Transport for NSW

Moving from Traffic to Transport:

Unpacking the Guide to Transport Impact Assessment

ITE-ANZ webinar

4 March 2025

transport.nsw.gov.au

NSW GOVERNMENT

Acknowledgement of Country

Transport pays respects to Elders past and present, and recognise and celebrate the diversity of Aboriginal peoples and their ongoing cultures and connections to the lands and waters of NSW.

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Overview

Jen Adam
Director, South & West Region
Transport for NSW

What is the Guide to Transport Impact Assessment?

This Guide:

- Is an update to the NSW *Guide to Traffic Generating Developments (2002)*
- Updates technical guidance for transport impact assessments (TIAs) that support development applications (DAs).
- Is used by transport practitioners, developers and consent authorities to assess and mitigate transport impacts of proposed developments.
- Was published in September 2024 and applies to TIAs commenced on or after 4 November 2024.

Why was an update needed?

The current guide had not received major updates since its first release in 1993 or the current version in 2002. In late 2022, industry feedback identified key drivers for change:

Outdated guidance

Industry lacks clarity on TIA guidance, as best practice advice is no longer aligned with the 2002 guidance.

Traffic focused

Heavily traffic focused, not reflecting multimodal transport assessments including active and public transport.

Limited TDM guidance

It does not adequately provide guidance on travel demand management and travel plans.

Aging rates

Missing newer trip rates and technologies, and inconsistent with local contexts.

Objectives of the update

Ensure transport system outcomes are considered in the development assessment process

Provide clear and transparent transport guidance for developers at the DA stage

Support the development sector in effectively interfacing with Transport to ensure impacts are mitigated and advice to consent authorities is provided in a timely manner

Chapter 1
About the Guide

Chapter 2
Legislation, strategic direction and standards

Chapter 3
Undertaking a Transport Impact Assessment

Chapter 4
Travel demand management

Chapter 5
Land use trip generation

Chapter 6
Multimodal network impacts

Chapter 7
Site access and design

Chapter 8
Parking provision and design

Glossary

Appendices

Key changes in the Guide

Multimodal transport design and assessment

Travel demand management guidance

Detailed guidance for TIA and TIS

Updated trip rates and methods guidance

Context-based reference parking rates

[TfNSW standards portal: Guide to Transport Impact Assessment]

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Key changes in the Guide

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Key changes
TIA process

How to prepare an assessment

- Expanded guidance on transport impact assessment, including scope, when it is required, and level of detail for different scales.
- Two types of assessment reports, with level of assessment proportional to the level of impact expected by the proposed development:
  - Transport Impact Assessments
  - Transport Impact Statements
- Scoping checklist in Appendix E details deliverables and actions to consider.

Transport Impact Assessment Process

Given the multifaceted nature of TIAs, it is not possible to have sequential chapters.
Chapter 3 covers the overarching methodology for TIAs, and Chapters 4 – 8 cover more in depth guidance.

Phase		Steps for undertaking TIAs	Relevant chapter: Legislation, strategic direction and standards (C2)	Undertaking a Transport Impact Assessment (C3)	Travel demand management (C4)	Land use trip generation (C5)	Multimodal network impacts (C6)	Site access and design (C7)	Parking provision and design (C8)
Scoping and background conditions	1	**Step 1** – Document proposed development location, scale and access arrangements for all modes	●	●				●	
	2	**Step 2** – Identify the area of influence and surrounding transport networks	●	●			●		
	3	**Step 3** – Understand the existing and future baseline transport network conditions (for all modes in the area of influence)	●	●			●		
Proposed development analysis	4	**Step 4** – Identify and select travel demand management measures	●	●	●				
	5	**Step 5** – Estimate trip generation to/from the development	●	●		●			
Impact assessment and mitigation	6	**Step 6** – Assess the development impacts on the transport network (across all modes in the area of influence)	●	●			●		
	7	**Step 7** – Determine parking provision (including bicycle parking)	●	●					●
	8	**Step 8** – Review and refine development design and site access points (incorporating findings of assessment, parking requirements and TDM)	●	●	●	●	●	●	●
	9	**Step 9** – Impact mitigation (refined design, update TDM measures, upgrade infrastructure)	●	●	●	●	●	●	●
Documentation	10	**Step 10** – Document findings and recommendations	●	●	●				

Key changes
Multimodal network impacts
Guidance and performance indicators

- Extends assessment guidance to all modes of transport (walking, cycling, public transport, and road) and freight, servicing, and safety.
- Provides modal performance indicators that may be used to assess each mode.
- Enables a measurable, consistent approach to assess multimodal network impact.
- The assessment effort is proportional to the anticipated complexity and impact of the proposed development.

