ACRS Submission on South Australia's Engineering Requirements for Land Division

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 Her Excellency the Honourable Sam Mostyn AC, 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.

Engineering Requirements for Land Division

According to the consultation website, '*The draft Design Standard 1 – Engineering Requirements for Land Division provides technical guidance, building on existing planning rules to deliver more transparent and consistent design standards, construction specifications and infrastructure costs for land divisions*' and includes specifications for road design.

Furthermore, a '*draft technical manual has also been prepared, underpinning the design standard and providing detailed, best-practice engineering specifications for these types of infrastructure, which is also available for feedback.*'

ACRS response to the draft Engineering Requirements for Land Division documents

The Australasian College of Road Safety (ACRS) welcomes the opportunity to provide a submission in response to the community consultation on the draft 'Design Standard 1 – Engineering Requirements for Land Division' and the 'Draft South Australian Growth Areas Technical Manual'. As the peak membership association for road safety professionals, advocates, and members of the public focused on eliminating fatal and serious injuries on our roads, the ACRS is committed to ensuring that new urban development contributes positively to road safety outcomes for all road users.

a) Roads are used for many travel modes, not just cars

While acknowledging the stated intent to streamline the development process and reduce costs, the ACRS has profound concerns that the proposed technical guidance within both Design Standard 1 and the supporting Technical Manual fundamentally perpetuates a car-centric design philosophy. This approach is not merely outdated; it actively undermines current best practice in road design and urban planning,(1-4)

inevitably leading to preventable road trauma, severely hindering active travel, and entrenching car-dependent communities for generations to come.

The fact that thousands of people are being killed or seriously injured every year on urban roads throughout Australia(5) shows that the current design approaches are severely lacking, and that fundamental changes are required. Whilst a major task to reduce these levels of trauma will require addressing established and legacy urban areas, it is unacceptable for any new urban development to implement road networks that follow the same design cues as the ones already causing our community so much harm. We know how to do better.

b) South Australian commitments for Vision Zero and Net Zero

The content of the Engineering Requirements for Land Division are directly contrary to commitments made by both national and state governments towards achieving Vision Zero (no deaths or serious injuries on our roads) and Net Zero emissions by 2050.(6-8) South Australia's Net Zero Strategy includes priorities and actions explicitly linked to planning. The ACRS contends that the critical role of urban planning in achieving these targets is not adequately understood within the current draft documentation.

Road design has long term impacts. Road networks designed today will determine safety outcomes and transport-related emissions for decades to come, potentially exacerbating socioeconomic transport disadvantage by failing to provide safe alternatives to motor vehicle use.

The absence of any explicit mention of Vision Zero in the Design Standard and Technical Manual represents a fundamental failure to acknowledge the severity of road trauma, which has resulted in an average of 94 fatalities and 798 serious injuries annually in South Australia over the past five years (2020-2024).(9)

We draw the State Planning Commission's attention to South Australia's Road Safety Strategy to 2031, with its vision of 'Zero lives lost on our roads by 2050'. This strategy, and its accompanying Action Plan, have 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.(6)

The Strategy contains the 'Principles for decision making and investment', which states that 'road safety will be a key criterion 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'.(6)

We also draw the Commission's attention to South Australia's Net Zero Strategy 2024-2030, which provides policy priorities and actions that are explicitly linked to urban planning as well as noting the Department for Housing and Urban Growth (DHUD) as the 'lead agency'. This includes the need to '*align transport and urban planning with low emissions transport outcomes*', '*plan for development and urban renewal that creates walkable, connected neighbourhoods and reduces the need for car journeys*', and '*strengthen opportunities to encourage low emissions planning and development outcomes through South Australia's land use planning system*'.(8)

