Image: Getty

Submission to

Infrastructure SA 20-year State Infrastructure Strategy

November 2023

Motor | Home | Travel

RAA

RAA at a glance

South Australia's largest **member-owned** organisation

Advocating for South Australians for **120 years**

810k+ current members (60% 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

Foreword

RAA is pleased to make a submission to Infrastructure SA's 20-year State Infrastructure Strategy Discussion Paper.

As the state's largest member organisation representing over 805,000 South Australians and reaching into more than 70 per cent of households, we exist to make life easier for our members and the community.

For 120 years, RAA has been advocating on behalf of our members to help South Australians stay safe on our roads and travel around our great state. Today, our core business cuts across motor, home, travel, and energy, which puts RAA in a unique position to engage with Infrastructure SA on the development of the 20-Year Strategy.

RAA supports a bigger, better South Australia that is safe, sustainable, and liveable.

We believe strong population growth will spur economic activity and create more opportunities for young people. However, as our state grows to two million people over the next decade, we also need to maintain its unique liveability.

Population growth will only enhance liveability when the infrastructure is developed in parallel. Housing developments, both greenfield and urban infill, must be supported with upgrades to road networks, schools, health facilities, public transport, and energy infrastructure, with clear lines of responsibility and transparency for action. In this submission, we recommend a series of transport projects to ease congestion in areas that have experienced recent population growth and are expected to grow in the future.

The increase of natural disasters in recent years has highlighted the need to invest in disaster mitigation measures and more consciously consider the relationship between land use planning and extreme weather risk. As South Australia's leading personal lines insurer, RAA is committed to working with industry and governments to reduce the risk of natural disasters. Reducing this risk will improve insurance affordability and avoid future financial costs to homeowners, businesses, governments, and communities.

The transition to electric vehicles will help decarbonise personal transport and change the way we charge our vehicles and power our homes. The convergence of the home and car presents enormous opportunities, and the 20-Year Strategy needs to be considerate of the additional energy demand and need for smart home infrastructure to support this transition.

Ultimately, we encourage Infrastructure SA to be ambitious in pursuing improvements to public and active transport infrastructure. South Australia is consistently behind other jurisdictions when it comes to uptake of these transport modes, leading to greater car dependency - and the research tells us that this is due, in part, to lacking infrastructure.

The 20-Year Strategy also has an important role in reducing road trauma. The previous Strategy rightly called for greater investment in road maintenance to address the considerable backlog of works needed. To date, the backlog has not been addressed and this puts road users at an increased risk of casualty and fatality crash incidents. We encourage Infrastructure SA to maintain and elevate this important priority, to maximise the life of our assets and to support safe travel by all road users.

On behalf of our members, we thank Infrastructure SA for the opportunity to provide a submission to the Discussion Paper.

Emily Perry

General Manager,
RAA Community and Corporate Affairs

Image: Getty

5: Enabling infrastructure

5.1: Freight and supply networks

Response to question: What infrastructure constraints are preventing a more efficient, accessible, and productive freight sector?

Road maintennance

Maintaining the condition of our existing infrastructure is critical to supporting an efficient, accessible, and productive freight sector, as well as ensuring safety of all road users.

In 2020, Infrastructure SA's '20-Year State Infrastructure Strategy' noted that 75% of South Australia's roads were in poor condition because of sustained underinvestment and estimated the road maintenance backlog to be around $780 million.

Following this report, various federal programs and economic stimulus measures initiated in response to COVID-19 increased the level of investment in road maintenance and safety upgrades. RAA welcomed these much-needed investments; however, it is clear more investment is required to reduce the backlog of maintenance and improve the safety of the network.

The 2022 Annual Report of the Auditor-General, published last June, detailed that the approximate order of magnitude cost over four years of eliminating the backlog was estimated at a total of around $1.96 billion. This figure does not include local council roads.

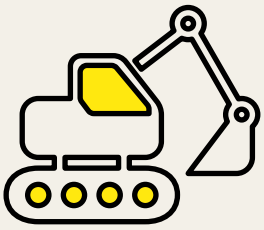
The damage to roads resulting from Murray River flooding will further add to the state's road maintenance task. The South Australian State Emergency Service estimates almost 1,200 kilometres of road may have been impacted by flood waters.

RAA believes the Government needs to commit at least $750 million over four years to help get on top of the road maintenance backlog and improve safety before the problem gets even worse.

In addition, to improve the transparency of road maintenance spending, the Government should commit to publishing actual spending on road maintenance each year.

Recommendation 1

The Strategy identifies road maintenance as a high priority and outlines measures required to reduce the growing backlog.



$1.96bn

estimated cost of the road maintenance backlog

5: Enabling infrastructure (continued)

National highway duplication

RAA believes a long-term commitment to fully duplicate the Augusta, Dukes, and Sturt Highway by 2050, along with an upgraded hills freight bypass, is critical to supporting economic growth, enhancing freight productivity, and reducing road deaths.

RAA believes State and Federal Governments should allocate at least $200 million each year towards these duplication projects, with high priority sections being Port Pirie to Crystal Brook along the Augusta Highway, Tailem Bend to the Mallee Highway for the Dukes Highway, and Berri to Renmark and Greenock to Truro for the Sturt Highway.

The current duplication work on the Port Wakefield and Augusta Highways, together with the duplicated Joy Baluch Bridge, has been well received and highlights the importance of completing corridor duplication to provide significant improvements to safety, productivity, and network resilience.

The need for duplicating these highways is clear.

