



135 Badgerys Creek, Bradfield Transport and Accessibility Impact Assessment

State Significant Development
Application

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P2775





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1 Introduction

1.1 Background

This Transport and Accessibility Impact Assessment (TAIA) has been prepared on behalf of the Bradfield Corporation Pty Ltd (the Applicant) by Ason Group. It is to be submitted to the Department of Planning, Housing and Infrastructure (DPHI) in support of a State Significant Development Application (SSDA) on land at 135 Badgerys Creek Road, Bradfield (the site).

The application seeks consent for staged delivery of a mixed-use development comprising residential, retail, commercial, tavern, hotel, medical, gym and childcare uses. It includes a cohesive pedestrian network well-connected to future surrounding land uses, while preserving natural waterways through the property.

1.2 Purpose of this report

In accordance with Section 4.39 of the Environmental Planning & Assessment Act 1979 (EP&A Act), Secretary’s Environmental Assessment Requirements (SEAR) for SSD 77458970 were issued on 30 January 2025. This report has been prepared to respond to the relevant issued SEAR, as set out in Table 1.

Transport for NSW (TfNSW) and Liverpool City Council (Council) also provided additional comments in the request for SEAR (TfNSW document reference: SYD24/01993/01, and Council document reference: SSD1-13/2024), with these comments summarised in Table 2 and Table 3, respectively. The applicant has engaged with relevant stakeholders as part of this application including the Bradfield Development Authority (BDA), Council, TfNSW and DPHI. This includes State Design Review Panel meetings, site visits/ walkthroughs with BDA, as well as email correspondence (both initiated by the applicant and Ason Group). Initial engagement with TfNSW is attached at Appendix B.

It is noted that this report has been updated to respond to further stakeholder comments from DPHI following the Test of Adequacy review on the submissions pack, with those comments detailed in Table 4.

Table 1: Traffic and transport related SEAR

SEAR	SEAR description	Report section
10. Traffic, Transport and Accessibility	Provide a transport and accessibility impact assessment, which includes: an analysis of the existing transport network, including the road hierarchy and any pedestrian, bicycle or public transport infrastructure, current daily and peak hour vehicle movements, and existing performance levels of nearby intersections.	Section 2 and Section 3.5
	details of the proposed development, including pedestrian and vehicular access arrangements (including swept path analysis of the largest vehicle and height clearances), parking arrangements and rates (including bicycle, end-of-trip facilities and bus/coach facilities), drop-off/pick-up-zone(s) and bus bays (if applicable), and provisions for servicing and loading/unloading.	Section 4
	analysis of the impacts of the proposed development during construction and operation (including justification for the methodology used), including predicted modal split, a forecast of additional daily and peak hour multimodal network flows as a result of the development	Section 9 and Section 11

SEAR	SEAR description	Report section
	(using industry standard modelling) and peak movements during events (if relevant), identification of potential traffic impacts on road capacity, intersection performance and road safety (including pedestrian and cyclist conflict) and any cumulative impact from surrounding approved developments.	
	measures to mitigate any traffic impacts, including details of any new or upgraded infrastructure to achieve acceptable performance and safety, and the timing, viability and mechanisms of delivery (including proposed arrangements with local councils or government agencies) of any infrastructure improvements in accordance with relevant standards.	Section 9
	measures to promote sustainable travel choices for employees, guests and visitors, such as connections into existing walking and cycling networks, minimising car parking provision, encouraging car share and public transport, providing adequate bicycle parking and high quality end-of-trip facilities, and implementing a Green Travel Plan.	Section 8
	Provide a Construction Traffic Management Plan detailing predicted construction vehicle routes, access and parking arrangements, coordination with other construction occurring in the area, and how impacts on existing traffic, pedestrian and bicycle networks would be managed and mitigated.	Section 11
	Address the requirements listed in SEARs advice TfNSW advice dated 6 January 2025, by TfNSW.	Detailed in Table 2
	Address the requirements listed in SEARs advice Liverpool City Council dated 8 January 2025, by LCC.	Detailed in Table 3

Table 2: TNSW comments

Comment	Report section
Details of all traffic types and volumes likely to be generated by the proposed development during construction and operation, including a description of haul route origins and destinations, including: Daily inbound and outbound vehicle traffic profile by time of day and day of week (if travel patterns differ across the week).	Section 9
Site and traffic management plan on how to manage number of vehicles likely to be generated during construction and operation and awaiting loading, unloading, or servicing can be accommodated on the site to avoid queuing in the surrounding road network.	Section 7, Section 9 and Section 11
Detailed plan of proposed layout of internal road network to demonstrate that the site will be able to accommodate the most productive vehicle types and parking on site in accordance with the relevant Australian Standard.	Section 4 and Section 5

Comment	Report section
Plans detailing how the proposed development connects to adjoining sites to facilitate their future development for their intended purposes.	Section 4
Swept path diagrams to demonstrate vehicles entering, exiting, and manoeuvring throughout the site.	Appendix A
Details of road upgrades, infrastructure works, or new roads or access points required for the development.	Section 4
Details of travel demand management measures to minimise the impact on general traffic and bus operations, including details of a location-specific sustainable travel plan (Green Travel Plan) and the provision of facilities to increase the non-car mode share for travel to and from the site	Section 8
Details of the adequacy of existing public transport or any future public transport infrastructure within the vicinity of the site, pedestrian and bicycle networks and associated infrastructure to meet the likely future demand for the proposed development; and	Section 9
An assessment of traffic and safety impacts of the proposed development on public transport (including Sydney Metro West), pedestrian and cyclists.	Section 9
Identify the existing and future transport infrastructure (Sydney Metro West) and any possible impacts of the construction and operation of the proposal on this infrastructure and associated mitigation measures.	Section 9 and Section 11
Opportunities to improve public and active transport and promote sustainable transport initiatives, including through the preparation of a Green Travel Plan.	Section 8

Table 3: Council comments

Comment	Report section
Transport planning team has reviewed the Scoping Report for the concept plan and advises that a traffic and transport impact study report is required for the subject development. The study should be prepared according to the relevant policies and guidelines including the following: - Western Sydney Aerotropolis Precinct Plan 2022 - Western Sydney Aerotropolis Development Control Plan (Phase 2) - Transport Management Accessibility Plan (TMAP) for Western Sydney Aerotropolis - Bradfield City Centre Master Plan - Guide to Traffic Generating Development (TfNSW, 2002) - Guide to Transport Impact Assessment (TS 00085 Version 1.1) - Guide to Traffic Management Part 12: Integrated Transport Assessments for Development (Austroads, 2020).	Review of these documents has been completed as part of preparation of this TAIA, with relevant documents reference where applicable.
The study is to include (but not being limited to) the following: Details of total daily and peak hour trips expected to be generated by the proposal and other planned developments on the subject site, including vehicle, public transport, pedestrian and bicycle trips and associated impacts on the existing and future transport network;	Section 9

Comment	Report section
Assess adequacy of the existing and future road network, public and active transport infrastructure and services to facilitate the proposed developments on the subject site;	Section 9
Assess adequacy of access arrangements for all road users to the subject site;	Section 9
Active transport provision such as shared path, dedicated cycling path, pedestrian crossing and bicycle end-trip facility;	Section 4 and Section 6
Parking provision for the proposed land uses on the subject site;	Section 4
Design of the proposed arterial road, collector road, local road to Transport for NSW and Council's requirements; It is noted that the subject site is affected by the proposed Badgerys Creek Road widening. Consultation is required with TfNSW for the potential land affectation on the subject site as well as the setback requirements from the planned future arterial road network.	Section 3.6
Cumulative traffic impacts of the subject planning proposal and other planned developments within the surrounding areas in the existing and future transport network;	Section 4
Intersection performance analysis is to be carried out to assess the cumulative impacts of the subject planning proposal and other planned developments on the surrounding intersections such as the intersection of Badgerys Creek Road/Innovation South and the intersection of Centre Loop West.	Section 9
A staging delivery plan for the proposed interim and ultimate road layouts and access arrangement to the subject staged development(s).	Section 4
Details of the proposed accesses arrangement and the site layout including compliance with the requirements of the relevant Australian Standards (ie: turn paths, sight distance requirements, aisle widths, etc) and the DDA Compliance Requirements.	Section 4 and Section 10
Adequacy of car parking and bicycle parking provisions according to the relevant car / bicycle parking codes;	Section 5 and Section 6
Details of service vehicle movements (including vehicle type and likely arrival and departure times) and the required turning facility;	Section 7
- A preliminary Construction Traffic and Access Management Plan, which includes: - Details of estimated total daily and peak hour traffic generated during construction of the proposed development and associated traffic impacts on the surrounding road network - Construction vehicle routes, types and volumes - Construction program (duration and milestones) - On-site car parking and access arrangements for construction, emergency and construction worker vehicles - Cumulative impacts associated with other construction activities in the locality (if any) - Road safety at identified intersections near the site due to conflicts between construction vehicles and existing traffic in the locality.	Section 11
Prepare a location-specific sustainable travel plan (eg "Green travel plan" or other travel behaviour change initiative); and the provision of facilities to	Section 8

Comment	Report section
increase the non-car mode share for travel to and from the site. This will entail an assessment of the accessibility of the development site by public transport. Consultation is to be carried out with the BDA for coordinating the provision of public transport services and other alternative travel demand management initiatives within the City Centre.	

Table 4: DPHI comments (Test of Adequacy review)

Comment	Report section
Provide commentary on how carparking for childcare drop off and pick up peaks has been considered and reflected in design response.	Section 5.1.1
- Appendix B – TfNSW Engagement Emails between TfNSW/BDA and applicant indicate that driveway/vehicle access from Centre Loop West is restricted. - Appendix N – Section 4.2 - Fig17 & 18 indicate vehicles accessing Stage 1 will be from Centre Loop West – please clarify this noting that BDA/TfNSW have restricted vehicle access from Centre Loop West in accordance with draft ASP.	Section 4.2

As such, this report sets out an assessment of the anticipated transport implications of the development covering all transport related SEAR and comments from relevant stakeholders, including consideration of the following:

- existing transport conditions surrounding the site
- active travel connectivity and pedestrian and bicycle requirements
- summary of the proposal
- suitability of the proposed parking supply (car parking and bicycles), access strategy and overall layout
- green travel initiatives
- traffic generating characteristics of the proposed development
- transport impacts on the surrounding networks
- review of the car parking, waste collection and loading layouts
- preliminary construction pedestrian and traffic management considerations.

1.3 References

In preparing this report, reference has been made to the following:

- Australian Standard, Parking Facilities, Part 1: Off-Street Car Parking AS2890.1:2004
- Australian Standard, Parking Facilities, Part 2: Off-Street Commercial Vehicle Facilities AS2890.2:2018
- Australian Standard, Parking Facilities, Part 6: Off-Street Parking for People with Disabilities AS2890.6:2022
- Guide to Transport Impact Assessment, 2024, TfNSW (GTIA)
- Liverpool Development Control Plan, Liverpool City Council, 2008 (Liverpool DCP)
- Floor Space and Employment Survey, City of Sydney Council, 2022
- architectural plans for the proposed development prepared by Plus Architecture
- Western Sydney Aerotropolis Precinct Plan, DPHI, 11 July 2025 (Aerotropolis Precinct Plan)



- Western Sydney Aerotropolis Development Control Plan, DPHI, September 2024 (Aerotropolis DCP)
- Bradfield City Centre Master Plan, BDA, September 2024 (Bradfield Master Plan)
- Bradfield City Centre Civil Design for Review of Environmental Factors Stage 2A, SMEC, dated, 22 April 2024 (SMEC Stage 2A Civil Drawings)
- Bradfield City Centre Civil Design for Review of Environmental Factors Stage 2D, SMEC, dated, 25 March 2025 (SMEC Stage 2D Civil Drawings)
- Bradfield City Centre Master Plan Application Transport Management Accessibility Plan Report, AECOM, dated 19 October 2023 (Bradfield TMAP)
- Trip Generation Surveys Small Suburban Shopping Centres Analysis Report, 7 November 2018, Bitzios Consulting (Bitzios Analysis Report).

2 Existing conditions

2.1 Site overview

The site is located at 135 Badgerys Creek Road, Bradfield and is approximately 2.02 hectares in area. It is legally described as Lot 7 DP 243457 and is located approximately 250 metres to the future Bradfield Metro Station and four kilometres to the Western Sydney Airport (WSA). An aerial image of the site is provided in Figure 1.

The site shares a western frontage with Badgerys Creek Road. The eastern boundary of the site adjoins the State government-led Bradfield City Centre which is set to be a vibrant 24/7 global city, driving advancements in industry and will support 10,000 more homes and 20,000 new jobs in Western Sydney.

As defined by the Aerotropolis Precinct Plan, the site is located within the Aerotropolis Core Precinct which is envisioned as an attractive place for workers, residents and visitors. The Aerotropolis Core Precinct will leverage the positive economic impact of the adjacent WSA and Bradfield City Centre. It will attract business hubs, research and development, professional services and creative industries in addition to providing residential development within walking distance of the Bradfield Metro station and proximity to blue and green infrastructure.



Figure 1: Site aerial map

Source: Nearmap / edited by Ethos Urban

2.2 Surrounding road network

Badgerys Creek Road is a Regional Road with a posted speed limit of 60 kilometres per hour adjacent to the site. It runs north-south through the area, connecting Elizabeth Drive in Badgerys Creek to the north and The Northern Road in Bringelly to the south. It is predominantly a rural road providing one traffic lane in each direction adjacent to the site. A roundabout was constructed in 2022 north of the site (as shown in Figure 1) to facilitate heavy vehicle access to the Advanced Manufacturing Readiness Facility (AMRF) and Aerotropolis Metro Station construction sites. There is

currently limited traffic on Badgerys Creek Road with most associated with surrounding construction projects such as the WSA, M12 Motorway, Sydney Metro WSA and other developments within the Aerotropolis.

Badgerys Creek Road adjacent to the site is shown in Figure 2.



Figure 2: Badgerys Creek Road (looking south)

The future road network in immediate vicinity of the site is currently under construction and will include Centre Loop West (fronting the eastern boundary of the site), Innovation South (fronting the southern boundary of the site), and a new road dissecting the site north-south (herein referred to as New Street), with characteristics of each road detailed further in Section 3.

2.3 Public and active transport

Currently, public transport services and active transport infrastructure are limited. These facilities would be delivered as part of the broader works associated with the Aerotropolis and Bradfield City Centre, discussed further in Section 3.

3 Strategic context

3.1 Overview

Western Sydney is going through an unprecedented amount of change and growth with the WSA and Aerotropolis key to population and employment growth in the region, together with significant investment in essential transport infrastructure such as a new metro line and bus services.

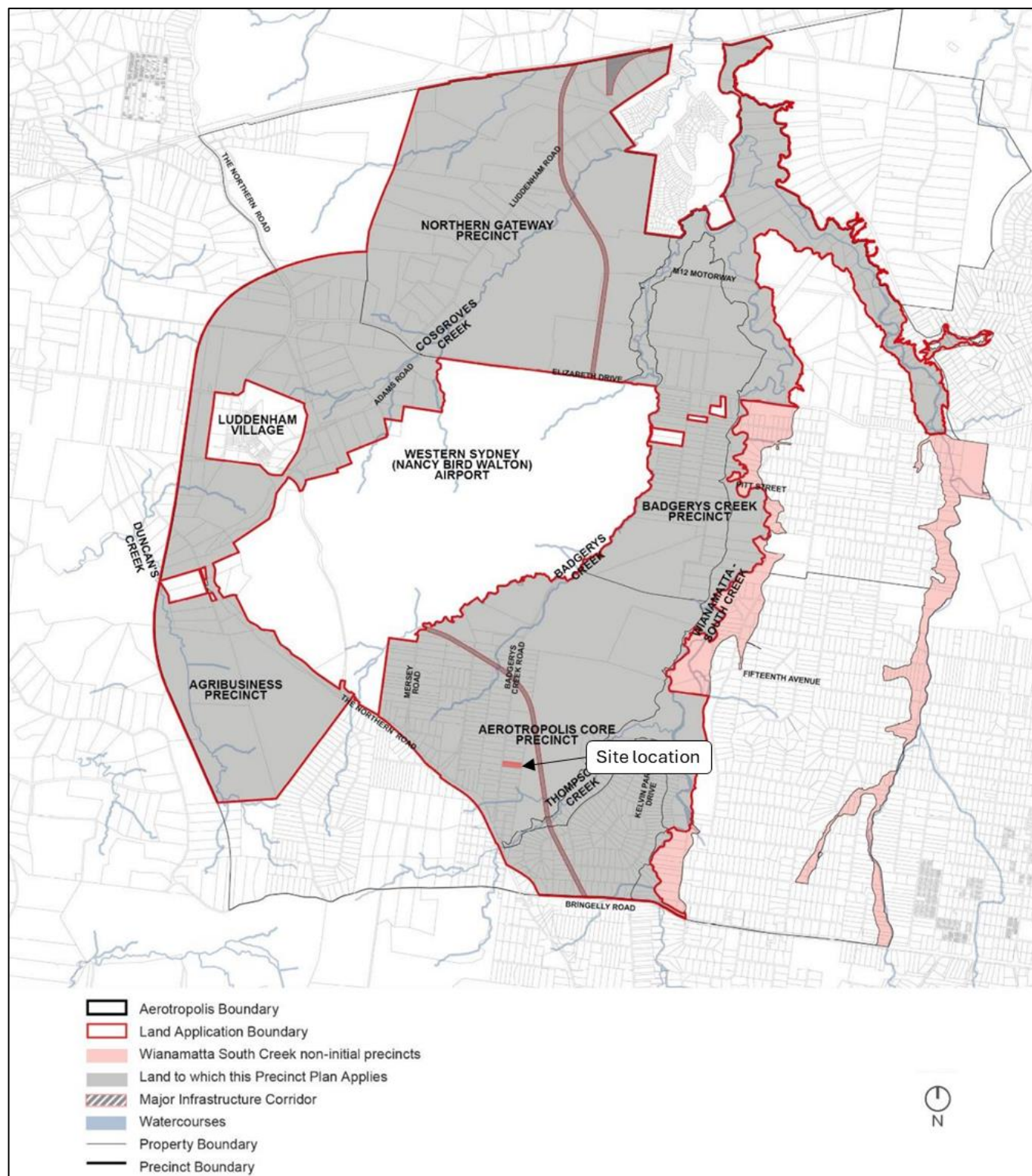
This section provides a summary of relevant planning guidelines and infrastructure projects with a specific bearing on the future operation and development of the site including the following:

- Aerotropolis Precinct Plan
- Aerotropolis DCP
- Bradfield City Centre Master Plan
- Bradfield City Centre Transport Management and Accessibility Plan
- SMEC Bradfield City Centre street layout
- Sydney Metro WSA.

3.2 Western Sydney Aerotropolis Precinct Plan

The Aerotropolis Precinct Plan identifies several distinct precincts within the Aerotropolis with the site located within the Aerotropolis Core Precinct (refer to Figure 3). The Aerotropolis Precinct Plan outlines the vision of creating a “dense urban precinct planned around the Aerotropolis Metro station” which will provide attractive places for workers, residents and visitors to the metropolitan cluster of Greater Penrith, Liverpool and Campbelltown-Macarthur area. It is estimated that the Aerotropolis Core Precinct will accommodate 50,000 to 60,000 job opportunities, leveraging the positive economic impact of the adjacent WSA. The Aerotropolis has been defined by 10 precincts, five of which are subject to accelerated planning including the Aerotropolis Core, Agribusiness, Badgerys Creek, Northern Gateway, and Wianamatta-South Creek precincts.

As per the land use structure plan detailed in the Aerotropolis Precinct Plan the site is designated as “Commercial Centre - Mixed Use”, with maximum permissible building height of 62 metres and floor space ratio (FSR) control of 3.5:1. Noting the location of the site, within close proximity to the future WSA, as shown in Figure 3, the proposed development aligns with vision of the Aerotropolis providing for an abundant employment opportunity which is appropriate in such a location and in line with the Aerotropolis vision.



- Innovation South is identified as a park edge street
- New Street is identified as a local road.

As per the Aerotropolis Precinct Plan the “...road network proposed as part of development applications is to be consistent with the Street Hierarchy Map”. However, it is noted that the Aerotropolis Precinct Plan further states that “High order roads, such as priority public transport corridors, motorways, and primary arterial roads are to be located as shown on the Transport Network and will be designed in more detail taking into account intersections and utility needs. The alignments of lower order streets are shown indicatively, and the alignment of these roads will be subject to more detailed design as part of development applications”. The Aerotropolis DCP also states to minimise four-way intersections and preferencing priority-controlled intersection treatments over signalised arrangements on the local road network.

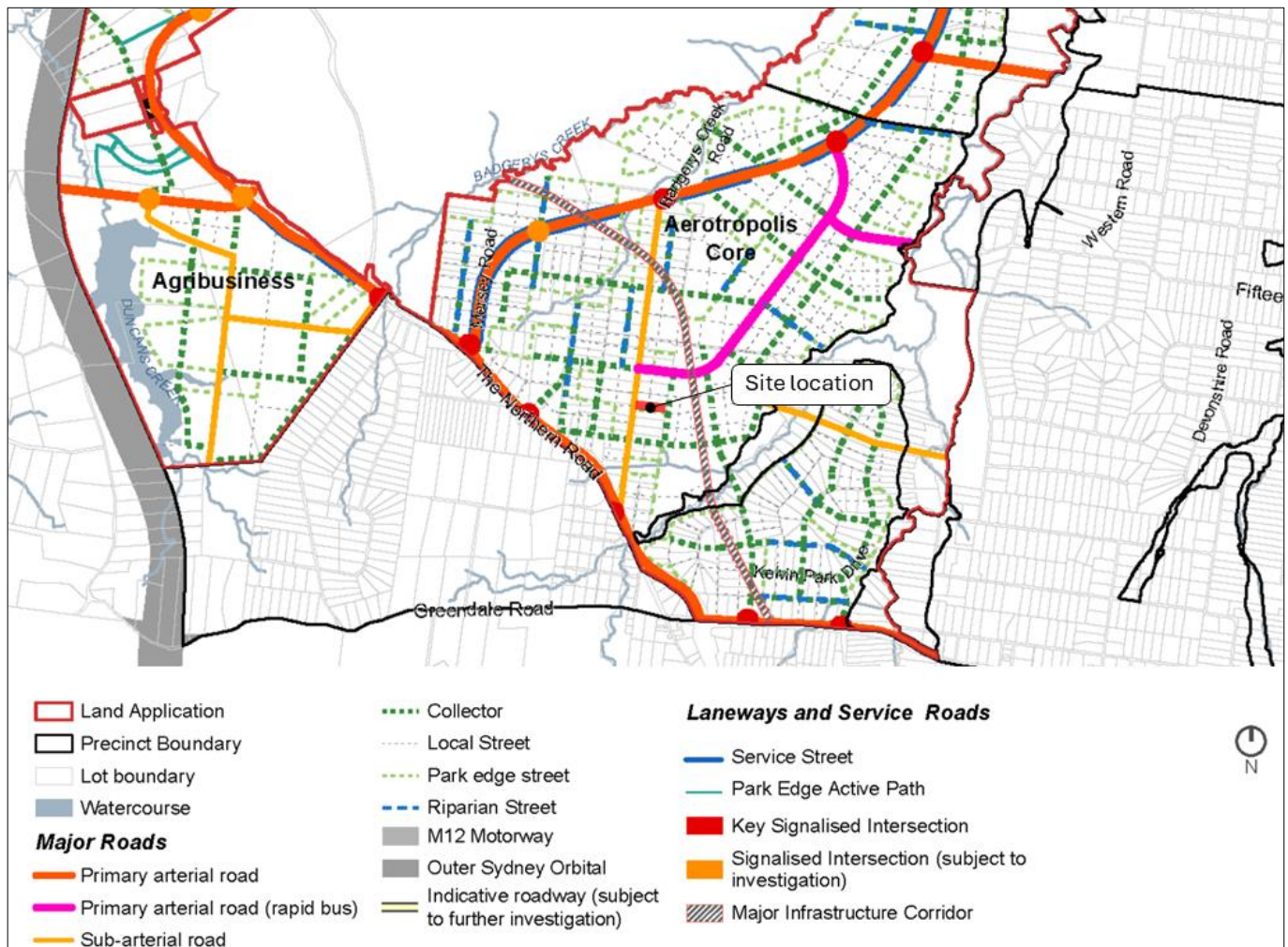


Figure 4: Aerotropolis Precinct Plan street hierarchy

Base image source: Figure 10, Aerotropolis Precinct Plan

The Aerotropolis Precinct Plan establishes a movement framework and transport network to achieve mode share targets, which are identified for future years of 2026, 2036 and 2056 for each precinct within the Aerotropolis. The Aerotropolis Core Precinct mode share targets for 2056 are:

- 9% active transport
- 52% public transport
- 39% private vehicle.

Naturally, the mode shares detailed above would be realised through provision of new public transport services and active transport networks, with those detailed in Figure 5 and Figure 6, respectively. Of relevance to the site, Centre

Loop West would accommodate local bus routes with rapid/ frequent bus services located north, south, and east of the site within walking distance. Badgerys Creek Road would also form part of the future regional cycling network, with local cycle paths planned along Centre Loop West and Innovation South.

