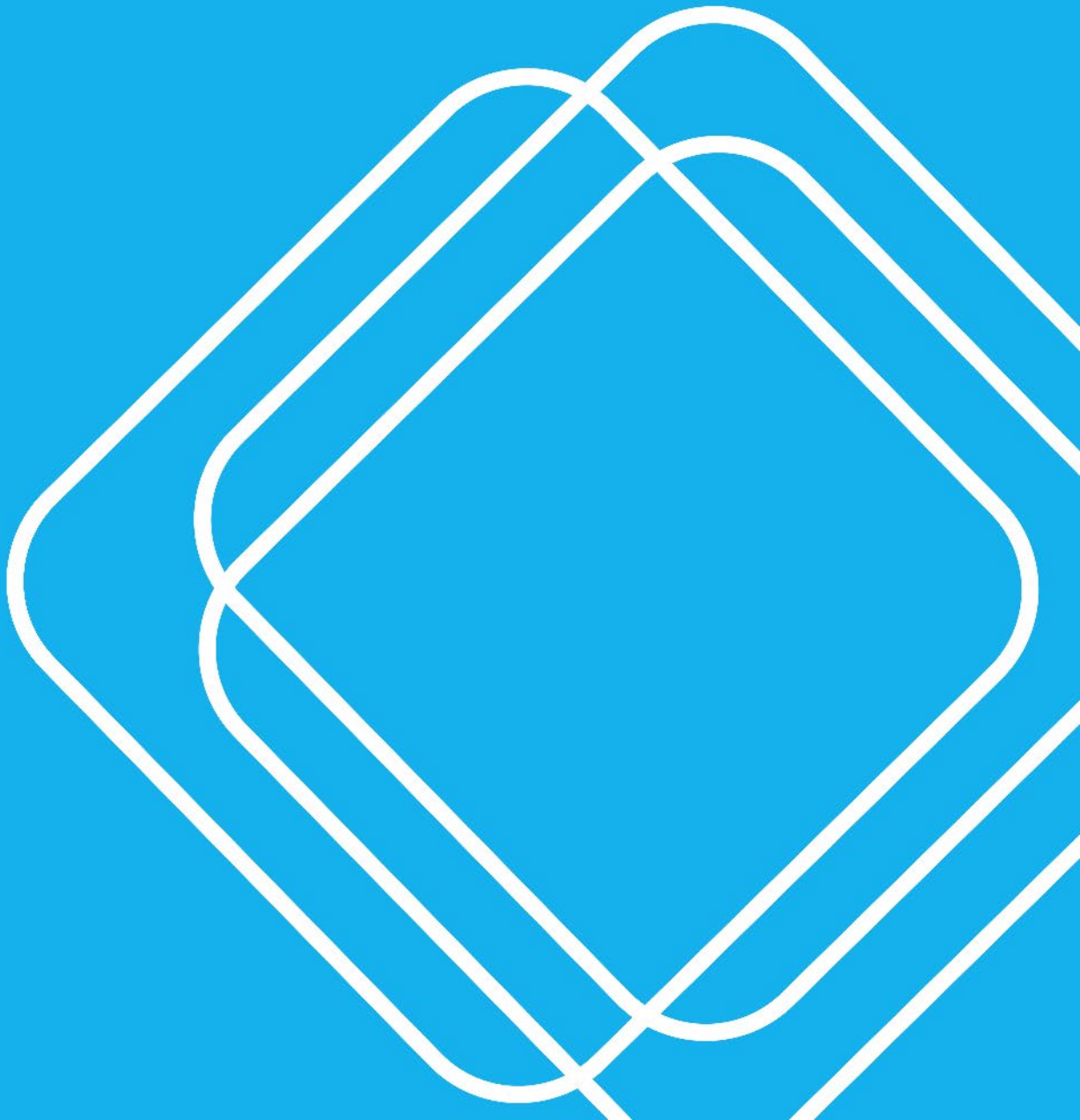