Table 6.1. **Performance criteria and considerations by mode for network impact assessment**

Mode	Primary indicator(s)	Supporting indicator(s)
Walking	• Walking Space Level of Service within site and at site frontage (Walking Space Guide, TfNSW)	• Comparison with minimum target walking space (Walking Space Guide, TfNSW) • Safety review of footpaths and crossings (e.g. nearest safe crossing opportunity) within site and at site frontage
Cycling	Subdivision DAs: • Bicycle Level of Traffic Stress within site (Cycleway Design Toolbox, TfNSW) All DAs: • Sufficiency of bicycle parking and end of trip facilities (refer to DCP or other EPIs, if applicable)	Subdivision DAs: • Level of Service (Cycleway Design Toolbox, TfNSW Appendix A.5) All DAs: • Safety review of cycleway within site and at site frontage, if applicable
Public transport	Subdivision DAs: • 400m walk catchment coverage of capable roads All DAs: • Capacity (e.g. waiting space) and safety of facilities at the nearest service stop(s) and opportunities for improving services	• Ease of pedestrian access to and from the nearest public transport nodes (such as locations where buses board and alight passengers)
Road	• Vehicle Level of Service, based on average delay/speed (Austroads Guide to Traffic Management Part 12: Integrated Transport Assessments for Developments) • Safety implications of queuing (e.g. motorway operations, turn bay overspill)	• Degree of saturation
Freight and servicing	• Adequacy of loading bays to cater for demand (Freight and Servicing Last Mile Toolkit, TfNSW, and other available methods such Erlang Loss or queue theory)	• Safe connectivity to and from the strategic freight network

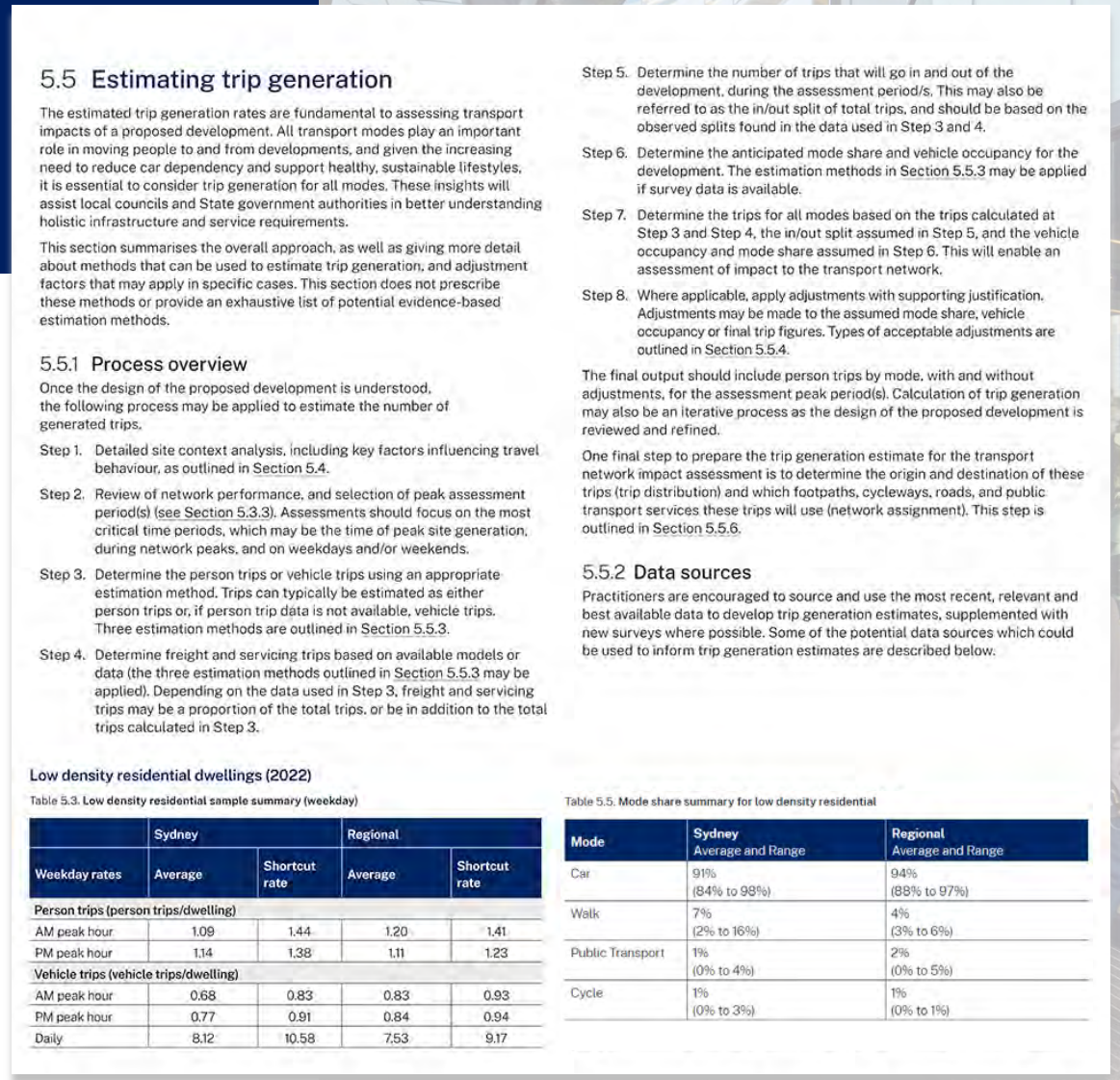
Note: When determining the assessment time periods for the above modal network, reference should be made to the commentary provided in Section 5.3.3. The appropriate time periods of assessment should be considered and justified depending on the context of the development and its activities