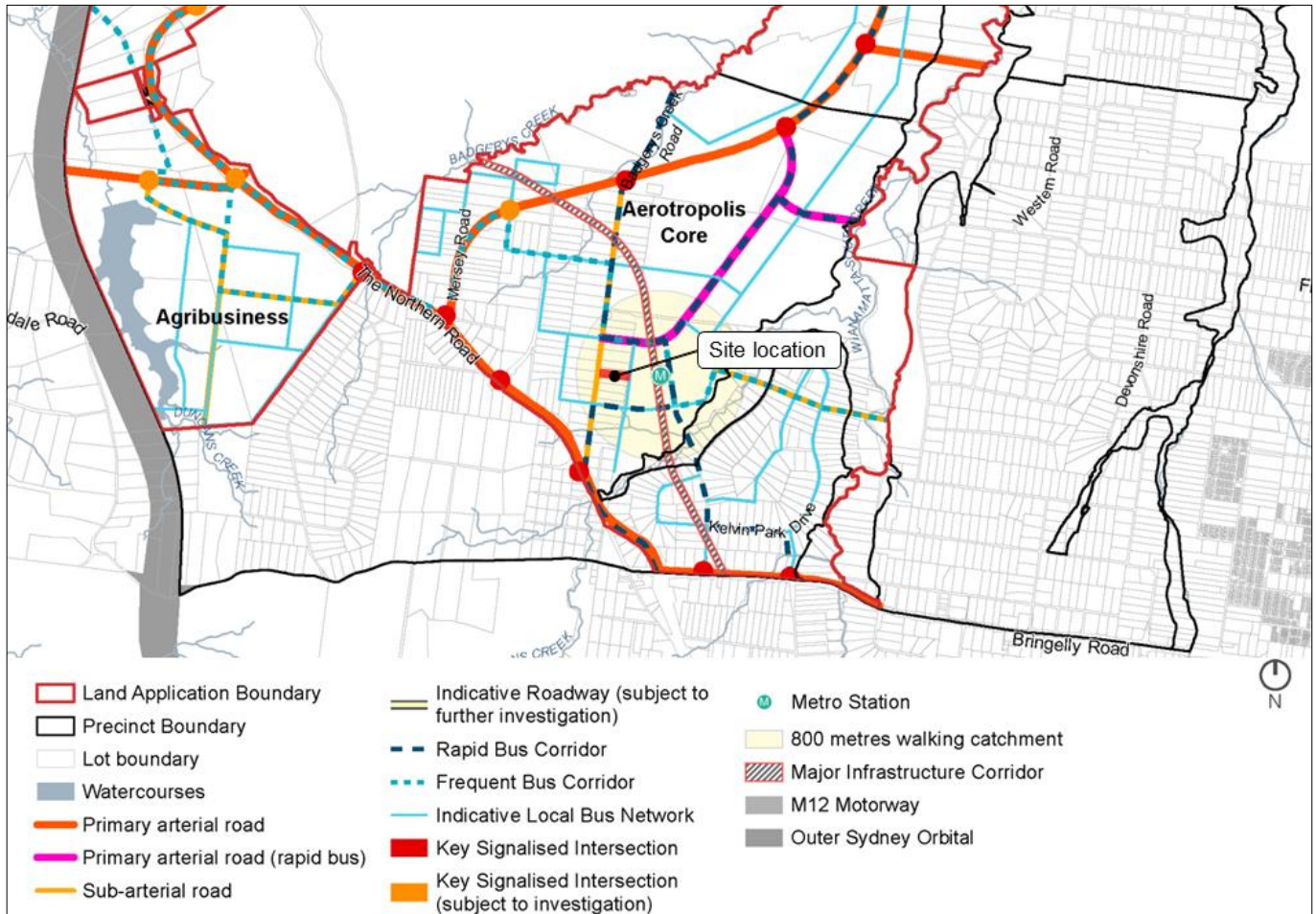


Figure 5: Aerotropolis public transport network

Base image source: Figure 8, Aerotropolis Precinct Plan

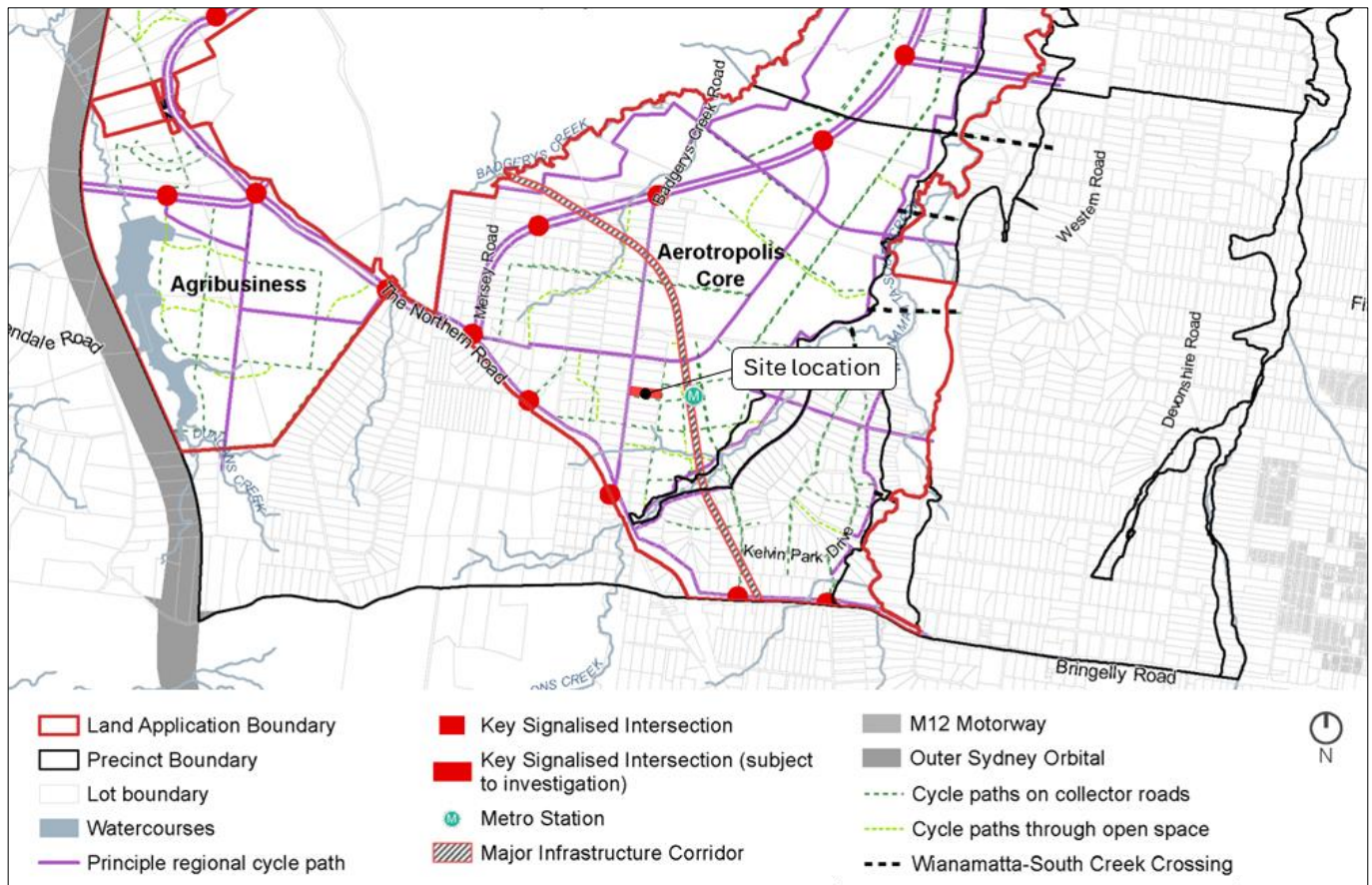


Figure 6: Aerotropolis active transport network

Base image source: Figure 9, Aerotropolis Precinct Plan

3.3 Western Sydney Aerotropolis Development Control Plan

The Aerotropolis Development DCP details the planning, design and environmental objectives and controls which will inform preparation of development applications and master plans within the Aerotropolis. The objectives and controls supplement those in Chapter 4 of the State Environmental Planning Policy (Precincts—Western Parkland City) 2021 (Parkland City SEPP) and the Aerotropolis Precinct Plan.

The Aerotropolis DCP details specific controls and objectives of relevance to the site including maximum car parking rates, bicycle and end-of-trip requirements, and site access restrictions.

3.4 Bradfield City Centre Master Plan

The Bradfield Master Plan outlines the development principles for the 114-hectare mixed-use city adjacent to the upcoming WSA and within the Aerotropolis. This initiative aims to establish a vibrant, sustainable, and technologically advanced urban hub in Western Sydney. This includes innovation, research, education, community, cultural, recreational, entertainment and other mixed land uses. The Bradfield Metro Station lies at the heart of the Bradfield City Centre, opening to a Central Park. An innovation, research and education hub will reside north of Central Park, with mixed uses including retail, commercial and community facilities to the east and immediately south. Lots further south of the riparian corridor would prioritise residential buildings.

The Bradfield Master Plan includes additional and alternative controls to those stipulated in the Parkland City SEPP, Aerotropolis Precinct Plan and Aerotropolis DCP. In the event of any inconsistencies between those documents and the Bradfield Master Plan, the master plan would prevail. It is understood that a draft Bradfield City Centre Access and Servicing Plan (ASP) has been prepared in response to the requirements outlined in the Bradfield Master Plan, with the

final ASP to be delivered in about six to eight months (as advised by TfNSW in Appendix B). Though the ASP will need to be considered as part of future development applications, given its draft status, it has not been referred to at this point in time.

As mentioned, the site bounds the western boundary of the Bradfield City Centre (lying outside of the boundary), as shown in Figure 7.

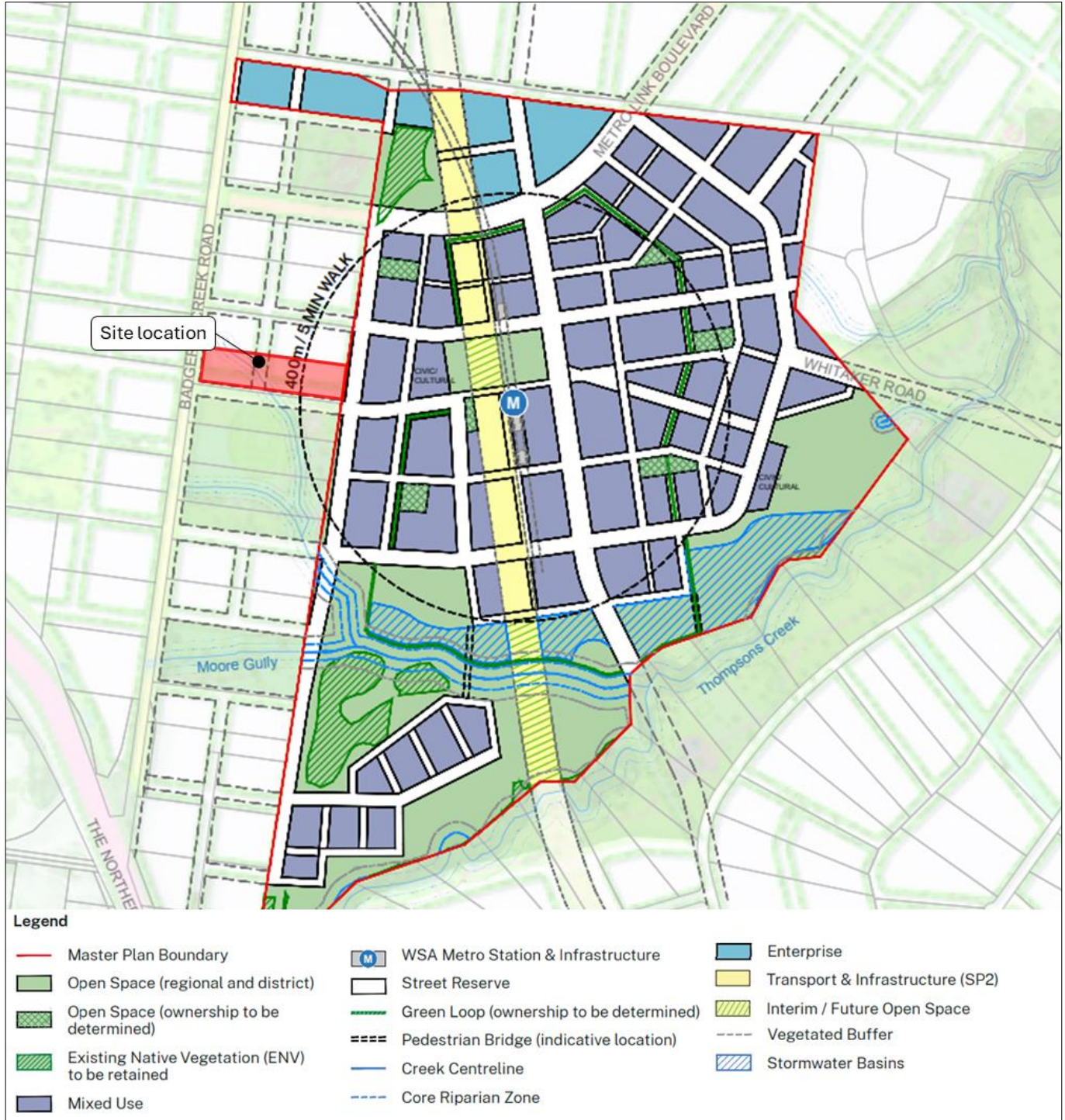


Figure 7: Bradfield Master Plan

Base image source: Bradfield City Centre Master Plan, NSW Government, dated September 2024.

The Bradfield Master Plan prioritises pedestrian and cyclist movement throughout the precinct with continuous footpaths on all major street and quality pedestrian crossing facilities, delivering a highly permeable centre. A

combination of off-street bike trails, separate bike lanes and slow speed environment generally through majority of the precinct are proposed. The pedestrian and cycling networks are shown in Figure 8.

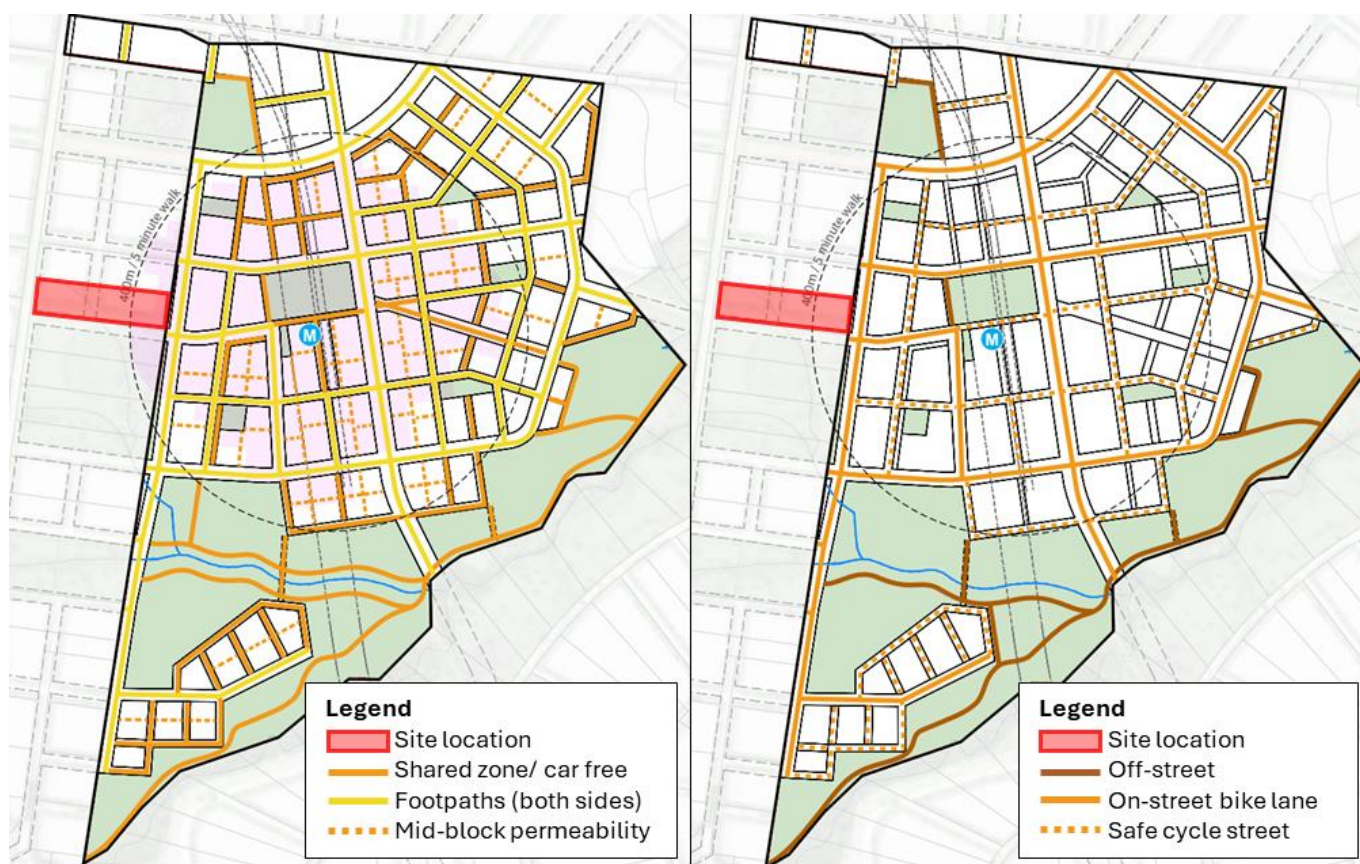


Figure 8: Bradfield City Centre proposed pedestrian (left) and cycling (right) networks

Base image source: Bradfield City Centre Master Plan, NSW Government, dated September 2024.

3.5 Bradfield Transport Management and Accessibility Plan

The Bradfield Master Plan application was supported by the Bradfield TMAP report prepared by AECOM (dated 19 October 2023) to address the transport planning and modelling related aspects of the application. Notably, the Bradfield TMAP benchmarked mode share targets which were later endorsed by TfNSW in the Transport Working Group meetings. The mode share targets for Bradfield City Centre were derived based on population, employment and infrastructure development in years 2026, 2036 and 2056, as shown in Table 5.

Table 5: Bradfield city centre mode share targets

Peak hour	Future year	Mode share estimate		
		Private vehicle	Public transport	Active transport
AM	2026	62%	34%	4%
	2036	37%	51%	12%
	2056	27%	58%	15%
PM	2026	59%	36%	5%
	2036	32%	55%	12%
	2056	23%	62%	15%

Of relevance to the site, the assessment also included person and vehicle trip assessments, relying on a review of TfNSW reference trip generation and guidance documents, as well as other relevant case studies. These rates were similarly agreed in consultation with TfNSW, which are shown in Figure 9.

Land Use	Measure (Unit)	Total person trips (per measure)		Total vehicle trips (per measure)	
		AM	PM	AM (2026 2036 2056)	PM (2026 2036 2056)
Commercial	100m ² GFA	1.35	1.19	0.65 0.42 0.18	0.56 0.36 0.15
R&D Commercial	100m ² GFA	0.67	0.59	0.36 0.28 0.19	0.32 0.24 0.16
Advanced Industrial	100m ² GFA	0.41	0.36	0.25 0.21 0.17	0.22 0.19 0.15
Industrial	100m ² GFA	0.27	0.24	0.18 0.16 0.15	0.16 0.15 0.13
Retail	100m ² GFA	3.68	6.65	1.03 0.92 0.82	2.09 1.88 1.67
Hotel	Occupied room	0.5	0.5	0.15 0.13 0.10	0.15 0.13 0.10
Cultural	100m ² GFA	1.03	2.9	0.17 0.14 0.11	0.40 0.33 0.27
Education	Student	1.30	1.28	0.62 0.51 0.39	0.43 0.35 0.27
Residential	Dwelling	0.8	0.6	0.23 0.20 0.17	0.11 0.09 0.08

Figure 9: Trip generation rates for each land use type in the Bradfield City Centre

Source: Table 22, Bradfield TMAP

Traffic modelling for the Bradfield TMAP involved mesoscopic simulation relying on the TfNSW Western Sydney Aerotropolis Growth Area (WSAGA) strategic traffic model. AECOM made further refinements to the strategic modelling, where necessary, to reflect localised capacity constraints on the road network within and surrounding Bradfield City Centre. Within Bradfield City Centre the road network was coded into the WSAGA model for future years of 2026, 2036, and 2056. Based on the 2026 model Badgerys Creek Road is expected to carry about 950 vehicles and 820 vehicles in both directions during the AM and PM, peak hours respectively.

The 2056 road network is shown in Figure 10, which details Innovation South, Badgerys Creek Road, and Centre Loop West adjacent to the site. The modelling results indicated that even in 2056 the surrounding intersections would operate satisfactorily with acceptable delays at all intersections. The intersections of Badgerys Creek Road/ Innovation South and Centre Loop West/ Innovation South would operate at level of service A during both the AM and PM peak hours, as shown in Figure 11.

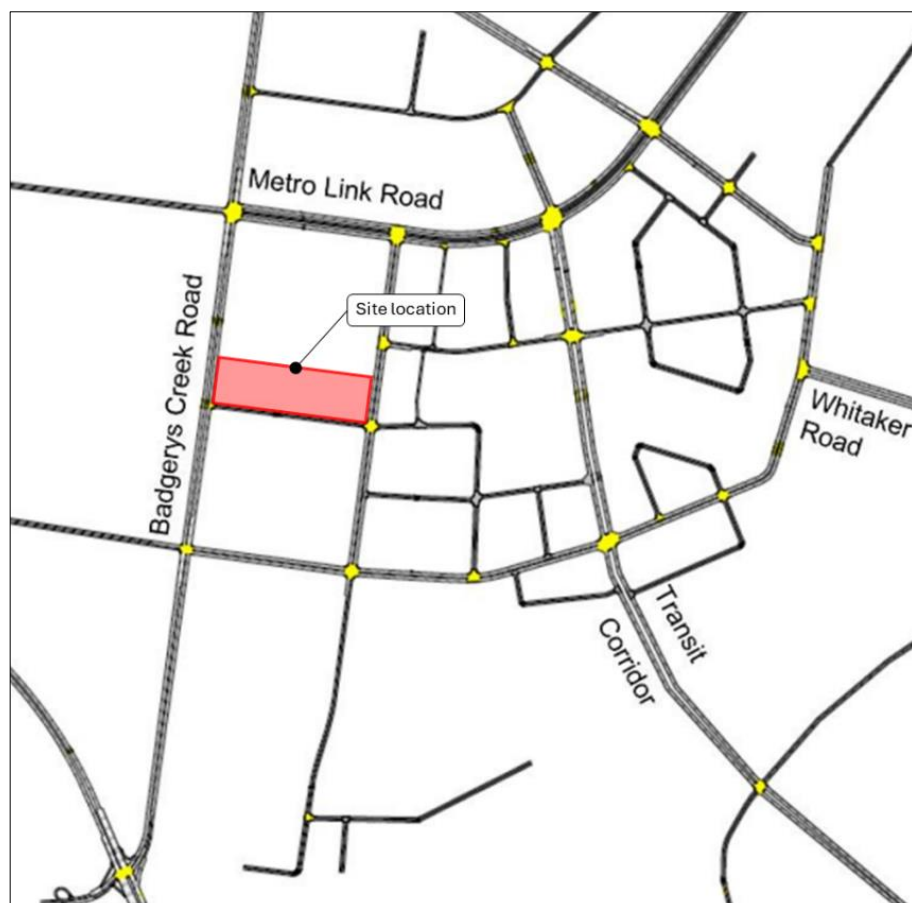


Figure 10: 2056 Bradfield City Centre road network in the WSAGA traffic model

Base image source: Figure 55, Bradfield TMAP

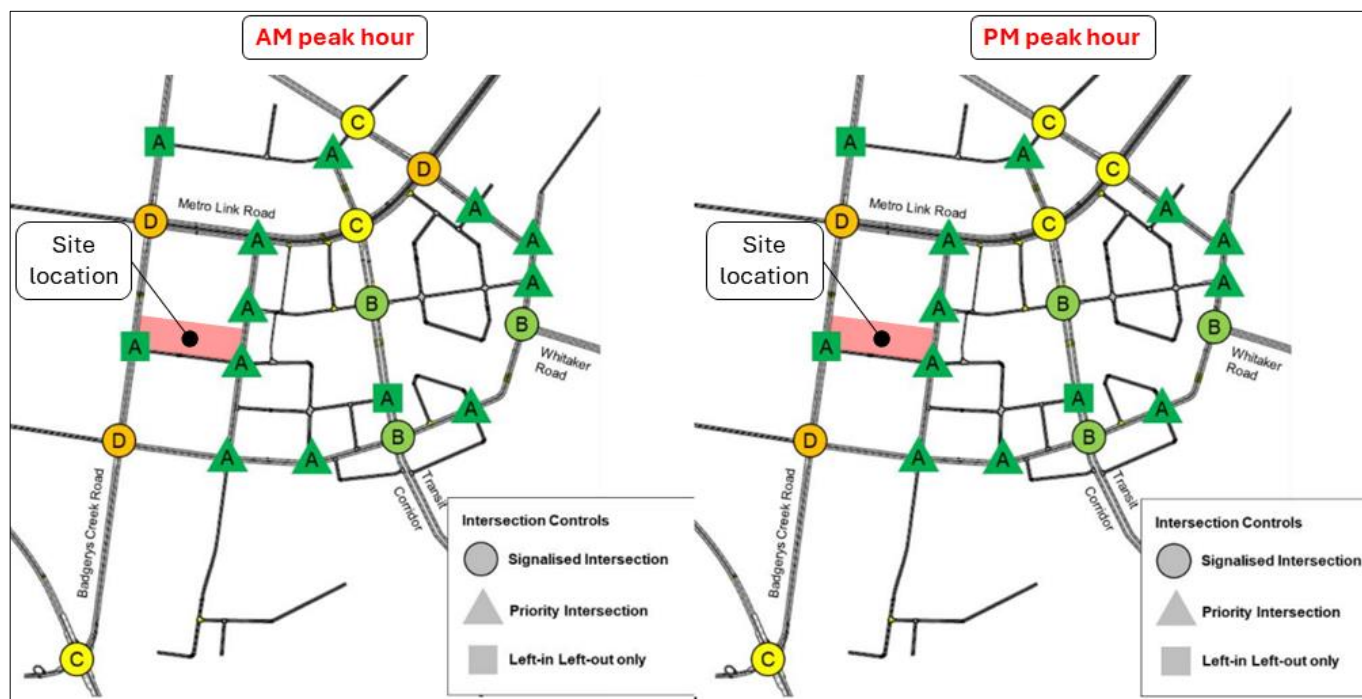


Figure 11: 2056 Bradfield City Centre intersection operation

Base image source: Figure 61, Bradfield TMAP

3.6 SMEC Bradfield City Centre street layout

SMEC is leading the civil and utilities design for Bradfield City Centre, with Stage 2 enabling works delivering roads, utilities and amenities for the area. Construction has already commenced with works to Centre Loop West and Innovation South underway.