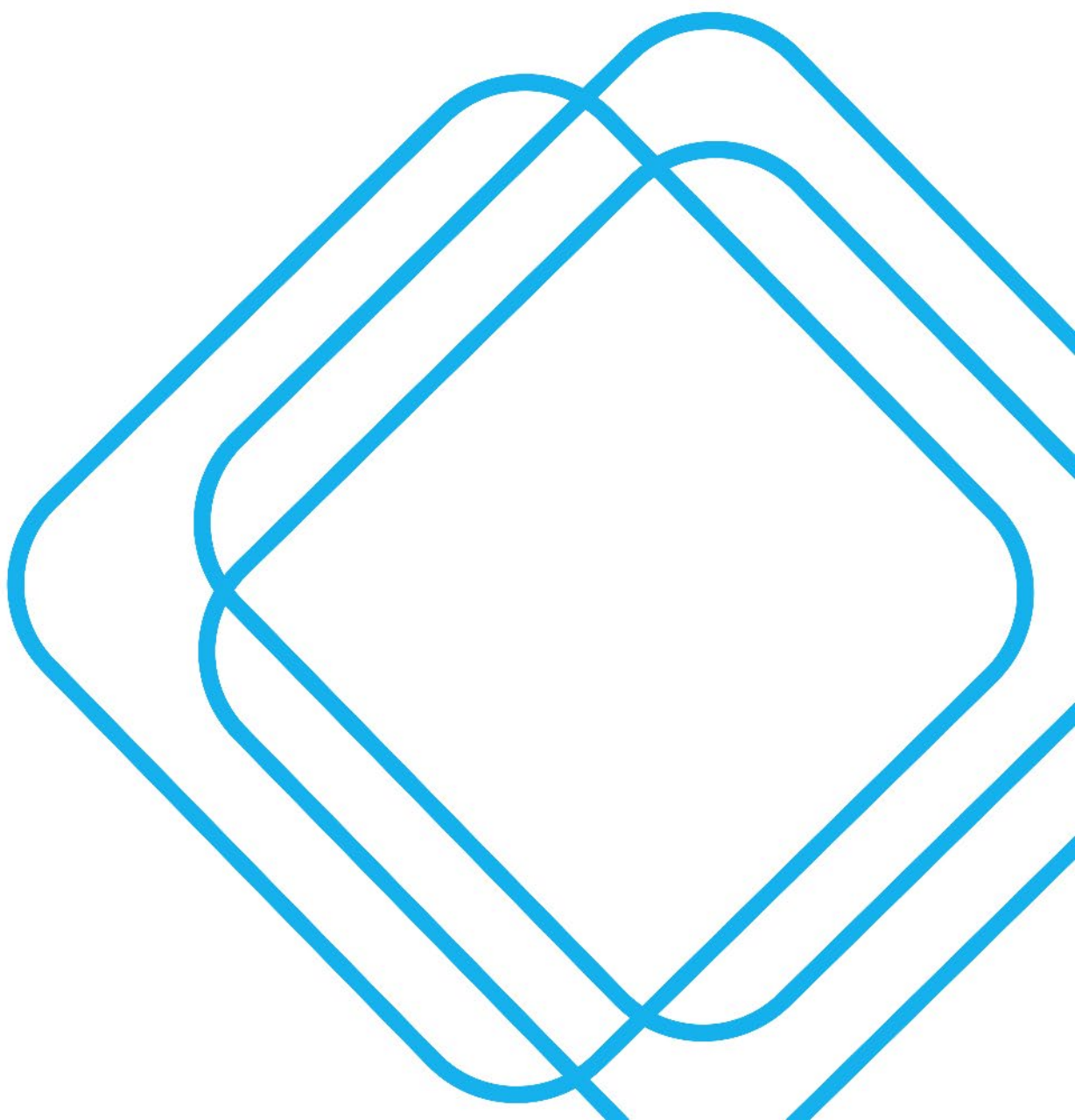