Augusta Highway

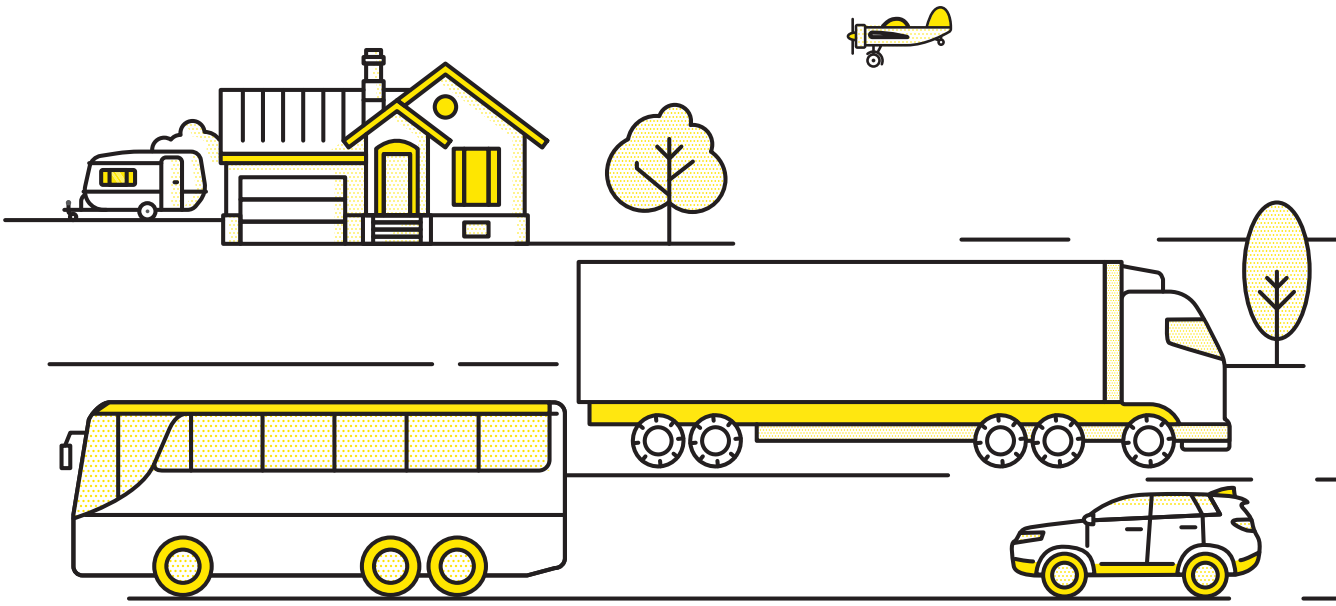
Augusta Highway is the principal route to the north and west of the state for freight, agriculture, and tourism, carrying an average of more than 4,000 vehicles per day, about 30% of which is commercial traffic including road trains and b-triples.

A fully duplicated Augusta Highway will lead to opportunities to facilitate the safe operation of higher productivity vehicles (HPV) up to PBS level 4A south of Port Augusta, significantly boosting productivity across the Eyre Peninsula and Far North regions of the state.

A fully duplicated highway will also deliver significant road safety benefits. Between 2018 and 2022 there were 28 fatalities, 41 serious injuries and 94 minor injuries on this highway, with six fatalities occurring because of head-on crashes. In fact, fatalities on Augusta Highway accounted for more than 6% of lives lost on all South Australian Roads. In addition, 15% of casualty crashes on the highway tragically resulted in at least one fatality – far higher than average for regional SA where 6% of casualty crashes resulted in fatality.

Sturt Highway

Freight use is already very high along the whole corridor, with daily traffic volumes as high as 7,300 vehicles per day in Nuriootpa, which includes 2,000 heavy vehicles and 8,800 vehicles per day between Berri and Renmark, including 1,500 heavy vehicles. The section between Nuriootpa and Blanchetown via Truro sees the highest freight use, with heavy vehicles making up 26-37% of all traffic, including about 800 b-doubles and road trains every day.



5: Enabling infrastructure (continued)

Duplication between Greenock and Allendale along with the Truro bypass in particular will facilitate the introduction of higher productivity vehicles on the greater Adelaide freight bypass and thereby work to reduce growth in heavy vehicle traffic on the South Eastern Freeway.

Duplication of this route will also reduce lives lost and serious injuries. Between 2018 and 2022, 100 casualty crashes occurred on the Sturt Highway between Nuriootpa and the Victorian border. These crashes resulted in 15 fatalities, 45 serious injuries and a further 103 minor injuries. In the first six months of this year, five lives have been lost due to crashes on the Sturt Highway.

Dukes Highway

The Dukes Highway is the major road freight and tourist route between Adelaide and Melbourne, carrying up to 2,000 commercial vehicles each day, with more than half of these being B-double units or larger, meaning up to 45% of the traffic on this corridor is commercial vehicles.

