ACRS Submission on South Australia's next 20-Year Infrastructure Strategy

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About the Australasian College of Road Safety

The Australasian College of Road Safety was established in 1988 and is the region's peak organisation for road safety professionals and members of the public who are focused on saving lives and serious injuries on our roads.

The College Patron is His Excellency General the Honourable David John Hurley AC DSC (Retd), Governor-General of the Commonwealth of Australia.

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Introduction

The Australasian College of Road Safety is the region's peak membership association for road safety with a vision of eliminating death and serious injury on the road. Our members include experts from all areas of road safety including policy makers, health and transport professionals, academics, community organisations, researchers, federal, state and local government agencies, private companies and members of the public. The purpose of the College is to support our members in their efforts to eliminate serious road trauma through knowledge sharing, professional development, networking and advocacy. Our objectives include the promotion of road safety as a critical organisational objective within government, business and the community; the promotion and advocacy of policies and practices that support harm elimination; the improvement of relative safety outcomes for vulnerable demographic and user groups within the community; the promotion of post-crash policies and practices; and the promotion of a collegiate climate amongst all those with responsibilities for and working in road safety.

The College believes that we should prevent all fatal and serious injuries on our roads; the road traffic system must be made safe for all road users; system designers should aim to prevent human error and mitigate its consequences; life and health are not exchangeable for other benefits in society; and that all College policy positions must be evidence based.

South Australia's next 20-Year State Infrastructure Strategy

According to the consultation website, Infrastructure SA (ISA) are required to prepare a 20-Year State Infrastructure Strategy and review it at least once every 5 years under the Infrastructure SA Act 2018 (SA). The current consultation process seeks feedback to inform an update to the first Strategy which was released in 2020, with a Discussion Paper being developed to provide "an overview of our economic context, current megatrends and their implications for infrastructure, relevant evidence and data as well as key issues and challenges that we need to consider in our planning." ACRS welcomes the opportunity to make this submission.

ACRS response to the Discussion Paper

a) The burden of road trauma

In the 10 years between 2013 and 2022, 950 lives were lost and more than 7,100 people were seriously injured on South Australian roads.(1) This level of road trauma has now been steady for many years, noting that South Australia's statewide road fatalities have plateaued at around 100 per year since around 2006 as shown in Figures 1 and 2.

Without radical change to the way we plan and manage our road networks, we are currently on track to see almost 2,000 people killed on our state's roads over the lifespan of the next 20-year State Infrastructure Strategy. With the discussion paper providing objectives to support a growing population, the number of fatalities and serious injuries from road crashes would be expected to be even higher without significant actions being implemented to improve road safety.

