



Belmore Affordable Housing Transport Impact Assessment

Prepared for:
Homes NSW

22 October 2025

The Transport Planning Partnership

Belmore Affordable Housing Transport Impact Assessment

Client: Homes NSW

Version: 04

Date: 22 October 2025

TPP Reference: 25087

Quality Record

Version	Date	Prepared by	Reviewed by	Approved by	Signature
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APPENDICES

- A. SWEPT PATH ASSESSMENT
- B. SIDRA MODELLING RESULT

1 Introduction

1.1 Overview

This Transport Impact Assessment (TIA) has been prepared by The Transport Planning Partnership (TPPP) on behalf of Homes NSW for a State Significant Development Application (SSD-83257708) for construction of a residential flat building for the purpose of affordable housing at 270-278 Burwood Road and 54 Lakemba Street, Belmore.

Homes NSW has identified the site as an opportunity to deliver new, quality affordable housing apartments in a well-located area that is serviced by a high level of amenity, services and public active transport.

1.2 Secretary's Environmental Assessment Requirements

The purpose of this TAIA report is to assess the traffic and accessibility impacts of the proposed development and to address the Secretary's Environmental Assessment Requirements (SEARs) for the project issued on 13 October 2025 which identified the following specific assessment requirements summarised in Table 1.1.

The relevant section where each requirement is addressed within this report is also provided.

Table 1.1: SEARS Requirements

9. TRANSPORT	
SEARS Requirements	Addressed in Report
Provide a Transport Impact Assessment (TIA) in accordance with the processes and methodology recommended in the Guide to Transport Impact Assessment (GTIA) published by TfNSW.	Throughout this report
If the construction of the development would cause interruptions to regular pedestrian and transport routes (including public transport, active transport or general traffic), a preliminary Construction Traffic (or Transport) Management Plan (CTMP) should be prepared as part of the TIA to mitigate any such impacts.	Section 8

1.3 Pre-DA Consultation

1.3.1 Canterbury-Bankstown Council

TPPP initiated a Pre-DA consultation with Canterbury-Bankstown Council on 24 September 2025. At this stage, Council has not provided feedback on the project requirements.

1.3.2 Transport for New South Wales

TTPP initiated a Pre-DA consultation with Transport for New South Wales (TfNSW) on 24 September 2025. TfNSW responded that the site was located some distance from the nearest classified roads (Punchbowl Road and Canterbury Road), and therefore they were of the view that a consultation meeting was not required but would provide comments in the SSDA review.

1.4 Report Structure

The contents of the report are set out as follows:

- Section 1 provides an introduction of the project background, how SEARS are addressed and references adopted in the assessment.
- Section 2 discusses the existing conditions of the subject site and the future transport strategies in Maroubra.
- Section 3 provides a brief description of the proposed development.
- Section 4 assesses the parking requirements of the proposed development.
- Section 5 assesses the traffic impacts of the proposed development when fully occupied.
- Section 6 assesses the existing and target mode share, and active and public transport impacts of the proposed development.
- Section 7 reviews crash history and assesses road safety
- Section 8 details a preliminary construction traffic management plan
- Section 9 summarises the findings of this TIA.

1.5 References

Preparation of this TIA has referenced to the following guidelines and standards:

- Canterbury-Bankstown Development Control Plan 2023
- State Environmental Planning Policy (Housing) 2021
- TfNSW Guide to Transport Impact Assessment 2024
- AS2890.1 (2004): Parking Facilities Part 1: Off-Street Car Parking
- Draft AS2890.1 (2023): Parking Facilities Part 1: Off-Street Car Parking
- AS2890.6 (2022): Off-Street Parking for People with Disabilities

2 Existing Conditions

2.1 Site Description

The site is located at 270-278 Burwood Road and 54 Lakemba Street, Belmore, within the Canterbury-Bankstown Local Government Area (LGA). It has a total site area of 4,280 square metres (sqm) and benefits from two street frontages; Burwood Road to the north-east and Lakemba Street to the north-west (refer to Figure 2.1).

The existing site comprises of seven two-storey red brick walk-up residential flat buildings, containing a total of 24 dwellings. A number of existing trees are also present on the site.

The location is highly accessible, positioned on the edge of the Belmore local centre and within 350m walking distance of Belmore Station. A bus stop directly in front of the site on Burwood Road offers regular services to Campsie, Burwood, Abbotsford and Chiswick.

Figure 2.1: Site Locality



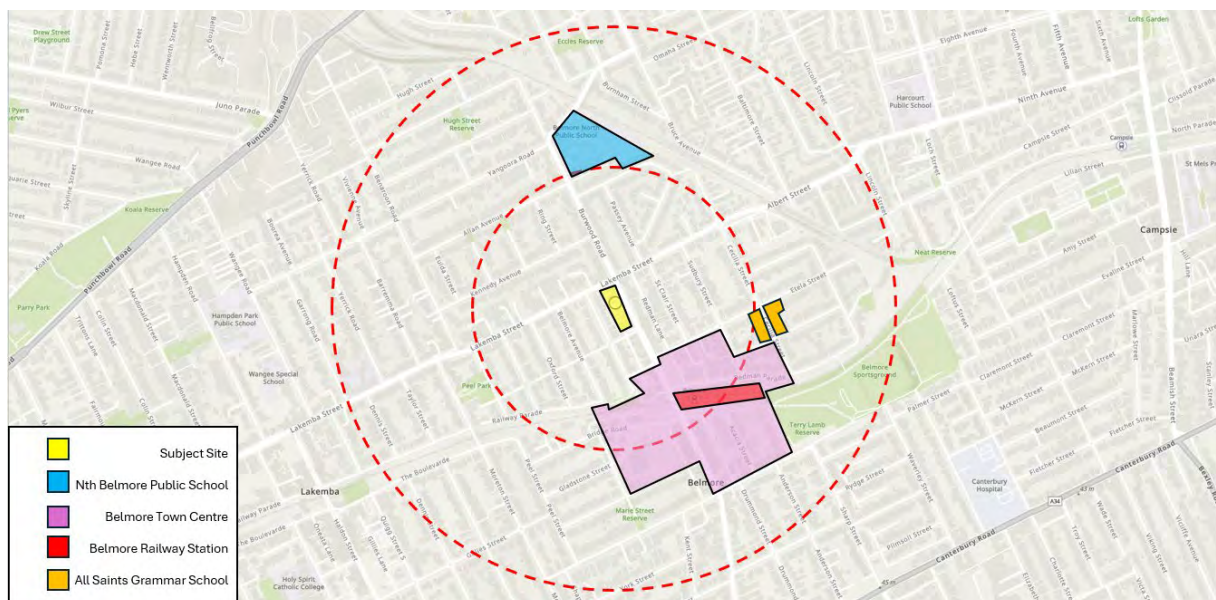
Basemap Source: Nearmap Aerial Imagery, imagery dated 03/04/2025

The existing buildings on the Site are currently occupied. There are no driveways on the Site, but on-street parking is available on Burwood Road and Lakemba Street. There is a bus stop located on Burwood Road directly east of the Site, providing residents of the current Site immediate access to buses.

The Site is in vicinity of the following key locations as illustrated in Figure 2.2.

- Belmore Railway Station (300m).
- Belmore Town Centre (500m).
- Belmore North Public School (572m).
- All Saints Grammar School (450m)

Figure 2.2: Site Locality



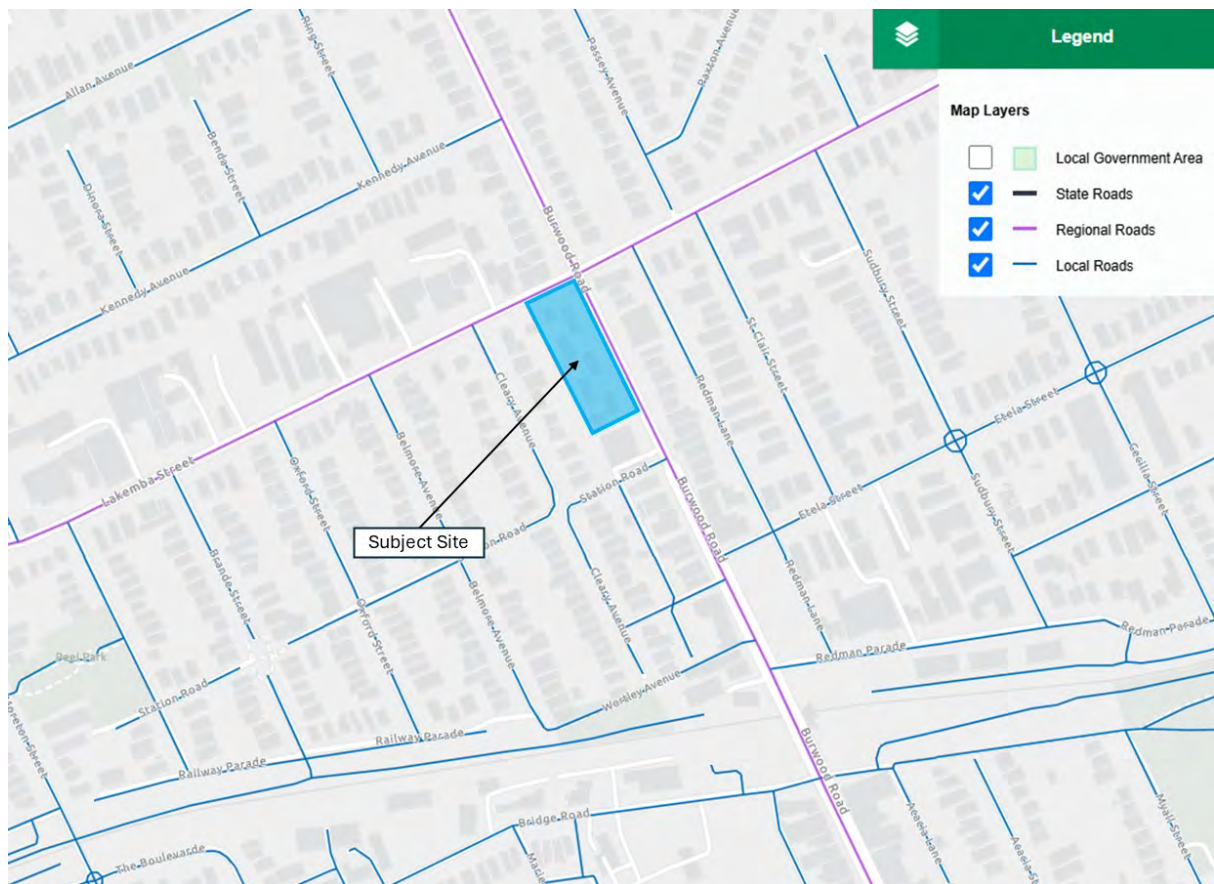
Basemap Source: ABS Maps

2.2 Surrounding Road Network

A road classification map is shown in Figure 2.3 for the road network surrounding the subject site.

The subject site has two road frontages, including Burwood Road to the east and Lakemba Street to the north. Both roads are classified as regional roads.

Figure 2.3: TfNSW Road Classification Map



2.2.1 Burwood Road

Burwood Road is a two-way regional road, generally aligned in a north-south direction. It connects Canterbury Road in the south to Punchbowl Road in the north, before transitioning into Water Street. In the vicinity of the site, one travel lane is provided in each travel direction. On street parking is generally permitted on both sides of the road. It has a 50km/h posted speed limit.

2.2.2 Lakemba Street

Lakemba Street is a two-lane, two-way regional road, which is generally aligned in an east-west direction. It connects with King Georges Road to the west and Cecilia Street to the east before transitioning into Albert Street. In the vicinity of the site, on street parking is permitted on both sides of the road. It has a 50km/h posted speed limit.

2.2.3 Station Road

Station Road is a local road, generally aligned in an east-west direction. It connects Burwood Road to the east via a T-junction and is a cul-de-sac to the west. Station Road does not intersect with Cleary Avenue and instead these roads are joined to form two separate 90 degree bends that run in the north-west and south-east directions. Between Burwood Road and Cleary Avenue, Station Road comprises one travel lane in each travel direction, with time-restricted on-street parking permitted on the south side of the road. It has a posted-speed limit of 50km/h.

Parking is available on the southern side of Station Road, within a short section marked as 2P parking between 8:30am and 6pm on Monday to Friday and 8:30am to 12:30pm on Saturday. Parking is not restricted on other sections on the southern side of Station Road. A No Parking zone is provided on the northern side of Station Road.

2.2.4 Cleary Avenue

Cleary Avenue is a two-lane, two-way road, generally aligned in a north-south direction. It connects with Lakemba Street to the north via a T-intersection and is a cul-de-sac to the south. Cleary Avenue does not intersect with Station Road and instead these roads are joined to form two separate 90 degree bends that run in the north-west and south-east directions. To the north of Station Road, unrestricted parking is available on both sides of the road. Within this section, it has a posted-speed limit of 50km/h.

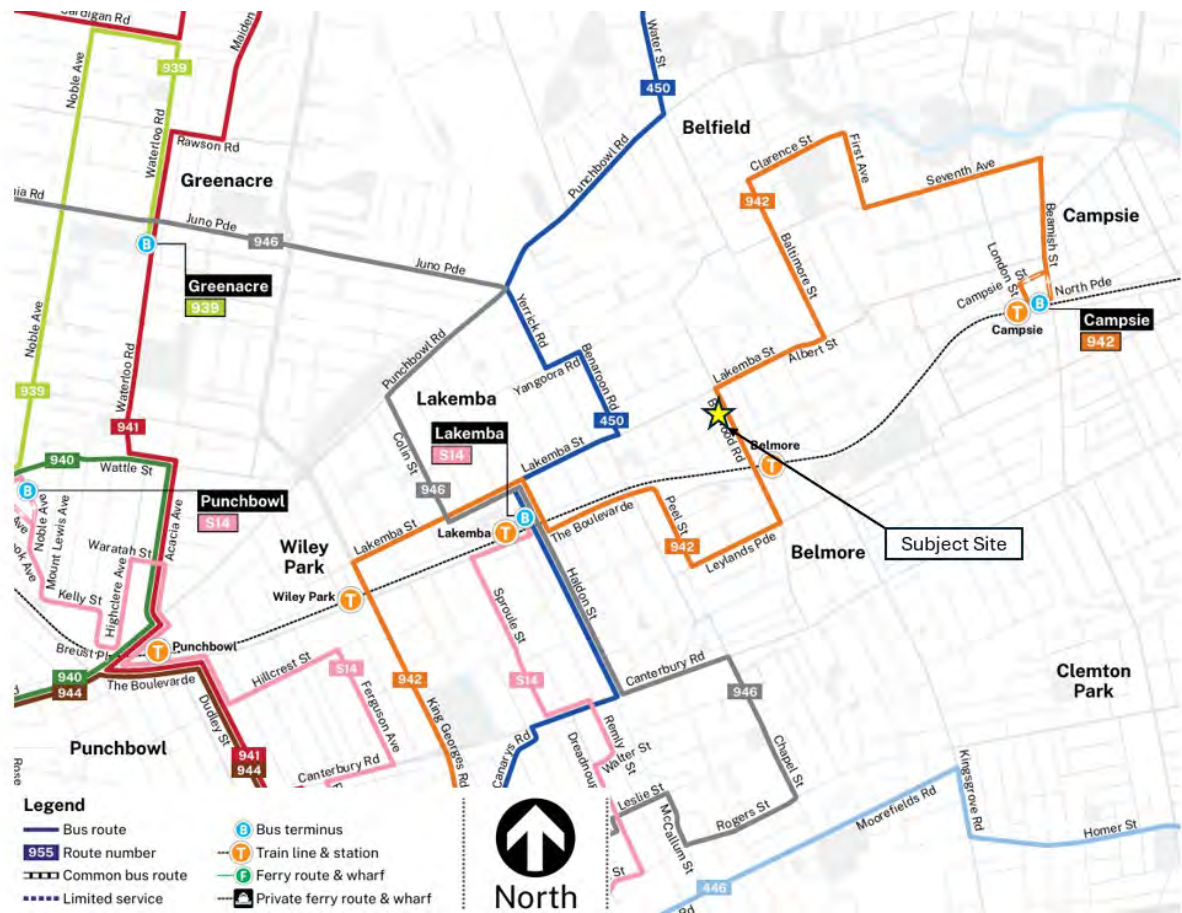
2.3 Public Transport

The nearest train station is Belmore train station, which is located at some 300m walking distance (4-minute walk) from the site. Belmore train station is currently under construction for conversion to a metro station, which is expected to be complete in 2026. Upon completion, the Belmore station will be serviced by Sydney Metro City and Southwest, providing direct metro services between Bankstown and Tallawong via Sydenham, Sydney CBD and Chatswood. Currently, Southwest Link bus services are replacing train services between Sydenham and Bankstown stations.

The subject site is serviced by several bus routes with connections between the area and the surrounding suburban hubs, including Campsie, Kogarah, Strathfield and the Sydney CBD. The nearest bus stop is located along the site frontage on Burwood Road. This bus stop services bus route 415 and 942.

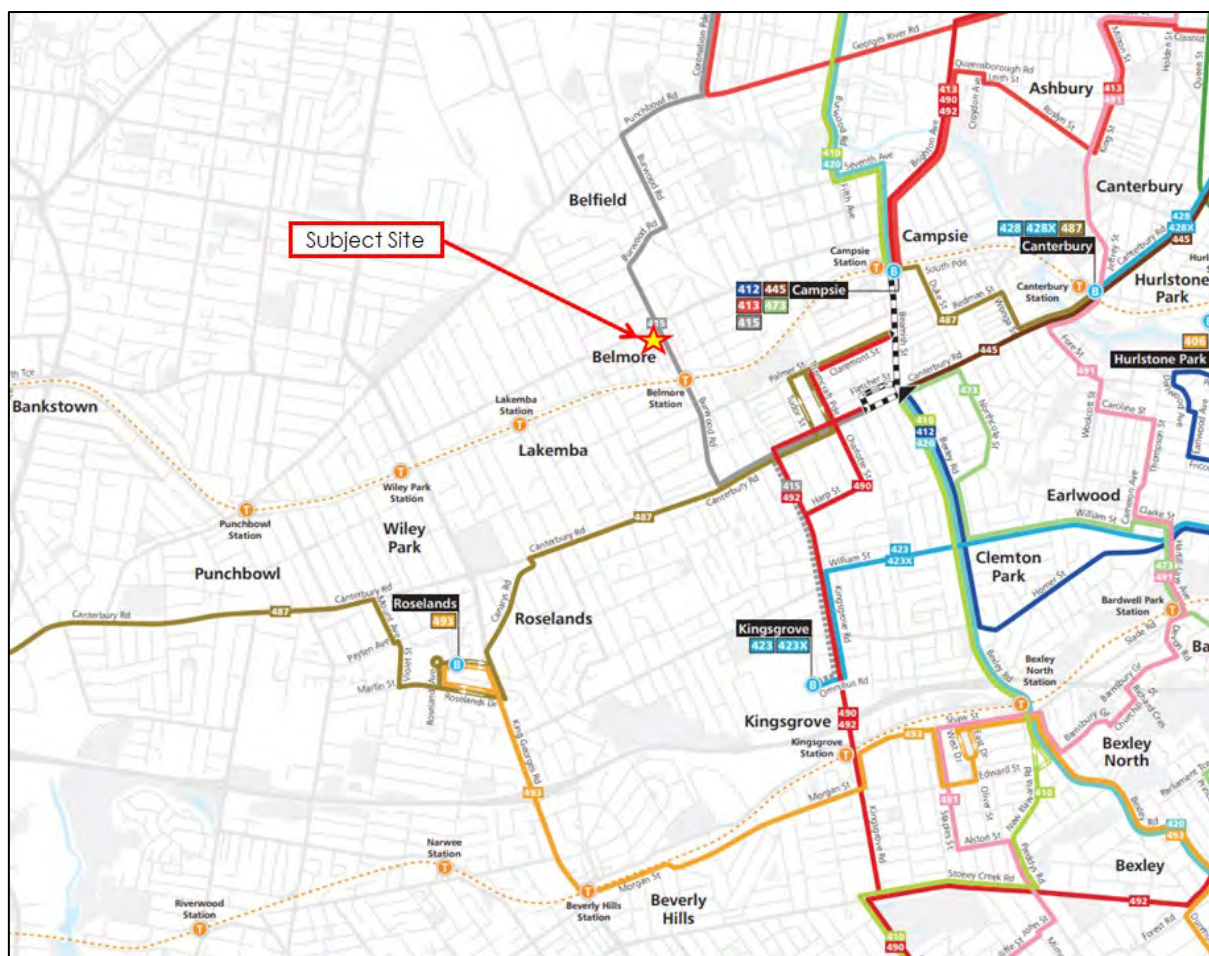
The bus network map within the site vicinity is shown in Figure 2.4 and Figure 2.5, with the summary and frequency of the nearby bus services outlined in Table 2.1.

