



Traffic & Transportation Direction

Homebush BESS

Homebush, NSW

Traffic Impact Assessment

May 2025

Reference: 1080 rep 250530 final

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Traffic Impact Assessment

Prepared for: Ausgrid

Status: Final report

Date: 30 May 2025

Reference: 1080 rep 250530 final

Revision	Date	Description	Author	Reviewed	Approved
A	18/02/2025	Draft 01	S. Eduards / K. Ballantyne	K. Ballantyne	M. Willson
A	12/03/2025	Final 01	S. Eduards / K. Ballantyne	K. Ballantyne	M. Willson
A	31/03/2025	Update site entry location	S. Eduards / K. Ballantyne	K. Ballantyne	M. Willson
A	16/04/2025	Amendments	S. Eduards / K. Ballantyne	K. Ballantyne	M. Willson
A	23/04/2025	Amendments	S. Eduards / K. Ballantyne	K. Ballantyne	M. Willson
A	30/05/2025	Amendments	S. Eduards / K. Ballantyne	K. Ballantyne	M. Willson

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Executive Summary

Amber Organisation Pty Ltd (Amber) has been engaged by Ausgrid to prepare a Traffic Impact Assessment for the proposed Homebush Battery Energy Storage System (BESS).

This report supports a State Significant Development application under Part 4, Division 4.7 of the Environmental Planning and Assessment Act 1979 (SSD- 72258210) for the Project. The NSW Department of Planning, Housing and Infrastructure (DPHI) have issued Secretary's Environmental Assessment Requirements (SEARs) for the Project, with the traffic and transport matters addressed as part of this report.

The Project includes the construction, operation and decommissioning of a BESS and associated infrastructure with a maximum power output capacity of up to 200 MW/400 MWh (2 hours). The BESS would connect to the existing Mason Park substation via a 33kV underground cable.

The Project address is 10 Homebush Bay Drive in Homebush and is located within Strathfield Local Government Area (LGA), approximately 10 km west of Sydney CBD. The Project is located in the southern part of Lot 1 DP 1218218 to the south of the existing substation. Vehicle access is proposed via the access road connecting to the eastbound on-ramp onto the Western Motorway (M4).

Traffic generated by the Project can be separated by construction, operation and decommissioning stages. The peak traffic generating potential is during construction which generates trips associated with the workforce accessing the Project and the delivery of materials and plant. During operation, the Project is expected to generate a maximum of 4 vehicle movements per week associated with 1-2 maintenance personnel. Decommissioning is anticipated to generate a similar level of traffic to the construction stage.

The construction period is expected to commence in late-2025 and take approximately 22 months, with the peak construction period expected to take 6 months. A construction workforce of up to 100 personnel would be on-site during the peak construction phase. These staff would be primarily located in Sydney.

It is anticipated that during peak construction the Project could generate up to 134 light and 20 heavy vehicles per day. Construction of the BESS is expected to generate approximately 72 total vehicles per hour in the morning and evening peak hours during the peak construction period, which would reduce to 40 vehicles per peak hour during the average construction periods.

In order to determine the traffic impact generated during the construction of the Project, traffic modelling was completed for the nearest State road connections, being the intersections of Homebush Bay Drive/Western Motorway On-Ramp and Western Motorway On-Ramp/Access Road. The assessment also included review of the cumulative traffic impact on the road network taking into account other major projects in the surrounding area. Overall, the assessment shows that these intersections have capacity to accommodate the peak construction traffic and the Project will have a minimal impact on the operation of the overall road network.

The access road from the Western Motorway On-Ramp provides access to the site and an office building. The traffic surveys of the access road indicate that it currently carries a low level of traffic and is able to accommodate an increase in vehicle traffic associated with construction of the Project. Accordingly, it is concluded that the local and state road network is able to accommodate the traffic generated by the development during the construction period.

Amber has undertaken an assessment of the expected access routes for construction traffic to the site. The nearest State road connections are the intersections of Homebush Bay Drive/Western Motorway On-Ramp and Western Motorway On-Ramp/Access Road. The assessment found that two 26 m B-Doubles cannot pass simultaneously at the intersection of Western Motorway On-Ramp/Access Road. Instead, traffic management measures will be required to control movements by these vehicles through this intersection as shown in the swept paths at Appendix D. No upgrades are required to the access road or the Homebush Bay Drive/Western Motorway On-Ramp intersection to accommodate general construction vehicles, and good sightlines are available at both intersections.

The largest vehicle expected to access the site is the battery container vehicle, which would be kept under 3.5 metres width and 26 metres length. These vehicles have similar dimensions and manoeuvrability to a 26 m B-Double, would be classed as OSOM (due to mass), and not considered high risk. These vehicles would be permitted to travel on the Class 1 OSOM network.

Port of Newcastle and Port Botany have been identified as the likely ports where BESS plant will be imported, including the batteries. The access routes from these locations to the site primarily utilise roads that are designated for B-Doubles and the Class 1 OSOM network.

In order to mitigate the traffic impacts of the Project a Construction Traffic Management Plan (CTMP) would be prepared. This will outline a range of traffic management measures to manage impacts to the capacity and safety of the surrounding road network, including managing movements by 26 m B-Double/battery container vehicles through the Western Motorway On-Ramp/Access Road intersection. The CTMP would be prepared post-approval and prior to the commencement of construction.

Based on the assessment, it is concluded that the road network is able to accommodate the expected vehicle types and traffic volumes during the construction, operation, and decommissioning phases of the Project.

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Definitions

Term	Definition
Project	A Battery Energy Storage System (BESS) as described within the EIS to which this Application applies.
Project Area	Boundary shown on Figure 1 to which the Application applies (unless otherwise stipulated).
Applicant	Ausgrid
Application	Application for Development Consent under Part 4.7 of the EP&A Act; and Determination under Part 9 of the EPBC Act.
Terminology specific to this report	
Vehicle Trip	A trip is defined as a one way vehicular movement from one point to another excluding the return journey. Therefore, a return trip to and from the site is counted as two trips.
Vehicles per Day (vpd)	The volume of traffic (number of trips) occurring within a 24-hour period. For traffic volumes associated with the Project, this value is generally an even number to reflect the return trip associated with each vehicle.
Vehicles per Hour (vph)	The volume of traffic (number of trips) occurring within a one hour period.
Heavy Vehicle	A vehicle with a Gross Vehicle Mass (GVM) or Aggregate Trailer Mass (ATM) of more than 4.5 tonnes as defined in the Heavy Vehicle National Law (HVNL).
General Access Vehicle (GAV)	General Access Vehicles (GAV) don't require a permit or notice to access road networks; these vehicles have as-of-right access to the network unless signposted otherwise (e.g. a bridge tonnage restriction).
Restricted Access Vehicle (RAV)	Restricted Access Vehicles (RAV) include Class 1, 2 or 3 vehicles that operate under a notice or permit and vehicles operating under higher mass limits (HML) that have restrictions on the parts of the road network they can access.
Oversize and/or Overmass (OSOM) Vehicle	OSOM vehicles are defined as Class 1 vehicles under the Heavy Vehicle National Law. A vehicle or vehicle combination is considered to be OSOM if it exceeds any general access mass or dimension limits.
High Risk Oversize/Overmass Vehicle (requiring escort)	OSOM vehicles exceeding certain criteria for length, height, rear overhang, forward projection, width or total combination weight. These vehicles are subject to Transport Management Plans (TMPs) which provide a comprehensive planning and execution focus to ensure that these movements are carried out in a safe and responsible manner with reduced impact on other road users and road infrastructure. These vehicles also typically require pilot vehicle escort.

1. Introduction

1.1 Background

Amber Organisation Pty Ltd (Amber) has been engaged by Ausgrid to prepare a Traffic Impact Assessment of the proposed Homebush Battery Energy Storage System (BESS) (the Project).

The Project includes the construction, operation and decommissioning of a BESS and associated infrastructure with a targeted storage capacity of up to 200 MW/400 MWh (2 hours).

The Project is located at 10 Homebush Bay Drive in Homebush within Strathfield Council LGA and is approximately 10 km west of Sydney CBD. The Project is located in the southern part of Lot 1 DP 1218218 to the south of the existing substation. Figure 1 shows the location of the site in relation to the road network, access location, and existing infrastructure.

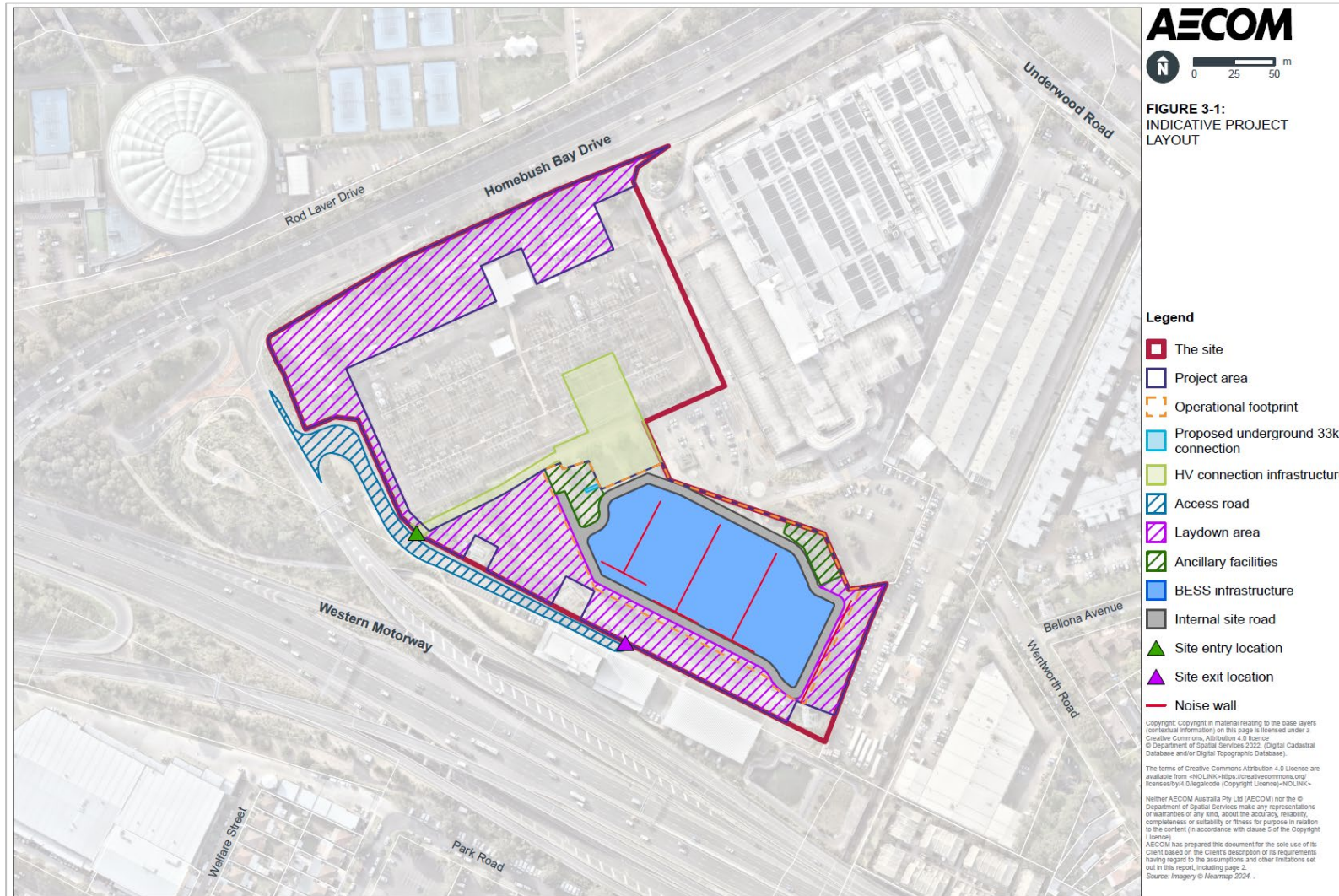
Vehicle access is via an access road connected to the eastbound on-ramp to the Western Motorway (M4) via Homebush Bay Drive. The access road is not within the development footprint of the Project, with the Applicant obtaining landowner consent from WestConnex/Transurban for use of the access road.