Beyond the human trauma, it should also be acknowledged that poor road safety is also a burden to the economy and the health system.
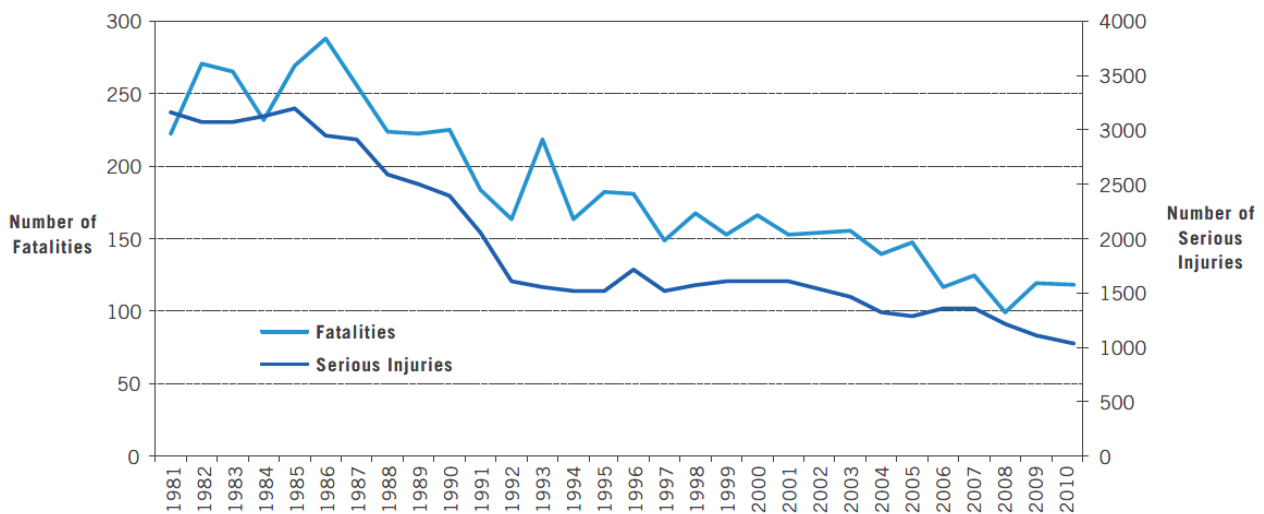
Figure 1
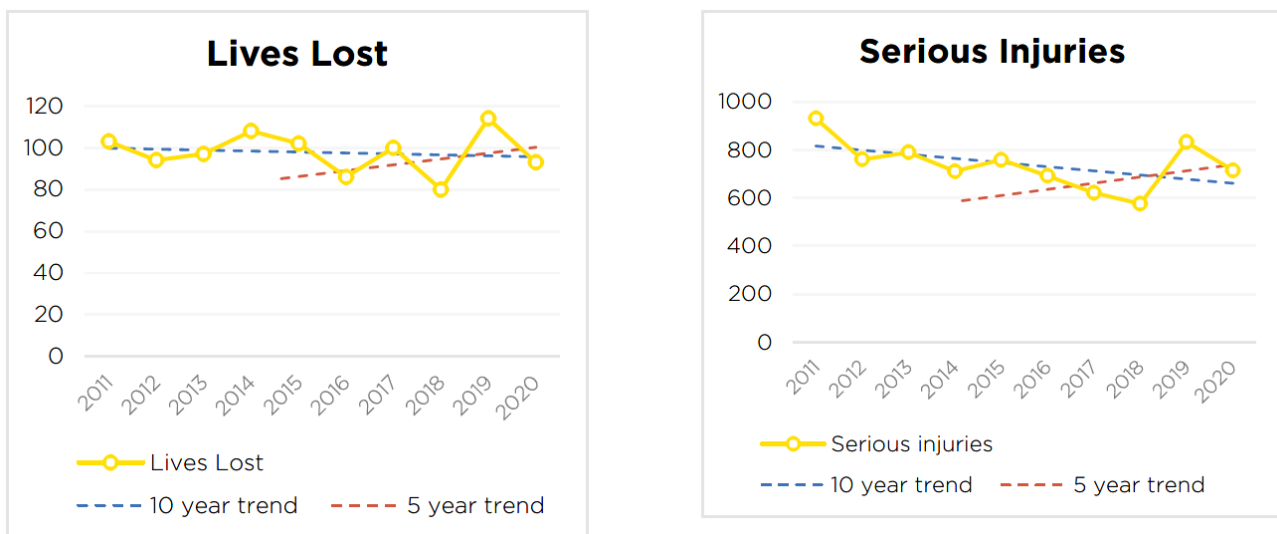*Source: Towards Zero Together – South Australia's Road Safety Strategy 2020(2)*

Figure 2
Source: South Australia's Road Safety Strategy to 2031(3)

b) Prioritisation of road safety

South Australia's future population deserves to experience safe travel on the road network, without the risk of being killed or seriously injured. There is good conceptual alignment between many areas of road safety and the 20-Year State Infrastructure Strategy discussion paper, such as:

- Greater use of Higher Productivity Vehicles leading to safer movement of freight (page 15);
- Aligning land use and infrastructure planning effectively to deliver infrastructure that integrates well with the communities it serves (page 21);
- Providing efficient access to public transport (page 23);

- Noting the potential benefits of on-demand bus services to reduce reliance on private car travel (page 24);
- Walkable and bike-friendly infrastructure is important for South Australia's cultural, tourist and recreational attractions (page 28);
- Understanding that improved accessibility and social inclusion leads to greater economic success (page 30).

However, it is concerning that the Discussion Paper makes no direct mention of the vital need to embed road safety into any planning vision, given that it is impossible to achieve universal liveability when people continue to be killed or seriously injured on our roads. Past experience has shown that improvements to road safety do not come quickly, or cheaply, and so a strategic approach is required.(4) As such, it is vital that the 20-Year State Infrastructure Strategy acknowledges and prioritises road safety as a key objective.

We draw ISA's attention to South Australia's Road Safety Strategy to 2031(3), with its vision of "Zero lives lost on our roads by 2050". This strategy and its accompanying Action Plan has the important targets of at least a 50% reduction in lives lost and at least a 30% reduction in serious injuries on South Australian roads by 2031. The Strategy contains the "*Principles for decision making and investment*", which states that "*road safety will be a key criteria in all decision making frameworks for investment decisions and policy setting*". We note that the document also states that these principles "*will guide the South Australian Government's decision making on transport related investments, policy setting, programs and initiatives*".

c) Modern strategic concepts for improving road safety

In addition to South Australia's Road Safety Strategy to 2031 we would like to bring the Commission's attending to the following road safety concepts.