Key changes

Trip generation

Clear guidance on process and updated data

- 22 new or updated land uses with trip rates, mode share summaries, and links to full data and analysis reports (where available).
- Estimation of person trips by mode, rather than vehicle trips only.
- Breaks down the trip estimation process: data sources, methods, mode split, trip distribution and network assignment, and adjustments.
- Updated guidance for trip generation estimation methods, including benchmarking and first principles.



5.5 Estimating trip generation

The estimated trip generation rates are fundamental to assessing transport impacts of a proposed development. All transport modes play an important role in moving people to and from developments, and given the increasing need to reduce car dependency and support healthy, sustainable lifestyles, it is essential to consider trip generation for all modes. These insights will assist local councils and State government authorities in better understanding holistic infrastructure and service requirements.

This section summarises the overall approach, as well as giving more detail about methods that can be used to estimate trip generation, and adjustment factors that may apply in specific cases. This section does not prescribe these methods or provide an exhaustive list of potential evidence-based estimation methods.

5.5.1 Process overview

Once the design of the proposed development is understood, the following process may be applied to estimate the number of generated trips.

Step 1. Detailed site context analysis, including key factors influencing travel behaviour, as outlined in Section 5.4.

Step 2. Review of network performance, and selection of peak assessment period(s) (see Section 5.3.3). Assessments should focus on the most critical time periods, which may be the time of peak site generation, during network peaks, and on weekdays and/or weekends.

Step 3. Determine the person trips or vehicle trips using an appropriate estimation method. Trips can typically be estimated as either person trips or, if person trip data is not available, vehicle trips. Three estimation methods are outlined in Section 5.5.3.

Step 4. Determine freight and servicing trips based on available models or data (the three estimation methods outlined in Section 5.5.3 may be applied). Depending on the data used in Step 3, freight and servicing trips may be a proportion of the total trips, or be in addition to the total trips calculated in Step 3.

Step 5. Determine the number of trips that will go in and out of the development, during the assessment period/s. This may also be referred to as the in/out split of total trips, and should be based on the observed splits found in the data used in Step 3 and 4.

Step 6. Determine the anticipated mode share and vehicle occupancy for the development. The estimation methods in Section 5.5.3 may be applied if survey data is available.

Step 7. Determine the trips for all modes based on the trips calculated at Step 3 and Step 4, the in/out split assumed in Step 5, and the vehicle occupancy and mode share assumed in Step 6. This will enable an assessment of impact to the transport network.

Step 8. Where applicable, apply adjustments with supporting justification. Adjustments may be made to the assumed mode share, vehicle occupancy or final trip figures. Types of acceptable adjustments are outlined in Section 5.5.4.

The final output should include person trips by mode, with and without adjustments, for the assessment peak period(s). Calculation of trip generation may also be an iterative process as the design of the proposed development is reviewed and refined.

One final step to prepare the trip generation estimate for the transport network impact assessment is to determine the origin and destination of these trips (trip distribution) and which footpaths, cycleways, roads, and public transport services these trips will use (network assignment). This step is outlined in Section 5.5.6.