BRADFELD TEMPORARY SIGNAGE – ADDITIONAL SIGN

Road Safety Check

23 APRIL 2025





Quality Assurance

Project:	Bradfield Temporary Signage – additional sign		
Project Number:	SCT_00700		
Document name:	Bradfield Temporary Signage – additional sign		
Client:	Bradfield Development Authority	ABN:	84 369 219 084
Prepared by:	SCT Consulting PTY. LTD. (SCT Consulting)	ABN:	53 612 624 058

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Revision	Revision Date	Details
1.0	17 April 2025	Draft report
2.0	23 April 2025	Draft report revised

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Executive Summary

Bradfield Development Authority has requested that a TfNSW accredited road safety auditor to confirm that the proposed sign within the Bradfield City Centre (on Badgerys Creek Road) will not have any adverse effect on road safety.

I (Thomas Brown) am an accredited Lead (Level 3) Road Safety Auditor on the TfNSW Road Safety Register, with Auditor ID 02-1013.

The following Road Safety Check by the auditor has been undertaken in accordance with Austroads Guide to Road Safety Part 6: Road Safety Audits (2022). It is to be noted, that a Road Safety Check is not a Road Safety Audit. Refer TfNSW Guidelines for Road Safety Audit Practices for the Road Safety Check process.

The Safe System Approach

The Safe System approach to improving road safety, takes a holistic view of the road transport system and the interactions among the key components of that system: Safe Roads, Safe Vehicles, Safe Speeds, and Safe People.

Road safety is a shared responsibility. We all need to make decisions with safety in mind, from the design of our roads and vehicles, investments, laws and education, and each road user acting safely each and every day.

The principles underpinning the Safe System acknowledge that:

- People sometimes don't follow the rules and make mistakes which can lead to crashes; however, no one should die or be seriously injured on the road as a result of these mistakes.
- The human body has a limited physical ability to tolerate crash forces – any impact greater than 30km/h increases the risk of dying significantly.
- Road safety is a shared responsibility among everyone, including those that design, build, operate and use the road system.
- We need to improve the safety of all four parts of the system - roads and roadsides, speeds, vehicles, and people/road use - so that if one part fails, other parts will still protect the person from serious injury or death.

The SCT Consulting Road Safety Check team is committed to delivering Road Safety Checks which follow the Safe System Approach.

1.0 Introduction

1.1 Background

SCT Consulting was commissioned by Bradfield Development Authority in April 2025 to undertake a Road Safety Check for the proposed sign within the Bradfield City Centre (on Badgerys Creek Road).

This report presents the findings of the road safety check.

1.2 Site Location

The works at Bradfield City Centre (on Badgerys Creek Road), at the subject location, comprised the following key features:

- Existing roundabout at the intersection of Badgerys Creek Road and Bradfield City Centre access road (Unnamed road)
- Lighting
- Proposed sign on the north-eastern corner of the roundabout
- Signposted 60km/h speed zone on Badgerys Creek Road

The site location is shown in **Figure 2–1**.



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Company	Bradfield Development Authority
Position	Director, Civic Places
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2.0 The Audit Process

2.1 Scope of this report

This audit comprises a Strategic Design condition road safety check. The check was conducted to ascertain potential road safety issues for all road users. As a Strategic Design condition check, the check is limited to consideration of elements identifiable from an appreciation of the plan provided and site inspection only. Issues considered during the check included:

- Road alignment and typical cross-section;
- Intersections;
- Lighting;
- Pedestrians and cyclists;
- Utilities;
- Physical objects;
- Drainage and floodway;
- Pavement;
- Roadside safety barriers and clear zones;
- Line marking and signage;
- Landscaping;
- Provision for heavy vehicles; and
- Animals.

The objective of the check was to review the road design plan, with the intention of identifying road safety deficiencies and areas of risk that could lead to road crashes. The lead road safety auditor considered, for example:

- Have the permitted movements for all of the various road users been catered for in a safe way?;
- Are the appropriate operational and control mechanisms in place to promote safety?;
- Would the system operate to an acceptable level of safety in all situations, such as peak periods, poor weather and during darkness?; and
- Are there opportunities to reduce the occurrence or severity of crashes?

Although the check reviewed and identified safety issues, the responsibility for assessing and implementing corrective action(s) lies with the Project Sponsor. It is not the role of the auditor to provide recommendations or solutions to the identified safety issues; however, identification of potential safety concerns may assist the Project Sponsor in reducing the incidence and severity of crashes.

2.2 Road Safety Check Team

Thomas Brown

Level 3 Auditor RSA-02-1013

Accreditation Expiry: 27/03/2027

2.3 Audit Methodology

The Road safety check has been conducted to consider the site from an appreciation of the plan provided, Aerial image (i.e. Google / Near Maps) and site inspection. A site inspection was undertaken on 15th April 2025 at 11.30am involving Thomas Brown (Level 3 Road Safety Auditor). The conditions were sunny during the site inspection.

2.4 Exclusions

Exclusions are noted as follow:

- Proposed sign structure details

This may lead to not fully appreciating the site conditions for all road users along and on the approaches to the proposed road works at this location.

