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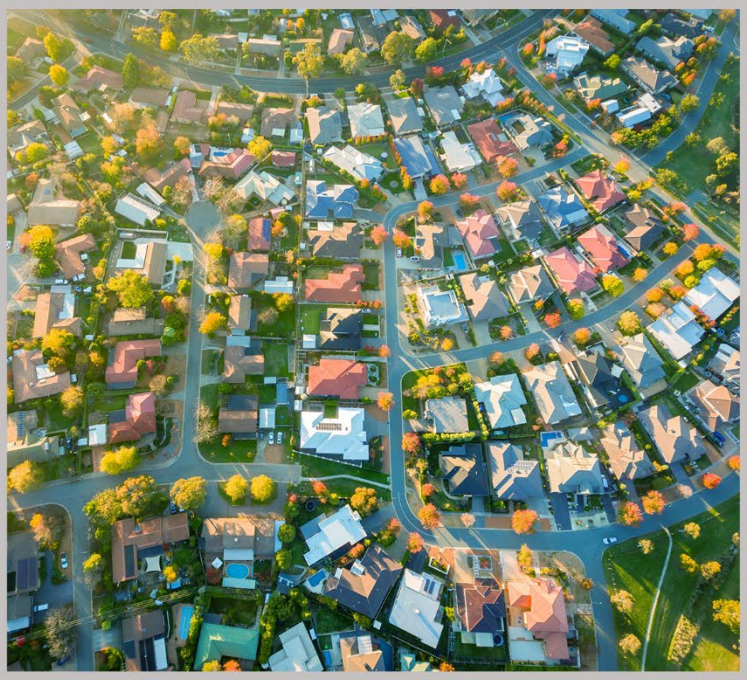

Austroads' Review of Movement and Place Guidance

Austroads' Review of Movement and Place Guidance

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Abstract

The purpose of this report is to support the development of updated guidance on Movement and Place within the Austroads *Guide to Traffic Management* (AGTM). It is informed by a review of best-practice literature and programs, consultation with key stakeholders to understand industry needs for Movement and Place guidance, and the identification of gaps in current guidance. A detailed review of the AGTM and associated Austroads publications also underpins the findings.

The report's key findings and recommendations focus on 3 main areas. First, they emphasise the importance of consistency by defining and applying uniform Movement and Place concepts and language across Austroads products and publications. Second, they highlight best practice by identifying the most effective elements, applications, and tools of the Movement and Place framework. Finally, the report aims to provide clarity through clear guidance, case studies, and worked examples that demonstrate how to apply Movement and Place processes in practice.

This report presents the research to support these recommendations; ultimately aiming to support transport agencies in developing and implementing Movement and Place frameworks.

Keywords

Movement and Place, Austroads' Movement and Place matrix, network management strategies, strategic movement function, place intensity, network classification, network performance, case studies

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About Austroads

Austroads is the association of Australasian transport agencies.

Austroads' purpose is to support our member organisations to deliver an improved Australasian road transport network. To succeed in this task, we undertake leading-edge road and transport research which underpins our input to policy development and published guidance on the design, construction and management of the road network and its associated infrastructure.

Austroads provides a collective approach that delivers value for money, encourages shared knowledge and drives consistency for road users.

Austroads is governed by a Board consisting of senior executive representatives from each of its eleven member organisations:

- Transport for NSW
- Department of Transport and Planning (Transport Victoria)
- Queensland Department of Transport and Main Roads
- Main Roads Western Australia
- Department for Infrastructure and Transport South Australia
- Department of State Growth Tasmania
- Department of Logistics and Infrastructure Northern Territory
- Transport Canberra and City Services Directorate, Australian Capital Territory
- Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts
- Australian Local Government Association
- NZ Transport Agency Waka Kotahi.

Acknowledgements

This report was guided by feedback from subject matter experts, including representatives from state and local government. A review was conducted by the Project Control Group.

Summary

Movement and Place is a concept that recognises the dual role of roads and streets to support transport network operations for both people and goods (movement), and as public spaces with their own activity, built form and meaning (place).

Austroads has identified Movement and Place as a cross-cutting principle which spans across a range of practice areas (Austroads 2021), but is currently challenged in providing consistent and current guidance because:

- Transport agencies in Australia and New Zealand are at different stages in their adoption, development and implementation of Movement and Place frameworks.
- There is a lack of alignment across jurisdictions in the way Movement and Place frameworks are developed and applied – this means opportunities for best practice may be missed.
- The content in the Austroads *Guide to Traffic Management Part 4: Network Management Strategies* (AGTM Part 4) (Austroads 2020a) on Movement and Place is now inconsistent with current practice and does not match contemporary approaches.
- Movement and Place content is also inconsistently spread across other parts of the Austroads *Guide to Traffic Management* (AGTM) and other Austroads publications.

This research report provides a summary of the recommendations for updating Movement and Place guidance in Austroads guidance and resources, and the basis for these recommendations. It draws on the findings of the Austroads project NEG6384 Movement and Place Guidance (the Project).

The Project engaged subject matter experts and practitioners from across Australia and New Zealand through a range of consultation activities. A review of national and international Movement and Place frameworks contextualised the evolution and current state of Movement and Place guidance in Australia and New Zealand. The findings from the consultation informed the scope and understanding of the literature review, and assisted in identifying and discussing current issues, opportunities and requirements for Movement and Place guidance. This led to the development of recommended changes to AGTM Part 4, AGTM and other Austroads guides.

The key findings and recommendations of this project progresses the development and application of a consistent Movement and Place approach across the Austroads member states and regions by providing:

- Consistency: Defining and using consistent Movement and Place concepts and language within Austroads products and publications.
- Best practice: Identifying best practice Movement and Place framework elements, applications and tools.
- Clarity: Providing clear direction, case studies and worked examples of applying Movement and Place processes.

In preparing this report, it was noted that

- Stakeholders only provided information that was publicly available and is considered correct and current at time of publication.
- The audience for the recommendations includes member agencies across Australia and New Zealand and a broad range of industry practitioners.
- Recommended content can be published within the existing structure of the Austroads *Guide to Traffic Management*; but is also modular and digitised, thus suitable for inclusion in future Austroads resources and publications.

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1. Introduction

1.1 Purpose

Movement and Place recognises the dual role of roads and streets to support transport network operations for both people and goods, and as public places – with their own activity, built form and meaning.

Acknowledging the importance of the Movement and Place concept, the Joint Select Committee on Road Safety recommends that the Australian Government works with state and territory governments and other stakeholders such as Austroads, to support development of nationally consistent guidelines and standards for road infrastructure – guidelines that, amongst other objectives, aligns with the Movement and Place approach (Joint Select Committee on Road Safety 2022).

Austroads has identified Movement and Place as a cross-cutting principle, which spans across a range of practice areas (Austroads 2021); but is currently challenged in providing consistent and current guidance because:

- Transport agencies in Australia and New Zealand are at different stages in their adoption, development and implementation of Movement and Place frameworks.
- There is a lack of alignment across jurisdictions in the way Movement and Place frameworks are developed and applied – this means opportunities for best practice may be missed.
- The content in the Austroads *Guide to Traffic Management Part 4: Network Management Strategies* (AGTM Part 4) (Austroads 2020a) on Movement and Place is now inconsistent with current practice and does not match contemporary approaches.
- Movement and Place content is also inconsistently spread across other parts of the Austroads *Guide to Traffic Management* (AGTM) and other Austroads publications.

The purpose of this research report is to provide recommendations to update the guidance on Movement and Place within the AGTM and to improve connections and consistency with other Austroads publications.

1.2 Scope

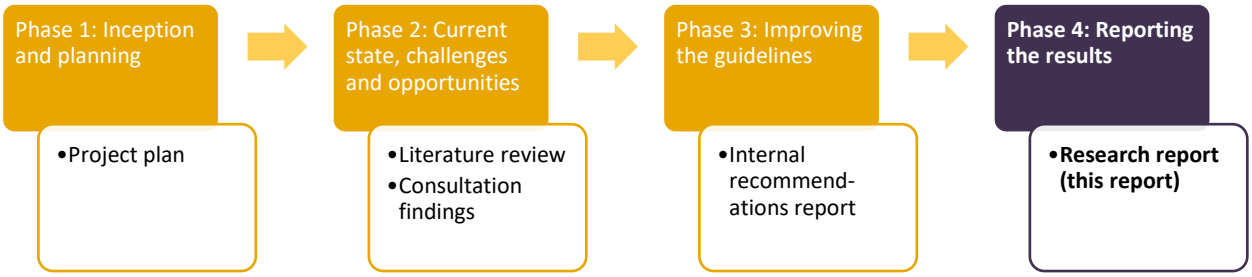
This research report provides a summary of the recommendations for updating Movement and Place guidance in the AGTM, and the basis for those recommendations. The recommendations are focused on supporting the ongoing development and application of a consistent Movement and Place approach across the Austroads member states and regions by:

- Defining and using consistent Movement and Place concepts and language within Austroads products and publications.
- Identifying best practice Movement and Place framework elements, applications and tools.
- Providing clear direction, case studies and worked examples of applying Movement and Place processes.

This consistency will better support agencies and industry practitioners to understand and balance Movement and Place considerations within the road and street environment; and avoid agencies duplicating efforts and undertaking guideline development in parallel.

The NEG6384 Movement and Place Guidance Project (the Project) was undertaken in 4 phases, as summarised in Figure 1.1. The recommendations detailed in this report are based on research and findings from earlier stages of the project and form a key deliverable in the final phase of the Project.

Figure 1.1: Scope and deliverables for the NEG6384 Movement and Place Guidance Project



The Project aimed to map the current content and functions of the AGTM Part 4 and other relevant Austroads products (including other guides, issues papers, research reports, and internal reports) with revised Movement and Place content.

In Phase 3 of the Project, it was identified that the network management strategies content in AGTM Part 4, other than Movement and Place content, also requires updating. It was challenging to meaningfully revise the structure of AGTM Part 4 for Movement and Place in isolation from these broader updates. It was therefore recommended that the detailed section-by-section changes of the AGTM Part 4 be delayed until a more comprehensive revision of AGTM Part 4 is undertaken. This research report therefore focuses on providing the updated Movement and Place content, case studies, and examples that will support the later updates.

1.3 Methodology

As illustrated in Figure 1.1, the Project was delivered in 4 phases, with key project tasks detailed in this report as follows:

- Section 2 – Literature review: Summarises current national and international Movement and Place guidance, identification of best practice, and understanding of how it has evolved.
- Section 3 – Stakeholder engagement: Details engagement with project stakeholders and subject matter experts to contextualise and understand the challenges and opportunities with current practice, collectively define best practice, and identify the future requirements of Austroads publications to achieve the project objectives.
- Section 4 – Assessment of current guidance: Sets out the assessment approach to update the AGTM Part 4, and other Austroads publications, as informed by the findings of the literature review, stakeholder engagement and within the context of existing content purpose.
- Section 5 – Updating Movement and Place guidance: Details updated guidance on Movement and Place principles, processes, applications (with an emphasis on network management strategies), frameworks and tools. It defines common terminology and an Austroads Movement and Place Strategic Matrix for consistent use in all future Austroads publications.
- Section 6 – Case studies and examples: Provides case studies and worked examples of applying Movement and Place principles and processes.
- Section 7 – Conclusions and recommendations: Summarises project findings and recommended next steps to action them.

In preparing this report, it was noted that:

- Stakeholders only provided information that was publicly available and is considered correct and current at time of publication.
- The audience for the recommendations includes member agencies across Australia and New Zealand and a broad range of industry practitioners.
- Recommended content can be published within the existing structure of the AGTM, but is also modular and digitised, thus suitable for inclusion in future Austroads resources and publications.

2. Literature Review

This section examines national and international Movement and Place frameworks to contextualise the evolution and current state of Movement and Place guidance in Australia and New Zealand.

A review of relevant Movement and Place literature was undertaken to gain an understanding of the origins of Movement and Place concepts (including divergence of theory and practice in different jurisdictions as the concept evolved) and compare current best practice guidance and application.

The review included a summary of each document and an evaluation of the definitions, framework features and applications of Movement and Place. The comparison helped identify the strengths, weaknesses and impact of this range of literature on agencies and practitioners referring to Austroads Movement and Place guidance.

The review was undertaken in parallel with the stakeholder engagement activities, which assisted in the selection of publications and case studies and to better understand the findings of the analysis.

A limitation of the literature review was that only published, and publicly available, sources were reviewed. There are draft and unpublished frameworks, projects, and case studies, produced by agencies that are informing the evolution of Movement and Place practice. These were discussed in the stakeholder engagement, but not formally included in the literature review. This reflects the pace at which Movement and Place strategy and practice is evolving in Australia and New Zealand and this literature review considers content that was current and correct at the time of the Project.

2.1 Documents reviewed

The documents reviewed for this Project are summarised in Table 2.1. The review included a summary of each document and an evaluation of the key features of the guidance, including:

- The background, purpose and scope.
- Process overview, including definition of street environments.
- Network performance assessment processes and key indicators.

Some frameworks contain multiple documents – such as the NSW Movement and Place Framework, which consists of guidelines, videos, tools and training documents; whilst other publications are single documents.

Table 2.1: Documents reviewed for the NEG6384 Movement and Place Guidance Project

Australia and New Zealand road network planning frameworks	International road network planning frameworks	Austroads publications
• NSW Movement and Place Framework. • Movement and Place in Victoria. • New Zealand One Network Framework. • Auckland Transport Roads and Streets Framework. • Bankstown Complete Streets. • The City of Adelaide Transport and Movement Strategy.	• EU Arterial Streets Towards Sustainability. • UK Manual for Streets • Transport for London Roads and Streets Framework. • NACTO Global Street Design Guide. • US Department of Transport Complete Streets. • Orange County Council Complete Streets Initiative Design Handbook.	• Austroads *Guide to Traffic Management Part 4: Network Management Strategies.* • Strategic review of Austroads *Guide to Traffic Management.* • Classifying, Measuring and Valuing the Benefits of Place on the Transport System. • Integrating Safe System with Movement and Place for Vulnerable Road Users. • Austroads *Guide to Road Design.*

2.2 Summary of findings

2.2.1 Background to Movement and Place

A review of the evolution of the Movement and Place concept provided context to contemporary practices, including understanding where there is current divergence in theory and practice.

Global origins

The European Commission project ARTISTS (Arterial Streets Towards Sustainability) developed a functional two-dimensional classification of streets sections based on 2 independent dimensions of 'link status' and 'place status' to inform street design (ARTISTS Consortium 2004).

The ARTISTS project drew on a series of street case studies in 7 European cities, including London, where it was trialled by Transport for London for network management planning on 5 pilot corridors. A book titled Link and Place was published in 2007, in conjunction with the Transport for London pilot studies, and detailed the application of the concept to planning and performance management of arterial street corridors (Jones et al. 2007). The concept of link and place was also published as a matrix – with a 'movement status' and 'place status' axis – in the UK Manual for Streets in 2007 (Department for Transport 2007).

By 2014, the concept of Link and Place in London evolved from the initial Transport for London Network Management Program into the Transport for London Roads and Streets Family (Transport for London 2014).

Movement and Place frameworks and/or matrices have subsequently been used on projects and programs in Australia, New Zealand, USA and Ireland.

Adoption of Movement and Place principles in Australia and New Zealand

The concept was first introduced to road network planning projects and publications in South Australia, Canberra, Victoria, Perth and Auckland as 'Link and Place' from 2009 onwards.

Auckland Transport was an early adopter of the Movement and Place concept, and the first edition of the Auckland Roads and Streets Framework was published in 2017. NZ Transport Agency Waka Kotahi subsequently applied the concept to the road network for an entire country (where previously it had been applied to one city or urban area) in the One Network Framework.

