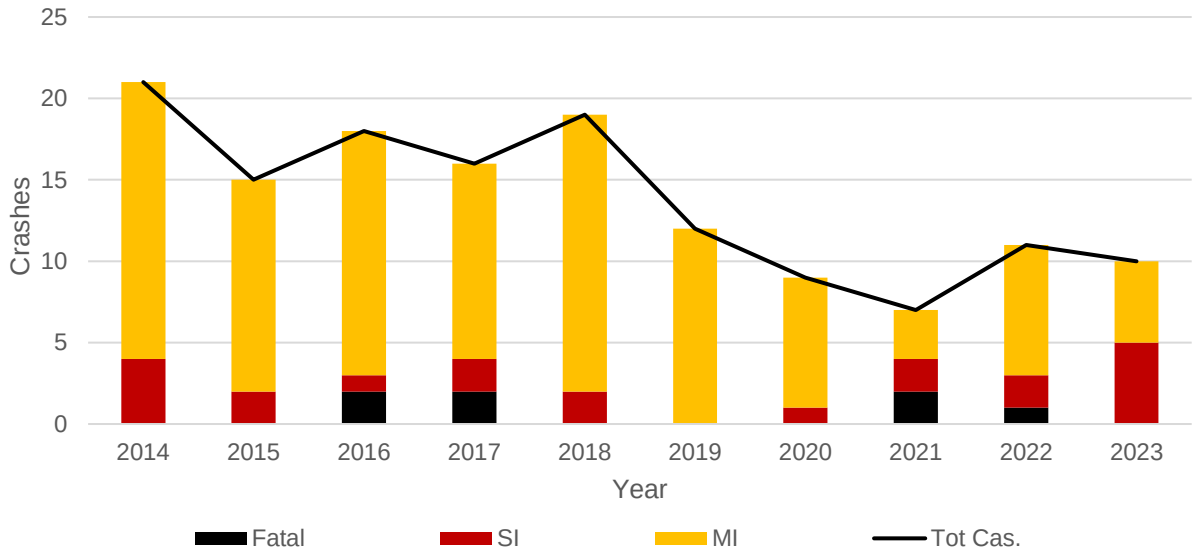


Figure 78: Ten-year trend in casualty crashes on Inman Valley Road

Lane departure crashes are most common on Inman Valley Road, accounting for 80% of casualty crashes over the past five years, with collisions with fixed objects the most common. Three of the four hit fixed object crashes involved a tree, while one involved an object listed as 'other' which could indicate an embankment or rock face.

Table 32: Casualty crash types occurring along Inman Valley Road between 2019 and 2023

Crash type	No. of casualty crashes	Crash severity		
		Minor inj.	*Serious inj.*	*Fatal*
Hit Fixed Object	4	3	1	0
Head On	3	1	2	0
Hit Animal	1	1	0	0
Roll Over	1	0	1	0
Side Swipe	1	1	0	0
Total	**10**	**6**	**4**	**0**

Crashes are dispersed along the length of Inman Valley Road, with all of these occurring at midblock locations.

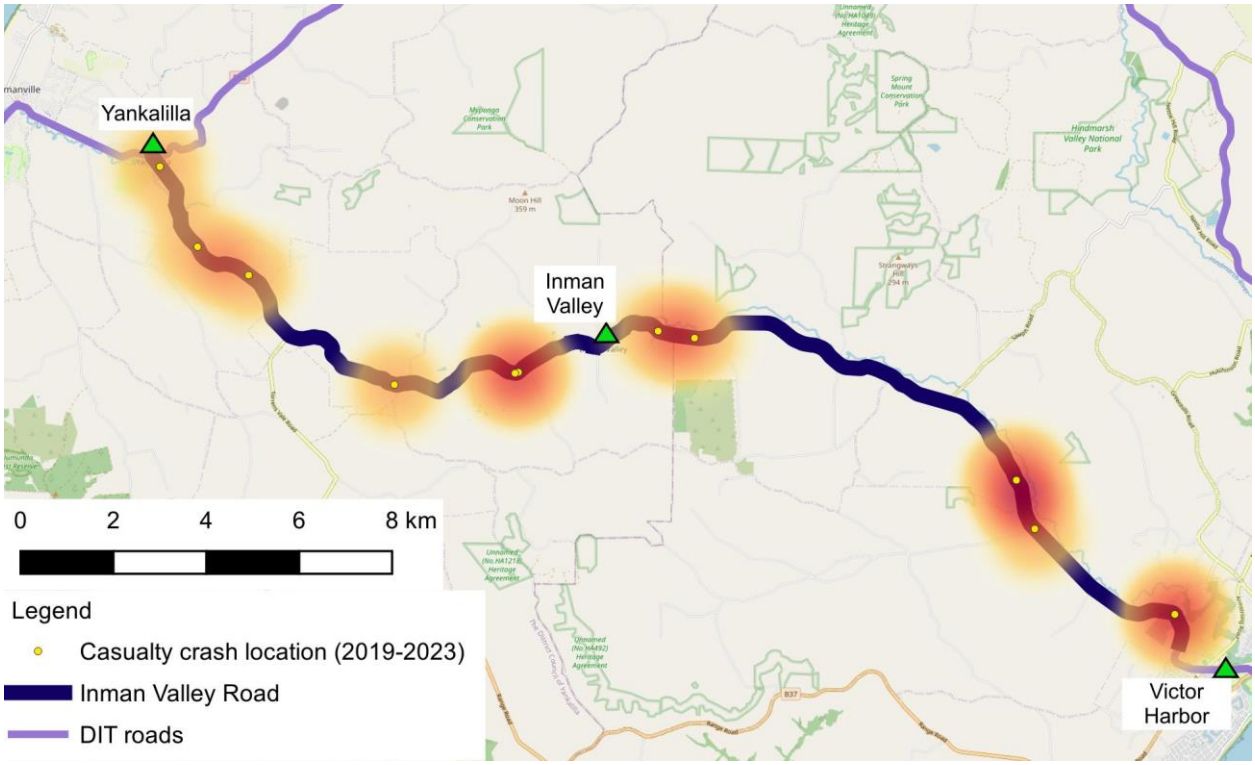


Figure 79: Heatmap of casualty crash locations on Inman Valley Road between 2019 and 2023

Final comment

RAA last reviewed Inman Valley Road during our 2021 Fleurieu Peninsula and McLaren Vale Regional Road Assessment. Several recommendations were made in this report, including shoulder sealing, barrier installation, localised maintenance works and an intersection upgrade at Hancock Road.

RAA reviewed the condition of Inman Valley Road in March 2025, identifying that these upgrades were still required, and that road maintenance concerns were particularly evident for approximately 10km of Inman Valley Road between Inman Valley and Yankalilla

Regional rank #10: Barossa Valley Way

Regional ranking:	10 (23 overall)			
Total nominations:	14			
Top issues:	Maintenance, intersection safety			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	49	46	11	3

Barossa Valley Way has been nominated as the 10th riskiest regional road in our 2024 Risky Roads survey. This is the first time Barossa Valley Way has been nominated in the top ten regional roads in RAA's Risky Roads report.

Six intersections received single nominations, including Murray Street, High Street, Cheek Avenue and Sunnydale Avenue in Gawler, Gilbert Street in Lyndoch, and Basedow Road in Tanunda.

Barossa Valley Way is a regional arterial road extending 35km through the Barossa Valley between Gawler and Nuriootpa through Sandy Creek, Lyndoch, Rowland Flat and Tanunda.

Average daily traffic volumes on Barossa Valley Way are typically high, with 3,600-6,700 between Gawler and Lyndoch, 3,600-4,000 between Lyndoch and Tanunda, and 7,800 between Tanunda and Nuriootpa. Built up areas have average daily volumes as high as 13,500 vehicles per day in Gawler, 3,600 in Lyndoch, 11,000 in Tanunda and 15,700 in Nuriootpa.

Respondents nominating Barossa Valley Way raised a variety of concerns including increasing traffic, particularly around intersections and new housing developments in Gawler, making turning difficult and dangerous. Heavy vehicle use has contributed to potholes, ruts, and a deteriorating road surface, which was reported as particularly problematic between Gawler and Lyndoch. Overall, the road's condition is seen as unacceptable, with several respondents conscious of the upcoming Gather Round (including an AFL game to be played in Lyndoch) putting the region on the national stage, and some fearing the condition of the road will reflect poorly on the region. Safety issues are also noted due to high speeds, frequent speed limit changes, and a lack of adequate overtaking lanes, leading to risky driving behaviour.

People are calling for significant improvements to Barossa Valley Way, including resurfacing works to improve road condition. Many suggest reducing speed limits in certain areas to enhance safety, with proposals for a 60km/h limit near Gawler and Sandy Creek and 80km/h outside of built-up areas elsewhere. Additional overtaking lanes are also desired. Some believe traffic lights or signalised pedestrian crossings are necessary at key intersections to manage traffic flow and improve safety.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"[Intersection with Gilbert Street, Lyndoch] Vehicles turning right overlap with each other. This will be a huge problem when there are events at the new sports hub in Lyndoch."

"[Intersection with Cheek Avenue, Gawler] Intersection getting busier with new housing developments in the area including Concordia coming up and land at the end of Lawson Ave."

"Increase in traffic from Sunnydale Avenue due to Mullamar Way completion and Springwood housing estate. Concerns about safety of path users near S bend exposed to high-speed traffic. Council put a barrier up but doesn't fully address the issue."

“If there is going to be a Gather round in the Barossa Valley, you'd think the government would do something about the road leading to this facility as it's terrible at the moment, a disgrace to our state. The Victorians will laugh all the way back home at us for that stretch of road.”

“With Football Gather Round at Lyndoch getting near I am concerned about all the traffic over several days destroying the road service even more. The road is rough enough now for me to suffer when driving on it. I have bad lower back damage, and it hurts.”

Verbatim responses: What do you think would be the most effective way to reduce this risk?

“Completely resurface the road from Gawler to Tanunda. This road has not had a major upgrade since the 1990's.”

“Improve, maintenance, review the speed limit and think about some more overtaking lanes.”

“Resurface the road altogether.”

“[Basedow Road intersection, Tanunda] Traffic lights would be essential here. Or no parking either side of the intersection.”

Data analysis

Casualty crash numbers on Barossa Valley Way have reduced in recent years, largely due to a reduction in minor injury crashes rather than FSI crashes.

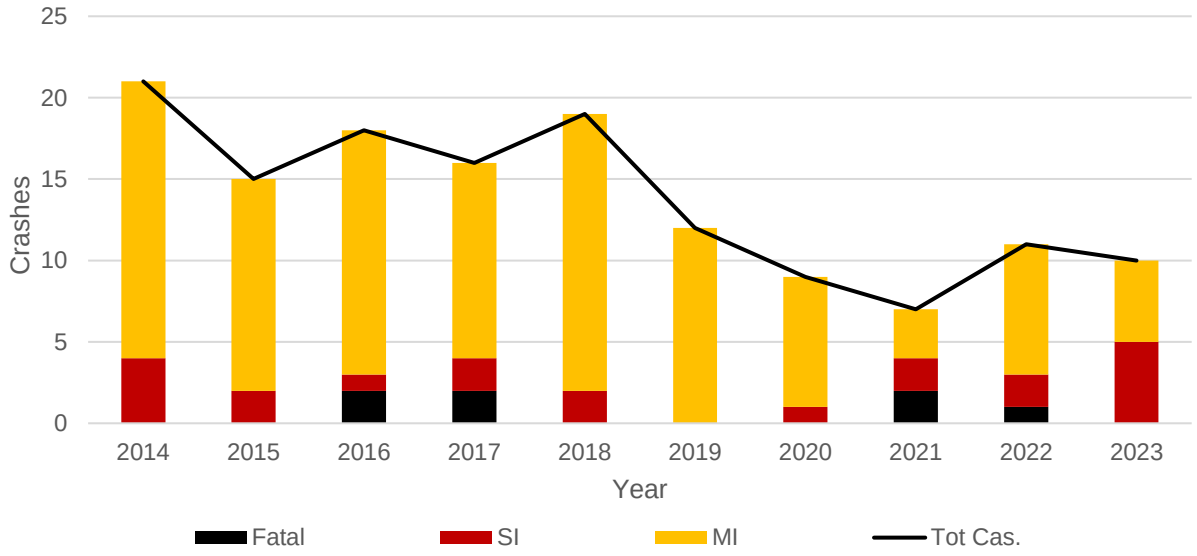


Figure 80: Ten-year trend in casualty crashes on Barossa Valley Way

Crash types along Barossa Valley Way are highly varied, with collisions with fixed objects and rear end collisions the most common casualty crashes between 2019 and 2023.

Table 33: Casualty crash types occurring along Barossa Valley Way between 2019 and 2023

Crash type	No. of casualty crashes	Crash severity		
		Minor inj.	*Serious inj.*	*Fatal*
Hit Fixed Object	12	9	2	1
Rear End	11	9	2	0
Right Angle	8	6	2	0
Right Turn	5	4	1	0
Hit Pedestrian	3	3	0	0
Roll Over	3	1	1	1
Side Swipe	3	1	1	1
Head On	1	0	1	0
Hit Animal	1	1	0	0
Hit Parked Vehicle	1	1	0	0
Left Road - Out of Control	1	1	0	0
Total	**49**	**36**	**10**	**3**

While casualty crash locations were dispersed along Barossa Valley Way, there were hotspots on the approaches to and through the built-up areas in Gawler and Tanunda.