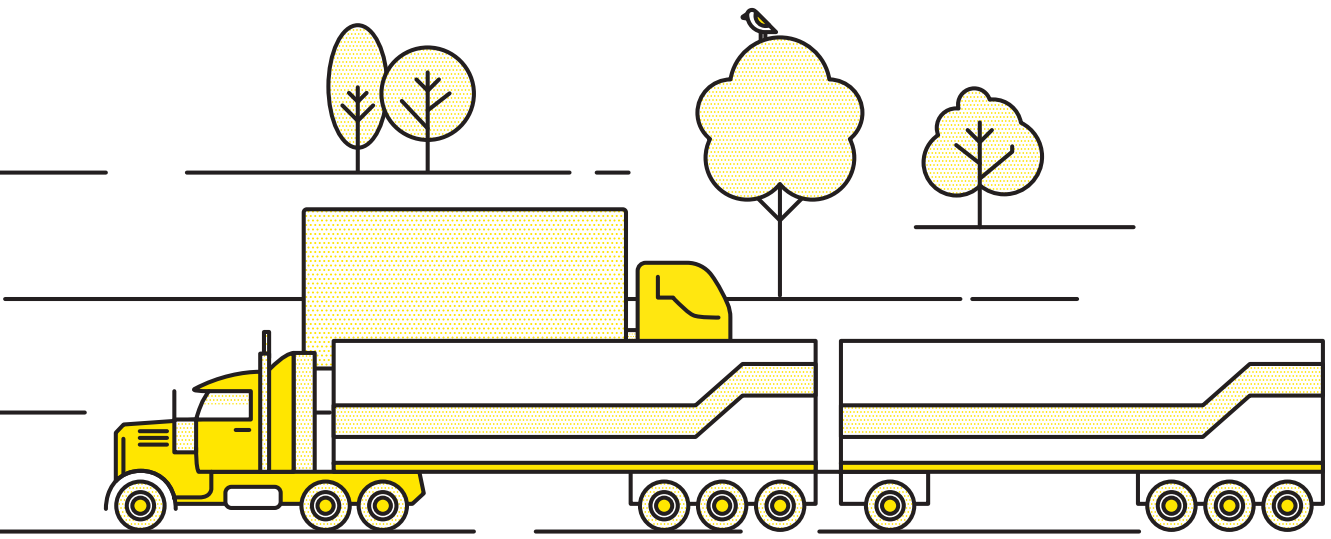
The Western Highway which adjoins the Dukes Highway at the Victorian border is being progressively duplicated by the Victorian Government to meet growing demand and improve safety. With the road freight task on this corridor increasing due to consumer driven demand and the relative efficiency of road transport, the duplication of this corridor should extend beyond the border into South Australia.

The current single lane route does not provide any physical separation between opposing traffic, resulting in an unacceptably high number of head on crashes. The implementation of the wide median treatment in 2012/2013 together with the installation of roadside barrier protection has resulted in a substantial reduction in the number of run off road crashes but not head-on crashes.

However, in the 5-year period from 2018-2022 there were still 53 casualty crashes and 7 lives lost. Duplicating this 190km freight and tourist corridor to provide two continuous lanes of travel in each direction together with physical separation and protection between opposing traffic flow would address the unacceptably high number of fatal and serious injury crashes.

Recommendation 2

The Strategy develops a plan to duplicate the Augusta, Dukes, and Sturt Highway by 2050, along with an upgraded hills freight bypass.



6: Liveable and well-planned places

6.1: Coordinated planning

Response to question: How can South Australia better coordinate infrastructure investment to support a growing population?

Population growth will only add to the liveability of our state when the infrastructure is developed in parallel. Housing developments, both greenfield and urban infill, must be supported with timely upgrades to road networks, schools, health facilities, public transport, and energy infrastructure, with clear lines of responsibility and transparency for action.

In the past, infrastructure has not always kept pace with population growth and housing developments, with areas like Mount Barker being well-documented. There are also flow on issues with the 'middle infrastructure', where developments create congestion on roads several kilometres away.

In early 2023, RAA surveyed members to understand their views on population growth. While many opposed population growth, the main issue was that infrastructure was not keeping pace. If we peel back the layers, very few people have an issue with an increasing birth rate or attracting people to move to SA. Their concern arises if that growth compromises their quality of life – whether that be through more congested roads, greater demand for services, and more competition for jobs.

RAA is hopeful the establishment of the Housing Infrastructure Planning and Development Unit will help ensure the right infrastructure is in place to support future growth. Without this coordinated effort, and if infrastructure doesn't keep pace with growth, there will be significant implications for safety, productivity and liveability.

The current and future infrastructure projects that RAA believe are critical to support population growth are outlined below.

Marion Road / Cross road tram crossing

RAA has long supported a grade separation of the tram crossing at Marion Road and Cross Road. RAA welcomed a joint Commonwealth/State funding commitment of $400 million at the last Federal and state elections. This is a critical project to support population growth in the area and must proceed before major works commence on the North South Corridor.

The tram crossing on Marion Road between Anzac Highway and Cross Road is a notoriously congested bottleneck. The proximity of these intersections, coupled with the frequent activation of the tram level crossings on Marion Road and Cross Road results in frequent delays particularly during the morning and afternoon peak periods.

Approximately 75,000 vehicles per day use the intersection with Marion Road and Anzac Highway, whilst 54,000 use the intersection with Marion Road and Cross Road and more than 51,000 cross the tram level crossings on Marion Road or Cross Road. All these roads are part of the metropolitan arterial road network.

In March 2022, RAA investigations showed 7am-9am weekday traffic on Marion Road was halted by a red light about 30 per cent of the time due to trams or bikes — that's 36 minutes in the two-hour peak period. It's even worse in the afternoons, when the trams and the pedestrian crossing see traffic facing a red light for 38 minutes between the 4pm-6pm bustle.

Even with the progressive upgrade of the North South Corridor, RAA expects traffic volumes on these sections of Marion Road and Anzac Highway to remain similar. It is likely that during construction there may be some temporary increases in traffic volume as people seek out an alternative route.

6: Liveable and well-planned places (continued)

Additionally, the project will enhance access for cyclist and pedestrians. The Mike Turtur Bikeway, which follows the tram corridor and is extensively used by cyclists and pedestrians, currently requires users to cross both Marion Road and Cross Road at grade using signalised facilities.