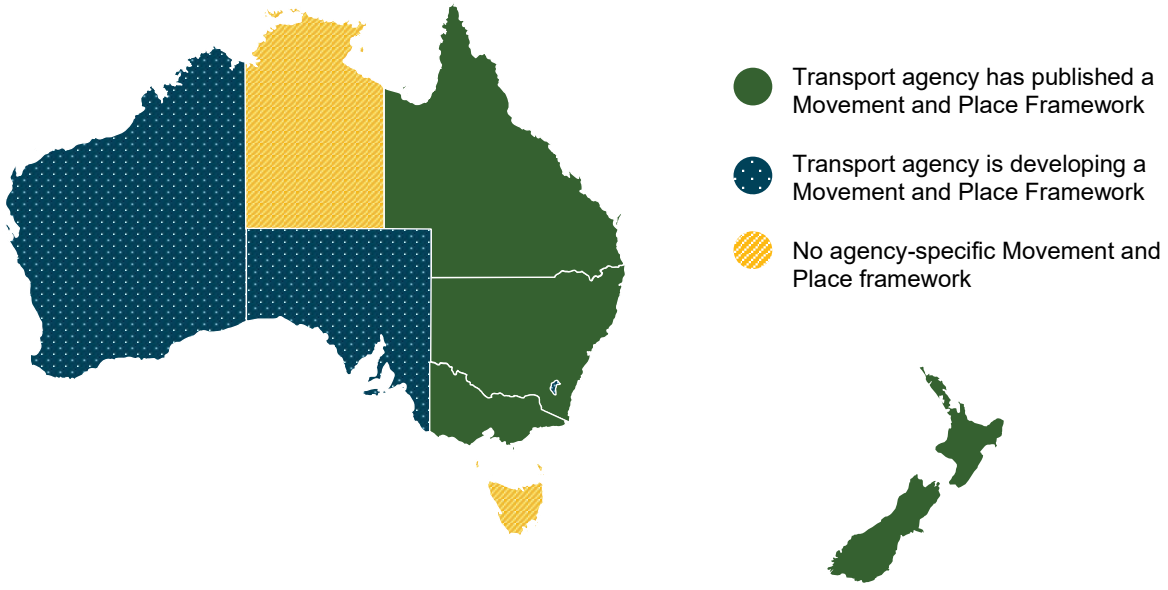
The term 'Movement and Place' was adopted by Transport for NSW in the first draft of the NSW Road Planning Framework in 2016 (which was an unpublished internal document), and the Movement and Place approach was referenced in the 2016 edition of the Austroads *Guide to Traffic Management Part 4: Network Management Strategies* (AGTM Part 4) (Austroads 2020a). A Movement and Place Framework was jointly promoted as a common strategic planning Framework and language for NSW roads and streets in both the *State Transport Strategy – Future Transport 2056* (Transport for NSW 2018) and the *Greater Sydney Regional Plan – A Metropolis of Three Cities* (Greater Sydney Commission 2018), which were jointly launched and published in 2018. The release of this strategy coincided with the release of Infrastructure NSW's strategy (Infrastructure NSW 2018), which allowed for cross-collaboration agreement on a future of Movement and Place framework. An agreement was reached that Infrastructure NSW, as part of its strategy, would recommend the Government Architect NSW (GANSW) to lead the development of a toolkit for the Movement and Place Framework. The Practitioners Guide to Movement and Place was released in April 2020 for a 12-month government testing period and subsequently published in 2021, along with additional guides and tools, on the NSW Movement and Place website.

The Movement and Place Framework in Victoria evolved from the VicRoads Smart Roads Program for network operation, and guidance was published in 2019 (Department of Transport 2019). It was developed by Transport for Victoria, in response to the recommendation from Plan Melbourne, to optimise the relationships between transport network and the people and places that the network serves (Plan Melbourne 2017).

As illustrated in Figure 2.1, transport agencies in Australia and New Zealand are currently at different stages in their adoption, development and implementation of Movement and Place frameworks. Movement and Place frameworks are currently being developed by Transport Canberra and City Services in the ACT and the Department of Transport in Western Australia[1].

Other agencies, such as the Tasmanian Department of State Growth, have used Movement and Place principles to develop strategic network operating plans based on first principles and without a state-specific Movement and Place framework.

Figure 2.1: Movement and Place frameworks in Australia and New Zealand (July 2023)



[1] Further to this literature review, Queensland's Department of Transport and Main Roads published its Movement and Place Policy and Practitioner Guidance in August 2024, as an action from the 2022 State Infrastructure Strategy. The policy is a best practice approach to the investment and life cycle decision making, planning, design, maintenance, and operational aspects of the Queensland transport system.

The adoption of the global Movement and Place concept in local practice has enhanced the integration of transport and land use planning in Australia and New Zealand. However, over time, individual agencies have developed their own frameworks for different purposes and from divergent influences. This has created divergence in their features, tools and supporting guidance, and some confusion in the wider industry to their application.

2.2.2 Comparison of contemporary approaches

Australia and New Zealand road planning frameworks

The literature review provided a comparison of the key features of contemporary road network planning frameworks; and highlighted the common, contrasting and best practice of each. A comparison of Australian and New Zealand frameworks is summarised in Table 2.2.

Table 2.2: Comparison of Movement and Place road network planning frameworks

Common features	
Concept	Acknowledging and planning for the dual role of roads and streets to support transport networks and as public spaces.
Matrix	Road and street environments classified and compared on a two-dimensional matrix of movement and place.
Strategic planning approach	Application supports a 'vision and validate' (rather than 'predict and provide') approach to achieving desired future networks and places.
Contrasting features	
Process	The requirement for activities, and sequencing of steps, to apply movement and place concepts within a planning program or project.
Matrix orientation	The direction of the horizontal place intensity axis and vertical strategic movement axis are reversed within the matrix.
Place intensity classification	Definition of 'place' or 'place intensity' may include a combination of local activity (including local movement), built form (both on and off street) and/or character and meaning considerations. It may also be linked to a strategic hierarchy of activity centres within a jurisdiction and/or zoning of adjacent land uses.
Movement significance classification	Definition of 'movement' or 'movement significance' may be defined by road classification hierarchy and/or the scale and combination of journey purpose (through, access or local journeys).
Location and scale	A single matrix (and associated framework features such as performance indicators and targets) may be used to compare place intensity and movement significance across an entire jurisdiction; or be applied for comparison of activities and journeys at specific or multiple project scales.
Matrix granularity	• Framework may use multiple versions of the matrix with a different number of street environment categories (granularity) identified within each dependent on the definition of place intensity and movement significance. • Street environments may be grouped and defined by granularity of matrix – 4 (2x2 matrix), 9 (3x3 matrix), or 25 (5x5 matrix) defined street environments are common.
Road and street environments	• Street environments may be grouped symmetrically or asymmetrically at a strategic level based on the granularity and scale of the matrix. • Single or multiple road and street typologies may be assigned per street environment for the purposes of planning, design and operation. • Definition of 'roads' and 'streets' may be binary, or used interchangeably.
Integration of safe system and environmental objectives	'Safety' and 'environment' objectives within the framework are either: • Assumed and not explicitly defined. • Integrated in built environment and modal journey outcomes. • Developed as parallel objectives to 'movement' and 'place' ones.

Best practice features and tools	
Performance indicators and targets	Performance indicators are set based on: • definitions and adoption of place intensity, movement significance, street environments and street typologies • scale and planning stage of application • availability of supporting data and information • integration with other agency network and place activity policies, strategies and monitoring programs.
Performance targets	Targets reflect the purpose, scale and approach for determining performance indicators.
Interventions toolbox/ implementation guide	A hierarchy of interventions to change or improve the street environment and/or address performance issues. Interventions can include infrastructure, road space allocation, operational systems, travel behaviour and choices, and capacity solutions.
Road and street design guide	Infrastructure, operational and design solutions aligned with street typologies. Can be part of an intervention toolbox/implementation guide.
Network management strategy	• Contains a road user or modal movement hierarchy. • Network operation and place making priorities aligned with street environments.
Temporal considerations	Planning, design and operation of the street environment responsive to different times of the day, week, season, and/or special events.
Urban/rural context	Planning, design and operation of the street environment is responsive to the urban, suburban, peri-urban, rural or remote location of the activity and/or journey.
Governance	Road planning framework is governed and used by multiple agencies for consistency and synergies in transport and land use planning.

Australian Transport Assessment and Planning Guidelines

The *Australian Transport Assessment and Planning (ATAP) Guidelines* provide a comprehensive framework for planning, assessing and developing transport systems and related initiatives. The Guidelines provide processes to ensure that that proposals to improve transport systems in Australia achieve jurisdictional objectives and provide maximum net benefit and value for money to the community (ATAP 2020).

The concept of Movement and Place is referenced in parts of the Guidelines in relation to strategic transport planning and appraisal processes – including strategic merit testing and cost-benefit analysis. However, some of the references to integrating transport and land use planning are out of date (such as the reference to *Principles for Strategic Planning,* produced by Austroads in 1998); and as such, do not provide consistency with contemporary best practice or the application of Movement and Place in Austroads' guidance. ATAP released the paper *Valuing Place Effects* for public consultation in October 2024 (ATAP 2024). The authors are currently reviewing feedback received during consultation, and the final version of the paper is expected to be published in 2025.

International road planning frameworks

A review of international road planning frameworks, highlighted commonalities with other people-led, place-centric approaches to transport planning, such as *Complete Streets* in North America (Orange County Council of Governments 2016).

It was noted that Australia and New Zealand are generally unique in Movement and Place concepts driving a strategic planning approach within government. However, both London (Transport for London 2014) and California (Orange County Council of Governments 2016) have also used a Movement and Place matrix as a planning step to illustrate the strategic objectives and characteristics of different street environments.

A highlight of the international frameworks is the visualisation and design guidance for different street environments; and development of performance indicators to support journey and local activity objectives for a broad range of people (including by age, ability and travel choices) within roads and streets (NACTO 2016).

2.2.3 Austroads publications

Since the inclusion of Movement and Place concepts in the 2016 edition of AGTM Part 4, Austroads has recognised Movement and Place as a cross-cutting principle which spans across a range of practice areas (Austroads 2021).

Austroads research in measuring and valuing the benefits of place on the transport system (Austroads 2020b) and integrating Safe System approach with Movement and Place practice for vulnerable road users (Austroads 2020c) has specifically contributed to best practice applications of Movement and Place.

As practice has evolved in Australia and New Zealand, the Movement and Place content in AGTM Part 4 is now inconsistent and does not match contemporary approaches. Furthermore, Movement and Place content is inconsistently spread across other parts of the AGTM and Austroads Guides and requires updating.

2.3 Key issues and opportunities

Originating in Europe, the adoption of the Movement and Place concept in local practice has enhanced the integration of transport and land use planning and supported the development of context-sensitive network operations in Australia and New Zealand.

The literature review confirmed that transport agencies in Australia and New Zealand are at different stages in their adoption, development and implementation of Movement and Place frameworks. Furthermore, there is a lack of alignment across jurisdictions and government agencies in the way Movement and Place frameworks are developed and applied.

A review of international road planning frameworks highlighted commonalities with other people-led, place-centric approaches to transport planning, and identified best practice visualisation, design guidance and performance management of activities and journeys in roads and streets. It was noted that Australia and New Zealand are generally unique in Movement and Place concepts driving an agency strategic planning approach.

The content in the AGTM Part 4 on Movement and Place was initially included in 2016 and is now inconsistent and does not match contemporary approaches. Furthermore, Movement and Place content is inconsistently spread across other parts of the AGTM and Austroads Guides.

Updating the Movement and Place content within Austroads publications – particularly the AGTM Part 4 – is an opportunity to provide consistency in the understanding of Movement and Place, and support transport planning and network management best practice across Australia and New Zealand.

3. Stakeholder Engagement

This chapter outlines the engagement process undertaken with project stakeholders and subject matter experts to understand the challenges and opportunities with current practice, collectively define best practice, and identify the future requirements of Austroads publications to provide Movement and Place guidance.

The project engaged subject matter experts and practitioners from across Australia and New Zealand through a range of consultation activities:

- Workshops: Three project planning, discussion and findings review sessions were held between December 2022 and July 2023 with the Project Control Group. This group comprises representatives from Australian state transport agencies, the NZ Transport Agency Waka Kotahi (NZTA), and local government.
- Focus group sessions: Five focus group sessions were held in February and March 2023, with targeted stakeholders, to address the themes of:
  - better alignment of Movement and Place
  - understanding the value of Movement and Place
  - consistency in Movement and Place
  - scale of projects using Movement and Place
  - embedding Movement and Place.
- Survey: An online survey was sent to Austroads members. The survey was designed as a maturity assessment to better understand the gaps in the knowledge and application of Movement and Place guidance, and gauge variances across agency jurisdictions.
- International practice meeting: A meeting with Phil Jones, from Phil Jones and Associates, was held to discuss the evolution of application of Movement and Place practice in the UK.
- Austroads project meetings: Progress meetings were held with the project teams working on Austroads projects NEG6385 Cycling and Micromobility Planning Guidance and NEG6386 Pedestrian Planning Guidance, to discuss the alignment of Movement and Place recommendations within these parallel projects.

All workshops, focus group sessions and meetings were held virtually using PowerPoint slides and Mural – an online interactive sounding board to guide the session and allow participants to provide written feedback in addition to verbal discussion.

The findings from the consultation informed the scope and understanding of the literature review, and assisted in identifying and discussing current issues, opportunities and requirements for Movement and Place guidance. This led to the development of recommended changes to the AGTM Part 4, AGTM and other Austroads guides.

3.1 Strategic themes

The main findings from the stakeholder engagement activities can be grouped thematically in their discussion of consistency, best practice and desired scope of change for Movement and Place guidance.

3.1.1 Consistency

Transport agencies in New South Wales, New Zealand and Victoria[2] have developed their own Movement and Place frameworks – complete with detailed principles, applications and tools. However, there is a lack of alignment across agencies in the way Movement and Place frameworks are developed and applied. This causes confusion amongst practitioners – especially when they are working for multiple agencies.

Guidance on Movement and Place is also sought from Austroads documents. These documents are also inconsistent with Movement and Place frameworks developed by individual transport agencies.

Stakeholders noted that it can be challenging for Austroads' Movement and Place guidance to be presented in a way that is applicable across a multitude of local, regional and state governance and practice contexts across Australia and New Zealand. However, there is a need for common Movement and Place language, and a shared understanding and appreciation for 'place' and 'movement' planning and design definitions and objectives across the industry.

This common approach should be shared across different specialists and technical teams within each jurisdiction. There is also a desire for Movement and Place concepts to be familiar to engineers, policy makers, land use planners, and elected officials – and not just transport planners or urban designers.

3.1.2 Best practice

The lack of alignment across agencies in how Movement and Place frameworks are developed and applied also means opportunities for best practice and knowledge sharing may be lost.

Whilst it was acknowledged that local context is important in the application of Movement and Place principles – particularly within local road and land use legal instruments and governance – it was agreed that a context-sensitive approach to applying Movement and Place is possible if the basic principles and application advice is kept adaptive and flexible. There was resistance to Movement and Place practice being too prescriptive, standardised or regulated.

Sharing best practice in how frameworks have been developed and common principles are applied, helps reinforce consistency, whilst illustrating context-sensitivities and sharing knowledge and experience.

Key areas where best practice Movement and Place knowledge sharing is sought included: understanding the different functions of roads and streets, performance management, network operations, placemaking, and street design.

3.1.3 Scope of changes to Austroads Movement and Place guidance

It was recognised that there is already a wealth of Movement and Place information provided within the current Austroads Guides. The AGTM already includes multiple references to Movement and Place, most notably it:

- accounts for vulnerable road user space allocation and their movement and place requirements
- acknowledges the importance of stakeholder engagement
- emphasises the need for alignment of planning and design practice with policy and strategic context
- accounts for multimodal Level of Service (LoS) in which all road user types are considered
- includes Movement and Place examples and case studies.

[2] Queensland's Department of Transport and Main Roads published its Movement and Place Policy and Practitioner Guidance in August 2024, after this literature review was undertaken.

However, the useability of this information varies. For example, Section 1.3 'How to Use' in each part of the AGTM mentions Movement and Place and generally explains that the principle is used to help achieve placemaking and network operation objectives. But stakeholders indicated the 'how to do this' is often still unclear within the main body of the guidance.

Austroads Guides should easily refer the user to appropriate tools, resources and case studies and provide design parameters. However, the breadth of advice on a cross-cutting principle – such as Movement and Place – must be balanced with the guidance not becoming too big and unwieldy, and hence difficult to find and use.

It was noted that the current format of the Austroads Guides makes it difficult to identify cross-cutting principles, such as Movement and Place, and to link the related sections where the principle applies. The current published non-modular format also makes it difficult to regularly update supporting tools, case studies and best practice examples.

3.2 Key findings

The main recommendations from stakeholder engagement focused on supporting the ongoing development and application of a consistent Movement and Place approach across the Austroads member states and regions by:

- defining and using consistent Movement and Place concepts and language within Austroads products and publications
- identifying best practice Movement and Place framework elements, applications and tools
- providing clear direction, case studies and worked examples of applying Movement and Place processes.

This consistency will better support agencies and industry practitioners in understanding and balancing Movement and Place considerations within the road and street environment; and avoid agencies duplicating efforts and undertaking guideline development in parallel.

4. Assessment of Current Guidance

This section sets out the assessment approach and recommendations for updating the Austroads *Guide to Traffic Management Part 4* (AGTM Part 4), the Austroads *Guide to Traffic Management* (AGTM) and other Austroads publications; as informed by the findings of the literature review, stakeholder engagement and within the context of existing content purpose.