2.5 Information Sources

The road safety audit was undertaken with reference to:

- Austroads, Guide to Road Safety Part 6: Road Safety Audits (2022)

The potential risk associated with the deficiencies identified has been based on a subjective assessment of the accident likelihood and crash consequence, as outlined in Section 4.

The proposed design drawings received by the auditors, refer to **Appendix B**.

3.0 Risk classification methodology

3.1 Risk assessment system

The rating of each identified deficiency was based on the crash likelihood and consequence, in accordance with the methodology and risk matrix described in the following subsections. The crash likelihood and consequence are based on the auditor's assessment and are necessarily subjective on this basis.

Risk levels based on the criteria set out in Austroads Guide to Road Safety, Part 6: Road Safety Audit, 2009, has been assigned to each deficiency identified. The rationale behind the assignment of risk has been reproduced in **Table 4-1**, **Table 4-2** and **Table 4-3** from the Austroads document.

3.2 Crash likelihood

The probable frequency of crash occurrence, resulting from each safety issue identified in the audit is assessed from the options presented in **Table 4-1**.

Table 4-1 Frequency

Frequency	Description
Almost certain	Occurrence once per quarter
Likely	Occurrence once per quarter to once per year
Possible	Occurrence once per year to once every three years
Unlikely	Occurrence once every three years to once every seven years
Rare	Occurrence less than once every seven years

3.3 Severity

The potential severity of a crash resulting from the identified safety issue has been rated from the choices presented in **Table 4-2**.

Table 4-2 Severity

Severity	Description
Fatal	Death within 30 days of a crash
Serious	Admitted to hospital
Moderate	Major first aid and/or presents to hospital (not admitted)
Minor	Minor first aid
Insignificant	Property Damage

Reference to related severity of crash types should be read in conjunction with Figure 10.3 Severity Guidance Sheet from Austroads Guide to Road Safety Part 6:

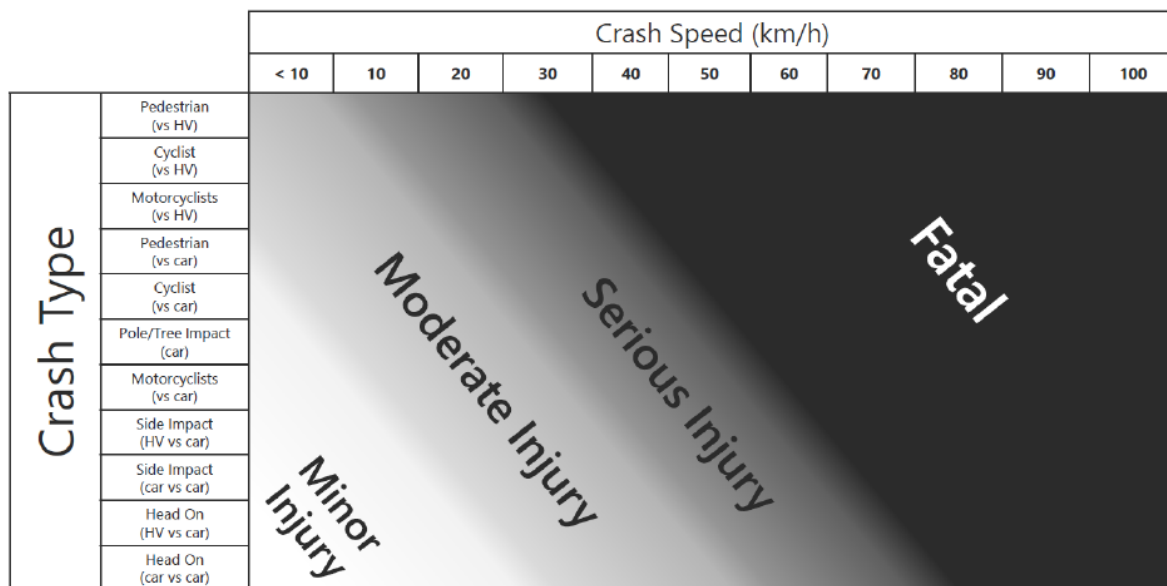


Figure 10.3 – Severity Guidance Sheet

(Sourced from Austroads Guide to Road Safety Part 6: Road Safety Audits (2022))

It is stressed that the information contained within the severity guidance sheet (Figure 10.3) is a general indication only and that professional engineering judgement is required with its usage.