5.5.2 Data sources

Practitioners are encouraged to source and use the most recent, relevant and best available data to develop trip generation estimates, supplemented with new surveys where possible. Some of the potential data sources which could be used to inform trip generation estimates are described below.

Low density residential dwellings (2022)

Table 5.3. **Low density residential sample summary (weekday)**

	Sydney		Regional	
Weekday rates	**Average**	**Shortcut rate**	**Average**	**Shortcut rate**
Person trips (person trips/dwelling)				
AM peak hour	1.09	1.44	1.20	1.41
PM peak hour	1.14	1.38	1.11	1.23
Vehicle trips (vehicle trips/dwelling)				
AM peak hour	0.68	0.83	0.83	0.93
PM peak hour	0.77	0.91	0.84	0.94
Daily	8.12	10.58	7.53	9.17

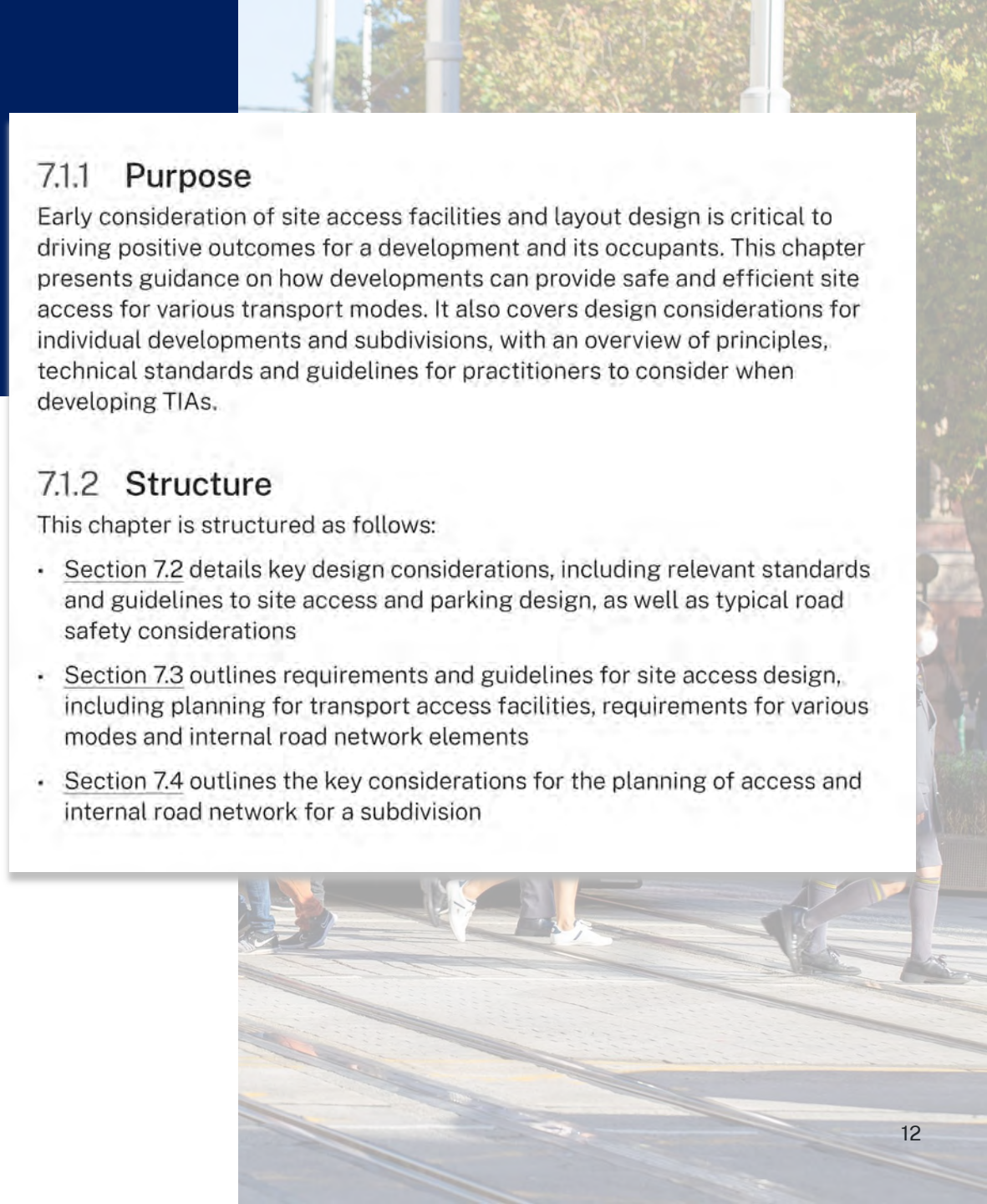
Table 5.5. **Mode share summary for low density residential**