Construction of the Project is expected to commence in late-2025 and take approximately 22 months, with the peak construction period expected to last for 6 months. A construction workforce of up to 100 personnel would be on-site during the peak construction phase and these staff would primarily arrive from Sydney.

Project specific plant such as the battery units are expected to be delivered from the Port of Newcastle or Port Botany. More general construction materials and equipment will be sourced from the surrounding area.

The predicted traffic generated by the proposed construction, operation and decommissioning phases of the Project are outlined in this report. Relevant mitigation measures are also proposed.

Figure 1: Site Layout



Source: AECOM



1.2 Environmental Assessment Requirements

This report supports a state significant development application under Part 4, Division 4.7 of the *Environmental Planning and Assessment Act 1979* (SSD- 72258210). The NSW Department of Planning, Housing and Infrastructure (DPHI) have issued Secretary's Environmental Assessment Requirements (SEARs) for the Project. Traffic and transport matters specified by the SEARs are listed in Table 1 along with the relevant response to each matter.

This Traffic Impact Assessment has also been prepared in response to the Agency Advice provided by Transport for New South Wales (TfNSW). Responses to each of the comments provided within the Agency Advice are outlined within Appendix A.

Table 1: Traffic and Transport SEARs and Responses

SEARs	Response
<i>An assessment of the peak and average traffic generation, including light vehicles, shuttle buses, heavy vehicles and high risk heavy vehicles requiring escort and construction worker transportation.</i>	Assessment of the peak and average traffic impacts provided at Section 4. The assessment includes a breakdown of the traffic volumes based on different vehicle types.
<i>An assessment of the likely transport impacts to the site access route(s), including the above listed vehicles, site access point(s), any Crown land, particularly in relation to the capacity and condition of the roads, road safety and intersection performance.</i>	The preferred access route for heavy vehicles and OSOM vehicles are discussed at Section 5. The site is accessed via an existing access road from the Western Motorway On-Ramp. The design and impacts of the site access is discussed at Section 6. A review of the existing road safety data and casualty crash history is provided at Section 2.6. An assessment of the nearest State road intersection performance is provided at Section 4.
<i>A cumulative impact assessment of traffic from nearby developments (including mining operations).</i>	The cumulative traffic impacts of nearby developments are discussed at Section 4.1.5.
<i>Provide details of measures to mitigate and / or manage potential impacts (developed in consultation with the relevant road authorities) including:</i> - a schedule of all required road upgrades (including resulting from heavy vehicle and heavy vehicle requiring escort traffic haulage routes), - clear figures of proposed road upgrades (including the site access point); and - road maintenance contributions, and any other traffic control measures.	Mitigation measures and road upgrades are discussed at Section 7 and Section 8. The site access points are shown in the swept path diagrams at Appendix D.

1.3 Road/Rail Authority Consultation

This Traffic Impact Assessment has been undertaken in consultation with TfNSW and Strathfield Council, with a summary provided in Table 2.

Table 2: Road Authority Consultation

Road Authority	Method	Correspondence
Transport for NSW	Email sent 16/01/2025 Reply received 11/02/2025 Online meeting 23/04/2025	<u>Email correspondence</u> TfNSW provided the following feedback on the proposal: - That a growth rate is not required given the construction time frame. - No planned road upgrades in the surrounding area, with exception to the Homebush Bay Drive/Australian Avenue intersection. - There is no exiting road safety issue that TfNSW are aware of at this location. - That the intersection of Western Motorway On-Ramp and the access road be designed to ensure heavy vehicles can enter the access road without causing congestion/queuing on the on-ramp. <u>Online meeting</u> TfNSW provided the following feedback at the meeting: - That traffic management measures are preferred to control vehicle movements along the access road rather than road works at the M4 Motorway On-ramp/Access Road intersection. - Agreement will be required for use of the access road with WestConnex/Transurban as the manager of the access road.
Strathfield Council	Email sent 14/01/2025 Reply received 16/01/2025	Provided Council an update on the Project. The following feedback was provided: - <i>The only spillover to the local road network I could foresee is vehicles accessing Homebush Bay Drive via Underwood Road. While this is permitted as Underwood Road is a regional road, it can get quite busy due to the Homebush DFO, particularly on weekends. This is something to consider when planning vehicle routes.</i> - <i>TfNSW is currently investigating and planning the upgrade of the roundabout at the intersection of Homebush Bay Drive, Underwood Road, and Australia Avenue. The upgrade consists of turning the intersection into a traffic-light-controlled diamond interchange. I believe construction is planned to start this year, so this may affect access to your site. I don't think through vehicle movements on Homebush Bay Drive will be affected, just on-ramp and off-ramp movements plus those on Underwood Road and Australia Avenue.</i> Regarding the proposed access route: - <i>Only Council concerns are any access to / from or impacts on Underwood Road – I imagine this will be addressed in the CTMP, please circulate the CTMP to Council when available.</i> Council were not aware of any significant development applications or safety issues in the area that may impact the proposed site access or access routes.

1.4 Purpose of this Document

This Traffic Impact Assessment has been prepared to assess the construction, operational and decommissioning traffic impacts, and the access arrangements of the Project. The assessment responds to the SEARs and details how any adverse impacts of the Project's traffic, particularly from heavy vehicle use and oversize and overmass vehicles, would be avoided or managed.

More specifically, the report addresses the following key matters:

- Details of both light and heavy vehicle traffic volumes and proposed transport routes
- An assessment of the potential traffic impacts of the Project on road network function and safety
- An assessment of the capacity of the existing road network to accommodate the type and volume of traffic generated by the Project
- Details of measures to mitigate and/or manage potential impacts, including construction traffic control, road dilapidation surveys
- Details of access roads and how these connect to the existing road network and ongoing operational maintenance.

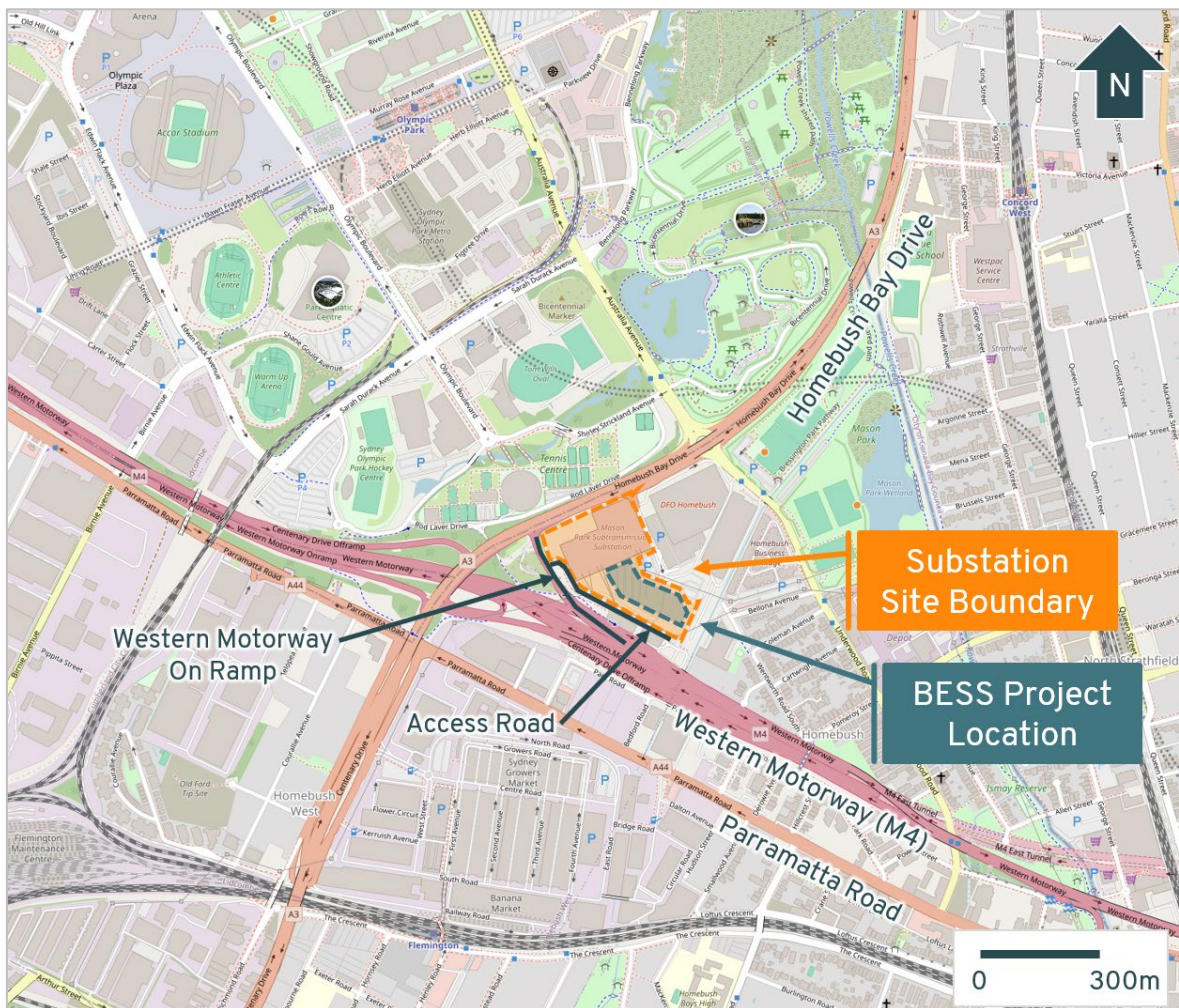
This traffic assessment has been undertaken in accordance with the *RTA Guide to Traffic Generating Developments* and relevant Austroads Guidelines.

2. Existing Conditions

2.1 Site Location

The Project is located at 10 Homebush Bay Drive in Homebush, approximately 10 kilometres west of Sydney CBD. The Project is located in the southern part of Lot 1 DP 1218218 to the south of the existing substation (the site). Figure 2 shows the location of the site in relation to the surrounding transport network.