The detailed assessment of existing Austroads guidance was undertaken to identify gaps and opportunities to improve the guidance in relation to Movement and Place:

Figure 4.1: Approach to reviewing Austroads guidance

The assessment considered the 3 overarching recommendations for updating Movement and Place guidance, identified in the literature review and stakeholder engagement, namely:

- Consistency: Defining and using consistent Movement and Place concepts and language within Austroads products and publications.
- Best practice: Identifying best practice Movement and Place framework elements, applications and tools.
- Clarity: Providing clear direction, case studies and worked examples of applying Movement and Place processes.

The current content and functions of the AGTM Part 4 and other relevant Austroads products (including other guides, issues papers, research reports, and internal reports) were mapped to this revised Movement and Place content. However, in Phase 3 of the Project, it was identified that network management strategies content in AGTM Part 4, other than Movement and Place content, also require updating. It was challenging to meaningfully revise the structure of AGTM Part 4 for Movement and Place in isolation of these broader updates.

It was therefore recommended that the detailed section-by-section changes to the AGTM Part 4 be delayed until a more comprehensive revision of the Guide is undertaken.

This research report thus focuses on providing the updated Movement and Place content, case studies and examples that will support updates to Austroads publications and materials.

5. Updating Movement and Place Guidance

This section details updated guidance on Movement and Place principles, processes, applications – with an emphasis on Network Management Strategies – frameworks, and tools. It defines common terminology and an Austroads Movement and Place strategic matrix for consistent use in all future Austroads publications.

Movement and Place content has been developed for inclusion in AGTM Part 4 based on:

- Common and best practice features for Movement and Place frameworks (as summarised in Table 2.2).
- Strategic recommendations for consistency, best practice and clarity (as detailed in Section 3).
- The scope of content required for AGTM Part 4 to provide an overview of Movement and Place concepts and introduction to network management strategies.

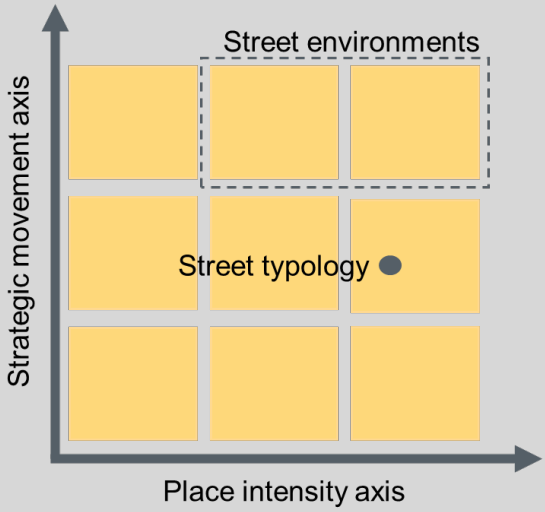
Some of the content is new, whilst other content updates or replaces existing content. It can be published within the existing structure of the AGTM but is also modular and suitable for inclusion in a range of Austroads resources and publications.

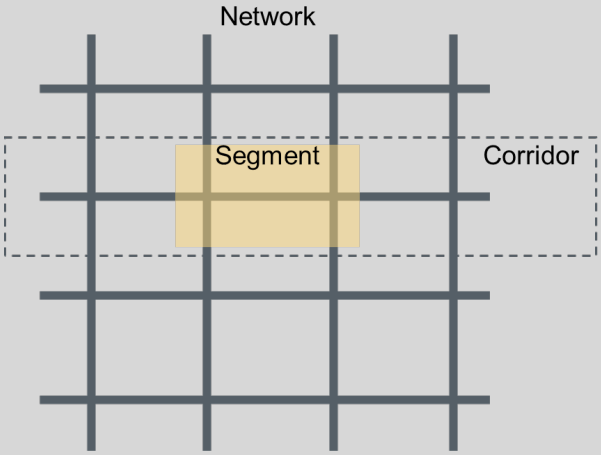
5.1 Glossary of Movement and Place terminology

The glossary of terms presented in Table 5.1 should be used consistently throughout Austroads resources and publications within the context of Movement and Place principles and applications.

Table 5.1: Glossary of Movement and Place terminology

Term	Definition
Movement and Place	'Movement and Place' is a concept that recognises the dual role of roads and streets: • to support transport network operations for both people and goods (movement) • as public spaces with their own activity, built form and meaning (place). The scale and balance of these roles can change on different segments of a road or street; and at different times of the day, week and/or season. The concept can be applied at all stages and scales of transport and land use planning programs. The concept is sometimes referred to as 'Link and Place'.
Movement and Place framework	A 'framework' sets out the principles and actionable steps for implementing those principles within an organisation. A Movement and Place framework commonly includes: • a planning approach based on the concept of Movement and Place • representation of the dual role of roads and streets for both journeys and placemaking on a two-dimensional matrix • performance evaluation of roads and streets (including indicators and may include targets) • toolboxes and guides specific to the Movement and Place framework, including: – Network Operations Plan – Roads and Streets Design Guide – Modal Planning Guides – Travel Demand Management Strategy • governance arrangements for implementing, maintaining and updating the framework.

Term	Definition
Movement and Place matrix	The classification of road and street environments on a two-dimensional matrix, featuring a vertical scale for the strategic movement function and a horizontal scale for the place intensity function. The cells within the matrix are known as 'street environments', each representing a distinct combination of movement and place characteristics. The granularity (or number of cells within the matrix) varies based on the strategic program stage and network scale at which the Movement and Place matrix is being used. 
Austroads Movement and Place matrix	The Movement and Place matrix used in Austroads guidance and publications to strategically describe street environments based on their balance and scale of strategic movements and place intensity. 
Strategic movement	The strategic movement function of a segment of road or street is determined by the volume and mix of journey types (including through, access and local journeys in the subject network). Journeys include the movement of people and goods. The strategic movement function commonly correlates with traditional road classification hierarchies with adjustments made for strategic modal priorities (such as cycle or bus priority routes).
Place intensity	The place intensity of a segment of road or street is determined by the mix of local activity, meaning and use, and the physical form of the road or street and the adjacent land use. The overall place intensity is not a summation of these considerations, rather it is the interaction between them.

Term	Definition
Street environment	The cells within the matrix are known as 'street environments', each representing a distinct combination of movement and place characteristics and objectives. A 'street environment' can refer to a physical road or street segment. 'Street environments' are sometimes referred to as '**street families**'.
Street typology	Street typologies represent segments of roads or streets with common strategic purposes (street environment) and physical characteristics. They may be located within an urban, suburban, peri-urban, regional or rural context.
Roads and streets	The terms 'road' and 'street' are often used interchangeably, but there can be slight differences in their meanings based on contexts. Generally: • A 'road' emphasises the function of facilitating movement: A road refers to a route or path designed for travel by vehicles, pedestrians or other modes of transportation. It can encompass highways, thoroughfares, rural routes and urban avenues. • A 'street' emphasises the function of a road within a local environment. It refers to a road lined with land uses that contribute to an urban or rural setting, incorporating elements such as traffic flow, pedestrian access, engagement with local places and community vitality. While these distinctions can apply in some cases, the usage of 'road' and 'street' can also depend on local or industry conventions.
Network, corridor and segment	A 'network' is the group of connected roads and streets that are the subject of a study, project or program. A 'corridor' is a section of the road or street that is the subject of a study, project or program. A 'segment' is a section of road or street corridor with a common street environment. 
Vision and validate	A strategic planning approach that starts by setting a long-term vision for both movement and place, establishes the outcomes needed to deliver the vision, and validates a delivery pathway to achieve them. The concept is also known as 'decide and provide'.
Main road	A street environment within the Austroads Movement and Place matrix with a relatively high strategic movement function and low place intensity.
Main street	A street environment within the Austroads Movement and Place matrix with a relatively high strategic movement function and high place intensity.
Civic spaces	A street environment within the Austroads Movement and Place matrix with a relatively low strategic movement function and high place intensity.
Local streets	A street environment within the Austroads Movement and Place matrix with a relatively low strategic movement function and low place intensity.

5.2 Movement and Place concepts

5.2.1 Movement and Place principle

Movement and Place is a concept that recognises that the dual role of roads and streets are:

- to support transport network operations for both people and goods (movement)
- as public spaces with their own activity, built form and meaning (place).

The scale and balance of these roles can change on different segments of a road or street, as well as at different times of the day, week and/or season.

5.2.2 Balancing Movement and Place

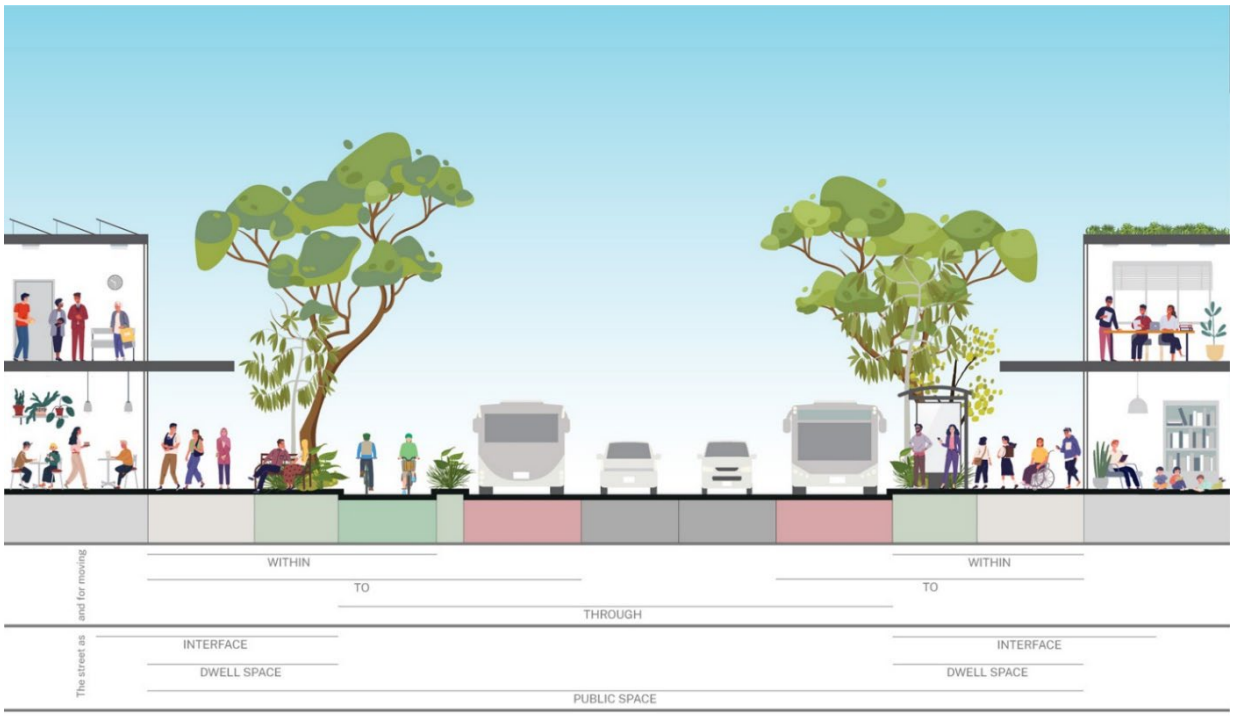
Roads and streets comprise a significant portion of open public space, particularly in urban areas. The need to safely and sustainably provide for all users of the transport network and public spaces in an equitable and balanced manner is a particular challenge in built-up urban areas and regional centres where space is limited, and activities and journeys are numerous.

> *There is a natural tension between these two functions [of Movement and Place]. As a movement corridor, every link aims to minimise travel time and keep people and goods moving. Contrarily as a destination, it aims to increase visitor dwell time.*
>
> *Not all streets can be popular destinations, just as not all streets can prioritise vehicle movement. Sometimes streets and roads change functions several times along the way. It is important to recognise the competing demands between movement and place on our roads and streets. Finding the right balance between the two is fundamental to integrated transport planning.*
>
> *This way of thinking means that when we plan and develop the transport network, we need to consider the breadth of community needs, expectations and aspirations for the places they live and the roads and streets they pass through* (Victorian Department of Transport 2019).

Whilst the street as a public space can be particularly important to a local community, its use for transport journeys can impact the movement of people and goods from a much larger catchment. Planning for Movement and Place requires planning for the transport network and public space at multiple scales of journeys and activities.

The balance of road user space for movement and place elements, at a local point on the network, is shown in Figure 5.1.

Figure 5.1: Movement can be understood in the context of place



Source: Transport for NSW (2023b).

5.2.3 Movement and Place frameworks

A 'framework' sets out principles, and actionable steps for implementing those principles, within an organisation. A Movement and Place framework commonly includes:

Planning approach based on the concept of Movement and Place.

Matrix of street environments.

Performance evaluation of roads and streets, including indicators and targets.

Toolboxes and guides (specific to the Movement and Place framework) to support the implementation of Movement and Place principles including:

- Network Operations Plan
- Roads and Streets Design Guide
- Modal Planning Guides; and/or
- Travel Demand Management Strategy.

Governance arrangements for implementing, maintaining and updating the framework.

Integration of Movement and Place in planning approaches

The principle of Movement and Place can be applied at all stages and scales of transport and land use planning programs.

By considering the dual role of roads and streets for journeys and placemaking activities, Movement and Place concurrently integrates transport and urban planning/design considerations in the planning process. As such, Movement and Place supports a vision and validate process with a place-based vision (which includes local activity and journeys) and people-centric validated delivery path to achieve it. This contrasts with traditional functional planning approaches which sequentially and/or iteratively considers land use development and transport network planning.

A Movement and Place framework will commonly specify a planning approach with defined steps where Movement and Place should be considered within planning projects and programs.

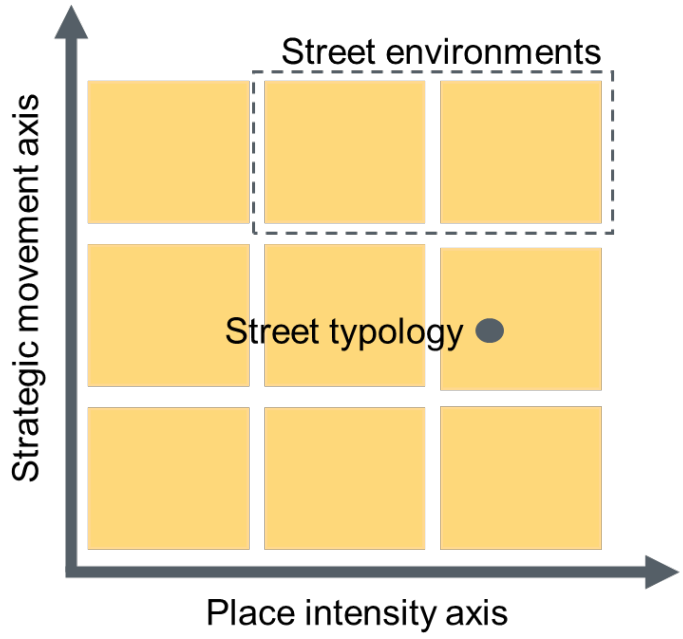
Examples of Movement and Place planning approaches are provided in Section 6.1.

5.2.4 Movement and Place matrix

Purpose of a Movement and Place matrix

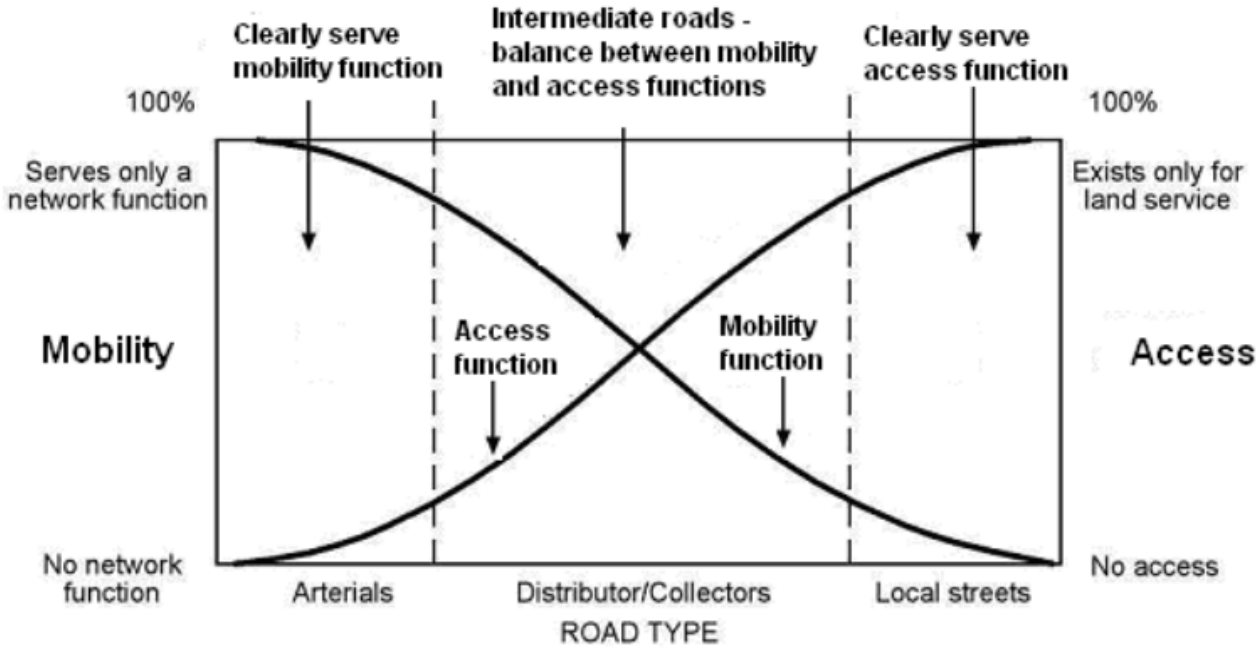
A defining feature of a Movement and Place framework is the representation of the dual role of roads and streets for both journeys and placemaking on a two-dimensional matrix. Common features of a Movement and Place matrix are shown in Figure 5.2.