Figure 2.4: Bus Network Map – South and South-West Network Map



Basemap Source: Transport for NSW Bus Operator Maps South and South-West Routes

Figure 2.5: Bus Network Map – Inner West Network Map



Source: TfNSW – South and South-West Public Transport Network Map, last accessed on 15/05/2025

Table 2.1: Existing Bus Services

Route Number	Route Description	Location of Service	Distance from Site	Frequency	
				Weekday AM	Weekday PM
415	Campsie to Cheswick	Burwood Road before Lakemba Street	Site Frontage	15-20 minutes	30 minutes
942	Lugarno to Campsie	Burwood Road before Lakemba Street	Site Frontage	30 minutes	30 minutes
N40	East Hills to City Town Hall (Night Service)	Belmore Station, Burwood Road	370m	30 minutes	60 minutes
SW1	Train Replacement Bus - Bankstown to Sydenham	Belmore Station, Bridge Road	380m	6 minutes	10 minutes
SW2	Train Replacement Bus - Bankstown to Sydenham (Limited Stops)	Belmore Station, Bridge Road	380m	4 minutes	10 minutes

Reference: Transport for NSW (Bus Timetables)

The following school services provided in the table below are also provided by the Belmore Station Bus Stops. Refer to Table 2.2.

Table 2.2: Existing Public Transport Services (Schools)

Route Number	Route Description	Location of Service	Distance from Site	Frequency	
				Weekday AM	Weekday PM
581S	St Patrick's Strathfield to Belmore Station	Burwood Road at Lakemba Street	50m	2 Services per day	No services run in the PM period
594S	St Vincents College to Belfield Shops	Burwood Road before Lakemba Street	Site Frontage	1 Service per day	No services run in the PM period
611S	Belfield (Punchbowl Road) to Christian Bros Lewisham	Burwood Road at Etela Street	270m	1 Service per day	No services run in the PM period
612S	Christian Bros Lewisham to Belfield (Punchbowl Road)	Burwood Road before Lakemba Street	Site Frontage	No services run in the AM period	1 Service per day
613S	Georges River & Burwood Roads to Chrisitan Bros Lewisham	Burwood Road before Lakemba Street	Site Frontage	No services run in the AM period	1 Service per day
625S	Clarke Street, Earlwood to Belmore Station	Belmore Shops, Burwood Road	390m	No services run in the AM period	1 Service per day
642S	Bexley Road & William Street Kingsgrove to Santa Maria Del Monte	Burwood Road before Lakemba Street	Site Frontage	1 Service per day	No services run in the PM period
675S	Domremy College to Burwood & Canterbury Roads	Burwood Road at Lakemba Street	50m	No services run in the PM period	1 Service per day
676S	Burwood & Canterbury Roads to Domremy College	Burwood Road before Lakemba Street	Site Frontage	1 Service per day	No services run in the PM period
755S	Belmore Station to Kingsgrove Station	Belmore Station, Burwood Road	360m	1 Service per day	No services in the PM period
S105	Wiley Park to Malek Fahd Islamic School	Burwood Road before Lakemba Street	Site Frontage	1 Service per day	No services in the PM period
S112	Malek Fahd Islamic School to Lakemba	Burwood Road at Lakemba Street	50m	No services in the AM period	1 Service per day
S123	St George Hospital to All Saints Grammar School	Burwood Road before Lakemba Street	Site Frontage	1 Service per day	No services in the PM period
S129	All Saints Junior School to Bexley North	Belmore Station, Burwood Road	360m	No services in the AM period	1 Service per day
S130	All Saints Junior School to St Goerge Hospital	Belmore Station, Burwood Road	360m	No services in the AM period	1 Service per day

The nearby bus stop is located on the west side of Burwood Road immediately outside the subject site. It is approximately 28m long, located some 40m south of Lakemba Street. During the AM peak hour, this bus stop services in the order of 11 bus services whereas during the PM peak hour, the bus stop services some 9 bus services.

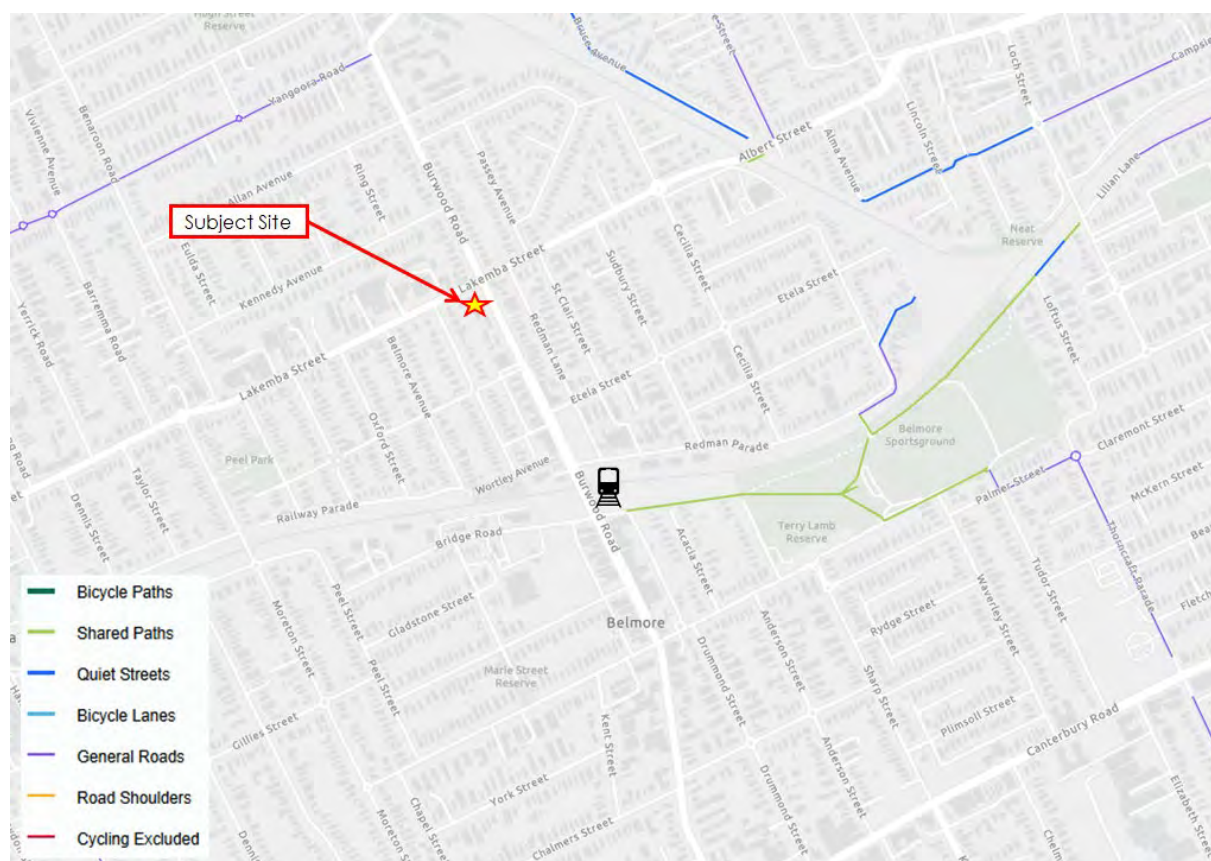
2.4 Pedestrian and Cycling Facilities

In the immediate vicinity of the subject site, pedestrian footpaths are generally provided on both sides of the surrounding main roads and side streets, providing pedestrian connectivity to the nearby land uses and Belmore train station.

Signalised pedestrian crossings are provided across all legs of the adjacent Lakemba Street/ Burwood Street intersection, with a raised mid-block signalised crossing also provided across Burwood Road, fronting Belmore train station.

Limited cycling infrastructure is available within the vicinity of the site. The nearest cycling facilities are in the form of a shared path located along the southern boundary of the Belmore railway corridor. The surrounding cycling network in the vicinity of the site is shown in Figure 2.6.

Figure 2.6: Surrounding Cycling Infrastructure



Basemap Source: TfNSW Cycleway Finder, last accessed on 15/05/2025

2.5 Existing Traffic Volumes

TTPP commissioned automatic tube counts on Burwood Road between Lakemba Street and Station Road from Saturday 24 May to Friday 30 May 2025. Additionally, classified turning movement counts were commissioned at the following intersections on Tuesday 27 May 2025 between 7am-9am and 4pm-6pm.

- Burwood Road - Lakemba Street (signal)
- Lakemba Street – Albert Street - Cecilia Street (roundabout)
- Burwood Road – Etela Street (priority)

The surveyed locations are shown in Figure 2.7.

Figure 2.7: Traffic Survey Locations



2.5.1 Automatic Tube Counts

Daily and hourly traffic profiles of the automatic tube count on Burwood Road between Lakemba Street and Station Street are shown in Figure 2.8 and Figure 2.9 respectively.

Based on Figure 2.8 the average weekday traffic volume on Burwood Road is 14,762 vehicles per day with approximately 4.38% heavy vehicle proportion.

Figure 2.8: Daily Total Traffic (Light and Heavy Vehicle) Profile

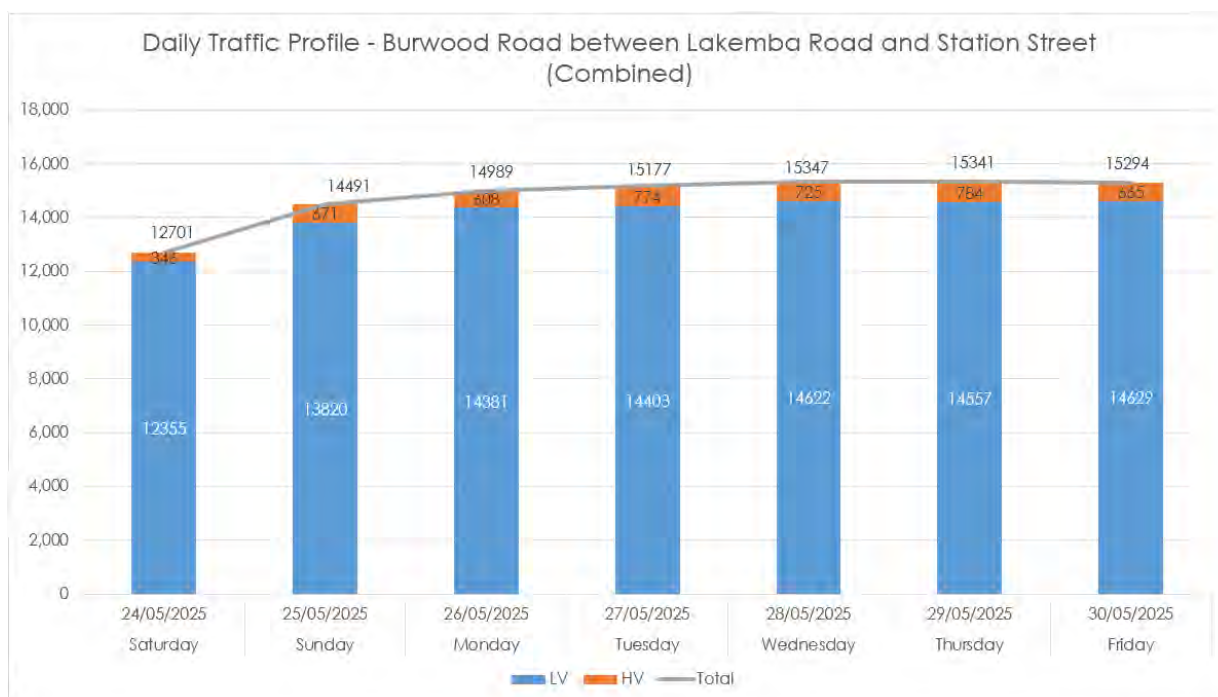
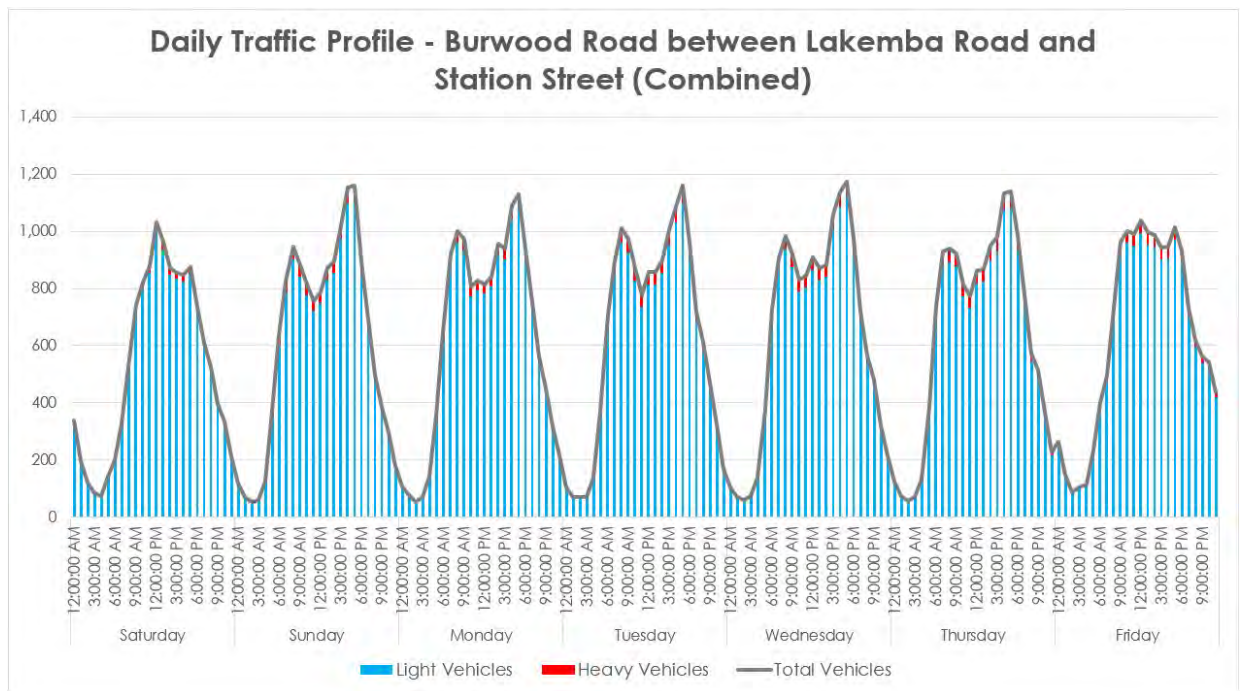


Figure 2.9: Daily Hourly Traffic Profile



2.5.2 Intersection Surveys

Based on the traffic surveys, the identified weekday AM and PM peak hours were 8am-9am and 4:15pm-5:15pm.

The existing AM and PM peak traffic volumes are shown in Figure 2.10 and Figure 2.11, respectively.

Figure 2.10: Existing AM Traffic Volumes

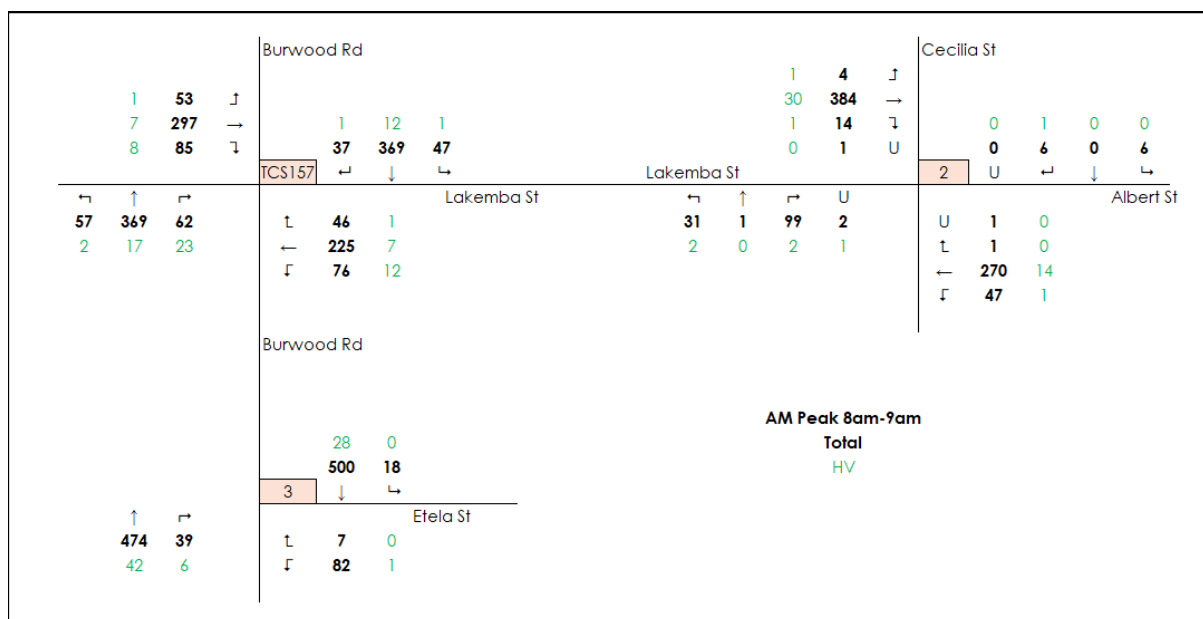
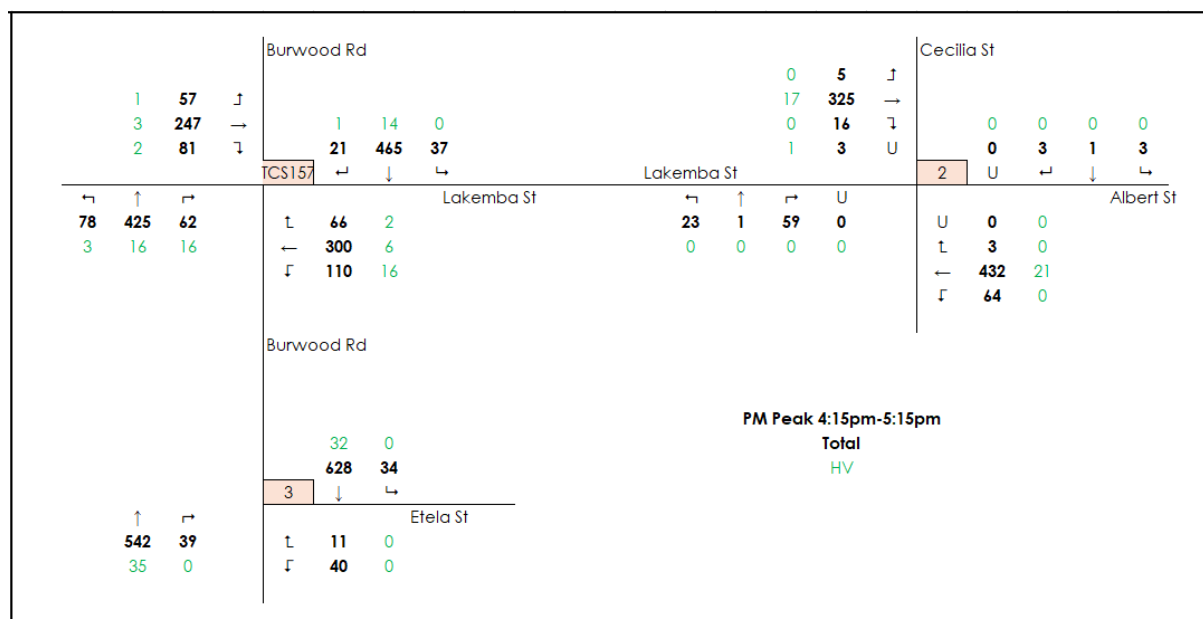


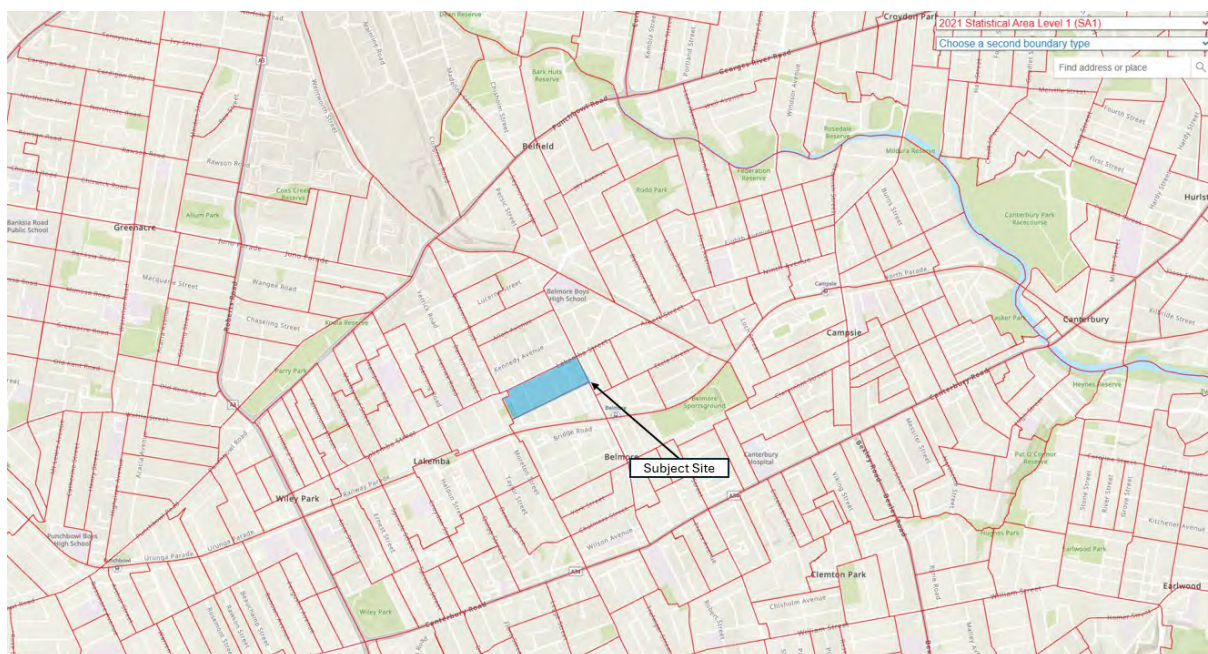
Figure 2.11: Existing PM Traffic Volumes



2.6 Journey to Work Data

Mode share patterns were analysed using the latest ABS Census data (2021) for the selected statistical areas to understand the existing travel patterns of residents and workers within the subject site and surrounding areas. The selected Statistical Area Level 1 (SA1) referenced in this assessment is shown in Figure 2.12.