Figure 2: Site Location



Source: OpenStreetMap

The site is well connected with the surrounding State road network. The access road adjacent to the site connects to the eastbound on-ramp between Homebush Bay Drive and the Western Motorway (M4).

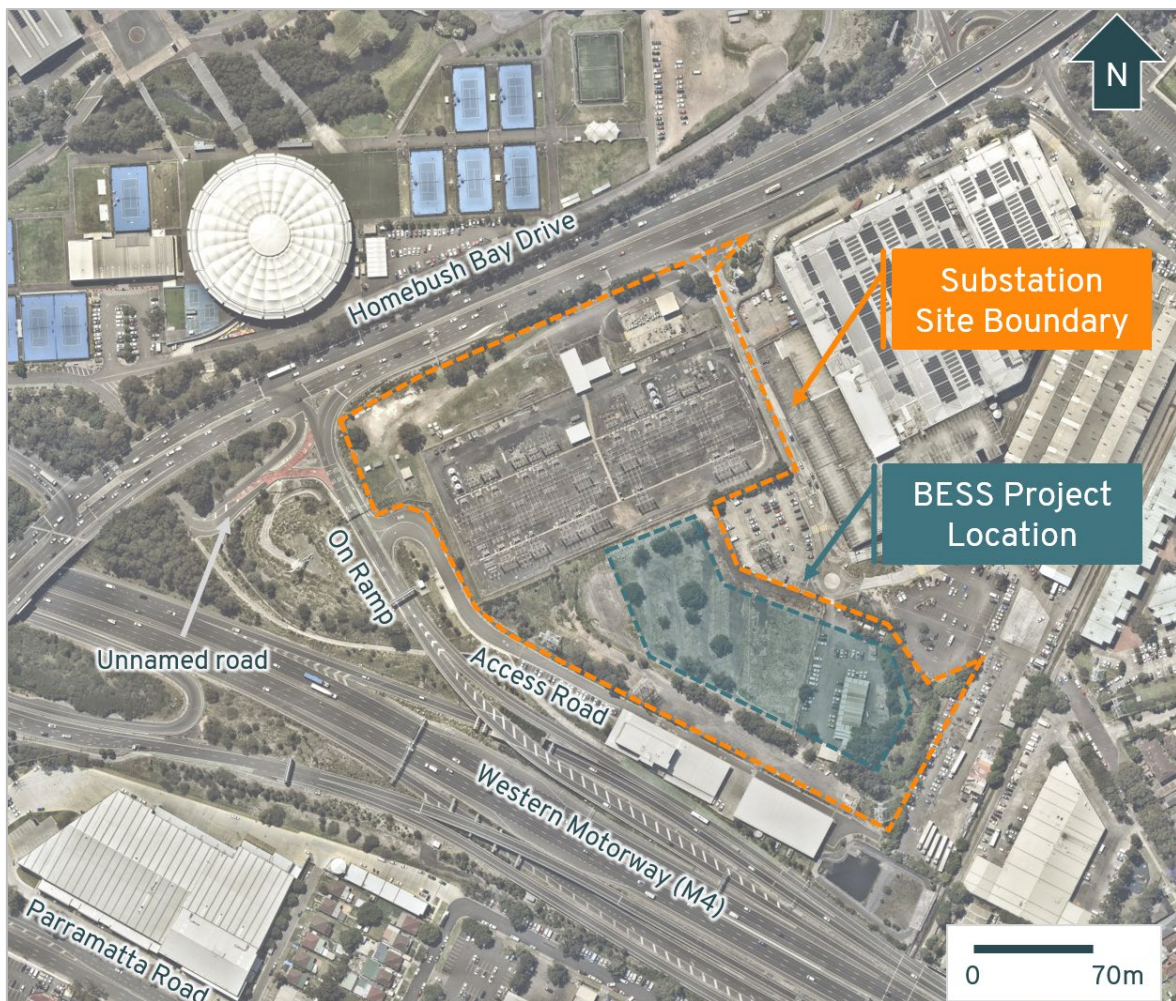
The site and surrounding area to the west is zoned SP2 – Infrastructure. Land to the south and east of the site is zoned E3 – Productivity Support, R4 – High Density Residential and SP1 – Special Activities. Land to the north is zoned B4 – Mixed Use and RE1 – Public Recreation.

The Project area is approximately 6.2 hectares, which includes the disturbance footprint for construction and operation of the BESS. The final operational footprint of the BESS is approximately 1.5 hectares. The site is adjacent to the existing Ausgrid Mason Park substation and is currently partially vegetated or occupied by hardstand/carparking areas. There is an existing building within the proposed BESS location leased by John Holland.

Existing vehicle access to the substation site is available via the access road from the Western Motorway On-Ramp, as well as via the internal road to access DFO via Homebush Bay Drive. The access road is not within the development footprint of the Project, with the Applicant obtaining landowner consent from WestConnex/Transurban for use of the access road as part of the Application.

Figure 3 provides an aerial photograph of the site and the surrounding area.

Figure 3: Aerial Photograph of Site and Surrounding Area



Source: Nearmap

2.2 Road Network

A summary of the surrounding road network is provided within Table 3.

Table 3: Road Network

Road	Typical Width	Speed Limit	Alignment
State Roads			
Western Motorway (M4)	Approximately 42 m-51 m providing three to four through lanes in each direction which are separated via barriers.	90 km/hr	General northwest-southeast alignment.
Homebush Bay Drive (A3)	Approximately 24.0 m-32.1 m providing three through lanes in each direction.	80 km/hr	General northeast-southwest alignment between its continuation as Concord Road in the northeast and Centenary Drive in the southwest.
Western Motorway On-Ramp	Approximately 10.6 m providing two through lanes and a bike lane in the south-east direction.	60 km/hr	General northwest-southeast alignment between Homebush Bay Drive in the northwest and Western Motorway in the southeast.
Local Roads			
Access Road (adjacent to south-western site frontage)	5.0-9.3 m accommodating two-way vehicle movement as well as 90-degree parking and a footpath along the south side of the road.	50 km/hr	General northwest-southeast alignment extending approximately 370 m southeast from the Western Motorway On-Ramp.

An overview of the key intersections within the surrounding area is provided in Table 4.

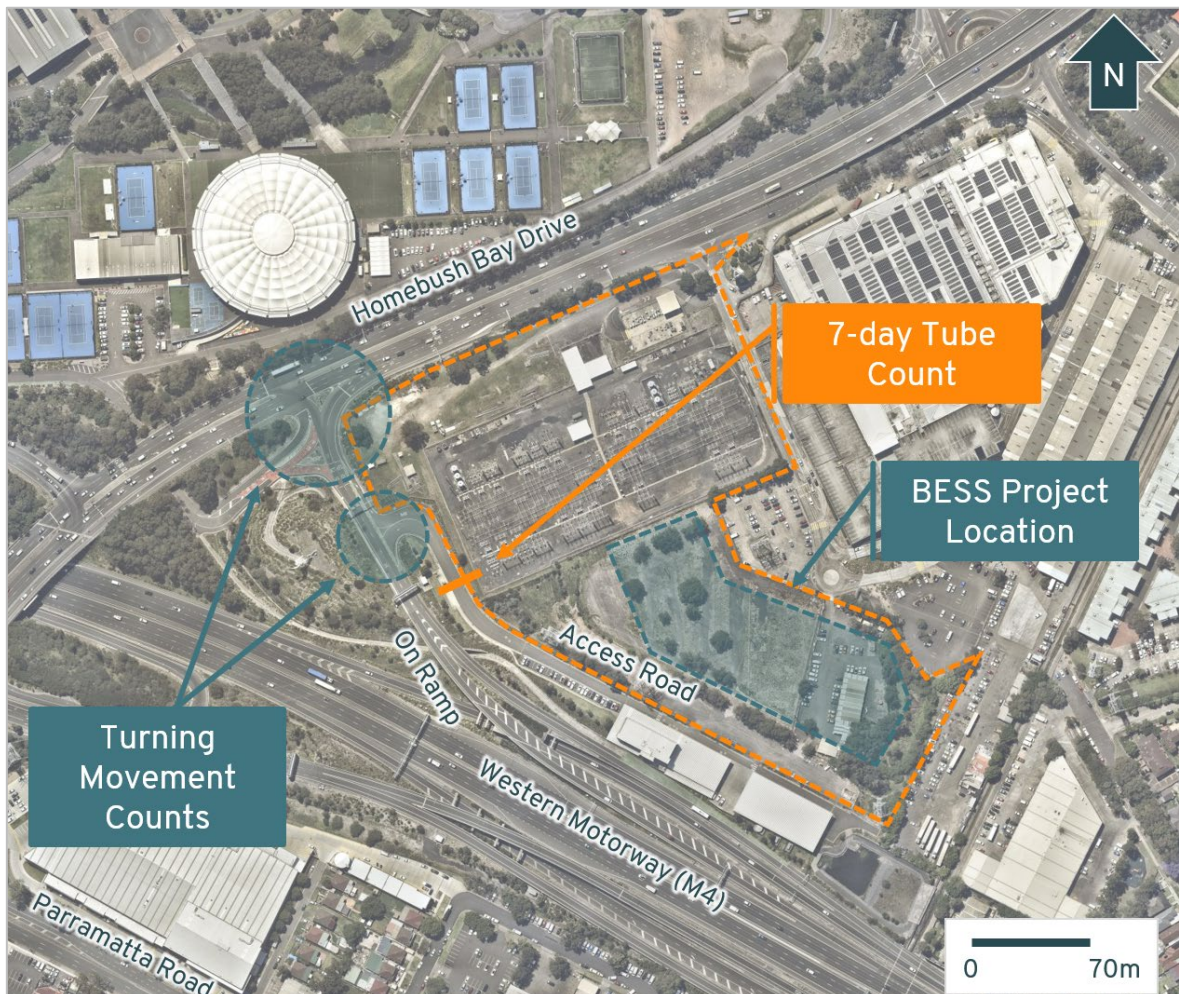
Table 4: Intersection Summary

Road Name	Intersecting Road(s)	Configuration	Control / Turn Treatments
Homebush Bay Drive	Western Motorway On-Ramp	T-intersection (signalised)	Traffic signals are provided for each approach. A channelised right turn lane (CHR) is provided for vehicles turning right from Homebush Bay Drive onto the eastbound on-ramp.
Western Motorway On-Ramp	Access road (adjacent to south-western site frontage)	T-intersection	Priority control intersection with vehicles exiting the access road required to give way. Left in – Left out movements only to/from Access Road.
Western Motorway On-Ramp	Access road to Rod Laver Drive and Olympic Park area	T-intersection	Left out movements from the unnamed road are under signal control at Homebush Bay Drive. Right out movements are allowed for buses only with priority given to the on-ramp traffic.

2.3 Traffic Volumes

Traffic surveys of the local and State Road network surrounding the Project were undertaken to establish the existing traffic conditions. The surveys included turning movement counts at key intersections and a 7-day tube count of the access road. The survey locations can be seen in Figure 4.