Figure 5.2: Common features of a Movement and Place matrix



The matrix is used to illustrate the scale and proportion of strategic movement function and place intensity on a segment of road or street. The inclusion of the place intensity axis (and consideration of the meaning, physical form and activity of the street) expands the classification of road types based on their mobility and access function (see Figure 5.3) to be more context sensitive.

Figure 5.3: Functional classification of road types based on mobility and access



Source: Brindle (1987).

Groupings of cells within the Movement and Place matrix are 'street environments', each representing a distinct combination of movement and place characteristics. The granularity (or number of cells within the matrix) varies based on the program stage and network scale at which the Movement and Place matrix is being used.

Street typologies represent a particular street environment considered within its land use context (including urban, suburban, peri-urban, regional and rural) and design parameters of the road or street (including road widths, operations and activities). The combination of context and design parameters means that there can be multiple street typologies within any street environment combination of movement significance and place intensity.

An example of roads and street design guidelines based on Movement and Place street typology is provided in Section 6.3.

Strategic movement function

The strategic movement function of a segment of road or street is determined by the volume and mix of journey types – including through, access and local journeys in the subject network. Journeys include the movement of people (by all modes) and goods.

A high strategic movement classification is a segment of road or street with a high volume and proportion of through journeys; whilst a low strategic movement classification represents a road or street segment with lower volume of predominantly local journeys.

In practice, defining the strategic movement function can be guided by traditional road classification hierarchies with adjustments made for strategic modal priorities (such as cycle or bus priority routes).

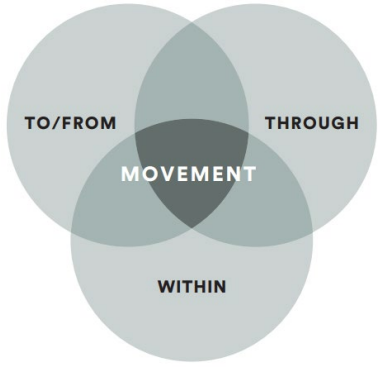
Place intensity classification

While places are physical spaces, they hold meanings for different people in different ways and at different levels of intensity. This is because they are made up of many interwoven layers, both tangible and intangible. (Transport for NSW 2023a). Within the Movement and Place framework, the place intensity of a segment of road or street is determined by the strategic mix of local activity, meaning and use, and the built form of the road or street and the adjacent land use.

To define place intensity, the level of detail used to classify segments of a network should be proportionate to the scale of the project. A general approach for practitioners to identify place intensity is to consider:

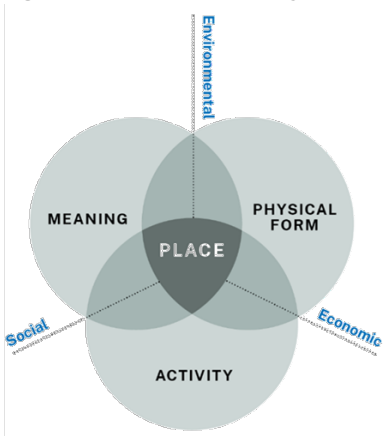
- Meaning: Including the land use(s) adjacent to the road network and any landmarks or features within the road network (scenic lookout, memorials and statues, culturally and historic significant features).
- Physical form: Review the interaction of the land use and the road corridor (physical form) considering factors such as:
  - Scale of building frontage
  - Setbacks from the footpath
  - Active frontages
  - Modal access
  - Natural environment and landscaping
  - Parking and servicing provisions (off-street and on-street).
- Activity: Identification of other activities and placemaking attributes that occur in the street environment, such as dining, gathering, retail, entertainment, or resting.

Figure 5.4: Strategic movement considerations



Source: Transport for NSW (2023b).

Figure 5.5: Place intensity elements



Source: Transport for NSW (2023b).

For example, a street segment may have a land use adjacent to the road network that attracts high volumes of people to it from across a region or city i.e. a supermarket, shopping centre or big box retail development – thus having a high place intensity for 'meaning'. But, due to the scale and design of the building frontage, and low levels of access by active transport modes, this detracts from the level of activity in the street environment and contributes to an overall lower place intensity within the Movement and Place matrix.

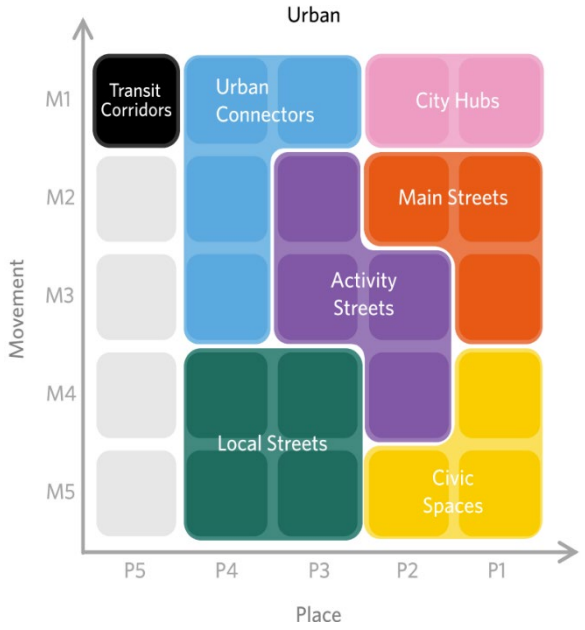
Conversely, a street segment may have a collection of small local shops and restaurants adjacent to the road network that individually generate low levels of customer activity – thus having a low place intensity for 'meaning'. But due to the synergy of economic activity, human scale-built form, active frontages and high access levels by active transport modes, this adds to the level of activity in the street environment and contributes to an overall higher place function within the Movement and Place matrix.

Matrix granularity

Movement and Place matrices represent a continuum of movement and place objectives and in theory can have an infinite number of street environment classifications within it. In practice, street environments with a similar balance and scale of movement and place can be grouped together to provide a common strategic language for designers, operators, stakeholders and the community to articulate design, social and operational objectives.

The granularity of each axis of the matrix varies depending on the use and application of the matrix. A more granular 5x5 or 6x6 matrix (i.e. a matrix with 5 or 6 movement and place groups on each axis, resulting in 25 or 36 street environments) may be used for more detailed planning and performance management to identify and compare a larger group of street environments each, with a smaller range of common attributes. In contrast, a coarser 2x2 matrix with only 4 street environments is sufficient for high-level strategic guidance and planning.

Figure 5.6: Granular matrix used for design guidance



Source: Waka Kotahi NZ Transport Agency (2022).

Figure 5.7: Coarse strategic matrix

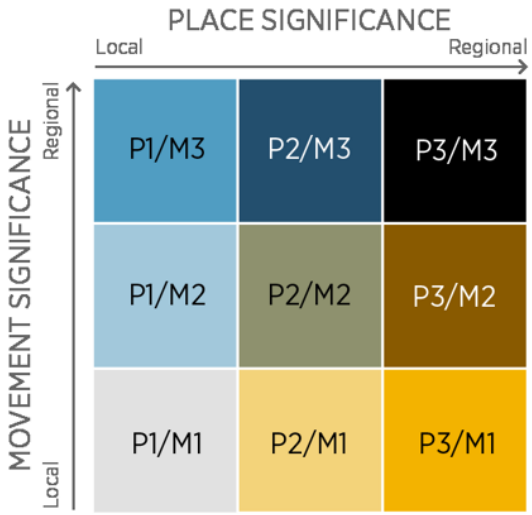
Source: Transport for NSW (2023a).

It is recommended that an equal number of groups are used on each axis, resulting in a square matrix. This reflects the potential to balance movement and place objectives within a geographical area, even when all street environments are not currently represented within the current network.

Matrix orientation

The orientation of the axis on a Movement and Place matrix varies. The movement significance increases from low significance to high significance from the top to bottom of the axis, or vice-versa. Similarly, the place intensity increases from low intensity to high intensity from left to right of the axis, or vice versa. Scales should always be labelled, and arrowheads included on the axis, to clarify the strategic orientation of a Movement and Place matrix.

Figure 5.8: Place intensity increasing left to right on the x-axis



Source: Auckland (2020).

Figure 5.9: Place Intensity increasing right to left on the x-axis

Source: Victorian Department of Transport (2019).

Austroads strategic matrix

Within Austroads publications and guidance, the principle of Movement and Place is generally used for high-level strategic planning. As such, a 2x2 matrix has been developed for consistent use in Austroads publications and guidance and it has 4 groups of street environments:

- Main Roads: A street environment with a relatively high strategic movement function and low place intensity.

  These roads or streets are core to the efficient movement of people and goods on a network. Whilst their place activity levels are less intense, they can have significant meaning to local people.

- Main Streets: A street environment with a relatively high strategic movement function and high place intensity.

  Commonly at the heart of a community, balancing the functions of these roads or streets is a common challenge and trade-offs and compromises may be required.

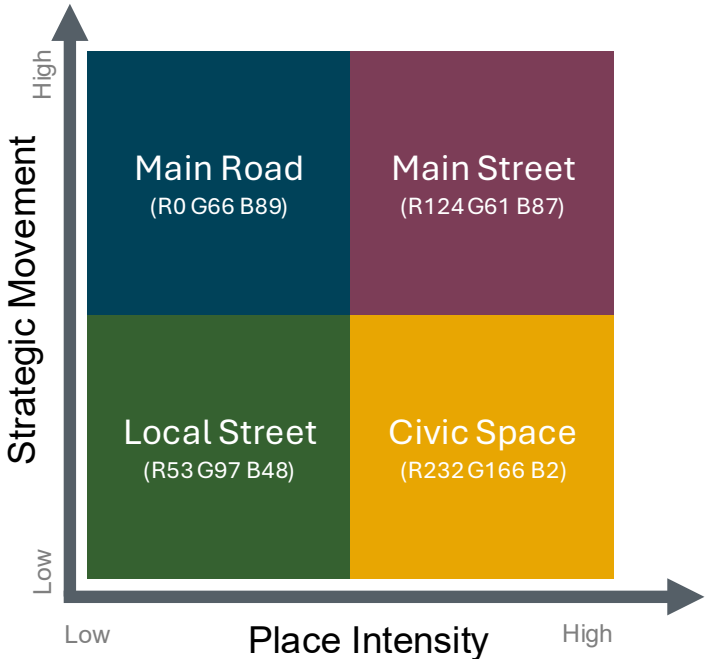
- Civic Spaces: A street environment with a relatively low strategic movement function and high place intensity.

  These are places for people in our community hubs, tourist and leisure destinations, with a priority on access and a high quality placemaking.

- Local Streets: A street environment with a relatively low strategic movement function and low place intensity.

  Whilst activity and movement levels are less intense, they are the largest group of roads and streets in our network and where most people live and play.

Figure 5.10: Austroads Movement and Place matrix, including standard colour palette details



The Austroads strategic matrix has been orientated so that the movement significance increases from low to high on the y-axis (from bottom to top); and place intensity increases from low to high on the x-axis (from right to left).

The colours to be used for each of the street environments have been chosen to effectively contrast each other when used for network mapping, while aligning with the standard Austroads publications colour palette.

5.3 Movement and Place considerations

AGTM Part 4 provides an overview of road corridor network management with consideration of the road classification system, location of the network (primarily urban or rural), and transport network user groups (namely public transport, heavy vehicles, bicycles and pedestrians).

This content is updated for Movement and Place principles, particularly the integration of managing the road or street corridors as public spaces, in tandem with the strategic planning of the transport network.

5.3.1 Road classification systems

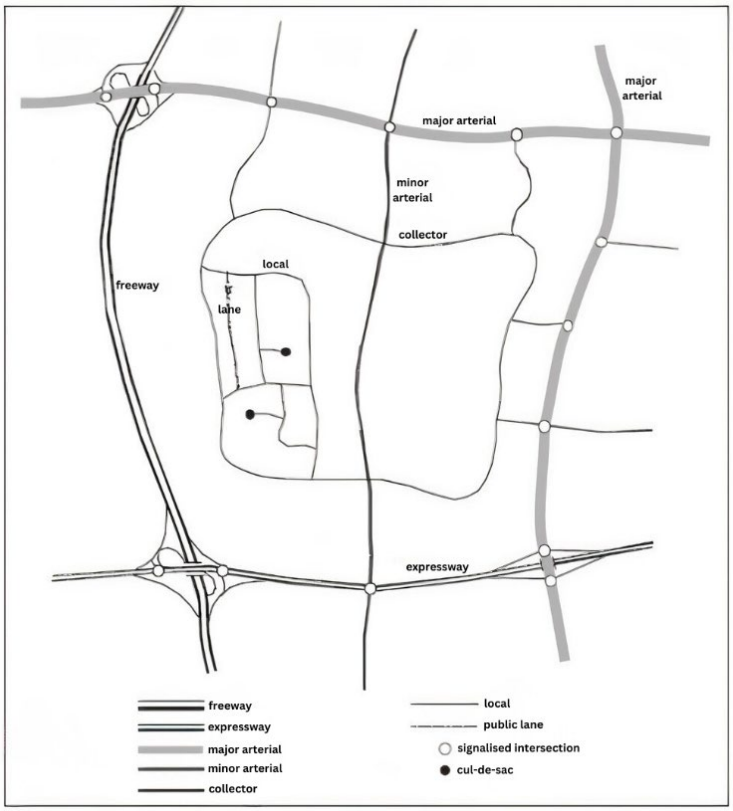
Functional and administrative road classification systems are used for managing traffic management systems within road/transport agencies.

- Functional classification: Defines the relative balance of traffic mobility, amenity and access functions of roads and streets. Austroads publications typically uses a four-level functional classification system of: motorway, arterial road, distributor/collector roads, and local roads and streets (see Figure 5.11).
- Administrative (and legal) classifications: Usually determined by national or state governments as a means of allocating funds and to determine the responsible agency for the care and management of various parts of the road network. Ideally the administrative and functional classifications should be compatible (but this is rarely achieved).

A notable difference of the Movement and Place approach is that a road corridor will have a uniform classification from end to end using a functional or administrative hierarchy; but segments of a road corridor may have different street environments within a Movement and Place matrix - highlighting where people are using the street as a place, as well as for movement (as shown in Figure 5.12).

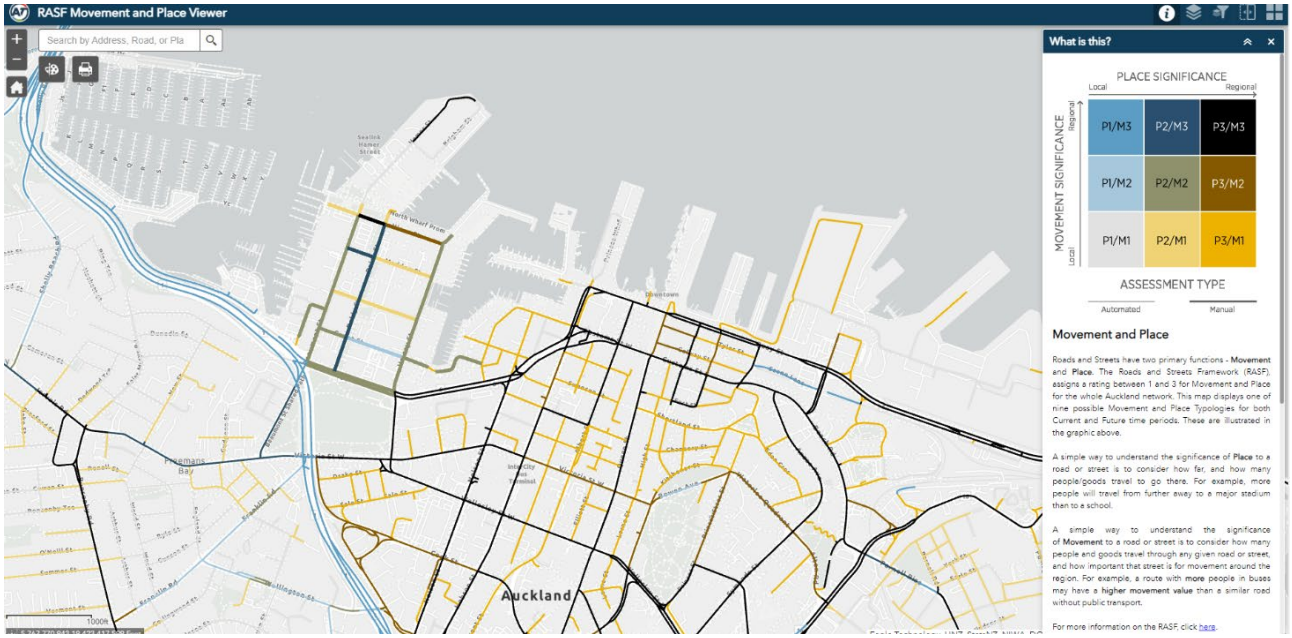
The Austroads Movement and Place matrix is a tool that complements (and does not replace) these road classification systems. Street environments should be used for enhanced context-sensitive planning of network and urban realm priorities in tandem with the traditional purposes of using a functional or administrative classification system within a program.