The road layout and cross-sections for Centre Loop West and Innovation South are presented in Figure 12 to Figure 15. The following key points are noted from review of the SMEC civil drawings:

- Centre Loop West would include one travel and kerbside parking lane in each direction (with tree pits spaced at even increments in the parking lane)
- Innovation South would include one travel lane in each direction with a kerbside parking lane on the southern side only (similarly with tree pits spaced at even increments in the parking lane)
- footpaths would be provided on both sides of Innovation South and Centre Loop West
- bike plans would be provided on both sides of Centre Loop West, with a shared path on the southern side of Innovation South
- at the Centre Loop West/ Innovation South intersection kerb ramps would be provided on the eastern, western, and southern approaches with a pedestrian refuge also provided on the southern approach.

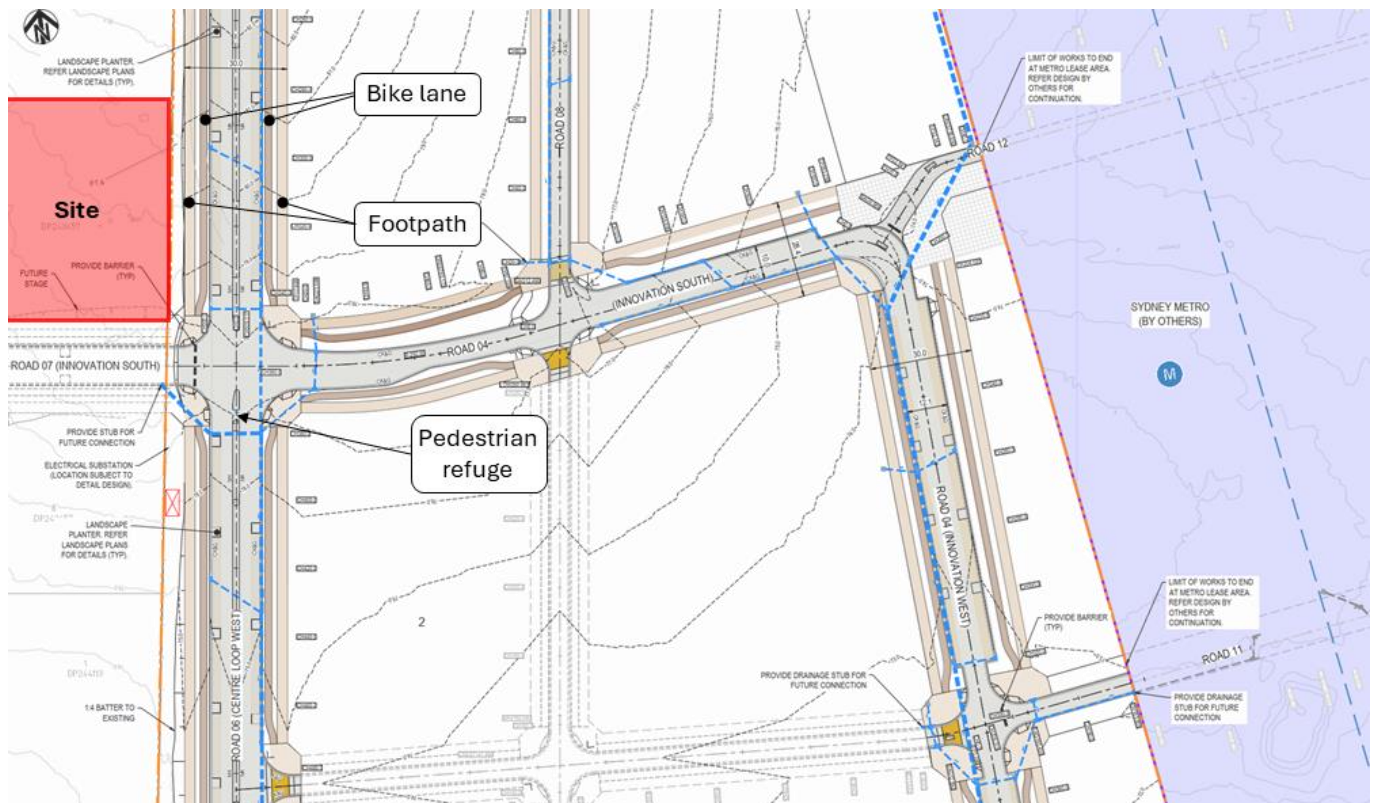


Figure 12: Centre Loop West SMEC road layout plan

Base image source: SMEC Stage 2A Civil Drawings, drawing no. 30013454.01.REF102, rev. 07, dated 22 April 2024

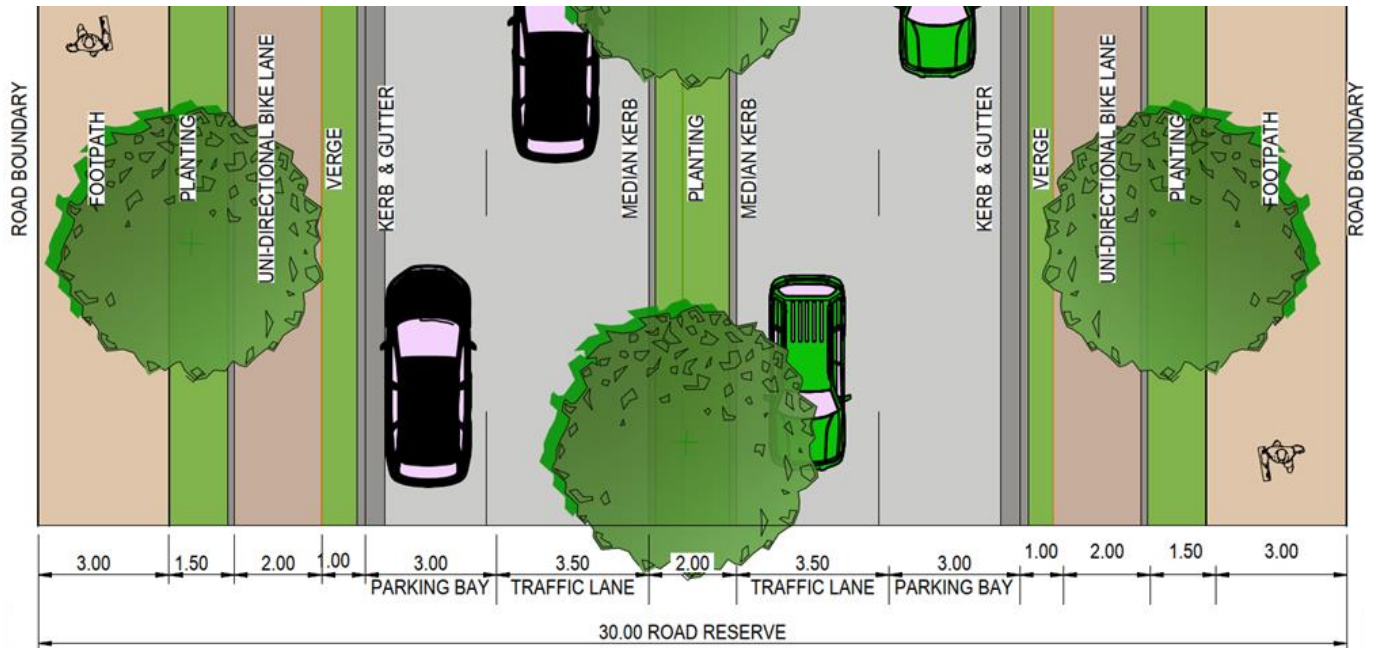


Figure 13: Centre Loop West SMEC cross-section

Source: SMEC Stage 2A Civil Drawings, drawing no. 30013454.01.REF041, rev. 07, dated 22 April 2024.

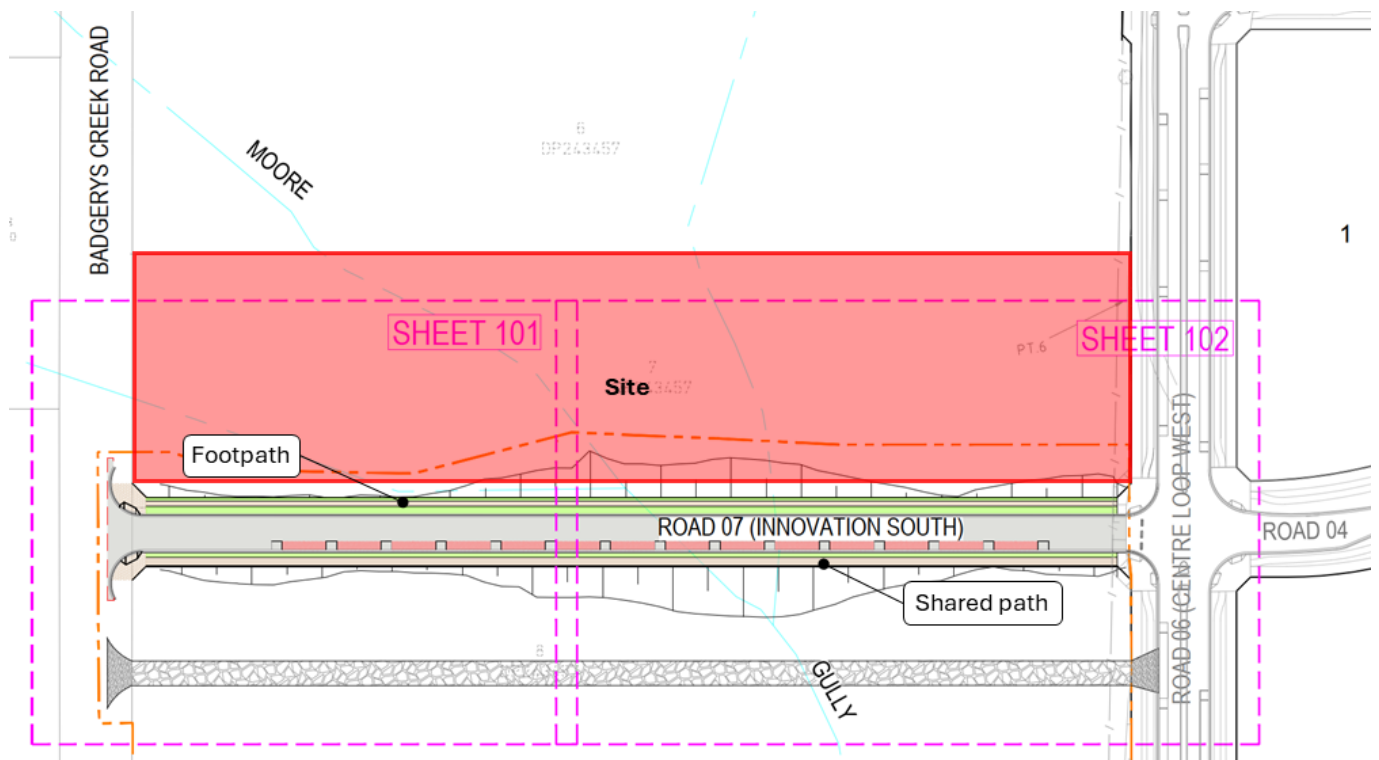


Figure 14: Innovation South SMEC road layout plan

Source: SMEC Stage 2D Civil Drawings, drawing no. 30013454.2D.REF031, rev. 06, dated 28 March 2025.

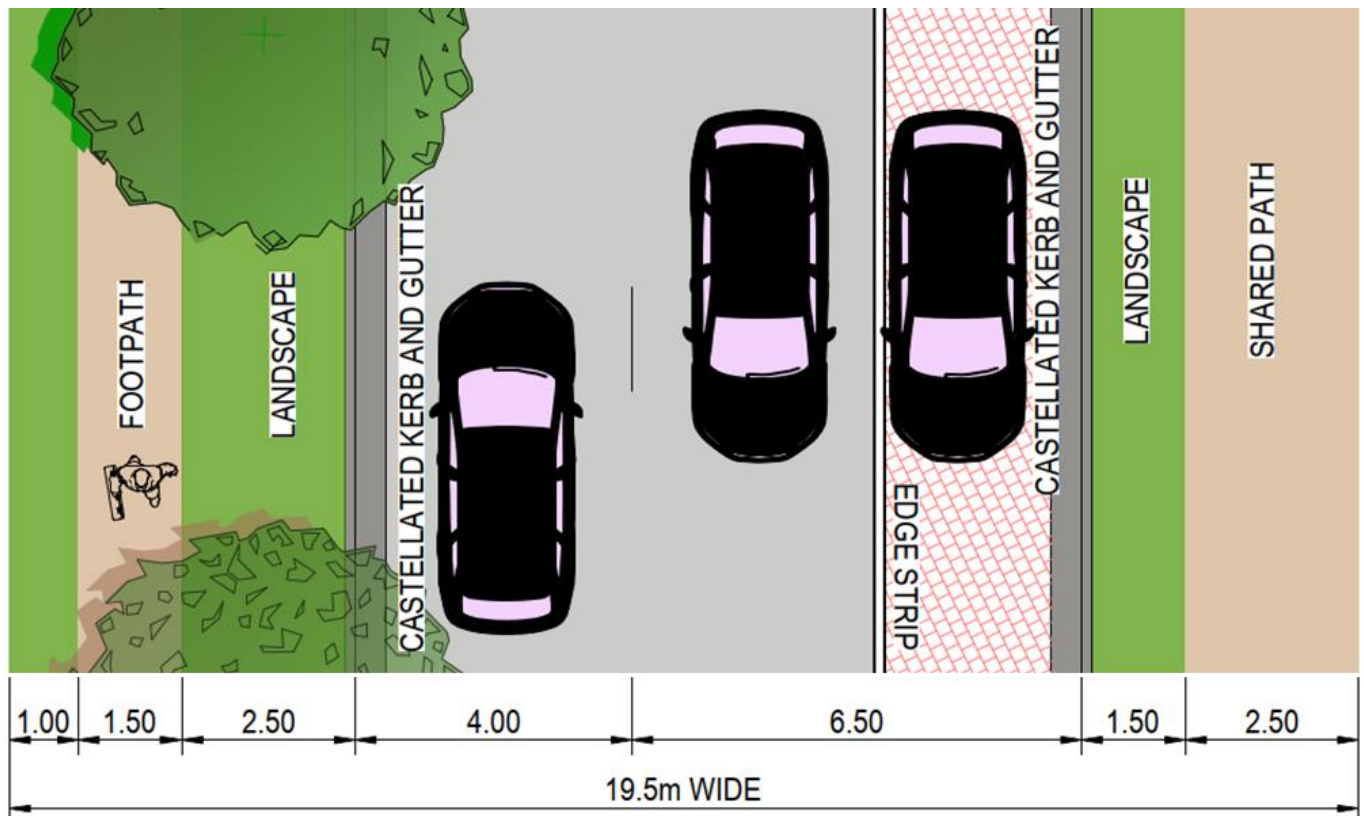


Figure 15: Innovation South SMEC cross-section

Source: SMEC, Bradfield City Centre Civil Design for Review of Environmental Factors Stage 2D, drawing no. 30013454.2D.REF041, rev. 06, dated 28 March 2025.

3.7 Sydney Metro WSA

The Sydney Metro WSA line is a new 23-kilometre metro rail line currently under construction, scheduled to commence operations in 2026/ 2027. The line will connect St Marys in the north to Bradfield in the south, with six new stations proposed at St Marys, Orchard Hills, Luddenham, Airport Business Park, Airport Terminal, and Bradfield, as shown in Figure 16. The project includes a combination of twin underground tunnels and elevated viaducts, with Bradfield station near the site located underground. Once operational, services will run every five minutes during peak periods.

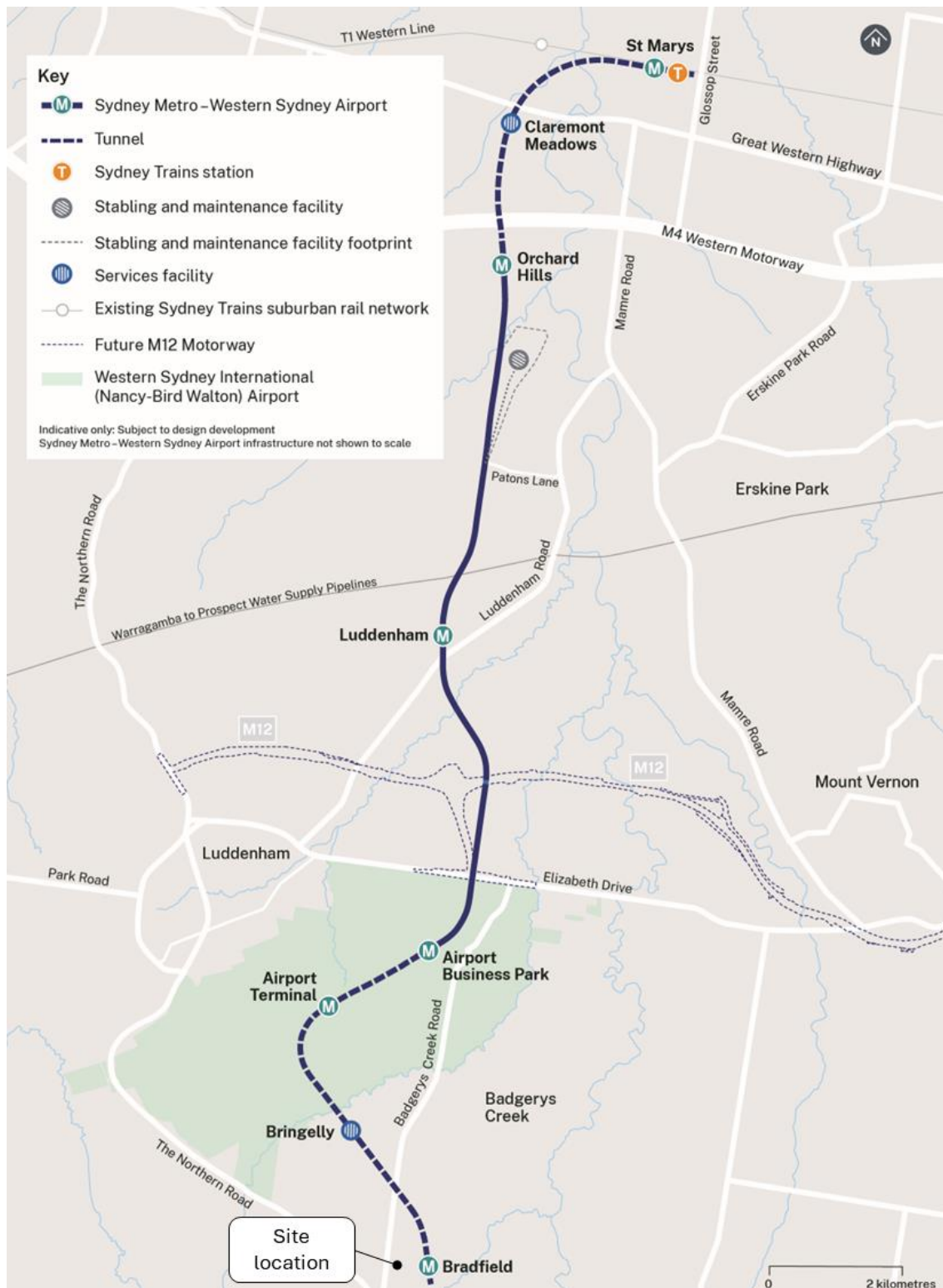


Figure 16: Sydney Metro WSA alignment

Base image source: Sydney Metro

4 Development proposal

4.1 Overview

The proposal includes the staged delivery of a mixed-use development at 135 Badgerys Creek Road, Bradfield. Stage 1 and Stage 2 comprise the eastern portion of the site, with Stage 3 comprising the western portion separated by a new north-south road through the site (New Street). The development yield is summarised in Table 6 with ground floor plans shown in Figure 17, though broadly the proposed development comprises the following comprising:

- enabling works including vegetation removal and earthworks
- the construction of three buildings generally achieving an FSR of about 3.5:1, comprising:
 - residential use, including approximately 400 apartment units
 - hotel use, including 445 hotel rooms
 - commercial use, including retail, food and drink and other commercial uses such as public coworking areas
 - medical centre use
 - childcare centre use
- construction of two basement structures, including approximately 800 carparking spaces
- public domain upgrades, including:
 - construction of an internal road
 - a public plaza
- rehabilitation and augmentation of the existing riparian corridor
- landscaping embellishments on the ground level and within the built form
- services augmentation as required.

Refer to the Environmental Impact Statement for a detailed summary of the proposed development.

The proposal also incorporates three pedestrian crossings on Innovation South offset from the intersections to Badgerys Creek Road, New Street and Centre Loop West to ensure pedestrian safety. The crossings will improve connectivity to the sports field located south of the site and are aligned with residential lobbies, public domain areas, and ground floor non-residential premises. These will not only improve activation of the ground floor and ensure a high level of pedestrian permeability but also benefit those travelling within the broader Aerotropolis/ Bradfield City Centre.

Table 6: Development schedule

Land use	Description	Yield
Stage 1		
Non-residential	Hotel	243 rooms
	Retail	118m ² GFA
	Tavern	1,263m ² GFA
	Conference centre [1]	632m ² GFA
Stage 2		
Non-residential	Hotel	202 rooms
	Retail	4,165m ² GFA

Land use	Description	Yield
	Medical	1,913m ² GFA
	Gym	887m ² GFA
	Childcare	94 children/ 779m ² GFA
	Commercial/ coworking	2,196m ² GFA
Residential	1-bedroom	16 units
	2-bedroom	118 units
	3-bedroom	24 units
	<i>Residential total</i>	<i>158 units</i>
Stage 3		
Non-residential	Retail	283m ² GFA
Residential	1-bedroom	36 units
	2-bedroom	160 units
	3-bedroom	48 units
	<i>Residential total</i>	<i>244 units</i>

[1] The conference centre facility would be operated by the hotel within Stage 1.

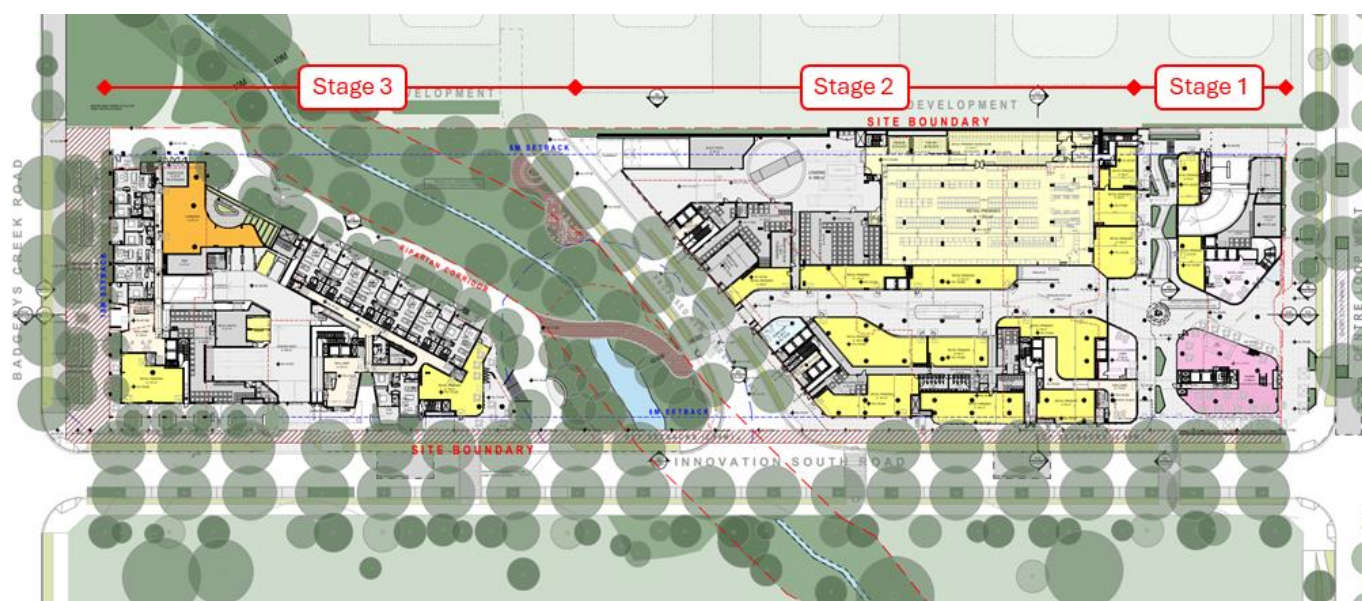


Figure 17: Ground floor plan

Base image source: Plus Architects, project no. 20799, drawing no. DA-1000, rev. A, dated 2 October 2025

4.2 Site access and car parking

The site will rely on delivery of new and upgraded roads as part of Bradfield City Centre and broader Aerotropolis works (as summarised in Section 3), including Innovation South along the southern boundary, Centre Loop West along the eastern boundary and New Street which aligns with the existing riparian corridor dissecting the site between Stages 1 and 2, and Stage 3. New Street is understood to be dedicated to Council/ BDA, subject to further consultation, and aligns with the planning detailed in the Aerotropolis Precinct Plan and Bradfield Master Plan. The proposal involves

delivery of the southern section of New Street connecting to Innovation South. Construction of New Street north of the site is dependent on delivery of adjacent lots.

The proposal includes separated retail and residential vehicle accesses, defined as follows and illustrated in Figure 18:

- Stage 1 and Stage 2: Residential access via New Street to the basement car park and non-residential access via Centre Loop West.
- Stage 3: Shared residential and retail access via Innovation South.