In addition to the Marion Road and Cross Road tram crossing, the Government should also prioritise removing the tram crossing at Morphett Road. This intersection is already highly congested and will only get worse with planned infill developments in the area.

East-West Links in the northern suburbs

At the 2022 election, RAA called for $500 million to address congestion in Adelaide's northern suburbs, including Curtis Road, Waterloo Corner Road, Kings Road and Elder Smith Road, following increases in housing developments in the area. The Dry Creek development makes these upgrades even more critical.

Through the 2022-23 State Budget, funding was allocated to complete a traffic study for Curtis Road and Dalkeith Road. RAA believes the Government should allocate funding, through forward estimates if appropriate, to implement the solution that provides the greatest benefit to road users in the area. Further traffic studies need to be undertaken to inform and prioritise future investment on Kings Road, Elder Smith Road and Waterloo Corner Road.

Adelaide Hills and Mount Barker

To support population growth in the Adelaide Hills and Mount Barker, RAA recommends improvements to public transport, extending the third lane on the South Eastern Freeway to Verdun and installing a third safety ramp at the bottom of the freeway descent.

The population in Mount Barker District Council is projected to increase 47% from 38,500 in 2021 to 56,700 in 2036. This population growth will place additional pressure on the South Eastern Freeway between Stirling and Mount Barker, where continued growth in traffic volumes will further compromise travel speeds, increase congestion and increase the risk of associated crashes.

Public transport & associated infrastructure

A survey of Adelaide Hills residents during the preparation of RAA's 2020 Adelaide Hills Regional Road Assessment report highlighted that 68% of respondents were concerned about the lack of alternative options to driving in the region. Whilst there was support for a passenger rail service, it was dependent on cost, frequency and whether it offered a saving in travel time compared with driving. None of the rail options proposed to date appear to address all these issues to the point where such a service would be viable.

Therefore, the focus in the short to medium term is to improve the reliability and quality of the existing bus services.

RAA supports implementation of a revised public transport system between Adelaide and Mount Barker, which may include a bus rapid transit (BRT) system as recommended by Regional Development Australia Adelaide Hills Fleurieu and Kangaroo Island in their 2021 People Transport Solutions for the Adelaide Hills report.[1]

RAA believes investigations to improve public transport between the city and Adelaide Hills must include a corridor management plan for Glen Osmond Road.

RAA considers bus movement through the three intersections with Cross Road, Fullarton Road and Greenhill Road to be critical in delivering effective and efficient bus services between Adelaide and the Adelaide Hills.

Third lane to Verdun

A third traffic lane between Stirling and Verdun coupled with an upgraded Verdun interchange, would provide additional efficiencies and capacity along the South Eastern Freeway, including for public transport. Current

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1. People-Transport-Solutions-for-the-Adelaide-Hills_Sept-2021.pdf (lga.sa.gov.au)

6: Liveable and well-planned places (continued)

traffic volumes are already at levels that compromise vehicle speeds during peak conditions, with continued growth in traffic volumes expected to further compromise speeds, increase congestion and increase the risk of associated crashes.

Additional safety ramp

RAA supports measures being taken to upgrade the existing Adelaide Hills Freight Bypass, acknowledging this route will not be practicable for all freight journeys and vehicle types. There will hence be a continued need for heavy vehicles to use the South Eastern Freeway, particularly traffic that originates in, or is travelling to, the Adelaide Hills region.

Installation of a third safety ramp will provide an additional opportunity for heavy vehicle drivers to leave the road to avoid a collision prior to the intersection with Portrush Road.

Recommendation 3

The Strategy prioritises the following projects to support population growth and road safety:

- Grade separation of tram crossing at Marion Road/Cross Road
- Upgrades to east/west links in the northern suburbs
- Extend the third lane on the South Eastern Freeway to Verdun
- Improve public transport options between Adelaide Hills and metropolitan Adelaide
- Build a third arrester bed at the end of the South-Eastern Freeway.

Near misses involving heavy vehicles at the bottom of the South Eastern Freeway descent are still reported, and there is currently nowhere for a heavy vehicle to go should it lose control beyond the second safety ramp. RAA has suggested some potential safety ramp locations between the existing lower ramp and Portrush Road as part of our 2020 Highway Assessment: South Eastern Freeway.

Longer term transport projects to ease congestion and improve safety

Through the Greater Adelaide Regional Plan (GARP) Discussion Paper, the South Australian Government flagged its intention to accommodate an additional 300,000 homes in the next 30 years[2]. The Infrastructure Strategy should be considerate of the impact population growth will have on the road network.

North-western spine

The Greater Adelaide Regional Plan Discussion Paper notes the potential for additional housing along the southern end of the Port Wakefield Highway. Safety along the Port Wakefield Highway is of concern, and improvements to roadside barriers and intersections are highly important, given the current 110km/h speed limit. RAA is particularly concerned about safety for vehicles turning right from Port Wakefield Highway, Mallala Road, or Brooks Road.

The recently signalised intersection at Angle Vale Road/ Riverlea Boulevard is the only such intersection between Port Augusta and departing the North-South corridor near the city. This is an important intersection to support the Riverlea development and should be grade separated to improve safety and promote the free flow of traffic, akin to a freeway interchange. The key point here is that major developments like Riverlea should have such infrastructure built as part of early works, with Government committing funding and seeks reimbursement from developers overtime.

Depending on the proposed development in Two Wells, primary access to town (Mallala Road or Brooks Road) should be upgraded, and potentially grade separated also (depending on projected population).