Figure 5.11: A functional road classification hierarchy with end-to-end road classifications



Source: Report to ICSM on National Road Classification Development (2006).

Figure 5.12: Network map with different street environment segments



Source: Road and Street Framework Movement and Place Viewer, Auckland Transport (sighted 17 June 2024).

5.3.2 Urban and rural networks

As a design and planning principle, Movement and Place is applicable on all roads and street networks, regardless of whether they are urban, suburban, peri-urban, regional or rural.

There have been different approaches as to how the principle should be applied to regional towns and rural road networks within different Movement and Place frameworks, including:

- Reducing the number of street environments applicable in regional areas.
- Different design responses within the same street environment typology for rural and urban contexts.
- Applying different performance indicator targets.

The place intensity of regional land uses is often underestimated in road and street planning. For example, a local shop or commercial service in a regional town – whilst smaller in floor area and number of customers compared to one in a larger urban centre – can have a much higher place intensity than the larger urban counterpart due to a lack of competition or reasonable opportunities for people to travel elsewhere (hence amplifying its 'meaning' to a local community).

In frameworks where place intensity is defined by the number of visitors, and distance they are willing to travel, a lack of 'national' or 'state-significant' destinations is used to justify a reduced range of street environments for rural and regional networks.

The Austroads Movement and Place matrix is used for strategic planning purposes and is based on a definition for place intensity that considers the relative mix of character, built form and activity. As such it is agnostic to whether the network is urban or rural but recognises that the street typologies will be context-sensitive of where the street environment is located.

An example of a Movement and Place framework that explicitly plans for urban and rural networks is provided in Section 6.4.

5.3.3 Network user groups

The application of Movement and Place principles to different network user groups – including drivers (private and freight), public transport riders, cyclists and pedestrians – considers the needs of people to use the street for movement. Distinctively, Movement and Place also considers the needs of people within the street environment who are not undertaking a transport journey but are using the street as a place.

An integrated approach seeks to balance the needs of these different road user groups within the space and speed of the built environment. It also recognises that some needs are temporal and can vary according to the time of day, week, season and year.

Specific advice for the Movement and Place considerations of pedestrians, cyclists and other vulnerable road users are provided in Austroads projects NEG6385 Cycling and Micromobility Planning Guidance, NEG6386 Pedestrian Planning Guidance and SAG6130 Integrating Safe System with Movement and Place for Vulnerable Road Users (Austroads 2020c).

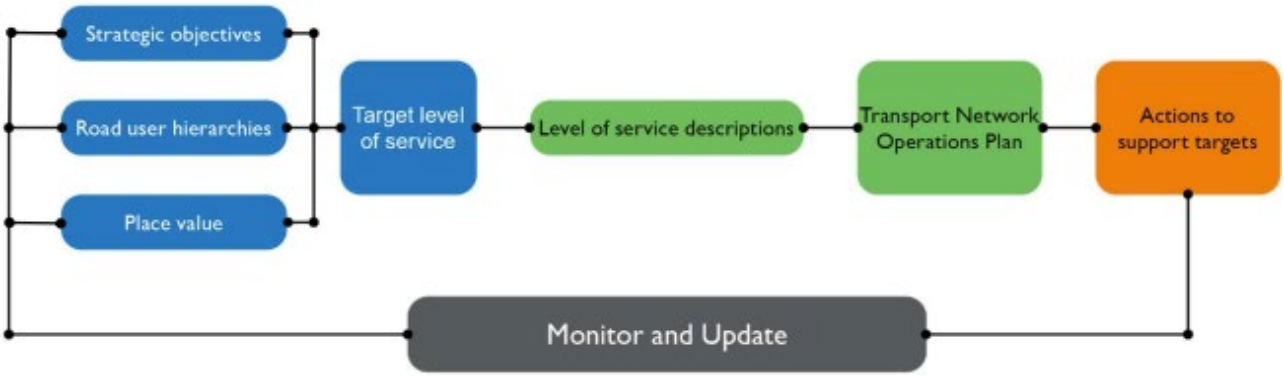
5.4 Application of Movement and Place to network operation plans

AGTM Part 4 provides an overview of the network operation planning process to be applied in road corridor management. This content is to be updated for Movement and Place principles – in particular the integration of operating the transport network within context of the community and public space it passes through.

5.4.1 Strategic network operation planning

A Network Operating Plan (NOP) is a strategic framework that guides the operation and development of a road network to achieve desired outcomes over time The principles of Movement and Place and NOPs are interwoven as the former elevates the role of place, while the latter focuses on identifying modal priorities including trade-offs between modes. The integration of the NOP with Movement and Place ensures that the operation of the road network is aligned with the strategic objectives of the community and place that the network serves.

Figure 5.13: Development of a network operations plan within the context of Movement and Place



Source: Figure 1 – Transport Network Operations Plan Process, Tasmanian Government and City of Hobart (2023).

As noted in Section 5.3.1 the Movement and Place assessment for an area can inform the NOP by allowing the priorities of the street environment as a place to be considered alongside the modal priorities of the journey network. Equally the NOP can inform the Movement and Place assessment by providing guidance on movement activity, priorities and road user hierarchies.

An example of a strategic NOP that is aligned with Movement and Place street environments is provided in Section 6.5.

5.4.2 Network performance

Performance indicators

Network performance indicators are mechanisms to operationalise objectives in alignment with government goals for the network. Where there is a specific Movement and Place planning approach, the network performance indicators will align with strategic objectives that consider the activity needs (in addition to the journey needs) of the road users, and the impact on the built environment where the network operates.

Balancing a diversity of performance indicators and evaluating quantitative measures with qualitative aspects can be complex. A common approach is to align levels of service (LOS) to each performance indicator, acknowledging that various road user groups perceive LOS differently based on their diverse set of needs and measures. Alignment with different road user groups means the LOS for journey and activity indicators are temporal and their peak periods within a street environment are often misaligned.

Further advice on classifying, measuring and valuing the benefits of place on the transport system is provided in Austroads report AP-R626-20 (Austroads 2020b).

An example of a set of network performance indicators that have been developed to align with a Movement and Place planning approach is provided in Section 6.6. An example of how they have been applied to project assessment is provided in Section 6.7.

Targets

A target is the desired level of performance for a specific performance indicator. Targets should be measurable and realistic, but challenging. If targets are unrealistic and too difficult to achieve, they may discourage people rather than motivate them. On the other hand, targets that are too easy to achieve can lead to complacency (Department of Infrastructure, Transport, Regional Development and Communications, Australian Government 2021)

A performance gap is the difference between the baseline and target performance metric. The performance gap is used to identify the general location of journey and activity problems, when they occur, and who is impacted the most.

The analysis of performance gaps can inform the operational services and activities that relate to the day-to-day management of street environments and the road network; and at a network level inform a list of investment priorities.

Agencies need to work with multidisciplinary range of stakeholders to establish agreed and realistically achievable LOS targets within the context of the Movement and Place street environment, road network operation objectives, and for the full range of road users.

An example of a network operating plan with both place-based and modal targets is provided in Section 6.6.

6. Case Studies and Examples

This section provides case studies and worked examples of applying Movement and Place principles and processes.

An overarching recommendation for updating Movement and Place guidance, identified in the literature review and stakeholder engagement, is to provide clear direction, case studies and worked examples of applying Movement and Place processes.

The case studies have been developed to support the guidance updates provided in Section 5. They were identified and selected during stakeholder consultation with subject matter experts.

Where case studies are promoted within Austroads guidance, they should be regularly reviewed and updated to remain current, relevant and share learnings more effectively.

6.1 Strategic planning approach case studies

These case studies illustrate contrasting planning approaches that have been developed to integrate Movement and Place within common steps of planning projects and programs.

Table 6.1: Case study – Victorian Movement and Place planning approach

Category	Response
Topic	Movement and Place planning approach
Transport Agency	Department of Transport and Planning
Jurisdiction	Victoria
Description	The Movement and Place Framework in Victoria supports how the Department of Transport and Planning plans the road and transport network. The planning approach (illustrated in Figure 6.1) is underpinned by 4 modules which build upon one another to form the framework: • Module 1 – Network classifications: A way of spatially representing the priority of the different movement modes, place, safety and environment. Each road or street, interchange and place have a defined set of classifications that represent its desired state. The classifications are mapped as layers in vMaps (State Government GIS platform). • Module 2 – Network performance: A set of indicators to help measure the existing performance of different movement modes, place, road safety and environment as well as a set of target performance levels. The module provides a means of assessing the performance gap between the desired state and existing performance. • Module 3 – Options development: How to identify project or operational objectives and potential options. The objectives consider the network and local context, and performance gaps identified in Module 2. The process for developing potential options is informed by standards, available road and street type guides, design guides and the range of potential interventions. • Module 4 – Options assessment: How to assess the impact of an option on the desired network state. The process is supported by a user, roads and streets design, performance and assessment guides, and the state-wide GIS tool – vMaps.
Discussion	Movement and Place in Victoria was an evolution of their SmartRoads program to include 'Link and Place' thinking. It seeks to better integrate a variety of considerations and outcomes in land-use and transport planning.

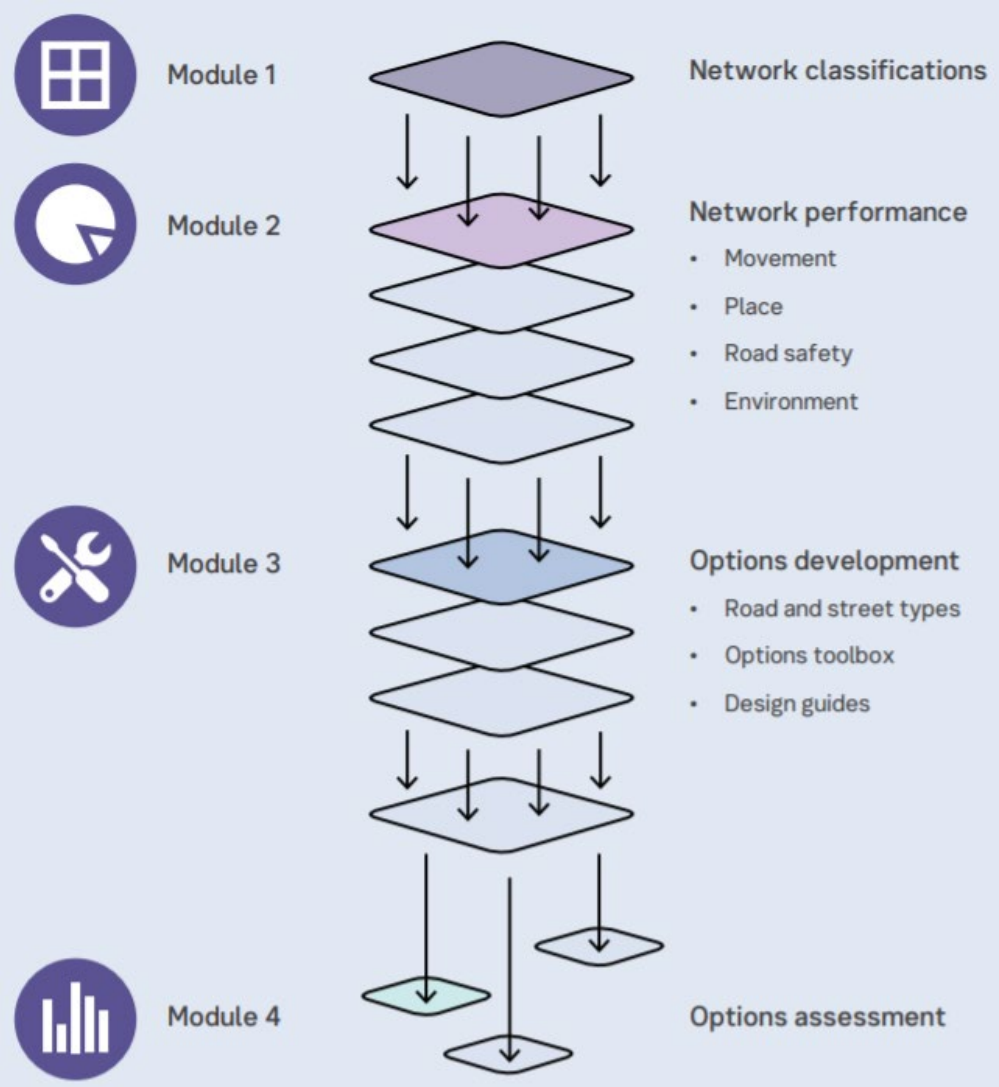
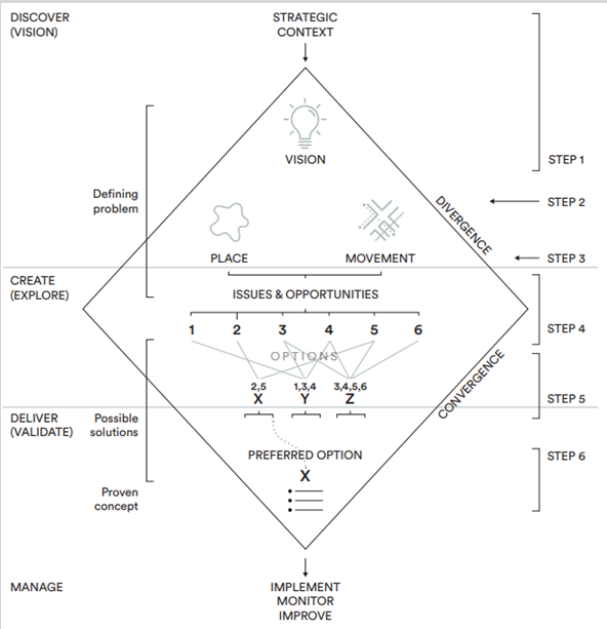
Category	Response
	In practice, whilst 'place' influences the classification of the network in Module 1 – Network classifications; it is not fully integrated as a context sensitive consideration of network operations as it is managed in a parallel process to movement, road safety and environment goals and outcomes in Module 2 – Network performance. Places (both on-street and accessed by the network) are categorised at a State-wide level from National through to local significance within a metropolitan or regional significance. Whilst this provides consistency across Victoria for applying network performance and options development guidance and tools; it can substantially narrow the range of street environments within an individual project or smaller study area and can underestimate the significance of a place within a local context.
Transferability	The theoretical processes and planning methods in the approach are transferable to other jurisdictions. However, the tools and guidelines have been developed to specifically translate transport outcomes to the Victorian Transport Integration Act 2010. As such, performance indicators, levels of service and targets, and road and street typology design guidance are tailored for the Victorian network and may not be directly transferable to other jurisdictions.
Images	**Figure 6.1: Victorian Movement and Place planning approach**  *Source: Victorian Department of Transport (2019:11).*
Sources	• Department of Transport (2019).