Figure 4: Traffic Survey Locations



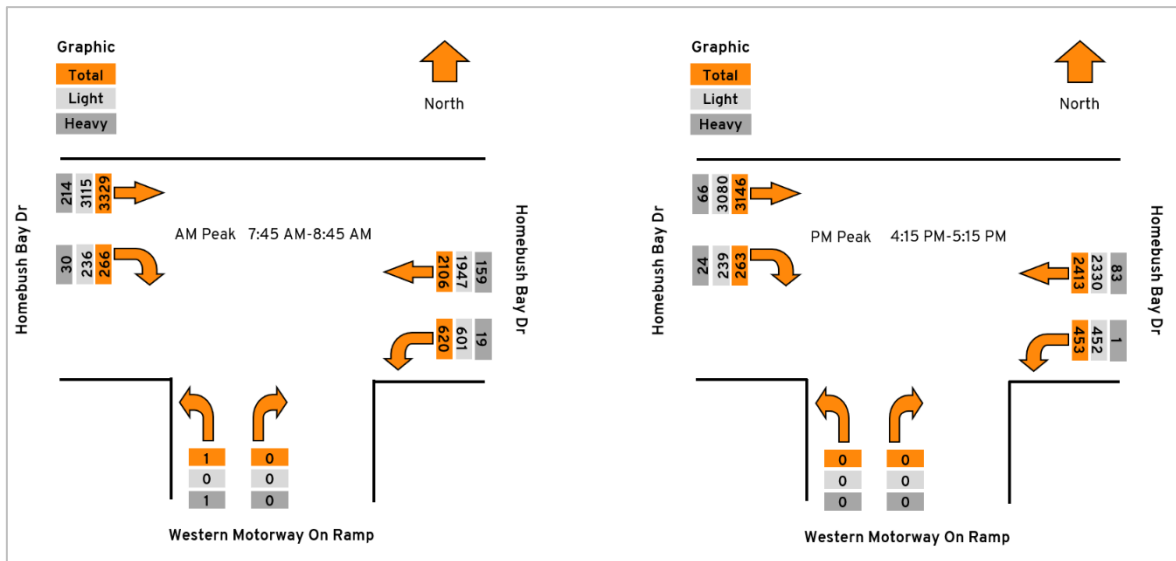
Source: Nearmap

2.3.1 Turning Movement Counts

Turning movement count surveys were undertaken at key State Road intersections on Thursday 21 November 2024 between 6:00am-10:00am and 3:00pm-7:00pm. A summary of the survey results are presented below with the full data provided within Appendix B.

2.3.1.1 Homebush Bay Drive / Western Motorway On-Ramp

Figure 5: Turning Movement Count Results – Homebush Bay Drive/Western Motorway On-Ramp



The survey results indicate the intersection currently carries a high level of traffic, in the order of 6,322 vehicles in the morning peak hour and 6,275 vehicles in the evening peak hour. The morning peak hour was recorded as being from 7:45am to 8:45am and the evening peak hour was recorded as being from 4:15pm to 5:15pm.

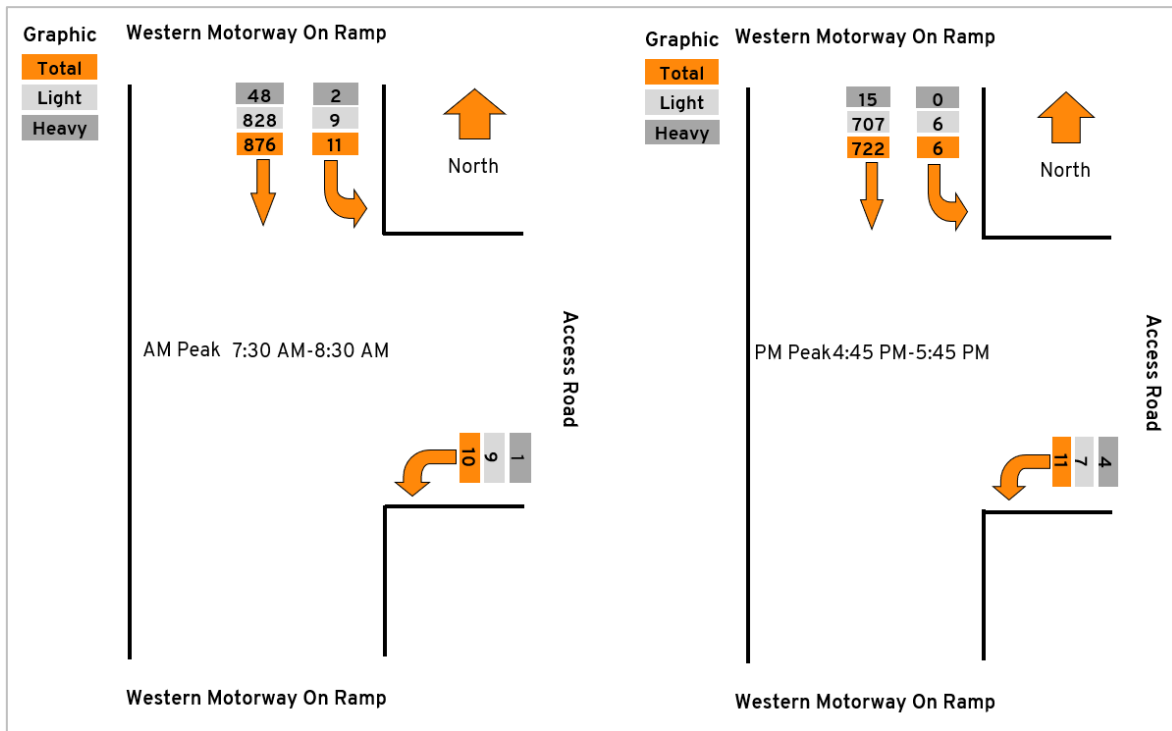
The majority of vehicle trips during the morning and evening peak periods are through traffic movements along Homebush Bay Drive, with the majority of movements towards the east during both peak periods. Approximately 60% of through movements were east bound in the morning and evening peak hours. Most turning movements onto the Western Motorway On-Ramp are left turns from the east with a higher number of movements recorded during the morning peak hour than the evening.

The southern leg of the intersection (Western Motorway On-Ramp) connects to Rod Laver Drive in the west to access Sydney Olympic Park. However, use of this approach is rare due to barricades on Rod Laver Drive under normal traffic conditions. During the surveys, one heavy vehicle was recorded using this approach.

Overall, the results indicate both roads accommodate a level of traffic consistent with their classification.

2.3.1.2 Western Motorway On-Ramp and Access Road

Figure 6: Turning Movement Count Results – Western Motorway On-Ramp/Access Road



The survey results indicate the intersection currently carries a moderate level of traffic in the order of 897 vehicles in the morning peak hour and 739 vehicles in the evening peak hour. The morning peak hour was recorded as being from 7:30am to 8:30am and the evening peak hour was recorded as being from 4:45pm to 5:45pm.

A small number of vehicles turn left into and out of the access road in each of the peak hours, which are typically split 50/50 between entry and exit movements.

Overall, the results indicate both roads accommodate a level of traffic consistent with their classification.

2.3.2 Tube Count

A tube count survey was completed on the access road along the southwest frontage of the site to establish the existing traffic volumes and speeds over a typical week. The tube count was completed between Wednesday 20 November and Wednesday 27 November 2024. The survey results are provided in Appendix B with a summary presented in Table 5.

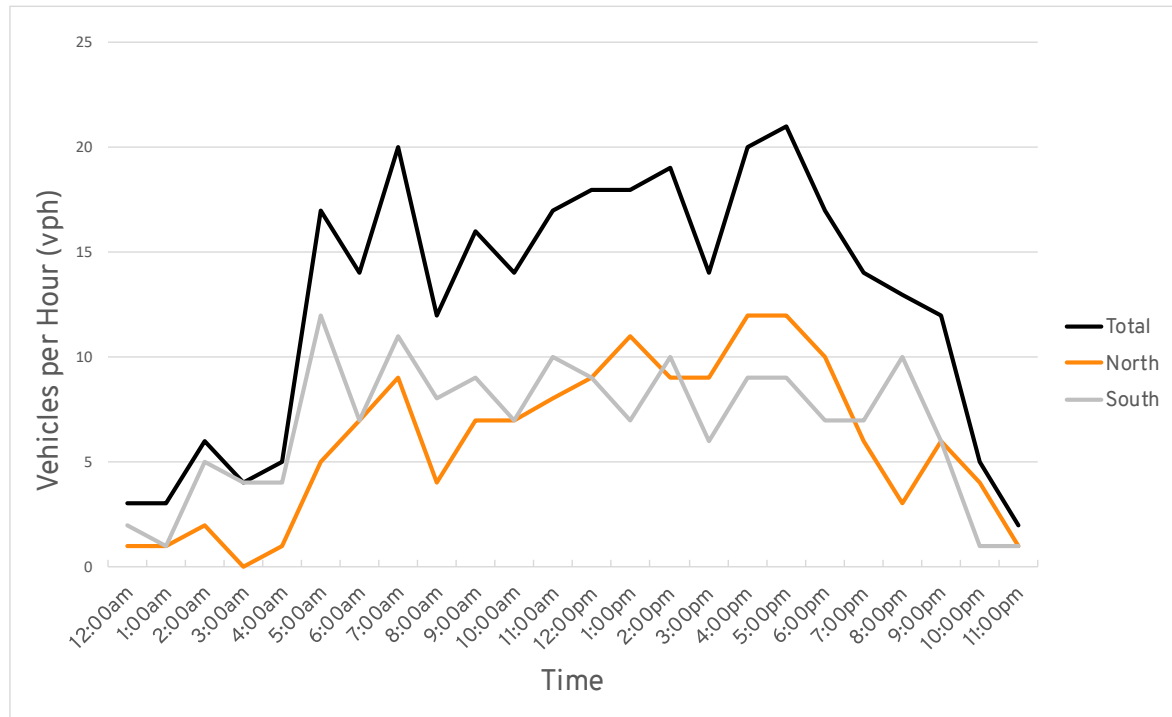
Table 5: Access Road Traffic Volumes – 60m southeast of the eastbound on-ramp

	Weekday Traffic (vpd)	Weekday AM Peak - 7:00 (vph)	Weekday PM Peak - 17:00 (vph)	85 th Percentile Speed	Heavy Vehicle Percentage
Northbound	144	9	12	33.6 km/hr	8.1%
Southbound	162	11	9	34.6 km/hr	8.0%
Both Directions	306	20	21	34.1 km/hr	8.0%

The survey data indicates the access road currently experiences a low level of daily traffic in the order of 306 vehicles per day, which is split relatively evenly between northbound and southbound vehicles. The 85th percentile speed is lower than the speed limit and the road accommodates approximately 8.0% heavy vehicle traffic.

The weekday hourly traffic volumes along the access road have been separated into northbound and southbound trips and are shown in Figure 7.