The safe system

South Australia's Road Safety Strategy to 2031 states that "The Safe System model is regarded as international best practice and is the framework for improving road safety across Australia"(3). Austroads defines the Safe System as a philosophy that brings a public health focus to road safety that aims for harm minimisation, centred on the acknowledgement that human errors can lead to unintentional death and injury and highlighting that human wellbeing should take precedence over efficient movement(5). The key principles of the Safe System Model are that:

1. People make predictable mistakes that can lead to road crashes;
2. The human body has a limited physical ability to tolerate crash forces before harm occurs;
3. A shared responsibility exists amongst those who plan, design, build, manage and use roads and vehicles to prevent crashes resulting in serious injury and death; and
4. All parts of the road and traffic system must be strengthened to multiply their effects; and if one part fails, road users are still protected(6).

In applying this approach there must be an emphasis on prevention, not just mitigation, of road trauma through design which prevents crashes, with a recognition that:

- The road traffic system is a complex interaction of many interrelated components, involving many participants in different situations;
- Many road user errors and crashes are created by the interactions between road system components;

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- The design and operation of a safe road traffic system must respond to the capacities as well as the limitations and vulnerabilities of the human user; and
- Understanding the causes of road traffic crashes and injuries requires understanding interactions within the broader road traffic system and other aspects of society.(7)

Movement and Place

This is a concept that considers road function in road design and operation and categorises the role of roads and streets based on their local context. Roads with a 'movement' function, such as motorways, provide for high traffic volumes and speeds and have little pedestrian activity or local community function. Roads with a 'place' function are typically local streets that accommodate high numbers of pedestrians, with any passing vehicles travelling at low speeds. This approach informs speed management and road design(3).

The Movement and Place approach significantly underpins the application of the Safe System and is a key way of making roads safer for vulnerable road users. Speed is a major consideration. South Australia's Road Safety Strategy to 2031 states that "Pedestrians are at greater risk of death and serious injury if hit at impact speeds above 30 km/h. The most vulnerable pedestrians are children and older people". This is evidence based – see the ACRS Policy Position Statement on Speed Management(8). Accordingly, we consider urban designs should be aiming for 30 km/h speed environments on areas with high levels of pedestrian activity such as residential streets.

Vulnerable Road Users and Active Travel

On roads where vehicles interact with pedestrians and cyclists, these users are inherently more vulnerable in crashes as they have little to no protection to mitigate the forces experienced by the human body in a collision event(9). Whilst the benefits of active travel are widely established, the risk of injury or death to these vulnerable road users is often a major barrier for people seeking more sustainable and accessible travel modes.

AusRAP

AusRAP (Australian Road Assessment Program) is the Australian version of the International Road Assessment Programme (iRAP), which involves a standardised process to apply star ratings to roads as an objective measures of the level of safety that is "built in" to the road(10). AusRAP measures and communicates the safety risk of road infrastructure and is being increasingly utilised in Australia.

On Monday 18th September 2023, Australia's states and territories announced they had agreed that they will publish AusRAP star ratings on all arterial roads by 2025, as part of a wider commitment to a national target of at least 80% of travel occurring on 3-star or better roads by 2030.

CLOCS-A

CLOCS-A or Construction Logistics and Community Safety Australia, is a national good practice approach for managing the risks and impacts associated with a construction project's on-road transport and logistics activities to improve community road safety. The primary goal of CLOCS-A is to achieve reduction in lives lost and serious injuries associated with construction logistics in Australia(11). To achieve this, CLOCS-A designates a set of minimum standards that heavy vehicles should meet (e.g. the fitment of safety

equipment or the removal of dangerous fixtures like bull bars) to reduce the likelihood (or consequences) of a collision with a vulnerable road user.

Shared responsibility in road safety

The Safe System approach seeks to recognise the responsibility shared by all contributors to the elements of the system. There is a responsibility to collectively manage all inputs so the likelihood of a crash is minimised. The responsibility also continues so that when a crash occurs, every attempt is made to minimise the likelihood it results in fatal or serious injury. Contributors to the system include the people who plan, design and build roads or vehicles, as well as anyone whose actions can influence road trauma, including road managers, vehicle manufacturers, legislators, commercial transport operators, police, employers and individual road users(6).