Table 6.2: Case study – NSW Movement and Place planning approach

Category	Response
Topic	Movement and Place planning approach
Transport Agency	Transport for NSW
Jurisdiction	New South Wales
Description	The NSW Movement and Place Framework is a whole-of-government integrated approach and includes guidance and resources spanning planning, design, delivery and operation of places and the transport network. It is a place-based design led approach with 6 key steps, as illustrated in Figure 6.2. It is a 'vision and validate' methodology which iteratively brings together both movement practitioners and place practitioners to develop a vision, test options, evaluate and refine planning over time. There is a strong focus on engagement and collaboration with key stakeholders (including councils, businesses and the community) to understand issues and opportunities. A multi-scale approach to planning and design development is encouraged.
Discussion	The process is designed for cross-agency practice and governance. This is particularly beneficial for engagement and buy-in to plan development. However, preferred option packages are ultimately aimed at transport investment, and the placemaking and social infrastructure opportunities are not always aligned with cross-agency programs. There is an integrated approach to movement and place issues, opportunities and outcomes and performance indicators are more holistically aligned to the built environment, and not network operation outcomes. This works well for strategic planning and design, but guidance on its application to network operations is not currently as mature.
Transferability	Cross-agency design of the approach makes it suitable for a range of transport and land use practitioners. Relative definitions of place intensity and movement significance to individual study areas enhances its adoption to a range of projects, programs and practitioners (including local government and site developers). The theoretical processes and planning methods in the approach are transferable to other jurisdictions. However, the tools and guidelines (including supporting data sets) have been developed specifically for the NSW transport network.
Images	**Figure 6.2: NSW Movement and Place planning approach**  *Source: Transport for NSW (2023a:10).*
Sources	• Transport for NSW (2023a).

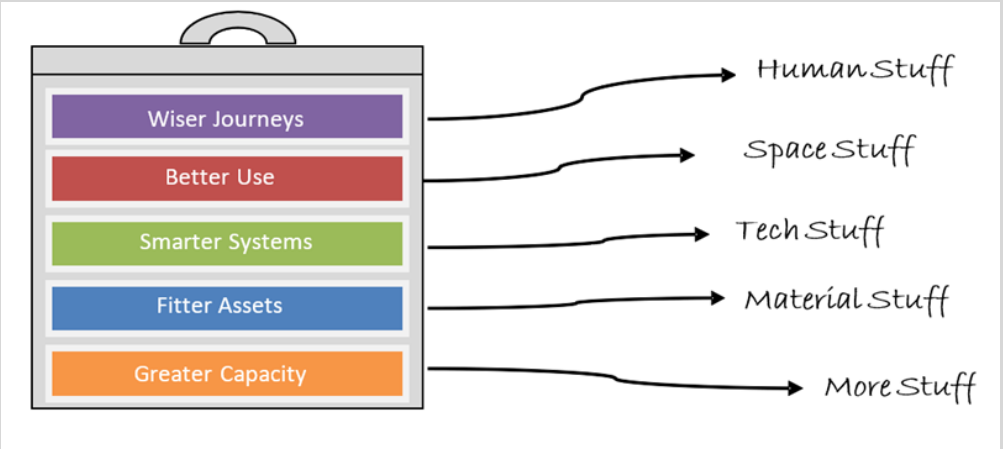
6.2 Interventions hierarchy case studies

This case study provides examples of selecting interventions to address issues identified in a Movement and Place performance assessment.

Table 6.3: Case study – Transport for London Roads Task Force intervention hierarchy

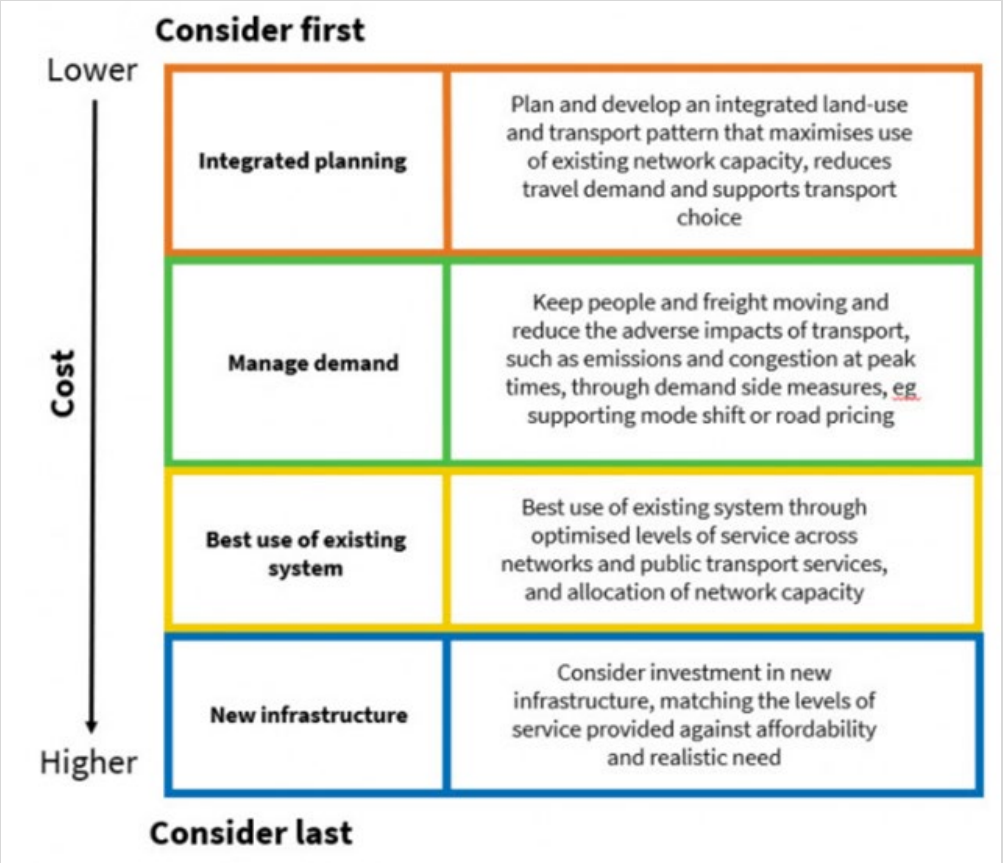
Category	13.8
Topic	Intervention hierarchy
Transport Agency	Transport for London
Jurisdiction	Greater London, UK
Description	The Roads Task Force (RTF) was an independent body established by the Mayor of London to work with Transport for London to address the challenges facing the London road network. The RTF published a vision for managing, planning and developing London's roads and streets for short, medium and long-term timeframes. The approach identified 9 street types for the London network defined by their 'movement' and 'place' types in a matrix. The classification of street types was used to agree on priority functions and key service standards for projects. The RTF includes a 'toolbox' containing intervention options which can be applied to take the functions of a street from their existing state to the aspirational level (see Figure 6.3). The toolbox is separated into 'compartments' which each contain the relevant tools – for example, compartment 1 titled 'Infrastructure and assets fit for the future: improving the foundations of the system' contains tools such as 'Tool 1b: enhanced safety features'. Each tool has an example of how they can be applied in London and the functions it responds to.
Discussion	The hierarchy of interventions commonly promote consideration of integrated transport and land use planning and travel demand management ahead of network optimisation or infrastructure. This hierarchy of interventions does not explicitly require a Movement and Place framework or strategy to be applied by a transport agency. However, the multidisciplinary range of objectives and performance metrics within a Movement and Place planning approach ensures the issues and opportunities of people, place and movement (and the relationships between them) are identified and a broader range of interventions considered.
Transferability	The transport planning principles of this approach are universal and similar intervention hierarchies and toolboxes have been developed to support the Victorian Movement and Place Framework (Figure 6.4) and Waka Kotahi NZ Transport Agency One Network Framework (Figure 6.5).
Images	**Figure 6.3: London Roads Task Force intervention toolbox**  *Source: Transport for London (2013, Part 2:103).*

Figure 6.4: Victorian Movement and Place intervention toolbox



Source: Department of Transport (2019).

Figure 6.5: Waka Kotahi NZ Transport Agency one network framework toolbox



Source: Waka Kotahi NZ Transport Agency (2022).

Sources

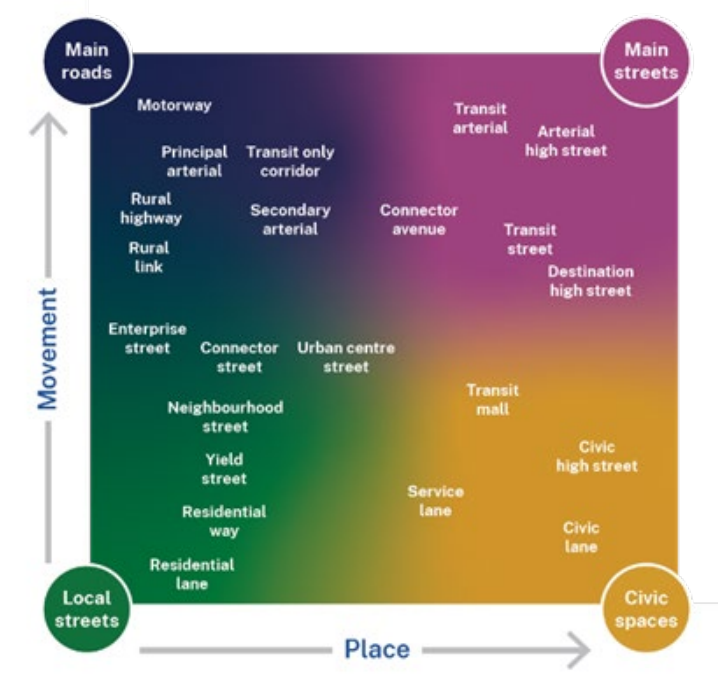
- Transport for London (2013).
- Department of Transport (2019).
- Waka Kotahi NZ Transport Agency (2022).

6.3 Road and street typologies case study

This case study describes the street environments and typologies that have been developed and discusses how they are used for multi-scale planning and design.

Table 6.4: Case study – NSW Design of Roads and Streets

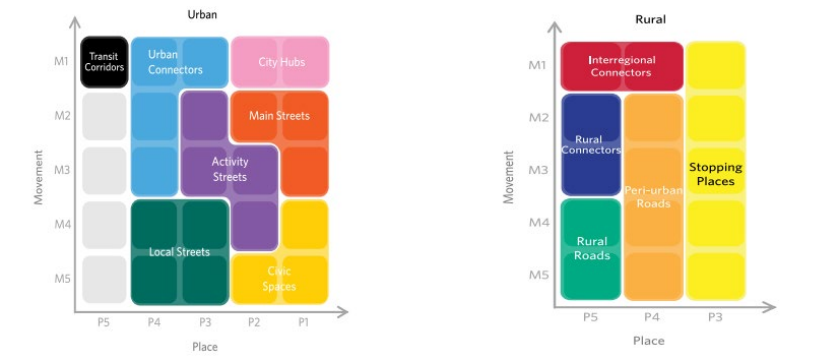
Category	Response
Topic	Street environments and typologies
Transport Agency	Transport for NSW
Jurisdiction	New South Wales
Description	The NSW Movement and Place Framework does not prescribe a classification or hierarchy for movement and place. It overlays the place intensity and movement function of a road or street segment in the matrix to understand what kind of street environment it is. There are 4 street environments used at a strategic level (see Figure 6.6) Street environments are used for strategic network and modal guidance including the *Network Planning Precincts Guide*, *NSW Cycleway Design Toolbox* and *Bus Priority Infrastructure Planning Toolbox*. A further 22 of the most common street typologies are overlaid within the street environments based on their land use context (urban, suburban, peri-urban, regional and rural) and design parameters (including road widths, operations and activities). Design guidelines (the *Design of Roads and Streets*) and a library of design solutions aligned with the street typologies have been developed. The *Design of Roads and Streets* provides detailed guidance on design considerations for each road user including size and scale, spatial use, speed, and travel time and distance.
Discussion	The use of a single matrix of street environments across both urban and regional networks in NSW simplifies its use as it is applicable to all networks. All stakeholders (including local governments and developers) are encouraged to use it. Online and in-person training courses have been established to support the published policy, guides and tools. However, the bespoke classification of the road or street segment for each project requires practitioners to be conversant in the fundamental principles of Movement and Place (as opposed to having agency defined maps of street environments and typologies). This can result in conflicting definitions of street environment or street typologies for the same road or street segment. The *Design of Roads and Streets* has been adopted by Transport for NSW as a manual within the Transport Standards Framework for use across NSW.
Transferability	The street environments are simple, intuitive and transferable to most road and street networks. The principles of the strategic network, modal guidance and training materials are applicable to other networks. The street typologies and supporting design guidance are tailored for NSW legal and organisational context.

Category	Response
Images	**Figure 6.6: Transport for NSW street environments**  *Source: Transport for NSW (2023a).* **Figure 6.7: Transport for NSW street typologies**  *Source: Transport for NSW (2024).*
Sources	• Transport for NSW (2023a). • Transport for NSW (2024).

6.4 Rural network case study

This case study provides an example of a Movement and Place framework which has different street environments for urban and rural networks.

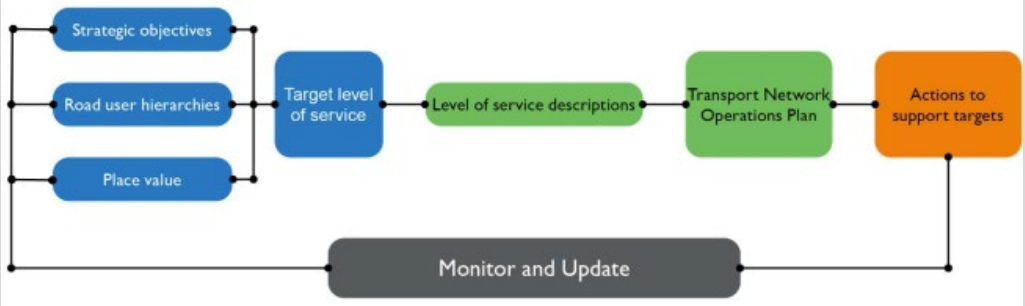
Table 6.5: Case Study – NZTA One Network Framework

Category	Response
Topic	Street environments and typologies
Transport Agency	NZ Transport Agency Waka Kotahi
Jurisdiction	New Zealand
Description	The One Network Framework (ONF) has been developed by the NZ Transport Agency Waka Kotahi (NZTA). In the ONF, Movement and Place principles are used at the strategic network planning and development level, as well as at the detailed project level. ONF marries network-wide and local considerations. and organises transport links by their place and movement roles into road and street types. It is used as a tool to help establish network function, performance measures, operating gaps and potential interventions for each road and street type. ONF defines 2 sets of street families – urban and rural groups (see Figure 6.8). In the ONF, 'place' is determined by the adjacent land-use as defined by the district/unitary plan zone. The street families are groups of more granular street environments, noted by their Place/Movement rankings (e.g. M1P1) and the function of the street. The differentiation between urban and rural street families recognises that the level of people and goods movement, and factors that determine place, are different in each context. The highest place levels P1 and P2 are not included in the rural matrix; and the level of on-street activity in P3 and P4 is also defined to be much lower than in the urban context.
Discussion	The ONF definition of urban or rural is different from the One Network Road Classification definition, which was determined mainly by the speed limit of the road or street. This leads to an evolution in planning and design responses that are more nuanced and context sensitive. The use of 2 matrices for rural and urban street environments can make identifying street environments more intuitive. However, they also make comparison of street environments for the purposes of program planning, investment and management across both rural and urban networks more cumbersome as street environments are not consistent between the 2 matrices. The definition of 'place' and alignment with national level land use planning zones makes the classification of street environments more consistent and easier to automate, which is important as the ONF is applied at a national level. Whilst it requires consideration of the built form and interface with on-street activity, the classification is still dominated by the density of activity occurring off-street, which can have perverse local results of under and over estimating place intensity in the street environment.
Transferability	The ONF has been developed to be used at a national level – making it transferable between different levels of governance within New Zealand.
Images	**Figure 6.8: NZTA One Network Framework toolbox**  *Source: Waka Kotahi NZ Transport Agency (2022).*
Sources	• Waka Kotahi NZ Transport Agency (2022).

6.5 Strategic network operation plan case study

This case study provides an example of a strategic network operation plan that has been developed based on Movement and Place principles.