Figure 7: Access Road Weekday Traffic Volume Data



The figure shows that the majority of movements along the access road occur between 5:00am and 7:00pm with the peak hour recorded between 4:00pm and 5:00pm.

Overall, the data indicates the access road currently accommodates a relatively low level of traffic for its classification.

2.4 Sustainable Transport

2.4.1 Public Transport

Bus route 526 (Burwood to Rhodes Shopping Centre) operates along Underwood Road, with a bus stop provided adjacent to DFO Homebush approximately 330 metres walking distance from the site. Services are generally provided between 5:15am and 1:15am at 10-30 minute intervals on weekdays and weekends. This service also provides access to Strathfield Railway Station.

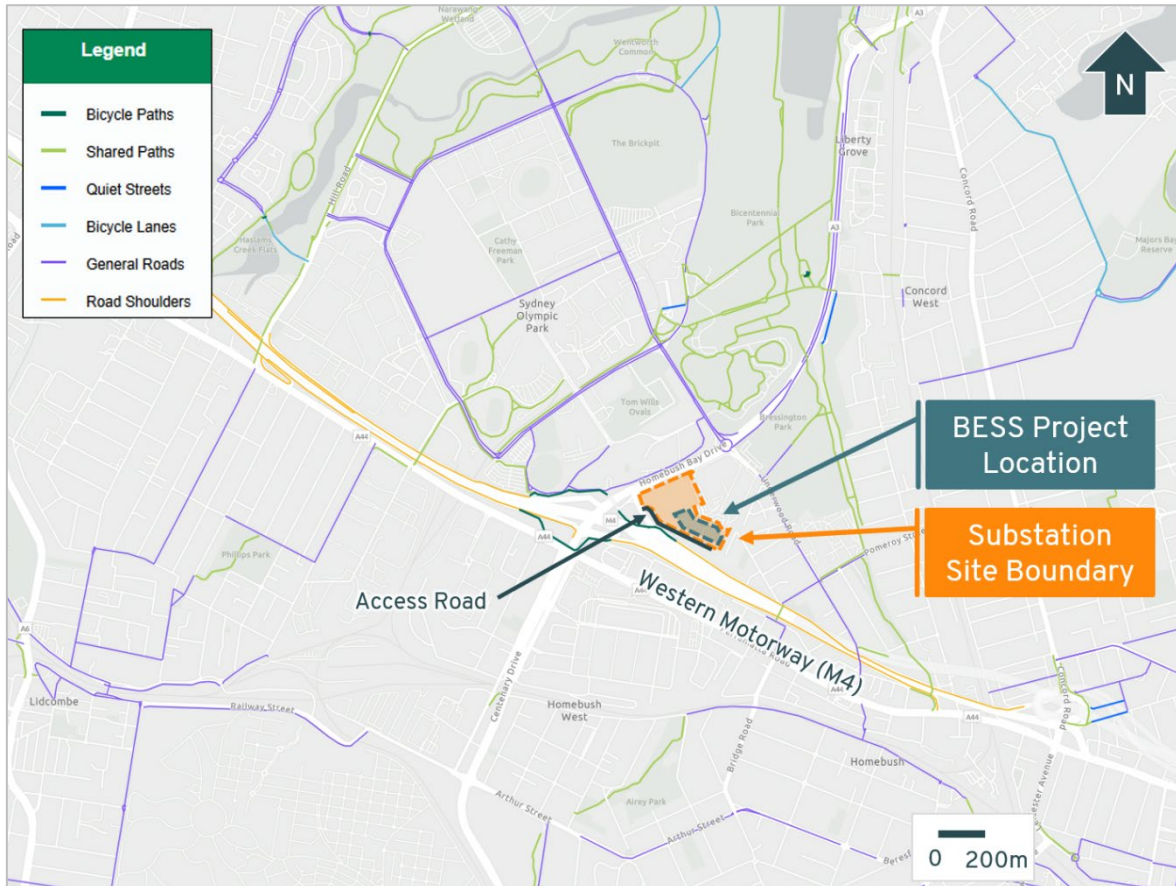
Several school buses also operate along Underwood Road including:

- 665S - Sydney Olympic Park Wharf to Domremy College
- 760S - Newington to Concord High
- 761S - Newington to Concord High

2.4.2 Sustainable Transport

A bicycle lane is provided along the eastern side of the Western Motorway On-Ramp which connects to a nearby shared path, providing access to the broader cycling network as shown in the TfNSW Cycleway Finder Map in Figure 8.

Figure 8: TfNSW Cycleway Finder Map



Source: TfNSW Cycleway Finder

2.5 Restricted Vehicle Access

2.5.1 B-Doubles

The TfNSW Restricted Access Vehicle Map for the surrounding area is provided within Figure 9. The green lines indicate approved B-Double routes while the yellow lines represent approved routes with travel conditions.

The figure shows that the surrounding State Road network are B-Double approved routes. It is noted that the M4 East Tunnel is approved subject to the following condition¹:

'No dangerous goods are permitted in the M4 tunnel'

¹ Condition as detailed on the NHVR NSW Restricted Access Vehicle (RAV) Map.

It is noted that the access road along the site frontage is unrated and would require approval from Strathfield Council and WestConnex/Transurban as the manager of the access road. Accordingly, the site has access to the B-Double approved road network.

Figure 9: TfNSW 26m B-Double Network Approved Roads



Source: NHVR Restricted Access Vehicle Map

2.5.2 Class 1 OSOM Vehicles

The TfNSW Oversize Overmass (OSOM) Load Carrying Vehicles Network map for the surrounding area is provided within Figure 10. The map shows approved routes for eligible vehicles operating under the Multi-State Class 1 Load Carrying Vehicles Mass and Mass Exemption Notices. A summary of the allowances under each exemption within New South Wales is provided below:

- Dimension: up to 5.0 m wide, 5.0 m high, 30.0 m long and 7.5 m rear overhang on approved (state owned) routes in NSW.
- Mass: up to 115.0 tonnes for rows of 8 tyres low loaders and up to 77.5 tonnes for rows of 4 tyres low loader combinations.

Vehicles operating in the daytime and not exceeding 3.5 m wide or 26 m long generally do not require a pilot vehicle.

The green lines indicate approved Class 1 OSOM Vehicle routes while the red lines represent restricted routes. The figure shows that the surrounding State Road network are OSOM approved with exception to the M4 East Tunnel, which is subject to the following condition²:

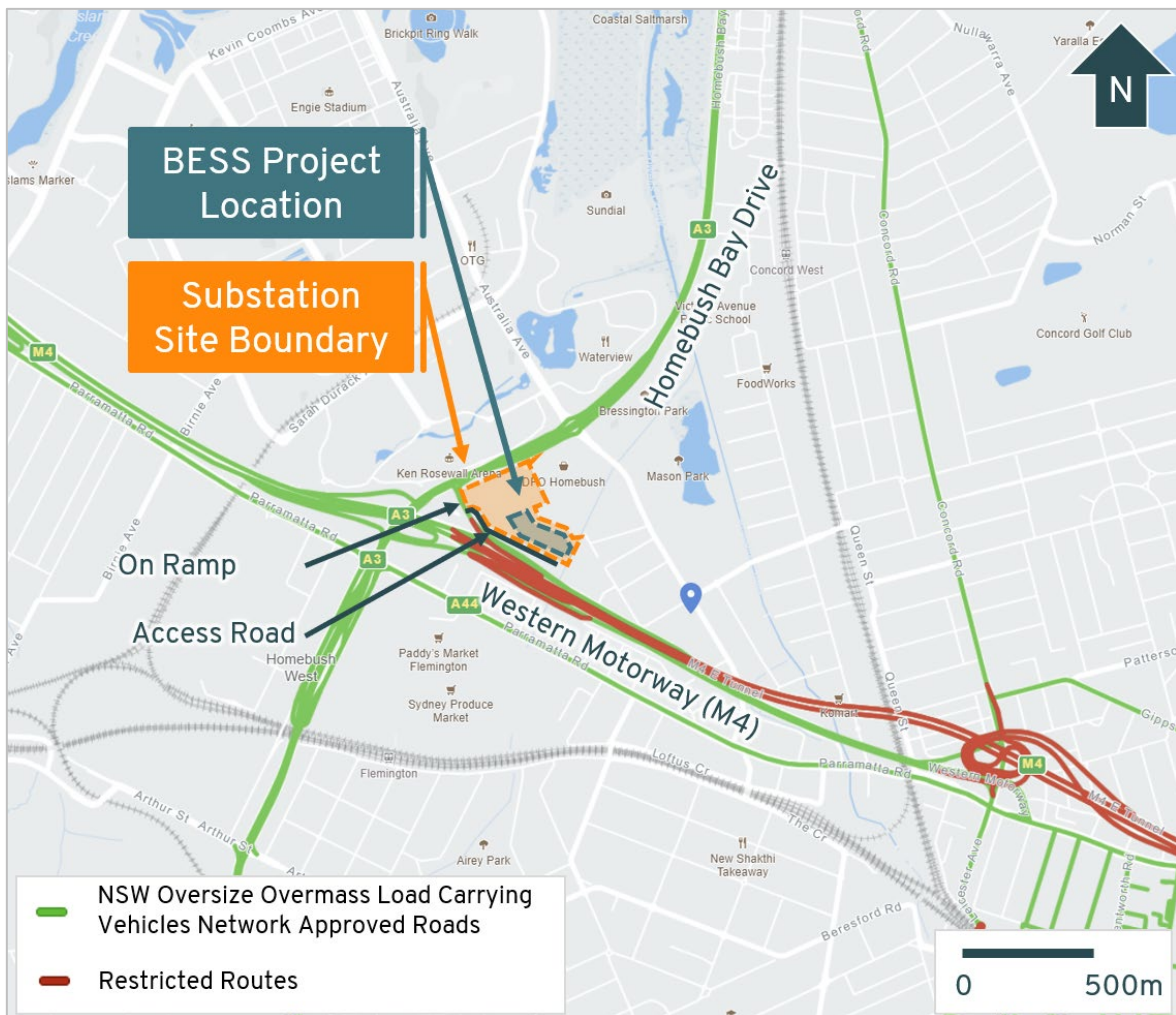
Dimension Limits:

- Width: 2.5m
- Height: 4.3m
- Length: 19m

If your vehicle exceeds the above dimensions you must apply for a Class 1 permit before you commence your journey.

Accordingly, the site has access to the Class 1 OSOM approved road network via the Western Motorway On-Ramp and Homebush Bay Drive.

Figure 10: TfNSW Class 1 Oversize Overmass Load Carrying Vehicles Network Approved Roads



Source: NHVR OSOM Network Map

² Condition as detailed on the NHVR NSW Oversize Overmass Load Carrying Vehicles Network Approved Roads Map.

2.5.3 Special Purpose Vehicles (SPVs)

Vehicles built for a purpose other than carrying goods such as a mobile crane, a concrete pump or drill rig are defined as Special Purpose Vehicles (SPVs).