Mode	Sydney Average and Range	Regional Average and Range
Car	91% (84% to 98%)	94% (88% to 97%)
Walk	7% (2% to 16%)	4% (3% to 6%)
Public Transport	1% (0% to 4%)	2% (0% to 5%)
Cycle	1% (0% to 3%)	1% (0% to 1%)

Key changes
Access and design

Site access, facilities design and road networks

- Expanded guidance on:
  - access design for walking, cycling, freight and servicing, public transport, micromobility and emergency vehicles.
  - safety in development design, including factors that impact road safety assessments and typical safety issues.
  - road network and access design for subdivisions, with consideration of all modes.
- Detailed requirements (e.g. roadway widths, dimensions, heights) have been replaced with references to relevant design standards.



7.1.1 Purpose

Early consideration of site access facilities and layout design is critical to driving positive outcomes for a development and its occupants. This chapter presents guidance on how developments can provide safe and efficient site access for various transport modes. It also covers design considerations for individual developments and subdivisions, with an overview of principles, technical standards and guidelines for practitioners to consider when developing TIAs.

7.1.2 Structure

This chapter is structured as follows:

- Section 7.2 details key design considerations, including relevant standards and guidelines to site access and parking design, as well as typical road safety considerations
- Section 7.3 outlines requirements and guidelines for site access design, including planning for transport access facilities, requirements for various modes and internal road network elements
- Section 7.4 outlines the key considerations for the planning of access and internal road network for a subdivision

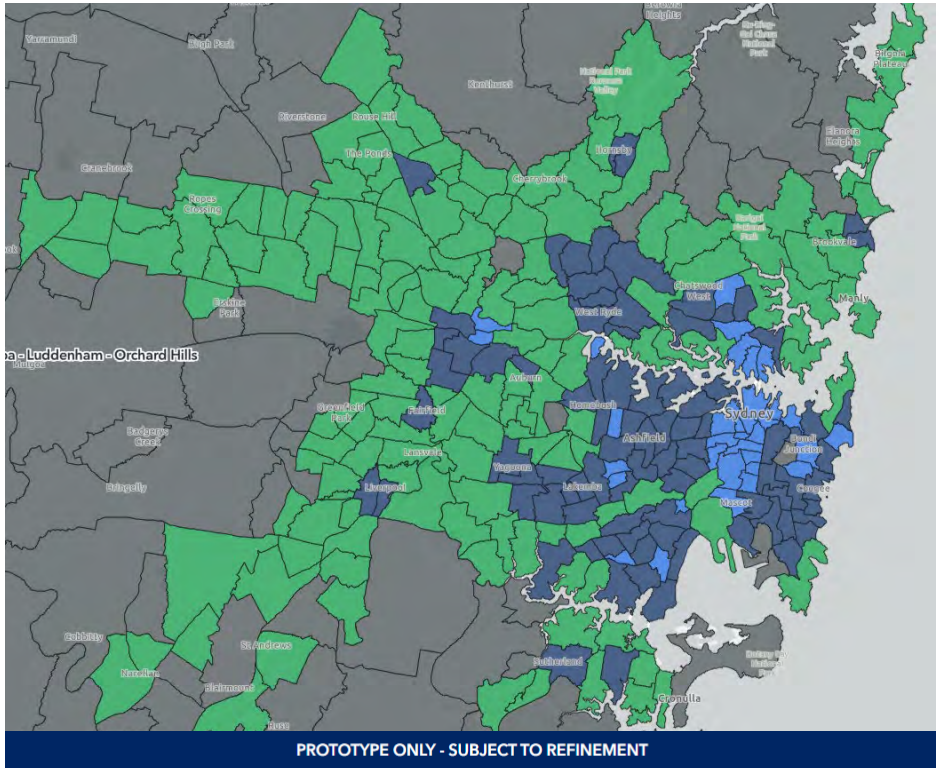
Key changes
Parking
Reference rates and design guidance

- In NSW, many local councils currently provide parking rates based on their local context through DCPs and LEPs.
- In the absence of local rates, reference rates are provided:
  - For most land uses, the rates are the same as the previous guide and serve as historic provisions.
  - A small number of selected land uses have new context-based rates, with a categorisation map.
- Design guidance for parking areas, including disability provisions, all modes, electric vehicles, car share, point to point, recreational vehicles and mechanical parking units.

