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# Engineering Requirements for Land Division in South Australia

***Submission by the South Australian Branch, AITPM***

## About AITPM

AITPM (the Australian Institute of Traffic Planning & Management) is the leading national membership body representing all Australian Transport Community professionals and practitioners. AITPM members and stakeholders work in fields including transport planning, transport and traffic engineering, transport modelling, active travel, travel demand management and travel behaviour change. The AITPM SA Branch currently has 134 active members who represent professionals in Local Councils, State Government, academic and research organisations and consultancies.

AITPM members and stakeholders work together to ensure multimodal transport systems are designed, built and operated in ways that support healthy people, communities and economies in all parts of Australia. To set a strong foundation for this mission, AITPM has adopted a Policy and Principles Platform that addresses how AITPM will advocate on behalf of the broader Transport Community for the creation of successful transport systems. The AITPM Policy and Principles Platform is provided as Attachment 1 to this submission. See www.aitpm.com.au/policy/policy-platform for further information.

## Introduction

Developed by the State Planning Commission in collaboration with government agencies, councils and industry, the Engineering Design Standard is intended to provide greater clarity and certainty for developers and authorities, streamline assessment and approval processes and reduce costs and delays in delivering new residential developments. It is aimed to play a critical role in shaping how new communities are planned, serviced and connected through roads, stormwater and transport infrastructure.

After our review of the draft Engineering Design Standard, we suggest the following established policies or approaches be considered that are typically used to guide the planning, design and decision-making for new land divisions in residential growth areas:

- **Movement and Place** – This is framework that balances the transport function of roads with places for future residents in liveable and environmentally sustainable communities.
- **Safe System** – This road safety approach applies best practice in the designs roads to reduce the risk of death and serious injury. This aims to design the road system to minimise the consequences of those errors and vulnerabilities.
- **Net Zero** – These policies and design are aimed at reducing carbon emissions from transport and the life cycle management of infrastructure that consider the use of pavements and treatments that use low carbon materials.
- **Integrated Transport and Land Use Planning** – This is critical in transport planning and urban development to create connected communities with high quality amenity.
- **Healthy Streets and the South Australian Active Travel Design Guidelines** – These approaches and guidelines focus on the benefits for physical and mental well-being, walkable neighbourhoods and policies to discourage the use of motor vehicles.

## Recommendations for the Technical Manual

We provide comments on Item 5 (Road Design) and Item 6 (Road Corridor Design) of the Technical Manual that directly influence how transport infrastructure is planned and delivered in residential growth areas. They define critical parameters such as design speeds, road cross-sections, intersection treatments and infrastructure for active and public transport.

Our concern is that the draft Standard is based on legacy design approaches that prioritise private vehicle movement with limited reference to integrated transport planning principles such as Movement and Place, Safe System or travel demand management policies. New growth area communities need to have transport infrastructure that is “future proofed” and ready for future generations. These sections risk embedding standards in planning to design new subdivisions that do not support healthy, connected and sustainable communities.

### Item 5: Road Design

| Chapter Section | Current Recommendation | Feedback |
|---|---|---|
| 5.2 | The desired maximum design speed, on which the geometric design of each road type shall be subject to the function of road types. | The standards draw from design principles not reflecting the State Government’s policies for Vision Zero for road safety and Net Zero for transport decarbonisation.<br>We have concerns around the general application of standard design speeds without more investigation into context based or safety-based outcomes. We recommend a more holistic approach to determine the design speed that considers the Safe System and Movement and Place approaches. |
| 5.2 | Design and check vehicles are applied based on the relevant authority inclusive of defined turning movement types at intersections. | While the application of design and check vehicles based on the relevant authority and defined turning movements at intersections is acknowledged, the scope of the guideline is too limited.<br>To ensure more effective movement outcomes, we recommend transport agencies, such as the Department for Infrastructure and Transport (DIT), have the authority to determine the public transport and freight routes operate in new subdivisions in collaboration with the local Councils. This would guide the most appropriate design and check vehicles for those corridors. |
| 5.2 | The requirements for sight distance on all roads and intersections to be in accordance with the current Austroads Guide to Road Design. Reference must be made to the relevant Austroads “Guide to Road Design” and any DIT supplement to those guidelines as follows. | The requirement for sight distance at all roads and intersections to align with the current Austroads Guide to Road Design, along with any relevant DIT supplements, is acknowledged and appropriate. However, the current application of sight distance requirements often does not adequately consider the interaction between vehicles and pedestrians in lower speed settings. The reliance on the high default design speeds increases the sight distance requirements, which can lead to over-scaled infrastructure, reduced amenity on safety and accessibility. It also shifts risk to the road authorities, particularly within the Normal Design Domain of Austroads. A more sensitive application of sight distance |