The ACRS has published a Policy Position Statement on "A new systems thinking approach to road safety" which highlights the need to consider the accountability of governments and government agencies in governing and managing road safety performance(7). Whilst "shared responsibility" is a principle of the Safe System, the ACRS recognises the different participants within the road system hold different levels of authority, responsibility and power.

In South Australia, all South Australian Government agencies hold the highest level of authority as (whilst they are not solely responsible for road safety) they set societal expectations, regulate the safety of roads, and oversee the delivery of system-wide safety activity through investment. The 20-Year State Infrastructure Strategy represents a vital opportunity for the South Australian government to acknowledge and action its primary level of authority and accountability.

d) Responses to selected questions posed in the Discussion Paper

Q1 What opportunities should we consider to improve South Australia's economic growth?

ACRS points out that improved road safety will contribute to South Australia's economic growth through improved safety for transport industry workers, more localised, lower speed and active transport occurring in communities leading to lower emissions, greener spaces (particularly along active transport corridors), wider housing choices and improved health through much lower road crash trauma and more active travel.

ACRS believes that the 20-Year State Infrastructure Strategy should prepare for urban areas where vehicle speeds are lower; alternate transport options are available, accessible, reliable and affordable; and the safety of active travel modes are prioritised.

As stated above, a major driver missing from the discussion paper is the officially stated vision of zero deaths and serious injuries from road crash trauma by 2050, and the 2031 target of at least a 50% reduction in deaths and 30% reduction in serious injuries.

A principle of *South Australia's Road Safety Strategy to* 2031 is: "*In planning the transport network we will consider the function of roads and the adjacent land use to provide safe movement and safe use for road users and visitors*". The *Strategy* further notes that the embedding of the "Movement and Place Approach" into the design of safer roads, suburbs and towns is a key strategy to improve safer roads for all road users.

We strongly contend that any contemporary strategy that considers transport infrastructure must acknowledge the Movement and Place Approach as a foundation towards harmonising the transport networks that serve urban development to be safe. Making strong references to the Movement and Place Approach would reinforce the discussion paper's objective: "*Liveable and well-planned places attract skilled people, support a growing population and create prosperous communities*".

We also consider that the 20-Year State Infrastructure Strategy should call for new roads to have an AusRAP star-rating of at least 3 stars. It is important to note that when upgrading existing roads to accommodate new growth, a primary focus seeking to increase road capacity and/or vehicle speeds such as by widening the formation may be contrary to the Movement and Place approach. In many cases, the narrowing of roads to re-purpose the space away from vehicles to better accommodate pedestrians, cyclists and green space is likely to provide overall improvement to South Australia's economic growth.

Q2 What infrastructure constraints are preventing a more efficient, accessible, and productive freight sector?

In locations where there are frequent interactions between heavy vehicles and vulnerable road users such as pedestrians, cyclist and motorcyclists there is an increased risk of serious consequences when a collision occurs. Whilst good separation between these conflicting users occurs around dedicated industrial lands or where productive activities occur in remote locations, knowledge intensive industries and population service areas that are strategically located close to residential areas will result in the presence of pedestrians and cyclists. In these locations there are still likely to be significant numbers of heavy vehicles performing tasks such as delivering goods or construction activity.

In these areas, it is suggested that the implementation of CLOCS-A should be considered to improve safety. This will significantly contribute to the attraction of businesses and their employees, thus contributing to a more efficient, accessible and productive freight sector.

More accessible and productive freight activity can also be supported by upgrading roads to have an AusRAP star-rating of at least 3 stars. Rather than applying AusRAP ratings on an ad hoc basis, project selection and design should involve a "Network Safety Plan", which is a tool recommended in South Australia's Road Safety Strategy to 2031 to assess the safety of regional and remote road networks and then prioritise safety infrastructure investment where it will have the most impact(3).

Q6 What investments could unlock the value of South Australia's resources?

As noted in South Australia's Road Safety Strategy to 2031(3), "*Safe Work Australia data indicates that more workers lose their lives as a result of vehicle-related incidents than any other cause of work-related death*". It further states that "*Heavy vehicles represent 7% of the kilometres travelled across the state, yet they were involved in 20% of crashes where lives were lost*".

Shifting the movement of mineral and agricultural goods by rail would reduce the number of heavy vehicle movements on our roads, and therefore reduce the exposure of resources employees and the general community to the risk of road trauma.

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Q7 How can South Australia better coordinate infrastructure investment to support a growing population?