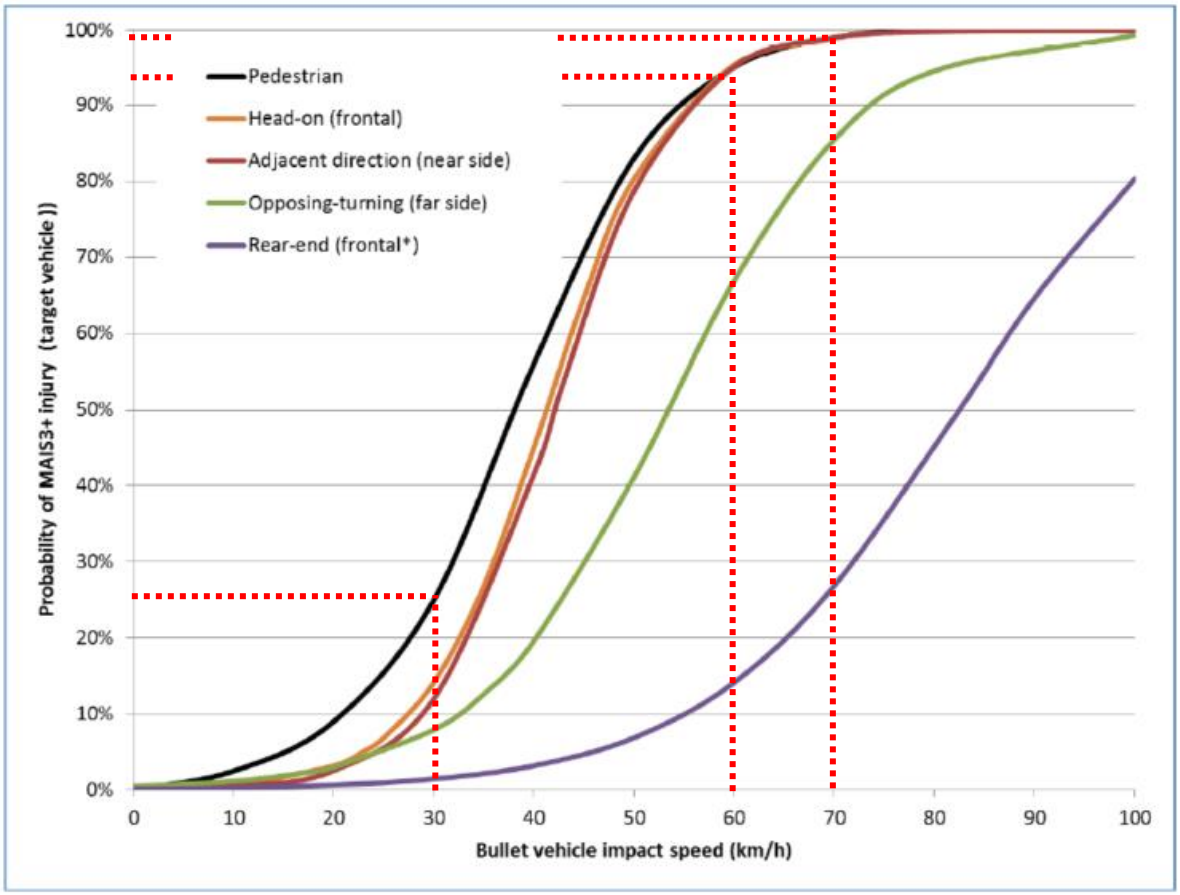
c) Best practice speeds for residential streets

The most concerning aspect of the draft is the proposed design speeds for residential streets. Specifying 60 km/h and 70 km/h design speeds for residential streets is profoundly concerning and inconsistent with the latest best practice based on the Safe System approach.(6, 10, 11) The adoption of these grossly inappropriate design speeds would effectively guarantee the potential for significant harm in areas where the Engineering Requirements would apply.