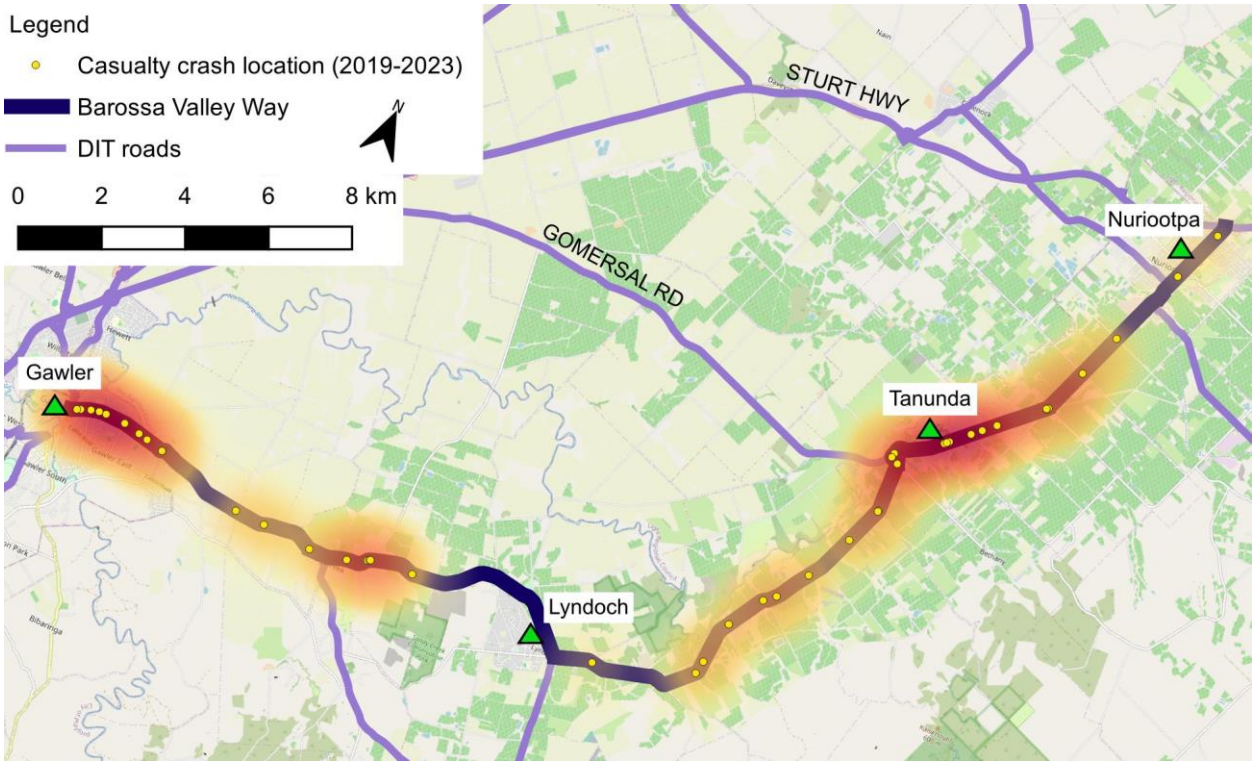


Figure 81: Heatmap of casualty crash locations on Barossa Valley Way between 2019 and 2023

Three intersections recorded multiple casualty crashes between 2019 and 2023, including Menge Road/Vine Vale Road (3) which has recently been converted to a roundabout, as well as Sunnydale Avenue (2) and Gomersal Road (2).

Final comment

RAA last reviewed Barossa Valley Way in 2017 as part of our 2017 Barossa and Light Regional Road Assessment, and the corridor is scheduled for a follow up review later in 2025 in an update to this 2017 report.

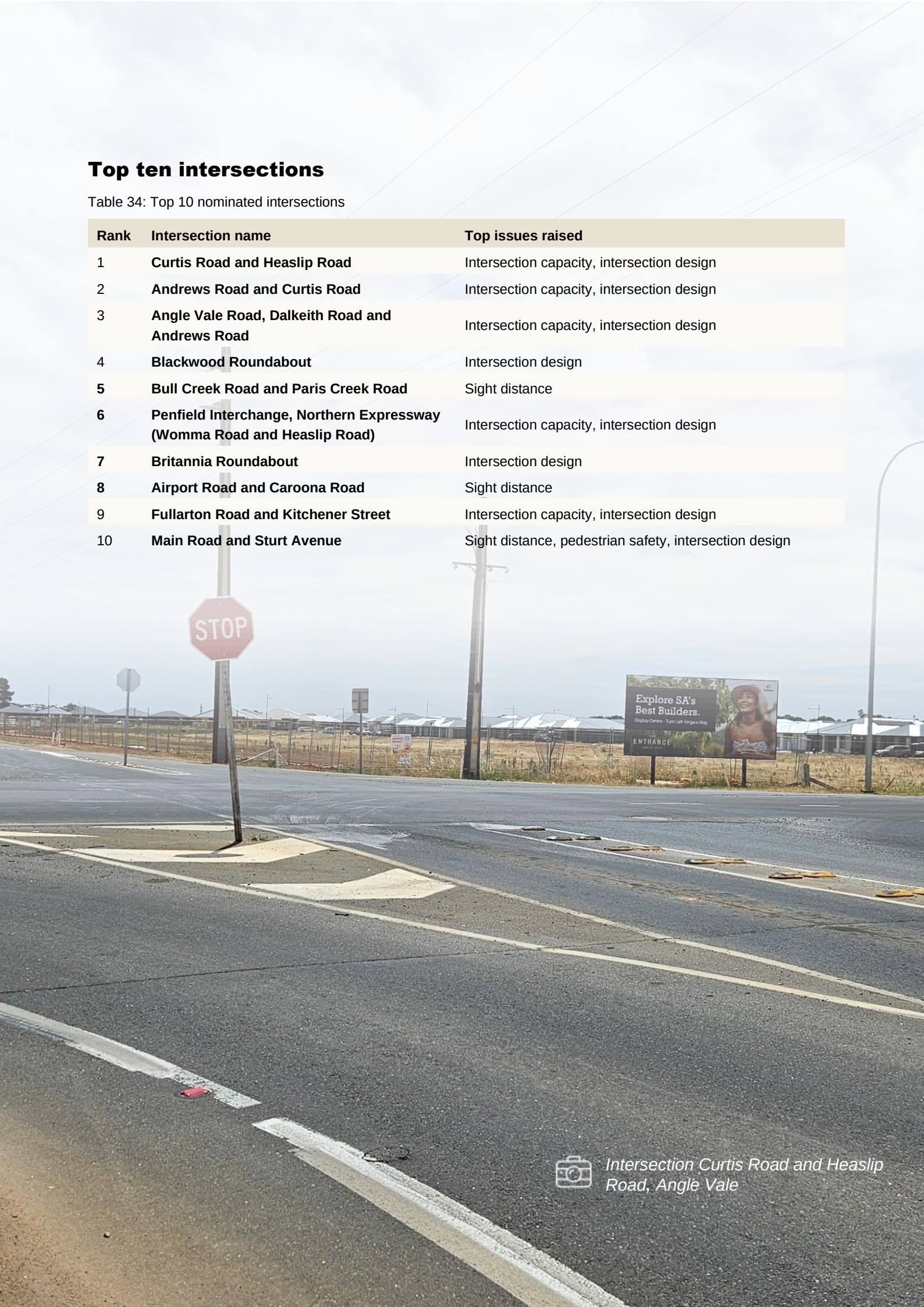
Recommendations from 2017 included localised maintenance near Gawler, and a reseal between Tanunda and Nuriootpa, which has since been completed. Other recommendations included improvements to speed zoning and signage, installation of new overtaking lanes and extension of existing lanes, safety barriers, as well as signage and intersection improvements. Notably, the roundabout recommended for the intersection with Menge Road/Vine Vale Road was installed in 2021.

In late 2024, RAA reviewed the speed limit along a short section of the corridor between Wheatsheaf Avenue and Gawler, recommending a reduction to 60km/h for this section of the corridor due to road alignment, crash history, side road access and property access. Traffic and access along this section of Barossa Valley Way will continue into the future as the Concordia land release for future housing progresses.

Top ten intersections

Table 34: Top 10 nominated intersections

Rank	Intersection name	Top issues raised
1	**Curtis Road and Heaslip Road**	Intersection capacity, intersection design
2	**Andrews Road and Curtis Road**	Intersection capacity, intersection design
3	**Angle Vale Road, Dalkeith Road and Andrews Road**	Intersection capacity, intersection design
4	**Blackwood Roundabout**	Intersection design
5	**Bull Creek Road and Paris Creek Road**	Sight distance
6	**Penfield Interchange, Northern Expressway (Womma Road and Heaslip Road)**	Intersection capacity, intersection design
7	**Britannia Roundabout**	Intersection design
8	**Airport Road and Caroona Road**	Sight distance
9	**Fullarton Road and Kitchener Street**	Intersection capacity, intersection design
10	**Main Road and Sturt Avenue**	Sight distance, pedestrian safety, intersection design



Intersection Curtis Road and Heaslip Road, Angle Vale

Intersection rank #1: Curtis Road/Heaslip Road

Intersection ranking:	1			
Total nominations:	41			
Top issues:	Intersection capacity, intersection design			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	6	10	1	0

For the second time in a row, the intersection with Curtis Road and Heaslip Road in Angle Vale has been nominated as the riskiest intersection in our Risky Roads survey. Heaslip Road is a state maintained arterial road between Waterloo Corner and Angle Vale, with an interchange at the Northern Expressway. Curtis Road is a council maintained (City of Playford) an arterial road between Main North Road (Blakeview) and Angle Vale Road at Penfield Gardens, also with an interchange at the Northern Expressway.

The intersection is a four-way crossroad with stop sign control on both Curtis Road approaches. While traffic volume data for Curtis Road is not available, Heaslip Road carries 9,700 vehicles per day, south of the intersection and 11,900 vehicles per day north of the intersection towards Angle Vale.

While the Risky Roads survey was still open, on 22 November 2024, state government announced a $30 million upgrade of this intersection to install a dual lane roundabout, improving safety and reducing congestion. The upgrade is 50:50 funded between the Australian Government's Priority Works Stream of the Housing Support Program (HSP), and the South Australian Government. Detailed design work is underway with construction expected to start in 2025.

RAA welcomes this long sought-after upgrade.

Figure 82: The Curtis Road/Heaslip Road intersection is nominated as SA's riskiest intersection for the second time

Survey respondents largely raised traffic issues, relating to high volumes of traffic in all directions, with numerous turn movements. This can add some significant delays to traffic on Curtis Road, with many concerns related to the difficulties turning right from Curtis Road onto Heaslip Road towards Angle Vale. The majority of survey respondents suggested that a roundabout would be the best way to address their concerns, with a much smaller number also suggesting traffic signals.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"It needs a roundabout for a smooth and safe way of turning right as traffic coming from Adelaide side of Heaslip road approaching this intersection which we need to wait for has the further complexity if a car then stops on the opposite side of Curtis Road who then has the right of way. All of this needs to be decided before traffic coming from Angle Vale makes the wait longer and traffic turning right from Heaslip road more dangerous from individuals who turn right into Angle Vale Road to beat the holdup of motorists coming from Adelaide side of Heaslip Road."

"Nobody knows how to use a stop sign in this intersection. Everyone uses it as a giveaway or race to pull out and try beat traffic."

"High volume traffic heading west on Curtis Road turning right on to Heaslip Road, limited opportunities due to high volume of Heaslip Road traffic. Turning traffic on Heaslip Road often make it difficult to see if there is a car close behind. All adds up to high-risk decisions by many motorists, including not stopping at stop signs if they see a small break in the traffic."

"Infrastructure poor, growth of area with no improvements to road intersection, serious accidents occur every week, has been fatalities in the past".

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Traffic lights with turning and merging lanes. Or dual lane roundabout."

"Roundabout, like both ends of Heaslip Road which significantly improved the traffic flow at those locations."

"A double lane roundabout has been promised for years but still not started."

"This intersection needs a roundabout to ensure that it can accommodate the high volume of motorists. Traffic lights would hold the traffic up too much."

Data analysis

In recent years, the casualty crash rate has reduced on Curtis Road, and RAA considers that a 2020 speed limit reduction from 80km/h to 60km/h on Heaslip Road has contributed to this.

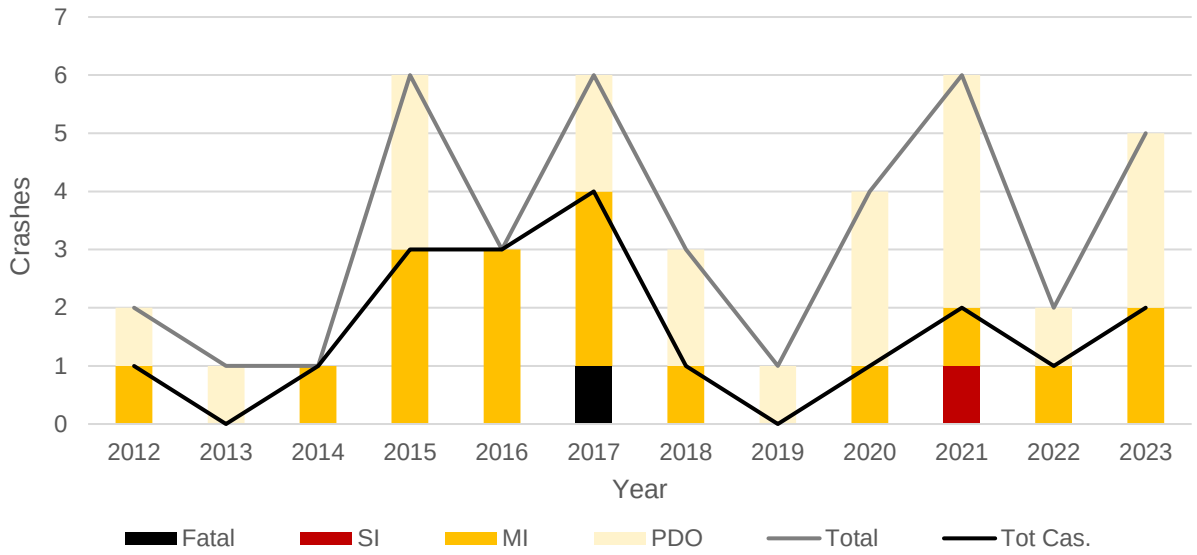


Figure 83: Ten-year trend in reported crashes at the Curtis Road/Heaslip Road intersection

Between 2019 and 2023, all six casualty crashes were right angle crashes, which involve vehicles travelling straight ahead through the intersection at right angles to each other. In three of these crashes, the erroneous driver was travelling southeast on Curtis Road, while they were travelling northwest in the remaining three.

Table 35: Casualty crash types occurring at the Curtis Road/Heaslip Road intersection between 2019 and 2023

Crash type	**No. of casualty crashes**	**Crash severity**		
		Minor inj.	*Serious inj.*	*Fatal*
Right angle	6	5	1	0
Total	**6**	**5**	**1**	**0**

Final comment

The local community have been very vocal about these issues at this intersection for quite some time, and this was demonstrated in 2021, when it first gained the unwanted title of the most highly ranked intersection in our Risky Roads survey. Population in the surrounding district is continuing to grow rapidly, which will only exacerbate traffic issues at this central intersection which provides direct access to the Northern Expressway from multiple directions.