Figure 2.12: Selected SA1 (2021)



Basemap Source: ABS Maps

A summary of the existing place of work of residents who drive to work is shown in Table 2.3 and Figure 2.12 indicates the location of the place of work destinations relative to the subject site. The below tables indicates that a large portion (40%) of employed residents or workers within the surrounding area work within the Canterbury Bankstown area. A comparison between 2016 and 2021 which demonstrates a decrease in employed individuals travelling to Sydney inner city and an increase in individuals travelling within the Bankstown Canterbury area.

Table 2.3: Place Of Work (POW) (employed residents)

Proportion of Workers Travelling form Selected SA1 (%)			
Place of work (SA3)	2016	Place of work (SA3)	2021
Sydney Inner City	29%	Canterbury	40%
Canterbury	17%	Sydney Inner City	19%
Strathfield - Burwood - Ashfield	8%	Bankstown	10%
Auburn	8%	Strathfield - Burwood - Ashfield	8%
Parramatta	7%	Liverpool	6%
Botany	6%	Parramatta	6%
Kogarah - Rockdale	4%	Kogarah - Rockdale	3%
Ryde - Hunters Hill	4%	Canada Bay	3%
Bankstown	3%	Auburn	3%
POW No Fixed Address (NSW)	3%	Ryde - Hunters Hill	3%
Other	11%	Other	0%
	100%		100%

Reference: Australian Bureau of Statistics (ABS)

A summary of the Journey to Work mode share of employed residents in the same SA1 region from 2016 and 2021 Census data is provided in Table 2.4.

Table 2.4: Method of Travel to Work (Employed Residents)

Place of work (SA3)	Proportion of Workers Travelling form Selected SA1 (%)	
	2016	2021
Car as, driver	69%	37%
Car, as passenger	4%	4%
Bus	0%	3%
Train	27%	3%
Bicycle	0%	0%
Walk only	0%	6%
Motorcycle	0%	0%
Worked at home	0%	47%
Total	100%	100%

Typically, the Covid-19 pandemic influenced the mode of travel and the place of work. This pattern is common in many places as reflected by comparing the 2016 and 2021 mode of travel work data.

Table 2.4 indicates that the proportion of employed residents within the selected SA1 region travelling by private car (as a driver or passenger) decreased from 69% in 2016 to 37% in 2021, and public transport decreased from 27% to 6% (bus and train combined) in 2021. This is consistent with trends which have been observed during the time period. The 2021 mode of travel for the selected SA1 region was heavily influenced by the Covid-19 pandemic, as reflected in the proportion of residents working from home increasing from 0% in 2016 to 47% in 2021.

For analytical purposes, the 2016 mode of travel to work has been adopted in this traffic impact assessment as the 2021 data was significantly affected by the Covid-19 pandemic.

2.7 Strategic Context

2.7.1 Community Strategic Plan 2036 (May 2025)

Council's Community Strategic Plan 2036 presents Council's priorities and strategies for the Canterbury Bankstown area. The Plan identifies the following relevant action steps:

- Provide vehicles and pedestrians with well maintained, safe and integrated transportation networks
- Provide convenient, equitable and accessible parking
- Deliver an attractive, sustainable, affordable built environment.

2.7.2 Belmore Metro Station

Belmore Metro station is currently under construction and is part of the Sydney Metro City and Southwest line. The major connections to this metro station will be Sydenham and Bankstown providing the proposed development with access to the inner city and Bankstown economic centres. The metro line is expected to be completed in 2026.

The Sydney Metro - Sydenham to Bankstown Environment Impact Statement (EIS) states that through the provision of faster and more frequent metro services it is expected that the proportion of travellers who chose train compared to car would increase. As a result this would improve traffic conditions for those journeys made by road, and facilitate increased population within the Metro catchment.

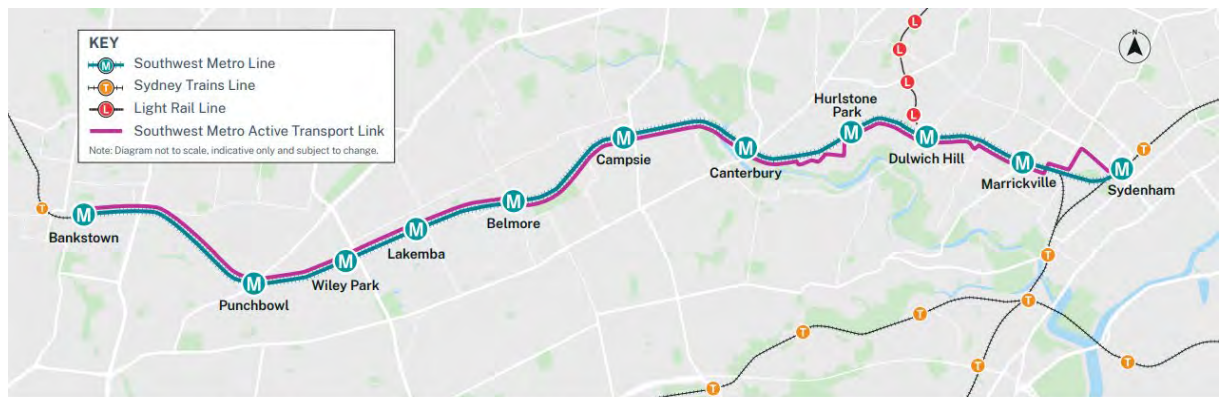
The EIS also states TfNSW is seeking to encourage rail patrons to access a station using active or public transport modes. Providing the necessary infrastructure such as readily visible bus

stops and bike storage close to station entrances would encourage a more seamless transfer to rail.

2.7.3 South West Active Transport Link

Construction of the South West Active Transport Link (SWATL) is underway for the Sydney Metro West project, to improve the existing active transport facilities and connect with additional facilities to be provided along the rail corridor between Sydenham and Bankstown. The pedestrian and cycle link is scheduled to open one year after the opening of the Sydney Metro City and Southwest services.

Figure 2.13: Future Pedestrian and Cycling Link



Proposed continuous pathway alignment along the Southwest Metro corridor (indicative only).

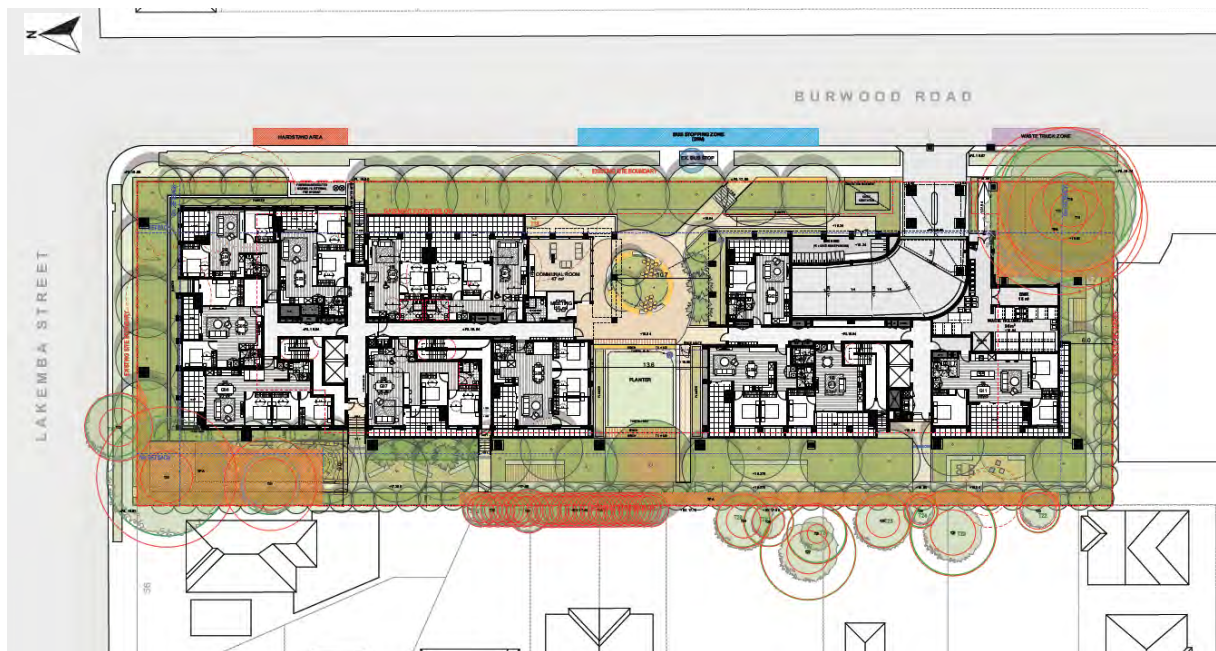
3 Proposed Development

3.1 Proposed Description

The proposed development comprises the construction of a new residential flat building to accommodate 145 apartments to be used for affordable housing, a communal room, basement car parking including excavation, tree removal and associated servicing, landscaping and public domain works.

The construction includes bulk earthworks, tree removal and associated landscaping and public domain works. Refer to the proposed site layout Figure 3.1.

Figure 3.1: Proposed Site Layout



The concept scheme is to deliver 145 units as follows:

- 81 one-bedroom units
- 50 two-bedroom units
- 14 three-bedroom units

A two-level basement car park is to be provided to accommodate 73 parking spaces including 10 accessible spaces.

3.2 Proposed Vehicle Access Arrangements

The subject site has two road frontages, namely, Lakemba Street (northern frontage) and Burwood Road (eastern frontage) both of which are regional roads (i.e. not classified). Currently, driveways are not available on either frontage.

Typically, site access is provided on a lower order frontage road to minimise conflicts between the site traffic and the through traffic.

The Lakemba Street frontage is 38m long, while the Burwood Road frontage is 115m long. It is proposed to a vehicular driveway as far away as possible from the Burwood Road/ Lakemba Street intersection which is controlled by traffic signals. Therefore, the southern end of the Burwood Road frontage is the preferred driveway location as any traffic queues on Burwood Road are less likely to impede driveway access.

The Burwood Road frontage is approximately 115m long currently involving a 38m parking zone, a 28m bus zone, another 15m of parking with the remaining 30m length as a No Stopping zone as shown in Figure 3.3.

Lakemba Street frontage is approximately 38m long involving a 28m parking zone and 10m No Stopping zone as shown in Figure 3.3.

Figure 3.2: Looking North to the Burwood Road Frontage



Figure 3.3: Looking East to the Lakemba Street Frontage



3.3 Proposed Driveway Location

Currently the parking lane along the Burwood Road frontage is about approximately 38m long which can accommodate six parking spaces. Some of the parking spaces would be removed to make way for the construction of the driveway. Parking removal is not anticipated to impose adverse parking impact because the existing parking demand is likely to be generated by the residents associated with the existing use of the subject site. The future parking demand will be met by on-site provision as part of development.

A 28m long bus zone is located along the Burwood Road frontage, which has the capacity to accommodate one bus at a time. The bus stop serves Route 415 (Campsie to Cheswick) and 942 (Lugarno to Campsie) with a total of five services in the peak hour. Operation of the bus zone would not be affected by a new driveway provided at the southern end of the Burwood Road frontage.

3.4 Proposed Pedestrian and Cyclist Access Arrangements

Pedestrian access to the site is provided in the form of stairs and an accessible ramp via the Burwood Road frontage adjacent to the bus stop.

Cyclist access is via the Burwood Road driveway to the resident bicycle parking spaces located in the basement carpark. Visitor bicycle parking is available in a bike shed on the ground floor with access from Burwood Road.

3.5 Kerbside Waste Collection

Kerbside waste collection will be undertaken by council's 9.9m side-loading waste truck. Given the site constraints, the proposed location for kerbside waste collection is south of the proposed driveway location, where a waste storage room can be located within a short distance from the kerb. Waste collection activities involve waste personnel manually wheeling bins to/from the waste storage room.

Kerbside waste collection would be scheduled to occur outside of the school bus service periods, when there are only 3-5 regular bus services per hour for this bus stop.

4 Parking Assessment

4.1 Car Parking Requirement

Parking requirements for the proposed development have been assessed based on the rates set out in State Environmental Planning Policy (Housing) 2021 (Housing SEPP) and Canterbury Bankstown Council Development Control Plan (DCP) 2023.

Affordable housing falls under the requirements of the Housing SEPP. The Housing SEPP require the following minimum parking requirements:

- For each dwelling containing 1 bedroom – at least 0.4 parking spaces
- For each dwelling containing 2 bedrooms – at least 0.5 parking spaces
- For each dwelling containing at least 3 bedrooms – at least 1 parking space.

Parking rates from the current TfNSW Guide to Transport Impact Assessment (GTIA) are not applicable. GTIA Section 8.3 indicates that parking controls for affordable housing are specified in the Housing SEPP which are given precedence over the parking rates set out in the GTIA.

While the Housing SEPP does not specify requirements on visitor parking, Homes NSW is proposing to provide one visitor parking space in the residual spaces in the car park to facilitate client service visits and building maintenance workers etc.

The parking requirements for the proposed development as per the Housing SEPP are shown in Table 4.1.

Table 4.1: Car Parking Housing SEPP Requirement

Dwelling Type	Yield	Reference	Minimum Parking Rate	Minimum Car Parking Requirement
Core A – Northern Site				
1-bedroom	51	Housing SEPP	0.4 spaces per unit	20.4
2-bedroom	30	Housing SEPP	0.5 spaces per unit	15.0
3-bedroom	6	Housing SEPP	1 space per unit	6.0
Visitor	-	Housing SEPP	-	-
Sub-Total	87			41
Core B – Southern Site				
1-bedroom	30	Housing SEPP	0.4 spaces per unit	12.0
2-bedroom	20	Housing SEPP	0.5 spaces per unit	10.0
3-bedroom	8	Housing SEPP	1 space per unit	8.0
Visitor	-	Housing SEPP	-	-
Sub-Total	58			30
Total	145			71

The Housing SEPP requires a minimum of 71 parking spaces for residents. The proposed development provides 73 car spaces (including one visitor parking space) which can satisfy the Housing SEPP requirement.

The Housing SEPP notes a minimum requirement with the stipulation that: *“if complied with, prevents the consent authority from requiring more onerous standards for the matters”*. On this basis, if a minimum of 71 spaces is provided, then the development cannot be refused for a lack of parking.

4.2 Accessible Parking

The Housing SEPP does not specify minimum accessible parking requirements. However, given Homes NSW social housing tenants have a higher likelihood than the rest of the population to have mobility impairments, Homes NSW has set a target to design 20% of the units to have the capacity to accommodate a tenant who relies on a wheelchair.

Homes NSW targets approximately 20% of the car spaces to be accessible parking spaces for the gold apartments that are designed based on Schedule 4 of the Housing SEPP.

The proposed development provides 10 accessible spaces for residents in the basement carpark, representing 14% of the 73 parking spaces which is close to the target.

AS2890.6:2009 requires an accessible car parking space with an adjacent shared area to each have dimensions of 2.4m wide by 5.4m long with an aisle width of 5.8m. The design provides a 5.4m long and 2.4m wide accessible space and an adjacent shared area of the same size. The only exception is two spaces where the adjacent shared area width deviates from AS2890.6 but are subject to Access Consultant's advice for performance solution.

4.3 Bicycle Parking

There is no bicycle car parking requirement under the Housing SEPP, but generally it is good to use Councils bicycle rates as a guide and follow as closely as possible. However, Canterbury-Bankstown DCP does not provide a bicycle parking rate for residents. It is proposed to provide 151 storage cages which are suitable for horizontal bicycle storage and residents also have the option to store their bicycles in their apartments.

Canterbury-Bankstown DCP stipulates a bicycle parking rate of 1 visitor space per 10 dwellings for residential flat buildings. Hence, the proposed development is required to provide 15 visitor bicycle parking spaces. The horizontal bicycle parking facility located in the bike shed on the ground floor can meet this DCP bicycle parking requirement.

Bicycle parking aisles are designed in accordance with AS2890.3 with 1.5m for horizontal parking and 2m for bicycle storages, albeit a few spots are still be refined in order to meet these requirements in the detailed design stage.

4.4 Motorcycle Parking

The Housing SEPP does not stipulate motorcycle parking rates. No motorcycle parking is proposed as part of the development.

4.5 Car Park Layout Review

The draft revision to standard AS 2890.1 (2004) - Parking Facilities - Part 1: Off-street car parking, recommends an increase in the length of off-street car parking spaces from 5.4 m to 5.6 m.

It is a change that would be difficult to apply post DA, and would also incur a \$4.55 modification. The revised standard is expected to be finalised in the short to medium term. Therefore, the car park has been designed to be compliant with the current AS2890.1 (2004) and the draft AS2890.1 (2023) to 'future proof' the car park design.

A review of the car park design has been undertaken and a summary of the key design elements is shown as follows:

Vehicle Access

- Vehicle access and ramp will be provided off Burwood Road. The car park is secured behind a roller door with a control point (intercom point). Access control point is discussed in Section 4.6 of this report.
- The proposed driveway and ramp comply with the design requirements in AS2890.1 for residential car park. The proposed maximum ramp grade is 1 in 4 (or 25%) which complies with the maximum allowed grade of 1 in 4 (or 25%) in a private car park.
- The driveway and ramp can accommodate up to one car queuing within the site boundary, prior to the roller door access. This is considered acceptable on the basis that the 95th percentile queue is expected to be less than one vehicle based on the estimated traffic generation and inbound/outbound flow of traffic during the AM and PM peak hours (further discussed in Section 4.6 and Section 5).
- Vehicle access will not obstruct existing bus operation along the Burwood Road frontage. A STOP sign will be installed at the car park exit to emphasise road user priority at the driveway to enhance pedestrian safety.