Target or reference parking rates typically specify a reference point for the number of parking spaces that a development may provide for a given land use. These rates are not intended as minimum or maximum parking rates. The parking provision may be above or below this rate based on the development proposed and the local context.

Table 8.4. **High density residential dwellings – TfNSW reference rates per dwelling**

Category	Studio/1 br	2 br	3 + br	Visitor
1	0.4	0.7	1.2	1 space per 7 dwellings
2	0.6	0.9	1.4	1 space per 5 dwellings
3	1.0	1.3	1.5	1 space per 5 dwellings



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Working with industry to develop the Guide

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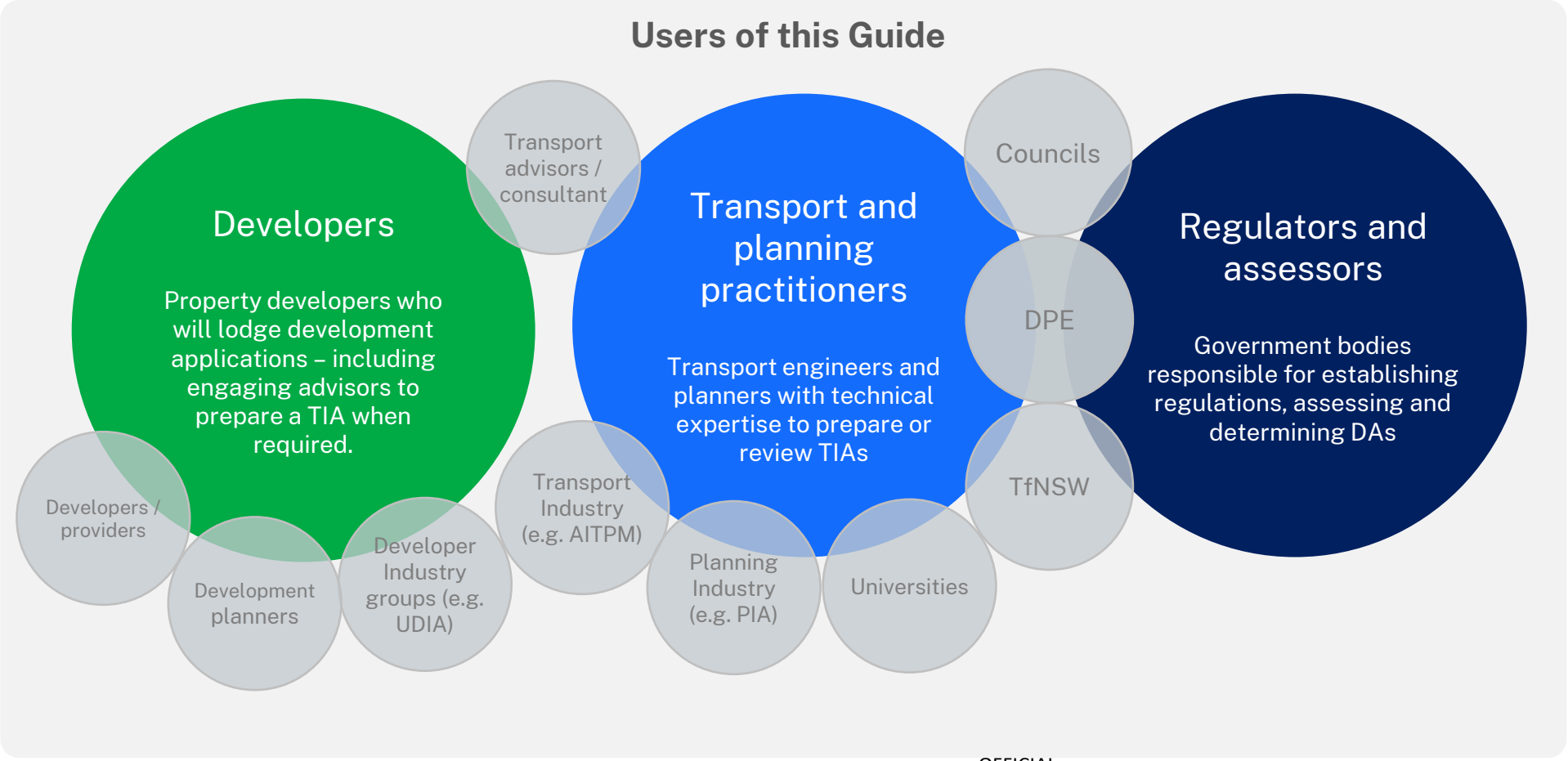
Collaborating with industry stakeholders

Understanding the users of the Guide



Staged approach to developing the Guide

Collaborating with industry

The staged approach involved collaborating with industry to help scope, develop and refine the Guide. The approach also acknowledged the need for continuous improvement to ensure guidance is always aligned with best practice.