RAA welcomes the Australian and state governments $30 million commitment to install a dual lane roundabout at this intersection. Whilst also providing a safer option for thousands of people who use this intersection daily, a dual lane roundabout will also cater for future growth in traffic.

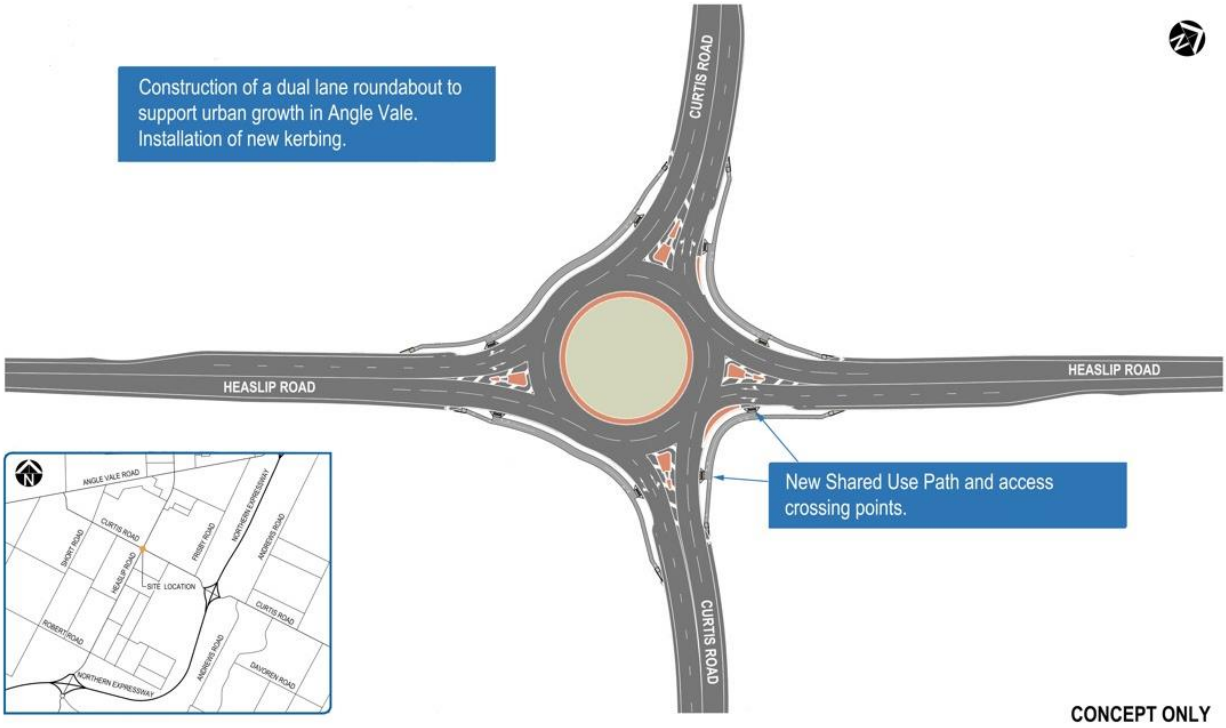


Figure 84: Concept plan for a dual lane roundabout at the intersection with Curtis Road and Heaslip Road, Angle Vale

Intersection rank #2: Curtis Road/Andrews Road

Intersection ranking:	2			
Total nominations:	39			
Top issues:	Intersection capacity, intersection design			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	4	4	0	0

New to Risky Roads, the intersection with Curtis Road and Andrews Road, in Munno Para West has been nominated as the second riskiest intersection in our 2024 Risky Roads survey. Both Curtis Road and Andrews Road are under the care and control of the City of Playford Council. Curtis Road acts as an arterial road between Main North Road and Angle Vale with an interchange at the Northern Expressway, while Andrews Road is a collector road running north-south from Bellchambers Road (Penfield) and Angle Vale Road (Munno Para Downs), crossing Womma Road and Curtis Road.

The Curtis Road/Andrews Road is a staggered T-intersection, with each intersection separated by 150m. This was converted from a 20m staggered T-intersection in 2017 as part of the development of the Brookmont Estate, south of Curtis Road between Andrews Road and the Northern Expressway. The newly constructed western leg of the intersection has channelised left and right turn lanes from Curtis Road, while the eastern intersection was not significantly modified at the time, lacking channelisation when turning left or right onto Andrews Road. As part of the construction of a new Aldi Supermarket which opened in December 2024, line marking on Curtis Road was modified to include a channelised right turn lane into Andrews Road, and a separate channelised right turn lane to access Aldi The western intersection is controlled by a give way sign facing Andrews Road, while the eastern intersection is controlled by a stop sign on facing Andrews Road.

The majority of responses appeared to refer to the eastern intersection of the dog leg.

Survey responses were concerned about difficulties turning at the intersection, with many respondents calling out right turns from Andrews Road in particular. Some respondents also raised concerns about the lack of any turning lanes at the eastern intersection. Mixed suggestions were received, with a roundabout or traffic signals being the most frequent suggestions. Some respondents also suggested that right turn restrictions on the eastern intersection would improve traffic flow along Curtis Road.

Figure 85: Cars turning right on to Andrews Road blocked through traffic on Curtis Road towards the Northern Expressway before a short channelised right turn lane was added in December 2024.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"There are three other intersections within 100-300m. The road is always jammed with traffic, only 1 lane traffic. Cars are always risking it and pulling out in small breaks in traffic which is not often. It needs traffic lights for cars and pedestrians to feel safer. Curtis Road needs two lanes each side of the road. This road doesn't not support the density it has surrounding it."

"This intersection is very dangerous especially at peak hour when trying to come off of Andrews Road as Curtis Road becomes extremely busy and cars are backed up for a long time."

"The road is so busy everyone just puts there foot down and hopes for the best, leading on and off the motorway makes it extremely busy all the time."

"Volume of traffic turning right from Andrews onto Curtis causes increased risk-taking behaviour of motorists, slow moving or slow responding vehicles cut in front of westbound traffic. Vehicles turning right onto Andrews Road block westbound traffic which increases overall delays. Lack of left turning space from Andrews onto Curtis causes vehicles to mount the pedestrian strip."

"It's very difficult to turn right into Curtis Road when exiting Andrews Road. The new developments in the area will turn the traffic into a nightmare."

"On top of an already, dangerous intersection an ALDI has been approved at this intersection and placed the in and out to the shops on Curtis Road, which will add to the accidents. Plus, a new estate going in behind/next to that with road access on Curtis Road just after the express way entrance… this is not going to work??"

"Traffic flow is too heaving on Curtis Rd to allow for entry and exit to and from Andrews Rd."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Prevent vehicles turning right from, or into Andrews Road. Implement traffic lights, or round about to improve overall flow. Alternatively increase width of Curtis Road to allow for a right-hand turning lane and increase length of left-hand turning lane from Andrews."

"Instead of a stop sign, maybe a roundabout to keep traffic flowing a little bit better especially in peak hour."

"Add in traffic lights or widen the road on Curtis Road so people don't end up getting rear ended waiting to turn onto Andrews Road."

"Potentially a double line roundabout. Curtis Road requires a full upgrade."

"Traffic lights where Curtis and Andrew's Road meet."

Data analysis

Crash data in this section refers to the eastern intersection with Andrews Road and Curtis Road.

Over the past ten years, there is a relatively low casualty crash history at this intersection, however, when factoring in property damage only (PDO) crashes, an apparent increase in crashes has occurred in recent years.

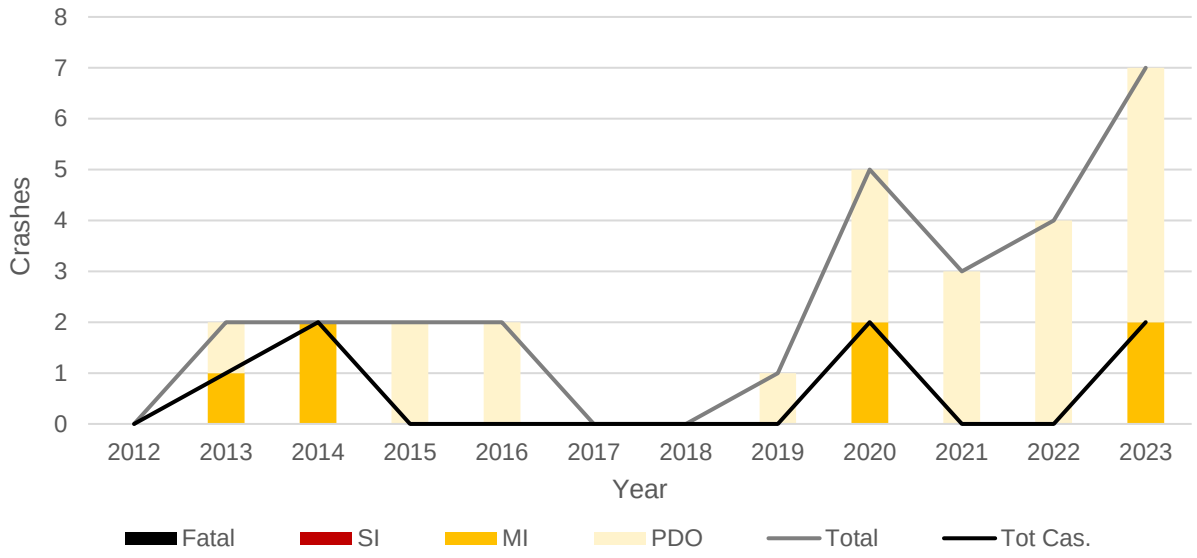


Figure 86: Ten-year trend in reported crashes at the eastern Curtis Road/Andrews Road intersection

Three of the four casualty crashes were right turn crashes, involving a vehicle on Andrews Road turning right onto Curtis Road. In two of these crashes, the vehicle on Curtis Road was travelling north west, while one involved a southeast bound vehicle. The rear end crash involved two vehicles travelling southwest on Andrews Road. When looking at the 16 reported property damage crashes since 2019, 12 involved vehicles turning right from Andrews Road, with the Curtis Road traffic travelling southeast in 10 of these crashes. The remaining four PDO crashes involved a vehicle turning right onto Andrews Road, with two of these being rear end crashes.

Table 36: Casualty crash types occurring at the Curtis Road/Andrews Road intersection between 2019 and 2023

Crash type	No. of casualty crashes	Crash severity		
		Minor inj.	*Serious inj.*	*Fatal*
Right turn	3	3	0	0
Rear end	1	1	0	0
Total	**4**	**4**	**0**	**0**

Final comment

The intersection with Andrews Road and Curtis Road is a clear pain point for regular commuters along both Andrews and Curtis Road. Channelised left and right turn lanes would benefit traffic flow on Curtis Road, however, would not improve one of the primary safety concerns, involving right turns from Andrews Road onto Curtis Road. In December 2024, after the Risky Roads survey closed, line marking on Curtis Road was modified to provide a short right turn lane into Andrews Road, and to access the newly opened (December 2024) Aldi supermarket.

RAA considers duplication of Curtis Road a very high priority in the area. This project would allow for opportunities to improve safety and access from local roads such as Andrews Road, with a roundabout and traffic signals both feasible options. Any significant upgrade options should consider both legs of the Andrews Road/Curtis Road intersection together as traffic volumes are expected to increase substantially in the coming years as housing developments continue on land between Andrews Road and the Northern Expressway, both north and south of Curtis Road.

Intersection rank #3: Angle Vale Road/Dalkeith Road/Andrews Road

Intersection ranking:	3			
Total nominations:	21			
Top issues:	Intersection capacity, intersection design			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	15	18	1	1

The intersections with Angle Vale Road at Dalkeith Road/Wingate Road, and Andrews Road have been nominated as the third riskiest intersection in our 2024 Risky Roads survey. While technically two separate intersections, these closely spaced intersections are 120m apart, and upgrade planning in the area should consider both intersections concurrently. Many survey nominations referenced both intersections contributing to issues in the local area.

Angle Vale Road is under the care and control of the Department for Infrastructure and Transport, with 2023 traffic volume estimates indicating that approximately 13,000 vehicles per day use Angle Vale Road between the intersections. Traffic volume data for Andrews Road and Dalkeith Road is not available as these are local council-maintained roads, under the care and control of the City of Playford, with Town of Gawler sharing responsibility for Dalkeith Road.

Survey respondents nominating these intersections raised them for high traffic volumes, which make it difficult to turn right at the intersections. With Riverbanks College (R-12) situated less than 2km away, along Angle Vale Road, across the Northern Expressway, school traffic was mentioned to especially exacerbate traffic issues.

Figure 87: The two closely spaced intersections were highly raised for high traffic and lack of turning lanes

Survey respondents suggested a variety of potential solutions, with many acknowledging that this would be a difficult site to upgrade, however, that it was important that both intersections were factored into any upgrade plans. A roundabout or traffic signals were the two most frequently requested solutions, with some suggesting that left and right turn lanes would be a welcome addition.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"Andrews Road and Dalkeith Road are very close to each other on Angle Vale Road. This area is a mess in the morning and afternoon of every work day. Three (now) busy roads meeting close together… As the area has increased in population the roads no long can cope with the expansion."

"Wingate Road comes from the north at one angle, Dalkeith Road from the south at another. Andrews Road also forms a T-junction with Angle Vale Road 100 metres away. The intersection is 500m away from a roundabout that gives access/exit from the Northern Connector, and that same road is the access point to Riverbanks B-12 College. So, mornings and afternoon, both for workers accessing the Connector and parents accessing schools, the whole section is congested. As Angle Vale Road is the straight road through the intersection, drivers coming on from Dalkeith and Wingate Roads often take risks. Cars travelling east on Angle Vale Road wanting to turn right into Dalkeith Road cause traffic to bank up because the road isn't wide enough to get around them."

"It's a four-way crossing that receives a lot more traffic with the area building up and many people wanting to avoid Curtis Road. Speed limit has been dropped, but a roundabout is needed to prevent near miss accidents as people don't always stick to the new lower speed of 60km/h."