Parking Space Dimensions

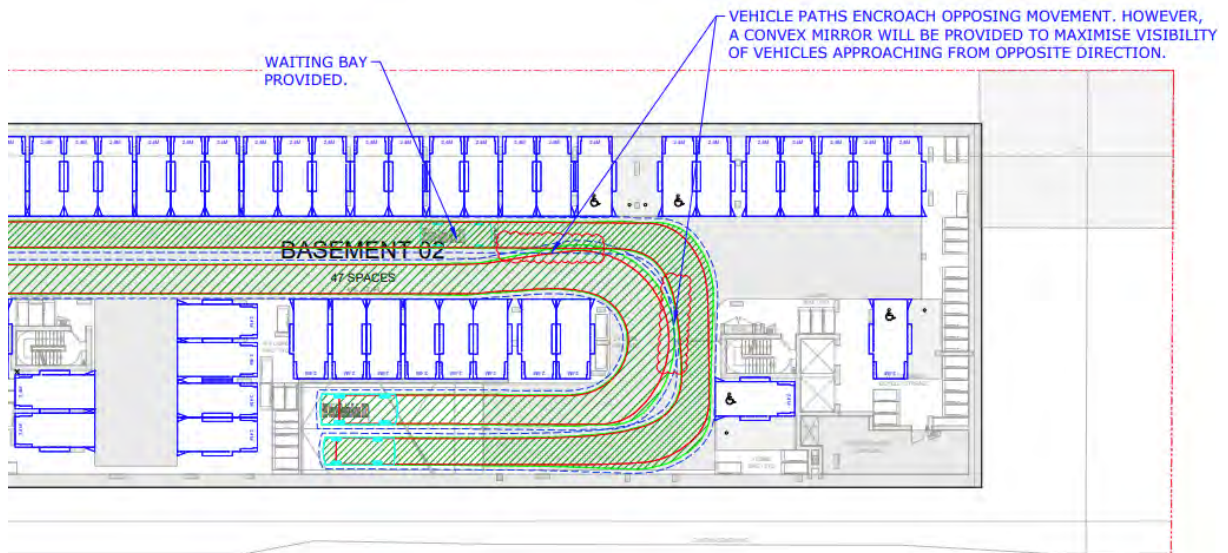
- Residential car parking spaces are designed with dimensions of 2.4m width by 5.6m length which can meet the required minimum dimensions of 2.4m width by 5.6m length for Class 1A car parking facilities. This is an addition of 200mm length from the current AS2890.1 (2004).
- 10 accessible car parking spaces are designed in accordance with AS2890.6. These accessibility car parking spaces are designed as a minimum 2.4m wide by 5.6m long, with the adjacent shared area adopting the same dimensions. The only exception is two spaces where the adjacent shared area width deviates from AS2890.6 but are subject to Access Consultant's advice for performance solution.

Aisle Width and Vehicle Manoeuvring

- All the car parking spaces are configured as 90-degree spaces. The existing AS2890.1 (2004) and the draft AS2890.1 (2023) require Class 1A car parking spaces to have a minimum aisle width of 5.8m. In addition, a 0.3m clearance width is required to high obstructions. The parking aisles are compliant with the existing AS2890.1 (2004) and the draft AS2890.1 (2023).
- The circulation roadway is required to have a minimum width of 3.0m for a single lane or 5.5m wide for a two-way lane, plus a 0.3m kerb to high obstructions/walls.
- Ramp kerbs are to be less than 0.15m in height. The design enables vehicles passing each other. The swept path assessment in **Appendix A** demonstrates that a 99th percentile car and an 85th percentile car can pass at driveway and along the aisles.

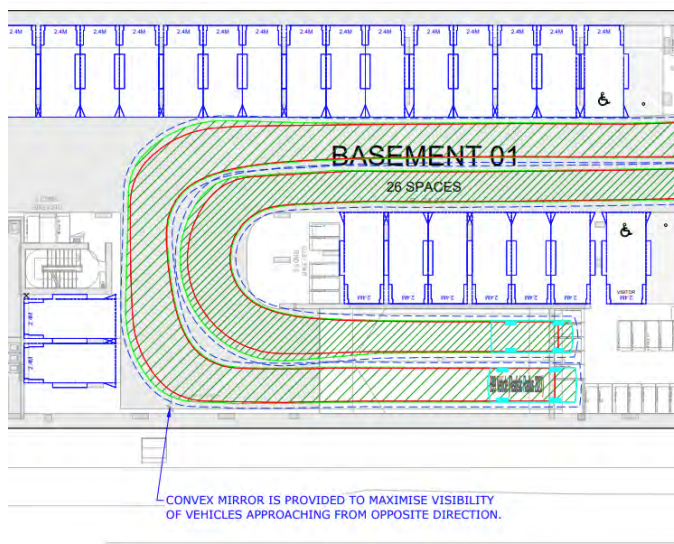
- Considering there will be less traffic movements on Basement Floor 2, the tight 180 degree turn as shown in Figure 4.1 and **Appendix A** can be managed by providing a waiting bay to hold vehicles, and a convex mirror to maximise the visibility of another vehicle approaching from the opposite direction as shown below.

Figure 4.1: Traffic Management Measures on Basement Floor 2



- Another convex mirror is recommended to manage the minor overlapping of the two opposing vehicle's swept path clearances at the bottom of the ramp on Basement Floor 1.

Figure 4.2: Traffic Management Measures on Basement Floor 1



Headroom Clearance

- A minimum 2.2m headroom clearance would be provided above the circulation roadway between the car park access.

- A minimum 2.5m headroom clearance would be provided above accessible parking spaces
- The proposed headroom clearances comply with the minimum requirements set out in AS2890.1 and AS2890.6.
- A vertical clearance assessment for a B99 vehicle turning from the road into the parking area is provided in **Appendix A**.

Other Considerations

- Appropriate pedestrian sight distance (3m x 5m) has been provided in accordance with the requirements of Figure 3.2 of the draft AS2890.1 (2023) at the access driveway. The existing requirements (2m x 2.5m) can also be satisfied.
- The internal configuration of the basement car park has generally been designed in accordance with the AS2890.1 (2004), draft AS2890.1 (2023), AS2890.3 (2015) and AS2890.6 (2022).
- A vertical clearance check will be carried out for the ramps in the detailed design stage.

In summary, the car park and associated elements are designed to be capable of compliance with the design requirements set out in the Australian Standards, namely the existing AS2890.1 (2004), draft AS2890.1 (2023), AS2890.3 (2015) and AS2890.6 (2009). It is however envisaged that a condition of consent would be imposed requiring compliance with these standards and as such, any minor amendments can be resolved prior to the issue of a Construction Certificate.

Traffic Management

- Sufficient widths are available in the driveway and all parking aisles to accommodate simultaneous traffic movements. The only exception is at the bottom of the internal ramp on Basement Floor 2 where the parking aisle cannot be widened given the distance between columns is over 9m and any greater distance apart may result in structural issues.

4.6 Access Control

Homes NSW is proposing the following access control measures:

- A roller door located about 6m from the site boundary to access the basement parking area. A traffic median would be provided to site and intercom which visitors can use and for residents to use a fob to access the car park.
- Loops would be installed in the slab for exit movements from the car parking area.

AS2890.1 requires a minimum queue length of two vehicles at a car park with control points at entrances. The 6m distance enables the provision of one vehicle space between the roller shutter and site boundary.

A queueing analysis was undertaken to determine the 95th percentile queue at the intercom based on the following assumptions:

- The proposed development with 73 parking spaces is expected to generate up to 22 vehicle trips (2-way) in the **PM peak hour**, during which the highest inbound movements are expected to occur – refer to Section 5.2.
- Traffic flows are 65% inbound : 35% outbound, the inbound flow would be in the order of 14 vehicles during the peak hour and the parking turnover would be low considering the nature of the development.
- A 20 second waiting time at the intercom/ fob and for the roller door to open.

Figure 4.3 shows the 95th percentile queue estimates at the intercom and fob reader. The queue analysis indicates that the 95th percentile queue would be 0.289 vehicle queue which equate to approximately 2m.

Given the available queue storage is 6m long within the site boundary, the 95th percentile queue would not overflow into the footpath or the traffic flow on Burwood Road.

Figure 4.3: Austroads Queuing Analysis for Intercom and Fob Reader

Austroads Queuing Analysis (Roller Shutter at Site Boundary)				Input	Output
Sourced from: 'Austroads Guide to Traffic Management Part 2: Traffic Theory'					
Arrivals	r value	14 veh/hr	(65% of 22 vph are inbound residential vehicles in PM peak when most inbounds trips are made)		
Service Time	s	20 sec/veh	(Conservatively assume 20 seconds to wait at the intercom/ fob and for the roller shutter to open)		
Degree of Saturation	p	0.08			
Nominated Percentile		95 th %ile			
		0.05			
Queue (Nominated Percentile)		0.18 veh	(includes vehicle using facility)		This equates to a queue length of 1.2m
Queue (Mean)	E(n)	0.09 veh	(includes vehicle using facility)		
	E(m)	0.01 veh	(excludes vehicle using facility)		
Standard Deviation of queue	σ	0.3 veh	(includes vehicle using facility)		
Average Delay	E(t)	21.7 sec	(includes time using facility)		
	E(w)	1.7 sec	(excludes time using facility)		
Probability of zero queue	P ₀	92.1 %	(includes vehicle using facility)		
Probability of exactly X vehicles in queue	P _x	7.2 %	(includes vehicle using facility)		
	(where X=	1 veh)			
Probability of more than Y vehicles in queue		0.048 %	(includes vehicle using facility)		
	(where Y=	2 veh)			
Probability of waiting >Z sec to reach front of queue		0.5 %			
	(where Z=	60 sec)			

5 Traffic Assessment

5.1 Background Traffic Growth

The Sydney's Strategic Travel Forecast Model (STFM) provided by TfNSW is a strategic transport planning model that considers population and employment growths and is used for high level of assessment of major infrastructure proposals, transport strategies and policy decision making.

The STFM provides future year traffic volumes to determine the relative traffic growth between baseline traffic and future year traffic conditions. These rates have been adopted to determine the future base traffic volumes.

5.2 Proposed Traffic Generation

The proposed development traffic has been assessed against the traffic generation rates set out for high density residential developments with high public transport accessibility, noting the site is located within 800m of Belmore Station (future Sydney Metro station). The rates have been sourced from the Transport of New South Wales (TfNSW) Guide to Transport Impact Assessment 2024 (2024 GTIA).

The typical traffic generation rates are shown as follows for high density residential development:

- 0.19 trips per unit in the AM peak hour
- 0.15 trips per unit in the PM peak hour.

The use of these TfNSW traffic generation rates is considered conservative for affordable housing given the typically lower traffic generating nature during the morning and afternoon peak hours in TTPP project experience. However, these typical rates have been adopted to enable a robust traffic assessment to be undertaken.

The proposed traffic generation is summarised in Table 5.1.

Table 5.1: Traffic Generation Estimates

Land Use	Yield	Traffic Generation Rate			Traffic Generation Estimate (vehicle trips)		
		AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
Affordable Units	145 units	0.19 trips per unit	0.15 trips per unit	1.52 trips per unit	28	22	220

Using the TfNSW trip generation rates, the 145 units are anticipated to generate 28 vehicle trips in the AM peak hour, 22 vehicle trips in the PM peak hour and 220 daily trips.

5.3 Distribution and Assignment of Development Traffic

In terms of traffic distribution of the proposed residential development on the surrounding road network, the following distribution patterns have been adopted based on the survey data analysis of the TfNSW surveyed sites:

- AM peak: 25% inbound traffic / 75% outbound traffic movements
- PM peak: 65% inbound traffic / 35% outbound traffic movements.

5.4 Future Traffic Volumes

The future traffic volumes are derived by adding the proposed development traffic to the future background traffic volumes for year 2035 which have been estimated using TfNSW STFM growth plots.

The future AM and PM peak hour traffic volumes are shown in Figure 5.1 and Figure 5.2 respectively while Figure 5.3 and Figure 5.4 represent the future background plus development traffic volumes.

Figure 5.1: Future Traffic Volume for Year 2035 (AM Peak Hour)

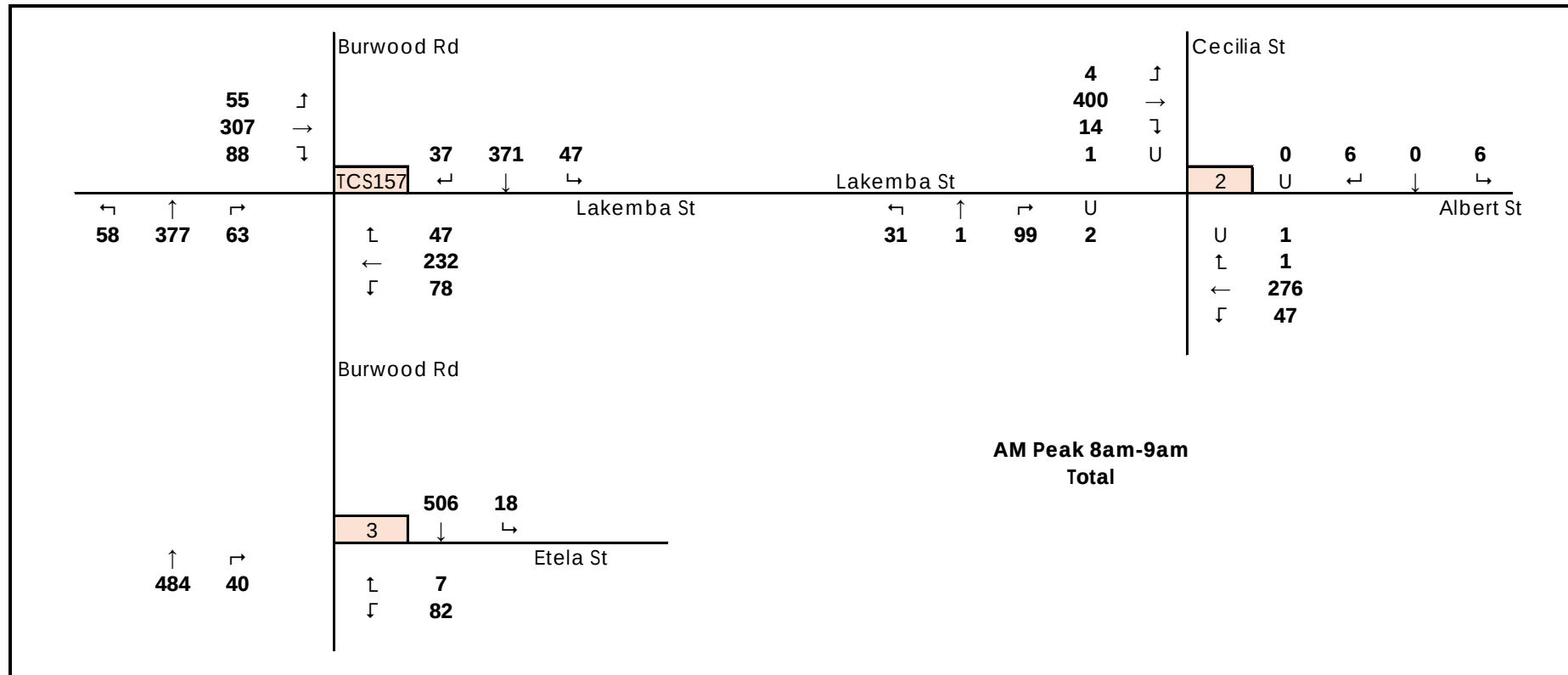


Figure 5.2: Future Traffic Volume for Year 2035 (PM Peak Hour)

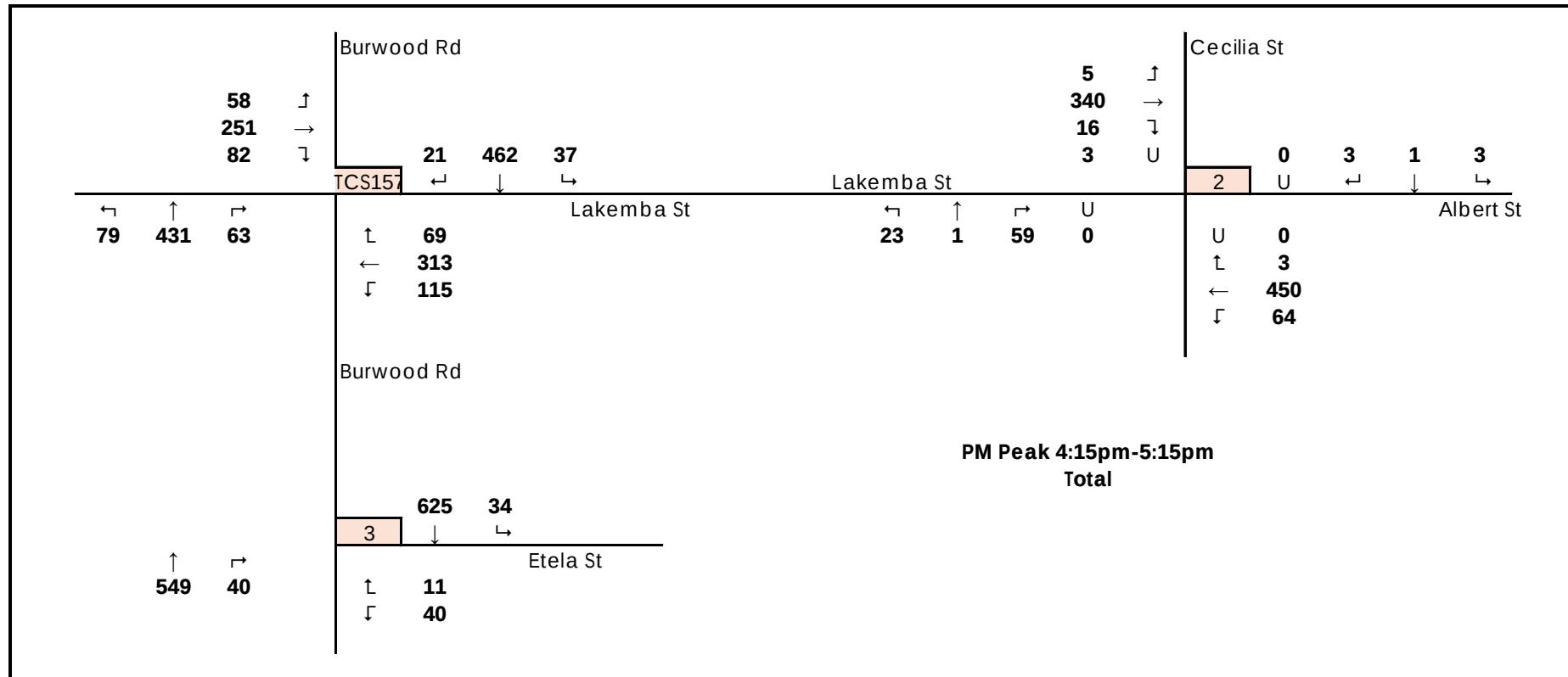


Figure 5.3: Future Traffic Volume for Year 2035 + Development (AM Peak Hour)