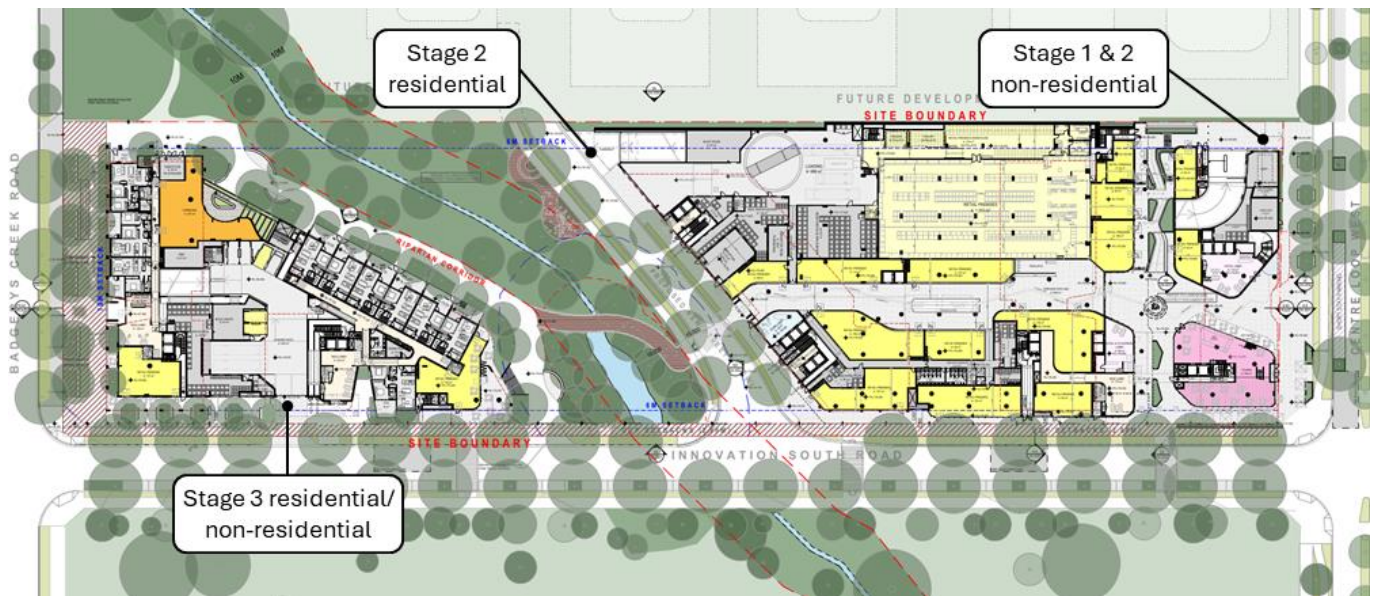


Figure 18: Vehicle access arrangements

Base image source: Plus Architects, project no. 20799, drawing no. DA-1000, rev. A, dated 2 October 2025

The site access strategy is well considered and ensures an equitable distribution of traffic across the site. It also purposefully avoids access to Badgerys Creek Road in accordance with the Aerotropolis DCP which specifies that access to properties via arterial and sub-arterial roads identified in the Aerotropolis Precinct Plan is not permitted. This works in well with the known surrounding road network and supports arrival and departure routes without concentrating any such vehicle activity in a single location. It is important to separate non-residential and resident vehicles and ensures New Street and Innovation South can serve as a local access street (given smaller road cross-section and hierarchy) with Centre Loop West facilitating most site generated traffic. The proposal also seeks support for a short-stay parking area (e.g., 5- or 10-minute. parking signs) along a portion of the Centre Loop West frontage to support hotel and tavern drop-off activities and provide broader benefits to the site. No changes are proposed to any kerbs or shared paths on Centre Loop West from that already detailed in the SMEC concept plans.

It is acknowledged that a Draft Bradfield City Centre Access and Servicing Plan (ASP) has been prepared by TfNSW in response to Section 9 of the Bradfield Master Plan. Ason Group has consulted with TfNSW on this matter (attached in Appendix B) as it relates to the proposed access arrangements for the site (particularly in relation to the Centre Loop West access) and offer the following responses to matters raised in Table 4:

- The ASP is still in draft form and subject to change prior to finalisation. As detailed in Appendix B, TfNSW noted that the ASP will require consideration alongside the Bradfield Master Plan as part of future development applications once finalised. However, TfNSW acknowledged that since the ASP is currently in draft form, access restrictions are currently not enforceable.
- The comments provided by TfNSW with regard to restricted access to Central Loop West were not raised as part of the application's original feedback during the SEARs preparation stage.

- There has been no consultation nor engagement with the landowners (including the applicant) adjacent to the Bradfield City Centre on the Draft ASP and the recommendation to restrict access from Central Loop West. This is despite the impacts that restricted access via Central Loop West will have on all future buildings west of the road.
- The proposal to have driveway access via Central Loop West would not compromise the performance and function of the road.

A total of 775 car parking spaces is proposed across the site, with a consolidated basement car park provided for Stage 1 and Stage 2, and separate basement car park for Stage 3, with each providing three basement levels. The proposed car parking schedule is summarised in Table 7.

Table 7: Parking schedule

Land use	Description	Parking spaces
Stage 1		
Non-residential	Hotel	53
	Retail	2
	Tavern	18
	Conference room	1
Stage 1 total		74 spaces
Stage 2		
Non-residential	Hotel	38
	Retail	115
	Medical	10
	Gym	44
	Childcare	6
	Commercial/ coworking	11
	Tavern	6
	<i>Non-residential sub-total</i>	<i>230 spaces</i>
Residential	Resident	150
	Visitor	32
	Car share	4
	<i>Residential sub-total</i>	<i>186 spaces</i>
Stage 2 total		416 spaces
Stage 3		
Non-residential	Retail	3
	<i>Non-residential sub-total</i>	<i>3 spaces</i>
Residential	Resident	226
	Visitor	49
	Car share	7

Land use	Description	Parking spaces
	<i>Residential sub-total</i>	<i>282 spaces</i>
	Stage 3 total	285 spaces

4.3 Servicing arrangements

Loading and waste collection activities are proposed on the ground floor with the following facilities provided, and shown in Figure 19:

- Stage 1: Accessed via Centre Loop West and accommodating vans/ utes and small rigid vehicle (SRV). This is expected to mainly service smaller deliveries associated with the hotel, tavern and other Stage 1 non-residential land uses. It would also combine with the Stage 2 loading dock once operational to accommodate smaller deliveries, as necessary.
- Stage 2: On completion of Stage 2, a larger dedicated loading dock accessed via New Street would become available for daily use. This is expected to service the bulk of deliveries for the non-residential land uses, as well as accommodating removalist trucks/ vans for residents in the Stage 2 buildings. The loading dock includes capacity for two heavy rigid vehicles (HRV), one medium rigid vehicle (MRV), and a dedicated space for the waste collection vehicles.
- Stage 3: A single loading dock providing two loading spaces capable of accommodating one MRV and one HRV to be shared between residential and non-residential uses in Stage 3.

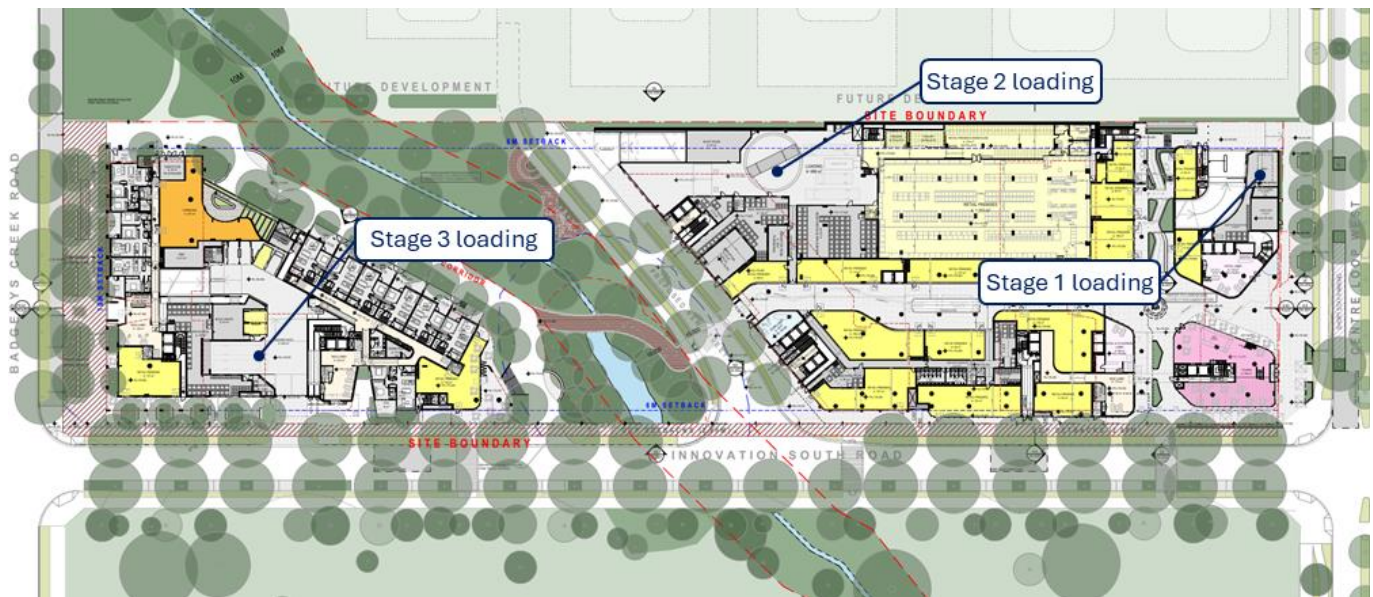


Figure 19: Servicing arrangements

Base image source: Plus Architects, project no. 20799, drawing no. DA-1000, rev. A, dated 2 October 2025

5 Parking assessment

5.1 Parking requirements

5.1.1 Residential and non-residential car parking

The Aerotropolis DCP stipulates applicable maximum parking rates for sites located in identified centres (per Section 3.2 the site resides within a Commercial Centre – Mixed Use) and within an 800 metre walk of a future metro station. The applicable parking rates and resulting car parking requirements are summarised in Table 8, with the following noted:

- The Aerotropolis DCP does not specify a rate for resident visitor parking, however, states that for land uses not identified, reference should be made to the GTIA (Section 4.3.1, Aerotropolis DCP). Under the GTIA residential parking rates are determined according to the Statistical Area Level 2 (SA2) categorisation in which the site is located. Based on the site location the GTIA recommends a visitor parking rate of one space per five units.
- The Aerotropolis DCP does not specify a rate for tavern uses. Considering, the similarity between tavern and “shop, restaurant, café” land uses, this rate has been adopted.
- The Aerotropolis DCP does not specify a rate for conference centres. Since no other applicable rate can be adopted, the rate for “other land uses” within mixed use centre has been adopted.

Table 8: Aerotropolis DCP maximum car parking requirements

Use	Description	Size	Maximum car parking rate	Maximum parking requirement	Proposed parking spaces
Stage 1					
Non-residential	Hotel	243 rooms & 36 staff [1]	1 space/ 5 rooms + 1 space/ 5 staff	49 (guests) 8 (staff)	53
	Retail	118m² GFA	1 space/ 90m² GFA	2	2
	Tavern	1,263m² GFA	1 space/ 90m² GFA	15	18
	Conference centre	632m² GFA	1 space/ 200m² GFA	4	1
	Non-residential sub-total			78 spaces	74 spaces
Stage 2					
Non-residential	Hotel	202 rooms & 20 staff [1]	1 space/ 5 rooms + 1 space/ 5 staff	41 (guests) 4 (staff)	38
	Retail	4,165m² GFA	1 space/ 90m² GFA	47	115
	Medical	1,913m² GFA	1 space/ 200m² GFA	10	10
	Gym	887m² GFA	5 spaces/ 100m² GFA	45	44
	Childcare	94 children	1 space/ 2 employees (max of 3 spaces) + 3 spaces if more than 24 children	3 (visitors) 3 (staff)	6
	Commercial/ coworking	2,196m² GFA	1 space/ 100m² GFA	22	11

Use	Description	Size	Maximum car parking rate	Maximum parking requirement	Proposed parking spaces
	Tavern [3]	-	-	-	6
	Non-residential sub-total			175 spaces	230 spaces
Residential	1-bedroom	16 units	0.5 spaces/ unit	8	150
	2-bedroom	118 units	1 space/ unit	118	
	3-bedroom	24 units	1 space/ unit	24	
	Visitor	-	1 space/ 5 units	32	32
	Residential sub-total			182 spaces	182 spaces
Stage 3					
Non-residential	Retail	283m² GFA	1 space/ 90m² GFA	4	3
	Non-residential sub-total			4 spaces	3 spaces
Residential	1-bedroom	36 units	0.5 spaces/ unit	18	226
	2-bedroom	160 units	1 space/ unit	160	
	3-bedroom	48 units	1 space/ unit	48	
	Visitor	-	1 space/ 5 units	49	49
	Residential sub-total			275 spaces	275 spaces
Site non-residential total				257 spaces	307 spaces
Site residential total				457 spaces	457 spaces [2]

[1] Assumption provided by Plus Architects

[2] Not including the 11 car share spaces.

[3] Additional parking within Stage 2 to be allocated to the tavern located in Stage 1.

The proposal is generally consistent with the maximum parking rates set out in the Aerotropolis DCP but exceeds the requirement by 68 retail parking spaces within Stage 2. Across the entire site, this equates to an additional 50 spaces above the Aerotropolis DCP rates when considering minor under provisions for the hotel, gym, commercial/ coworking areas and the conference centre.

At this stage, the specific nature of the retail operations and tenant requirements remain unknown. Accordingly, a practical level of parking has been proposed to provide flexibility for future land uses, while acknowledging the intent of the maximum parking controls.

When considering the future operation of the site, it is likely that many visitors would likely visit multiple uses within the development as part of the same trip (such as those picking up/ dropping off children at the childcare and then visiting the retail premises). This mix of uses would naturally generate parking efficiencies which are typically observed for large mixed-use developments. Further, while all non-residential uses would generate a demand for parking, it is likely that this would occur at different times throughout the day and week. Accordingly, it would be reasonable to assume that some sharing of car parking spaces can occur between multiple users of the site with different demand profiles. Overall, the occurrence of multi-purpose trips and sharing of non-residential car parking due to differing demand profiles would assist with accommodating the future non-residential parking demand (while acknowledging the intent of the maximum parking controls). Therefore, when considering the comments in Table 4, childcare drop-off/ pick-up activity, which is likely to partially occur outside peak periods for other land non-residential uses, is expected to be adequately supported.

5.1.2 Accessible/ adaptable car parking

The proposal includes the following accessible parking:

- Non-residential: 13 accessible spaces
- Residential: 42 accessible spaces (including a portion dedicated for use by visitors).

Aerotropolis DCP stipulates the following accessible parking requirements:

- Non-residential: Two per cent of all spaces to be accessible
- Residential: One space per adaptable dwelling and one space per 20 visitor spaces.

With the proposal including 307 parking spaces for non-residential land uses this equates to a requirement for six accessible space which is exceeded with a provision of 13 accessible space.

Further, with the proposal understood to provide 18 accessible units and 81 resident visitor spaces this generates a total requirement for 22 accessible spaces. Similarly, this requirement is exceeded with a provision of 42 accessible spaces for use by residents/ resident visitors.

5.1.3 Motorcycle parking

The Aerotropolis DCP also stipulates that motorcycle parking is to be provided at a rate of one space for every 10 car parking spaces. With the proposal including 775 car parking spaces across the site and provision of about 100 motorcycle spaces, this exceeds Aerotropolis DCP requirements.

6 Sustainable transport infrastructure

6.1 Bicycle parking

The bicycle parking requirements in accordance with the rates stipulated in the Aerotropolis DCP are detailed in Table 9 (rounded up to the nearest whole number as specified in the Aerotropolis DCP), with the following noted:

- The Aerotropolis DCP includes the following bicycle parking rates for retail land uses:
 - Employees: One space per 25 square metres GFA
 - Visitors: Two spaces plus one bicycle parking space per 100 square metres GFA (over 100 square metres GFA).

The City of Sydney Council undertakes a comprehensive floor space and employment survey every five years, with the most recent completed in 2022. The data shows an average workspace ratio of one employee per 20.6 square metres for food and beverage (F&B) premises, and one employee per 38.5 square metres for retail/ personal services¹. Assuming the development would provide an equivalent mixture of retail shops and F&B tenancies an average workspace ratio of one employee per 30 square metres has been derived. On this basis, the employee bicycle parking rate stipulated in the Aerotropolis DCP effectively assumes all staff would cycle to the site, which is not realistic having consideration to the Bradfield City Centre target mode shares. By comparison, Liverpool DCP contains a staff bicycle parking rate of one space per 200 square metres GFA while having the same visitor rate as the Aerotropolis DCP. This is considered more appropriate given the anticipated land uses and considering workspace ratios.

- The Aerotropolis DCP does not specify a rate for gym uses in centres and as such, reference has been made to the Liverpool DCP for “other indoor recreational facilities”.
- The Aerotropolis DCP does not specify a rate for conference rooms and as such, the commercial bicycle rate has been adopted.

¹ Floor Space and Employment Survey, 2022, City of Sydney Council

Table 9: Minimum bicycle parking requirements

Land use	Size	Bicycle parking rate		Bicycle parking requirement	
		Visitor	Employee/ resident	Visitor	Employee/ resident
Stage 1					
Hotel	243 rooms & 36 staff	1 space/ 20 rooms	1 space/ 4 staff	13	9
Retail	118m² GFA	2 spaces + 1 space/ 100m² GFA over 100m²	1 space/ 200m² GFA	3	1
Tavern	1,263m² GFA	1 space/ 100m² GFA	1 space/ 100m² GFA	13	13
Conference Room	632m² GFA	1 space/ 400m² GFA	1 space/ 150m² GFA	2	5
Stage 2					
Hotel	202 rooms & 20 staff	1 space/ 20 rooms	1 space/ 4 staff	11	5
Retail	4,165m² GFA	2 spaces + 1 space/ 100m² GFA over 100m²	1 space/ 200m² GFA	43	21
Medical	1,913m² GFA & 33 practitioners [3]	1 space/ 200m² GFA	1 space/ 5 practitioners	10	7
Gym	887m² GFA & 3 staff [2]	2 spaces + 1 space/ 100m² GFA	1 space/ 10 staff	11	1
Childcare	94 children & 10 staff [1]	2 spaces/ centre	1 space/ 10 staff	2	1
Commercial/ coworking	2,196m² GFA	1 space/ 400m² GFA	1 space/ 150m² GFA	6	15
Residential	158 units	1 space/ 10 units	1 space/ unit	17	158
Stage 3					
Retail	283m² GFA	2 spaces + 1 space/ 100m² GFA over 100m²	1 space/ 200m² GFA	4	2
Residential	244 units	1 space/ 10 units	1 space/ unit	25	244
Non-residential total				118 spaces	80 spaces
Residential total				42 spaces	402 spaces

[1] Provided by Plus Architects.

[2] Assumption based on the average employee to floor area ratio for surveyed fitness centres in Sydney as part of the GTIA.

[3] Assumption based on the average practitioner to floor area ratio for surveyed medical centres in Sydney as part of the GTIA.

Table 9 indicates that the development is required to provide the following:

- Non-residential: 118 bicycle spaces for visitors/ customers and 80 spaces for staff
- Residential: 42 spaces for visitors and 402 space for residents.

The proposal includes a total of 676 bicycle spaces across all basement levels, with about 420 of these located on within residential parking areas and the remaining within public parking areas (for use by visitors and accessed via lifts). Residents would also be to store bikes within the secure storage cages provided for each dwelling. The storage cages are large (generally measuring one metre wide and two metres long) and exceed the dimensional requirements necessary to accommodate a bicycle as defined by AS2890.3.

Therefore, the collective provision across the site is expected to satisfactorily cater for the anticipated demand and generally complies with Aerotropolis DCP and Council DCP requirements. The provision considers the sites location within a 400 walk of the future Bradfield Metro Station and therefore a heavy reliance on metro services is anticipated to/ from the precinct. Bicycle parking facilities are naturally expected to be provided as part of surrounding developments including the Bradfield Metro Station (within secure areas), and as part of the sports field immediately south of the site.

Furthermore, the Aerotropolis DCP stipulates the following staff end-of-trip facility requirements:

- One personal locker should be provided for every bicycle space.
- One shower/ change cubicle for the first five bicycle spaces or part thereof, plus an additional shower for every 10 bicycle parking spaces thereafter.

End-of-trip facilities for use by staff would be confirmed as part of future design development.

6.2 Car share

The benefits of car share systems are well recognised and provide the convenience of car use without the responsibility (and cost) of personal ownership, while also supporting broader sustainable travel objectives.

The Aerotropolis DCP specifies the following car share spaces:

- Non-residential: One space per 40 car parking spaces provided.
- Residential: One space per 60 car parking spaces provided.

With the proposal including 307 non-residential and 457 residential car parking spaces, the development is required to provide a total of eight car share spaces within the non-residential basement levels and seven car share spaces for use by residents. The proposal includes 11 car share spaces across the site, representing a minor shortfall with respect to Aerotropolis DCP requirements. These would be monitored as part of the sites operation and if greater demand is determined for car share services, then standard parking spaces could be converted to car share spaces.

6.3 Electric vehicle charging infrastructure

The Aerotropolis DCP stipulates the following electric vehicle (EV) charging requirements:

- Non-residential: One space per 40 car parking spaces provided.
- Residential: One space per 60 car parking spaces provided.

The proposal includes 11 EV charging stations allocated to residential land uses, with 15 EV charging stations allocated for non-residential uses, and therefore complies with Aerotropolis DCP requirements.

7 Loading and waste requirements

7.1 Service vehicle requirements

7.1.1 Aerotropolis DCP

The Aerotropolis DCP does not include any loading/ servicing requirements, therefore, reference has been made to the Liverpool DCP which provides some guidance on applicable loading requirements and vehicle sizes, as summarised below:

- Hotel: Allowance should be made for waste collection and service vehicle access.
- Retail: Developments greater than 4,400 square metres leasable floor area (LFA) require service access for an articulated vehicle.
- Tavern (registered club): Service access for a small rigid vehicle and waste collection vehicle service access.
- Medical: Developments greater than 2,000 square metres LFA require waste collection vehicle service access.
- Gym: No applicable requirement stipulated.
- Childcare: Service facilities for a van.
- Commercial/ coworking: Developments greater than 2,000 square metres LFA require waste collection vehicle service access.
- Conference centre: No applicable requirement stipulated.
- Residential: Service access for removalists and garbage servicing.

Based on the Liverpool DCP requirements, the site would ordinarily be expected to accommodate a range of vehicle types, including vans, waste collection vehicles, and articulated trucks, to service the site. The applicant is committed to only permitting access by vehicles up to a HRV to service the retail tenancies, and therefore this is considered the maximum design vehicle for the site.

7.1.2 Urban Freight Forecasting Model

The TfNSW Urban Freight Forecasting Model (UFFM) is a useful planning tool which performs two main functions:

- Provides daily profiles of the volume and types of freight and servicing activity that a building is likely to generate across a typical weekday, based on building information entered by the user.
- Assesses the performance of loading dock parking spaces provided by a development to manage the freight demand generated by the building.

The objective of the model is to assist in understanding the facilities that will be appropriate for a development to be self-sufficient in managing its own freight and servicing activity. It relies on various inputs including number of floors, number of residential apartments and retail area.

The TfNSW UFFM is based on a comprehensive data collection effort conducted of 44 buildings of varying sizes, locations, land use sizes and types. The buildings included commercial, residential, retail and hotels with retail being up to 3,000 square metres. It is considered an acceptable tool to understand loading dock requirements for a development and an alternative method to the Aerotropolis DCP.

It is acknowledged that the proposal contains a variety of land uses not considered by the UFFM such as the tavern, medical, gym, childcare, and conference centre. For the purposes of inputting into the UFFM the tavern has been considered as retail, with the remaining uses considered as commercial. Based on the proposed yields the UFFM recommends the following loading provisions:

- Small (B99, vans, utes): 7 spaces
- Medium (SRV, smaller trucks): 4 spaces
- Large (MRV, HRV, larger trucks): 1 space.

7.1.3 Empirical assessment

While the UFFM provides a reliable estimation of the anticipated loading demand. It is based on a variety of sample sites, which do not accurately represent the variety of land uses proposed. Furthermore, all sites surveyed only contained retail uses up to 3,000 square metres. As such, a first principles assessment based on has been completed. The following loading activities could be experienced during a typical week, which are based on Ason Group's knowledge of comparable developments and other sources where specified:

- **Residents:** The average residential apartment turnover rate is approximately 0.75 per cent of all apartments in any given week¹ (based on State rental reports completed for the most recent quarter). Considering the proposed 402 apartments, it is expected that an average of three apartments would move in or out in any week. Residents would typically rely on vans or smaller removalist trucks (SRV).
- **Home delivery services:** With home delivery services also becoming more popular it is expected that between 5 to 10 per cent of residents would purchase groceries via a home delivery service each week. For 402 apartments, this equates to about 20 to 40 apartments generating one home delivery per week. These are typically completed by an SRV.
- **Waste:** Residential waste collection is expected to occur up to twice per week, with retail waste collection for the entire site occurring once per day. Council's waste truck is understood to be 9.5 metres long, though, waste collection arrangements would be confirmed as part of future planning stages, with possibility for contracted waste removal.
- **Retail deliveries:** Smaller retail tenancies are expected to generate on average about one delivery per day, with larger mini majors generating about three deliveries per day. Based on the current plans the site includes 16 smaller retail tenancies with a single mini major (operations of the mini major are subject to confirmation). On this basis the site is expected to generate about 20 retail deliveries per day. Retail deliveries typically vary between vans to larger rigid trucks (MRV and HRV) depending on tenancy size and operations.
- **Hotel:** Hotel loading activity is reliant on practical and daily deliveries for the purposes of various services such as laundry services, food deliveries, waste and ad hoc maintenance. Drawing on Ason Group's experience with other projects with similar land uses, the largest design vehicle for the hotel is expected to be a MRV for waste collection and deliveries (including linen deliveries). Smaller delivery/ maintenance vehicles would also be expected. Overall, during a typical day a demand profile of up to five to seven vehicles per day is estimated. Any loading requirements associated with the conference room is assumed to be met by loading operations associated with the hotel.
- **Tavern:** Taverns typically require access for service vehicles up to an 11 to 12-metre rigid trucks, allowing for waste collection vehicles, general deliveries, and keg trucks. The tavern is not anticipated to generate significant service vehicle demand estimated on average to be two to three deliveries per day.
- **Commercial and other land uses:** Commercial tenancies are expected to generate about one delivery per day. This is expected to be comparable for the medical and childcare uses. Deliveries for the gym and coworking areas are expected to be infrequent.

Considering the above, the proposed development would likely generate up to about 40 service vehicles per day.

7.2 Loading facilities and operation

As discussed in Section 4.3, the proposal includes the following loading facilities:

- **Stage 1:** One SRV loading space proposed near Centre Loop West.