"Extremely busy and uncontrolled intersection that frequently has accidents during peak hour. Traffic during school peak can stretch back over the Northern Expressway, Andrews Road forms part of this uncontrolled and poorly laid out intersection system. During peak times, it's near impossible to make a right hand turn off Andrews or Dalkeith Road. The lack of opportunity leads to big risk taking. There is no turning lane either for Angle Vale Road when it comes to right hand turns. This blocks the flow of traffic on Angle Vale Road."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Make proper turning lanes so cars can pass."

"Round about or traffic lights."

"The whole intersection (including the Dalkeith Road intersection) needs to be re-worked. Lights or a roundabout would most likely be the safest option."

"Intersection torn apart and new layout created with traffic light control. It may be too complex to create a safe roundabout system for."

"Widen the intersection. Put in a turn right slip lane in Angle Vale Road into Dalkeith Road. I note the speed limit was dropped from 80 to 60 some time ago, and that has led to some improvements in safety, but not traffic flow."

"Traffic lights or roundabout. Having turning lanes at the end of Dalkeith so people going left or right don't have to que waiting for the person going across."

Data analysis

The chart below details the ten-year trend in crashes at the two intersections combined. Crashes at the Dalkeith Road/Wingate Road are indicated with black (fatal), red (serious injury), dark yellow (minor injury) and pale yellow (property damage), while crashes at Andrews Road are indicated with brown (minor injury) and pale brown (property damage).

This data highlights an increasing trend in casualty and property damage crashes occurring at the intersections since 2018.

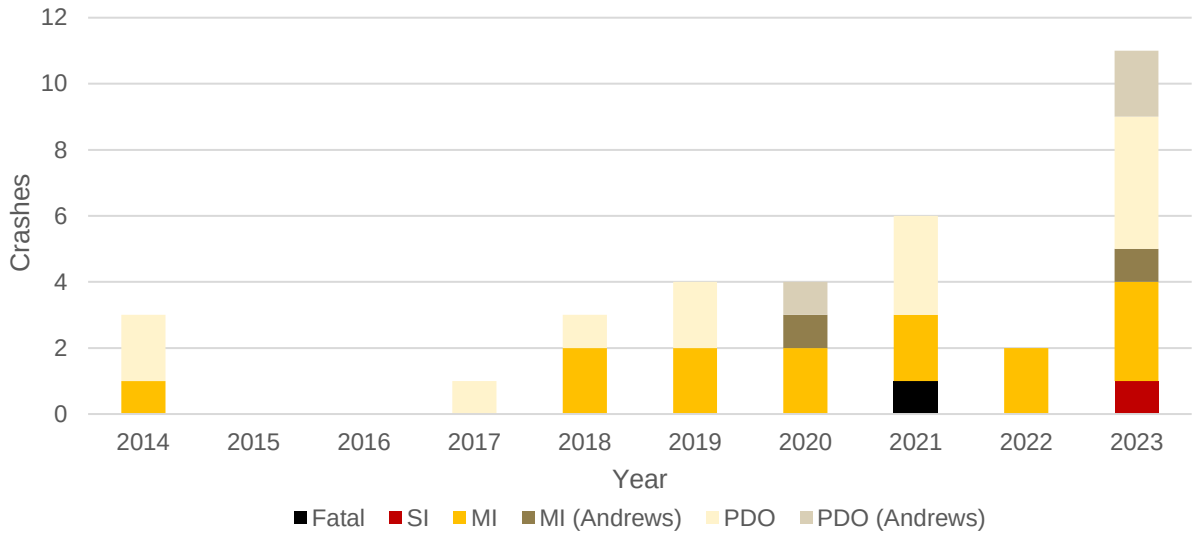


Figure 88: Ten-year trend in reported crashes at the Angle Vale Road intersections with Dalkeith Road and Andrews Road

Right angle crashes are the most common occurring at the Dalkeith Road intersection, accounting for 6 of 13 casualty crashes at this location between 2019 and 2023. Four of the right-angle crashes involved southbound vehicles crossing through the intersection from Wingate Road to Dalkeith Road colliding with southwest bound vehicles on Angle Vale Road. The remaining two involved northbound vehicles on Dalkeith Road colliding with southwest bound vehicles on Angle Vale Road. Of the four rear end crashes, three were northbound on Dalkeith Road, while one was northeast bound on Angle Vale Road.

The two casualty crashes at the intersection with Andrews Road were a rear end crash involving two north east bound vehicles on Angle Vale Road, and a rollover crash involving a northbound motorcyclist.

Table 37: Casualty crash types occurring at the Angle Vale Road intersections with Dalkeith Road and Andrews Road between 2019 and 2023

Crash type	**No. of casualty crashes**	**Crash severity**		
		Minor inj.	*Serious inj.*	*Fatal*
Right Angle	6	5	1	0
Rear End	5	5	0	0
Hit Fixed Object	2	1	0	1
Right Turn	1	1	0	0
Roll over	1	1	0	0
Total	**15**	**13**	**1**	**1**

Final comment

With the level of feedback received, and as evidenced by growing crash data, this intersection will continue to be an issue until a solution is implemented. The existing road layout presents a challenge due to the proximity of multiple intersections, both approaching Angle Vale Road from the south. While there is some land available for use in the Dalkeith Road corridor, and at the apron of the Andrews Road intersection, it is likely that some land acquisition will be required to be able to progress any future upgrades.

Due to the 11kV overhead power lines on the northern side of Dalkeith Road, it is likely that any widening of the road to facilitate an intersection upgrade would need to occur on the southern side of the road. RAA considers that a single intersection treatment would result in substantial land acquisition, which could also result in a five-leg roundabout with potentially poor distribution of traffic volumes.

A dual roundabout treatment could be more effective at minimising land acquisition impacts and could incorporate an eastbound roundabout bypass along Angle Vale Road. The primary conflict in this scenario would be the traffic heading from Angle Vale, turning right onto Dalkeith Road, and the traffic heading from Munno Para West on Andrews Road turning right to continue towards Gawler on Angle Vale Road.

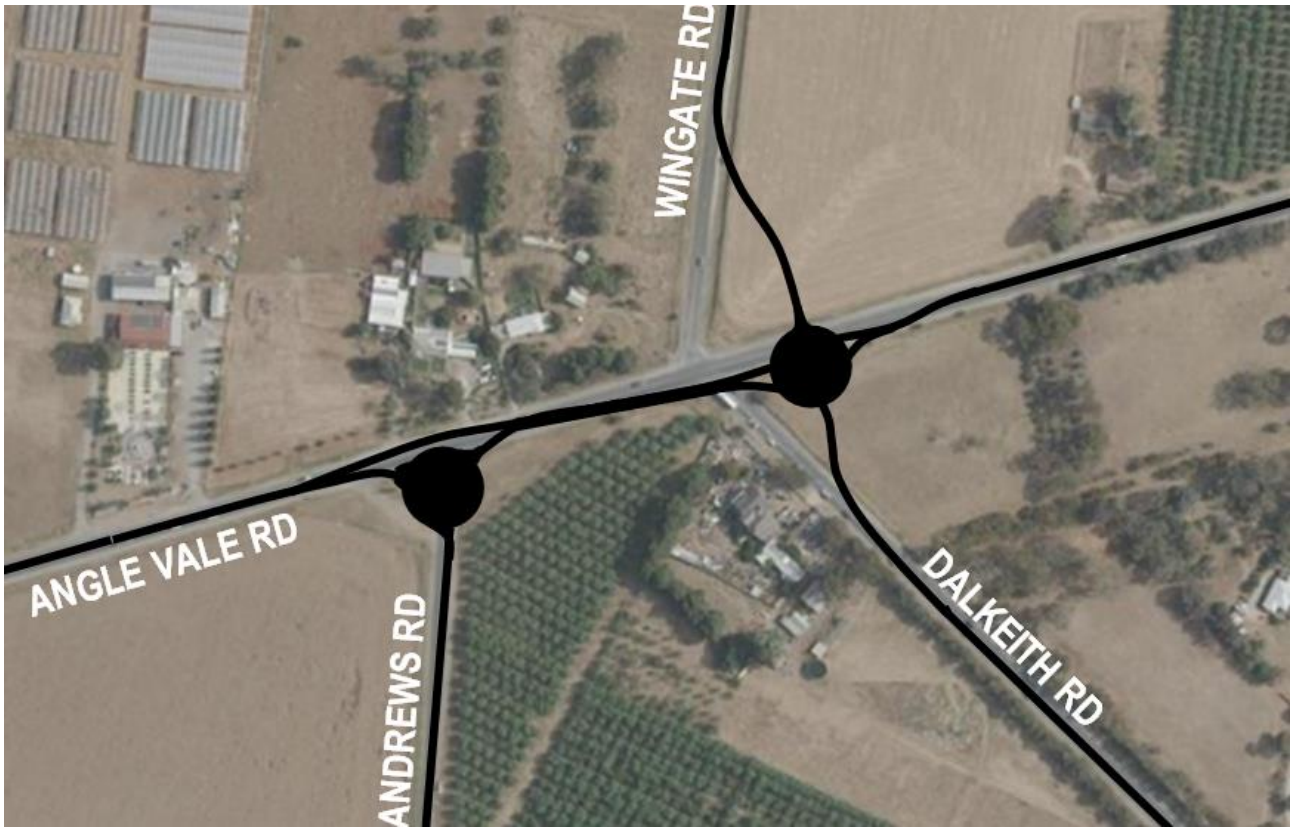


Figure 89: Layout sketch of a dual roundabout upgrade at Angle Vale Road/Andrews Road/Dalkeith Road

Figure 90: Layout sketch of a single roundabout treatment resulting in more significant land acquisition impacts.

Intersection rank #4: Blackwood Roundabout

Intersection ranking:	4			
Total nominations:	18			
Top issues:	Intersection design			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	7	7	0	0

Blackwood Roundabout has been nominated as the fourth riskiest intersection in our 2024 Risky Roads survey. Blackwood Roundabout is a five-way roundabout at the intersection with Main Road, Shepherds Hill Road, Coromandel Parade and Station Road (one-way), and is not new to Risky Roads, being nominated as the 5th riskiest intersection in 2021, and riskiest in our 2019 survey. Blackwood roundabout was also nominated the 2nd riskiest intersection in both our 2013 and 2017 surveys.

Main Road and Shepherds Hill Road are under the care and control of the Department for Infrastructure and Transport, while Coromandel Parade and Station Road are under the care and control of the City of Mitcham Council.

Average traffic volumes on Main Road are 19,000 vehicles per day, north of the roundabout, and 16,200 south of the intersection, while 19,800 use the Shepherds Hill Road leg of the intersection each day. While no data is available for Coromandel Parade or Station Road, RAA conservatively estimates that more than 30,000 vehicles would pass through the roundabout each day.

Survey respondents found the intersection unsafe for a variety of reasons including poor alignment of approach roads, confusing layout, high vehicle speeds, and poor lane marking and signage. The majority of survey respondents suggested that a signalised intersection would be their preferred solution, while some would like to see improved signs and line marking, treatments to reduce traffic speeds, and even an alternate route for through traffic without a destination in the local area.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"If you are heading south on Main Road towards the roundabout, there is one tiny sign saying you must be in the right lane to go on to Coromandel Parade. The arrows on the ground are also not clear on this part. There are daily near misses at least with someone trying to use the third exit from the left lane."

"When coming from Coromandel Parade through the roundabout onto Main Road, you cannot easily see across the roundabout. This means that you cannot easily see other cars indicators so it is impossible to estimate whether people are going straight or turning until they are right next to you. The roundabout is a very bad design. Yesterday there were three crashes at this roundabout. It should be replaced with traffic lights."

"The roundabout is a nightmare, and I have seen many minor accidents and been involved in near misses. People enter the roundabout all at the same time instead of giving way to the left. People crossing the roundabout heading from Shepherds Hill Road east towards Coromandel Valley along Main Road collide or nearly collide with cars heading south from Main Road to Coromandel Parade."

"This roundabout is confusing with line markings from Main Road entering roundabout going either straight or around to right to Shepherds Hill Road They are about to install lights at the Waite Road/Brighton Parade/Shepherds Hill Road intersection - this will cause further congestion in roundabout on top of what's already a problem with trains crossing and

pedestrians crossing in front of Woolworths. I use this roundabout every weekday morning and just about get hit everyday."

"Redesigning this intersection has not improved how people navigate this roundabout. Its either go fast without thinking or stop for what seems like forever until you see a safe opening."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"The roundabout needs to go and become traffic lights. Failing that, clearer signage."

"People roar through it. Maybe some speed bumps or something to slow down traffic on Main Road."

"The only thing that will work, as many different options have been tried over the years and haven't worked, are traffic lights."

"Divert through traffic from Coromandel Valley and Eden Hills so not through centre of shopping precinct."

"Slow speed around roundabout or lights on there. Do not install a second set of lights on Shepherds Hill Road."

"Traffic lights and potentially better bypass options for traffic using Blackwood as a thoroughfare. There is too much traffic at peak times for a safe and efficient roundabout in this location."

Data analysis

The trend in crashes at Blackwood Roundabout has remained fairly steady in recent years, following the upgrade completed in 2019. The data suggests that there may have been an increase in the number of crashes occurring at the roundabout, but that these crashes are low severity, with fewer injury crashes, and no serious injury crashes occurring since the upgrade.