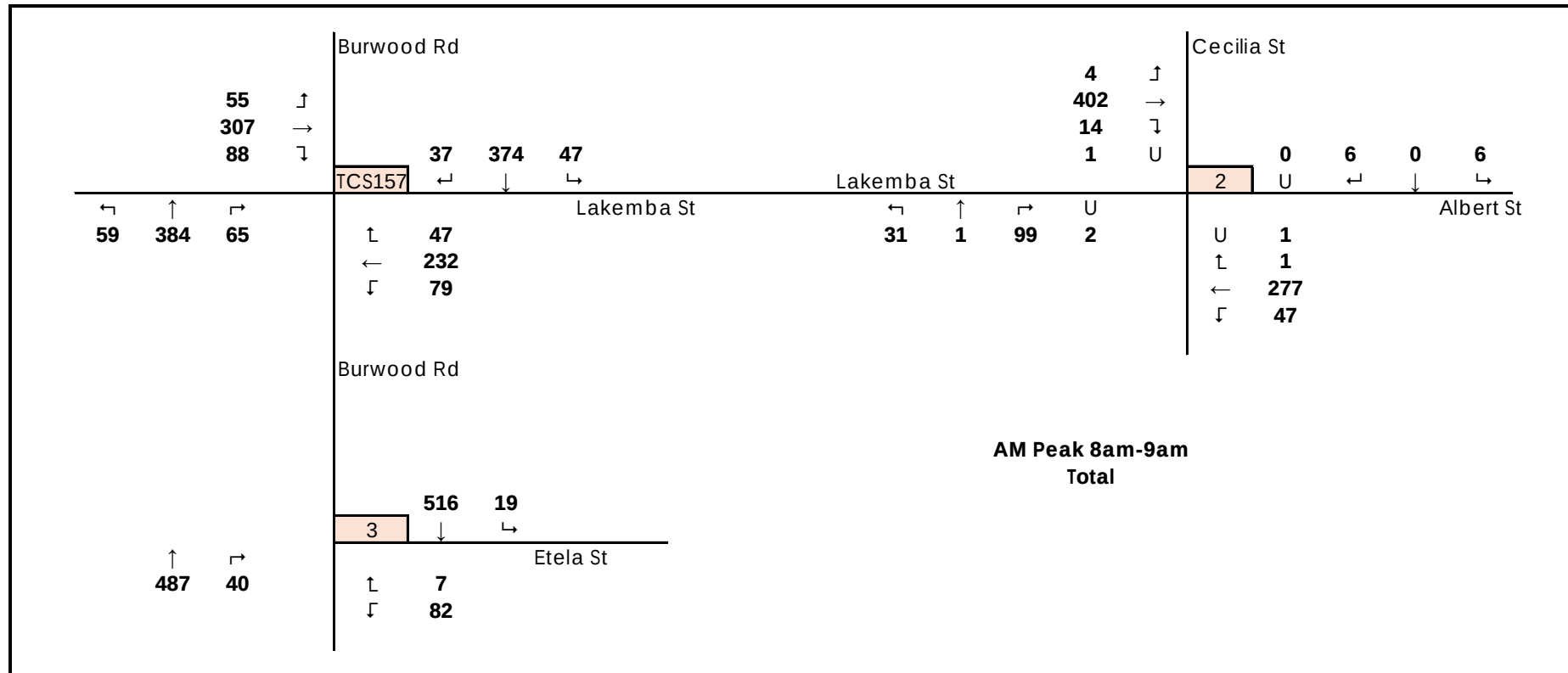
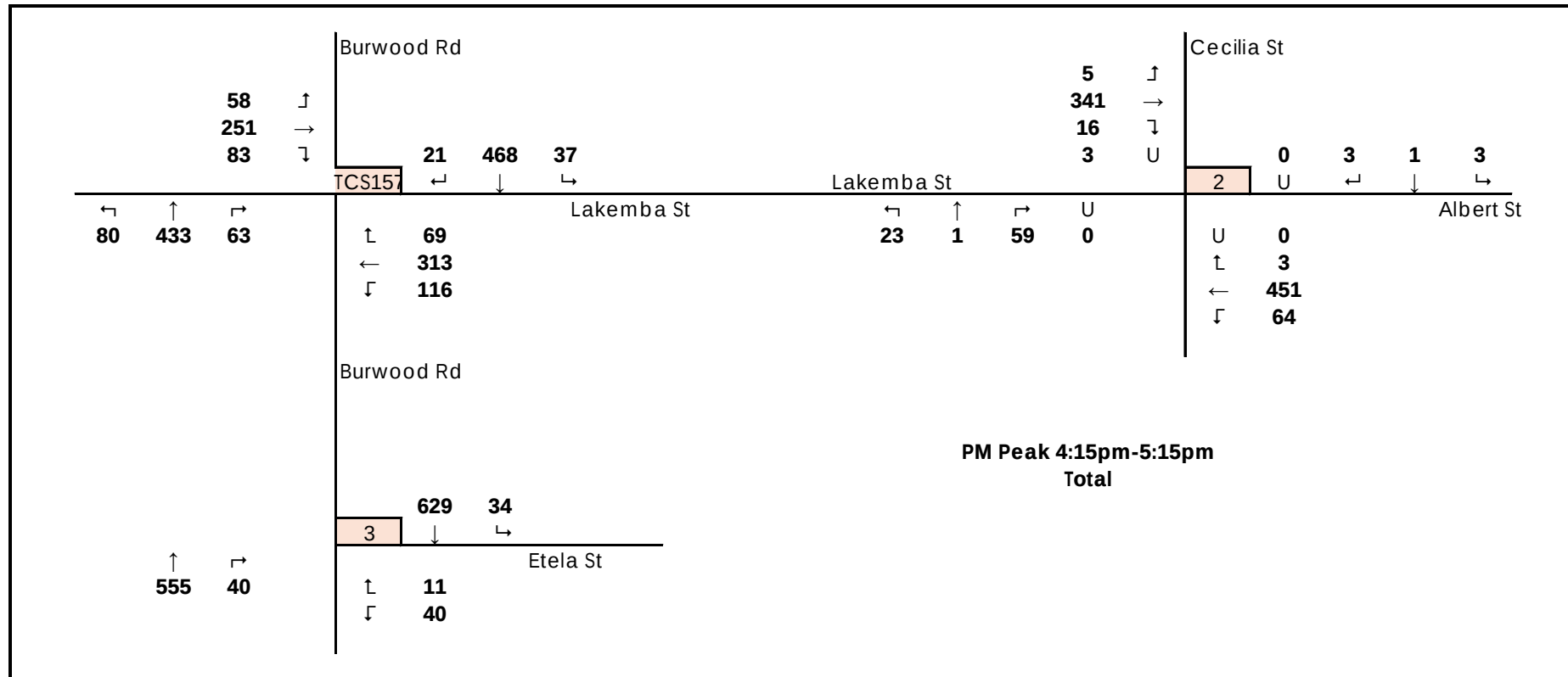


Figure 5.4: Future Traffic Volume for Year 2035 + Development (PM Peak Hour)



5.5 Intersection Capacity Analysis

5.5.1 Modelled Scenarios

Intersection capacity analysis has been conducted using SIDRA Intersection 10 modelling software on key surrounding intersections to assess the traffic implications arising from the proposal. The following scenarios have been assessed:

- **Scenario 0 (S0)** – 2025 Existing Base case
- **Scenario 1 (S1)** – 2035 Future Base with background traffic growth
- **Scenario 2 (S2)** – Scenario 1, plus proposed development.

5.5.2 Level of Service Criteria

TfNSW uses the performance measure level of service to define how efficient an intersection is operating under given prevailing traffic conditions. Level of service is directly related to the delays experienced by traffic travelling the intersection. Level of service ranges from LoS A to LoS F. LoS A indicates the intersection is operating with spare capacity, while LoS F indicates the intersection is operating above capacity. LoS D is the long-term desirable level of service.

At signalised intersections, the average delay is the volume weighted average of all movements. For roundabouts and priority (give way and stop sign) controlled intersections, the average delay relates to the worst movement.

Table 5.2 shows the criteria that SIDRA Intersection adopts in assessing the level of service.

Table 5.2: TfNSW Level of Service Criteria

Level of Service (LoS)	Average Delay per vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Near capacity	Near capacity, accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity, requires other control mode.
F	Greater than 70	Unsatisfactory, requires additional capacity	Unsatisfactory, requires other control mode or major treatment

5.5.3 Intersection Capacity Analysis Results

A summary of the AM and PM peak traffic modelling results is provided in Table 5.3 and respectively. Detailed SIDRA modelling result is provided in **Appendix B**.

Table 5.3: SIDRA Intersection Analysis Results – AM Peak

Intersection	Control	S0 – Existing Base				S1 – Future Year				S2 – Future Year + Development			
		AM		PM		AM		PM		AM		PM	
		Avg Delay (s)	LoS	Avg Delay (s)	LoS	Avg Delay (s)	LoS	Avg Delay (s)	LoS	Avg Delay (s)	LoS	Avg Delay (s)	LoS
Lakemba St – Burwood Rd	Signal	20	B	25	B	21	B	25	B	21	B	26	B
Lakemba St – Cecilia St – Albert St	Roundabout	13	A	11	A	13	A	12	A	13	A	12	A
Burwood Rd – Etela St	Priority	13	A	16	B	14	A	16	B	14	A	17	B

Based on Table 5.3, all intersections currently operate at an acceptable Level of Service (LoS) of B or better during the AM and PM peak hours. In the 10-year Future Base (S1) AM peak hour, all intersections would continue to operate at the same LoS per existing conditions.

The Future Base with Development (S2) scenario modelling results indicate that additional traffic associated with the subject development would not impact the intersection LoS. The modelling results indicate a maximum of one second increase to average delay which is not anticipated to impose any material difference to the intersection performance. Overall, from a traffic perspective the proposed development would have minimal traffic impacts to the surrounding road network.

6 Active and Public Transport Network

6.1 Target Mode Share

The following considerations have been given to setting a target mode share for the subject residential development:

- For work trips associated with the affordable housing, key work destinations as shown in the Census 2016 data are predominantly located in Sydney City (29%), Canterbury (17%), Strathfield-Burwood-Ashfield and Auburn both with 8% and Parramatta (7%).
- As the subject site is conveniently located with easy access to bus services, with the closest bus stop located immediately fronting the site on Burwood Road, it is expected there will be a minor increase in the uptake of buses.
- Belmore Metro station is currently under construction and is part of the Sydney Metro City and Southwest line. Once re-opened as part of the new metro line it is anticipated that there may be a larger uptake as compared to bus mode share.
- School children can walk to the nearby schools e.g. Belmore North Public School, Belmore Boys High School. School services are available to take school children to other schools in the surrounding area.
- Residents can walk / cycle to the nearby town centre for shopping, leisure and work.
- The Sydenham to Bankstown metro line would encourage rail patrons a mode shift from driving, and improvement in active transport facilities such as the Southwest Metro Active Transport Link (SWATL) involving a continuous pedestrian and cycling path to be created alongside the metro corridor between Sydenham and Bankstown to enhance active transport options, connecting communities to metro stations and existing cycling networks.

As the above top travel locations for shopping, school, leisure and work are accessible by public transport, on foot and by bicycle, a mode shift of 10% has been targeted for the subject development to promote a modal shift towards more sustainable transport options, and also to reflect more walking trips that can be generated by the non-work trips.

Table 6.1 provides a summary of the target mode share and the changes from the existing mode share.

Table 6.1: Existing and Target Mode Share

Mode Share	Existing Mode Share (based on Census 2016)	Target Mode Share	Change
Car, as driver	69%	59%	-10%
Car, as passenger	4%	4%	-
Train (Metro) / Bus	27%	34%	+7%
Bicycle	0%	2%	+2%
Walk only	0%	1%	+1%
Worked at home	0%	0%	-
Total	100%	100%	-

Table 6.2 provides a summary of the proposed person trips in the outbound direction in the AM peak hour. The 21 car trips are consistent with the traffic generation in Table 5.1 as it has been assumed 75% of the 28 car trips are outbound in the AM peak hour, resulting in a total of 36 person trips in the AM peak hour.

Table 6.2: Future Person Trips (Outbound) in the AM Peak Hour

Mode Share	Target Mode Share	Person Trips
Car, as driver	59%	21.0
Car, as passenger	4%	1.4
Train / Bus	34%	12.2
Bicycle	2%	0.7
Walk only	1%	0.4
Worked at home	0%	0.0
Total	100%	36

6.2 Active and Public Transport Network

The existing active and public transport network will be retained as per the existing conditions. The future Belmore Metro Station is anticipated to open in 2026. The proposed development would not alter these infrastructure and facilities.

Residents' mode choice for working, school, leisure and shopping would involve walking, cycling and metro/buses considering the subject site is conveniently located with easy access to bus services and future metro services and close to the town centre.

Key destinations such as Belmore town centre, commercial area and schools are located within a walkable distance from the subject site. As a footpath network is available on both sides of the roads, residents have the opportunity to walk to these destinations.

The future Sydenham to Bankstown metro line would encourage rail patrons to mode shift from driving. The proposed Southwest Metro Active Transport Link (SWATL) will also encourage a shift from driving to the more sustainable active transport to the key work destinations such as Bankstown and Canterbury alongside the metro corridor, or for leisure purposes.

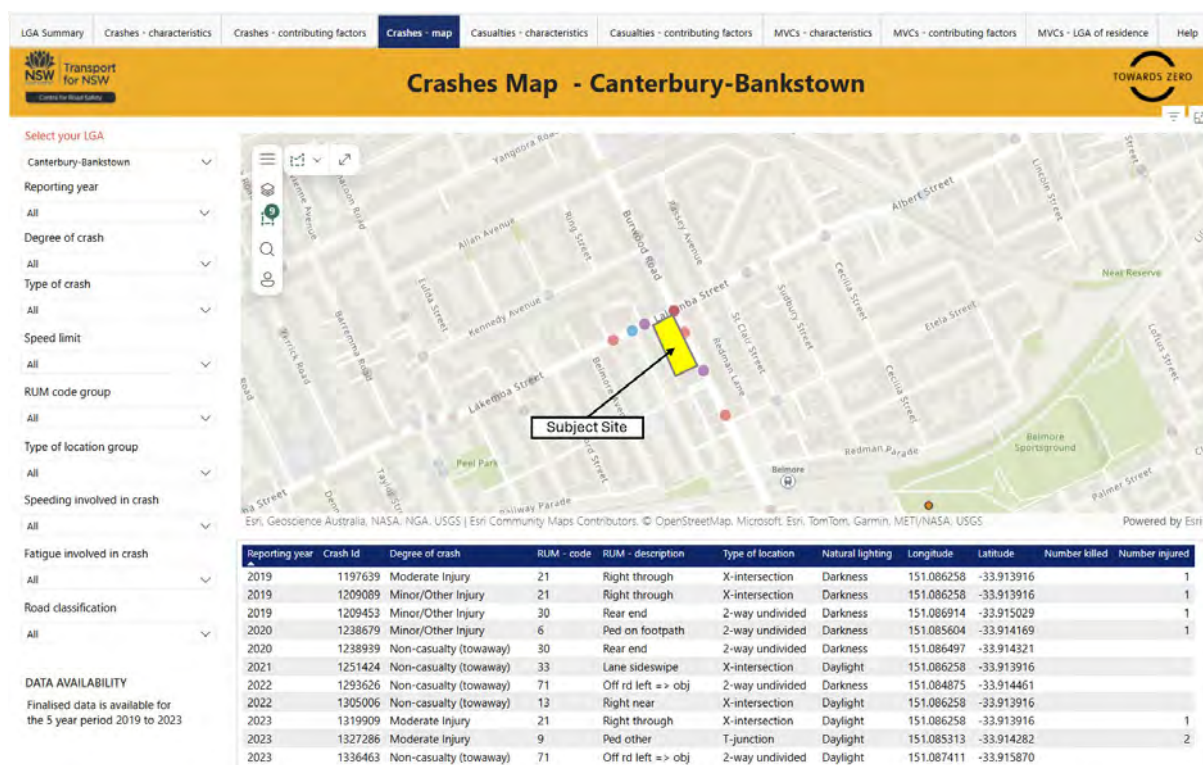
7 Road Safety Assessment

7.1 Crash History

TTPP obtained crash data from NSW Centre of Road Safety for the period between 1 January 2019 and 31 December 2023 for Lakemba Street and Burwood Road in the vicinity of the subject site. During this period, there has been eleven crashes recoded in the vicinity of the site, five at the intersection of Lakemba Street-Burwood Road, three along Lakemba Street and two along Burwood Road.

All the crashes were isolated incidents. The majority of these were either right-through or rear end crashes which are common at signalised and T-section intersections. The crash data within the vicinity of the subject site are shown in Figure 7.1.

Figure 7.1: Crash Location (2019 to 2023)



A summary of these three crashes is provided as follows:

- Five crashes occurred at the Lakemba Street-Burwood Road intersection; 3 incidents being a right turn vehicle hitting an oncoming through vehicle (RUM21), 1 lane sideswipe (RUM33) and 1 incident of a vehicle from the perpendicular direction hitting a vehicle turning right (RUM13). All incidents resulted in either non-casualty to moderate injury.

- Three crashes occurred on Lakemba Street; 2 incidents involving a vehicle hitting a pedestrian on the footpath (RUM6 and RUM9) resulting in minor-moderate injury and 1 incident involving a vehicle veering off the road to the left and into an object (RUM71).
- Three crashes occurred on Burwood Road; 2 incidents involving rear end (RUM30) with minor injuries and 1 incident involving a vehicle veering off the road to the left and into an object (RUM71).

These crashes are relatively isolated and do not indicate any pattern or evidence of safety issues.

8 Preliminary Construction Management Plan

8.1 Description of Works

This preliminary construction traffic management plan (CTMP) has been prepared to address the Industry-specific SEARS (Housing) requirement (No. 9 – Transport).

At this stage, a construction contractor has not been appointed and therefore, details provided in this preliminary CTMP may change subject to a detailed construction methodology which will be available at a later stage. Any changes proposed by the appointed contractor will require further approvals from the relevant consent authorities for the Construction Certificate.

The purpose of this preliminary CTMP is to detail how traffic, pedestrians and public transport will be managed during the proposed construction works. This CTMP framework will provide a strategy to reduce the impacts to traffic and access on the surrounding roads during each construction stage to provide a safe road environment, while maintaining access for all road users and the local community.

Construction works would involve construction of a seven-storey residential flat building to accommodate 145 units. At this stage, it is anticipated the construction will be completed in four stages as shown in Table 8.1.

Table 8.1: Indicative Construction Stages

Stage	Activities
Early Works / excavation	Tree clearing, excavation, below ground services and below ground structure
Construction	Structure, roof, façade, services
Fit-out	Architectural finishes and fitout
External works	Construction of permanent driveway Completion of external works

8.2 Hours of Construction

The construction hours will be generally limited to:

- Monday to Friday: 7:00am to 6:00pm
- Saturdays: 7:00am to 1:00pm
- Sundays and Public Holidays: No work is to be undertaken.

8.3 Driveway Construction

Currently, the subject site has no vehicular access on any frontage roads. Two temporary driveways will have been constructed on the Burwood Road frontage under the approved Part 5 application to enable the access and exit movements of vehicles up to a 19m truck and dog trailers. These temporary driveways will be used during the construction works.

Subsequently, a permanent driveway will be constructed near the southern end of the Burwood Road frontage.

8.3.1 Construction of Driveway

Construction of the temporary and permanent driveways will occur separately.

Construction of each driveway is expected to be undertaken over several days, during which pedestrians will be temporarily shifted to walk within the road shoulder, with temporary skid resistant and DDA compliant ramps to be provided to enable a smooth transition between the existing footpath and the temporary pedestrian path.

Water-filled barriers and traffic cones will be installed to create separation for pedestrians from the construction works and general traffic. This arrangement will maintain pedestrian access to/from the bus stop located on the site frontage.

During the evenings, the temporary pedestrian path will be removed, and a synthetic walkway (e.g. steel plate or the like) will be placed on the footpath area to maintain pedestrian access along the western side of Burwood Road.

8.4 Vehicle Access Arrangement

When the driveway has been constructed, all authorised vehicles are to enter and exit the site in a forward direction. A traffic controller will be located at the driveway to manage construction vehicle and pedestrian movements.

No queuing, marshalling or parking will be permitted on any surrounding roads. Construction vehicles are to radio or call on approach to ensure adequate access to the site is available.

8.5 Construction Work Zone

It is anticipated that a construction work zone may be required during the construction to help facilitate truck activities, loading/unloading and deliveries of construction equipment and materials. A separate application will be submitted to Council by the contractor to obtain the relevant permits.

The work zone will be operational outside school zone hours. Specific time periods are to be considered in the final CTMP.

Loading of materials would occur over the footpath using a crane to be located within the site. Further details to be provided post DA when a building contractor is appointed.

8.6 Construction Parking

No on-site construction parking will be provided. All construction workers will be encouraged to use public transport and/or carpooling, wherever possible, to travel to/from the site.

The following measures would be implemented to encourage staff to utilise public transport:

- Provision of a secure tool storage facility on-site to allow tradespeople to safely store tools required for the project allowing them to use public transport to travel to and from the site on a daily basis.
- During the site induction phase and regular management meetings, staff would be instructed to use public transport when travelling to the site and public transport timetables.