2. Greater Adelaide Regional Plan Discussion Paper | YourSAy

6: Liveable and well-planned places (continued)

Urban development in Virginia is also increasing traffic at the Old Port Wakefield Road intersection, and investigation into safety treatments at this location should also be undertaken.

RAA supports extending the Gawler rail line to Roseworthy along the existing disused rail corridor, noting the future possibility of extending this further north to Freeling. Opportunities also exist to extend the Gawler rail line to Concordia (along the former Barossa rail line alignment) as part of the SA Government land release and plan to build 10,000 new homes in this area.

North-eastern spine (Kudla to Evanston Gardens)

Importantly, these areas are adjacent the Gawler Line and are therefore already well connected to Adelaide by public transport. Continued investment in the North-South Corridor also means this area is now a 35-minute drive (approximately) from Adelaide. As development accelerates, access to these train stations is important.

Eastern spine from Callington to Murray Bridge

Major growth in the Callington/Murray Bridge area (combined with Mt Barker/Nairne and Strathalbyn) will put added pressure on the South Eastern Freeway without providing significant opportunities for local employment and other amenities.

This would provide more justification for an Adelaide – Murray Bridge rail line via Mt Barker and Callington. However, travel times for a train trip from Murray Bridge to Adelaide via Mt Barker and associated stations through Blackwood, Belair and Mitcham would be unlikely to compete with on-road options (bus/private vehicle).

RAA have previously recommended Murray Bridge as a possible trial area for on-demand bus transport to improve local accessibility

Southern spine and opportunities around Victor Harbor and Goolwa

Road upgrades are needed, including to Main South Road between the Southern Expressway and Victor Harbor Road (we note that a planning study is currently underway).

The Government should also be looking to duplicate Victor Harbor Road between McLaren Vale and Mount Compass (a corridor study has been recently undertaken, with RAA providing input in 2021).

Additional upgrades to the Victor Harbor Road and Goolwa Road corridors will be needed to improve safety and efficiency/capacity between Victor Harbor/Goolwa and Mount Compass.

Alexandrina Road between Goolwa and Strathalbyn, and Port Elliot Road between Victor Harbor and Goolwa may also require upgrades with significant population increases around Goolwa.

RAA have previously recommended Victor Harbor-Goolwa as a possible trial area for on-demand bus transport to improve local accessibility and the need for an appropriate public transport solution is increased with a growing population.

Recommendation 4

The Strategy identifies transport projects to ease road congestion and improve safety along the north-western, north-eastern and southern spines of Greater Adelaide to support future population growth.

6: Liveable and well-planned places (continued)

6.3: Public transport

Response to question: How can we improve public transport services across Adelaide and outer metropolitan areas to encourage greater patronage?

RAA strongly supports increased investment in public transport in South Australia. An attractive and convenient public transport system can reduce carbon emissions and road congestion by encouraging people to be less reliant on private car use. It can also service the mobility needs of those unable to drive themselves, including children, older people, people with disability, people in financial hardship, and visitors such as tourists.

Unfortunately, use and satisfaction of public transport in South Australia is consistently poor compared to other mainland states. A 2021 Productivity Commission report on Public Transport Pricing found that South Australia has the lowest proportion of work trips that involve more than one mode of public transport, with 5.5% of trips, compared to 21.2% of trips in Perth (highest). According to Department for Infrastructure and Transport data, boardings are yet to recover to pre-COVID19 levels: Boardings for April to June 2023 were 15.9 million, compared to 19.4 million in April to June 2019 – a fall of 18%.[3]

Furthermore, the recent "Benchmarking Adelaide" report produced by the Committee for Adelaide benchmarked Greater Adelaide against 19 international peer cities. It found that Adelaide has a less efficient public transport system than most peer cities, given long journey times and multiple public transport transfers. Average public transport commute times in Adelaide was 43 minutes - the longest among peer cities - and recorded the largest increase in public transport transfers in the last two years.[4]

Furthermore, planning for public transport in new developments has not been done well in the recent past - adding to car dependency. For example, residents at Mount Barker that travel into Adelaide have few public transport options resulting in increased reliance on the South Eastern Freeway as the primary way to travel between Mount Barker and Adelaide.

This example highlights that public transport infrastructure planning has trailed housing construction and this issue must be addressed in the future. Public transport should be a consideration at the beginning of the investigation and planning stage of any future housing developments. This is particularly important for rail, where it is essential to quarantine land for a rail corridor from the outset.

RAA supported the Government's decision to preserve land for a future rail extension to Aldinga and supports preserving a corridor to extend the Gawler rail line to Roseworthy and further north to Freeling. Opportunities should also be explored to provide rail connectivity to major land releases in Concordia and Dry Creek, with each land release expected to provide 10,000 new homes.

As South Australia grows, it is clear that we must improve our public transport to remain a globally attractive place to live.

In 2022, RAA engaged the Legislative Council Select Committee on Public and Active Transport, making a submission and presentation at Parliament House. RAA's believes the Government should conduct a holistic review of the Adelaide Metro network to identify:

- Improvements to Adelaide Metro network bus routes to better service business and education hubs and areas of interest outside of Adelaide CBD.