As outlined in the Movement and Place Framework, residential streets are places where multiple forms of transport co-exist and interact – pedestrians, cyclists, personal mobility devices and motor vehicles.(12) Around the world, including in Australia, 30km/h is recognised as the safe and appropriate speed for this type of environment. This has been standard practice in European countries for many years(13) – countries where fewer than half as many people die on the roads as in Australia.(14)

The authors are strongly implored to seek current best practice advice on the human body's tolerance to crash forces, noting that this scenario is currently playing out in other jurisdictions, highlighting the potential for significant adverse outcomes when design standards are based on outdated conventions rather than the latest best practice.

As noted in the below figure from *Austroads Guide to Road Safety Part 3: Safe Speed*, the probability for a MAIS3+ (fatal and serious injury) crash is vastly different when comparing the Safe System aligned impact speed of 30km/h for residential streets when compared to design speeds of 60km/h or 70km/h as specified in the current draft Engineering Requirements for Land Division.(15)



Based on these curves, a pedestrian has around 25% probability of being seriously injured or killed when impacted by a vehicle at 30km/h. At 60-70km/h the probability is between 90-100%. Even collisions that involve two vehicles (head-on and adjacent near side) have almost the same probability for serious injury or worse at these elevated speeds.

The ACRS believes that much of the guidance on road and street design could be considerably condensed and streamlined by implementing current best-practice approaches centred on demonstrably safe speed environments. For lower-order residential streets, a maximum speed environment of 30 km/h should be specified. This approach facilitates shared environments for pedestrians and cyclists, reduces sight distance requirements, and allows for smaller hard infrastructure footprints, potentially increasing lot yields for developers and allowance for greater open space provision. A 30 km/h speed environment also provides greater flexibility for a higher number of street trees, or potentially larger trees, as sight distance requirements are considerably lower and the hazard potential should a vehicle depart the roadway and collide with a tree is significantly reduced.

We also draw the Commission's attention to the 'What Australia Wants' report recently published by the Heart Foundation, which indicates high levels of support for reduced speed limits in neighbourhood streets to provide a safer road environment help encourage more active travel opportunities.(16)

d) Provisions for walking and cycling

The specified dimensions in the Design Standard and Technical Manual appear to conflict with other more appropriate existing standards and guidelines, such as the Department for Infrastructure and Transport (DIT)'s *Active Travel Design Guide*.(17) This inconsistency risks creating additional administrative burden for developers and consultants, undermining the stated motivation for this Design Standard.

The draft Engineering Requirements for Land Division's coverage of footpaths lacks emphasis on prioritising this mode in new residential streets, perpetuating the prevailing norm of providing for active travel as an afterthought. It is vital that this documentation clearly articulates the need for 'streets for people' and harmonises with established, nation-leading documents.

e) Provisions for public transport

A critical omission in both the Design Standard and Technical Manual is practical guidance on providing for public transport opportunities. This is particularly concerning given DIT's concurrent community engagement on their new *Public Transport Strategy and Regional Review*, which rightly highlights the need for proactive planning to integrate public transport with new housing. New residential areas must ensure effective public transport provision from the outset, with careful consideration for bus corridors and stop placement to maximise catchments and route efficiency. The documents also make no mention of future transport needs, such as micromobility, car-share services, and mobility as a service. While specific provisions may be challenging to define for these emerging approaches, it is essential that the future of transport is considered to ensure successful integration.

f) Provisions for heavy vehicles

The current approach to road design, including aspects like optimising residential streets for occasional truck movements without considering impacts on vulnerable users, and the inclusion of language regarding 'speed

adopted on an open road' that perpetuates motonormative design, is largely irrelevant for new residential neighbourhoods. Streets should be designed for all people, not exclusively for those travelling in cars. Similarly, the inclusion of superelevation considerations is largely unnecessary for the majority of new residential streets, as consultants would already possess comprehensive knowledge of geometric road design for the highly unlikely instances requiring such detail.

g) Best practice design for residential streets

Modern road design considerations, including continuous footpaths, raised crossings, and the explicit provision for fully-mountable roundabouts, are either absent or inadequately covered. Fully-mountable roundabouts, for example, can be smaller, more cost-effective, and highly effective in achieving appropriate low-speed environments in residential streets, offering greater lot yield and developer profits.(18, 19) Guidance for landscaping should specify that this is optional to accommodate these effective traffic calming devices.