The NSW Special Purpose Vehicle Network map provides details of the approved roads as well as conditions of access and travel restrictions for eligible SPVs operating under the:

- National Class 1 Special Purpose Vehicle Notice, or
- NSW Class 1 4-Axle & 5-Axle All Terrain Mobile Crane Mass and Dimension Exemption Notice, or
- NSW Class 1 All Terrain Mobile Crane and Dolly Combination Mass and Dimension Exemption Notice.

Roads that are not approved on the map require an access permit from the National Heavy Vehicle Regulator or the relevant road manager. There are six SPV access networks for cranes travelling on approved State Roads in NSW:

- SPV Level 1: Cranes and SPVs up to 40 tonnes that comply with the Bridge Formula.
- SPV Level 2: Crane and dolly combinations up to 70 tonnes that comply with the Bridge Formula.
- SPV Level 3: 3-axle All Terrain Cranes up to 36 tonnes and 4-axle All Terrain Cranes up to 43 tonnes.
- SPV Level 4: 4-axle All Terrain Cranes up to 45.8 tonnes and 5-axle All Terrain Cranes up to 50 tonnes.
- SPV Level 4 / 12 tonnes per axle: 4-axle All Terrain Cranes up to 48 tonnes and 5-axle All Terrain Cranes up to 50 tonnes.
- SPV Level 6: 5-axle All Terrain Cranes up to 60 tonnes.

The approved routes for SPV Level 4 and 12 t axle vehicles travelling within the surrounding area are identified within Figure 11. The figure shows that SPV Level 4 and 12 t axle vehicles are typically approved on the surrounding State Road network, including the Western Motorway (M4), subject to the following conditions³:

M4 Western Motorway

Restricted Road: M4 Western Motorway

Start Point: Concord Road Strathfield

End Point: Nepean River Leonay

Condition: Vehicles exceeding 2.5 metres wide or 22 metres long are not permitted to travel between sunrise and sunset during public holiday periods (including 23 December in one year to 3 January of the following year inclusive).

M4 East

Restricted Location: M4 East from Concord Rd to end of M4 East

Start Point: Homebush Bay Dr

End Point: Wattle St

Dimension Limits:

Width = 3m

Height = 4.3m

Length = 26m

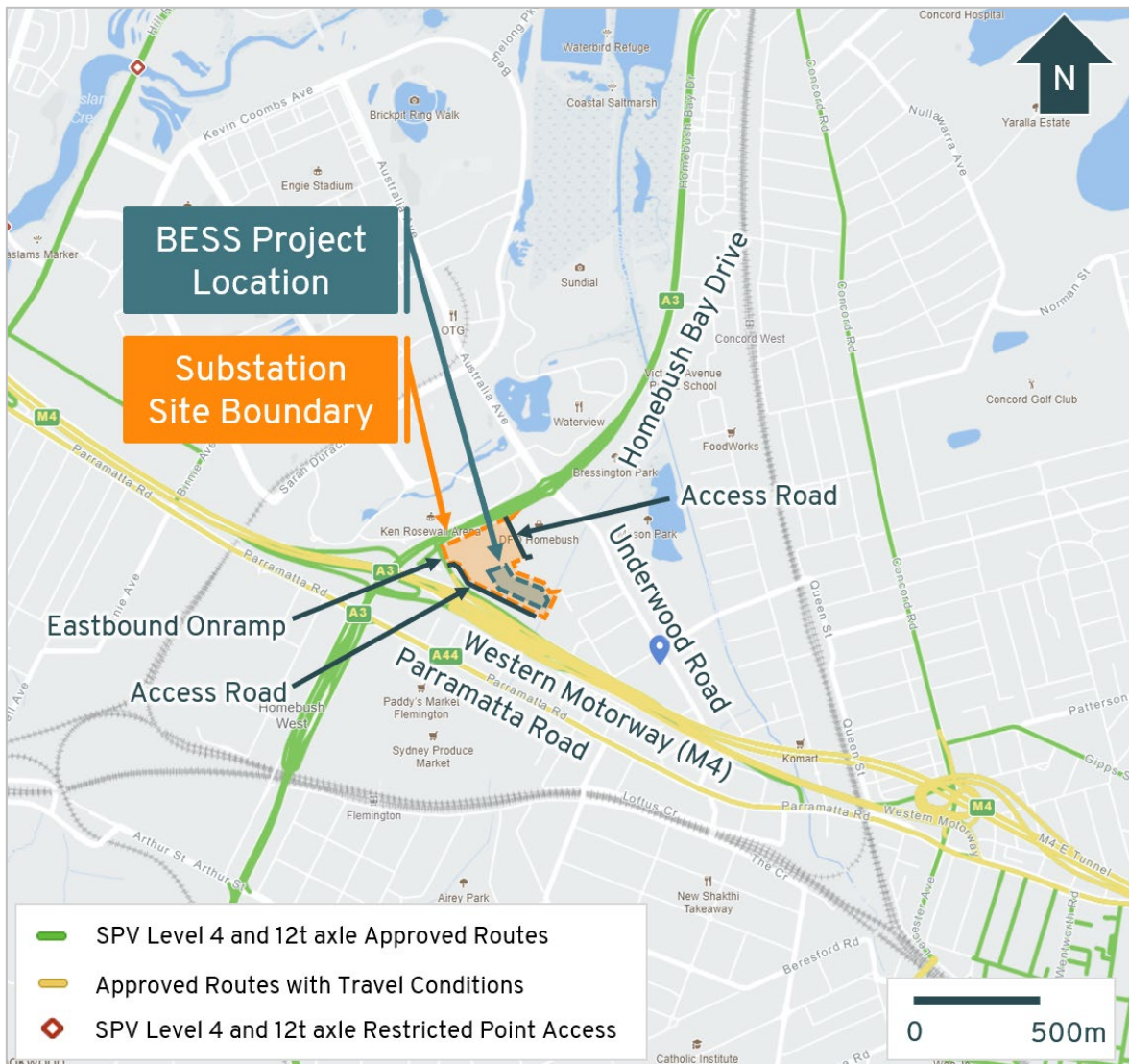
Condition: Forward projection not to exceed 5.5m

³ Condition as detailed on the NHVR NSW Special Purpose Vehicle Network Map.

Some approved routes for SPV classified vehicles are limited due to restricted structures (bridges) on the network in the surrounding area, including:

- Bridge over Railway at Flemington, approximately 1.2 kilometres southwest of the site restricted for SPV Level 6
- Westbound Bridge over Birnie Avenue at Lidcombe, approximately 1.1 kilometres west of the site restricted for SPV Level 6
- Westbound Bridge over Hill Road at Lidcombe, approximately 2.1 kilometres west of the site restricted for SPV Level 6.

Figure 11: TfNSW SPV Level 4 and 12 tonne axle Network Approved Roads



Source: NHVR Special Purpose Vehicle Access Map

Figure 11 shows that the SPV Level 4 and 12 tonne axle vehicle has access to the Project Area via the surrounding State road network, however, several bridges have restricted use. SPV routes to and from the Project would need to be assessed when specific details of the required vehicles are established to avoid road infrastructure that does not have capacity for the proposed loading.

2.6 Crash History

Amber has conducted a review of the TfNSW Centre for Road Safety Crash and Casualty Statistics database for all recorded crashes within the surrounding area of the Project. The crash database provides the location and severity of all crashes for the five-year period from 2019 to 2023. The search area included the following roads:

- The eastbound on-ramp onto Western Motorway (M4)
- The access roads adjacent to the site
- The intersection between Homebush Bay Drive and the eastbound on-ramp, and
- The intersection between Homebush Bay Drive and the access road along the northeastern side of the site.

The results of the crash search are summarised in Table 6.

Table 6: Crash Search Results

Road	Location	Severity	Crash Type	Date and Time	Light and Weather Conditions
Homebush Bay Drive	15 m Southwest of Western Motorway (Eastbound On-Ramp)	Minor/Other Injury	Rear end (vehicles in same lane)	September 2019 (16:00 - 17:59)	Daylight (Fine)
	25 m North of Western Motorway (Eastbound On-Ramp)	Non-casualty (towaway)	Head on collision	January 2021 (14:00 - 15:59)	Daylight (Raining)
	200 m West of Underwood Road	Non-casualty (towaway)	Out of control on road	April 2021 (18:00 - 19:59)	Dusk (Fine)
	Intersection with Western Motorway (Eastbound On-Ramp)	Moderate Injury	Collision between right turning vehicle and through vehicle	September 2020 (08:00 - 09:59)	Daylight (Fine)
		Minor/Other Injury	Rear end (vehicles in same lane)	March 2020 (16:00 - 17:59)	Daylight (Fine)
		Moderate Injury	Rear end (vehicles in same lane)	June 2023 (00:01 - 01:59)	Darkness (Fine)
		Non-casualty (towaway)	Other same direction crash	July 2023 (14:00 - 15:59)	Daylight (Fine)
Western Motorway (Eastbound On-Ramp)	100 m Southeast of Homebush Bay Drive	Moderate Injury	Rear end (vehicles in same lane)	April 2023 (10:00 - 11:59)	Daylight (Fine)

The review indicates that four crashes have been recorded at the intersection of Homebush Bay Drive and the eastbound on-ramp, and two more crashes were recorded within 25 metres of this intersection. It is noted that both Homebush Bay Drive and the eastbound on-ramp are State roads and the number of recorded crashes is unsurprising given the traffic volumes and speeds at the intersection.

Given the large search area, the associated traffic volumes on the roads and the road classifications, it is concluded that the road network is currently operating in a relatively safe manner.

3. Project Description

3.1 The Project

The Project involves the development, construction, operation and decommissioning of a BESS with a maximum capacity of 200 MW/400 MWh (2 hours). The Project would consist of the following components:

- Containerised battery units (112 Megapacks) and associated infrastructure, including inverters and 56 medium voltage transformers. The Megapacks would stand at a height of approximately 2.75 m, with a footprint of 1.65 m by 8.8 m
- 33kV underground cable connection from the battery units to Mason Park substation infrastructure
- Combined switch room and control room building
- Eight Ring Main Units (RMU)
- On-site workshop facility
- One auxiliary transformer
- Backup diesel generator
- Two spaces for on-site car parking
- Other ancillary infrastructure including fire suppression, stormwater management, 2.4m high boundary security chain wire fencing, lighting and CCTV
- Access to the site would be via an existing access road which connects to the Western Motorway On-Ramp via Homebush Bay Drive. The access road is not within the development footprint of the Project, with the Applicant obtaining landowner consent from WestConnex/Transurban for use of the access road.

3.2 Construction Information

The physical construction of the Project is expected to commence in late-2025 and take approximately 22 months, with the peak construction period expected to take 6 months. Construction activities would be undertaken during standard daytime construction hours as follows:

- Monday to Friday: 7am – 6pm
- Saturday: 8am – 1pm
- No work on Sundays or public holidays.

Some construction activities may require work on Sundays or during other out of hours periods due to electrical outage constraints. Any construction outside of normal working hours would only be undertaken with prior approval from relevant authorities and consultation with impacted road users.

A construction workforce of up to 100 full-time equivalent (FTE) personnel would be on-site during the peak construction phase. These staff would be primarily located in Sydney.