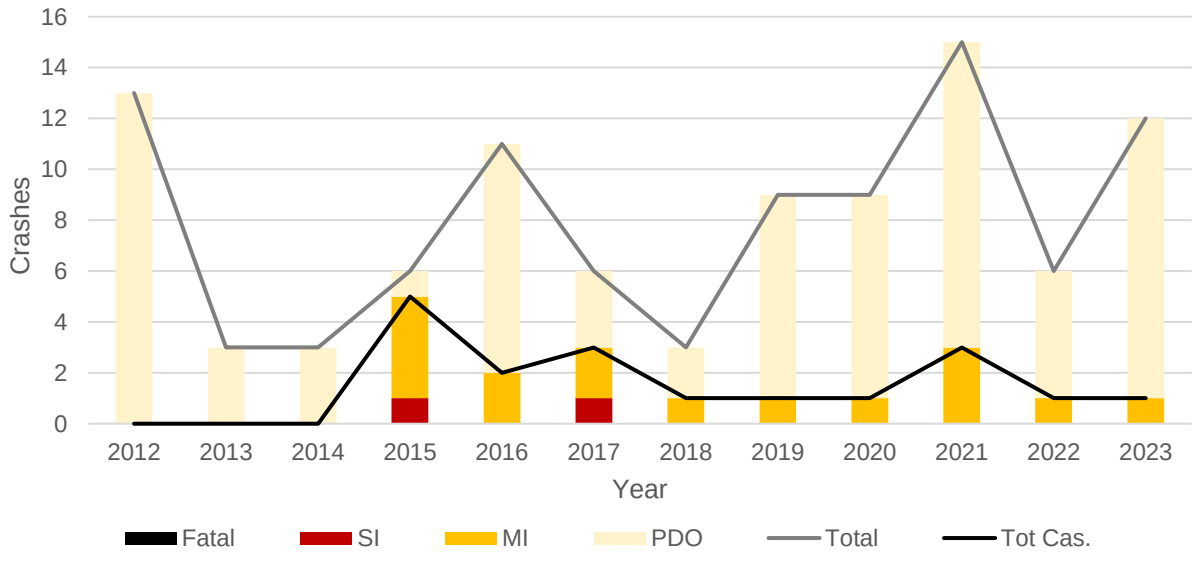


Figure 91: Ten-year trend in reported crashes at Blackwood Roundabout

Right angle crashes are the dominant casualty crash that has occurred at Blackwood Roundabout in the past five years. Motorcyclist involvement in crashes is also very high, with five of these crashes involving motorcyclists including four right angle crashes and one side swipe crash. In the right-angle crashes, the crash cause was attributed to a car driver, while the side swipe crash was attributed to the motorcyclist.

Table 38: Casualty crash types occurring at Blackwood Roundabout between 2019 and 2023

Crash type	No. of casualty crashes	Crash severity		
		Minor inj.	*Serious inj.*	*Fatal*
Right angle	6	6	0	0
Side swipe	1	1	0	0
Total	**7**	**7**	**0**	**0**

Final comment

Despite not being nominated as highly as it was in 2013, 2017, and 2019, Blackwood Roundabout is still of concern to regular users. RAA reviewed the roundabout as part of our 2021 Risky Roads campaign and identified two key issues with the current design, which are still applicable:

- The high approach speeds and lack of horizontal deflection for northbound traffic on Coromandel Parade, and
- Conflict between traffic in the right lane of Shepherds Hill Road travelling onto Main Road (south) and traffic in the left lane of Main Road (north) travelling onto Coromandel Parade.

RAA developed a concept sketch for the roundabout, aiming to address these two issues, mostly through adjustments to lane allocation on Main Road (southbound), and adjustments to the Coromandel Parade leg of the roundabout.

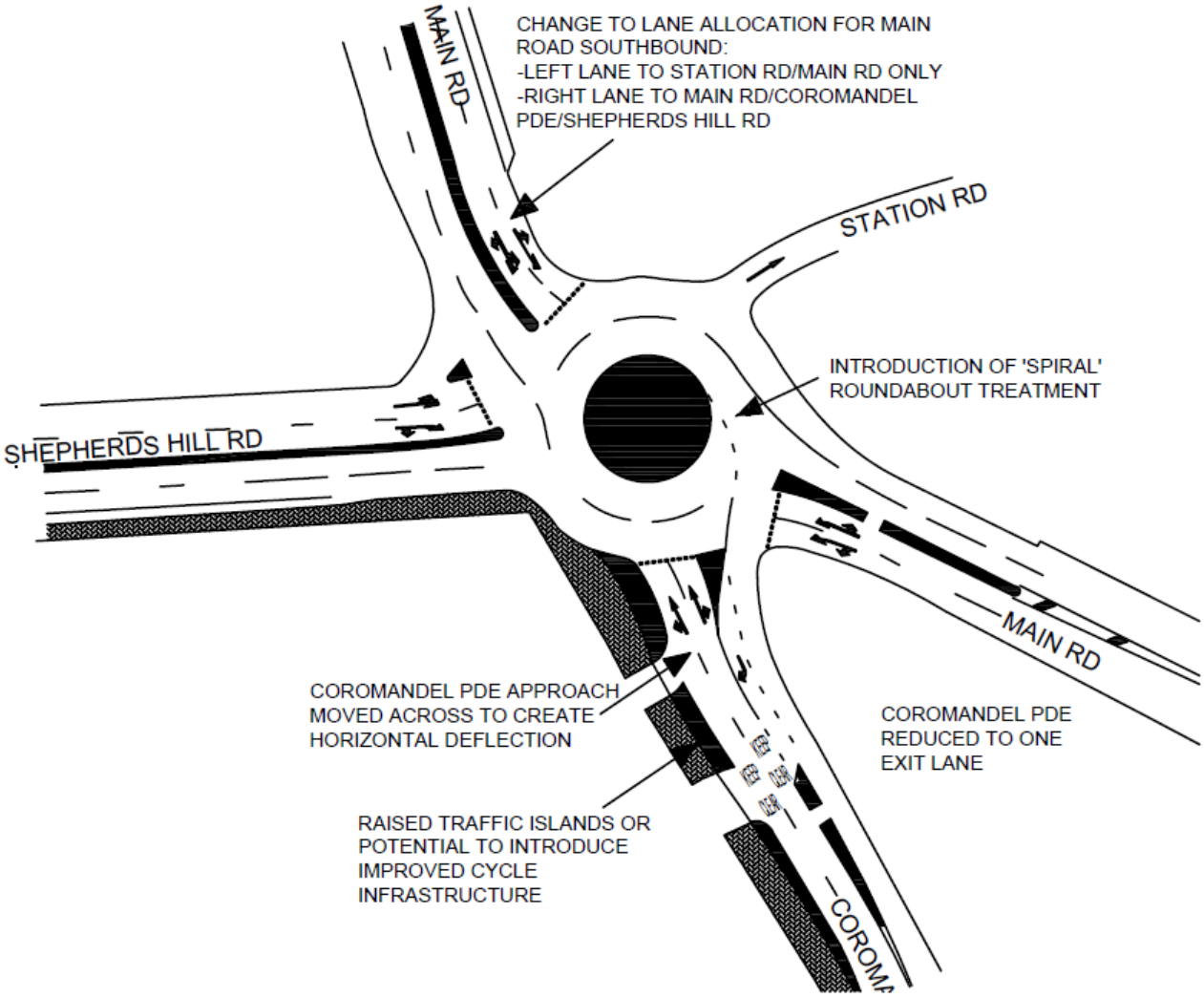


Figure 92: Sketch of potential Blackwood Roundabout improvements

This design reduces the likelihood of conflict between traffic in the right lane of Shepherds Hill Road travelling onto Main Road (south) and traffic in the left lane of Main Road (north) travelling onto Coromandel Parade by removing the option of travelling from the left lane of Main Road (north) onto Coromandel Parade. However, this means that additional traffic would use the right lane of Main Road (north), and traffic modelling to determine the impacts on queueing and lane utilisation is required.

By making the above change, the Coromandel Parade departure leg can be reduced to a single lane, which frees up space on Coromandel Parade to introduce additional horizontal deflection. Additional benefits are that it eliminates the zip merge on Coromandel Parade and makes it safer for pedestrians to cross Coromandel Parade using the refuge island. This change will result in naturally lower speeds through the roundabout for northbound traffic on Coromandel Parade. It may also be desirable to augment this with a flat top speed hump to further limit vehicle speed.

In isolation, a flat top speed hump on the Coromandel Parade approach is worth considering, regardless of what modelling of the above design indicates. Should the approach remain tangential to the roundabout, this will be an effective method of reducing the approach speed of vehicles. Furthermore, fully raising the circulating carriageway of the roundabout would be another option to consider, which could result in a reduction in approach speeds on every approach to the roundabout.

RAA would strongly support the installation of advance directional signage mounted on overhead gantries on each approach to the roundabout. This would replace the existing advance direction signage, mounted above the footpath in a less conspicuous location.

Intersection signalisation is feasible; however, this could be detrimental to traffic flow unless road widening were to occur, resulting in substantial land acquisition.

Intersection rank #5: Bull Creek Road/Paris Creek Road

Intersection ranking:	5			
Total nominations:	14			
Top issues:	Sight distance			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	1	2	0	0

The intersection with Bull Creek Road and Paris Creek Road in Paris Creek has been nominated as the fifth riskiest intersection in our 2024 Risky Roads survey. This intersection has been raised in previous surveys, nominated ninth in 2021, sixth in 2017 and fifth in 2013.

Both roads are under the care and control of the Department for Infrastructure and Transport. The northern leg of Bull Creek Road carries an estimated 3,000 vehicles per day, while the southern leg carries approximately 1,200 and Paris Creek Road carries approximately 1,800.

Survey respondents were primarily concerned about the poor sight distance from Paris Creek Road, despite the 2018 installation of a Rural Junction Activated Warning System (RJAWS), which reduces the speed limit on Bull Creek Road when a vehicle is detected approaching the intersection on Paris Creek Road. Several survey respondents mentioned that not all drivers reduce speed sufficiently and indicated they still find it dangerous to turn from Paris Creek Road.

Most survey respondents were in favour of converting this intersection to a more suitable T-intersection by realigning the two roads and cutting back the embankment to improve sight distance.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"No clear view of approaching traffic."

"Very difficult to see and turn safely onto Bull Creek Rd from Paris Creek Rd heading either to Meadows or Goolwa."

"Recently installed speed limiting flashing lights, but these hardly eliminate the dangers of this intersection. Road users cannot turn right off the Bull Creek Road onto Paris Creek Road and turning right or left off the Paris Creek Road is extremely hazardous requiring drivers to swivel their heads more than 90 degrees to see if traffic is coming. The left turn off Paris Creek Road is via a severely rutted unsealed goat track that is hazardous to negotiate and line of sight to your right is extremely limited."

"Recently leaving Strathalbyn my daughter was driving and found it was very dangerous coming out of Paris Creek Road onto Bull Creek Rd, she couldn't see if any traffic was approaching on Bull Creek Rd. On the left. The limit is 80km/h so they would be upon us very quickly."

"More people are moving to Strathalbyn and commuting to Southern Adelaide for work with more people using this intersection which is essentially a blind corner with a speed that changes from 80kmh to 50kmh depending on the day and time."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Install a proper T junction, or roundabout."

"1. Make it a proper "T" junction or 2. Restructure the left-hand end side of the Paris Creek Road (blind spot), by shaving down the hillock, and 3. Reduce the speed limit on the Bull Creek Road around the intersection."

“A T section with the ability to turn left or right clearing away the hillside to open up visibility in all directions.”

“This intersection needs a proper T junction installed with all the appropriate signage and speed limitations and lines of sight improved to make it safe for all users.”

Data analysis

The crash history at this intersection is low, with one casualty crash occurring in the five years between 2019 and 2023. This follows the installation of an RJAWS system in late 2018, after three casualty crashes occurred in the 18 months prior.

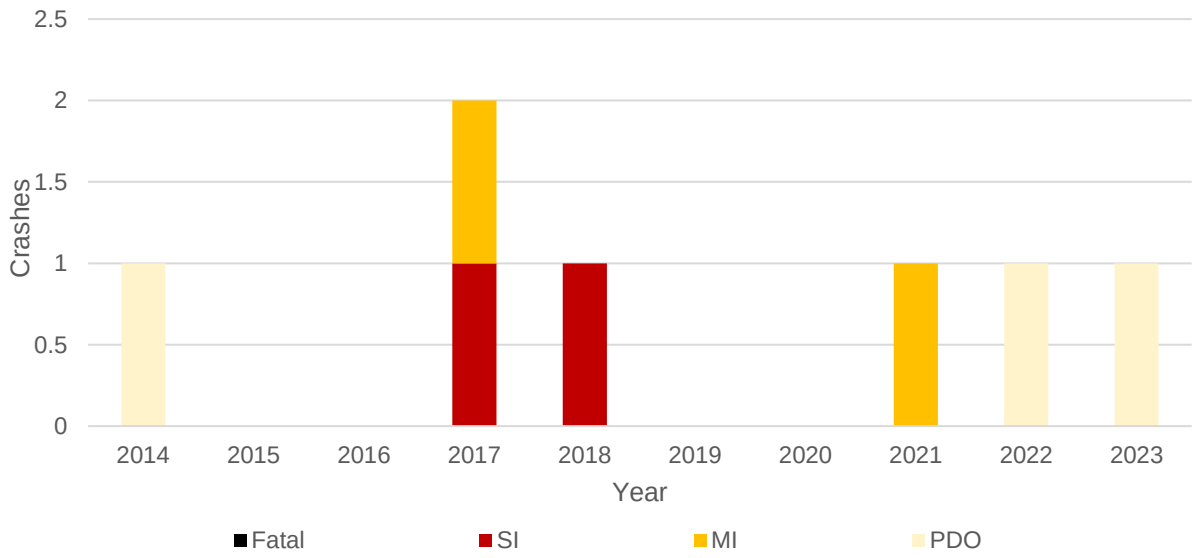


Figure 93: Ten-year trend in reported crashes at the Bull Creek Road/Paris Creek Road intersection

The minor injury crash in 2021 was a right-angle crash involving a collision between a vehicle turning right from Paris Creek Road and a vehicle continuing south on Bull Creek Road. One of the two property damage crashes was a car colliding with a fixed object while turning left onto Paris Creek Road, and the other was a right-angle collision between a car turning right from Paris Creek Road and a southbound motorcycle on Bull Creek Road.

Table 39: Casualty crash types occurring at the Bull Creek Road/Paris Creek Road between 2019 and 2023

Crash type	No. of casualty crashes	Crash severity		
		Minor inj.	*Serious inj.*	*Fatal*
Right angle	1	1	0	0
Total	**1**	**1**	**0**	**0**

Final comment

This intersection lies on part of the most direct route between Strathalbyn and Adelaide's southern suburbs (south of Edwardstown), and respondents are growing concerned at increasing traffic through this intersection, as more people travel between metro Adelaide and Strathalbyn.

Population in Strathalbyn continues to grow, increasing from around 5,900 residents in 2018 to almost 6,700 in 2023. In the 2023 calendar year, Strathalbyn population grew by 2.5%, higher than the average of 1.9% for Alexandrina Council[14].