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3. Adelaide Metro Bus, Train and Tram Complaints per 100k boardings - Adelaide Metro Bus, Train, Tram Complaints Per 100k Boardings - data.sa.gov.au
4. CFA-Benchmarking-Report_FINAL-DIGITAL_compressed-1.pdf (committeeforadelaide.org.au), page 51

6: Liveable and well-planned places (continued)

- Adelaide Hills to Greater Adelaide bus service improvements including priority for Glen Osmond Road to enhance service efficiency and reliability.
- Improvements to bus scheduling and stop locations, aimed at increasing service frequency and speed of travel, while maintaining adequate service coverage with consideration for vulnerable users.
- Ways to improve public confidence in the cleanliness and security on board public transport and at stops and stations.
- Identify strategic locations to install indented bus stops, priority bus lanes and traffic signals and new Park 'n' Ride facilities.
- Investigate reasons for low train patronage compared to other states and develop next steps to deliver service improvements of the train network, including optimising bus and tram services to better connect to trains and investigating options to increase service frequency of trains.

This recommendation was informed by research conducted by RAA which included survey responses from 1,320 South Australians, with many responses commenting on a lack of service options for their main destinations.

RAA has welcomed the Government's recent investment in public transport, such as the introduction of Tap n Pay technology on trams and buses. RAA has long called for the Government to embrace technology to improve service provision and customer experience and drive patronage growth.

In addition to Tap n Pay, RAA believes the State Government should implement a digital ticketing system that allows users to purchase and validate PT tickets within journey planning platforms. This is a low-cost way to improve customer experience and relieve a crucial pain point for infrequent users and tourists – finding and purchasing a physical Metro Card.

Recommendation 5

SA Government conduct a holistic review of Adelaide's public transport network to optimise coverage and increase service frequency.

Active transport

Complementing a more ambitious public transport investment plan should be a dedicated cycling infrastructure fund backed with an annual $10 million investment to support greater uptake of cycling, walking and micro-mobility, such as e-scooters.

RAA has long called for greater commitment from SA Government in developing the state's cycling and walking infrastructure. The recent "Benchmarking Adelaide" report produced by the Committee for Adelaide found: *"Adelaide ranks last among peers for the quality of its bike network, and in the bottom 3rd among 170 American and European cities ... it also ranks last among peers for access to people, jobs and educational institutions and shopping areas through low-stress biking routes"*.[5]

The 20-year Strategy presents a real opportunity to implement an active transport strategy and action plan, backed by dedicated funding of at least $10m annually. We believe the following should be prioritised:

1. Off-road cycle, pedestrian, and shared use paths
2. Greater connectivity of on-road cycle paths
3. Physical barriers or separation between cyclists and motorists

RAA has now conducted two 'Risky Rides' surveys, with the most recent report published in March 2023. Our latest survey received 761 nominations from concerned cyclists and motorists that identified gaps in cycling infrastructure,

5. CFA-Benchmarking-Report_FINAL-DIGITAL_compressed-1.pdf (committeeforadelaide.org.au), page 51

6: Liveable and well-planned places (continued)

resulting in the following top priorities for cycling infrastructure investment:

- Provision of new shared paths adjacent to roadways in the Adelaide Park Lands has the potential to reduce reliance on arterial road corridors. Shared paths adjacent Greenhill Road and Main North Road were the most highly raised suggestions in the 2022 Risky Rides survey. Specifically, a safer cycling route is required along Greenhill Road, from Anzac Highway to Fullarton Road and RAA believes a new off-road shared use path is the best option.
- Within Adelaide, completion of the next stage of the Frome Street Bikeway between Rundle Street and North Terrace must be a high priority. Furthermore, a high number of nominations for east-west roads through the city indicates there is still high demand for the provision of an East-West Bikeway to provide safer movements and better connectivity between the east and west of Adelaide.
- Ultimate completion of the North-South Corridor will deliver a major change in movement in and around Adelaide. Improved cycling connectivity must be a key part in the design and delivery of the North-South Corridor. Whilst the current South Road surface road has minimal provision for cyclists and is not a popular cycling route, it provides high connectivity with other cycling routes, both on-road in the east-west direction between Adelaide and the coastline, and with popular cycle corridors such as the Marino Rocks Greenway, Mike Turtur Bikeway, Westside Bikeway and River Torrens Linear Park.
- Due to metropolitan Adelaide's grid-like structure, "diagonal" corridors that bisect the grid such as North East Road, Lower North East Road/Payneham Road, Port Road, Anzac Highway and Glen Osmond Road will always provide travel time and distance savings for cyclists commuting to and from the city when compared to alternative local-street bikeways. However, these corridors vary greatly in terms of the cycling infrastructure they provide. Therefore, any future planning needs to consider the primary function of these roads in Adelaide's road network, ensuring that cyclist infrastructure is a key consideration. Off-road bikeways adjacent these corridors vary significantly in infrastructure, and with further investment and robust planning, have the potential to provide competitive alternatives to on-road cycling in terms of total commute time.

Further, the availability of community and local transport options is important. A great example of this is the Keoride on-demand bus in Mount Barker, which provides an effective and highly-utilised first and last-mile connectivity to the Mount Barker interchange. A reliable and convenient public transport system makes it easier for residents to commute and access essential services within and beyond the neighbourhood.

Access to car parking is a regular concern raised by communities, especially in brownfields developments where urban infill occurs through property subdivisions. Many within these communities feel entitled to an on-street car park, whilst garage space is often utilised for storage or as an extension of the home to facilitate a home office, gym, or entertaining room. On-street parking demand should be a consideration for developments that lack adequate parking facilities, on-street parks should consider the requirements of typical vehicle buying preferences, for example Electric Vehicles are often wider than many Internal Combustion Engine vehicle models.

Recommendation 6

SA Government develop and fund the implementation of an active transport strategy and action plan to support greater uptake of cycling, walking and e-scooters.