Table 6.6: Case Study – Inner Hobart Transport Network Operations Plan

Category	Response
Topic	Strategic network operation plan
Transport Agency	Tasmanian Department of State Growth and City of Hobart
Region/ Jurisdiction	Central Hobart
Description	The Inner Hobart Transport Network Operations Plan (TNOP) provides a guide to managing competing priorities on the road network and ensures that the operation of the road network is aligned with the strategic objectives of the city. It provides a framework for both current operations and to strategically guide future investment and network improvements. Guided by strategic objectives for the city and based on Movement and Place principles, it provides a road user hierarchy – a map showing locations on the network where particular modes and activities are to be prioritised. These maps are context sensitive to the street environment where the transport network operates. The road user hierarchies were developed based on the strategic journey purpose – strategic, connecting or local. This is overlaid on a place value which has been defined for each street segment in the network based on a description of off-street land uses, built form, and activity centre purpose and indicative level of pedestrian activity (see Figure 6.10). Each transport road user is assigned a Level of Service (LOS) – a description of performance ranging from A (best) to E (worst) for each mode. Target minimum LOS are then determined for each segment of the network, for each mode of travel, as the primary indicator for informing operational decisions and planning infrastructure works.
Discussion	The Department of State Growth and City of Hobart are the primary road authorities in the study area; and the TNOP was collaboratively developed by both levels of government (and key stakeholders) and makes no distinction between roads and streets ownership. This enables a primary focus on network user outcomes, rather than governance. It is acknowledged that the target minimum LOS for each mode, in each location, will not always be able to be achieved without compromise for another mode, or without significant investment. The TNOP is able to identify these operationally challenging locations on the network and support future investment decisions. To enhance understanding, a worked example of the application of the TNOP is provided.
Transferability	Whilst the TNOP is not a Movement and Place framework for Hobart, the use of Movement and Place principles enables it to be integrated with any future Movement and Place framework that may be developed. The use of the TNOP for special events or other applications still requires the development of event-specific road user hierarchies and place values to be assigned, and target minimum LOS re-calculated.
Images	**Figure 6.9: Inner Hobart Transport Network Operations Plan process**  *Source: Figure 1, Tasmanian Government and City of Hobart (2023).*

Category	Response
	Figure 6.10: Inner Hobart place values  *Source: Tasmanian Government and City of Hobart (2023:15).*
Sources	• Tasmanian Government and City of Hobart (2023).

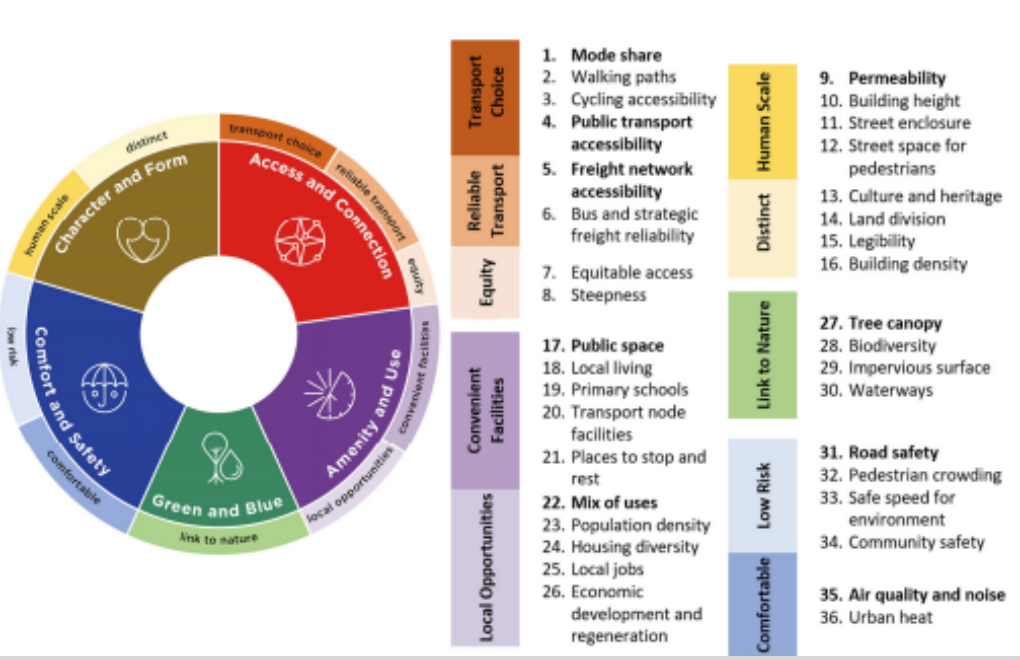
6.6 Network performance case studies

These case studies provide examples of network performance indicators that have been developed to assess Movement and Place outcomes.

Table 6.7: Case study – NSW built environment performance indicators

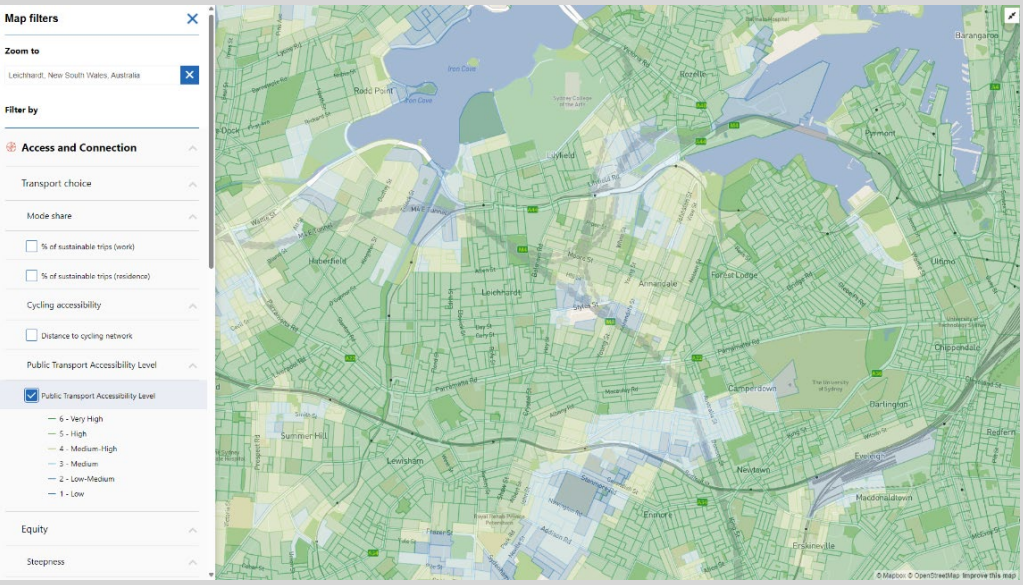
Category	Response
Topic	Network performance
Transport Agency	Transport for NSW
Region/ Jurisdiction	New South Wales
Description	The NSW Movement and Place Framework has established 36 indicators (9 core and 27 supplementary indicators) to evaluate Movement and Place projects based on 5 key themes for the built environment – Character and form, comfort and safety, green and blue, amenity and use, and access and connection – and 10 user outcomes (see Figure 6.11). The core indicators highlight the metrics to consider for a balance of desired outcomes; whilst the supplementary indicators are not required for every project or plan but selected based on the project context. Baseline performance for each built environment indicator is being collated in open data web maps which will be updated and improved as data is provided (see Figure 6.12). The built environment indicators are used as a tool to: • Baseline current Movement and Place performance • Informing needs assessments/performance gap analysis • Scenario testing • Multi Criteria Analysis • Monitoring and evaluation of Movement and Place outcomes. It is supported by a built environment indicator performance assessment tool, which is a spreadsheet-based tool that visually communicates the performance gap between the existing built environment and desired vision for a study area (see Figure 6.13).
Discussion	The built environment indicators are strategically aligned with NSW Government policy for better places and future transport. The integration of network performance and placemaking outcomes provides a holistic assessment for projects and programs. It is best applied for strategic assessment at a network level. The open data web maps make baseline data easily accessible to all practitioners. But data is not currently available for all indicators for all study areas; and results for performance assessment can be coarse when applied across large study areas. The performance assessment tool is useful for communicating and visualising performance gaps between existing and desired outcomes with stakeholders in a single diagram. The access to regional data provides a comparative baseline in lieu of targets (which is set by the individual project vision).
Transferability	Developed for strategic assessment of a study area, the built environment indictors do not easily align with network operation plans and modal/activity targets for road users. Developed for regional level assessment of a study area, the built environment indicators do not easily align with the more granular Healthy Streets Indicators (which are promoted for street-level assessment).

Category	Response
Images	**Figure 6.11: NSW built environment indicators**



Source: NSW Government (n.d.)

Figure 6.12: NSW built environment indicators web map



Source: NSW Government (n.d.)

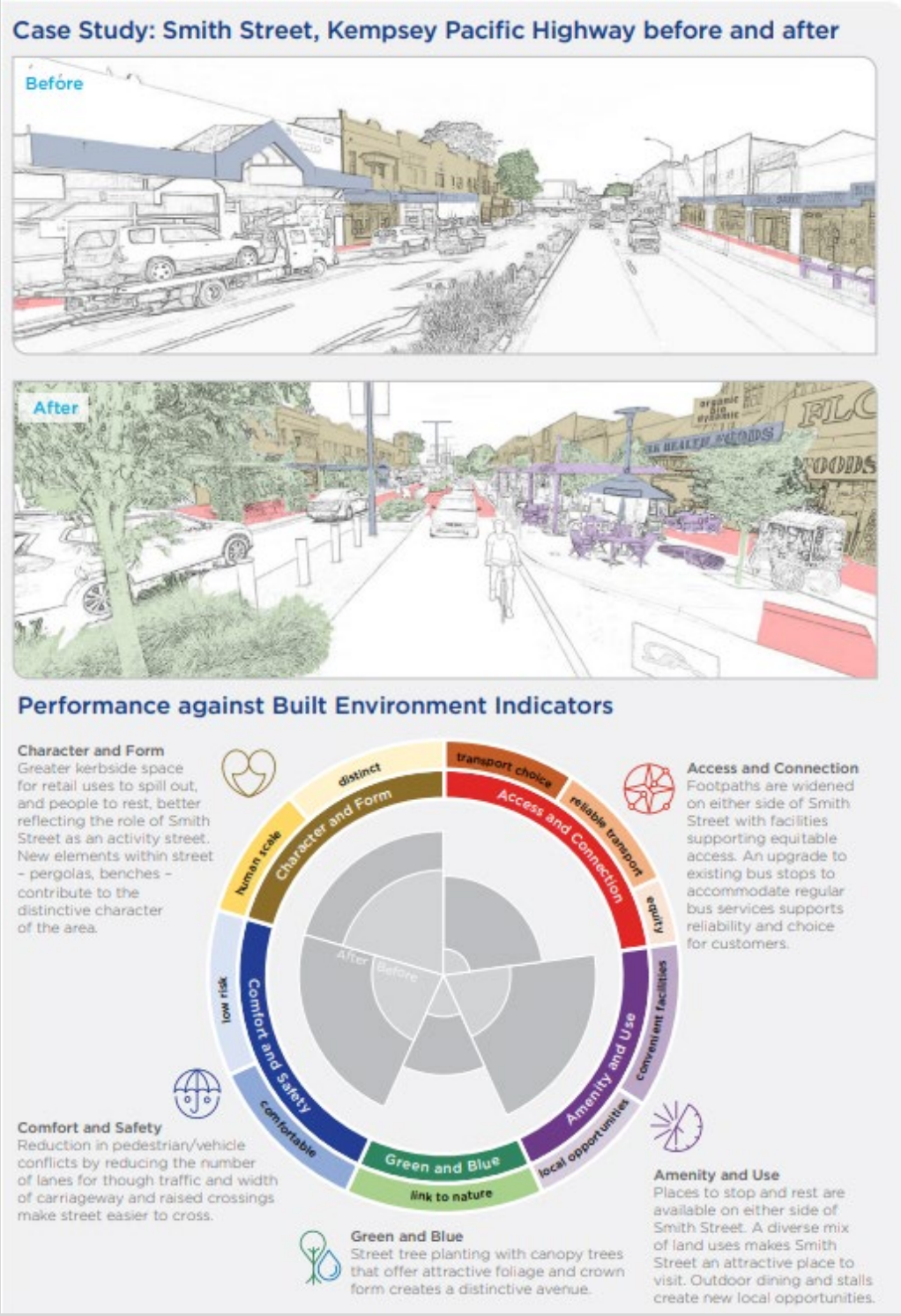
Category	Response
	Figure 6.13: NSW performance against built environment indicators  *Source: Movement and Place (n.d.)*
Sources	• Movement and Place (n.d.) • Transport for NSW (2023a).

Table 6.8: Case study – Greater Adelaide tree canopy cover performance indicator and targets

Category	Response
Topic	Network performance
Transport Agency	Department for Infrastructure and Transport
Jurisdiction	South Australia
Description	A robust tree canopy in urban streets greatly enhances the overall street quality and ranks as a top priority in community surveys. The Department for Infrastructure and Transport (DIT) in South Australia has integrated a tree canopy cover indicator into its network performance assessment. The data for this indicator is sourced from Lidar image technology, which captures the tree canopy footprint using optical remote-sensing methods. This information is then used to calculate the ratio of tree canopy area to road space area, determining the tree canopy cover percentage. This indicator facilitates canopy cover comparisons across various streets, neighbourhoods and regions. It also enables setting of benchmarks within the assessment framework. Canopy cover benchmarks were established according to place status along the network: streets/roads with a place status of P1, P2, or P3 aim for a 35% cover benchmark, those with a P4 status – 30%, and streets/roads designated as P5 – 25% benchmark. The higher 35% and 30% tree canopy benchmarks were also linked to the first and second cycling hierarchy status, respectively. These benchmarks were established in the context of the 30-year plan for Greater Adelaide, which aims to achieve an increase in tree canopy cover across Greater Adelaide and will be revised as the tree canopy cover is gradually increased. Figure 6.14 illustrates the partial street network in the Greater Adelaide managed by DIT, with streets colour-coded to indicate the proximity of the existing tree canopy to a predefined benchmark for each street section.
Discussion	The indicator integrates Movement and Place outcomes within network performance assessment and aligns with broader strategic goals for Greater Adelaide. It is an evidence based, quantitative, indicator with clear targets set for each street environment.
Transferability	Tree canopy cover is a common indicator for place performance and the data collection method to determine tree canopy cover is transferable. The indicator is currently developed for Greater Adelaide but has potential to be applied in regional and rural locations throughout South Australia.

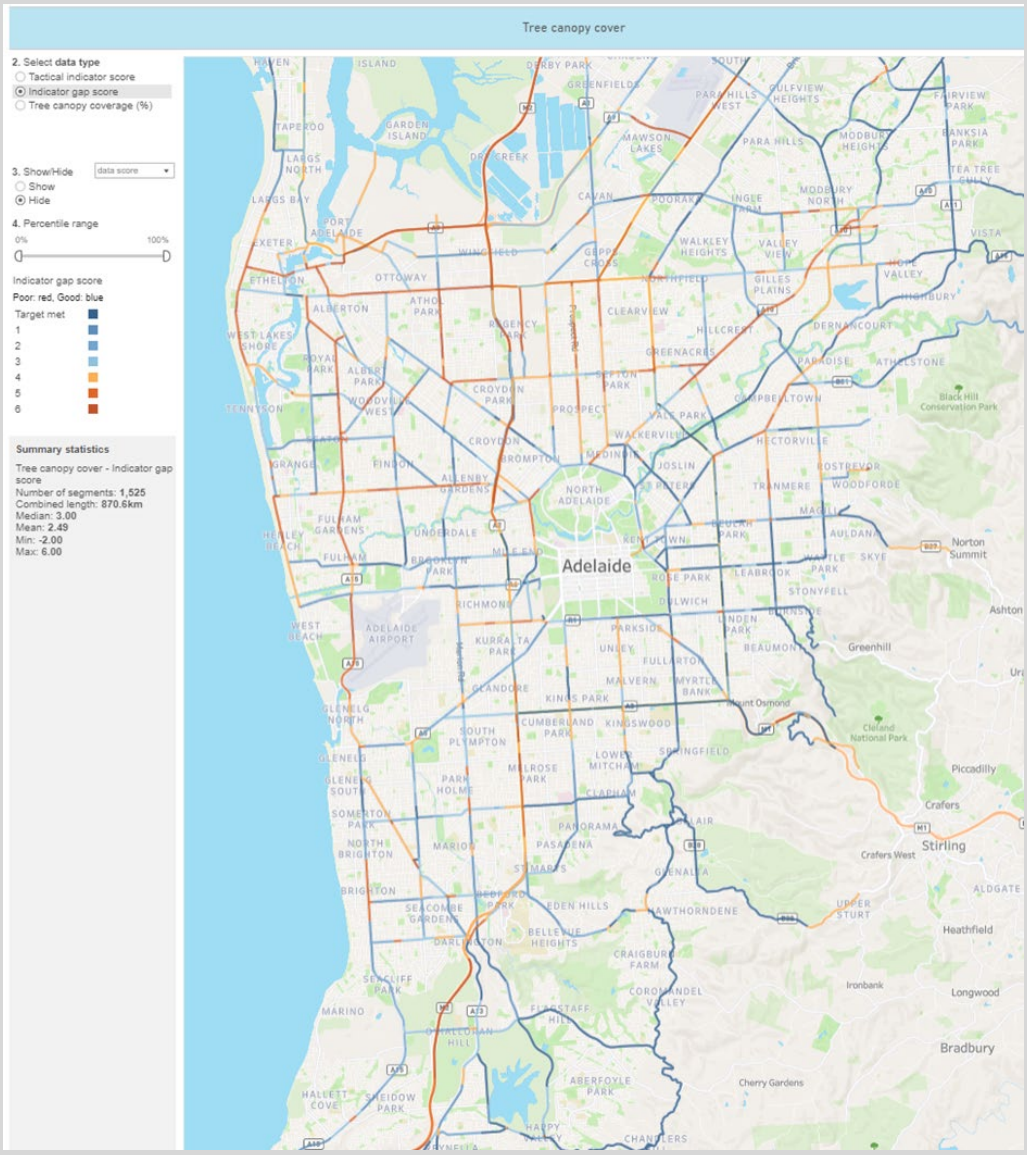
Category	Response
Images	**Figure 6.14: Greater Adelaide tree canopy cover**  *Source: Department for Infrastructure and Transport, Government of South Australia.*
Sources	• Department for Infrastructure and Transport, Government of South Australia.