RAA welcomed the addition of the RJAWS at the intersection, installed in 2018, with one casualty crash occurring at the intersection since this was installed.

An evaluation by the Centre for Automotive Safety Research[15] in 2021 reviewed behaviour change at the four trial RJAWS sites implemented in 2018 and how this translated the risk of casualty crash occurring and found that the RJAWS effectively caused drivers to reduce their speed when travelling through these intersections.

Data for this intersection shows that a significant change in behaviour occurs when the reduced speed is activated despite compliance with the 50km/h being relatively low. More than 71% of drivers travel at 60km/h or below through the intersection when the 50km/h signs are activated, compared to 33% of drivers that would travel 60km/h or below through the intersection before the trial. Overall, the results indicated that the expected casualty crash risk reduced by an average of 50% across the four trial sites.

Regardless of these positive results, the intersection by design is still unsafe due to the poor sight distance and potentially high travel speeds, however RAA acknowledges that the RJAWS has substantially reduced the risk of serious crashes occurring.

RAA considers that a major upgrade to improve approach angles and sight distance will ultimately be necessary at this intersection, especially as traffic volumes continue to increase. Due to the significant cost required to achieve a worthwhile infrastructure upgrade at the intersection to align with current design guidelines and best practice, it is likely that funding could be channelled more effectively into other safety upgrades in the area.

The Department for Infrastructure and Transport undertook some vegetation clearance and maintenance work at the intersection in December 2024.

[14] 2025, Informed Decisions, *Strathalbyn Town Estimated Resident Population (ERP),* accessed at <https://profile.id.com.au/alexandrina/population-estimate?WebID=160>.

[15] Mario Mongiardini, Christopher S. Stokes and Jeremy E. Woolley (2021*): Evaluation of a warning system to reduce the risk of casualty crashes at rural junctions in South Australia, Traffic Injury Prevention*, DOI: https://doi.org/10.1080/15389588.2021.1905160

Intersection rank #6: Northern Expressway Penfield Interchange (Heaslip Road/Womma Road)

Intersection ranking:	6			
Total nominations:	13			
Top issues:	Intersection capacity, intersection design			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	9	10	1	0

The Penfield Interchange (Heaslip Road/Womma Road) of the Northern Expressway has been nominated as the sixth riskiest intersection in our 2024 Risky Roads survey and is the first time this interchange or the Northern Expressway has been nominated in the top ten risky roads or intersections. Of the thirteen nominations received, eight referred to the northern roundabout, while five referred to the southern roundabout.

Heaslip Road and Womma Road are arterial roads under the care and control of the Department for Infrastructure and Transport, while the Northern Expressway is part of the National Land Transport Network and is managed and operated by DIT, with additional federal funding available.

The interchange is a conventional dumbbell layout with Heaslip Road crossing over the Northern Expressway and Womma Road terminating at the southern roundabout. Traffic volumes at the interchange are high and depicted in Figure 94.

Figure 94: Traffic volume estimates at the Penfield Interchange (values as AADT, two-way vehicles per day)

These figures indicate that the interchange is traversed by about 63,000 vehicles per day, with about 30,000 using the southern roundabout and about 20,000 using the northern roundabout.

At the northern roundabout, survey respondents were concerned about long queues of vehicles during peak times, which extend the full length of the Northern Expressway off-ramp and can even back onto the expressway. At the southern roundabout, respondents were concerned about the conflict introduced by allowing right turns at the roundabout from the left lane of Womma Road,

which is especially problematic as southbound traffic on Heaslip Road is required to change from the inside to the outside lane of the roundabout to exit to the Northern Expressway Adelaide-bound.

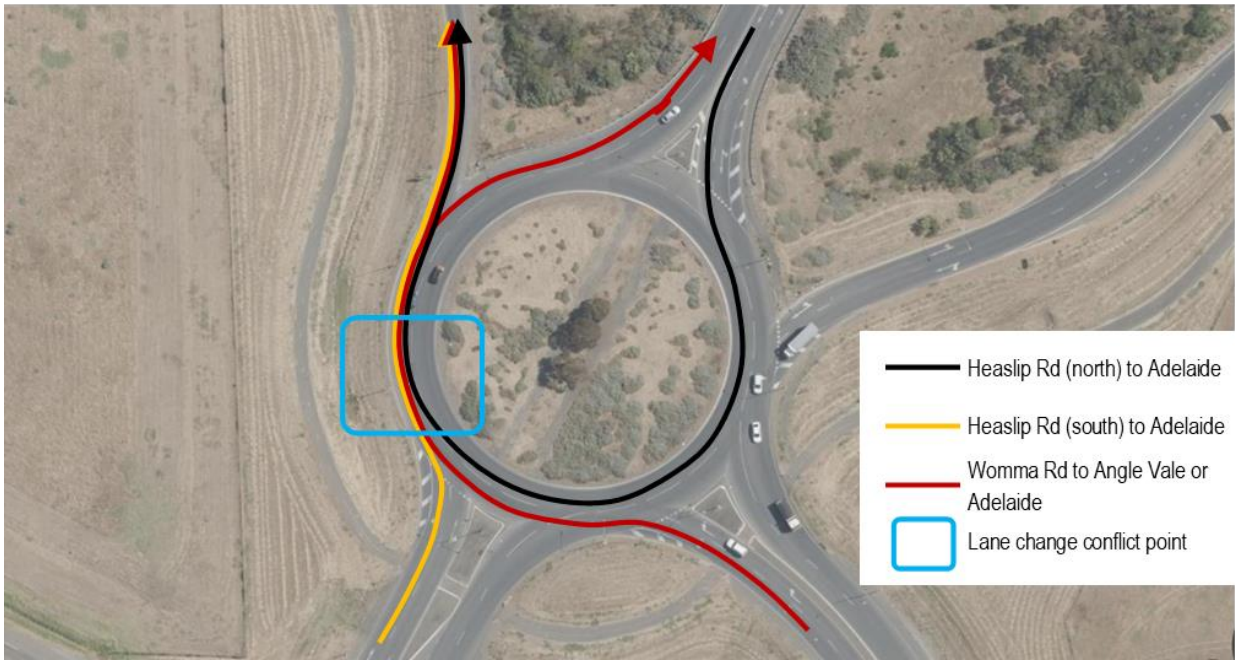


Figure 95: Primary conflict point raised by survey respondents at the Heaslip/Womma (southern) roundabout

At the northern roundabout, survey respondents suggested that signalisation of the junction may be required, with others suggesting that a second exit lane from the Northern Expressway would reduce queue lengths. At the southern roundabout, respondents suggested that a second exit lane towards the Northern Expressway was required, and that the Womma Road approach to the roundabout needed to be changed.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

Northern roundabout

"Every day, there are thousands of cars lined up to take this exit and the line spills onto the Northern Express Way. These people are unintentionally like 'sitting ducks' as they are stopped still on a 110km/h road!"

"Traffic lights that have been put in are just causing more congestion."

"Increase in traffic from development has meant more traffic leaving northern expressway to Heaslip road. Traffic at roundabout backs up onto the expressway and temporary lights have made it worse for traffic crossing over the expressway."

"Needs a dedicated left turn with suitable merge lane onto Heaslip Road heading north as a minimum to prevent traffic banking up on expressway exit or Southern roundabout. Current temporary signalling system unreliable. Lives will be lost at this location due to traffic stopped and being banked up in a 110km/h zone just asking for a high-speed rear end collision."

Southern roundabout

"Currently backs up from Angle Vale roundabout to Penfield Road 3 days a week and down Womma Road."

"A very busy access road for North-South Motorway. A lot of trucks and b-doubles using this ill-equipped road. It is only going to get worse in the next 24 months when a dozen or so truck and retail businesses start as well as the expanding housing out here. There are no cycle lanes and no footpaths."

"Intersection of Heaslip and Womma Road, traffic coming from Angle Vale very hard to see."

"Drivers change lanes on the roundabout and don't give way to vehicles already on the roundabout."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

Northern roundabout

"Longer or dual pulling off lanes for the exits on the Northern Expressway, to handle for the growing population of the northern suburbs etc."

"Slip lane to be added on angle vale turn off and dual lane roundabout will reduce risk."

"Build another lane next to it that goes across the empty paddock for those turning left to new developments. Those wanting to go to Elizabeth can then use existing lane."

Southern roundabout

"It takes too much traffic for a two-lane roundabout to go into one lane to get on to the Northern Expressway - it should be two lanes to get onto the expressway. This would also reduce the likelihood of sideswiping people or getting stuck in the roundabout trying to get on to the Expressway because of people in the left lane going straight ahead."

"After having a minor accident at this roundabout attempting to enter the expressway to head towards the city, I believe that any vehicle coming off Womma Road should not be allowed to turn right to go onto Heaslip road to head towards Angle Vale. This should be from the right-hand lane only on Womma Road. Making a new sign on Womma Road and removing the arrows on the road in the left lane to turn right will be the best and cheapest solution which should stop some of the accidents here, including the one I was involved in.

Data analysis

Unless specified otherwise, crash data in this section refers to crashes occurring on all components of the interchange including, roundabouts (including immediate approaches to roundabouts), on/off ramps and the bridge, but does not include crashes on the through lanes of the Northern Expressway near or between the on/off ramps.

While the rate of casualty crashes occurring at this interchange has appeared to remain fairly steady at about 2 per year, crash data indicates that there are an increasing number of property damage crashes occurring at the interchange, which is an indicator that levels of congestion may be increasing.

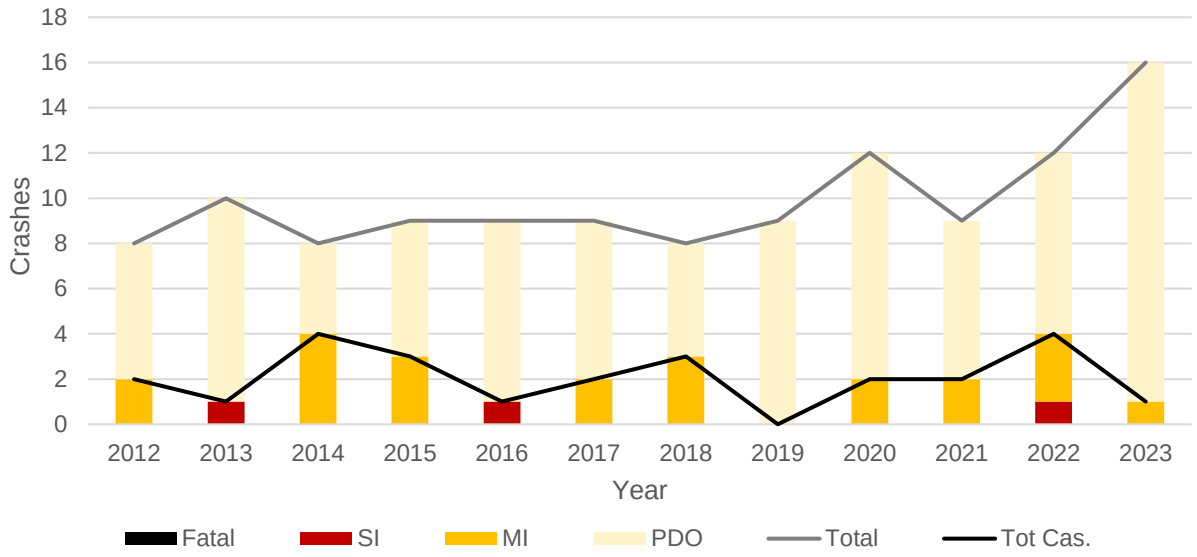


Figure 96: Ten-year trend in reported crashes at the Penfield Interchange

Nine casualty crashes occurred at the interchange between 2019 and 2023, with all nine of these occurring at the southern roundabout. Rear end crashes making up almost half of these, while multiple right angle and side swipe crashes also occurred.

Table 40: Casualty crash types occurring at the Penfield Interchange between 2019 and 2023

Crash type	**No. of casualty crashes**	**Crash severity**		
		Minor inj.	*Serious inj.*	*Fatal*
Rear End	4	4	0	0
Right Angle	2	2	0	0
Side Swipe	2	2	0	0
Hit Fixed Object	1	0	1	0
Total	**9**	**8**	**1**	**0**

Of the property damage crashes between 2019 and 2023, side swipe crashes were most common, accounting for 33% of property damage crashes, while right angle crashes were next highest, accounting for 26% of property damage crashes.

Final comment

The design of this interchange is compact, and roundabout intersections have proven to be relatively effective safety measures as evidenced by the low history of FSI crashes at the interchange. Nevertheless, there are significant concerns about increasing traffic at both roundabouts, and some non-desirable design elements at the southern roundabout.

At the northern roundabout temporary traffic signals have been added to the southern leg of the roundabout to meter traffic in an effort to balance flow through the roundabout. The existing exit lane from the Northern Expressway is 600m long, however part of this distance is to allow vehicles to gradually decelerate from the 110km/h speed limit, and queues extending into the deceleration zone can compromise safety. Consideration should be given to installing a left turn slip lane at the roundabout towards Angle Vale, safely merging with Heaslip Road beyond the roundabout. In the long-term, duplication of Heaslip Road through to Angle Vale may be required, and this should be allowed for in any future changes in roundabout configuration.

At the southern roundabout, a second roundabout exit lane to the Northern Expressway should be added, which could merge with the existing exit lane at a safe distance after vehicles have cleared the roundabout. This would eliminate the need for southbound traffic on Heaslip Road to change lanes within the roundabout. Furthermore, while the left lane of the Womma Road approach can turn right, this is unconventional at a dual lane roundabout, and unfamiliar drivers especially may get caught out at the lane change conflict point highlighted in Figure 95. Turn counts and traffic modelling at the Womma Road approach to the roundabout should be reviewed to determine whether the left lane can be converted to a conventional left-through lane instead. As Womma Road to the northern leg of Heaslip Road is a significant traffic route, this could result in extended queueing along Womma Road, potentially exceeding the capacity of the existing right turn lane which is approximately 70m long excluding the taper.

Intersection rank #7: Britannia Roundabout

Intersection ranking:	7			
Total nominations:	12			
Top issues:	Intersection design			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	28	29	2	0

Britannia Roundabout, the dual roundabout joining Fullarton Road, Kensington Road, Dequetteville Terrace and Wakefield Road has been nominated as the seventh riskiest intersection in our 2024 Risky Roads survey. The roundabout was nominated as the state's riskiest intersection in our inaugural 2013 Risky Roads survey, before being upgraded to the current dual roundabout layout. The roundabout was not nominated highly again until our 2021 survey, where it ranked second for intersections.