8: A decarbonised, sustainable economy

8.2: Decarbonised energy system

Response to question: How do we maintain an affordable, reliable and secure energy system through the energy transition?

RAA supports the South Australian Government's ambition to transition our energy system and achieve the twin goals of reducing the state's greenhouse gas emissions by 50 per cent by 2030 and achieving net-zero emissions by 2050.

The 20-Year Strategy should explore opportunities to service a growing population using our existing energy infrastructure, to avoid additional investment where possible. With the transition away from fossil fuels to renewables, the uptake of rooftop solar (with generation capacity of around one gigawatt), increased uptake of electric vehicles, and associated demand for home charging, there is a growing need to enable price signalling to incentivise energy consumption outside of peak times.

Through greater uptake of time of use tariffs, there is potential to shift electricity demand to off-peak periods, therefore easing the need to build more poles, wires, substations, and other infrastructure to satisfy peak demand. Smart homes have the potential to reduce individual home energy bills by $150-$300 annually, with the added benefit of reducing household carbon emissions.

A key to shifting South Australians to these tariffs is encouraging greater uptake of smart meters among existing households. While new builds have a smart meter installed by default – there is a need for a 'critical mass' of smart meters to encourage energy retailers to develop innovative products – meaning that established homes need to be encouraged and incentivised to have a smart meter installed.

The installation of smart meters can be expensive for consumers where upgrades to switchboards are required. This a key barrier to smart meter adoption and has deterred many from pursuing solar panel installations. During the 2023 financial year, approximately 15% of RAA solar quotes that did not proceed cited switchboard upgrade costs as a key reason.

RAA understands the cost to install smart meters is generally passed on to consumers by retailers, with costs spread across their customer base. RAA believes if switchboard upgrades are required to install a smart meter, these costs should be considered part of the smart meter installation and should not burden individual households with upfront costs.

Recommendation 7

SA Government take action to create a smart home ecosystem in South Australia through:

- Increasing smart meter uptake in established homes by ensuring necessary switchboard upgrades are installed at no upfront cost to the household.
- Further investment and expansion of community-level energy programs such as incentives for rooftop solar PV and home batteries, expanding Virtual Power Plants and installing community batteries in new developments.

8: A decarbonised, sustainable economy (continued)

8.3: Transitioning transport

Response to question: What are the most significant challenges for decarbonising transport and how do we address them?

RAA believes EVs are the future here and around the world. RAA believes South Australia should lead the nation in the transition to EVs to capitalise on our abundant supply of renewable energy and reduce motoring costs.

RAA also recognises the role of hydrogen as an important fuel with great potential for decarbonising transport, particularly for heavy vehicles. South Australia is making a significant investment in hydrogen with the development of the Hydrogen Power Plant and RAA will continue support this initiative and monitor the role hydrogen can play in decarbonising transport.

Notwithstanding the immense opportunities of EV adoption, some challenges are emerging which are relevant to the 20-year infrastructure strategy.

Enabling infrastructure to support public charging

In 2022, RAA successfully won the contract to build, own and operate the state's first border-to-border EV charging network - a project we are delivering in partnership with the South Australian Government. Installation of the network is now well underway and will help solve a key barrier to electric vehicle uptake - range anxiety. Importantly, all of the 140 charging stations will be powered by renewable energy.

While this infrastructure is an important first step, ongoing investment is required to fill gaps in the network and to increase capacity at high demand locations.

One of the key lessons to date from RAA's experience in installing public charging infrastructure is that many parts of the network are not capable of hosting DC rapid and ultra-rapid EV chargers. Some regions, specifically the Limestone Coast and Yorke Peninsula, are particularly challenging. Others such as the Eyre Peninsula are relatively DC charger ready, although this can differ between towns and within sub-regions.

RAA has been advised that the network upgrades required to install DC chargers in some areas are simply not feasible. Network modifications carry very high costs and can take several years to implement. From the network service provider perspective there is no motivation to prioritise these upgrades over other competing priorities.

DC chargers are required to charge EV batteries in the least amount of time, addressing the main barriers to EV uptake – range anxiety and extended travel time. Ideally DC rapid and ultra-rapid chargers should be built in areas of greatest convenience for drivers; however, RAA believes that without intervention and scaling up, network capacity will limit where these chargers can be located. This will create gaps in the public charging network that will likely be seen as barrier to EV uptake.

Recommendation 8

The Strategy identifies necessary upgrades in the energy network to support Electric Vehicle fast charging infrastructure.

Home charging infrastructure and standards

While public charging availability is critical to supporting EV uptake, most EV charging will occur in the home, which will create additional demand for electricity in residential areas. Greenfield developments and urban infill must be considerate of the need to support home EV charging when determining the need for electricity infrastructure.

RAA believes that preparing new builds for smart EV charging should be a priority. This includes ensuring that buildings are Vehicle to Grid (V2G) and Vehicle to Home (V2H) ready to allow EV owners to export energy from their EV battery to power their home or to sell back to the grid.

In the near future, V2H and V2G technologies will provide flexible and dispatchable storage behind the meter. A September 2023 report by the Australian Energy Market Commission (AEMC) stated: *"The Commission expects substantial new investment in EVs will increasingly drive two-way and controllable power transfers between individual consumers and the broader power grid."*

This interaction with the grid creates a need to ensure appropriate industry standards for charging equipment and inverters. The Energy Security Board has recently consulted on this matter, resulting in strong stakeholder support for setting of minimum equipment standards for chargers at a national level, and a strong preference for use of international standards.