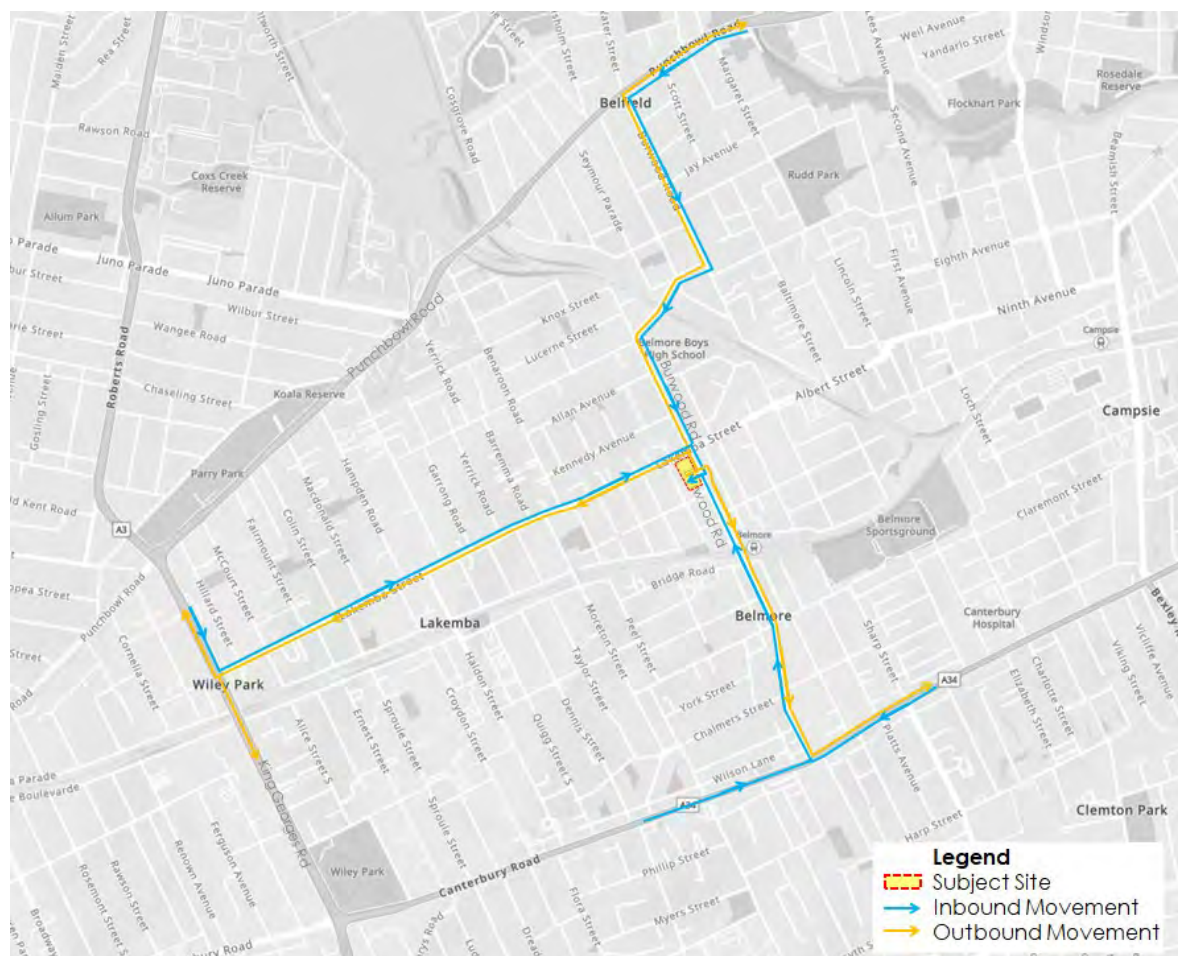
Workers will also be informed of restricted parking conditions on-site and the surrounding road network. Workers may park on surrounding local roads but they will be encouraged to carpooling if driving is the choice of transport. These roads typically have low parking occupancy in close vicinity of the site and no adverse parking impact is anticipated.

8.7 Construction Vehicle Routes

Dedicated construction vehicle routes have been developed to provide the shortest distances to/from the arterial road network, whilst minimising the impact of construction traffic on local streets within the vicinity of the site. All truck drivers will be advised of the designated routes to/from the site.

The nominated construction vehicle routes are shown in Figure 8.1.

Figure 8.1: Construction Vehicle Routes



Basemap Source: ArcGIS Webmap Viewer, last accessed on 16/05/2025

8.8 Vehicle Types

Construction vehicles likely to be generated by the proposed construction activities include:

- Articulated trucks for delivery of large items to the site
- Heavy Rigid Vehicles (HRV) for transportation of large construction material, including crane trucks, bogies and concrete agitators
- Utility vehicles, vans and cars for delivery of small construction material and construction workforce transportation.

8.9 Construction Traffic Generation

Construction traffic generation is to be confirmed by the contractor following appointment and as part of the construction certification process.

However, based upon our experience, it is unlikely that there would be more than 10 trucks per day entering the site or the work zone. The most intense use would likely take place during the infrequent concrete pours when 6-8 trucks might enter in an hour for a short period. However generally, there would be no more than one to two trucks per hour.

The peak construction activities may require a peak workforce of approximately 75 workers per day. Assuming all construction workers travel by car with an average car occupancy of 1.4 people per car, this would generate in the order of 54 car trips arriving before the construction start time and 54 car trips after the construction end time. These time periods generally fall outside of the road network peak periods.

8.10 Traffic Impact

Workers would commute to/from site before the construction start time and after the construction end time, which generally fall outside of the road network peak periods.

Given the construction workers car trips generally occur outside the network peak hour and the low number of construction heavy vehicles that would occur during the day, traffic impact during construction is expected to be minimal as well.

Construction workers will be encouraged to take public transport and carpooling. A secure tool storage facility can be provided on-site to allow tradespeople to safely store tools required for the project allowing them to use public transport or carpooling to and from the site on a daily basis.

Notwithstanding the above, construction vehicle impacts are to be minimised by restricting vehicle access during peak periods. Construction vehicles are to be permitted access outside of school pick up and drop off periods, to minimise impact to traffic flows along the adjoining road network.

8.11 Impact on Pedestrian and Cyclists

Class B hoarding with overhead protection is proposed along the work zone for pedestrian protection on the Burwood Road frontage, and Class A hoarding along the Lakemba Street frontage.

During the construction of the driveway, pedestrians will be re-directed to the temporary pedestrian path within the road shoulder, with temporary skid resistant ramps to be provided to enable a smooth transition between the existing footpath and the temporary pedestrian path. Water-filled barriers and traffic cones will be installed to create separation for pedestrians from the construction works and general traffic.

In terms of school children safety, a compliant pedestrian sight triangle will be provided at the new driveway exit in conjunction with installation of a STOP sign to emphasise road user priority at the driveway to enhance pedestrian safety.

When the new driveway becomes operation, construction vehicles will be permitted to access the site outside of school pick up and drop off periods, to minimise impact to pedestrians crossing the new driveway and waiting at the nearby bus stop.

Pedestrians walking past the driveway may be temporarily held by traffic controllers and concertina gates when trucks are entering and exiting the site. Pedestrians would only be held for a short period and would not be detoured in anticipation of trucks entering the site.

Pedestrian/ cycling access on all pedestrian and cycling facilities surrounding the work site is to be maintained at all times.

All relevant permit approvals will be obtained from Council prior to the commencement of such construction works.

8.12 Impact on Public Transport

Construction works and associated site access will not impact the operation of the bus zone along the Burwood Road frontage and associated bus services. Bus operation will be maintained at all times for the duration of the construction works.

Concertina gates will be used to temporarily hold pedestrians when the driveway is in use, thereby passing pedestrians and passengers alighting from the bus would be protected from the trucks accessing and leaving the site.

In terms of public transport patronage, while the workforce would be encouraged to use public transport, the number of workers is not anticipated to generate any significant demand that could have adverse impacts on public transport services.

On this basis, no adverse impacts are expected on public transport services.

8.13 Impact on Emergency Services

The proposed construction activities are not expected to create any adverse impacts to emergency vehicle access. As such, no special provisions for emergency service vehicles would be required as part of the proposed construction activities. Emergency vehicle access is to be maintained at all times.

8.14 Community and Motorist Notification

Neighbouring residents will be notified by letterbox drop with regard to the construction works for the approved work hours, anticipated impacts and traffic management plan. Temporary advanced warning signs will advise motorists of their approach to the site access.

9 State Environmental Planning Policy (Transport & infrastructure) 2021

With regards to the State Environmental Planning Policy (Transport & infrastructure – T&I SEPP) 2021 the following is noted:

- The site does not have a direct frontage to a classified road, therefore the assessment requirements of clause 2.119 of the SEPP are not triggered.
- The site does not adjoin a road with an annual average daily traffic volume of more than 20,000 vehicles; therefore, the assessment requirements of Clause 2.1.0 of the T&I SEPP are not triggered.
- The proposal contains less than 300 dwellings and is not expected to impact the operation of the local road network and is therefore not considered to be 'traffic generating development' as defined under Schedule 3 of the T&I SEPP.

10 Conclusion

The Transport Planning Partnership (TPPP) undertook a Transport Impact Assessment on behalf of Homes NSW for a State Significant Development Application for construction of a seven-storey residential flat building to accommodate 145 affordable housing apartments at 270-278 Burwood Road and 54 Lakemba Street, Belmore.

Key findings in this traffic and transport assessment include:

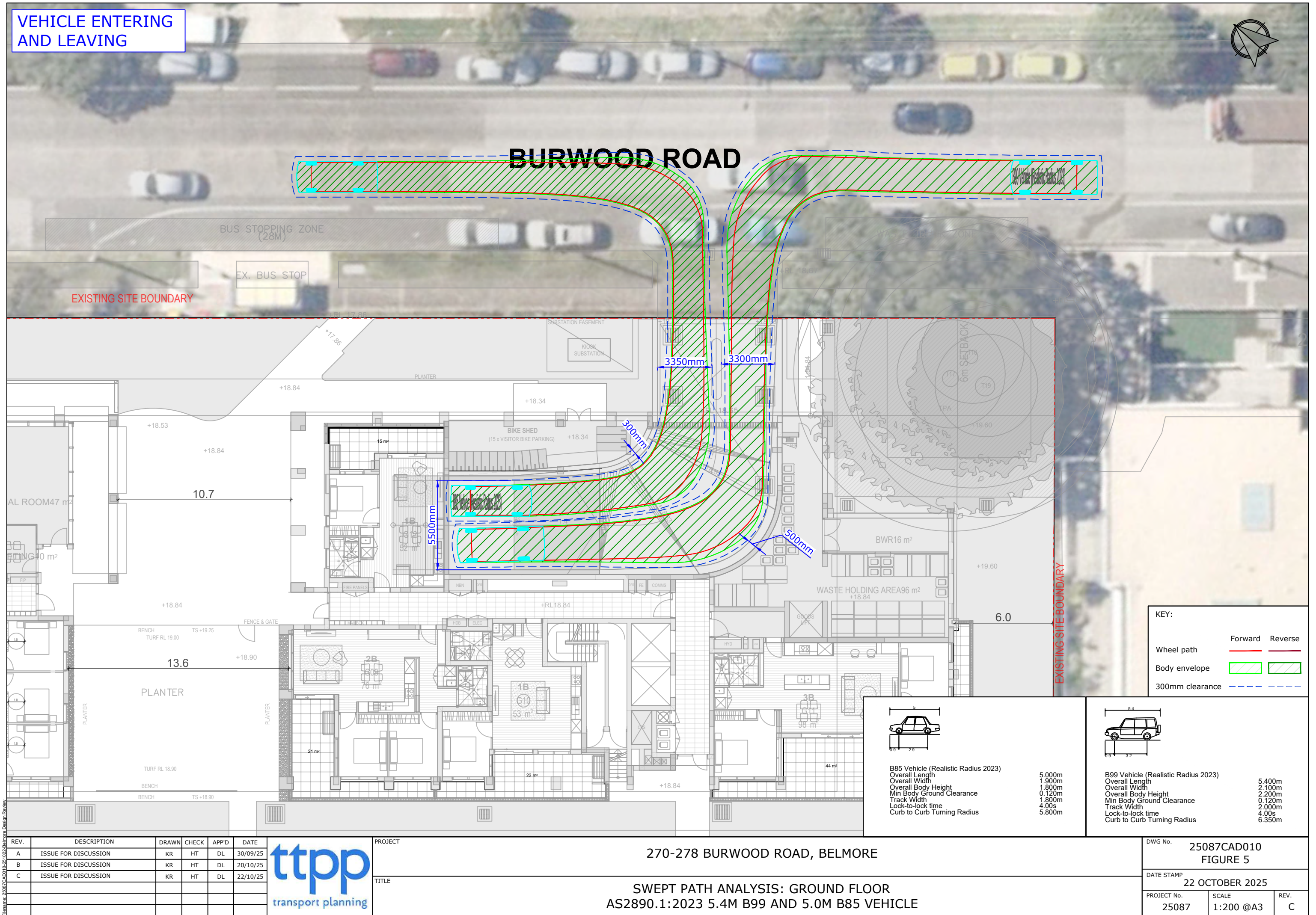
- The proposed development is subject a total statutory parking requirement of 71 car spaces in accordance with Housing SEPP. The Housing SEPP does not specify requirements on visitor parking.
- The development will provide 73 car parking spaces (including one visitor parking space) for residents which satisfies the Housing SEPP parking requirements. In addition, Homes NSW will provide fourteen accessible parking spaces.
- The proposed parking layout is generally consistent with the dimensional requirements as set out in the Australian/New Zealand Standard for Off-Street Car Parking (AS2890.1:2004, draft AS2890.1:2023, AS28590.3:2015 and AS2890.6:2009).
- The subject site currently does not have a driveway. A permanent driveway would be located near the southern end of the Burwood Road frontage. There would be no impacts to the location or operation of the existing bus stop and relative bus services on the Burwood Road frontage. As the driveway is located adjacent a bus zone, a compliant pedestrian sight triangle will be provided at the driveway exit to satisfy the AS2890.1 requirement. In addition, a STOP sign will be installed at the car park exit to emphasise road user priority for pedestrian safety.
- The development is expected to generate in the order of 28 and 22 vehicle trips during the weekday AM and PM peak hours, respectively. SIDRA modelling results indicate that the key assessed intersections can accommodate the additional development traffic. All intersections are expected to operate at similar LoS per the future base scenarios.

Overall, the traffic and parking aspects of the proposed development are considered to be satisfactory.

Appendix A

Swept Path Assessment

VEHICLE ENTERING
AND LEAVING



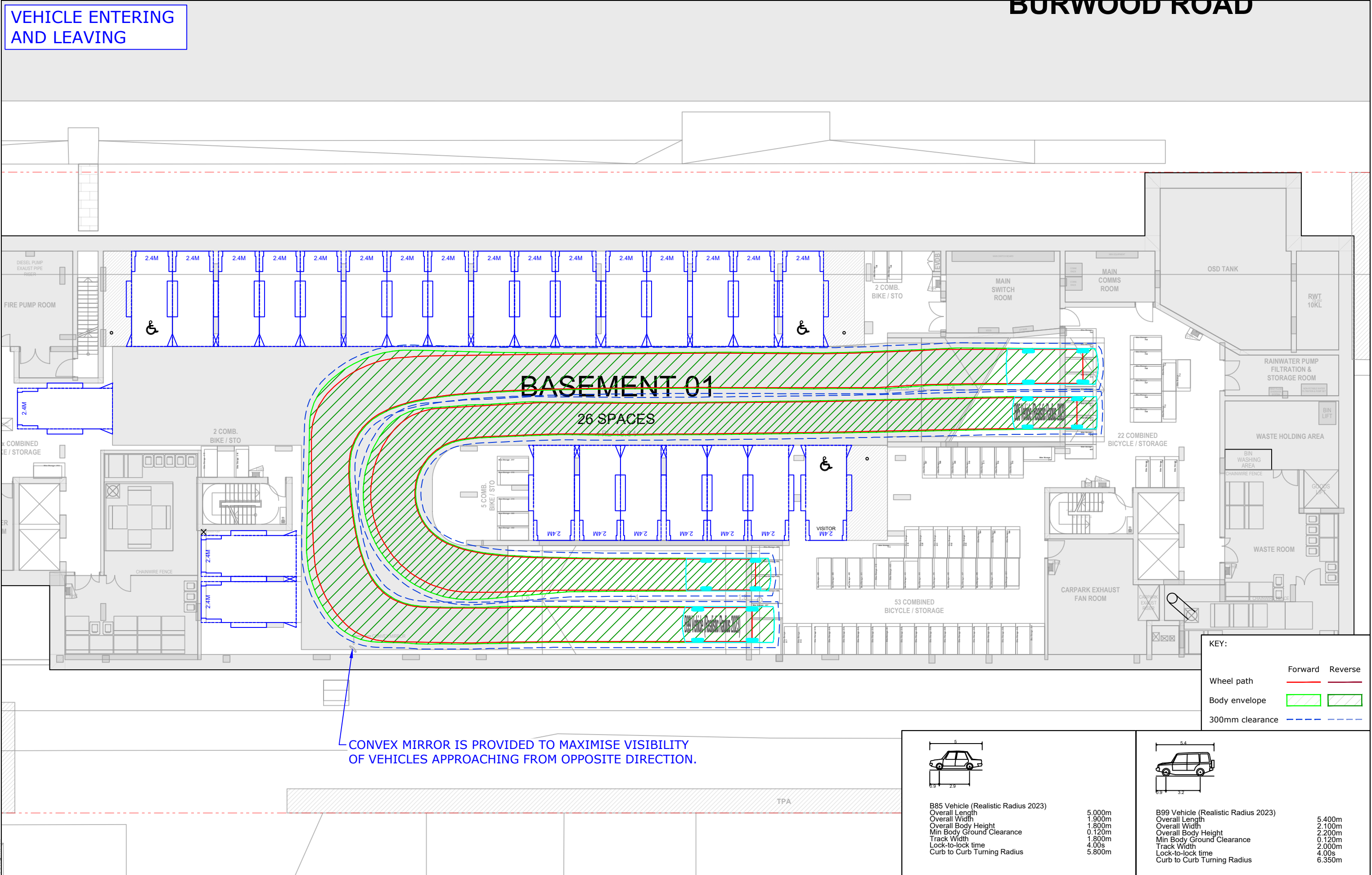
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REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KR	HT	DL	30/09/25
B	ISSUE FOR DISCUSSION	KR	HT	DL	20/10/25
C	ISSUE FOR DISCUSSION	KR	HT	DL	22/10/25



PROJECT	270-278 BURWOOD ROAD, BELMORE
TITLE	SWEPT PATH ANALYSIS: GROUND FLOOR AS2890.1:2023 5.4M B99 AND 5.0M B85 VEHICLE

DWG No.	25087CAD010
	FIGURE 5
DATE STAMP	22 OCTOBER 2025
PROJECT No.	25087
SCALE	1:200 @A3
REV.	C



REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KR	HT	DL	30/09/25
B	ISSUE FOR DISCUSSION	KR	HT	DL	20/10/25
C	ISSUE FOR DISCUSSION	KR	HT	DL	22/10/25