¹ <https://www.dffh.vic.gov.au/publications/past-rental-reports>

- Stage 2: The primary loading dock, accessed via New Street, includes capacity for two HRV, one MRV, and a dedicated space for the waste collection (up to an HRV).
- Stage 3: A single loading dock providing two spaces for an MRV and HRV to be shared between residential and non-residential uses.

Collectively, the site provides facilities for all vehicles up to four HRVs, two MRVs and one SRV. This exceeds the formal loading bay requirements for medium to large trucks estimated by the UFFM. Furthermore, with duration of stay mostly limited and managed to be 30 minutes, a single loading bay could theoretically accommodate two to three service vehicles per hour. Assuming consistent demand across a 10-hour period per day and with dock management in place, this equates to one loading bay accommodating between 20 vehicles per day. When considering the loading demand expected across the day the supply would adequately cater for any expected demand.

The overall provision across the site for all loading purposes is considered appropriate having regard to the anticipated size and frequency of waste collection services, general servicing and deliveries. Notwithstanding, implementation of a Loading Dock Management Plan (LDMP) to efficiently manage utilisation of all on-site loading spaces, requiring vehicles to be booked to controlled and defined timeslots would ensure a more equitable distribution of vehicles across the day rather than concentrated to shorter peaks and that all land uses are well serviced, with practical paths of travel. Further details on loading requirements, other referenced material and loading dock management/ dock booking systems would form part of the future LDMP.

As noted, that the proposal would be staged, with most loading bays provided as part of Stage 2 and Stage 3. This is expected to be manageable with Stage 1 demand limited to the tavern, hotel and two retail tenancies. During this stage, larger vehicles such as keg delivery trucks and waste collection vehicles would temporarily utilise on-street facilities (such as the short-stay parking zone on Centre Loop West) until the Stage 2 loading area is constructed. Deliveries by larger vehicles would be scheduled outside of peak operational periods, ensuring minimal disruption to the surrounding road network and public transport services, while waste services could temporarily be undertaken by a private contractor using the SRV bay (subject to ongoing planning). This approach is considered acceptable as a temporary arrangement until full loading facilities become available.

8 Preliminary Green Travel Plan

8.1 Introduction

A key strategic priority of the proposal is the objective to leverage the behaviours of future residents, staff and visitors by promoting sustainable modes of daily travel. This aligns with the objectives detailed in Aerotropolis Precinct Plan which is targeting higher adoption of public and active travel methods to/ from the Aerotropolis.

Transport is an essential aspect of daily life, impacting the economy, public health, and the environment. The transportation sector stands out as one of the rapidly growing sources of emissions in Australia, presenting a significant opportunity for reducing greenhouse gases. Beyond environmental considerations, offering diverse travel options, prioritising walking, cycling, and public transport, holds substantial public health advantages and contributes to the development of a strong and prosperous community.

While the physical infrastructure discussed in Section 6 integrated into the development is a crucial component, it represents only a portion of the overall solution. A Green Travel Plan (GTP) would ensure that the transportation infrastructure, services, and policies both within and beyond the site are tailored to user needs and strategically coordinated to achieve the highest level of sustainability.

8.1.1 Context

This Preliminary GTP has been prepared to reinforce the client's commitment towards sustainable development and to ensure that the proposed development not only integrates into but also enhances the existing public and active transport networks.

Given the proposal is in its early stages, the purpose of this Preliminary GTP is to outline the overarching requirements for a future GTP. Noting the proposed use of the site, the focus of the future GTP would be to effect changes in resident and visitor travel to and from the site, and assist in:

- Removing barriers to active travel for all.
- Maximising the number of people who walk, cycle or utilise public transport to and from the site.

This GTP is intended to develop a package of site-specific measures to promote and maximise the use of sustainable travel modes, including walking, cycling, public transport and car sharing. In this regard, this plan sets out objectives and strategies to assist in achieving its goal to improve sustainability. These targets are to be realistic but ambitious enough to initiate substantive behavioural change to achieve the desired outcomes.

As a 'living' document, the GTP is to be updated regularly as part of an ongoing review to ensure it remains relevant and reflective of current conditions.

8.1.2 Objectives of GTP

Underpinning this GTP comprises a package of measures which are to be adopted and designed to address the specific travel needs of the site. In this regard, the overall intention is to encourage and facilitate the use of alternative and sustainable modes of transport and to reduce single-occupancy car travel for journeys to and from the site.

The primary objectives of the future GTP would be to:

- reduce the environmental footprint of the site
- set future travel mode share targets
- improve access, amenity, convenience, and safety of sustainable transport modes to/ from the site
- promote the use of 'active transport' modes such as walking and cycling, particularly for short-medium distance journeys

- reduce reliance on the use of private vehicles for all journeys
- encourage a healthier, happier, and more active and public transport use culture.

Having regard for the above, this GTP seeks to adopt the movement hierarchy shown in Figure 20 (noting this is a standard hierarchy and not necessarily site specific), with priority given to ‘active transport’ such as walking and cycling, and public transport.

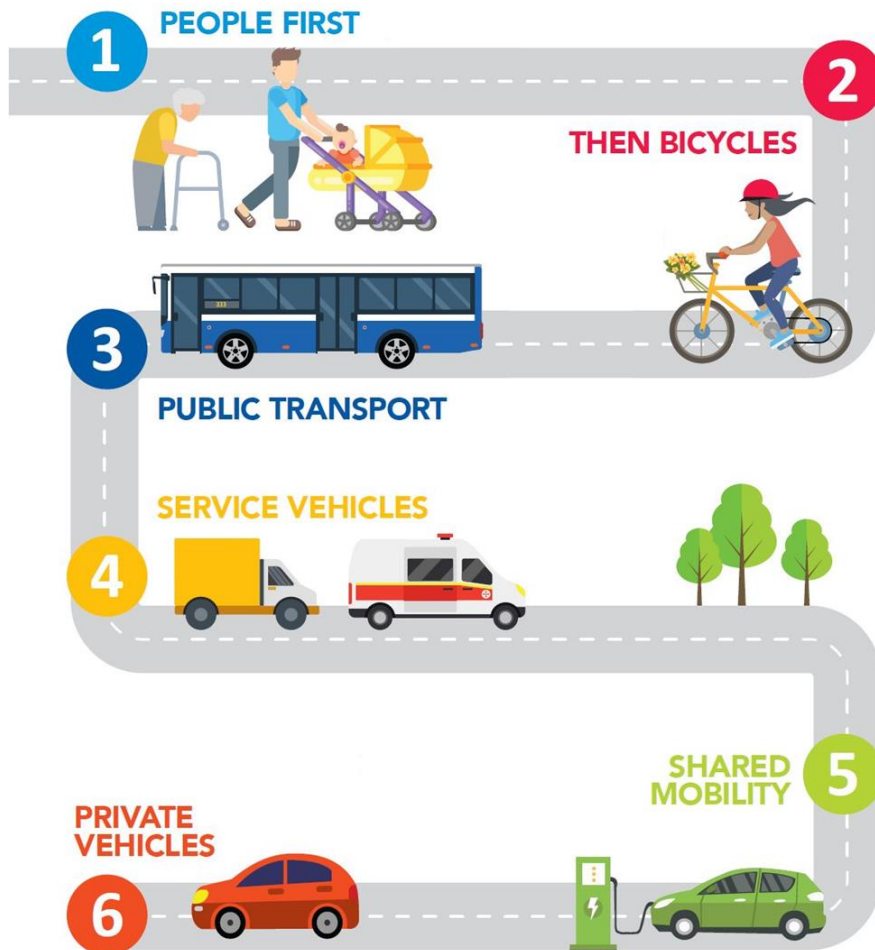


Figure 20: Movement Hierarchy

8.2 Travel mode targets

For the purposes of this assessment the 2036 Bradfield City Centre mode share targets for the AM and PM peak hours have been adopted, detailed in Table 5. With no Saturday mode share targets reference has been made to the Aerotropolis Precinct Plan mode share targets (summarised in Section 3.2) for the Saturday peak hour. These rates indicate slightly higher private vehicle usage, which more accurately reflects weekend travel patterns associated with sport, social activities, and other non-work-related trips. The collective mode share targets are summarised in Table 10.

Table 10: Site mode share targets

Peak hour	Mode share target		
	Private vehicle	Public transport	Active transport
AM	37%	51%	12%
PM	32%	55%	12%
Saturday	39%	52%	9%

8.3 Measures and action strategies

8.3.1 Measures

The below includes a range of measures which could achieve the objectives of this GTP with any such details to be reviewed and confirmed prior to implementation of any future plan.

- an introduction to the plan for all residents and staff, setting out its purpose and objectives
- provision of public transport travel information for residents, staff and visitors
- encouragement of carpooling, both amongst staff and residents on site and in the wider context
- assisted cycle purchase schemes for residents and staff
- interest free loans to assist with cycle purchase, cycle equipment purchase etc. for residents and staff
- a transport section on the building website with links to local bus operator sites, to ensure that travel information is always up to date
- the provision of transport information for visitors to the site.

8.3.2 Site specific measures

Numerous possibilities exist to incentivise users to consider alternative travel modes to and from the site. The following potential measures and initiatives could be implemented to encourage more sustainable travel modes:

Active travel

- Establish high-quality, prominent bicycle parking.
- Foster cultural change through initiatives such as:
 - Creating a bike user group, targeting staff residing within five kilometres of the site or residents working within five kilometres of the site.
 - Providing information outlining opportunities and facilities available to users, including maps of available cycling routes to the site.

Promote carpooling

- Encourage carpooling through the establishment of a carpooling club or registry/ forum.
- Conduct community programs to encourage carpooling for residents.

Public transport

- Develop a Travel Access Guide (TAG) for resident and staff access, incorporating details on site facilities and surrounding public transport services and active transport initiatives. Update the TAG as the surrounding transport environment evolves.

- Install public transport information boards/ apps to inform residents and visitors about alternative transport options, utilising the TAG as a reference.
- Display a copy of the TAG in communal areas of the site including (but not limited to):
 - resident lobby
 - staff lunchroom
 - lift lobby area and entrances to building
 - any marketing material associated with the site, such as websites and newsletters.

Welcome packs

- New staff and residents shall be provided with a 'welcome pack' as part of the on-site induction process or when they first providing information in relation to sustainable transport choices. This pack shall include copy of the GTP and a TAG, as well as general information regarding the health and social benefits of active transport and advice on where to seek further information. It is recommended that an electric copy of the welcome pack be created and made available to staff.

Additional travel demand initiatives

- Establish quality pedestrian connections between the site and public transport stops/ stations, engaging with service providers to assess the feasibility of increasing frequency and timing.
- Maintain ongoing engagement with TfNSW and Council to capture any additional demand generated by the subject site as part of ongoing train and bus planning for the area.
- Provision of electric vehicle charge points to encourage employee and visitor uptake of electric vehicles.
- Providing facilities such as showers, change rooms, lockers. For the initial stages of the development, it is recommended to provide facilities compliant with the relevant controls, and as the site develops further, they should be reviewed as part of monitoring process to meet any increase in demand.

8.4 Implementation and monitoring

8.4.1 Responsibility for implementation

The Travel Plan Coordinator (TPC) would be responsible for the running of the future GTP, including its administration and all liaison with interested parties. The role is likely to be undertaken by site/ building Management, or an independent consultant, appointed by building management. The TPC would be appointed following occupation of the development.

8.4.2 Travel Plan Coordinator

The TPC should be appointed to act as the primary point of contact for enquiries relating to the progress of the future GTP. The TPC would manage all aspects of the future GTP, including the co-ordination and joint working practices between those on-site.

The TPC would promote participation in and commitment to the future GTP from and would work in partnership with all stakeholders to deliver the strategies and actions.

The TPC should be appointed within one month of the site becoming occupied. Contact details for the TPC should be provided in the implemented GTP.

8.4.3 Plan maintenance

So as to record the overall success, as well as the effectiveness of the individual measures, monitoring and review of the GTP should be conducted at regular intervals. The TPC would act as the primary point of contact for all enquiries relating to the GTP's progress.

The GTP should be monitored around every one to two years, with the first survey being carried out shortly after first occupation of the development (approximately six months). Travel mode surveys would determine the proportion of persons travelling to/from the site by each transport mode. This would be in the form of annual travel mode questionnaire surveys to be completed by all persons attending the site, as far as practicable.

The key considerations when reviewing or monitoring the GTP are as follows:

- Update baseline conditions to reflect any changes to the transport environment in the vicinity of the site such as changes to public transport services, new cycle routes, etc.
- Track progress against target travel mode targets.
- Identify any shortfalls and develop an updated action plan to address issues.
- Ensure travel modes targets are updated (if necessary) to ensure they are realistic and remain ambitious.

If targets are not met at the end of the initial period of monitoring, the GTP should be reviewed, new measures introduced and would be reassessed at the next monitoring stage.

8.4.4 Consultation

It is essential that any parties that may play a part in the future of GTP's and their actions are aware and have an opportunity to discuss. This would enable equitable input and feedback as well maximising their overall efficacy. For this reason, a coordinated approach to GTPs should be implemented (subject to individual tenant participation) to assist in the consultation with the relevant parties, which could include the following:

- Council's traffic and transport department
- traffic committee
- local bus operators
- TfNSW.

Other organisations may be added to this list as the plans evolve.

9 Traffic assessment

9.1 Overview

The proposal represents a genuine mixed-use development in a new residential, business and technology precinct. With the surrounding area earmarked for considerable change and development it is important to consider how people will travel to/ from the site by all modes of transport to understand impact to road networks, public transport services, and pedestrian/ cyclist infrastructure.

As such, this assessment has considered both a vehicle trip and person trip assessment.

9.2 Vehicle trip assessment

9.2.1 Vehicle trip rates

Given the site's location just outside the Bradfield City Centre boundary and within close proximity to the Bradfield Metro Station the travel behaviours of residents, staff and visitors to/ from the site is expected to be consistent with those estimated by AECOM as part of the Bradfield TMAP, which stipulates vehicle trip rates for 2026, 2036 and 2056. Conservatively, the 2036 vehicle trips rates detailed in Figure 9 have been adopted where applicable, with 2056 rates representing longer-term targets. Where no applicable rates are available, traffic generation for the proposal has been estimated using the rates stipulated in the GTIA or by relying on other empirical data sources. This approach aligns with broader precinct planning and having consideration to the sites context with respect to surrounding land uses, community centres, and public transport services.

Residential

The Bradfield TMAP 2036 AM and PM peak hour vehicle trip rates have been adopted for residential uses being 0.20 and 0.09 vehicle trips per dwelling. For the Saturday peak hour, reference has been made to the GTIA which stipulates a rate of 0.18 vehicle trips per dwelling.

Hotel

The Bradfield TMAP 2036 AM and PM peak hour vehicle trip rates have been adopted for the hotel being 0.13 vehicle trips per occupied room, which has also been adopted for the Saturday peak hour. Based on data collated by the Australian Financial Review Sydney has recorded an average hotel occupancy rate of about 80 per cent for the first half of 2025¹. Staff are assumed to typically arrive outside peak hours.

Tavern

Tavern traffic generation has been empirically estimated considering the following assumptions:

- The GTIA does not include trip rates specific to pubs or taverns, however given their similar characteristics, reference to surveys completed for restaurants. These indicated an average 2.1 square metres per seat (or per patron). Given taverns contain other areas such as bars, gaming lounges, beer gardens, sign in-areas, etc. the floor space to patron ratio is typically higher. As such, the taverns maximum capacity has been estimated based on one patron per 2.5 square metres GFA equating to about 500 patrons.
- The GTIA restaurant surveys also found an average vehicle occupancy of 2.2 people per car. Given the nature of a tavern, vehicle occupancy is likely to be higher due to the differing land use, larger groups/ families, and greater social nature at these venues and the gradual increase in rideshare services use in recent years. Notwithstanding, the short-stay parking arrangement on Centre Loop West will further encourage carpooling and drop-off services. As such, vehicle occupancy of 2.5 persons per car has been adopted.

¹ [Hotel occupancy edges up as corporate travel rebounds](#), Sarah Petty, July 30 2025.

- When considering the realistic and typical weekly operations of the site it is anticipated that peak periods would be Friday and Saturday evenings (after 6:00pm). However, this assessment focuses on the weekday AM and PM and Saturday midday road network peak hours, and therefore the tavern is not expected to be at or near full occupancy. For the purposes of this assessment, the tavern is assumed to be 75 per cent occupied during the weekday PM peak hour and Saturday midday peak hour. Minimal activity would be expected during the weekday AM peak hour.
- Peak operations for the tavern during the weekday are expected to occur after 6:00pm and therefore would only partially coincide with the PM road network peak hour. As such, it is assumed that on a weeknight 50 per cent of patrons would arrive during the peak hour, and on a Saturday midday 60 per cent of patrons would arrive during the peak hour.
- Vehicle mode share of 32 per cent during the PM peak hour in line with the 2036 targets detailed in the Bradfield TMAP. In absence of any Saturday rate the mode share target of 39 per cent for the Saturday midday peak hour has been adopted based on the Aerotropolis Precinct Plan. This also accounts for higher private vehicle usage on weekends.

Retail, medical, gym, and childcare

The Bradfield TMAP 2036 retail AM and PM peak hour rates of 0.92 and 1.88 vehicle trips per 100 square metres GFA are considered the most appropriate for the retail, medical centre, gym and childcare. With modern small suburban shopping centres now containing a variety of land uses including specialty retail premises, supermarkets, medical centres, gyms, childcares, banks, restaurants and cafes, the Bradfield TMAP retail rates ensure flexibility with regard to future retail operations on site. They also are considered most appropriate and account for the applicable maximum parking rates and low private vehicle mode share targets for the area.

Ason Group has undertaken a review of the Bitzios Analysis Report for small suburban shopping centres in the GTIA and found that for sites providing greater than 2,000 square metres GLFA the Saturday traffic generation rates were found to be on average about eight per cent higher than the PM peak hour. As such, a rate of 2.03 vehicle trips per 100 square metres GFA has been adopted for the Saturday peak hour. The childcare is not expected to be operational on weekends and therefore not expected to generate any traffic.

It is recognised that proposal exceeds the maximum permissible parking spaces for retail uses in Stage 2, as detailed in Table 8. Given that the Bradfield TMAP vehicle trip rates would consider the maximum parking controls, the trip rates for the Stage 2 retail uses have been proportionally adjusted to account for the additional parking. This results in revised rates of 2.25, 4.60, and 4.97 vehicle trips per 100 square metres GFA.

Commercial/ coworking

The Bradfield TMAP 2036 commercial AM and PM peak hour rates of 0.42 and 0.36 vehicle trips per 100 square metres GFA have been adopted for the commercial tenancy and coworking areas.

Conservatively, the commercial tenancy has been assumed to operate on both weekdays and weekends, given uncertainty in regard to its operation, with the PM peak hour rates adopted for the Saturday midday peak hour.

Conference centre

The conference centre is expected to cater for a variety of events both on weekdays and weekends including work conferences, team building sessions, training workshops, networking events, or social functions. As such, the conference room is expected to be operational throughout the week. Given the minor parking provision, a traffic generation rate of one vehicle trip per parking space has been adopted.

9.2.2 Vehicle trip generation

On the above basis, the expected traffic generation of the project is summarised in Table 11.

Table 11: Traffic generation estimate

Land use	Yield/ parking spaces	Traffic generation rate			Traffic volumes (vehicle trips/ hour)		
		AM	PM	SAT	AM	PM	SAT
Stage 1							
Hotel	243 rooms	0.13 trips/ occupied room			25	25	25
Retail	118m² GFA	0.92 trips/ 100m² GFA	1.88 trips/ 100m² GFA	2.03 trips/ 100m² GFA	1	2	2
Tavern	~500 patrons	Empirical [1]			0	24	35
Conference centre	1 space	1 trip/ parking space	1 trip/ parking space	1 trip/ parking space	1	1	1
Stage 1 non-residential total					27 trips	52 trips	63 trips
Stage 2							
Hotel	202 rooms	0.13 trips/ occupied room			21	21	21
Retail	4,165m² GFA	2.25 trips/ 100m² GFA	4.60 trips/ 100m² GFA	4.97 trips/ 100m² GFA	94	192	207
Medical	1,913m² GFA	0.92 trips/ 100m² GFA	1.88 trips/ 100m² GFA	2.03 trips/ 100m² GFA	27	54	57
Gym	887m² GFA						
Childcare	779m² GFA			-			
Commercial/ coworking	2,196m² GFA	0.42 trips/ 100m² GFA	0.36 trips/ 100m² GFA	0.36 trips/ 100m² GFA	9	8	8
Stage 2 non-residential total					151 trips	275 trips	293 trips
Residential	158 units	0.20 trips/ unit	0.09 trips/ unit	0.18 trips/ unit	32	14	28
Stage 3 residential total					32 trips	14 trips	28 trips
Stage 3							
Retail	283m² GFA	0.92 trips/ 100m² GFA	1.88 trips/ 100m² GFA	2.03 trips/ 100m² GFA	3	5	6
Stage 3 non-residential total					3 trips	5 trips	6 trips
Residential	244 units	0.20 trips/ unit	0.09 trips/ unit	0.18 trips/ unit	49	22	44
Stage 3 residential total					49 trips	22 trips	44 trips
Total							
Site total					262 trips	368 trips	434 trips

[1] Tavern PM peak hour example: ~500 (patrons) * 32% (mode share) * 75% (percentile patronage) * 50% (percentage arriving during PM peak hour) / 2.5 (vehicle occupancy).

Table 11 indicates that the proposal is expected to generate 262 vehicle trips during the weekday AM peak hour, 368 vehicle trips during the PM peak hour, and 434 vehicle trips during the Saturday midday peak hour.

When considering the three site accesses to Centre Loop West, New Street and Innovation South, Table 12 provides a detailed breakdown. During the shoulder peak hours (i.e., the one to two-hour period prior to and following the peak hours) the site is expected to generate about 75 per cent of the peak hour volumes. Outside of these periods, such as during the early morning and late evenings, volumes would be considerably less, representing about 10 to 30 per cent of the peak hour volumes.

Table 12: Traffic generation estimate per site access

Site access (vehicle trips/ hour)	Traffic volumes		
	AM	PM	SAT
Centre Loop West	178	327	356
New Street	32	14	28
Innovation South	52	27	50
Total	262 trips	368 trips	434 trips

9.2.3 Traffic distribution

The directional distribution and assignment of traffic generated by the proposed development will be influenced by a range of factors, including the:

- configuration of the arterial road network in the immediate vicinity of the site
- future operation of intersections providing access between the local and arterial road network
- surrounding employment centres, retail centres and schools in relation to the site
- configuration of access points to/ from the site.

The delivery of the surrounding road network as part of the Bradfield City Centre and surrounding Aerotropolis has commenced. However, exact timing and staging is not currently known. Though, the Aerotropolis Precinct Plan details the future road network and location of key intersections, as shown in Figure 4, the exact intersection treatments or any turning restrictions surrounding site are not currently known. However, given Badgerys Creek Road is understood to include a central median along the corridor it is expected that vehicles would primarily arrive from the north either via Badgerys Creek Road, or by utilising other local roads. Vehicles would then be expected to depart to the south, as shown in Figure 21, with access to the arterial road network.

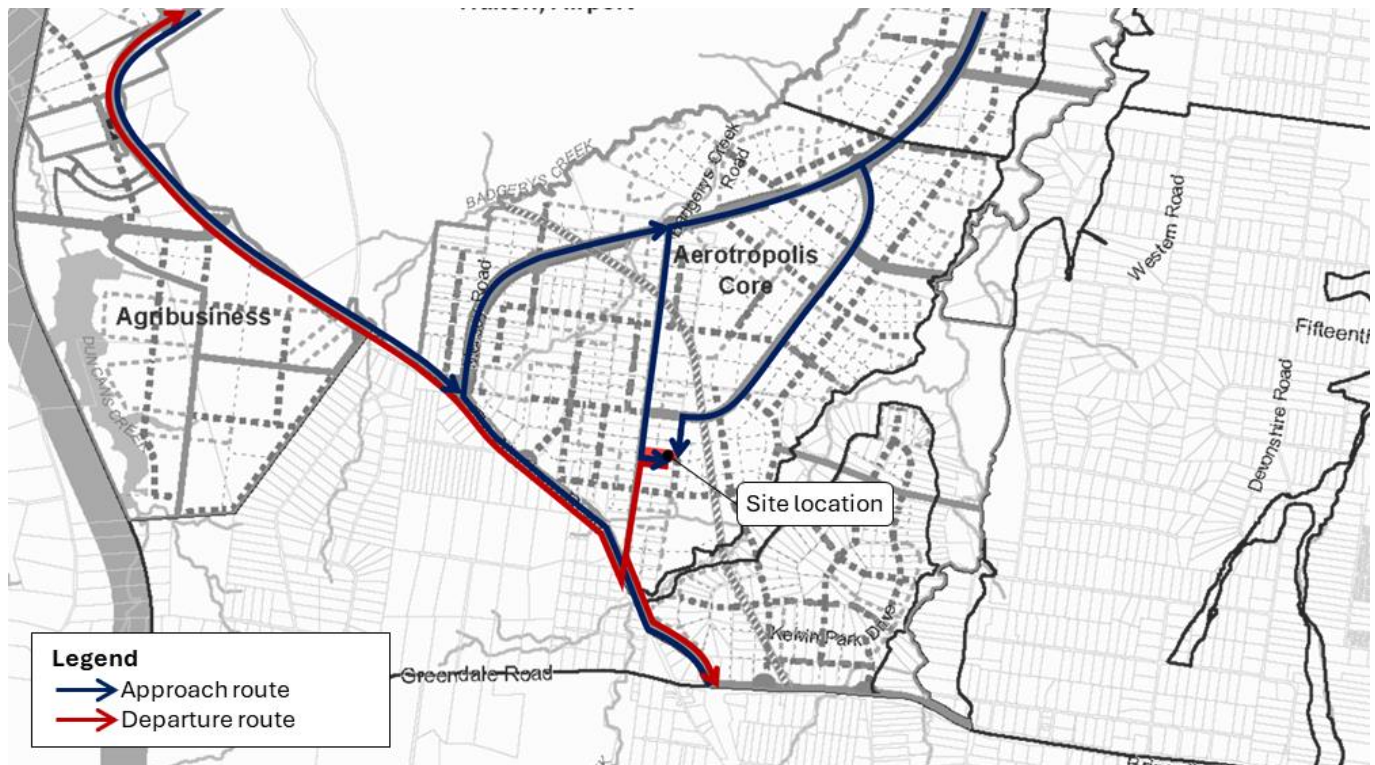


Figure 21: Approach and departure routes

Base image source: Figure 10, Aerotropolis Precinct Plan, DPHI, September 2024

9.3 Person trip assessment

9.3.1 Overview

In recognising the development type, location with respect to the Aerotropolis and Bradfield City Centre, and public transport accessibility, it is also important to understand the opportunities offered with respect to how people will travel to, from and within the site. In this regard, it is critical to understand travel mode share and how this translates to person trips. The person trip assessment provides a robust understanding of the likely number of people living, working and visiting the site and their likely mode of travel to and from the site. This ensures visibility of the benefits associated with the target mode shares for the site which aim to reduce private vehicle usage.