The AEMC is supportive of consistent national technical standards for Consumer Energy Resources (like EV batteries) and have recommended energy ministers lead the development of a national regulatory framework for technical standards.

RAA encourages the SA Government to continue working with the Australian Government, state/territory governments, industry groups, standards bodies, and equipment manufacturers to establish and expedite nationally consistent standards for Vehicle to Home and Vehicle to Grid bi-directional charging.

Battery recycling

Among RAA members, 49% identify battery recycling as a concern and barrier to owning an EV[6]. In the 2023 National Electric Vehicle Strategy (NEVS), the Australian Government highlighted its commitment to support a circular EV economy including mitigating environmental impacts of EV production. An outcome of the NEVS is for the government to undertake research to inform an EV battery recycling, reuse and stewardship initiative.

Some EV battery recycling already takes place, for example Hybrid Camry and Prius high voltage battery reconditioning: old batteries are dismantled, any weak or failed cells are replaced, and the unit is returned to service as part of a changeover program.

While this industry is still emerging, it is expected that old EV batteries could be repurposed as home batteries or used as power supplies in industry. SA Government may wish to investigate the potential for South Australia to invest and build an EV battery recycling facility.

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6. RAA Internal Research, August 2023

9: Improved resilience

9.1: Planned resilience

Response to question: How do we better account for the impacts of climate change in our infrastructure, to support improved resilience?

Recent extreme weather events, including bushfires, hailstorms, and floods, have highlighted the need to invest in disaster mitigation measures and more consciously consider the relationship between land use planning and extreme weather risk.

RAA is committed to working with industry and governments to reduce pressure on insurance premiums and avoid future financial costs to homeowners, businesses, governments, and communities.

RAA has welcomed recent disaster mitigation investments from the Federal Government, including the $1 billion Disaster Ready Fund, announced in October 2022. RAA believes this can go further and supports calls from the Insurance Council to move disaster resilience funding to a 10-year rolling program and for state and territory governments to match funding.

The benefits of investing in disaster mitigation measures are highlighted by research commissioned by the Insurance Council, which found that a five-year program of resilience measures costing approximately $2 billion could reduce costs to governments and households by more than $19 billion by 2050 - a nearly tenfold return on investment.[7]

Disaster resilience funding could be used for measures to reduce risk to homes, such as community level flood mitigation (such as along the Gawler River), flood levees and home retrofits. Funding could also be used for buy-back schemes for those living in extreme risk areas, as seen in other states. Such community reliance measures can further reduce flood risk to complement changes to planning and building codes.

In addition, making investments in road infrastructure so they are more resilient to floods would ensure this infrastructure can better support community and commercial transport needs in the event of a disaster. For example, additional investment in key roads on approach to ferries along the Murray River could ensure ferries stay open for longer.

RAA understands the Government is investigating infrastructure measures to reduce flood risk in the future, including improvements to levees and the road network. We strongly encourage the Government to continue investigating new measures to further reduce flood risk and seek Federal Government funding for these improvements.

Recommendation 9

SA Government to match Federal Government disaster mitigation funding to further reduce flood risk and complement changes to planning and design codes.

7. Insurance Council of Australia, "Building Australia's resilience", March 2023

10: A stronger infrastructure industry

10.4: funding and financing solutions

Response to question: What are the funding and financing options government should consider in future, to ensure its infrastructure program remains affordable and sustainable?

RAA has long called for a fairer, more transparent, and sustainable model for road funding. Currently, every litre of fuel purchased includes a tax of 48.8 cents to help fund transport infrastructure and road safety upgrades. In 2022-23, the Australian Government collected $14.0 billion in fuel excise from motorists.

With the growth in more fuel-efficient vehicles and new technologies the government is going to be confronted with declining fuel excise revenue in the future. This will result in some motorists paying a road user charge through fuel excise while other motorists will pay far less or pay nothing at all. Over time, this means that those that can only afford to drive older, less fuel-efficient cars are left paying fuel excise.

For more than a decade, several tax reviews and reports from the Productivity Commission, Infrastructure Australia, and transport advocates have highlighted the fuel excise dilemma and called for a fairer and more sustainable system.

In recent years, various state and territory government have introduced state-based road user charges on EVs. However, in October 2023, the High Court found that by majority s7(1) of the Zero and Low Emission Vehicle Distance-based Charge Act 2021 (Vic) ("the ZLEV Charge Act") is invalid on the basis that it imposes a duty of excise within the meaning of s90 of the Constitution. With this decision, States are not able to collect a road user charge.

With this decision, the Australian Government needs to work with states and territories to develop a nationally consistent approach. This should also provide an opportunity to address the inequity in the fuel excise system, where, because different vehicles consume different amounts of fuel to travel the same distance on the same road, motorists pay different amounts of tax.

RAA supports replacing fuel excise with a nationally consistent, distance-based charge on all light vehicles, regardless of the type of car they drive, to ensure there is a sustainable revenue model to fund transport infrastructure and maintain safe roads into the future.

This would ensure that:

- Transport infrastructure funding is not reliant on fuel excise revenue which is declining with the adoption of low emission and EVs.
- There is a fairer, equitable, and transparent funding system.
- The charge is not considered, or misunderstood, as a tax just on EVs.
- All motorists regardless of vehicle contribute towards the cost of building and maintaining a safe and efficient transport network.

The application of a distance-based charge should be introduced in way that does not disincentivise adoption of EVs, such as through a lower rate and/or incentives to compensate for the charge. All revenue from the charge should be directed exclusively to land transport and electric vehicle infrastructure.

Submission to Infrastructure SA 20-year State Infrastructure Strategy

November 2023

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