PROJECT

270-278 BURWOOD ROAD, BELMORE

TITLE

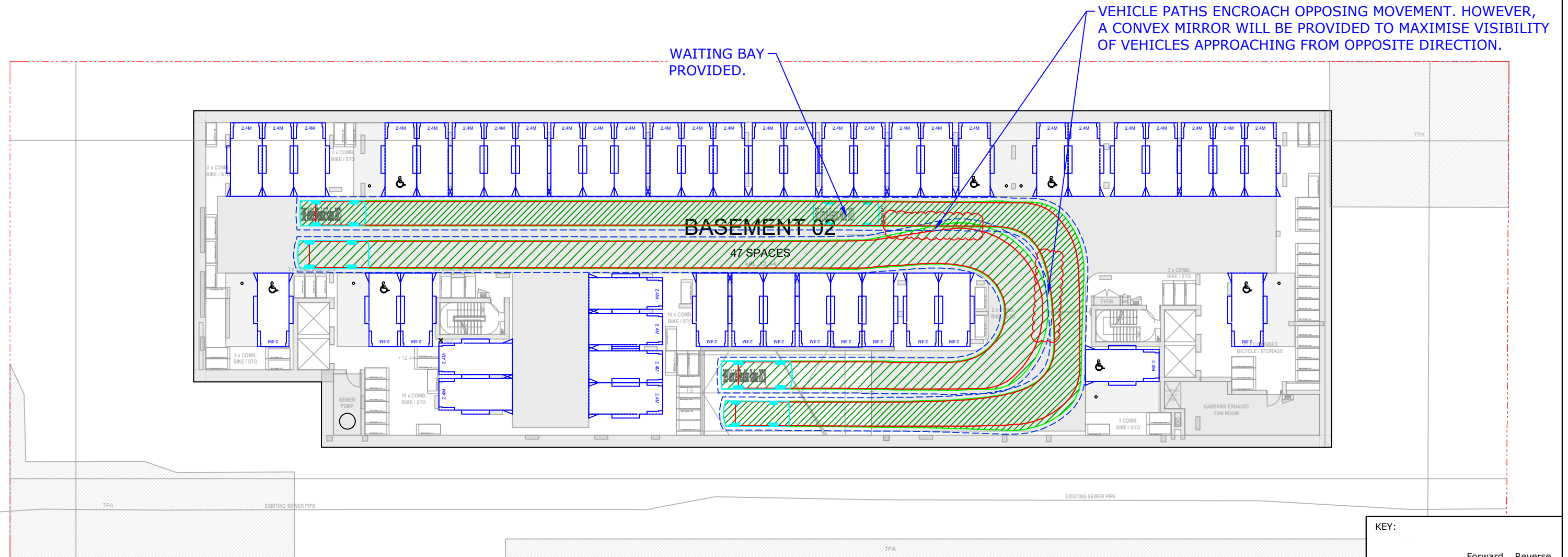
SWEPT PATH ANALYSIS: BASEMENT FLOOR 1
AS2890.1:2023 5.4M B99 AND 5.0M B85 VEHICLE

DWG No. 25087CAD010
FIGURE 6

DATE STAMP 22 OCTOBER 2025

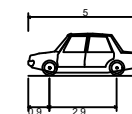
PROJECT No. 25087 SCALE 1:200 @A3 REV. C

VEHICLE ENTERING AND LEAVING

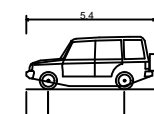


KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		



B85 Vehicle (Realistic Radius 2023)	
Overall Length	5.000m
Overall Width	1.900m
Overall Body Height	1.800m
Min Body Ground Clearance	0.120m
Track Width	1.800m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	5.800m



B99 Vehicle (Realistic Radius 2023)	
Overall Length	5.400m
Overall Width	2.100m
Overall Body Height	2.200m
Min Body Ground Clearance	0.120m
Track Width	2.000m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.350m

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KR	HT	DL	30/09/25
B	ISSUE FOR DISCUSSION	KR	HT	DL	20/10/25
C	ISSUE FOR DISCUSSION	KR	HT	DL	22/10/25



PROJECT

270-278 BURWOOD ROAD, BELMORE

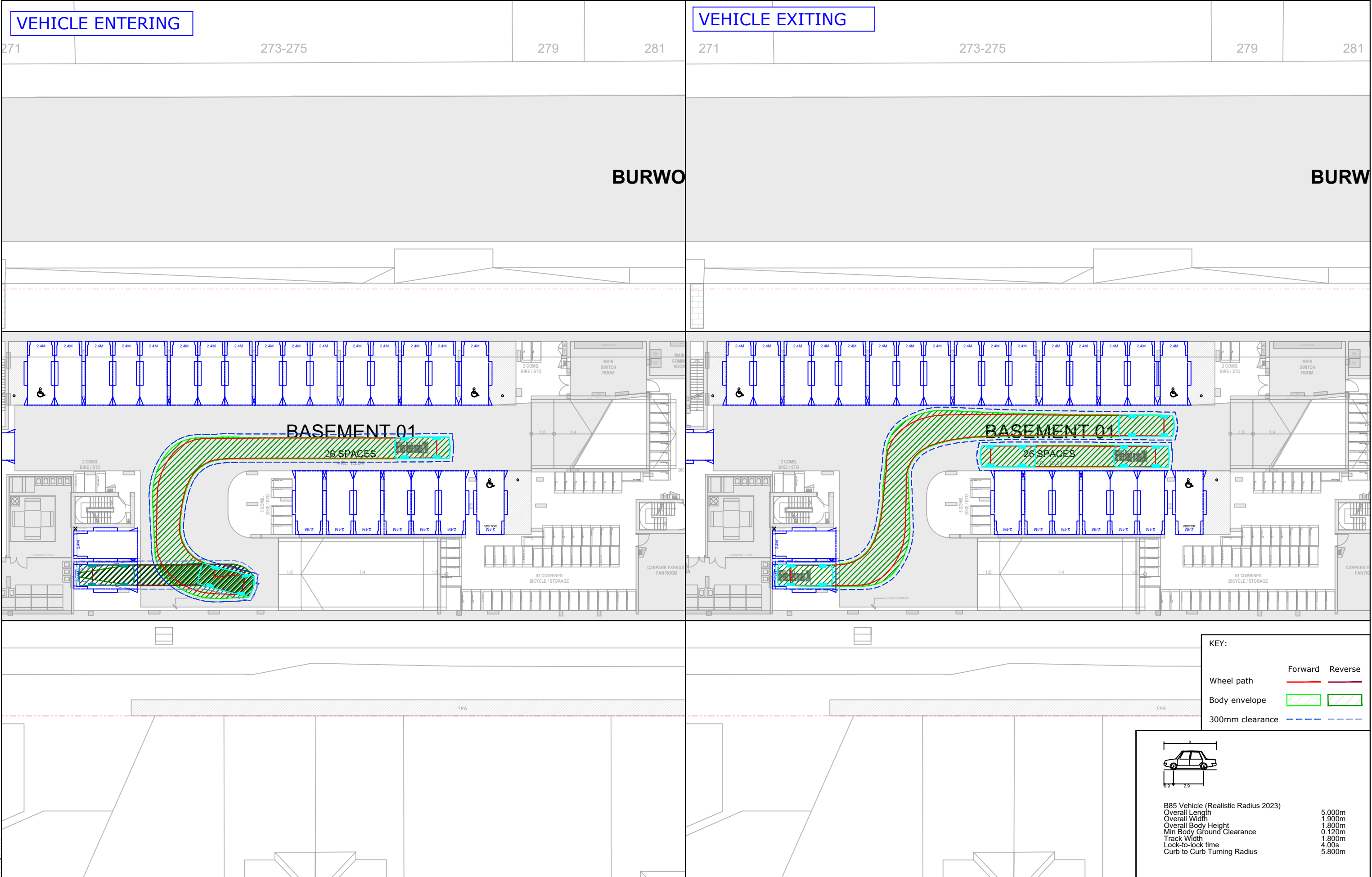
TITLE

SWEPT PATH ANALYSIS: BASEMENT FLOOR 2
AS2890.1:2023 5.4M B99 AND 5.0M B85 VEHICLE

DWG No.	25087CAD010 FIGURE 7
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DATE STAMP
22 OCTOBER 2025

PROJECT No. 25087	SCALE 1:300 @A3	REV. C
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REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KR	HT	DL	30/09/25
B	ISSUE FOR DISCUSSION	KR	HT	DL	20/10/25
C	ISSUE FOR DISCUSSION	KR	HT	DL	22/10/25



PROJECT270-278 BURWOOD ROAD, BELMORE

TITLE

SWEPT PATH ANALYSIS: BASEMENT FLOOR 1
AS2890.1:2023 5.0M B85 VEHICLE INTO CAR SPACE

DWG No. 25087CAD010 FIGURE 8		
DATE STAMP 22 OCTOBER 2025		
PROJECT No. 25087	SCALE 1:300 @A3	REV. C

Filename: 25087CAD010-261022-Belmore Design Review

Appendix B

SIDRA Modelling Result

 Site: [TCS0157 AM] Burwood Rd - Lakemba St (EX AM)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Scenario: 1 | Local Volumes

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Intersection and Approach LOS values are based on average delay for all vehicle movements.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

- * Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Burwood Road												

MOVEMENT SUMMARY



Site: [1A] Lakemba St - Cecilia St (EX AM)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site

Site Category: Existing Design

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	Dist]				km/h
			veh/h		veh/h					veh	m				
South: Cecilia Street															
21	L2	All MCs	33	6.5	33	6.5	0.191	3.5	LOS A	0.4	2.8	0.52	0.53	0.52	31.1
22	T1	All MCs	1	0.0	1	0.0	0.191	2.7	LOS A	0.4	2.8	0.52	0.53	0.52	26.8
23	R2	All MCs	104	2.0	104	2.0	0.191	5.2	LOS A	0.4	2.8	0.52	0.53	0.52	33.0
23u	U	All MCs	2	50.0	2	50.0	0.191	6.9	LOS A	0.4	2.8	0.52	0.53	0.52	28.7
Approach			140	3.8	140	3.8	0.191	4.8	LOS A	0.4	2.8	0.52	0.53	0.52	32.5
East: Albert Street															
24	L2	All MCs	49	2.1	49	2.1	0.275	0.9	LOS A	0.7	5.0	0.16	0.07	0.16	29.4
25	T1	All MCs	284	5.2	284	5.2	0.275	0.2	LOS A	0.7	5.0	0.16	0.07	0.16	30.8
26	R2	All MCs	1	0.0	1	0.0	0.275	2.7	LOS A	0.7	5.0	0.16	0.07	0.16	27.2
26u	U	All MCs	1	0.0	1	0.0	0.275	3.4	LOS A	0.7	5.0	0.16	0.07	0.16	32.2
Approach			336	4.7	336	4.7	0.275	0.3	LOS A	0.7	5.0	0.16	0.07	0.16	30.6
North: Cecilia Street															
27	L2	All MCs	6	0.0	6	0.0	0.026	8.1	LOS A	0.1	0.4	0.62	0.67	0.62	39.6
28	T1	All MCs	1	0.0	1	0.0	0.026	7.8	LOS A	0.1	0.4	0.62	0.67	0.62	36.4
29	R2	All MCs	6	16.7	6	16.7	0.026	11.8	LOS A	0.1	0.4	0.62	0.67	0.62	37.0
29u	U	All MCs	1	0.0	1	0.0	0.026	12.5	LOS A	0.1	0.4	0.62	0.67	0.62	32.1
Approach			15	7.1	15	7.1	0.026	10.0	LOS A	0.1	0.4	0.62	0.67	0.62	37.9
West: Lakemba Street															
30	L2	All MCs	4	25.0	4	25.0	0.437	2.1	LOS A	1.1	8.5	0.38	0.24	0.38	26.7
31	T1	All MCs	404	7.8	404	7.8	0.437	1.2	LOS A	1.1	8.5	0.38	0.24	0.38	33.5
32	R2	All MCs	15	7.1	15	7.1	0.437	3.7	LOS A	1.1	8.5	0.38	0.24	0.38	29.8
32u	U	All MCs	1	0.0	1	0.0	0.437	4.3	LOS A	1.1	8.5	0.38	0.24	0.38	31.3
Approach			424	7.9	424	7.9	0.437	1.3	LOS A	1.1	8.5	0.38	0.24	0.38	33.3
All Vehicles			915	6.1	915	6.1	0.437	1.6	LOS A	1.1	8.5	0.32	0.23	0.32	32.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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\Model\Belmore\25087-SID10-Belmore 250505.sipx

MOVEMENT SUMMARY



Site: [2A] Burwood Rd - Etela St (EX AM)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: Existing Design
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec	veh	m	km/h				
South: Burwood Road															
22	T1	All MCs	499	8.9	499	8.9	0.326	0.7	LOS A	0.3	2.2	0.15	0.17	0.15	38.4
23	R2	All MCs	41	15.4	41	15.4	0.326	8.3	LOS A	0.3	2.2	0.15	0.17	0.15	39.9
Approach			540	9.4	540	9.4	0.326	1.3	NA	0.3	2.2	0.15	0.17	0.15	38.5
East: Etela Street															
24	L2	All MCs	86	1.2	86	1.2	0.124	6.5	LOS A	0.2	1.4	0.58	0.73	0.58	31.0
26	R2	All MCs	7	0.0	7	0.0	0.124	13.1	LOS A	0.2	1.4	0.58	0.73	0.58	33.4
Approach			94	1.1	94	1.1	0.124	7.0	LOS A	0.2	1.4	0.58	0.73	0.58	31.3
North: Burwood Road															
27	L2	All MCs	19	0.0	19	0.0	0.295	3.7	LOS A	0.1	0.5	0.02	0.02	0.02	41.6
28	T1	All MCs	526	5.6	526	5.6	0.295	0.0	LOS A	0.1	0.5	0.02	0.02	0.02	39.7
Approach			545	5.4	545	5.4	0.295	0.1	NA	0.1	0.5	0.02	0.02	0.02	39.8
All Vehicles			1179	6.9	1179	6.9	0.326	1.2	NA	0.3	2.2	0.12	0.15	0.12	38.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

 Site: [TCS015 PM] Burwood Rd - Lakemba St (EX PM)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Scenario: 1 | Local Volumes

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

- * Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Burwood Road												

P5	Full	15	16	28.9	LOS C	0.0	0.0	0.90	0.90	195.5	200.0	1.02
East: Lakemba Street												
P6	Full	20	21	28.9	LOS C	0.0	0.0	0.90	0.90	195.5	200.0	1.02
North: Burwood Road												
P7	Full	13	14	28.9	LOS C	0.0	0.0	0.90	0.90	195.5	200.0	1.02
West: Lakemba Street												
P8	Full	16	17	28.9	LOS C	0.0	0.0	0.90	0.90	195.5	200.0	1.02
All		64	67	28.9	LOS C	0.0	0.0	0.90	0.90	195.5	200.0	1.02
Pedestrians												

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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 \Model\Belmore\25087-SID10-Belmore 250505.sipx

MOVEMENT SUMMARY



Site: [1P] Lakemba St - Cecilia St (EX PM)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site

Site Category: Existing Design

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	Dist]				km/h
			veh/h		veh/h					veh	m				
South: Cecilia Street															
21	L2	All MCs	24	0.0	24	0.0	0.140	4.8	LOS A	0.3	2.0	0.60	0.61	0.60	30.6
22	T1	All MCs	1	0.0	1	0.0	0.140	4.1	LOS A	0.3	2.0	0.60	0.61	0.60	26.2
23	R2	All MCs	62	0.0	62	0.0	0.140	6.6	LOS A	0.3	2.0	0.60	0.61	0.60	32.5
23u	U	All MCs	1	0.0	1	0.0	0.140	7.3	LOS A	0.3	2.0	0.60	0.61	0.60	28.7
Approach			88	0.0	88	0.0	0.140	6.1	LOS A	0.3	2.0	0.60	0.61	0.60	32.0
East: Albert Street															
24	L2	All MCs	67	0.0	67	0.0	0.412	0.9	LOS A	1.2	9.0	0.18	0.07	0.18	29.4
25	T1	All MCs	455	4.9	455	4.9	0.412	0.2	LOS A	1.2	9.0	0.18	0.07	0.18	30.7
26	R2	All MCs	3	0.0	3	0.0	0.412	2.7	LOS A	1.2	9.0	0.18	0.07	0.18	27.2
26u	U	All MCs	1	0.0	1	0.0	0.412	3.4	LOS A	1.2	9.0	0.18	0.07	0.18	32.1
Approach			526	4.2	526	4.2	0.412	0.3	LOS A	1.2	9.0	0.18	0.07	0.18	30.5
North: Cecilia Street															
27	L2	All MCs	3	0.0	3	0.0	0.013	7.0	LOS A	0.0	0.2	0.55	0.62	0.55	40.4
28	T1	All MCs	1	0.0	1	0.0	0.013	6.8	LOS A	0.0	0.2	0.55	0.62	0.55	37.5
29	R2	All MCs	3	0.0	3	0.0	0.013	9.9	LOS A	0.0	0.2	0.55	0.62	0.55	38.3
29u	U	All MCs	1	0.0	1	0.0	0.013	11.4	LOS A	0.0	0.2	0.55	0.62	0.55	33.3
Approach			8	0.0	8	0.0	0.013	8.6	LOS A	0.0	0.2	0.55	0.62	0.55	38.7
West: Lakemba Street															
30	L2	All MCs	5	0.0	5	0.0	0.344	1.3	LOS A	0.8	6.2	0.27	0.15	0.27	27.7
31	T1	All MCs	342	5.2	342	5.2	0.344	0.6	LOS A	0.8	6.2	0.27	0.15	0.27	33.7
32	R2	All MCs	17	0.0	17	0.0	0.344	3.1	LOS A	0.8	6.2	0.27	0.15	0.27	30.0
32u	U	All MCs	3	33.3	3	33.3	0.344	4.0	LOS A	0.8	6.2	0.27	0.15	0.27	31.1
Approach			367	5.2	367	5.2	0.344	0.8	LOS A	0.8	6.2	0.27	0.15	0.27	33.4
All Vehicles			991	4.1	991	4.1	0.412	1.1	LOS A	1.2	9.0	0.25	0.15	0.25	31.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY



Site: [2P] Burwood Rd - Etela St (EX PM)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: Existing Design
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				km/h
South: Burwood Road															
22	T1	All MCs	571	6.5	571	6.5	0.358	0.7	LOS A	0.3	2.2	0.14	0.16	0.14	38.5
23	R2	All MCs	41	0.0	41	0.0	0.358	8.4	LOS A	0.3	2.2	0.14	0.16	0.14	40.5
Approach			612	6.0	612	6.0	0.358	1.2	NA	0.3	2.2	0.14	0.16	0.14	38.6
East: Etela Street															
24	L2	All MCs	42	0.0	42	0.0	0.100	7.0	LOS A	0.1	1.0	0.64	0.79	0.64	29.4
26	R2	All MCs	12	0.0	12	0.0	0.100	16.2	LOS B	0.1	1.0	0.64	0.79	0.64	32.1
Approach			54	0.0	54	0.0	0.100	9.0	LOS A	0.1	1.0	0.64	0.79	0.64	30.1
North: Burwood Road															
27	L2	All MCs	36	0.0	36	0.0	0.377	3.6	LOS A	0.1	0.9	0.02	0.03	0.02	41.6
28	T1	All MCs	661	5.1	661	5.1	0.377	0.0	LOS A	0.1	0.9	0.02	0.03	0.02	39.6
Approach			697	4.8	697	4.8	0.377	0.2	NA	0.1	0.9	0.02	0.03	0.02	39.8
All Vehicles			1362	5.2	1362	5.2	0.377	1.0	NA	0.3	2.2	0.10	0.12	0.10	38.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

 Site: [TCS0157 A] Burwood Rd - Lakemba St (FB AM)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Scenario: 1 | Local Volumes

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped	Dist]			sec	m	m/sec
South: Burwood Road												

MOVEMENT SUMMARY



Site: [1A (2)] Lakemba St - Cecilia St (FB AM)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site