The provision of better public transport opportunities can help facilitate less reliance on private motor vehicles and consequently reduce transport disadvantage. Whilst the up-front construction costs of public transport infrastructure may be perceived as being too expensive, reducing reliance on private motor vehicles can provide tremendous long-term value when the current social cost of road crashes in Australia has been estimated to range between $22.2 and $30.3 billion annually between the years 2016-2020(12). The greenfield development associated with population growth is an optimal time to provide better public transport opportunities combined with a safe road system up-front to minimise the potential for harm to all future road users.

Q8 What can be done to support sufficient, fit-for-purpose housing to improve housing affordability?

A major drawback of new "affordable" housing developments that tend to occur on the metropolitan fringe or in regional areas is the entrenched social disadvantage that often occurs due to the higher transport costs associated with living in these outer regions. The lower up-front cost of housing in these areas tends to attract residents from lower socio-economic cohorts but lacks the more convenient travel opportunities typically available in established suburb. This tends to result in higher levels of car dependence, with the subsequent higher levels of vehicle interactions on our roads increasing the probability of collisions and trauma.

In highlighting the fact that social inequity leads to greater crash risk(12, 13), the 20-Year State Infrastructure Strategy should identify ways that all transportation modes can be made safer. This can be informed by two of the concepts previously noted. First, the adoption of a Movement and Place Approach will guide the implementation of safe transport corridors for the entire community, regardless of socio-economic status. Secondly, full and proper accountability for poorly performing road infrastructure, under a shared responsibility model which recognises differing levels of power, authority and responsibility, will drive investment to the most at-risk locations.

Q9 How can we improve public transport services across Adelaide and outer metropolitan areas to encourage greater patronage?

Highly walkable neighbourhoods encourage greater use of active travel, which can limit or eliminate the need for private car linking trips and associated park 'n' ride facilities when accessing public transport. South Australia's Road Safety Strategy to 2031 identifies "walking, cycling and public transport" as a strategic focus area, noting that "*strategic approaches are needed to improve road safety for people who walk, ride bikes and to encourage people to use public transport*"(3).

Metropolitan transport infrastructure should be founded on Safe System compliant street typologies, including features that restrict vehicle speeds to a maximum of 30 km/h and providing comprehensive and convenient walking and cycling networks linking housing with local attractions. The provision of active transport infrastructure as part of master planned growth should be a required component in new land developments.

Higher-order roads must also have high-quality walking and cycling elements, ideally separating these users from moving vehicles and having effective and convenient pedestrian crossing facilities that force vehicles to travel at low speeds, such as wombat crossings. The 20-Year State Infrastructure Strategy should recognise

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that the greatest impediment to the uptake of active travel is safety(13-15). Active travel routes need to be connected, continuous (without high-risk sections or crossings), and provide proper amenity for users (wide, flat, maintained, etc).

Provision of public transport opportunities that are safe, convenient, efficient and accessible is also vital to reduce the dependence on private vehicle travel, which has been typical for outer-suburban areas located around the fringes of Metropolitan Adelaide.

Q10 What investments would support a more efficient and productive health system that meets our growing and changing needs?

Reducing death and serious injuries on our roads would alleviate pressure on our health system by reducing the demand for short-term trauma response and immediate post-crash care. Additionally, this would reduce the need for longer-term rehabilitation and management of ongoing chronic conditions for road trauma victims with life changing injuries.

We draw ISA's attention to South Australia's Road Safety Strategy to 2031, which commits the South Australian Government to adopt the National Road Safety Strategy 2021-2030 target of "*at least a 50% reduction in lives lost and at least a 30% reduction in serious injuries on South Australian Roads by 2030*"(3).

Q12 How can we sustainably grow these sectors (cultural, tourism and recreation facilities) to realise greater benefits for visitors and residents?

Design principles that facilitate highly walkable neighbourhoods should apply to all areas that cater for cultural, tourism and recreational facilities. Where such areas also have high tourist demands, particular care must be taken to design infrastructure that accommodates the high level of temporal fluctuations that are experienced in these areas.

For any such facilities located in regional areas, people accessing these areas will need to travel through rural regions which have rural roads that are often high speed, often narrow, often windy, and too often the scene of tragic crashes. For sustainable growth of the tourism and recreational sectors, any rural roads and intersections should ideally be built (or upgraded) to the highest practical level of safety and achieve an AusRAP star rating of 3 stars or more.

Q13 How can we think differently about infrastructure investment to support equitable access and a more inclusive society?