Furthermore, where vehicle crossings are discussed, strong consideration should be given to continuing footpath construction joints along the footpath through a driveway to reinforce the right-of-way for pathway users over vehicles.

Critically, the foundational principles of the Safe System approach and the Movement and Place framework are absent, yet these must underpin the design of all new roads and streets, especially in residential areas. The ACRS also recommends that the Austroads *Guide to Road Safety* be explicitly referenced in the road design principles.(1)

h) Duty of Care

Government departments that have a responsibility for the provision of roads also carry a duty of care to keep the road transport system as safe as their resources allow, and to alert road users to foreseeable dangers.(20) This is especially the case for planning agencies such as the Department for Housing and Urban Development (DHUD) who note on their website that they are responsible for ‘ensuring housing developments across the state have the infrastructure they need’ as well as ‘promoting the value of good design’.(21)

We further note that the State Planning Commission’s website states that the Commission will be guided by the ‘principles of good planning’ including the provision to ‘be innovative and able to respond to emerging challenges and opportunities’.(22)

It is imperative to recognise that the implementation of standards based on outdated, legacy conventions, rather than current best practice, carries significant risk of potential liability, as evidenced by increasing tort claims against road agencies concerning foreseeable harm arising from design decisions.(23)

The Commission is advised to consider the current draft content of the Engineering Requirements for Land Division against the latest-available best practice guidance in Australia for the design of new residential road networks, as the documents in their current form could carry significant risk of liability without modification.

Conclusion and Recommendations

The ACRS appreciates the intent to streamline the development process; however, the current draft 'Design Standard 1 – Engineering Requirements for Land Division' and 'South Australian Growth Areas Technical Manual' fall alarmingly short of incorporating contemporary best practices in road safety and urban planning. The perpetuation of car-centred design, the omission of critical Safe System principles, and the lack of integration with active travel and public transport strategies pose significant risks to achieving Vision Zero targets and creating truly liveable, sustainable communities.

The ACRS strongly recommends revisions to the Consultation Drafts to:

1. **Embed Vision Zero and Safe System Principles:** Explicitly adopt the Vision Zero and Safe System approaches as foundational principles for all road and street design within new land divisions, ensuring that human life and health are prioritised above all else. This includes acknowledging the direct connection between speed and the potential for harm in all safety-related guidance.

2. **Prioritise Safe Speed Environments:** Mandate a maximum design speed of 30 km/h for all new residential streets where effective separation between moving vehicles and pedestrians/cyclists cannot be achieved, providing flexibility for innovative street design and traffic calming measures that support shared environments for all road users.

3. **Integrate Active Travel and Public Transport:** Ensure comprehensive provisions for walking, cycling, scooting, and public transport from the initial planning stages, aligning with DIT's *Active Travel Design Guide* and the upcoming *Public Transport Strategy*. This includes explicit guidance on continuous footpaths, raised crossings, and appropriate separation for cycle lanes.

4. **Adopt Movement and Place Framework:** Integrate the Movement and Place framework as a core principle to guide the design of new roads and streets, ensuring they serve multiple functions beyond just vehicle movement. This should also include explicit provisions for effective, low-cost traffic calming devices such as fully-mountable roundabouts and design considerations that reinforce pedestrian priority at vehicle crossings, which enhance safety and can improve development outcomes. Considerations for emerging transport modes like micromobility and car-share services should also be incorporated to future-proof new developments.

By adopting these recommendations, the South Australian Government can ensure that new land divisions contribute to a safer, more sustainable, and more equitable transport system for all South Australians, aligning with state and national commitments to eliminate road trauma.

Please do not hesitate to contact us should you require any further information.

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