9.3.2 Person-trip rates

Similarly to the vehicle trip assessment, the 2036 Bradfield TMAP person trips rates detailed in Figure 9 have been adopted where applicable. In absence of any applicable rates person trips for the proposal have been estimated using the rates stipulated in the GTIA or by relying on other empirical data sources.

Residential

The Bradfield TMAP 2036 AM and PM peak hour vehicle trip rates have been adopted for residential uses being 0.80 and 0.60 person trips per dwelling. For the Saturday peak hour, reference has been made to the GTIA which stipulates a person trip rate of 0.66 per dwelling.

Hotel

The Bradfield TMAP 2036 AM and PM peak hour person trip rates have been adopted for the hotel being 0.50 person trips per occupied room, which has also been adopted for the Saturday peak hour. As noted, an average hotel occupancy rate of about 80 per cent has been assumed. Staff are assumed to typically arrive outside peak hours.

Tavern

Tavern person trips have been empirically estimated considering the following assumptions, which are consistent with the vehicle trip assessment:

- estimated 500 patrons
- 75 per cent occupied during the weekday PM peak hour and Saturday midday peak hour with minimal activity expected during the weekday AM peak hour
- on a weeknight 50 per cent of patrons would arrive during the peak hour, and on a Saturday midday 60 per cent of patrons would arrive during the peak hour.
- Staff are assumed to typically arrive outside of peak periods.

Retail, medical, gym, and childcare

The Bradfield TMAP 2036 retail AM and PM peak hour rates of 3.68 and 6.65 person trips per 100 square metres GFA have been adopted for the retail, medical centre, gym and childcare.

Similarly, review of the Bitzios Analysis Report for small suburban shopping centres in the GTIA found that for sites providing greater than 2,000 square metres GLFA the Saturday person trip rates were found to be on average about 18 per cent higher than the PM peak hour. As such, a rate of 7.85 person trips per 100 square metres GFA has been adopted for the Saturday peak hour.

The childcare is not expected to be operational on weekends and therefore not expected to generate any trips.

Commercial/ coworking

The Bradfield TMAP 2036 commercial AM and PM peak hour rates of 1.35 and 1.19 person trips per 100 square metres GFA have been adopted for the commercial tenancy and coworking areas.

Conservatively, the commercial tenancy has been assumed to operate on both weekdays and weekends, given uncertainty in regard to its operation, with the PM peak hour rates adopted for the Saturday midday peak hour.

Conference Centre

The conference centre provides a total area of 634 square metres GFA including a pre-function and utilities area of 177 square metres GFA and main conference room of 457 square metres GFA. While it is acknowledged that capacity can be influenced by whether function attendees are seated or standing, for the purposes of this assessment the conference centre on average is anticipated to contain a similar patron to floor area ratio as the tavern being one person per 2.5 square metres GFA. This equates to a maximum capacity of about 183 guests (based on the conference room area of 457 square metres GFA). Furthermore, for the purposes of this assessment it is assumed that on average the conference centre would be 75 per cent occupied, with 25 per cent arriving/ departing in any peak hour.

9.3.3 Person-trip generation

On the above basis, the expected person trips generated by the proposal is summarised in Table 13.

Table 13: Person trip estimate

Land use	Yield	Person trip rate (person trips/ hour)			Person trips (person trips/ hour)		
		AM	PM	SAT	AM	PM	SAT
Stage 1							
Hotel	243 rooms	0.50 trips/ occupied room			97	97	97
Retail	118m² GFA	3.68 trips/ 100m² GFA	6.65 trips/ 100m² GFA	7.85 trips/ 100m² GFA	4	8	9
Tavern	~500 patrons	Empirical [1]			0	189	227
Conference centre	457m² GFA (~183 guests)	Empirical [2]			34	34	34
Stage 1 non-residential total					135 trips	328 trips	367 trips
Stage 2							
Hotel	202 rooms	0.50 trips/ occupied room			81	81	81
Retail	4,165m² GFA	3.68 trips/ 100m² GFA	6.65 trips/ 100m² GFA	7.85 trips/ 100m² GFA	153	277	327
Medical	1,913m² GFA	3.68 trips/ 100m² GFA	6.65 trips/ 100m² GFA	7.85 trips/ 100m² GFA	106	192	227
Gym	887m² GFA						
Childcare	779m² GFA			-			
Commercial/ coworking	2,196m² GFA	1.35 trips/ 100m² GFA	1.19 trips/ 100m² GFA	1.19 trips/ 100m² GFA	30	26	26
Stage 2 non-residential total					370 trips	576 trips	661 trips
Residential	158 units	0.80 trips/ units	0.60 trips/ units	0.66 trips/ units	126	95	104
Stage 2 residential total					126 trips	95 trips	104 trips
Stage 3							
Retail	283m² GFA	3.68 trips/ 100m² GFA	6.65 trips/ 100m² GFA	7.85 trips/ 100m² GFA	10	19	22
Stage 3 non-residential total					10 trips	19 trips	22 trips
Residential	244 units	0.80 trips/ units	0.60 trips/ units	0.66 trips/ units	195	146	161
Stage 3 residential total					195 trips	146 trips	161 trips
Total							
Site total					836 trips	1,164 trips	1,315 trips

[1] Tavern PM peak hour example: ~500 (patrons) * 75% (percentile patronage) * 50% (percentage arriving during PM peak hour).

[2] Conference centre peak hour example: ~183 (guest capacity) * 75% (percentile patronage) * 25% (percentage travelling during peak hour).

Table 13 indicates that the site could generate around 836 person trips during the AM peak hour, 1,164 person trips during the PM peak hour, and 1,315 person trips during the Saturday peak hour.

The site is uniquely positioned to influence the travel behaviours of residents, workers and visitors. Frequent metro services throughout the day, improved urban amenity and active transport infrastructure, as well as the reduced parking on-site, would provide a catalyst for sustainable travel behaviours.

Travel mode share targets provide a cohesive approach to balancing the movement of people to/ from the site, whilst ensuring amenity and quality of places. As detailed in Section 8.2, the mode share targets for the site are based on the Bradfield TMAP and Aerotropolis Precinct Plan, and summarised in Table 14.

Table 14: Site mode share targets

Peak hour	Mode share target		
	Private vehicle	Public transport	Active transport
AM	37%	51%	12%
PM	32%	55%	12%
Saturday	39%	52%	9%

Considering the vehicle trip estimates detailed in Table 11 and applying the ratio between public transport and active transport mode share targets to the remaining person trips, the disaggregation of person trips across all modes of travel is summarised in Table 15. As stated, a vehicle occupancy of 2.5 persons per car has been assumed for the tavern, with all remaining uses conservatively adopting a vehicle occupancy of 1.2 persons per car. On this basis, the site is anticipated to generate the following:

- 313, 473, and 567 person trips via car during the AM, PM and Saturday midday peak hours, respectively with these distributed throughout the surrounding road network as shown in Figure 21.
- 413, 568, and 628 person trips via public transport during the AM, PM and Saturday midday peak hours, respectively with the Sydney Metro WSA anticipated to be the primary mode of transport and supported by local bus services.
- 113, 124 and 120 person trips by active transport (walking and cycling) during the AM, PM and Saturday midday peak hours, respectively, with these expected to travel to/ from the east towards Bradfield City Centre which provides retail and other land uses.

Table 15: Trip generation by transport mode

Land use	Person trips (person trips/ hour)								
	AM			PM			SAT		
	Car	PT	AT	Car	PT	AT	Car	PT	AT
Stage 1									
Hotel	30	54	13	30	55	12	30	57	10
Retail	1	2	1	3	4	1	3	5	1
Tavern	0	0	0	61	106	23	89	118	20
Conference centre	1	27	6	1	27	6	1	28	5
Stage 1 total	32	83	20	95	192	42	123	208	36
Stage 2									
Hotel	25	45	11	25	46	10	25	47	8
Retail	113	33	8	230	39	8	248	67	12
Medical	32	60	14	65	104	23	68	136	23
Gym									
Childcare									
Commercial/ coworking	11	15	4	9	14	3	9	14	2
Residential	38	72	17	17	64	14	34	60	10
Stage 2 total	219	225	54	346	267	58	384	324	55
Stage 3									
Retail	3	5	2	6	10	2	7	12	4
Residential	59	100	37	26	99	22	53	84	25
Stage 3 total	62	105	39	32	109	24	60	96	29
Total	313	413	113	473	568	124	567	628	120

9.4 Transport impact

The Aerotropolis Precinct Plan allowed for a maximum permissible building height of 62 metres and FSR control of 3.5:1 for the site. With the proposal generally achieving an FSR of 3.5:1 it is evident that broader precinct planning, and strategic traffic modelling (WSAGA) completed by TfNSW would have adequately captured development on the site. Naturally, planning controls within the Aerotropolis Precinct Plan would have similarly informed public transport and active travel planning surrounding the site. While it is acknowledged that the proposal includes a modest overprovision of 50 non-residential car parking spaces compared to the Aerotropolis DCP maximum rates, this increase is not expected to materially impact traffic volumes produced by the site compared to those already contemplated through strategic modelling. Notwithstanding, the proposal will incorporate targeted green travel initiatives to encourage a mode shift away from private vehicle use, ensuring that any marginal increase in parking supply does not correspond to a material increase in traffic generation and broadly remains consistent with previous traffic assessments.



As such, the increase in vehicle and person trips generated by the proposed development is not expected to have a material impact on the operation of the surrounding road network above that already considered. The proposal does not warrant any infrastructure upgrades or adjustments to planned public transport services surrounding the site.

10 Design commentary

The car park layout has been reviewed against the requirements of the Australian Standard for Off Street Car Parking (AS/NZS2890.1:2004 and AS2890.6:2022). This assessment included a review of the following:

- access arrangements
- bay and aisle widths
- adjacent structures
- circulation aisles and ramps
- parking for persons with disabilities.

This review indicates that the car park layout is consistent with the relevant Australian Standards and is expected to operate satisfactorily. Ramp grades have been designed in accordance with the requirements of AS/NZS2890.1:2004. The circulation aisles and car space dimensions meet or exceed Australian Standards and would facilitate efficient movement throughout. The general car park circulation is simple and appropriate given the proposed land uses and expected traffic generation.

Access to the resident car park would be adequately controlled through usage of a car reader/ intercom (or similar) and security roller shutter door. All resident spaces are designed to be 2.4-metres-wide and 5.4-metres-long, with a minimum aisle width of 5.8 metres.

Access to the non-residential car park for Stage 1 and Stage 2 would be controlled through a boom-gate and number plate recognition system with roller shutter set back into the site, allowing for queuing of about 15-metres from the site boundary. All non-residential parking spaces are designed to be 2.7-metres-wide and 5.4-metres-long with 6.2-metre-wide aisles minimum throughout. Visitor accessible spaces have been designed to be 2.4-metres wide with an adjacent shared area, in accordance with AS2860.6:2022.

Typical measures such as flashing warning lights, convex mirrors and associated signage would facilitate appropriate use of the various loading areas throughout the site and interaction between pedestrians and light vehicles, especially for manoeuvring waste and delivery trucks.

Vehicle swept paths confirm appropriate design and are included in Appendix A. As discussed, construction of New Street north of the site is dependent on the delivery of the adjacent lots, which currently is not known. On this basis the proposal results in the need to temporarily facilitate U-turns within New Street in the unlikely event that vehicles enter from Innovation South and are not residents/ visitors or service vehicles entering the Stage 2 loading dock. In this regard, swept paths have been completed to confirm that a vehicle can turn around adjacent to the resident basement access, which has similarly been included in Appendix A. Signage would be placed at the Innovation South/ New Street intersection to ensure vehicles are aware that only resident and service access is available on New Street. On this basis, a formal turning head is not required, with this arrangement considered acceptable given the infrequent need to perform a U-turn. Such arrangements are also temporary until such time as the northern section of New Street are delivered by the adjacent lots.

The Innovation South/ New Street intersection has also included targeted widening and increased kerb radii to accommodate turning movements for the largest design vehicle accessing the Stage 2 loading dock, being a 12.5-metre-long HRV. New Street then narrows to a seven-metre-wide carriageway north of Innovation South.

11 Overview Construction Pedestrian and Traffic Management Plan

11.1 Overview

This section seeks to provide an overview of the Construction Pedestrian and Traffic Management Plan (CPTMP) initiatives to be implemented as part of the construction works associated with the proposed development. Specifically, this overview CPTMP considers the following:

- estimated truck routes to/ from the site
- anticipated truck volumes during all construction stages
- potential construction site access arrangements
- estimated works zones
- pedestrian and cyclist access
- worker parking (if any)
- traffic control measures
- overview of CPTMP requirements.

A detailed CPTMP, confirming the details within this overview CPTMP, would form part of subsequent planning stages.

11.2 Principles of traffic management

The general principles of traffic management during construction activities are as follows:

- minimise the impact on pedestrian and cyclist movements
- maintain appropriate public transport access
- minimise the loss of on-street parking
- minimise the impact on adjacent and surrounding buildings
- maintain access to/ from adjacent buildings
- restrict construction vehicle movements to designated routes to/ from the site
- manage and control construction vehicle activity near the site
- carry out construction activity in accordance with approved hours of works.

11.3 Work hours

The works would be carried out during the approved work hours. Construction hours including material deliveries for the Bradfield City Centre, of which the site is located adjacent to are as follows:

- Weekdays: 7:00am – 6:00pm
- Saturdays: 8:00am – 1:00pm
- Sundays and public holidays: no work permitted.

Workers would be advised of the approved work hours during induction. Any works outside of the approved work hours would be subject to specific prior approval from the appropriate authorities. Such works may include delivery of cranes, large plant or equipment required on the site that require oversize vehicle access.

11.4 Worker induction

All workers and subcontractors engaged on-site would be required to complete site induction. The induction would include permitted arrival and departure routes for all vehicle types, as well as standard environmental, work health and safety (WHS), driver protocols and emergency procedures.

Any workers required to undertake works or traffic control within the public domain would be suitably qualified and covered by all necessary insurances.

11.5 Site access, loading, and on-street works zones

Construction vehicle access arrangements would be confirmed by the appointed contractor for each stage of the development. However, given Aerotropolis DCP restrictions on access to Badgerys Creek Road it is likely that construction vehicle access across all three stages would be via Centre Loop West and/ or Innovation South both of which are currently under construction as part of the Bradfield City Centre works managed by SMEC. A combination of internal site loading and works zone are anticipated to support the construction timelines, ensure efficient loading/unloading activities, and mitigate the effects on the immediate surrounding area. The extent, location and operational times would be confirmed in consultation with relevant stakeholders and detailed as part of the future detailed CPTMP.

All loading would take place internal to the construction site or within any approved on-street work zones. The construction program would be managed with respect to surrounding construction projects such as the WSA, Bradfield Metro Station, M12 Motorway, and other private developments to ensure that any impacts of the project are minimised.

As part of the detailed CPTMP, Traffic Guidance Schemes (TGS) would be prepared in accordance with the principles of the Traffic Control at Work Sites manual (TfNSW, 2022). The TGS would primarily show where construction signs are to be located at specific locations (such as uncontrolled intersections) along the approved truck routes to warn other road users of the increase in construction vehicle movements.

Access to the neighbouring sites by emergency vehicles would not be affected by the works as the road and footpath frontages would be unaffected. Emergency protocols on the site would include a requirement for site personnel to assist with emergency access from the street. All truck movements to the site and/ or incident point would be suspended and cleared.

11.6 Construction worker parking

The construction worker numbers would be confirmed once a contractor is appointed. However, based on comparable projects a peak workforce of between 150 to 200 workers is expected across the three stages.

Given the sites location and staged delivery of the development it is expected that some parking would be provided. The Sydney Metro WSA is expected to commence operations in 2026/ 2027 (pending project delays) and naturally the workforce would be encouraged to rely on this service once operational. During site induction, workers would be informed of the bus and train network servicing the site. Appropriate arrangements would be made for any equipment/ tool storage and drop-off requirements, if required.

11.7 Heavy vehicle access routes

Construction vehicles generated by the site are expected to include vehicles up to 12.5-metre heavy rigid trucks, 18.1-metre truck and dog combinations and 19-metre-metre semi-trailers. Construction vehicle numbers are currently unknown at this stage of planning and would be confirmed once a contractor is appointed. However, based on comparable projects the following construction vehicle estimates are provided:

- retention and bulk excavation: 50 to 60 vehicles across each stage
- construction (non-pour days): 20 to 25 vehicles across each stage
- construction (pour days): 35 to 40 vehicles across each stage.

Specific approval would be sought from relevant authorities for use of any oversize vehicles using local roads to access the site.

Heavy vehicle movements would be restricted to designated routes and confined to the arterial road network wherever feasible. The indicative heavy vehicle approach and departure routes are shown in Figure 22. Naturally, timing of the delivery of the Aerotropolis road network is not currently known, though it is understood that Badgerys Creek Road would include a central median along its length thereby restricted movements at Innovation South to left turns. Approach/ departure routes have considered the future road network, though these routes would be reviewed once construction vehicle sizes are confirmed and in consultation with Council and other relevant stakeholders prior to construction commencing. Targeted swept paths would also be completed at key intersections and any such 'pinch points' to confirm the most appropriate access routes.

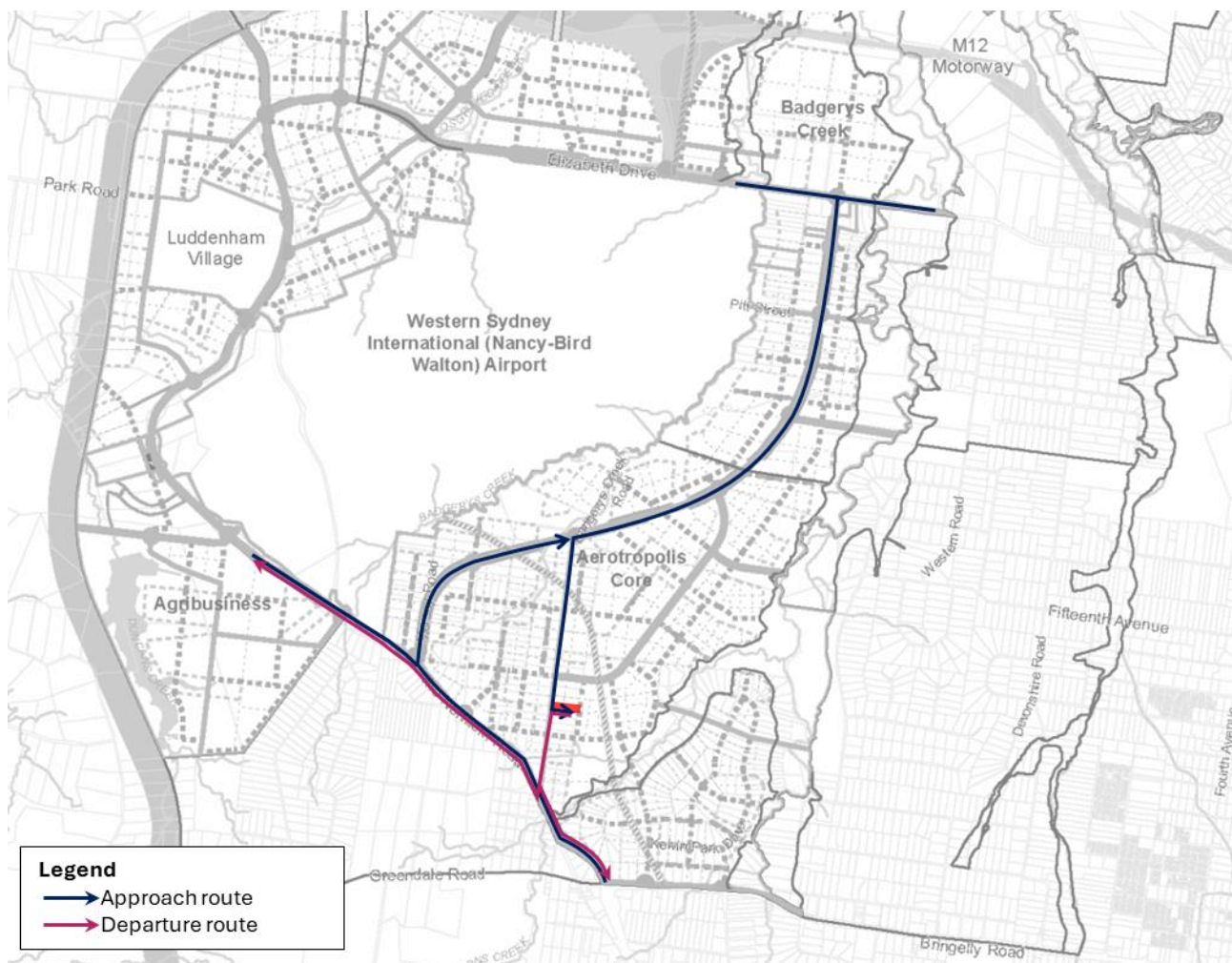


Figure 22: Anticipated heavy vehicle approach routes

Base image source: Figure 10, Aerotropolis Precinct Plan

11.8 Pedestrian and cyclist access

Appropriate hoarding/ fencing would be installed around the perimeter of the site to provide separation between construction works and the public. There are currently no pedestrian or cycling infrastructure surrounding the site and therefore any interaction between pedestrians and cyclists would be limited. However, in the unlikely event his

required, pedestrians/ cyclists may be temporarily held across the site frontage at times where overhead works are occurring to maintain safe pedestrian and cyclist movements adjacent to the site. The future CPTMP would detail how the construction impacts to pedestrian and cyclist movements would be minimised or any mitigation required to offset any such impacts.

12 Conclusion

Based on the analysis and discussions presented within this report, the following conclusions are made:

- This TAIA has been prepared to accompany the SSDA for a mixed-use development at 135 Badgerys Creek Road, Bradfield. The proposal seeks consent for the enabling works to enable development of three building comprising a hotel, tavern, retail premises, gym, childcare, commercial office space, coworking areas, medical centre and residential units.
- As defined by the Aerotropolis Precinct Plan, the site is located within the Aerotropolis Core Precinct which is envisioned as an attractive place for workers, residents and visitors. The site is designated as “Commercial Centre - Mixed Use”, with maximum permissible building height of 62 metres and floor space ratio (FSR) control of 3.5:1.
- The site also lies just outside the western boundary of the Bradfield City Centre, which is a planned 114-hectare mixed-use city adjacent to the upcoming WSA and within the Aerotropolis. It will include a variety of land uses including innovation, research, education, community, cultural, recreational, entertainment and other mixed land uses. As part of the Bradfield Master Plan application, AECOM completed a mesoscopic model of key surrounding intersections (including those immediately adjacent to the site) which relied on the TfNSW WSAGA strategic traffic model. The modelling results indicated that even in 2056 the surrounding intersections would operate satisfactorily with acceptable delays at all intersections. The intersections of Badgerys Creek Road/ Innovation South and Centre Loop West/ Innovation South would operate at level of service A during both the AM and PM peak hours.
- A key strategic priority of the proposal is the objective to leverage the behaviours of future residents, visitors and staff, and to promote sustainable modes of daily travel. This aligns with the objectives detailed in the Aerotropolis Precinct.
- The proposal includes a total of 775 car parking spaces including 307 spaces for use by non-residential land uses, 457 spaces allocated to residential land uses, and 11 car share spaces. The proposal is generally consistent with the maximum parking rates set out in the Aerotropolis DCP but exceeds the requirement by 68 retail parking spaces within Stage 2. Across the entire site, this equates to an additional 50 spaces above the Aerotropolis DCP rates, when considering minor under provisions for the hotel, gym, commercial/ coworking areas and the conference centre. The overprovision in retail parking for Stage 2 ensures flexibility for future land uses (given uncertainty on tenant operational requirements), while acknowledging the intent of the maximum parking controls. In total, the oversupply represents an increase of approximately seven percent, which is considered minor in the context of the overall parking provision. The applicant acknowledges this variation, with the additional spaces to be treated as additional GFA.
- Based on the Aerotropolis DCP the proposal generates a requirement to provide 160 visitor bicycle spaces and 482 resident/ staff bicycle parking spaces. The proposal includes a total of 676 bicycle spaces across all basement levels, with about 420 of these located within residential parking areas and the remaining within public parking areas (for use by visitors and accessed via lifts). The resident spaces can also be accommodated within the secure storage cages provided for each dwelling, which exceed the dimensional requirements necessary to accommodate a bicycle as defined by AS2890.3. Therefore, the collective provision across the site is expected to satisfactorily cater for the anticipated demand and generally complies with Aerotropolis DCP and Council DCP requirements.
- The proposal is compliant with regard to motorcycle and accessible car parking, as well as EV charging stations. The development is required to provide a total of eight car share spaces within the non-residential basement levels and seven car share spaces for use by residents. The proposal includes a provision of 11 car share spaces across the site representing a minor shortfall with respect to Aerotropolis DCP requirements. These would be monitored as part of the sites operation and if greater demand is determined for car share services, then standard parking spaces could be converted to car share spaces.
- The provision of loading facilities has also been assessed against the relevant guidelines, as well as an empirical assessment of the anticipated loading demand. Collectively, the site provides facilities for four HRV, two MRV, one SRV, which is expected to be able to accommodate the daily and weekly demands of the site. The largest design check vehicle is the 12.5 metre heavy rigid vehicle.