South Australia's Road Safety Strategy states that "*transport disadvantage can increase risk of road trauma*", further noting the concentration of road trauma occurring on regional and remote roads which experiences 56% of crashes where lives were lost and 36% of serious injury crashes(3). The clear link between socioeconomic disadvantage and road trauma highlights the need to provide better opportunities for regional, remote and outer-metropolitan communities who are usually much more reliant on the use of private motor vehicles which are often older models that do not have the latest safety features.

A key focus area of South Australia's Road Safety Strategy to 2031 is young drivers and riders, especially those living in regional and remote areas(3). Whilst actions to improve driver education and access to more modern vehicles may help, safer road infrastructure and more access to public transport opportunities can also limit the exposure of these communities to road trauma to help achieve a more inclusive society.

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Q14 What are the opportunities for infrastructure investment to accelerate attainment of the Closing the Gap targets?

As noted in South Australia's Road Safety Strategy to 2031, "*Aboriginal people comprise approximately 2.4% of South Australia's population but are 2-3 times more likely to lose their life and 30% more likely to have a serious injury than non-Aboriginal people*"(3). It further acknowledges that "*it is likely that Aboriginal road safety data is under reported when taking into account the under representation in road safety data and the over-representation in public health data*"(3).

Investing in upgrades to rural roads that achieve an AusRAP star rating of 3 stars or more is one key way to improve road safety for rural and regional communities, including Aboriginal communities in South Australia. Investment in public transport, and safe, separated infrastructure for pedestrians and cyclists can also support improved road safety, especially in built-up areas.

Q17 What are the most significant challenges for decarbonising transport and how do we address them?

ACRS have developed a Policy Position Statement on "Climate Change and Road Safety", which highlights the fact that motorised transport, climate change and road trauma are linked(16). This Position Statement counters any apparent concession that societal impacts such as road trauma and climate change are unavoidable by highlighting the fact that life and health are not exchangeable for economic or efficiency benefits.

To achieve the rapid decarbonisation of transport that is urgently required to meet sustainability targets, our key policy positions are summarised as follows:

1. *Governments should implement the Intergovernmental Panel on Climate Change (IPCC) recommendations because unmitigated climate change will result in road traffic injuries and other direct health and economic impacts.*
2. *Governments must immediately invest in active travel, public transport, and sustainable freight options, and disincentivise personal fossil fuel-based transport.*
3. *Default 30 km/h speed limits for all residential areas.*
4. *Governments should upgrade current infrastructure to prioritise active travel and public transport.*

We recommend that the above priorities be adopted in South Australia's next 20-Year State Infrastructure Strategy.

Q25 How can government continue to encourage collaboration and innovation in procurement?

The procurement process relating to road infrastructure should adopt the requirements set out in South Australia's Road Safety Strategy to 2031, such as achieving a minimum AusRAP star rating of 3 stars or more for the planning, design and construction phases of road projects. Procurement evaluation should also place a high emphasis on tenderers' approaches to workplace and road safety, when considering that "*work-related road crashes in Australia account for approximately half of all occupational lives lost and 15% of lives lost in road crashes nationally*"(3).

Q26 What are the funding and financing options government should consider in future, to ensure its infrastructure program remains affordable and sustainable?

The planning of infrastructure projects should consider the social cost of road trauma and realise the economic benefits by providing infrastructure than minimises harm.

Conclusion and Recommendations

ACRS supports the broad aims of the 20-Year State Infrastructure Strategy and recognises that the associated discussion paper is necessarily a very high-level strategic document outlining ways forward for ISA to determine the infrastructure South Australia needs for the next 20 years.

Accordingly, we make the following broad recommendations to inform the 20-Year State Infrastructure Strategy by improving the safety of South Australia's residents, workers and visitors:

1. South Australia's Road Safety Strategy to 2031 and its associated Action Plan be referenced in the 20-Year State Infrastructure Strategy as a key companion strategy, including with an explicit acknowledgement of the opportunities to improve road safety through infrastructure planning, showing that the government acknowledges and is actioning its primary level of authority and accountability.
2. Incorporate the Movement and Place approach as a key concept within the 20-Year State Infrastructure Strategy.
3. That ISA has a stated objective that urban designs should be aiming for 30 km/h speed environments in areas of high pedestrian activity such as on residential streets.
4. That ISA call for a requirement that all new and improved roads have an AusRAP star rating of at least 3 stars.

We appreciate the opportunity to make this submission and contribute to improved road safety for all road users in the South Australia. Please do not hesitate to contact us should you need any further information.

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