Other than Wakefield Road, all roads approaching Britannia Roundabout are under the care and control of the Department for Infrastructure and Transport, while the City of Adelaide Council manages Wakefield Road.

Traffic volumes are high at Britannia Roundabout, which is used by an estimated 65,000 vehicles daily. Fullarton Road (southern leg) is the busiest approach to the roundabout, carrying more than 48,000 vehicles per day, followed by Dequetteville Terrace, which carries about 30,000 vehicles per day. Volumes on Kensington Road, Fullarton Road (northern leg) and Wakefield Road are all lower than 20,000 vehicles per day.

Survey respondents were confused about the intersection layout, with some detailing near misses experienced and some indicated that they take alternative routes to avoid travelling through the roundabout. Respondents mostly suggested that the intersection be signalised, or an overpass or underpass be installed to improve safety and traffic flow.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"Lane determination difficult navigating going south along Dequetteville to Fullarton Road."

"The 2 smaller roundabouts have not solved the extreme difficulty in navigating the 5 intersecting roads!!"

"The most confusing and crazy intersection In Adelaide. People stop and start because they are unsure where people are going, and some people just put their foot down and hope for the best."

"Too much traffic flowing from Dequetteville Terrace towards East, and if driving south bound on Fullarton Road, it becomes really hard to enter the roundabout."

"While two round abouts helped things somewhat it is an absolute nightmare to try and navigate at the worst of times and an intersection I definitely avoid where possible."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Paint slot car type coloured marking for driver to follow through the intersection i.e line under the number plate front and back."

"Scrap all the roundabouts and put lights at a properly designed intersection."

"Traffic lights and better signage for each lane especially travelling North on Fullarton Road."

"Split it off further than the two round abouts. Maybe have an overpass / underpass and simplify it - Especially for travelling from Dequetteville Terrace and trying to pass to Fullarton Road."

Data analysis

Unless specified otherwise, crash data discussed in this section refers to both roundabouts that make up the Britannia Roundabout system.

Crash data indicates that there is a generally reducing trend of property damage and injury crashes at the roundabout.

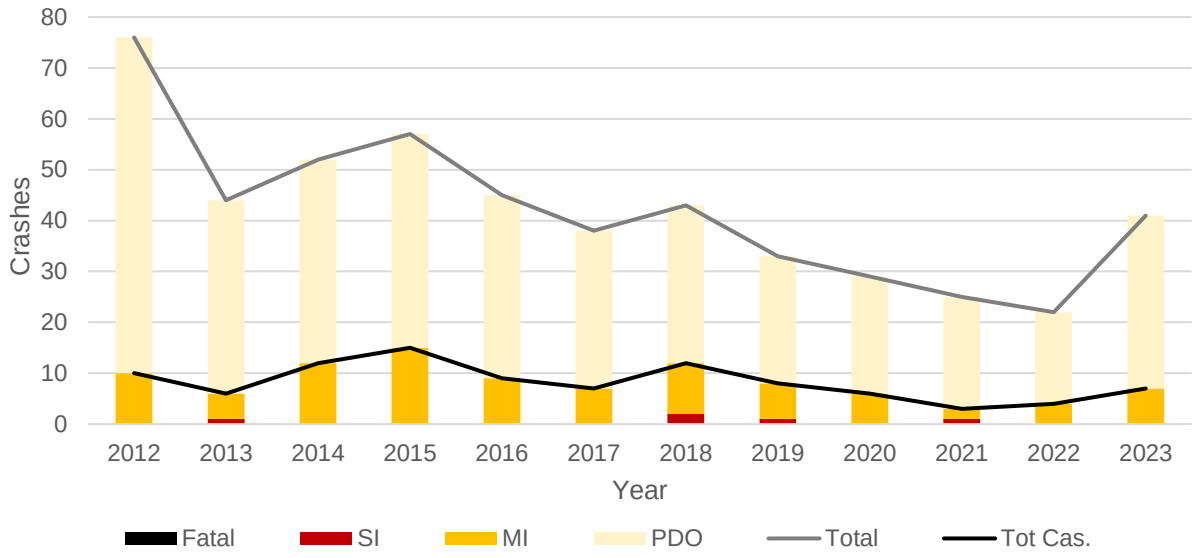


Figure 97: Ten-year trend in reported crashes at the Britannia Roundabouts

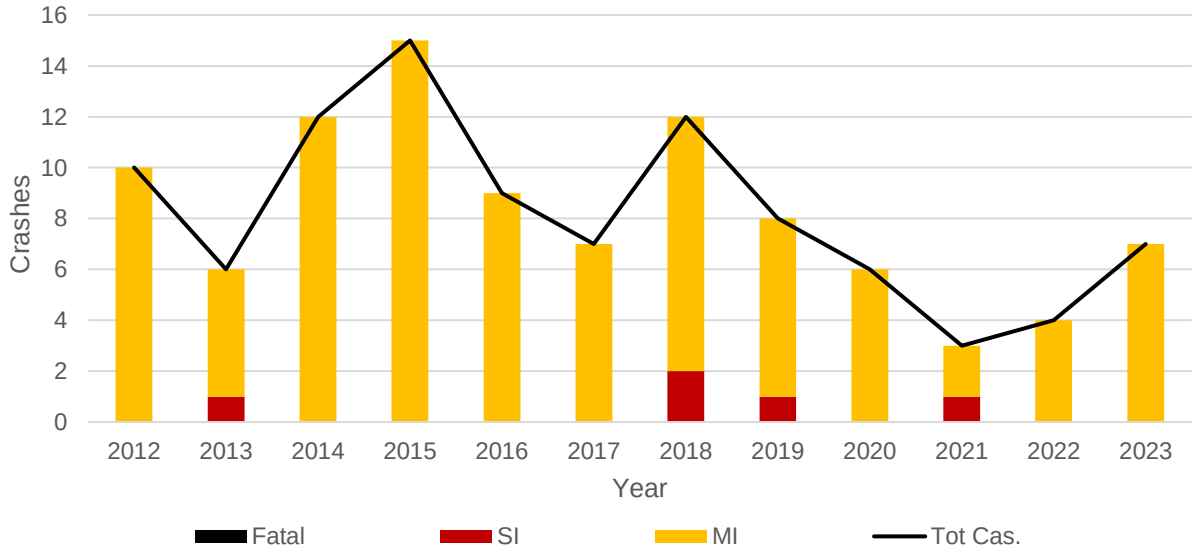


Figure 98: Ten-year trend in casualty crashes at Britannia Roundabouts

In the five years between 2019 and 2023, 28 casualty crashes occurred at the two roundabouts, with 21 at the larger eastern roundabout, and seven at the western roundabout.

Right angle crashes were the most common crash type, with the westbound Kensington Road approach seeing the highest number of these, with six. The eastbound approach from Wakefield Road saw the next highest number, with five right angle crashes, followed by Fullarton Road southbound with four.

Table 41: Casualty crash types occurring at the Britannia Roundabouts between 2019 and 2023

Crash type	No. of casualty crashes	Crash severity		
		Minor inj.	*Serious inj.*	*Fatal*
Right Angle	20	18	2	0
Rear End	6	6	0	0
Side Swipe	2	2	0	0
Total	**28**	**26**	**2**	**0**

Final comment

Britannia Roundabout is Adelaide's busiest roundabout, with more than 65,000 vehicles travelling through the roundabout each day. In recent years, the number of casualty crashes occurring at the intersection has reduced, and the roundabout no longer has claim to the unwanted title of having the highest number of casualty crashes amongst SA intersection. Since the upgrade, the intersection performs better, with less delays occurring at the intersection, even with an increase in traffic since the upgrade.

Survey respondents would prefer to see an over or underpass installed at the intersection, and RAA would consider this to be most effective from Fullarton Road (south) to Dequetteville Terrace, as this is one of the most frequent movements through the roundabouts and provides continuity along the City Ring Route. However, this would most likely result in a significant loss to open space and vegetation in the Adelaide Parklands and detract from the area's visual amenity.

Some respondents also suggested that signalisation would be preferred, however this would be complex and is unlikely to significantly improve traffic flow unless some traffic movements were prohibited. Partial signalisation of one or more approaches could be considered to provide additional control to some of the conflict points with high casualty crash numbers.

Intersection rank #8: Caroona Road/Airport Road, Port Augusta West

Intersection ranking:	8			
Total nominations:	10			
Top issues:	Sight distance			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	0	0	0	0

The intersection with Caroona Road and Airport Road, in Port Augusta West has been nominated as the eighth riskiest intersection in our 2024 Risky Roads survey. This intersection is between two local roads under the care and control of Port Augusta City Council and has not previously been raised through RAA's Risky Roads survey.

Survey respondents all raised the same concern, that a "Welcome to Port Augusta Airport" sign installed at the intersection obscures sight distance for road users turning from Airport Road onto Caroona Road. To address the issue, respondents suggested that the sign should be moved.

Figure 99: Google Street View (June 2024) looking southwest along Caroona Road at the junction with Airport Road

Figure 100: Google Street View (June 2024) looking south from Airport Road, approaching the give way holding line.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"There's a "welcome to Port Augusta" council sign that blocks vision of oncoming traffic from the right when leaving Airport Road to enter Caroona Road. Many times on my bike I've had to brake suddenly as the sign has completely obscured vision - especially when in combination with nearby vegetation (which would be fine if the sign was moved). Likewise, when travelling by car."

"There is a large, council owned (presumably) sign welcoming people to Port Augusta. Turning right off of Airport Road onto Caroona Road this sign blocks visibility of approaching traffic on Caroona Road to whom one should be giving way. This is further complicated by a slight dip in the road just beyond the sign, so if an oncoming vehicle is between the beginning of the dip and the actual intersection they are not visible, where if the sign were not there would be visibility between the end of the dip and the intersection."

"Caroona road is 100km/h. Port Augusta Council have put up a massive "airport sign" which serves nil purpose - the airport is not a public airport at all. This sign has some pretty pictures on it so looks nice but is massive and unfortunately when you are turning left (east) out of Airport Road onto Caroona Road the sign blocks the view of the western end of Caroona Road. Right here is a small valley then a curve so oncoming traffic cannot see you either. I have been caught probably eight times in three years where I have nearly pulled out and just before I do a car flies into vision at 100kmh. When you do pull out you have to hit the gas rapidly, then check rear view to see if a car is now there and then quickly pull over to the left to let the car pass.

Verbatim responses: What do you think would be the most effective way to reduce this risk?

> "Move the sign to the opposite side of Caroona Road. Such that it is visible when leaving the airport. This would also make more sense given the content of the sign is 'welcome'."
>
> "Move the sign to the opposite side of the road. Minimal expense for significant gain in safety."
>
> "Move the sign to the east side of the intersection so vision is not blocked."

Data analysis

No casualty crashes or property damage crashes were reported at this intersection between 2014 and 2023.

Final comment

RAA has not conducted a site assessment at this location and has assumed that July 2024 imagery from Google Street View is an accurate depiction of the current signage. While sight distance from the give way line appears to be sufficient in these images, the presence of a dip in Caroona Road is noted, and that this may be a more pronounced obstruction than is depicted on Google Street View as the camera is installed atop a mounting on the roof of the Google vehicle.

While the "Welcome to Port Augusta Airport" sign does not appear to inhibit sight distance from the give way line, it does obstruct sight distance while approaching the intersection. Due to the angled approach of Airport Road, drivers already have an unfavourable observation angle over their right shoulder, and since there is already a standard blue 'airport' sign at the intersection, RAA suggests that council considers moving the "Welcome to Port Augusta Airport" sign further along Airport Road. This would then be visible to drivers after turning into Airport Road and would serve as a confirmation that they are on the right road if they are unfamiliar with the area.

In December 2024, RAA contacted City of Port Augusta Council regarding the sign, and at the time of writing this report are yet to receive a response.

Intersection rank #9: Fullarton Road/Kitchener Street/Claremont Avenue

Intersection ranking:	9			
Total nominations:	9			
Top issues:	Intersection design, safety			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	18	25	0	0

The intersection with Fullarton Road, Kitchener Street and Claremont Avenue, in Netherby has been nominated as the ninth riskiest intersection in our 2024 Risky Roads survey and is the first time this intersection has been nominated in the top 10 intersections.

Fullarton Road is an arterial road under the care and control of the Department for Infrastructure and Transport, while Kitchener Street and Claremont Avenue are both local roads under the care and control of the City of Mitcham Council.

Traffic volumes for the council-maintained roads are not known, however, Fullarton Road carries 32,800 vehicles per day north of the intersection, and 29,400 vehicles per day south of the intersection.

Survey respondents frequently observed near misses and crashes at this intersection and suggested that they were often involving a vehicle turning right. Due to this, respondents were concerned about the lack of right turn lanes or right turn arrows to better control these movements. To resolve issues, respondents suggested that Fullarton Road be widened to provide right turn lanes in each direction, while also modifying signal phasing to provide right turn phases from Fullarton Road.

Figure 101: High traffic volumes and a lack of right turn lanes were the main concerns raised at this intersection

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"People frequently run red lights at this intersection while travelling on Fullarton Road."

"Turning right from Fullarton Road heading south onto Kitchener Street heading west is a very popular choice, and people regularly underestimate the distance required to do that ahead of oncoming traffic, possibly because Fullarton Road is slightly - deceptively - downhill at that end. Also, there are no right-turn arrows in the traffic light sequence, so every turn is self-judged. This intersection has minor accidents - and major ones! - on a very regular basis it seems."

"Multiple car crashes happen every year (approximately one per week) due to the lack of turning arrows and turning lanes. This is different to the other streets that cross Fullarton Road north of this location. The crashes are almost always the result of one vehicle making a right-hand turn and being hit by oncoming traffic."