3.4 Risk Level

Deficiencies are rated for their importance according to a five-tiered system, based on the following matrix, summarised in **Table 4-3**.

Table 4-3 Risk level

	Fatal	Serious	Moderate	Minor	Insignificant
Almost certain	Extreme	Extreme	High	High	Medium
Likely	Extreme	Extreme	High	Medium	Medium
Possible	Extreme	High	High	Medium	Low
Unlikely	High	High	Medium	Low	Negligible
Rare	High	Medium	Low	Negligible	Negligible

↓

Safe system crash outcome threshold

3.5 Suggested level of prioritisation based on risk rating

Possible suggested level of prioritisation for each road safety deficiency, are summarised in **Table 4-4** below. As noted in the Executive Summary of this report, ultimately, it is the client and / or road authority's responsibility to determine the response and / or action to risk for each road safety deficiency identified.

Table 4-4 Level of prioritisation

Risk Rating	Level of Prioritisation
Extreme	Must be corrected regardless of cost
High	Should be corrected or the risk significantly reduced, even if the treatment cost is high
Medium	Should be corrected or the risk significantly reduced, if the treatment cost is moderate, but not high
Low	Should be corrected or the risk reduced if the treatment cost is low
Negligible	No action required

The risk matrix above is aligned to Safe System principles and has been designed to be used with consideration of a severity guidance sheet (Refer Figure 10.3), based on Austroads Guide to Road Safety Part 6: Road Safety Audits (2022).

It should be noted that from **Table 4-4**, above, the ratings are based on the criteria set out in Austroads Guide to Road Safety, Part 6: Road Safety Audits (2022). The project sponsor (also known as the project manager) assigns a priority rating for each identified risk in road safety, which shows the importance of putting the treatment into action.

In terms of recommendations for suggested treatments for each identified risk to road safety, generally the audit team does not provide these, as this is not the responsibility of the auditors. Rather it is the responsibility of the client (or an appropriate representative of the client such as the project manager from the design team contracted for delivering/overseeing the project) to devise the appropriate corrective actions and implement them for the identified risks to road safety in the report.

It will be up to the discretion of the respective owning organisation/s to address their corresponding risks in the instance where local and state road authorities are responsible for an audit finding. The project manager's responsibility is to ensure all auditing findings are appropriately addressed.

For each client response addressing each audit finding, project managers must respond to close-out each finding. Where it is decided not to respond to an audit finding, justification should be given for the determination that no action will follow.

It is not the responsibility of the auditors to approve the client response actions or the project manager's responses to the findings. The auditors are however able to provide input (not recommendations) to assist the project manager, and ultimately the project, in determining appropriate responses to reach a suitable outcome for possibly addressing in future design projects.

4.0 Audit Statement

I, the undersigned, have undertaken a Strategic Design stage Road Safety Check, for the proposed works the proposed sign within the Bradfield City Centre (on Badgerys Creek Road).

The road safety check was conducted in accordance with Austroads Guide to Road Safety Part 6: Road Safety Audits (2022), for the purpose of identifying any features, that potentially impacts on road safety.

While every care and diligence has been taken to identify potential safety concerns, as detailed in this report, we do not warrant that every safety issue has been identified.

A handwritten signature in black ink, appearing to read "Thomas Brown".

Thomas Brown


Lead Auditor - Auditor Level 3

Registered No: RSA-02-1013

Date: 23/04/2025

5.0 Road Safety Check Findings

The road safety check findings are presented in the following table. Where applicable, the findings are presented in order of road chainage and drawing number accordingly, and are not presented in order of relative importance to road safety.