Recap of the industry consultation

Actively engaging with industry

The draft Guide was released for an extended consultation period from 20 March to 31 May 2024:

- **3 Webinars** for **councils, developers, consultants and transport practitioners**, with over **500** attendees.
- **2 in person events** – hosted by AITPM and Committee for Sydney with over **120** attendees.
- **5 meetings with state and local government forums –** DPHI, Health Infrastructure, Schools Infrastructure, Northern Sydney Regional Organisation of Councils (NSROC) and Active Transport Community of Practice
- **6200+** visits to Haveyoursay and **600+** downloads of the documents
- **50+** formal submission received

4

Future work

Henry Chu
Project Manager
Transport for NSW

GTIA work program

Continuous improvement and capability development

Completed ✓

Late 2022 – Sep 2024

Document development & Industry consultation

15 months guide development & 10 weeks industry consultation.

Completed ✓

September 2024

Publication

The Guide v1.1 is published with a 6-week transitional period. Formally effective on **4 November 2024**.

We are here

2025+

Continuous improvement and capability development

The Guide and supporting materials will be periodically updated to support practitioners.

GTIA work program

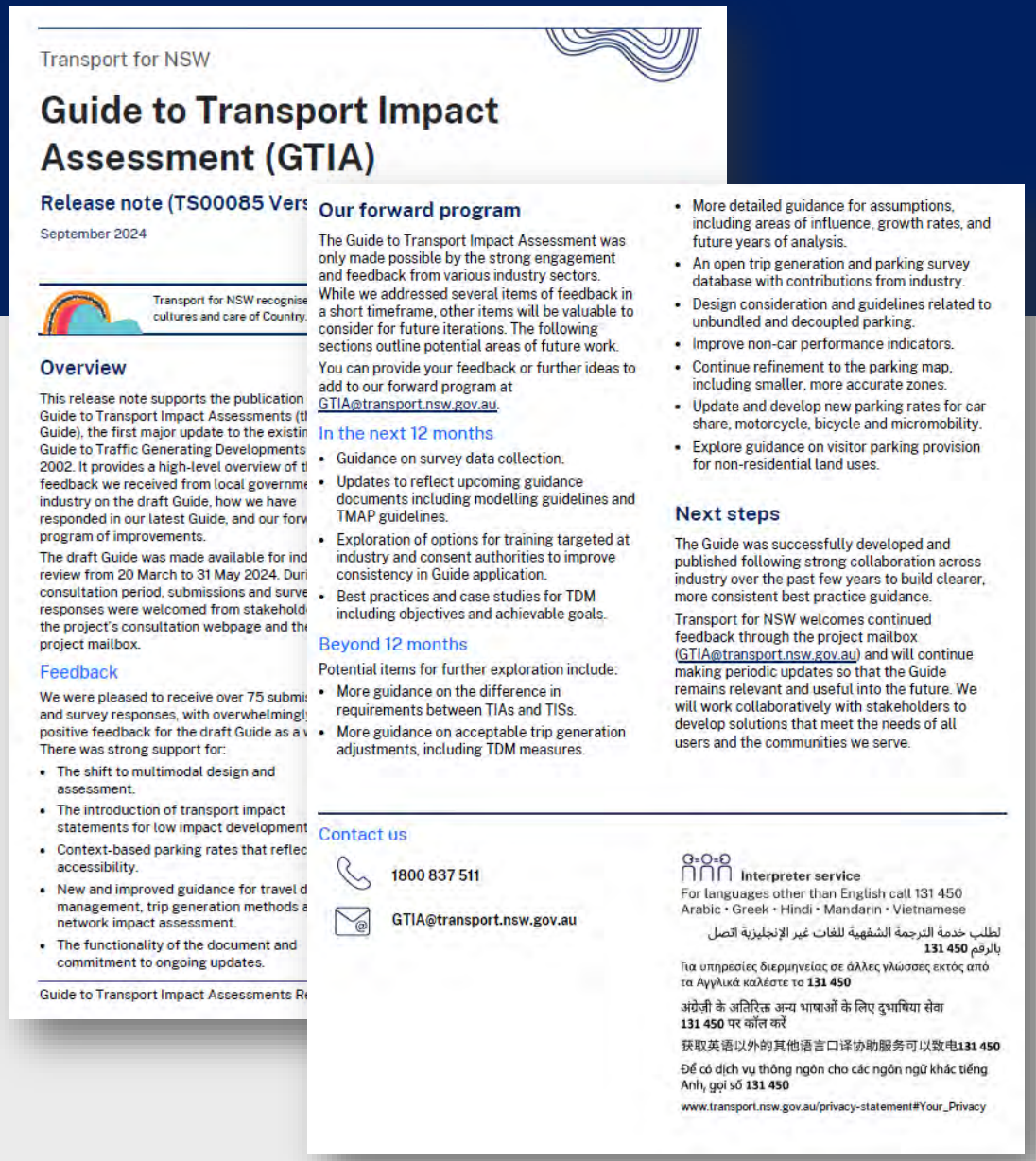
Planned future work

In the next 12 months

- New multimodal trip generation surveys;
- Guidance on survey data collection;
- Explore options for GTIA training;
- Best practices and case studies for TDM.

Beyond 12 months

- More guidance on TIA & TIS;
- More guidance on trip generation adjustments, including TDM measures;
- An open trip generation database
- More guidance on factor affecting area of influence, growth rates and future years of analysis etc



Transport for NSW

Guide to Transport Impact Assessment (GTIA)

Release note (TS00085 Vers

September 2024

Transport for NSW recognise cultures and care of Country.

Overview

This release note supports the publication Guide to Transport Impact Assessments (t Guide), the first major update to the existin Guide to Traffic Generating Developments 2002. It provides a high-level overview of t feedback we received from local governme industry on the draft Guide, how we have responded in our latest Guide, and our forv program of improvements.

The draft Guide was made available for ind review from 20 March to 31 May 2024. Duri consultation period, submissions and surve responses were welcomed from stakehold the project's consultation webpage and th project mailbox.

Feedback

We were pleased to receive over 75 submi and survey responses, with overwhelmingl positive feedback for the draft Guide as a v There was strong support for:

- The shift to multimodal design and assessment.