- The proposal is expected to generate 262 vehicle trips during the weekday AM peak hour, 368 vehicle trips during the PM peak hour, and 434 vehicle trips during the Saturday midday peak hour when. When considering person trips rates and target mode shares identified in the Bradfield TMAP and Aerotropolis Precinct Plan the site could generate around 836 person trips during the AM peak hour, 1,164 person trips during the PM peak hour, and 1,315 person trips during the Saturday peak hour. Majority of these trips would be via public transport, with a portion also relying on active travel modes.
- The Aerotropolis Precinct Plan allowed for a maximum permissible building height of 62 metres and FSR control of 3.5:1 for the site. With the proposal generally achieving an FSR of 3.5:1 it is evident that broader precinct planning, and strategic traffic modelling (WSAGA) completed by TfNSW would have adequately captured development on the site. Naturally, planning controls within the Aerotropolis Precinct Plan would have similarly informed public transport and active travel planning surrounding the site. While it is acknowledged that the proposal includes a modest overprovision of 50 non-residential car parking spaces compared to the Aerotropolis DCP maximum rates, this increase is not expected to materially impact traffic volumes produced by the site compared to those already contemplated through strategic modelling. Notwithstanding, the proposal will incorporate targeted green travel initiatives to encourage a mode shift away from private vehicle use. As such, the increase in vehicle and person trips generated by the proposed development is not expected to have a material impact on the operation of the surrounding road network above that already considered. The proposal does not warrant any infrastructure upgrades or adjustments to planned public transport services surrounding the site.
- The car park layout has been reviewed against the requirements of the Australian Standard for Off Street Car Parking (AS/NZS2890.1:2004 and AS2890.6:2022). This review indicates that the car park layout is generally consistent with the relevant Australian Standards and is expected to operate satisfactorily.

Overall, the proposed development is supported from a transport and parking perspective.

Appendix A Vehicle swept paths

MRV - Medium Rigid Vehicle (AS/NZS2890.2:2002)

8.8

1.5

5.0

VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE

Overall Length

Overall Width

Track Width

Lock to Lock Time

Curb to Curb Turning Radius

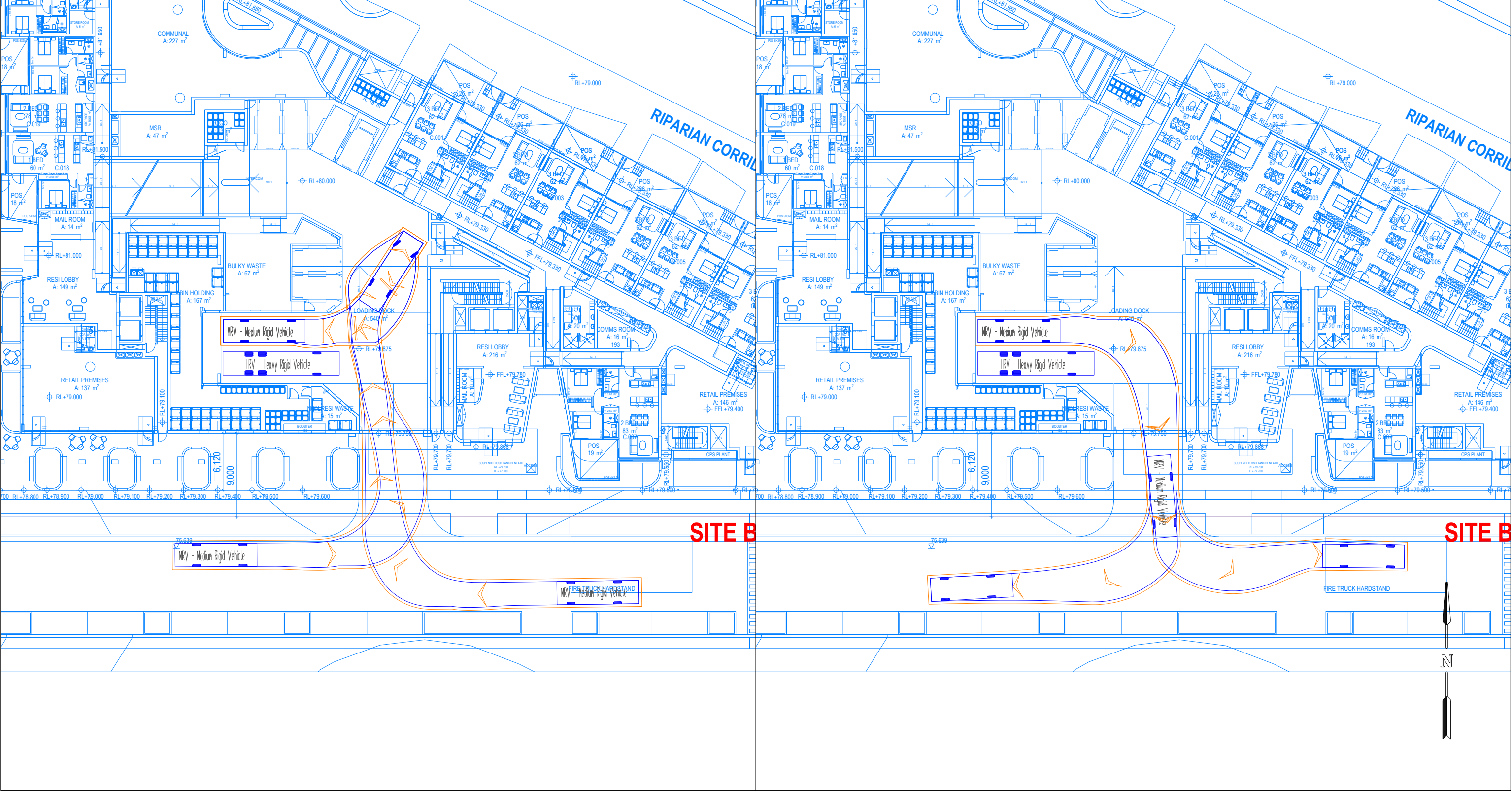
8,800m

2,500m

2,500m

4,00 sec

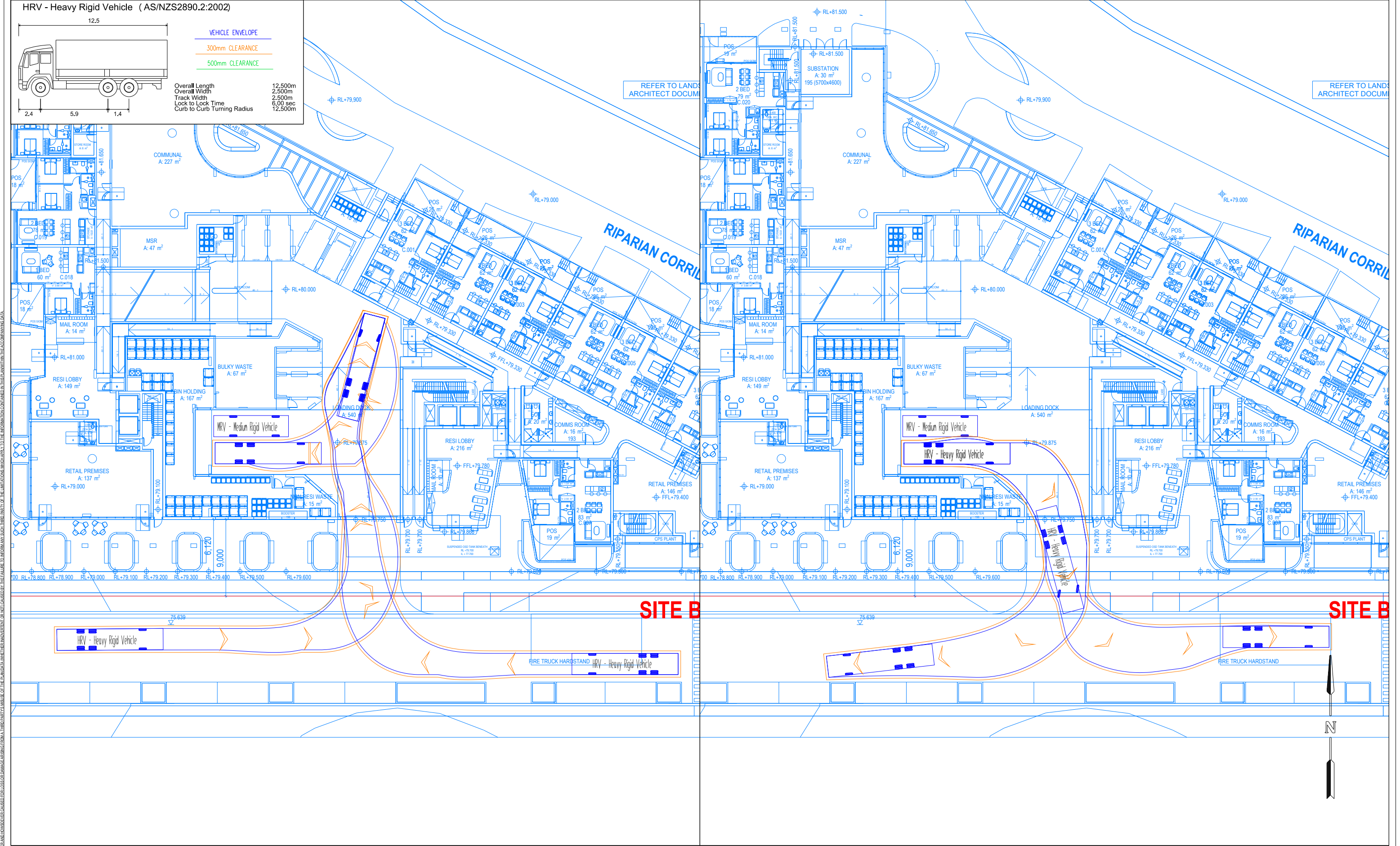
10,000m



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	APPROVED BY Rhys Hazell	DATE 10.10.2025	PROJECT P2775	Ground floor	
	SCALE 1:400	048	135 Badgenys Creek Road, Bradfield	FILE NAME AG2775_02_v07.dwg	SHEET AG01

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	APPROVED BY Rhys Hazell	DATE 10.10.2025	PROJECT P2775	SWEPT PATH ASSESSMENT	
	SCALE 1:400	048	135 Badgerys Creek Road, Bradfield	Ground floor	
				FILE NAME AG2775_02_v07.dwg	SHEET AG02

HRV - Heavy Rigid Vehicle (AS/NZS2890.2:2002)

12.5

2.4

5.9

1.4

VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE

Overall Length

Overall Width

Track Width

Lock to Lock Time

Curb to Curb Turning Radius

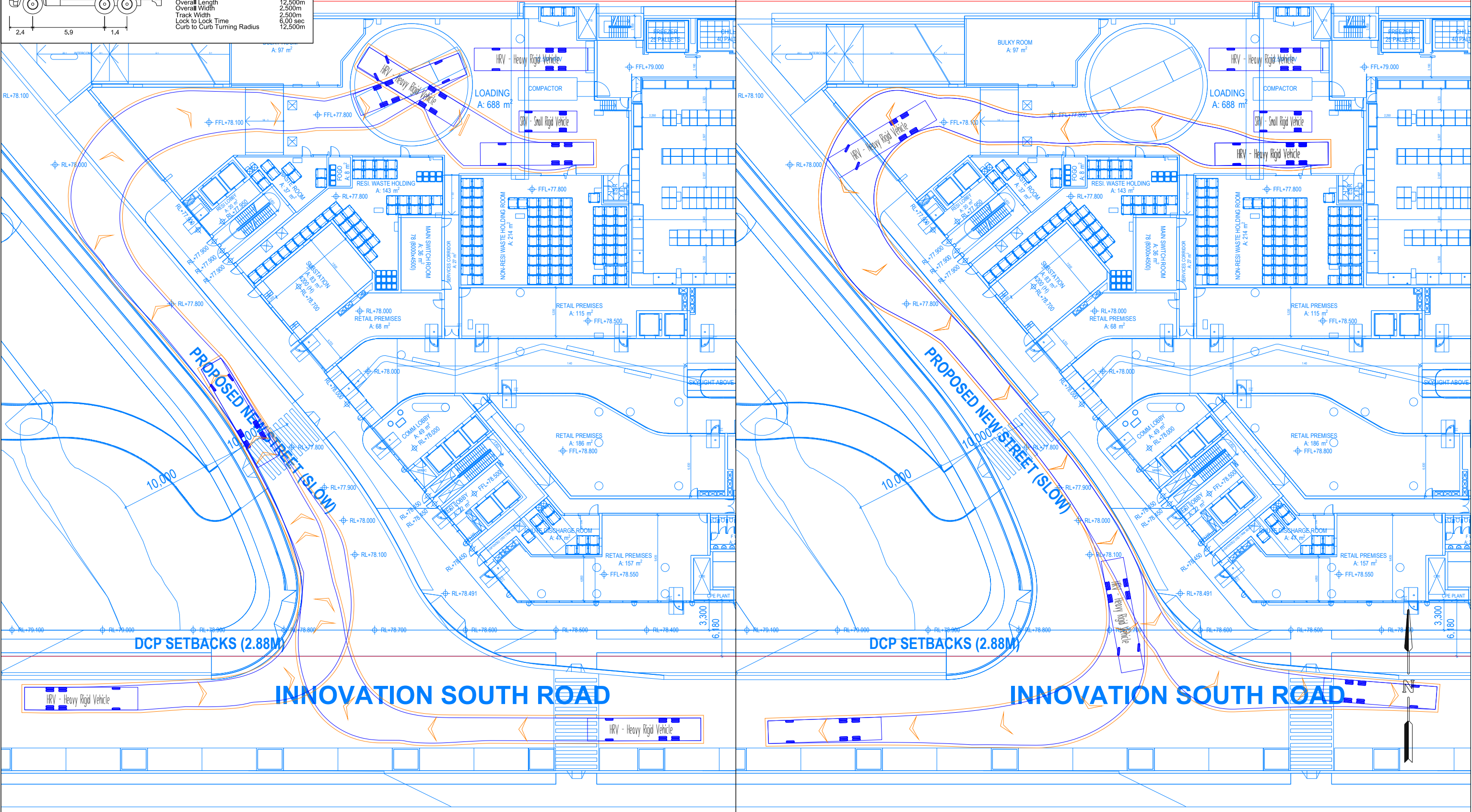
12,500m

2,500m

2,500m

6.00 sec

12,500m



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	APPROVED BY Rhys Hazell	DATE 10.10.2025	PROJECT P2775	SWEEP PATH ASSESSMENT	
	SCALE 1:400	048	135 Badgerys Creek Road, Bradfield	Ground floor	SHEET
				AG2775_02_v07.dwg	AG03

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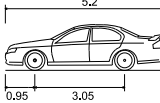
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B99 Vehicle (AS/NZS2890.1:2004)

5.2

0.95

3.05



Overall Length

Overall Width

Overall Body Height

Min Body Ground Clearance

Track Width

Lock to Lock Time

Curb to Curb Turning Radius

5.200m

1.940m

2.200m

0.312m

1.840m

4.00 sec

6.30m

VEHICLE ENVELOPE

300mm CLEARANCE

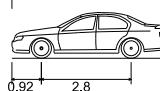
500mm CLEARANCE

B85 Vehicle (AS/NZS2890.1:2004)

4.91

0.92

2.8



Overall Length

Overall Width

Overall Body Height

Min Body Ground Clearance

Track Width

Lock to Lock Time

Curb to Curb Turning Radius

4.910m

1.870m

1.421m

0.159m

1.770m

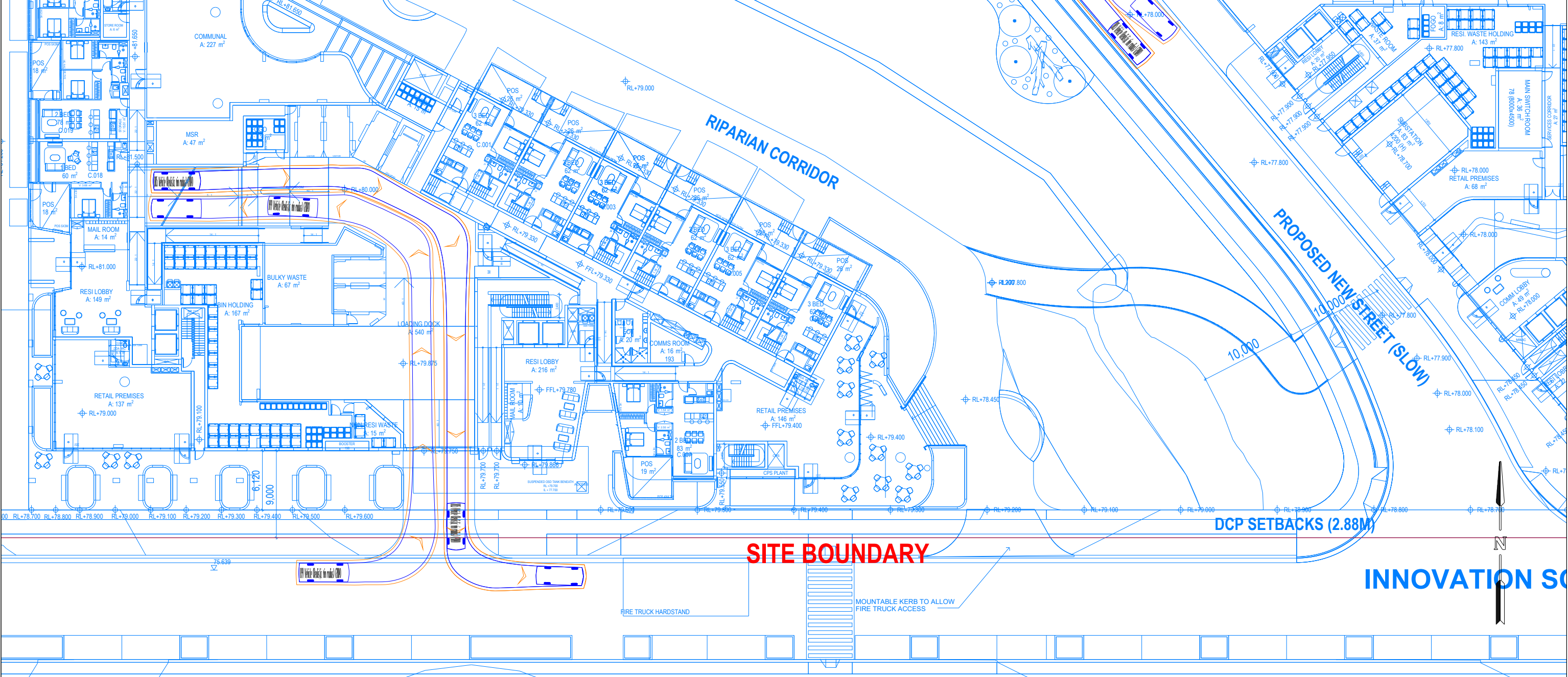
4.00 sec

5.80m

VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE



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	APPROVED BY Rhys Hazell	DATE 10.10.2025	PROJECT P2775	SWEPT PATH ASSESSMENT Residential car park access	
	SCALE 1:400	048	135 Badgenys Creek Road, Bradfield	FILE NAME AG2775_02_v07.dwg	SHEET AG04

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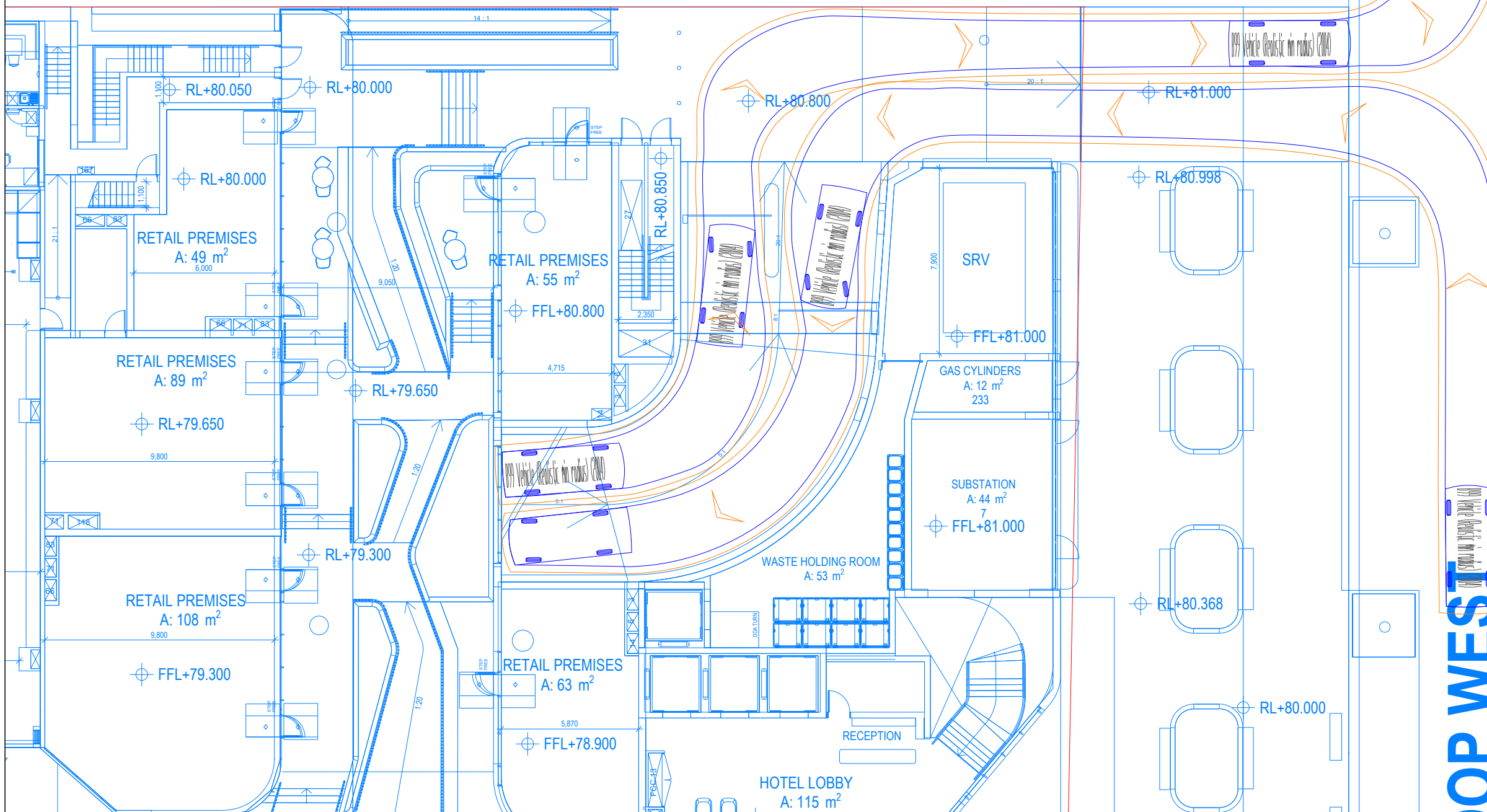
A diagram of a car with three dimensions labeled: the total length is 5.2, the distance from the front wheel to the door is 0.95, and the distance from the door to the rear wheel is 3.05.

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	2.200m
Min Body Ground Clearance	0.312m
Track Width	1.840m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	6.30m

VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE



POP WEST

1

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SCALE
1:200

A horizontal number line with arrows at both ends. It has three major tick marks labeled 0, 4, and 8. A solid black bar is drawn below the line from 0 to 4, and a white bar with a black outline is drawn from 4 to 8.

135 Badgerys Creek Road, Bradfield

FILE NAME	AG2775_02_v07.dwg
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SHEET
AG05

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SRV - Small Rigid Vehicle (AS/NZS2890.2:2002)

6.4

1.05

3.8

Overall Length

Overall Width

Track Width

Lock to Lock Time

Curb to Curb Turning Radius

6.400m

2.330m

2.330m

4.00 sec

7.100m

VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE

Site plan showing building layout, vehicle paths, and elevations. The plan includes a retail premises (A: 55 m²), gas cylinders (A: 12 m², 233), a substation (A: 44 m², 7), a waste holding room (A: 53 m²), a hotel lobby (A: 115 m², FFL+79.610), and another retail premises (A: 63 m², FFL+78.900). A small rigid vehicle (SRV) is shown with its path and envelope. The plan also shows a parking area and a road labeled 'TRE LOOP WEST'. Elevation markers include RL+80.800, RL+81.000, RL+80.998, RL+80.368, RL+80.000, RL+79.800, RL+79.700, and RL+78.905. A note indicates 'REFER TO LANDSCAPE ARCHITECT DOCUMENTATION'.

Site plan showing building layout, vehicle paths, and elevations. The plan includes a retail premises (A: 55 m²), gas cylinders (A: 12 m², 233), a substation (A: 44 m², 7), a waste holding room (A: 53 m²), a hotel lobby (A: 115 m², FFL+79.610), and another retail premises (A: 63 m², FFL+78.900). A small rigid vehicle (SRV) is shown with its path and envelope. The plan also shows a parking area and a road labeled 'TRE LOOP WEST'. Elevation markers include RL+80.800, RL+81.000, RL+80.998, RL+80.368, RL+80.000, RL+79.800, RL+79.700, and RL+78.905. A note indicates 'REFER TO LANDSCAPE ARCHITECT DOCUMENTATION'.