CAR No	Location Category	Description of Risk to Road Safety	Photographs / Plans / Drawing No	Risk Assessment	Client Response
1	Intersection of Badgerys Creek Road and Bradfield City Centre access road (Unnamed road)	During the site inspection, the auditor observed there is approximately 5 seconds of sight distance for northbound vehicles approaching the roundabout to observe the proposed sign. This is due to trees within the neighbouring property on the south-eastern corner of the roundabout. This may reduce a drivers reaction time when approaching the roundabout to observe both the sign and vehicles within the roundabout. This may increase the risk of vehicle crashes within the roundabout circulating carriageway and lead to minor injury to occupants of vehicles.		Likelihood	
				Unlikely	
				Consequence	
				Minor	
	Northbound			Risk Level	
	Traffic signs			Low	

CAR No	Location Category	Description of Risk to Road Safety	Photographs / Plans / Drawing No	Risk Assessment	Client Response
			<p>Northbound approaching roundabout</p>  <p>Northbound approaching roundabout</p>  <p>Southbound from proposed sign</p> 		

CAR No	Location Category	Description of Risk to Road Safety	Photographs / Plans / Drawing No	Risk Assessment	Client Response
			<p>Southbound at neighbouring trees</p> 		

APPENDIX A

Road Safety Check Categories

Road safety audit practices


**Transport
for NSW**

INFORMATION SHEET:

NO: L5

Road safety audit categories

Categories have been set up to assist in the management of corrective actions, and monitoring of trends in identified risks in road safety.

Category	Examples
Access impacts	Property, developments, traffic generators, rest areas, emergency vehicles, service vehicles, maintenance, vehicle breakdowns, etc.
Auxiliary lanes	Overtaking lanes, passing lanes, tapers, merges, etc.
Bridge structures	Road bridge, pedestrian bridge, rail bridge, etc.
Bus infrastructure	Bus lanes, bus facilities, bus stops, etc.
Cyclist infrastructure	Cycleways, on-road facilities, off-road cycle facilities, cycle routes, etc.
Delineation	Guide posts, pavement markings, reflectors, warning signs, etc.
Drainage	Ponding, aquaplaning, etc.
Heavy vehicle infrastructure	Inspection bays, facilities, provisions, routes, etc.
Intersections	Roundabouts, cross intersections, T-junctions, etc.
Landscaping	Shrubs, trees, etc.
Lighting	Street lighting, tunnel lighting, etc.
Miscellaneous	Matters not covered by categories listed.
Network effects	Road function, traffic composition, traffic volume, traffic characteristics, route choice, impact of continuity with the existing network, etc.
Special road users infrastructure	Trains, ferries, trams, equestrian, stock, etc.


Category	Examples
Pedestrian infrastructure	Pathways, pedestrian crossings, pedestrian fencing, etc.
Road alignment and cross section	Sight distance, visibility, readability by drivers, glare, widths, shoulders, crossfalls, batter slopes, drains, etc.
Road pavement	Pavement defects, skid resistance, ponding, loose stones/material, etc.
Road users	Behaviour, practices, travel patterns, interaction between different road users, etc.
Roadside activities	Roadside advertising, roadside designs, vending, etc.
Roadside hazards	Clear zones, utility poles, culverts, bridge structures, trees, etc.
Safety barriers	Concrete, guardrail, wire rope safety barriers, crash cushions, etc.
Speed zoning	Speed limits, speed zones, design speed, school zones, etc.
Traffic management and operations	Staging of works, temporary traffic control, detours, peak tidal flows, clearways, parking, etc.
Traffic management devices	Threshold treatments, road humps, kerb extensions, slow points, etc.
Traffic signals	Signal phasing, bus signals, bicycle signals, pedestrian signals, etc.
Traffic signs	Regulatory signs, warning signs, guide signs, etc.
Tunnel structures	Road tunnels, pedestrian tunnels, cycle tunnels, etc.

APPENDIX B

Other Observations


Below are observations of potential road safety audit items that may be outside the scope of works, excluded from the audit findings (refer to Section 3.7 Exclusions) or may require additional information linked to the observations below to determine if a road safety issue should be raised by the audit team.

These observations are not linked to the audit findings within the RSA report.

Car No	Location Category	Description of Risk to Road Safety	Photographs / Places / Drawings No	Client Response
1	<p>Intersection of Badgerys Creek Road and Bradfield City Centre access road (Unnamed road)</p> <p>Northbound</p> <p>Traffic signs</p>	<p>Dwell times have not been provided for the sign images in the information provided. As per NSW Governments Transport Corridor Outdoor Advertising and Signage Guidelines, 3.3.2 Dwell time and transition time, "dwell time for image display must not be less than 10 seconds for areas where the speed limit is below 80km/h".</p>		

APPENDIX C

Road Safety Check Materials

Document No.	Description	Revision
		N/a
BradfieldSign_FA_APRIL2025.pdf	