- The introduction of transport impact statements for low impact development
- Context-based parking rates that reflec accessibility.
- New and improved guidance for travel d management, trip generation methods a network impact assessment.
- The functionality of the document and commitment to ongoing updates.

Guide to Transport Impact Assessments R

Our forward program

The Guide to Transport Impact Assessment was only made possible by the strong engagement and feedback from various industry sectors. While we addressed several items of feedback in a short timeframe, other items will be valuable to consider for future iterations. The following sections outline potential areas of future work.

You can provide your feedback or further ideas to add to our forward program at GTIA@transport.nsw.gov.au.

In the next 12 months

- Guidance on survey data collection.
- Updates to reflect upcoming guidance documents including modelling guidelines and TMAP guidelines.
- Exploration of options for training targeted at industry and consent authorities to improve consistency in Guide application.
- Best practices and case studies for TDM including objectives and achievable goals.

Beyond 12 months

Potential items for further exploration include:

- More guidance on the difference in requirements between TIAs and TISs.
- More guidance on acceptable trip generation adjustments, including TDM measures.
- More detailed guidance for assumptions, including areas of influence, growth rates, and future years of analysis.
- An open trip generation and parking survey database with contributions from industry.
- Design consideration and guidelines related to unbundled and decoupled parking.
- Improve non-car performance indicators.
- Continue refinement to the parking map, including smaller, more accurate zones.
- Update and develop new parking rates for car share, motorcycle, bicycle and micromobility.
- Explore guidance on visitor parking provision for non-residential land uses.

Next steps

The Guide was successfully developed and published following strong collaboration across industry over the past few years to build clearer, more consistent best practice guidance.

Transport for NSW welcomes continued feedback through the project mailbox (GTIA@transport.nsw.gov.au) and will continue making periodic updates so that the Guide remains relevant and useful into the future. We will work collaboratively with stakeholders to develop solutions that meet the needs of all users and the communities we serve.

Contact us

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Q&A

View the Guide and supporting resources

https://standards.transport.nsw.gov.au/search-standard-specific/?id=AST%20-%200005108:2023

Contact us

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