A Construction Traffic Management Plan (CTMP) would be prepared by the appointed contractor prior to construction commencing as outlined in Section 7 of this report.

4. Traffic Assessment

Traffic generated by the Project can be separated into three distinct stages: construction, operation and decommissioning. The peak traffic generating potential is during construction, which generates trips associated with the workforce accessing the Project and the delivery of raw materials and plant. During operation the Project is expected to generate a lower amount of traffic associated with up to 1-2 full time maintenance personnel accessing the site per week. Decommissioning is anticipated to generate a similar level of traffic to the construction stage.

The following provides an assessment of the potential traffic impacts of the Project on the road network function for each of the three stages.

4.1 Construction Phase

4.1.1 Standard Construction Traffic Generation

Construction traffic generated by the Project on a day-to-day basis can be broadly separated into the categories outlined in Table 7.

Table 7: Standard Construction Traffic

Terminology	Definition	Example Vehicle Image
Light Vehicles	The use of light vehicles will be associated with transporting the workforce to/from the Project. A conservative vehicle occupancy of approximately 1.5 people per car has been adopted to calculate the light vehicle traffic generation noting the workforce would be encouraged to carpool.	
Heavy Vehicles		
Rigid Trucks	Rigid Trucks will be used to deliver raw materials and smaller plant and have a typical length between 8 and 13 metres.	
Truck and Dog	Truck and Dog vehicles consist of a rigid truck towing either a dog trailer or a pig trailer and are not more than 19 metres in length. A dog trailer is a trailer with axles at either end of the trailer, a pig trailer has the axles centred on the trailer. These vehicles will be utilised to transport the majority materials to/from the site.	
Semi-trailers	Semi-trailers will be used to transport larger equipment and materials. These vehicles consist of a truck and a single trailer with a total length of 19 metres.	
B-Doubles	B-Doubles will also be used to transport larger plant. B-Doubles consist of a truck with two trailers and have a maximum length of 26 metres.	

Terminology	Definition	Example Vehicle Image
Special Purpose Vehicles	A vehicle where the primary purpose for which it was built was <u>not</u> the carriage of goods or passengers (e.g. mobile cranes, concrete pump trucks, drilling rigs). These vehicles are considered Class 1 OSOM vehicles if exceeding mass or dimensional limits.	
Non High Risk OSOM	Class 1 OSOM vehicles which can operate on the approved network outlined in Section 2.5.2 subject to travel conditions, as well as vehicles built for a purpose other than carrying goods such as a mobile crane, a concrete pump or drill rig which are defined as Special Purpose Vehicles (SPVs) and can also operate on the relevant approved networks subject to travel conditions.	

The construction traffic volumes for the Project have been provided by Ausgrid. It is anticipated that during peak construction the Project would generate up to 134 light vehicle and 20 heavy vehicle trips per day. Table 8 summarises the forecast traffic volumes expected to be generated during the construction period of the Project.

Table 8: Traffic generation during construction period

Vehicle Type		Average Construction Period		Peak Construction Period	
		Vehicle Trips per Day (vpd)	Peak Hour Trips (vph)	Vehicle Trips per Day (vpd)	Peak Hour Trips (vph)
Light Vehicles (LV)		68	34	134	67
Heavy Vehicles (HV)	Rigid Trucks	2	1	4	1
	Truck and Dog	2	1	0	0
	Semi-trailers	1	1	2	1
	B-Doubles	1	1	2	1
	Non High Risk OSOM	6	2	12	2
	<i>HV Subtotal</i>	<i>12</i>	<i>6</i>	<i>20</i>	<i>5</i>
Total		80	40	154	72

Overall, the Project is expected to generate up to 72 vehicles per hour in the morning and evening peak hours during the peak construction period, which would reduce to 40 vehicle per hour during the average construction periods.

4.1.2 Non High Risk OSOM Vehicles

Specialist construction plant, including mobile cranes, concrete pumps, drill rigs and excavators will be required to access the site for loading/unloading and general construction purposes during both construction and decommissioning of the Project. They are considered Class 1 restricted access vehicles if they exceed one or more of the general mass and dimension limits.

Many of these vehicles would not create daily trips to and from the site. It is expected that there will be influxes of arrivals and departures depending on the phase of construction. Once arrived, they would remain until not required, before being removed from the site. These trips would typically be generated outside of peak hours.

The vehicle combinations to transport the batteries are to be confirmed but are anticipated to be prime movers with 2 by 4 axle dolly and 4 by 4 axle low loader. These combinations would be kept under 3.5 metres width and less than 26 metres length, would not be classified as High Risk, and would comply with the *National Heavy Vehicle Regulator Multi-State Class 1 Load Carrying Vehicle Mass Exemption Notice 2020 Information Sheet*.

These vehicles would access the site on the approved network using the access road via the Western Motorway On-Ramp, as outlined at Section 2.5. These roads are approved for Class 1 OSOM vehicles, noting that use of the access road would require approval from Strathfield Council and WestConnex/Transurban as the road manager as it is unrated.

Vehicle types and any necessary permits would be confirmed and obtained (as needed) once the construction methodology is determined.

4.1.3 High Risk OSOM Vehicles

There are no High Risk OSOM vehicles anticipated for the construction of the Project. The largest vehicle expected to access the site is the battery container vehicle, which would be kept under 3.5 metres width and 26 metres length. As outlined above, these vehicles would be classed as OSOM and not considered high risk.

4.1.4 Traffic Distribution

Traffic accessing the site would do so via the access road from the Western Motorway On-Ramp which forms part of the State road network.

It is anticipated that the majority of the workforce for the construction of the Project would be located in Sydney. Materials and equipment will generally be sourced from the surrounding area where practicable, with larger plant expected to be delivered from Port of Newcastle or Port Botany.

During the morning peak all vehicle trips would be toward the site and in the evening peak all vehicle trips would be away from the site. The majority of heavy vehicle trips would be distributed throughout the day and would be split evenly between inbound and outbound trips.

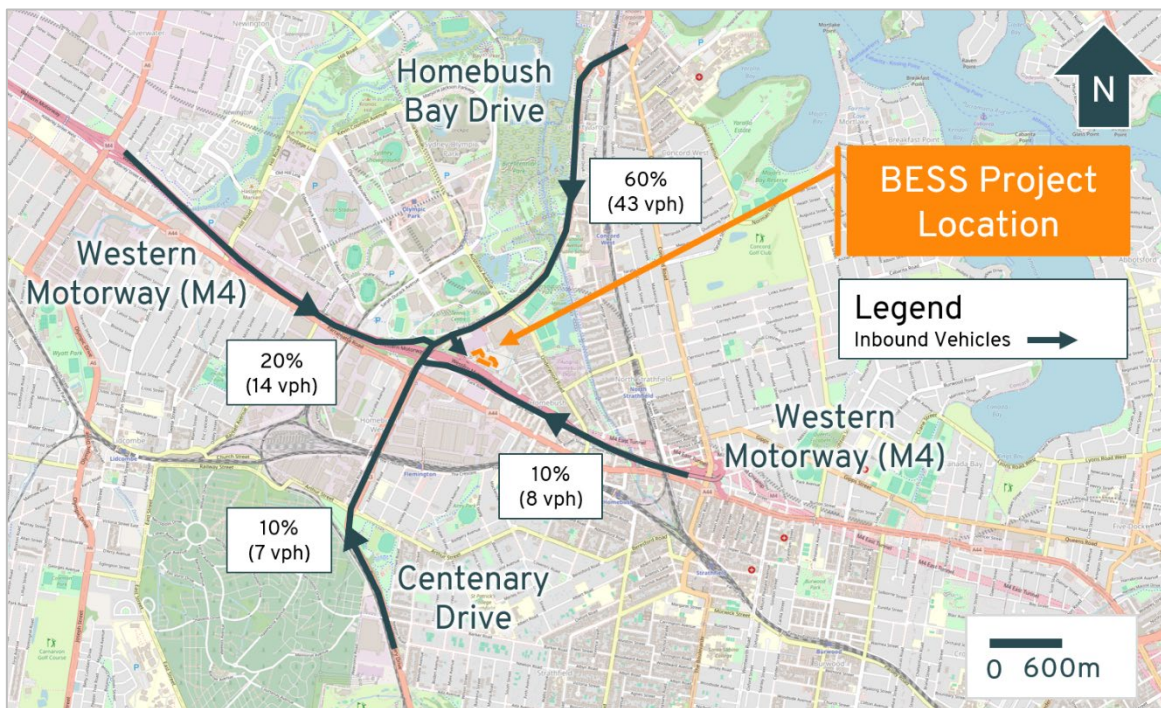
The following provides a breakdown of the anticipated distribution for each of the vehicle classifications outlined within Table 8:

- **Light Vehicles:** At the intersection of Homebush Bay Drive/Western Motorway On-Ramp, 60% of vehicles arrive from the east and 40% from the west on Homebush Bay Drive. This is generally consistent with the distribution of traffic recorded in the traffic surveys.
- **Heavy Vehicles:** 50% from the east and 50% from the west on Homebush Bay Drive.
- **Heavy Vehicles delivering plant and larger components:** The plant would be delivered from Port of Newcastle or Port Botany, with the delivery port to be determined prior to construction. For this assessment it has been assumed that 50% are from the east and 50% are from the west on Homebush Bay Drive.

As a result of the road network and access arrangements to the site, all entering vehicles will travel through the Homebush Bay Drive/Western Motorway On-Ramp intersection, and all departing vehicles will travel to the east on the Western Motorway. The resulting distribution of peak construction traffic is shown in Figure 12 and Figure 13 for the respective peak hours.