"Since living in Netherby every traffic light has been replaced due to motor accident which occur frequently. During peak hour and school pickup and drop off the intersection becomes so congested right turns become impossible. It is very hard to see oncoming traffic when turning onto Fullarton Road during busy times as there are no turning lanes on Claremont Avenue or Kitchener Street. Vehicles become staggered and it is hard to see where oncoming traffic is heading. There is also a lot of foot traffic during school pick up and drop off and pedestrians are often hassled by people turning right. On weekends the left-hand lane on Fullarton Road is blocked by parked cars due to the sport occurring on Waite oval. Cars parked on Claremont Avenue are often parked right up to the intersection on weekends as well. The street lighting is also limited around this intersection and can be problematic when sporting events occur at night and in the winter seasons."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"In the long term - a complete rebuild of the intersection to widen it and add dedicated right-turn lanes. In the short term, perhaps modifying the light sequence to include dedicated right-turn periods might help?"

"Turning lanes would allow safer right hand turning. Improved footpath and pedestrian access would also make it safer."

"Add right turn arrows on all four approaches to the intersection. The Claremont Avenue/Kitchener Street approaches do not need to be widened, but the two lanes need to be clearly marked, identifying one as right turn and the other as left turn and straight ahead. The Fullarton Road approaches ideally would be widened to accommodate a right turn lane from both the southern approach and northern approach."

Data analysis

Casualty and property damage crashes at the intersection have been occurring at a relatively consistent rate over the past decade, with 2023 recording below-average figures after an above-average year in 2022.

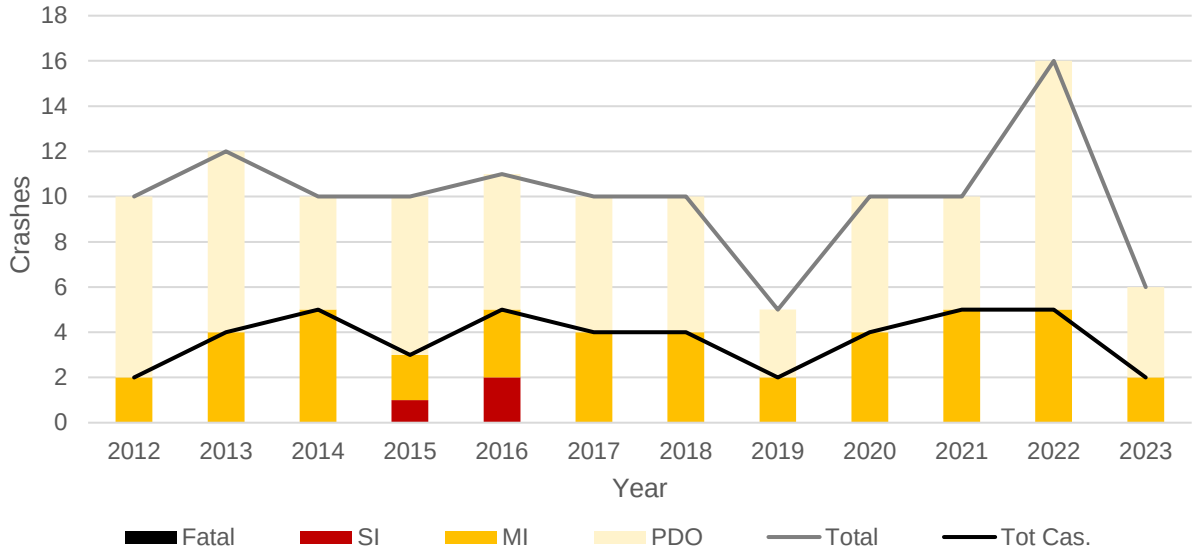


Figure 102: Ten-year trend in reported crashes at the Fullarton Road/Kitchener Street intersection

Right turn crashes are the most common crash type, accounting for 16 of 18 casualty crashes and 27 of 29 property damage crashes over the 2019-2023 period.

Table 42: Casualty crash types occurring at the Fullarton Road/Kitchener Street intersection between 2019 and 2023

Crash type	No. of casualty crashes	Crash severity		
		Minor inj.	*Serious inj.*	*Fatal*
Right Turn	16	16	0	0
Rear End	1	1	0	0
Right Angle	1	1	0	0
Total	**18**	**18**	**0**	**0**

Of the 16 right turn casualty crashes,11 involved a northbound vehicle turning right from Fullarton Road onto Kitchener Street, while the remaining five involved a southbound vehicle turning right from Fullarton Road onto Claremont Avenue.

Of the 27 right turn property damage crashes, nine involved a northbound vehicle turning right from Fullarton Road onto Kitchener Street, while 16 involved a southbound vehicle turning right from Fullarton Road onto Claremont Avenue. One right turn property damage crash occurred in each of the eastbound and westbound approaches through the intersection.

The graph in Figure 103 plots all casualty crashes at the intersection since 2012 by the hour of day, highlighting a strong trend that these largely occur in the peak travel periods.

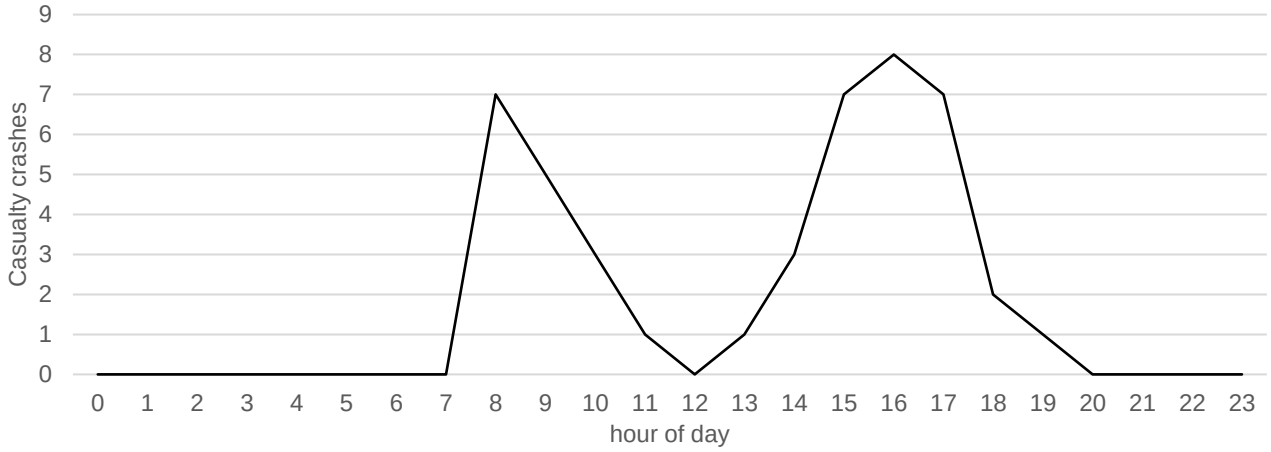


Figure 103: Casualty crashes at the intersection between 2012 and 2023, by hour of day

Final comment

Crash data at this intersection strongly supports feedback received by regular road users, with right turning crashes commonplace at this intersection. From a traffic design perspective, the solution is relatively straightforward, and the addition of channelised right turn lanes and controlled right turns from Fullarton Road would substantially improve safety.

However, there are several constraints and challenges present at this site which could add substantially to cost or necessitate less conventional design treatments. Some of the constraints identified by RAA include:

- 11kV high voltage overhead power lines on the eastern side of Fullarton Road, and on the southern side of Claremont Avenue and Kitchener Street – covering three corners of the intersection
- Low voltage overhead power lines on all four corners of the intersection
- Underground water and waste water mains
- Significant trees on both sides of Fullarton Road
- A narrow 20m (1 chain) road reserve which is insufficient to cater for an additional turn lane while maintaining traffic lanes, cycle lanes and footpaths to minimum widths.
- Potential need for land acquisition to facilitate required upgrades

RAA considers this location to be a priority for a safety upgrade, however, controlling right turns in isolation is likely to result in a substantial loss in intersection efficiency. Part-time right turn restrictions could be considered given that most casualty crashes occur during peak hours, however, this could shift the issue elsewhere and encourage rat-running along local streets unless appropriate planning and upgrades are undertaken in the surrounding area to accommodate this.

Intersection rank #10: Main Road/Sturt Avenue, Blackwood

Intersection ranking:	10			
Total nominations:	9			
Top issues:	Sight distance, pedestrian safety			
Five-year crash data (2019-2023)	Casualty crashes	Minor injuries	Serious injuries	Lives lost
	1	1	0	0

The intersection with Main Road and Sturt Avenue has been nominated as the tenth riskiest intersection in our 2024 Risky Roads survey and is the first time this intersection has been nominated in the top ten intersections.

Main Road is under the care and control of the Department for Infrastructure and Transport, while Sturt Avenue is a collector road within the City of Mitcham Council. Traffic volumes on Main Road are 9,300 vehicles per day south of the intersection, and 10,600 vehicles per day north of the intersection.

Survey respondents were concerned about sight distance at the intersection, particularly when turning right from Main Road onto Sturt Avenue. Sturt Avenue is on the outside of a left-hand curve on Main Road, with a steep embankment on the inside of the curve that restricts line of sight to oncoming traffic. Survey respondents also indicated that the intersection is utilised for pedestrians and there is nowhere safe to walk or cross.

Figure 104: The embankment on the inside of the curve restricts visibility of opposing traffic when turning right onto Sturt Avenue

To improve the intersection, a range of solutions were suggested by survey respondents including installing traffic lights, installing a right turn lane from Main Road to Sturt Avenue, realignment of Main Road to improve sight lines, and establishing pedestrian infrastructure.

The following verbatim responses are representative of the feedback received in the survey.

Verbatim responses: Is there anything else you'd like to tell us about the road that makes it risky?

"Poor pedestrian access. Poor visibility for both cars turning onto sturt Ave and pedestrians crossing Sturt Avenue. Heavily used by both cars and pedestrians."

"You are unable to see around the corner for oncoming cars therefore making it almost impossible and dangerous to make a right turn from main road down to Sturt Avenue."

"There is no right turn lane at this intersection which contributes to the backing up of traffic on Main Road to the south every peak hour, especially in the mornings. Traffic uses this intersection to access private homes, the Hawthorndene Primary School and as a back way through to Upper Sturt Road due to the congestion at the intersection of Main Road and East Terrace."

"Just drove past another crash here which has prompted me to nominate it. Cars always fly around the tight corner on Main Road making it unsafe for traffic turning right out of or into Sturt Avenue."

Verbatim responses: What do you think would be the most effective way to reduce this risk?

"Continue pedestrian path further down Sturt Ave to allow crossing on straight part of road instead of blind corner."

"Install a turn right lane to accommodate several cars and a slip lane alongside of it to help with the traffic flow. There are often accidents and near misses at this intersection due to poor sight lines and speeding cars coming from Blackwood."

"Cut off the bend in Main Road at that junction."

"Control the intersection somehow and add a pedestrian crossing at least somewhere on Main Road near this spot!"

Data analysis

In recent years, there has only been a single casualty crash at the intersection, however, between 2015 and 2017, four casualty crashes occurred. The speed limit was changed from 60km/h to 50km/h in 2021, which may have had an impact on reducing likelihood of crashes occurring along this stretch of Main Road.

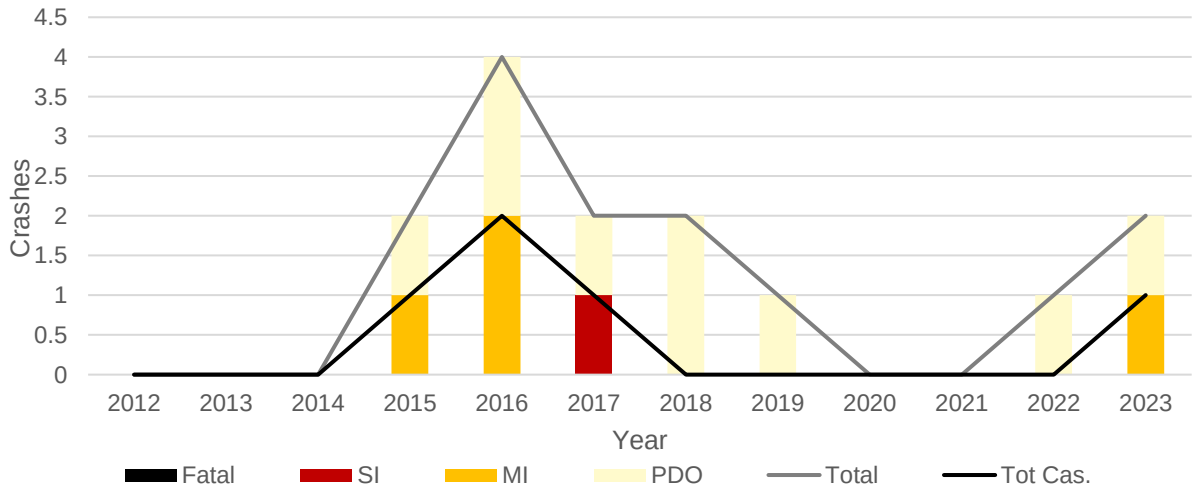


Figure 105: Ten-year trend in reported crashes at the Main Road/Sturt Avenue intersection

The right turn casualty crash in 2023 involved a collision with a northwest bound vehicle turning right from Main Road to Sturt Avenue and a southeast bound vehicle travelling in the opposite direction. The three property damage crashes between 2019 and 2023 each involved a vehicle turning right from Sturt Avenue colliding with a southeast bound vehicle on Sturt Avenue.

Table 43: Casualty crash types occurring at the Main Road/Sturt Avenue intersection between 2019 and 2023

Crash type	No. of casualty crashes	Crash severity		
		Minor inj.	*Serious inj.*	*Fatal*
Right turn	1	1	0	0
Total	**1**	**1**	**0**	**0**

Final comment

The design of the Main Road and Sturt Avenue intersection is far from ideal, with both roads following contours in the land to minimise major earthworks during initial construction. An earthen embankment on the inside of the curve impairs sight distance for northbound traffic turning right onto Sturt Avenue, and flattening this area out would improve safety at the intersection through the provision of better sight distance.

Providing pedestrian infrastructure at the intersection would be difficult without significant earthworks, however, may be possible in association with sight distance improvements. While a footpath runs atop the embankment west of Main Road, this is fenced for the safety of path users, and the slope would otherwise be too steep for most pedestrians to traverse. A safe pedestrian crossing point near the intersection would be beneficial in linking Sturt Avenue to this footpath, which runs adjacent Main Road through to the Blackwood Roundabout, about 800m away from Sturt Avenue.