| Chapter Section | Current Recommendation | Feedback |
|---|---|---|
| | | aligned with desirable operating speeds and place function is essential. |

## Item 6: Road Corridor Design

### *The Importance of Active Travel and Public Transport in New Subdivisions*

We provide these suggestions to include in the Design Standard:

- The conflict between DIT Active Travel Design guide (September 2024) and the Technical Manual illustrates a gap in the implementation of safe pedestrian and cyclist infrastructure for road crossings in greenfield areas.
- Public transport networks need to be planned so when the relevant roads and walking networks are established so that, bus services can be implemented as the new residents move into the community. As an example, Transport for NSW provides the guidance to plan for public transport network in the early planning stage to ensure all roads suitable for buses are connected and ready for future services that are provided as the population is established and not to be retrofitted into the community. https://www.transport.nsw.gov.au/system/files/media/documents/2018/Guidelines-for-Bus-Capable-Infrastructure-in-Greenfield-Sites.pdf

These considerations are included in South Australia's public transport strategy (DIT, 2025). (https://dit.sa.gov.au/about-us/strategies-plans/public-transport-future/public-transport-strategy)

**Recommendation:**

### *Movement and Place and Safe System Approaches for New Subdivisions*

We recommend that the Movement and Place framework and Safe System approach be included in the Design Standard. These frameworks are best practice nationally.

- Multiple design standards and frameworks that includes the DIT Active Travel Design Guide) has embedded these approaches and frameworks accordingly.
- In the City of Playford where several residential growth areas are under development, an Urban Design Guide incorporates the Movement and Place approach for new communities. (https://cdn.playford.sa.gov.au/general-downloads/FINAL-UDG-Document-14-April-2025.pdf).

Specifically, it is important to establish a road network that connects through the new community to the high order roads at the earliest stage of the development.

**Recommendation:** Integrate these principles into the Engineering Design guide

### *Linking Road Corridor Design to Developer and Precinct Structure Planning*

There is little evidence of how the engineering standards will interact with broader land use and structure planning. Without clearly defined links between these standards and Council's Master Plans, there is a risk of fragmented, poorly aligned infrastructure. Councils such as the Mount Barker District Council and City of Playford have developed integrated transport strategies for their growth areas.

**Recommendation:** Introduce a section in the Technical Manual outlining how road design and corridor design parameters must respond to associated Master Plans and associated land use strategies.

### *Design Standards and Referencing*

- Design references draw from less contemporary frameworks within the technical manual.
- Two-year review cycles are not frequent enough.

**Recommendation:** Create this document as a dynamic referencing portal linked to contemporary and updated standards. (https://www.dit.sa.gov.au/__data/assets/pdf_file/0016/40255/Code_of_Technical_Requirements.pdf)

## Ongoing Collaboration

The engineering design standard will influence the transport systems to support healthy people, communities and economies in South Australia. Best practice in engineering design is needed to enable safer, more walkable neighbourhoods, better integration of active and public transport with road infrastructure that will support long-term sustainability and accessibility. However, in its current form, the standard risks reinforcing car dependency, overlooking public transport readiness and embedding outdated design principles and philosophies making it harder to achieve safe, equitable, connected and healthy communities. Addressing these issues at the start of a new growth area community will ensure the standard helps deliver transport and infrastructure outcomes that benefit safety, people, place and productivity.