Site Category: Existing Design

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Veh.]	[Veh.]	[Veh.]	[Veh.]	[Veh.]
			veh/h	%	veh/h	%	v/c	sec		veh	veh	veh	veh	veh	km/h
South: Cecilia Street															
21	L2	All MCs	33	6.5	33	6.5	0.193	3.6	LOS A	0.4	2.9	0.53	0.54	0.53	31.1
22	T1	All MCs	1	0.0	1	0.0	0.193	2.7	LOS A	0.4	2.9	0.53	0.54	0.53	26.7
23	R2	All MCs	104	2.0	104	2.0	0.193	5.3	LOS A	0.4	2.9	0.53	0.54	0.53	33.0
23u	U	All MCs	2	50.0	2	50.0	0.193	7.0	LOS A	0.4	2.9	0.53	0.54	0.53	28.6
Approach			140	3.8	140	3.8	0.193	4.9	LOS A	0.4	2.9	0.53	0.54	0.53	32.5
East: Albert Street															
24	L2	All MCs	49	2.1	49	2.1	0.280	0.9	LOS A	0.7	5.2	0.16	0.07	0.16	29.4
25	T1	All MCs	291	5.1	291	5.1	0.280	0.2	LOS A	0.7	5.2	0.16	0.07	0.16	30.8
26	R2	All MCs	1	0.0	1	0.0	0.280	2.7	LOS A	0.7	5.2	0.16	0.07	0.16	27.2
26u	U	All MCs	1	0.0	1	0.0	0.280	3.4	LOS A	0.7	5.2	0.16	0.07	0.16	32.2
Approach			342	4.6	342	4.6	0.280	0.3	LOS A	0.7	5.2	0.16	0.07	0.16	30.6
North: Cecilia Street															
27	L2	All MCs	6	0.0	6	0.0	0.027	8.3	LOS A	0.1	0.4	0.63	0.68	0.63	39.4
28	T1	All MCs	1	0.0	1	0.0	0.027	8.0	LOS A	0.1	0.4	0.63	0.68	0.63	36.2
29	R2	All MCs	6	16.7	6	16.7	0.027	12.0	LOS A	0.1	0.4	0.63	0.68	0.63	36.8
29u	U	All MCs	1	0.0	1	0.0	0.027	12.6	LOS A	0.1	0.4	0.63	0.68	0.63	32.0
Approach			15	7.1	15	7.1	0.027	10.2	LOS A	0.1	0.4	0.63	0.68	0.63	37.8
West: Lakemba Street															
30	L2	All MCs	4	25.0	4	25.0	0.452	2.1	LOS A	1.2	9.0	0.38	0.24	0.38	26.7
31	T1	All MCs	421	7.5	421	7.5	0.452	1.2	LOS A	1.2	9.0	0.38	0.24	0.38	33.5
32	R2	All MCs	15	7.1	15	7.1	0.452	3.8	LOS A	1.2	9.0	0.38	0.24	0.38	29.7
32u	U	All MCs	1	0.0	1	0.0	0.452	4.3	LOS A	1.2	9.0	0.38	0.24	0.38	31.3
Approach			441	7.6	441	7.6	0.452	1.3	LOS A	1.2	9.0	0.38	0.24	0.38	33.3
All Vehicles			938	5.9	938	5.9	0.452	1.6	LOS A	1.2	9.0	0.33	0.23	0.33	32.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY



Site: [2A (2)] Burwood Rd - Etela St (FB AM)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: Existing Design
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Burwood Road															
22	T1	All MCs	509	8.7	509	8.7	0.333	0.8	LOS A	0.3	2.2	0.15	0.17	0.15	38.4
23	R2	All MCs	42	15.0	42	15.0	0.333	8.3	LOS A	0.3	2.2	0.15	0.17	0.15	39.8
Approach			552	9.2	552	9.2	0.333	1.3	NA	0.3	2.2	0.15	0.17	0.15	38.5
East: Etela Street															
24	L2	All MCs	86	1.2	86	1.2	0.126	6.6	LOS A	0.2	1.4	0.58	0.73	0.58	30.9
26	R2	All MCs	7	0.0	7	0.0	0.126	13.5	LOS A	0.2	1.4	0.58	0.73	0.58	33.3
Approach			94	1.1	94	1.1	0.126	7.1	LOS A	0.2	1.4	0.58	0.73	0.58	31.2
North: Burwood Road															
27	L2	All MCs	19	0.0	19	0.0	0.298	3.7	LOS A	0.1	0.5	0.02	0.02	0.02	41.6
28	T1	All MCs	533	5.5	533	5.5	0.298	0.0	LOS A	0.1	0.5	0.02	0.02	0.02	39.7
Approach			552	5.3	552	5.3	0.298	0.1	NA	0.1	0.5	0.02	0.02	0.02	39.8
All Vehicles			1197	6.8	1197	6.8	0.333	1.2	NA	0.3	2.2	0.12	0.15	0.12	38.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

 Site: [TCS015 P] Burwood Rd - Lakemba St (FB PM)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Scenario: 1 | Local Volumes

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

- * Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped	Dist]			sec	m	m/sec
South: Burwood Road												

P5	Full	15	16	28.9	LOS C	0.0	0.0	0.90	0.90	195.5	200.0	1.02
East: Lakemba Street												
P6	Full	20	21	28.9	LOS C	0.0	0.0	0.90	0.90	195.5	200.0	1.02
North: Burwood Road												
P7	Full	13	14	28.9	LOS C	0.0	0.0	0.90	0.90	195.5	200.0	1.02
West: Lakemba Street												
P8	Full	16	17	28.9	LOS C	0.0	0.0	0.90	0.90	195.5	200.0	1.02
All		64	67	28.9	LOS C	0.0	0.0	0.90	0.90	195.5	200.0	1.02
Pedestrians												

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY



Site: [1P (2)] Lakemba St - Cecillia St (FB PM)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site

Site Category: Existing Design

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	Dist]				km/h
			veh/h		veh/h					veh	m				
South: Cecilia Street															
21	L2	All MCs	24	0.0	24	0.0	0.143	5.0	LOS A	0.3	2.0	0.61	0.62	0.61	30.5
22	T1	All MCs	1	0.0	1	0.0	0.143	4.3	LOS A	0.3	2.0	0.61	0.62	0.61	26.1
23	R2	All MCs	62	0.0	62	0.0	0.143	6.8	LOS A	0.3	2.0	0.61	0.62	0.61	32.5
23u	U	All MCs	1	0.0	1	0.0	0.143	7.5	LOS A	0.3	2.0	0.61	0.62	0.61	28.6
Approach			88	0.0	88	0.0	0.143	6.3	LOS A	0.3	2.0	0.61	0.62	0.61	31.9
East: Albert Street															
24	L2	All MCs	67	0.0	67	0.0	0.425	0.9	LOS A	1.3	9.4	0.18	0.07	0.18	29.4
25	T1	All MCs	474	4.7	474	4.7	0.425	0.2	LOS A	1.3	9.4	0.18	0.07	0.18	30.7
26	R2	All MCs	3	0.0	3	0.0	0.425	2.7	LOS A	1.3	9.4	0.18	0.07	0.18	27.2
26u	U	All MCs	1	0.0	1	0.0	0.425	3.4	LOS A	1.3	9.4	0.18	0.07	0.18	32.1
Approach			545	4.1	545	4.1	0.425	0.3	LOS A	1.3	9.4	0.18	0.07	0.18	30.6
North: Cecilia Street															
27	L2	All MCs	3	0.0	3	0.0	0.013	7.2	LOS A	0.0	0.2	0.56	0.62	0.56	40.3
28	T1	All MCs	1	0.0	1	0.0	0.013	6.9	LOS A	0.0	0.2	0.56	0.62	0.56	37.4
29	R2	All MCs	3	0.0	3	0.0	0.013	10.1	LOS A	0.0	0.2	0.56	0.62	0.56	38.2
29u	U	All MCs	1	0.0	1	0.0	0.013	11.5	LOS A	0.0	0.2	0.56	0.62	0.56	33.2
Approach			8	0.0	8	0.0	0.013	8.8	LOS A	0.0	0.2	0.56	0.62	0.56	38.6
West: Lakemba Street															
30	L2	All MCs	5	0.0	5	0.0	0.358	1.3	LOS A	0.9	6.5	0.27	0.15	0.27	27.7
31	T1	All MCs	358	5.0	358	5.0	0.358	0.6	LOS A	0.9	6.5	0.27	0.15	0.27	33.7
32	R2	All MCs	17	0.0	17	0.0	0.358	3.1	LOS A	0.9	6.5	0.27	0.15	0.27	30.0
32u	U	All MCs	3	33.3	3	33.3	0.358	4.0	LOS A	0.9	6.5	0.27	0.15	0.27	31.1
Approach			383	4.9	383	4.9	0.358	0.8	LOS A	0.9	6.5	0.27	0.15	0.27	33.4
All Vehicles			1025	4.0	1025	4.0	0.425	1.1	LOS A	1.3	9.4	0.26	0.15	0.26	31.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY



Site: [2P (2)] Burwood Rd - Etela St (FB PM)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: Existing Design
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				km/h
South: Burwood Road															
22	T1	All MCs	578	6.4	578	6.4	0.363	0.7	LOS A	0.3	2.3	0.14	0.17	0.15	38.4
23	R2	All MCs	42	0.0	42	0.0	0.363	8.4	LOS A	0.3	2.3	0.14	0.17	0.15	40.5
Approach			620	5.9	620	5.9	0.363	1.3	NA	0.3	2.3	0.14	0.17	0.15	38.5
East: Etela Street															
24	L2	All MCs	42	0.0	42	0.0	0.100	7.0	LOS A	0.1	1.0	0.64	0.79	0.64	29.4
26	R2	All MCs	12	0.0	12	0.0	0.100	16.2	LOS B	0.1	1.0	0.64	0.79	0.64	32.1
Approach			54	0.0	54	0.0	0.100	9.0	LOS A	0.1	1.0	0.64	0.79	0.64	30.1
North: Burwood Road															
27	L2	All MCs	36	0.0	36	0.0	0.375	3.6	LOS A	0.1	0.9	0.02	0.03	0.02	41.6
28	T1	All MCs	658	5.1	658	5.1	0.375	0.0	LOS A	0.1	0.9	0.02	0.03	0.02	39.6
Approach			694	4.9	694	4.9	0.375	0.2	NA	0.1	0.9	0.02	0.03	0.02	39.8
All Vehicles			1367	5.2	1367	5.2	0.375	1.0	NA	0.3	2.3	0.10	0.12	0.10	38.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

New Site
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 63.0 seconds (Site User-Given Phase Times)
Site Scenario: 1 | Local Volumes

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

- * Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped	Dist]			sec	m	m/sec
South: Burwood Road												

MOVEMENT SUMMARY



Site: [1A (3)] Lakemba St - Cecilia St (FB + DEV AM)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site

Site Category: Existing Design

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh.]	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Cecilia Street															
21	L2	All MCs	33	6.5	33	6.5	0.193	3.6	LOS A	0.4	2.9	0.53	0.54	0.53	31.1
22	T1	All MCs	1	0.0	1	0.0	0.193	2.7	LOS A	0.4	2.9	0.53	0.54	0.53	26.7
23	R2	All MCs	104	2.0	104	2.0	0.193	5.3	LOS A	0.4	2.9	0.53	0.54	0.53	33.0
23u	U	All MCs	2	50.0	2	50.0	0.193	7.0	LOS A	0.4	2.9	0.53	0.54	0.53	28.6
Approach			140	3.8	140	3.8	0.193	4.9	LOS A	0.4	2.9	0.53	0.54	0.53	32.5
East: Albert Street															
24	L2	All MCs	49	2.1	49	2.1	0.281	0.9	LOS A	0.7	5.2	0.16	0.07	0.16	29.4
25	T1	All MCs	292	5.1	292	5.1	0.281	0.2	LOS A	0.7	5.2	0.16	0.07	0.16	30.8
26	R2	All MCs	1	0.0	1	0.0	0.281	2.7	LOS A	0.7	5.2	0.16	0.07	0.16	27.2
26u	U	All MCs	1	0.0	1	0.0	0.281	3.4	LOS A	0.7	5.2	0.16	0.07	0.16	32.2
Approach			343	4.6	343	4.6	0.281	0.3	LOS A	0.7	5.2	0.16	0.07	0.16	30.6
North: Cecilia Street															
27	L2	All MCs	6	0.0	6	0.0	0.027	8.3	LOS A	0.1	0.4	0.63	0.68	0.63	39.4
28	T1	All MCs	1	0.0	1	0.0	0.027	8.0	LOS A	0.1	0.4	0.63	0.68	0.63	36.2
29	R2	All MCs	6	16.7	6	16.7	0.027	12.0	LOS A	0.1	0.4	0.63	0.68	0.63	36.8
29u	U	All MCs	1	0.0	1	0.0	0.027	12.7	LOS A	0.1	0.4	0.63	0.68	0.63	31.9
Approach			15	7.1	15	7.1	0.027	10.2	LOS A	0.1	0.4	0.63	0.68	0.63	37.8
West: Lakemba Street															
30	L2	All MCs	4	25.0	4	25.0	0.454	2.1	LOS A	1.2	9.1	0.39	0.24	0.39	26.7
31	T1	All MCs	423	7.5	423	7.5	0.454	1.2	LOS A	1.2	9.1	0.39	0.24	0.39	33.5
32	R2	All MCs	15	7.1	15	7.1	0.454	3.8	LOS A	1.2	9.1	0.39	0.24	0.39	29.7
32u	U	All MCs	1	0.0	1	0.0	0.454	4.3	LOS A	1.2	9.1	0.39	0.24	0.39	31.3
Approach			443	7.6	443	7.6	0.454	1.3	LOS A	1.2	9.1	0.39	0.24	0.39	33.3
All Vehicles			941	5.9	941	5.9	0.454	1.6	LOS A	1.2	9.1	0.33	0.23	0.33	32.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [2A (3)] Burwood Rd - Etela St (FB + DEV AM)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: Existing Design
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist] m				km/h
			veh/h	%	veh/h	%	v/c	sec							
South: Burwood Road															
22	T1	All MCs	513	8.6	513	8.6	0.336	0.8	LOS A	0.3	2.3	0.15	0.18	0.15	38.3
23	R2	All MCs	42	15.0	42	15.0	0.336	8.5	LOS A	0.3	2.3	0.15	0.18	0.15	39.8
Approach			555	9.1	555	9.1	0.336	1.4	NA	0.3	2.3	0.15	0.18	0.15	38.4
East: Etela Street															
24	L2	All MCs	86	1.2	86	1.2	0.128	6.7	LOS A	0.2	1.4	0.59	0.74	0.59	30.9
26	R2	All MCs	7	0.0	7	0.0	0.128	13.7	LOS A	0.2	1.4	0.59	0.74	0.59	33.3
Approach			94	1.1	94	1.1	0.128	7.2	LOS A	0.2	1.4	0.59	0.74	0.59	31.1
North: Burwood Road															
27	L2	All MCs	20	0.0	20	0.0	0.304	3.7	LOS A	0.1	0.5	0.02	0.02	0.02	41.6
28	T1	All MCs	543	5.4	543	5.4	0.304	0.0	LOS A	0.1	0.5	0.02	0.02	0.02	39.7
Approach			563	5.2	563	5.2	0.304	0.1	NA	0.1	0.5	0.02	0.02	0.02	39.8
All Vehicles			1212	6.7	1212	6.7	0.336	1.3	NA	0.3	2.3	0.12	0.15	0.12	38.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

 Site: [TCS015] Burwood Rd - Lakemba St (FB + DEV PM)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

Site Scenario: 1 | Local Volumes

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Intersection and Approach LOS values are based on average delay for all vehicle movements.
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped	Dist]			sec	m	m/sec
South: Burwood Road												

P5	Full	15	16	28.9	LOS C	0.0	0.0	0.90	0.90	195.5	200.0	1.02
East: Lakemba Street												
P6	Full	20	21	28.9	LOS C	0.0	0.0	0.90	0.90	195.5	200.0	1.02
North: Burwood Road												
P7	Full	13	14	28.9	LOS C	0.0	0.0	0.90	0.90	195.5	200.0	1.02
West: Lakemba Street												
P8	Full	16	17	28.9	LOS C	0.0	0.0	0.90	0.90	195.5	200.0	1.02
All		64	67	28.9	LOS C	0.0	0.0	0.90	0.90	195.5	200.0	1.02
Pedestrians												

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY



Site: [1P (3)] Lakemba St - Cecillia St (FB + DEV PM)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site

Site Category: Existing Design

Roundabout

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	Dist]				km/h
			veh/h		veh/h					veh	m				
South: Cecilia Street															
21	L2	All MCs	24	0.0	24	0.0	0.143	5.0	LOS A	0.3	2.0	0.61	0.62	0.61	30.5
22	T1	All MCs	1	0.0	1	0.0	0.143	4.3	LOS A	0.3	2.0	0.61	0.62	0.61	26.1
23	R2	All MCs	62	0.0	62	0.0	0.143	6.8	LOS A	0.3	2.0	0.61	0.62	0.61	32.5
23u	U	All MCs	1	0.0	1	0.0	0.143	7.5	LOS A	0.3	2.0	0.61	0.62	0.61	28.6
Approach			88	0.0	88	0.0	0.143	6.3	LOS A	0.3	2.0	0.61	0.62	0.61	31.9
East: Albert Street															
24	L2	All MCs	67	0.0	67	0.0	0.426	0.9	LOS A	1.3	9.5	0.18	0.07	0.18	29.4
25	T1	All MCs	475	4.7	475	4.7	0.426	0.2	LOS A	1.3	9.5	0.18	0.07	0.18	30.7
26	R2	All MCs	3	0.0	3	0.0	0.426	2.7	LOS A	1.3	9.5	0.18	0.07	0.18	27.2
26u	U	All MCs	1	0.0	1	0.0	0.426	3.4	LOS A	1.3	9.5	0.18	0.07	0.18	32.1
Approach			546	4.0	546	4.0	0.426	0.3	LOS A	1.3	9.5	0.18	0.07	0.18	30.6
North: Cecilia Street															
27	L2	All MCs	3	0.0	3	0.0	0.013	7.2	LOS A	0.0	0.2	0.56	0.62	0.56	40.3
28	T1	All MCs	1	0.0	1	0.0	0.013	6.9	LOS A	0.0	0.2	0.56	0.62	0.56	37.3
29	R2	All MCs	3	0.0	3	0.0	0.013	10.1	LOS A	0.0	0.2	0.56	0.62	0.56	38.2
29u	U	All MCs	1	0.0	1	0.0	0.013	11.5	LOS A	0.0	0.2	0.56	0.62	0.56	33.2
Approach			8	0.0	8	0.0	0.013	8.8	LOS A	0.0	0.2	0.56	0.62	0.56	38.6
West: Lakemba Street															
30	L2	All MCs	5	0.0	5	0.0	0.358	1.3	LOS A	0.9	6.6	0.27	0.15	0.27	27.7
31	T1	All MCs	359	5.0	359	5.0	0.358	0.6	LOS A	0.9	6.6	0.27	0.15	0.27	33.7
32	R2	All MCs	17	0.0	17	0.0	0.358	3.1	LOS A	0.9	6.6	0.27	0.15	0.27	30.0
32u	U	All MCs	3	33.3	3	33.3	0.358	4.0	LOS A	0.9	6.6	0.27	0.15	0.27	31.1
Approach			384	4.9	384	4.9	0.358	0.8	LOS A	0.9	6.6	0.27	0.15	0.27	33.4
All Vehicles			1027	4.0	1027	4.0	0.426	1.1	LOS A	1.3	9.5	0.26	0.15	0.26	31.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [2P (3)] Burwood Rd - Etela St (FB + DEV PM)
Output produced by SIDRA INTERSECTION Version: 10.0.5.217

New Site
Site Category: Existing Design
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Burwood Road															
22	T1	All MCs	584	6.3	584	6.3	0.366	0.8	LOS A	0.3	2.4	0.14	0.17	0.15	38.4
23	R2	All MCs	42	0.0	42	0.0	0.366	8.4	LOS A	0.3	2.4	0.14	0.17	0.15	40.5
Approach			626	5.9	626	5.9	0.366	1.3	NA	0.3	2.4	0.14	0.17	0.15	38.5
East: Etela Street															
24	L2	All MCs	42	0.0	42	0.0	0.101	7.1	LOS A	0.1	1.0	0.64	0.80	0.64	29.3
26	R2	All MCs	12	0.0	12	0.0	0.101	16.5	LOS B	0.1	1.0	0.64	0.80	0.64	32.1
Approach			54	0.0	54	0.0	0.101	9.1	LOS A	0.1	1.0	0.64	0.80	0.64	30.1
North: Burwood Road															
27	L2	All MCs	36	0.0	36	0.0	0.378	3.6	LOS A	0.1	0.9	0.02	0.03	0.02	41.6
28	T1	All MCs	662	5.1	662	5.1	0.378	0.0	LOS A	0.1	0.9	0.02	0.03	0.02	39.6
Approach			698	4.8	698	4.8	0.378	0.2	NA	0.1	0.9	0.02	0.03	0.02	39.8
All Vehicles			1378	5.1	1378	5.1	0.378	1.0	NA	0.3	2.4	0.10	0.12	0.10	38.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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