Table 6.9: Case study – Victorian Movement and Place performance indicators and targets

Category	Response
Topic	Network performance
Transport Agency	Department of Transport and Planning
Jurisdiction	Victoria
Description	The Movement and Place Framework in Victoria measures performance under the 4 themes of: • Movement. • Place. • Road safety. • Environment.

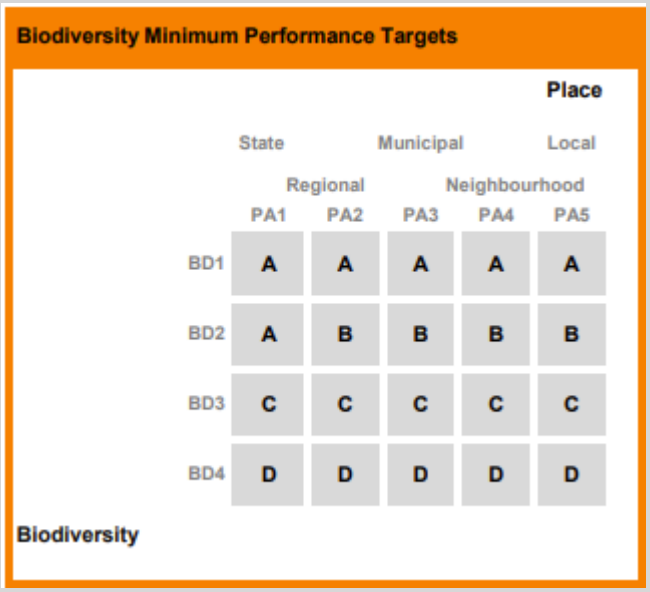
<table>
<tr><th>Category</th><th>Response</th></tr>
<tr><td></td><td>Two categories of performance indicators are used – network and project performance indicators.
Network performance indicators are used to inform the achievement of strategic outcomes and understand wider network performance. These indicators and their Level of Service (LOS) descriptions are shown in Figure 6.15. Typically, the data used for these indicators is collected by the Department of Transport and Planning.
Project performance indicators incorporate local data that may be available or may be collected as part of the project to provide more detailed information on LOS on particular links. Projects incorporate a mix of project and network performance indicators to assess the link on a variety of different scales. Examples of project performance indicators are shown in Figure 6.16.
Target minimum performance levels are defined at a link level for each theme/mode (with additional layers of classification for each road, street, interchange or place) to assess the performance gap. The target levels are set based on a balance of community expectations and desired policy objectives. Each indicator has Movement and Place target minimum performance requirements. Some indicator targets are temporal and have different expectations for the peak and off-peak periods.
Examples of target minimum performance levels for a link level theme and mode are shown in Figure 6.17 and Figure 6.18, respectively. These are minimum performance targets; however, where possible, higher performance levels should be aimed for.</td></tr>
<tr><td>Discussion</td><td>Movement and Place in Victoria is a mature framework that provides integration of transport and land use planning considerations and aligns with other policies including the Planning and Environment Act 1987, Transport Integration Act 2010, Road Management Act 2004 and Local Government Act 1989.
Data and classification mapping are centrally coordinated and available for project teams and stakeholders as required. Training and guidance materials are also available.
However, in the past, some guidelines and tools to support the Framework have not been publicly available – including the technical appendices for network performance.</td></tr>
<tr><td>Transferability</td><td>The framework provides a consistent planning, assessment and monitoring approach and evidence base for network performance across Victoria.</td></tr>
<tr><td>Images</td><td>Figure 6.15: Network performance indicators for Victorian Movement and Place
<table>
<tr><th>Theme</th><th>Indicator</th><th>Description of Level of Service</th></tr>
<tr><td>Movement</td><td>Travel Speed</td><td>A-E score considering operating speed and signed speed. Scores are reported for General Traffic, Buses, Trams and Freight.</td></tr>
<tr><td></td><td>Cycling</td><td>A-E score based on level of traffic stress faced by cyclists as determined by infrastructure and speed limits.</td></tr>
<tr><td></td><td>Walking</td><td>A-E score based on the likely delays faced by pedestrians at crossings.</td></tr>
<tr><td>Place</td><td>Accessibility</td><td>A-E score measuring distance of segment from public transport.</td></tr>
<tr><td></td><td>Safety and Comfort</td><td>A-E score measuring whether the environment supports on street activity through the sense of safety and comfort it offers pedestrians.</td></tr>
<tr><td>Road Safety</td><td>Crash History</td><td>A-E score based on the number of crashes occurring on the segment relative to other segments.</td></tr>
<tr><td>Environment</td><td>Greenhouse Gas Emissions</td><td>A-E score considering whether vehicles (generally traffic and heavy vehicles) on the road are operating at the speeds at which they are most energy efficient.</td></tr>
<tr><td></td><td>Noise</td><td>A-E score based on estimated noise emitted by traffic.</td></tr>
</table>
Source: Department of Transport (2020:27).</td></tr>
</table>

Figure 6.16: Project performance indicators for Victorian Movement and Place

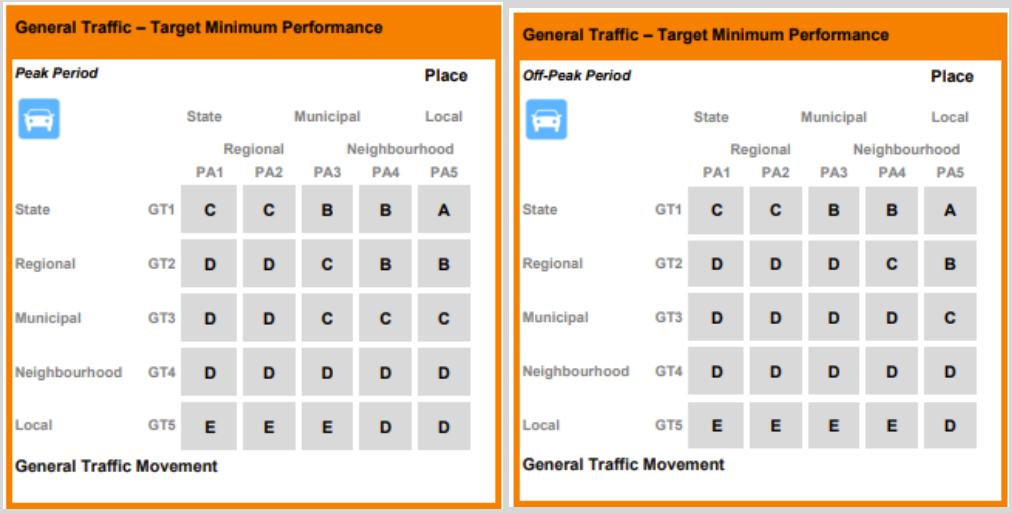
Theme	Indicator	Description of Level of Service
Movement	General Traffic Freight	A-E score considering operating speed and travel time reliability
	Tram Bus	A-E score considering operating speed, movement in traffic and travel time reliability
	Cycling	A-E score based on level of traffic stress faced by cyclists as determined by infrastructure and speed limits
	Walking	A-E score based on the likely delays faced by pedestrians at crossings
	Interchanges	A-E score considering proximity to changeover of modes and infrastructure available that ensures an efficient, safe and comfortable changeover
Place	Activity	A-E score considering the safety and comfort, walkability and identity of an area
	User Experience	A-E score based on ease of orientation, being visually interesting and context sensitivity
Road Safety	Road Safety Risk	A-E score based on IRAP star rating of road
Environment	Biodiversity	A-E score based on biodiversity
	Water	A-E score based on-site water management
	Public Health	A-E score based on air quality, noise and tree canopy

Source: Department of Transport (2020:28).

Figure 6.17: Environment theme – Target minimum performance for biodiversity



Source: Department of Transport (2020:58).

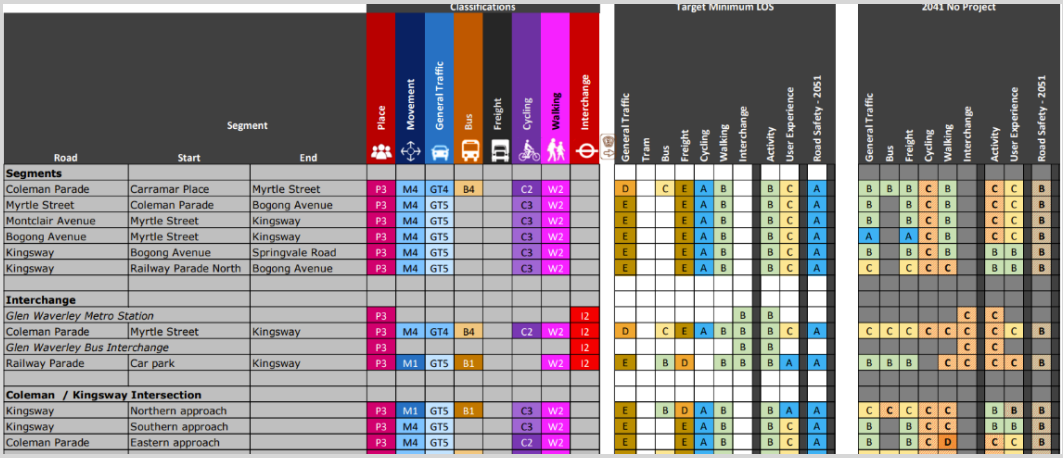
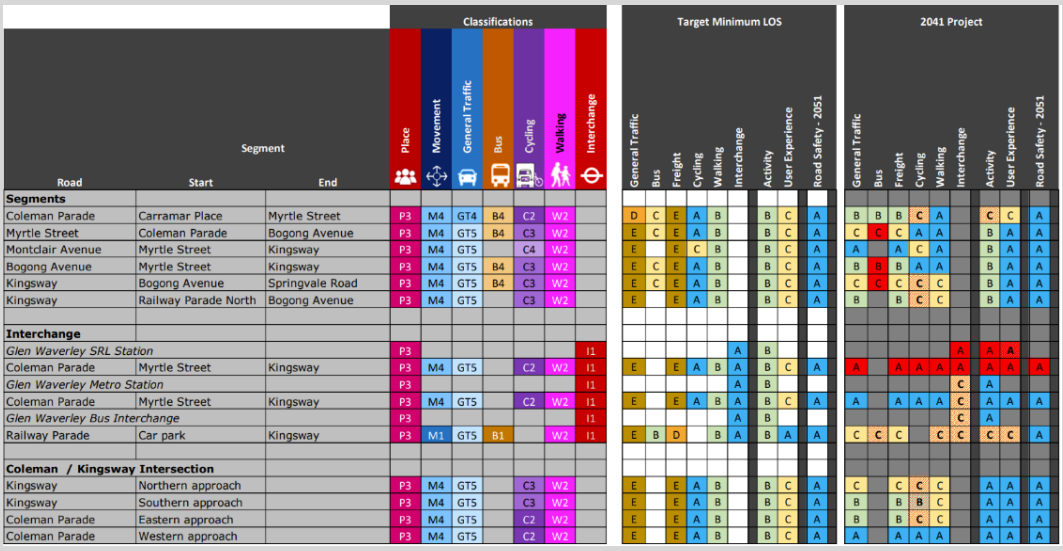
Category	Response
	Figure 6.18: General Traffic Mode – Target minimum performance (peak and off-peak)  *Source: Department of Transport (2020:54).*
Sources	• Department of Transport (2020).

6.7 Project assessment case study

This case study provides an example of how Movement and Place network classification and performance assessment has informed the understanding of major project impacts.

Table 6.10: Case study – Suburban Rail Loop project assessment

Category	Response
Topic	Project assessment
Transport Agency	Suburban Rail Loop Authority
Jurisdiction	Victoria
Description	Suburban Rail Loop (SRL) will form a 60 km fully automated orbital rail line through Melbourne's middle suburbs with 13 stations between Cheltenham and Melbourne Airport, connecting 8 existing radial rail lines. The project will be delivered in 4 distinct sections, with the Environmental Effects Statement (EES) and draft Planning Scheme Amendment for the first section – SRL East between Cheltenham and Box Hill – initiated in 2021. For the traffic and transport assessment of the project that supported the EES, the Movement and Place network outcomes for each of the station precincts were considered and performance assessed for the base year and future year (with and without SRL) against target levels. Performance levels were defined at a corridor level for each relevant themes of Movement, Place and Road Safety. Within each theme, project indicators and targets to be evaluated were identified.
Discussion	There are 4 modules (stages) to the Victorian Movement and Place Framework – network classification, network performance, options development and options assessment. The transport assessment for SRL East undertook all 4 stages of assessment. Of particular relevance to the project, interchange classifications were considered based on service diversity, usage, catchment and special network functions. It was noted that the classification of station interchanges changed from the baseline with the project; and this changes the target performance levels for the assessment. For example, the existing Glen Waverley railway station and bus station is classified as an I2. The inclusion of an SRL station within the precinct will increase the interchange classification from I2 to I1. An example of the network classification and assessment for Glen Waverley Station, without and with SRL, is shown in Figure 6.19and Figure 6.20, respectively.

Category	Response
	The Movement and Place network classification and performance assessment informed the understanding of project impacts on both the movement and place network elements (roads, streets, interchanges and places) of the Suburban Rail Loop project. The project assessment provided a transparent evidence base of how the impact findings and conclusions were made.
Transferability	The 4-stage assessment approach – network classification, network performance, options development and options assessment – is applicable to projects in all jurisdictions. However, the network classifications, project indicators and targets are specific to the network and project and should be developed in collaboration with local agencies and stakeholders.
Images	**Figure 6.19: Assessment of Glen Waverley precinct in 2041 without SRL East**  *Source: AJM Joint Venture (2021:Figure 5-5).* **Figure 6.20: Assessment of Glen Waverley precinct in 2041 with SRL East**  *Source: AJM Joint Venture (2021:Figure 5-6).*
Sources	• AJM Joint Venture (2021). • Department of Transport (2020).

7. Conclusions and Recommendations

This project has identified and justified actionable recommendations for Austroads to update Movement and Place Guidance. This section summarises the project conclusions and sets out the next steps for actioning them.

Movement and Place is a concept that recognises the dual role of roads and streets:

- To support transport network operations for both people and goods (**movement**), and
- As public spaces with their own activity, built form and meaning (**place**).

The scale and balance of these roles can change on different segments of a road or street; and at different times of the day, week and/or season. The concept can be applied at all stages and scales of transport and land use planning programs.

Originating in Europe, the adoption of Movement and Place in local practice has enhanced the integration of transport and land use planning and the development of context sensitive network operations in Australia and New Zealand. However, transport agencies in Australia and New Zealand are at different stages in their adoption, development and implementation of Movement and Place frameworks – resulting in a lack of alignment across jurisdictions. Furthermore, Austroads has identified Movement and Place as a cross-cutting principle which spans across a range of practice areas (Austroads 2021); but is currently challenged in providing consistent and current guidance.

This project has supported the ongoing development and application of a consistent Movement and Place approach across the Austroads member states and regions by developing:

- Consistency: Defining and using consistent Movement and Place concepts and language within Austroads products and publications.
- Best practice: Identifying best practice Movement and Place framework elements, applications and tools.
- Clarity: Providing clear direction, case studies and worked examples of applying Movement and Place processes.

Adoption of the following 4 key recommendations will better support the ongoing development and application of a consistent Movement and Place approach across the Austroads member states and regions:

1. Within the current structure of the AGTM, the introduction to the cross-cutting principle of Movement and Place should remain in AGTM Part 4.
2. Movement and Place content within AGTM should be updated as detailed in Section 5. It can be published within the existing structure of the AGTM but is also modular and suitable for inclusion in a range of Austroads resources and publications. This update should be part of a more comprehensive revision of AGTM Part 4 for network management strategies is also undertaken.
3. The glossary of terms presented in Table 5.1 should be used consistently throughout Austroads resources and publications within the context of Movement and Place principles and applications. In particular, the Austroads Movement and Place strategic matrix (as illustrated in Figure 5.10) and 4 street environments (main road, main street, local street and civic space) should be adopted and consistently used.
4. Where case studies and examples (such as the Movement and Place ones provided in Section 6) are promoted within Austroads guidance, they should be regularly reviewed and updated to remain current, relevant and share learnings more effectively.

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