In the AITPM Policy and Principles platform, “integrated transport and land use planning” is essential to contribute to a successful transport system. This consultation clearly reflects the importance for greenfield infrastructure that will ensure the liveability of future communities, “best practice” and the long-term sustainability and suitability of road authority assets.

Our feedback is informed by internal consultation with transport professionals across industry and government who collectively have experience in urban corridor design, growth area development and public infrastructure delivery.

As the peak national body representing the traffic and transport profession, the AITPM South Australian Branch stands ready to be an active partner in the ongoing refinement of these design standards. Our diverse membership spans local and state government, consultancy, academia and industry bringing together expertise and practical insight from across the transport and infrastructure landscape.

We would welcome the opportunity to co-develop updated standards through convening targeted working groups on key areas such as road corridor design, Movement and Place principles and road safety. In addition, AITPM can help facilitate pilot reviews with road authorities and Councils to test applicability and assist in aligning the standards with best practice guidance from DIT, Austroads and IPWEA.

We recommend establishing an ongoing multi-disciplinary advisory group including Council, State Government (DIT), AITPM representatives and developers to guide the evolution of these standards and ensure they genuinely serve the needs of growing communities across South Australia.

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*Attachment 1: AITPM Policy and Principles Platform*

# AITPM POLICY AND PRINCIPLES PLATFORM

## WHY ARE TRANSPORT SYSTEMS IMPORTANT?

The impact of a successful transport system shows up as healthy people, communities and economies. Transport links and activates places, enabling people and businesses to access:

- Goods and services
- Jobs
- Education and training
- Health services
- Entertainment, sport and recreation
- Friend and family networks

AITPM is committed to educating governments and the community on the importance of successful transport systems – and, in turn, a properly resourced Transport Community – in ensuring healthy and prosperous outcomes for Australians.

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# AITPM POLICY AND PRINCIPLES PLATFORM

## SUCCESSFUL TRANSPORT SYSTEMS ARE CREATED THROUGH

1. Integrated transport and land use planning at all levels, from future-focused strategic planning to the implementation of site-specific developments
2. The application of sound, long-term, non-partisan and evidence-based public policy, with cross-sectoral support
3. The systematic collection, monitoring and evaluation of transport data to support decision-making
4. The consistent application of a range of appropriate contemporary modelling tools by suitably resourced professionals
5. A culture of research and innovation that is collaborative across sectors and disciplines
6. Genuine, inclusive engagement, collaboration and co-design activities encompassing all communities and stakeholders
7. A holistic 'Safe Systems' approach covering all transport infrastructure and operations, and the interactions between people, vehicles and the transport environment
8. Sustainable and transparent funding and pricing models that support desired strategic transport outcomes
9. A diverse and welcoming community of transport professionals that has the capacity to handle the demands placed on it
10. Capable transport practitioners with the qualifications, skills and experience to plan, design, engineer, deliver, operate and manage Australia's transport systems
11. The commitment of governments and industry to educate and support the next generation of transport professionals.

· As the national association for transport professionals, AITPM leads the Transport Community in connecting, collaborating and delivering, developing industry skills, capability and knowledge as we create successful transport systems together.

**We are the collective voice of the Transport Community, and we advocate for delivering sustainable, efficient, accessible and safe transport systems**

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# AITPM POLICY AND PRINCIPLES PLATFORM

## WHO IS PART OF THE TRANSPORT COMMUNITY?

The Australian Transport Community is made up of professionals from a wide range of disciplines and backgrounds, including:

- Transport planners
- Traffic and transport engineers
- Land use, transport and traffic modellers
- Road safety practitioners
- Transport economists
- Road and public transport infrastructure designers
- Active transport specialists
- Travel behaviour change specialists
- Transport researchers, educators and engagement professionals
- Transport policy specialists.

To design, deliver and manage transport systems, this community of transport professionals connects to a broader network of professions and suppliers covering these areas of focus

- Urban and regional planning
- Transport and traffic data collection and analysis
- Modelling programs and resources
- Traffic management and control
- Intelligent transport systems
- Infrastructure supply, engineering and construction
- Transport service operations – from rail through to micromobility.

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