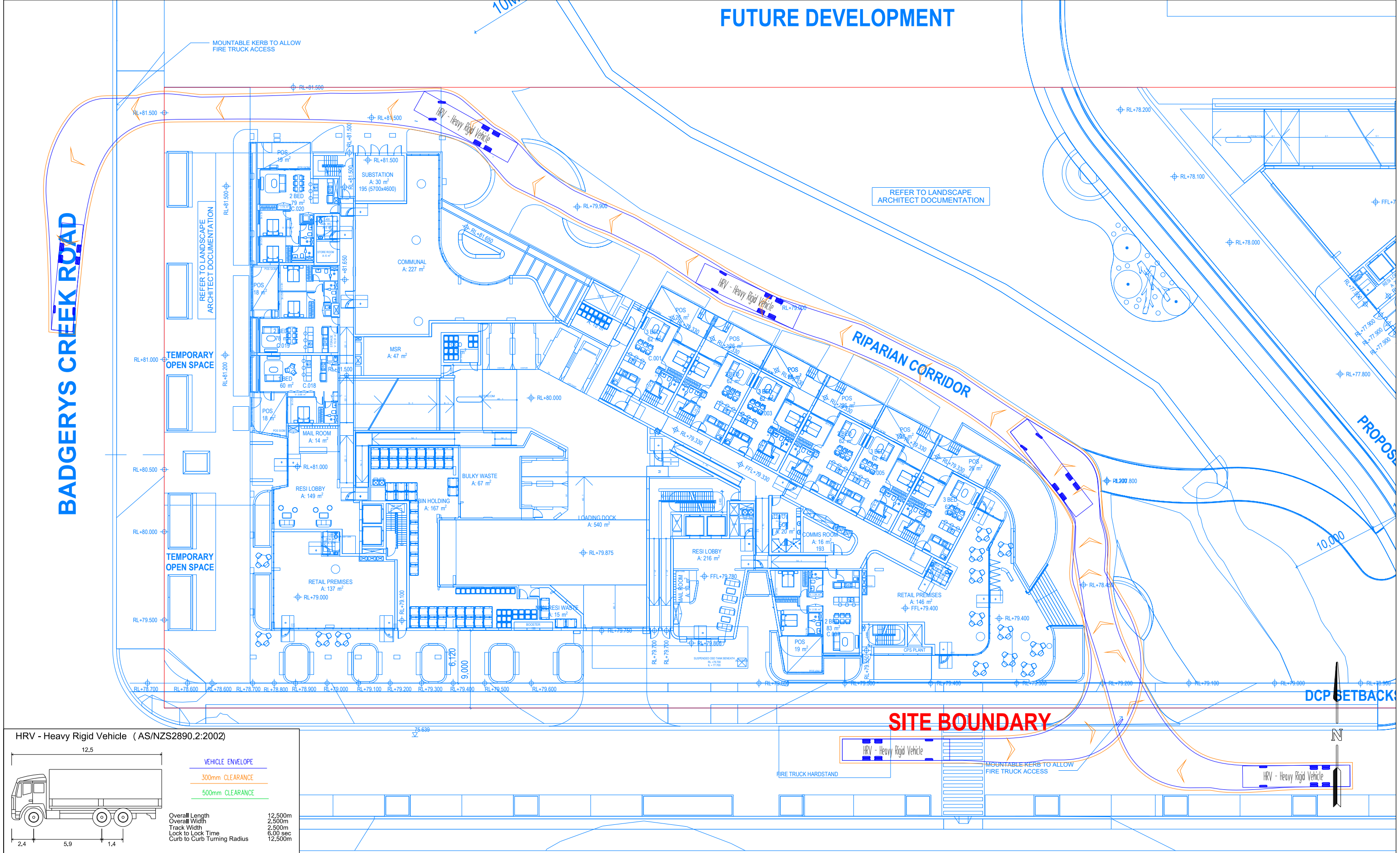
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	Connor Hoang	A3	Bradfield Corporation Pty Ltd		SWEPT PATH ASSESSMENT	
	APPROVED BY	DATE	PROJECT		Ground floor	
	Rhys Hazell	10.10.2025	P2775		FILE NAME	SHEET
SCALE	1:250		135 Badgenys Creek Road, Bradfield		AG2775_02_v07.dwg	AG06

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PLOT DATE: 10/10/2025 12:18:27 PM | CAD REFERENCE: C:\Users\Connor Hoang\OneDrive - Ason Group\ACTIVE PROJECTS\2775 - Bradfield SSD\Projects\Design\AG2775_02_v07.dwg | Connor Hoang |

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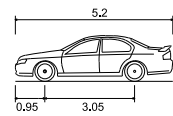
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		APPROVED BY Rhys Hazell	DATE 10.10.2025	PROJECT P2775	SWEPT PATH ASSESSMENT	
		SCALE 1:400	0 4 8	135 Badgerys Creek Road, Bradfield	Fire appliance vehicle	
					FILE NAME AG2775_02_v07.dwg	SHEET AG07

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5.2

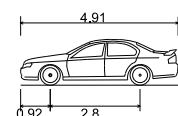
0.95 3.05

Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock to Lock Time
Curb to Curb Turning Radius



500mm CLEARANCE

Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock to Lock Time
Curb to Curb Turning Radius



500mm CLEARANCE



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SCALE
1:200

A horizontal number line with arrows at both ends. It has three major tick marks labeled 0, 2, and 4. A solid black bar is drawn below the line, starting at 0 and ending at 2.

PROJECT	
P2775	
135 Badgerys Creek Road, Bradfield	

Ramp circulation
FILE NAME
AG2775_02_v07.dwg

Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au

Appendix B TfNSW engagement

From: Brett Morrison (TAR TECHN) <Brett.Morrison4@transport.nsw.gov.au>
Sent: Wednesday, 27 August 2025 9:47 AM
To: Rhys Hazell
Cc: David Kamel; Boomika; Tiffany Abragan; Connor Hoang; Ben Porges; David Attwood
Subject: RE: SYD24-01529 RE: 135 BCR | TfNSW - response to TfNSW matters raised

1. **Statutory Weight of the Bradfield City Centre Access and Servicing Plan (ASP)**

As the ASP has been prepared in response to the requirements outlined in the BCC Master Plan, it will need to be considered alongside the Master Plan in future DA assessments **once finalised**. Since the ASP is still in draft form, TfNSW comments regarding driveway restrictions are currently **recommendations only** and not enforceable. The estimated timeframe for finalisation of the ASP is currently 6-8 months.

2. **Consistency with the Master Plan**

The ASP must remain consistent with the Master Plan. If any variations are endorsed during the ASP finalisation, a formal amendment to the Master Plan will be required to ensure alignment. It's understood that BDA will assume ownership of the ASP, and therefore will be responsible for finalising the document and initiating any necessary amendments. TfNSW's role is to support BDA through this process.

3. **Driveway Access from Centre Loop West**

Centre Loop West is expected to be one of the key corridors within Bradfield City Centre, which is envisioned as a transit-oriented CBD. Similar restrictions on driveway access are applied in other urban centres to preserve corridor capacity and prioritise public transport and pedestrian movement - examples include Argyle Street, Church Street, and Victoria Road in Parramatta, as well as some streets in Central Sydney. However, as Centre Loop West is not intended to be a classified road, our comments remain **recommendations** at this stage.

4. **Liaison with BDA**

TfNSW understands that BDA supports restricting driveway access from Centre Loop West as a condition in the ASP.

5. **Property Setback**

It is understood that a 10m setback fronting Badgerys Creek Road is proposed, it is requested that the 3d model of the proposed development be provided to TfNSW to cross-check with TfNSW road design for any potential impacts to your frontage.

Note: It is emphasised that the comments provided above are informal and of a Pre-DA nature, they are not to be interpreted as binding upon Transport for New South Wales (TfNSW) and may change following formal assessment of a submitted development application from the appropriate consent authority.

Brett Morrison
Senior Planner Land Use Assessment Central and Western
Transport Planning
Planning, Integration and Passenger Division
Transport for NSW

M 0448 890 598 E brett.morrison4@transport.nsw.gov.au



I acknowledge the Aboriginal people of the country on which I work, their traditions, culture and a shared history and identity. I also pay my respects to Elders past and present and recognise the continued connection to country.

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OFFICIAL

From: Rhys Hazell <rhys.hazell@asongroup.com.au>
Sent: Friday, 1 August 2025 4:42 PM
To: Brett Morrison (TAR TECHN) <Brett.Morrison4@transport.nsw.gov.au>; Development Sydney <Development.Sydney@transport.nsw.gov.au>
Cc: David Kamel <davidk@cvision.com.au>; Boomika <boomika@cvision.com.au>; Tiffany Abragan <tiffany@cvision.com.au>; Connor Hoang <connor.hoang@asongroup.com.au>; Ben Porges <bporges@ethosurban.com>; David Attwood <dattwood@ethosurban.com>
Subject: RE: SYD24-01529 RE: 135 BCR | TfNSW - response to TfNSW matters raised

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Hi Brett,

Please see below comments in blue in response to all matters raised by TfNSW following the meeting held on 17 June 2025. Please consider and don't hesitate to reach out to me directly or formally respond, as preferred.

I also wanted to note the below in terms of project team engagement completed with both BDA and Council to date. This has obviously been extensive and covered all necessary aspects, of which transport and design as key components given their respective roles as the relevant road authorities.

Authority	Meeting Date	Attendees
BDA	28/10/2024	Gavin Boswana Gina Metcalfe Natalie Camilleri
	7/11/2024	Time Hutchinson Gina Metcalfe Hannah Gilvear
	20/11/2024	Tim Hutchinson Hannah Gilvear Alexander Nikolic
	15/04/2025	Dee Brock Adrian Hohenzollern Alexander Nikolic Mehul Patel - SMEC Engineer
	18/06/2025	Dee Brock Adrian Hohenzollern Alexander Nikolic Mehul Patel - SMEC Engineer
Liverpool Council	28/11/2024	Tony Hadchiti Thomas Wheeler Dr Clare Cochrane Patrick Bastawrous John Manu Zeaul Hoque Luke Oste Gaya Arasaratnam Karl Adderley Charlie Caraballo Rumana Akhter Julie Scott Peter Nelson
	31/05/2025	Tony Hadchiti Peter Nelson Stella Qu Siva Karthiges

Regards

Rhys Hazell
Principal Lead | Ason Group

T: +61 2 9083 6601 | M: +61 431 426 532 | E: rhys.hazell@asongroup.com.au
A: Suite 17.02, Level 17, 1 Castlereagh Street, Sydney NSW 2000

From: Brett Morrison (TAR TECHN) <Brett.Morrison4@transport.nsw.gov.au>
Sent: Monday, 7 July 2025 2:00 PM
To: Boomika <boomika@cvision.com.au>
Cc: David Kamel <davidk@cvision.com.au>; David Attwood <dattwood@ethosurban.com>; Ben Porges <bporges@ethosurban.com>; Tiffany Abragan <tiffany@cvision.com.au>
Subject: SYD24-01529 RE: 135 BCR | TfNSW

Thank you for the pre-DA meeting at 1135 Badgferys Creek Road, Bradfield for residential retail Hotel. TfNSW can advise Compliance under s4.7 of the State Environmental Planning Policy (Precincts—Western Parkland City) 2021 is required.

TfNSW has prepared a Draft Access and Servicing Plan for Bradfield in response to Section 9 of the Bradfield City Centre Master Plan . Once adopted, all future DAs and SSDAs will need to demonstrate consistency with the ASP. As per the Draft ASP, general vehicular access to development sites must be restricted from Centre Loop West wherever an alternate access road is available. This is because Centre Loop West is part of the local/ frequent bus priority route, and the kerbside lane is envisioned to be converted to a bus-only lane in the long term. Centre Loop West is also part of the last mile freight route within Bradfield. Allowing general vehicle access into sites from Centre Loop West may compromise the efficiency and safety of the future bus and freight network and reduce the amenity of the public realm envisioned for this corridor.

This contradicts the Bradfield City Centre Masterplan which does not identify Centre Loop West as a “frequent bus priority route”. Rather, as per Section 9.3, Centre Loop West is identified as a local bus route only. See the below figure. This is also consistent with Figure 8 of the Aerotropolis Precinct Plan, which similarly identifies Centre Loop West as local bus route only. TfNSW is not and will not be the roads authority responsible for Centre Loop West and the project team has proactively engaged with BDA and Council as the future road authorities, with neither raising any concerns with site access via Centre Loop West. In addition, the vehicle access strategy allows for the staged delivery of the development, keeps vehicle activity to the periphery, and allows for quality public domain and pedestrian amenity internal to the site and close surrounds.

9.3 Public transport network

With a major interchange fronting the Central Park, ultimately comprising rail and major bus routes, Bradfield City Centre will be a truly transit-oriented city that provides convenient, safe and high quality access via public transport.

Public transport network

-  Rail Station (existing / future)
-  Rapid Bus Route
-  Frequent Bus Route
-  Local Bus Route
-  Future Bus-Only Zone

Note: The Master Plan does not propose permanent development in the existing 60m wide Special Purposes 2 (SP2) Infrastructure Zone corridor. A decision regarding future rail infrastructure in the corridor is the subject of review by Government.

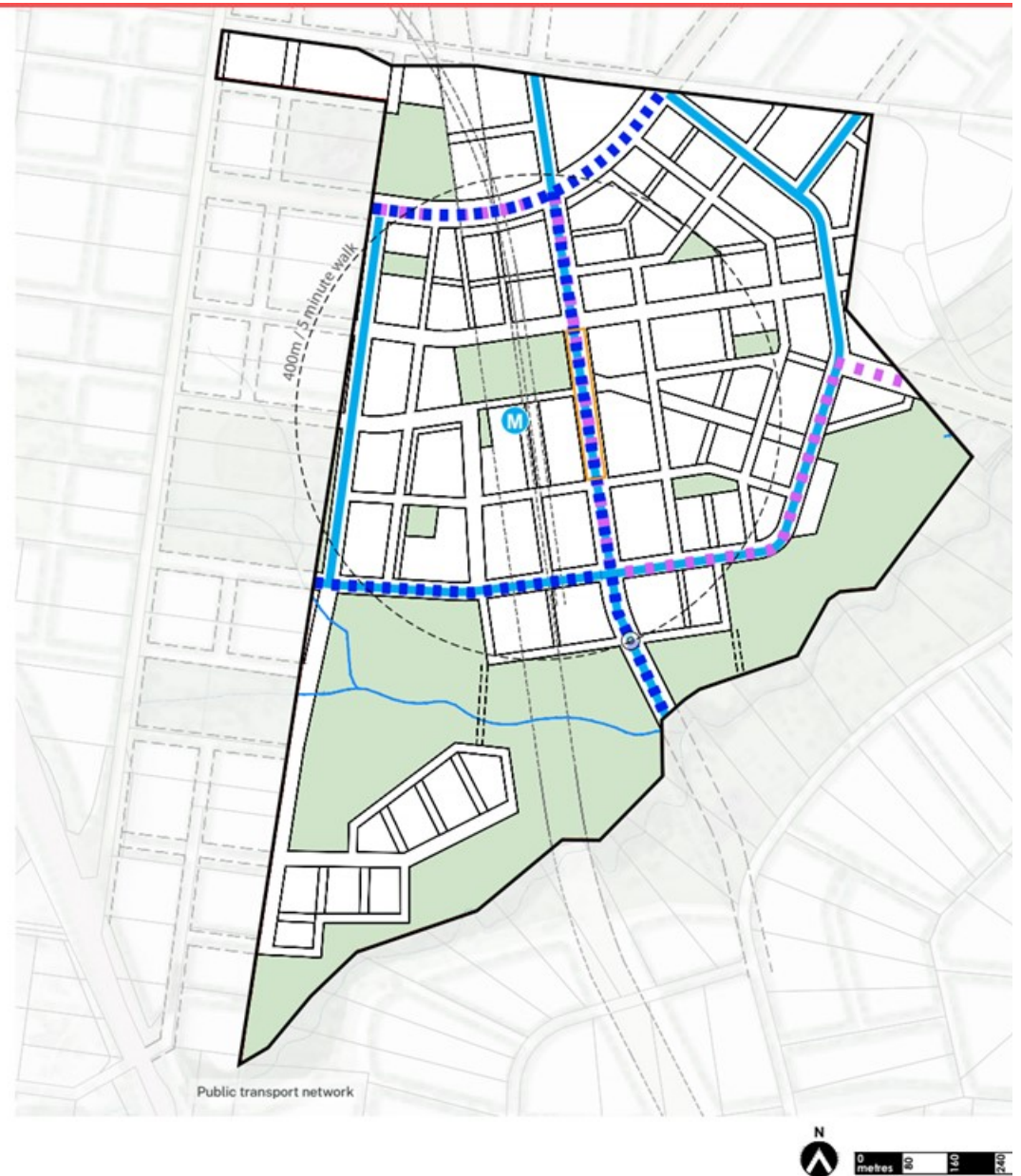
BDA and TfNSW to determine "triggers" for bus-only conversion when alternative traffic paths become available in the local street network for Bradfield City Centre by diverting through-running general traffic from the future bus interchange.

Land to the south of Moore Gully requires further investigation and detailed design to mitigate flood impact and risk prior to submission of any development application for that land.

Rapid bus routes: will provide fast, frequent, and efficient bus services within the Bradfield City Centre. The Western Sydney Rapid Bus Program will connect Bradfield City Centre with Metropolitan Clusters such as Campbelltown-Macarthur, Liverpool, and Penrith, as well as Western Sydney Airport.

Frequent bus routes: will provide frequent bus services that efficiently connect centres and other public transport services to surrounding areas. Frequent bus routes will provide strong connectivity between Bradfield City Centre, other parts of the Western Sydney Aerotropolis, and Strategic Centres and Local Centres in the Western Parkland City.

Local bus routes: will connect all residents and businesses within the Bradfield City Centre with nearby centres (such as Bradfield South and Rossmore) and/or other public transport connections such as rapid bus routes and Sydney Metro.



The Draft ASP is consistent with the Bradfield City Centre Master Plan which refers to Commercial High Street Type A (comprising Centre Loop West) as having “potential to be converted to provide an additional travel lane for vehicles or a specific mode such as buses or autonomous vehicles.”

We note this intent; however, the existing controls of the Bradfield City Centre Master Plan do not restrict access from Commercial High Street Type A. This detail is also for reserved for comment by the relevant road authority (BDA/Council) with no concerns raised to date as part of detailed engagement.

The Draft ASP is also consistent with the Aerotropolis DCP which includes the following requirements in relation to vehicle access arrangements in WSA (Page 44):

- *P07 Vehicle access arrangements and queuing areas on a site shall minimise any adverse impact on infrastructure, road networks, safety, adjoining properties, amenity, and street trees.*

*Benchmark Solution 1 - Locate vehicle access points on the **secondary frontage** or **rear lanes** with access and egress points provided in a forward direction.*

*Benchmark Solution 2. Where a site has frontage to a **classified road**, provide access to an alternate road.*

Centre Loop West is not planned to be (and is unlikely to be converted to) a classified road. Badgerys Creek Road is a classified road, and the development has been designed accordingly, with no access along this frontage. The Aerotropolis DCP also states that the only road type where access should not be granted from are arterial and sub-arterial roads. “Direct vehicle access to properties from the Arterial and Sub-Arterial roads identified in the Precinct Plan is not permitted, except for land uses that require or benefit substantially from access to major roads (for example service stations) and where approval is obtained from the relevant roads authority.” The development similarly proposes access via Innovation South and the internal north-south road. In this regard, Badgerys Creek Road is the only road relevant to the site whereby vehicle access would not be permitted.

The vehicle access locations have also been designed in accordance with relevant requirements, including Austroads and Australian Standard. This includes separation from adjacent intersections, sightlines, pedestrian safety, and future posted speed limits.

While the Draft ASP is not yet finalised, it will be an annex to the Bradfield Master Plan, having similar status, and is expected to become a key reference document for assessing future DAs. Early alignment with its principles is strongly encouraged to ensure long-term consistency with the strategic vision for Bradfield and minimise additional works to retrofit the design in the future. Accordingly, it is recommended by TfNSW that the access point from Centre Loop West is moved to Innovation South/ consolidated with the freight access point from the new internal street.

A well-considered access strategy with land use separation is key. This has been achieved with the proposed access strategy and avoids non-residential traffic from unnecessary circulation through local roads and access lanes. Application of traffic generation rates on both a per parking space rate and considering identified mode share targets for the Bradfield Centre result in the following peak hour vehicle trip estimations for the non-residential component of the development (with access via Centre Loop West):

- AM peak hour: 200 vehicle trips
- PM peak hour: 250 vehicle trips
- Saturday midday peak hour: 400 vehicle trips.

Non-residential vehicle access via Centre Loop West would also realise the following benefits:

- Results in equitable distribution of traffic across the site and surrounding precinct thereby maintaining public domain amenity and pedestrian priority.
- Reduces traffic volumes along Innovation South which is planned to include quality public domain space, ground floor retail and generous verges for street activation on the northern side (along the site frontage) with open space and playing fields to the south. The development also proposes marked pedestrian crossings to improve safety and better connect the site and precinct to the north with the playing fields.
- Aligns with the Aerotropolis DCP which only specifies the need for access restrictions via arterial/ sub-arterial roads (which does not include Centre Loop West). No access restrictions are directly stipulated for Centre Loop West in the Aerotropolis DCP or Bradfield City Centre Master Plan.
- Improves resident amenity by removing the need for residents and non-residential traffic mixing internal to the site and at the access point(s).
- Allows for better surveillance and management of access controls (roller shutters/ boom gates, intercoms etc.) which can be provided on the ground floor at the respective site accesses rather than being incorporated internal to the basement.
- Improves wayfinding/ user experience and reduces user uncertainty.

Drop off zone at Centre Loop West

The proposed drop-off zone at Centre Loop West appears to be within the road reserve and encroaches on the footpath and cycleway. It is recommended that the drop-off zone be included within the site boundary and ideally be located on a side street/ rear street to not impede bus and freight movements on Centre Loop West. The drop-off must comply with the requirements of the *Point to Point Transport (Taxis and Hire Vehicles) Act 2016* and the *Point to Point Transport (Taxis and Hire Vehicles) Regulation 2017*. Additionally, TDM strategies including car sharing must be considered as part of the design.

Should support for short-term parking signage (e.g., 5- or 10-min. parking signs) be supported by the relevant road authority (BDA/ Council), the kerb space could be better utilised given the proposed land uses in the vicinity (which includes a hotel). The development does not propose any change to existing kerblines or public domain/ shared path. These details can be confirmed in consultation with the relevant road authority, post submission.

Intersection management at Centre Loop West/ Innovation North -

As per the Draft ASP, there is no signal control proposed at this intersection. The Draft ASP requires this intersection to be designed for a 14.5m Design Vehicle and a PBS1 check vehicle.

The project team has adopted the reference drawings issued by BDA who are constructing the road. The project is not changing the intersection layout or alignment along this road and is it unclear why TfNSW is raising this detail.

Setback from BCR

The Aerotropolis DCP requires a building setback of 20m for lots fronting Primary Arterial and Sub-arterial roads. The proposal includes a 10m setback from the current Badgerys Creek Road boundary. The applicant would need to amend their design to the required 20m setback/ liaise with the Project team to understand the impact of the 100% Strategic Design on this particular site.

A 20m setback is only required for development subject to Chapter 3.0 of the Aerotropolis DCP (Development for Enterprise and Industry, and Agribusiness) and applies specifically to development for the purpose of Enterprise and Light Industry, and Agribusiness only. The development is subject to Chapter 5 of the Aerotropolis DCP and is not subject to the 20m setback requirement.

Note: It is emphasised that the comments provided above are informal and of a Pre-DA nature, they are not to be interpreted as binding upon Transport for New South Wales (TfNSW) and may change following formal assessment of a submitted development application from the appropriate consent authority.

Brett Morrison

Senior Planner Land Use Assessment Central and Western

Transport Planning

Planning, Integration and Passenger Division

Transport for NSW

M 0448 890 598 E brett.morrison4@transport.nsw.gov.au



Transport
for NSW



I acknowledge the Aboriginal people of the country on which I work, their traditions, culture and a shared history and identity. I also pay my respects to Elders past and present and recognise the continued connection to country.

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OFFICIAL

From: Boomika <boomika@cvision.com.au>
Sent: Monday, 7 July 2025 10:39 AM
To: Development Sydney <Development.Sydney@transport.nsw.gov.au>
Cc: David Kamel <davidk@cvision.com.au>; Brett Morrison (TAR TECHN) <Brett.Morrison4@transport.nsw.gov.au>; David Attwood <dattwood@ethosurban.com>; Ben Porges <bporges@ethosurban.com>; Tiffany Abragan <tiffany@cvision.com.au>
Subject: RE: 135 BCR | TfNSW

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Hi TfNSW Team,

Hope all is well,

With regard to the below, kindly let us know if you require any further information or clarification

Thanks, and looking forward to your response.

Kind regards,

Boomika Madaiah
Junior Project Manager

Master of Construction Project Management | Master of Property Development
iCIRT Rated – Trusted Project Management Technical Services -70645031803_01r



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From: Boomika
Sent: Thursday, 26 June 2025 9:09 AM
To: Development Sydney <development.sydney@transport.nsw.gov.au>
Cc: David Kamel <davidk@cvision.com.au>; Brett Morrison (TAR TECHN) <brett.morrison4@transport.nsw.gov.au>; David Attwood <dattwood@ethosurban.com>; Ben Porges <bporges@ethosurban.com>
Subject: 135 BCR | TfNSW

Hi TfNSW team and Brett,

Thank you for your time during our meeting last week, I believe it was noted that the standard response time is 10 days however if you could review and provide your response at your earliest convenient time that would be greatly appreciated.

As discussed, please find attached the meeting minutes. Below are the high-level traffic estimations (in grey) prepared by our Traffic Engineers at ASON

Additionally, the ground floor plans are included below for your reference

Kindly let us know if you require any further information or clarification

[TfNSW - 135 BCR - 26062025](#)

Please find some high-level numbers in regard to the traffic estimations at the site access to Centre Loop West.

Application of traffic generation rates on a both a per parking space rate and based on identified mode share targets for the Bradfield Centre, result in indicatively the following high-level estimations:

Stage	Access	Peak Hour Trips (vehicle trips in + out)		
		AM	PM	SAT
Stage 1 & Stage 2	Centre Loop West (Non-Residential)	~250	~350	~400
	New Road (Residential)	~35	~35	~35
Stage 3	Innovation South (Residential)	~50	~50	~50

Regarding pedestrian/ cyclist estimations, at a very high-level we estimate about 1,100-1,400 people arriving/ departing from the site during a busy future peak hour (assuming development of the surrounding developments and provision of public transport/ active transport infrastructure). Using Fruin Theory to estimate peak flow rates and conservatively assuming 20% of people would cross at the new proposed pedestrian refuge on Centre Loop West, this would correlate to 4-6 pedestrians per minute (or 220-280 pedestrians per hour). In any event, we would expect the number of pedestrians to be less than 10 per minute and based on Fruin Theory parameters these are low and all footpaths through/ surrounding the site would operate well and we would not expect many pedestrians waiting within the central median to cross.

Kind regards,

Boomika Madaiah
Junior Project Manager

Master of Construction Project Management | Master of Property Development
iCIRT Rated – Trusted Project Management Technical Services -70645031803_01r



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