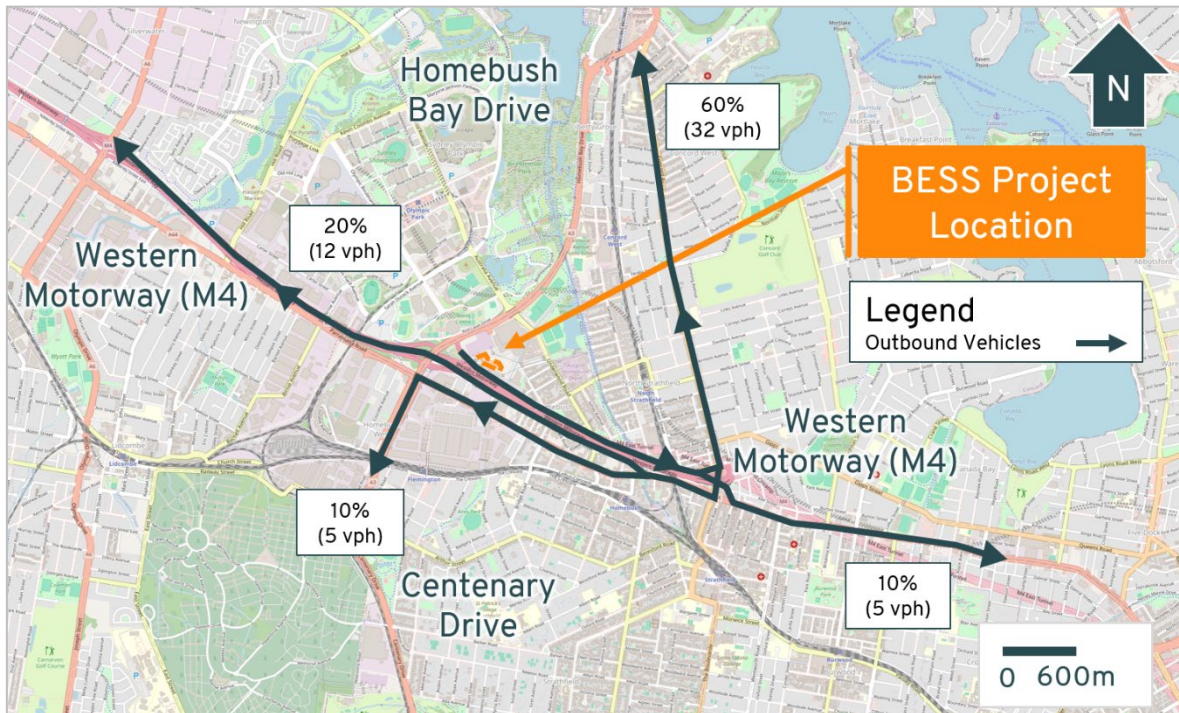
The peak hour for construction would occur at the start and end of the day when staff are arrive/depart the site. For the purpose of this assessment, it has been assumed that all staff would arrive on-site between 6:00am and 7:00am. However, staff generally have staggered finish times which results in the evening peak hour being less pronounced. Accordingly, it has been assumed that 80% of staff depart between 5:00pm and 6:00pm during the evening peak.

Figure 12: Traffic Distribution – Construction Peak (Morning Peak Hour)



Source: OpenStreetMap

Figure 13: Traffic Distribution – Construction Peak (Evening Peak Hour)



Source: OpenStreetMap

The resulting peak hour construction traffic volumes generated by the Project through the intersections of Homebush Bay Drive/Western Motorway On-Ramp and Western Motorway On-Ramp/Access Road are shown in Figure 14 and Figure 15.

Figure 14: Expected Project Traffic During Peak Construction – Homebush Bay Drive/M4 On-Ramp

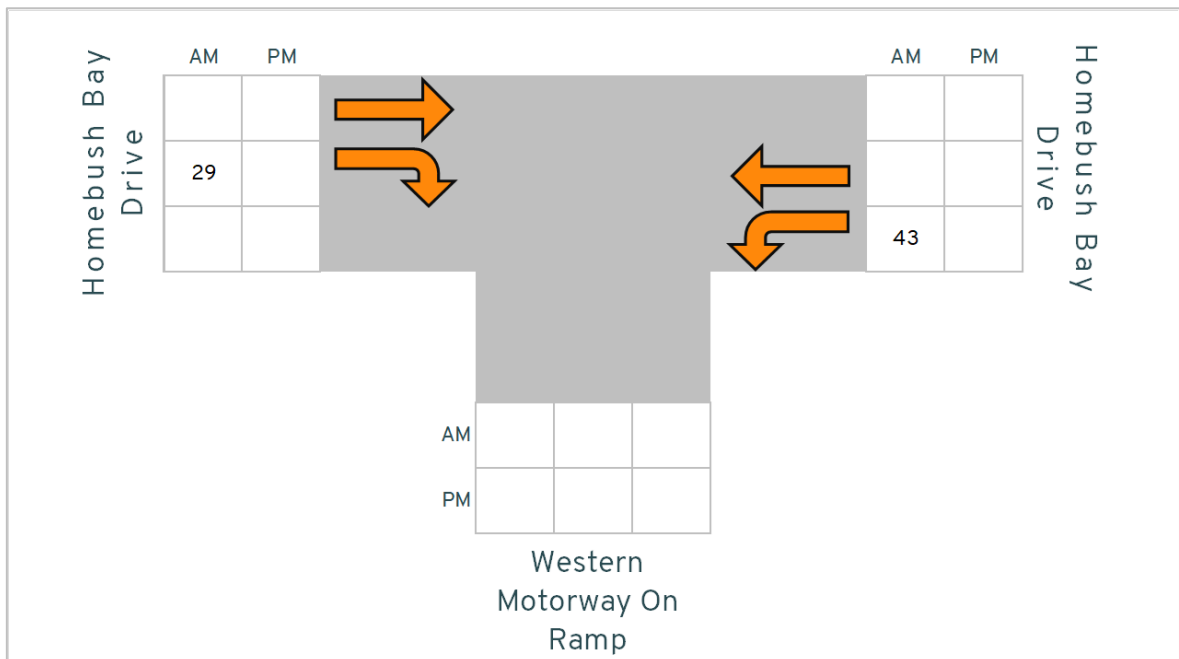
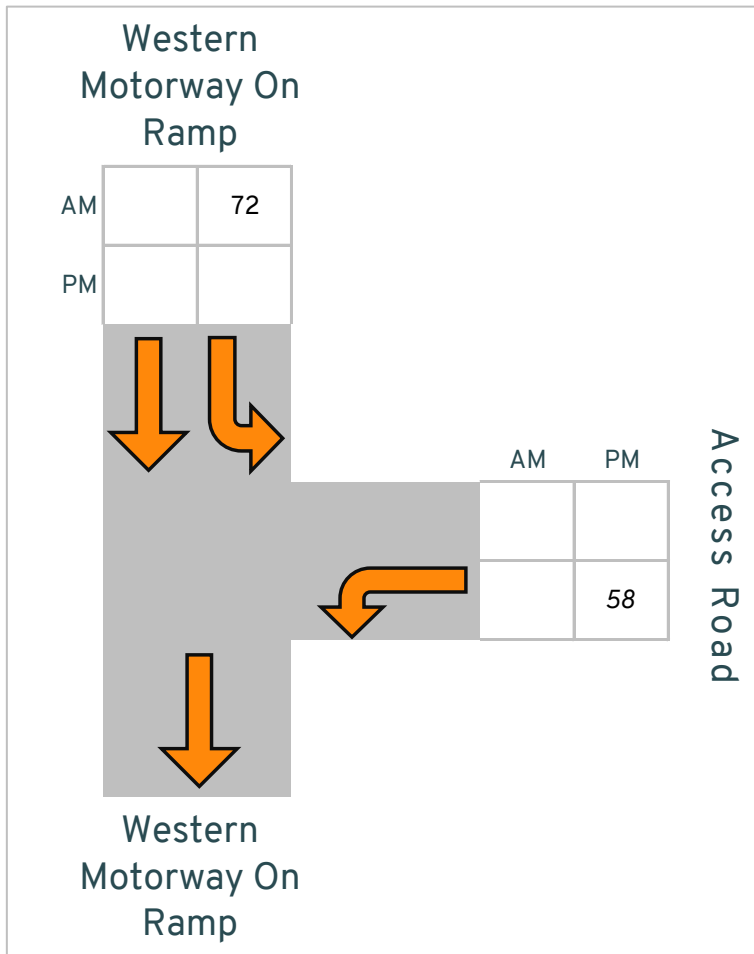


Figure 15: Expected Project Traffic During Peak Construction – M4 On-Ramp/Access Road



4.1.5 Cumulative Traffic Impacts

The primary traffic impact of the Project is generated during construction, which is anticipated to commence in late-2025 and take approximately 22 months.

To gain an appreciation of other potential traffic generating activities in the locality that may result in cumulative traffic impacts, a review of the DPHI major projects website within the Strathfield LGA and surrounding LGAs was undertaken. A search was also completed of the Strathfield Council Application Tracker for Development Applications within 1 kilometre of the Project on 12 March 2025.

The search identified a number of projects occurring in the locality, noting that they do not propose to use the same access roads as the Project. A summary of the key major projects that are proposed in the surrounding area are identified in Table 9.

Table 9: Assessment of Cumulative Impacts of Nearby Developments

Project	Description	Potential Vehicle Conflict
Homebush Build-to-Rent (Preparing EIS)	Mixed use build-to-rent development of 3 buildings with a height range of 21 to 25 storeys. The Project includes 481 units, and 1,278 sqm of retail/commercial floor area, located approximately 1 km from the Project Area.	It is unlikely that construction traffic of this project would impact the proposal as the site has access to the arterial road network via Parramatta Road, which is not proposed to be utilised by the BESS project. The DA does not provide the indicative timeframes for construction.
9 Burroway Road, Wentworth Point – Mixed Use Development (Preparing EIS)	Concept Proposal for 41,500 sqm of mixed use gross floor area, 406 apartments, above ground parking, building envelope, new public plaza and shared zone between Burroway Road and Ridge Road and a foreshore promenade to Homebush Bay, located approximately 4 km from the Project Area.	If construction occurs at the same time as the Project, cumulative traffic impacts would be negligible given the distance between projects and road network between the two sites. The DA does not provide the indicative timeframes for construction.
179-181 Parramatta Road, Homebush West (Determination)	Construction of warehouse and distribution centre with ancillary office space with a total floor area of 3,609 sqm and 24 car spaces.	If construction occurs at the same time as the Project, cumulative traffic impacts would be negligible given the distance between projects and road network between the two sites. The DA does not provide the indicative timeframes for construction.

The haulage/access route for the Project is clearly understood and there does not appear to be a direct cross over between the proposed haulage routes and routes of nearby projects. The construction window of the Project is relatively short and as such, the cumulative traffic impacts on the surrounding road network are expected to be negligible.

4.1.6 Traffic Assessment

In order to determine the ability of the road network to accommodate the traffic expected to be generated during peak construction periods, a traffic modelling exercise has been undertaken for the intersections of Homebush Bay Drive/Western Motorway On-Ramp and Western Motorway On-Ramp/Access Road using the SIDRA intersection modelling software.

Level of Service (LOS) is a qualitative measure used to describe the operating conditions of a section of road or an intersection. Levels of Service are designated from A (free flow conditions) to F (forced flow with stop start operation, long queues and delays) and represent the perception of the road conditions by motorists. This includes factors such as speed and travel time, freedom to manoeuvre, traffic interruptions, comfort and convenience, and safety.

The best indicator of the LOS at an intersection is the average delay experienced by vehicles at that intersection. For traffic signals, the average delay over all movements should be taken. For priority controlled intersections, the average delay of the critical movement should be taken.

The modelled traffic volumes at the intersections have been based on the morning and evening peak hour of construction (i.e. 6:00am-7:00am and 5:00pm-6:00pm). The signal phasing of the traffic signals has been based on observations at the intersection during the relevant peak periods.

The Project traffic presented at Figure 14 and Figure 15 has been added to the surveyed traffic volumes during these periods. A growth rate of 1.5% per annum has been conservatively applied to the background traffic over a two year period to reflect the peak construction time, noting that TfNSW indicated that a growth rate was not required as part of the initial consultation (refer to Table 2). The modelled traffic volumes are presented at Figure 16 and Figure 17.

Figure 16: Expected Peak Hour Traffic During Peak Construction – Homebush Bay Drive/M4 On-Ramp

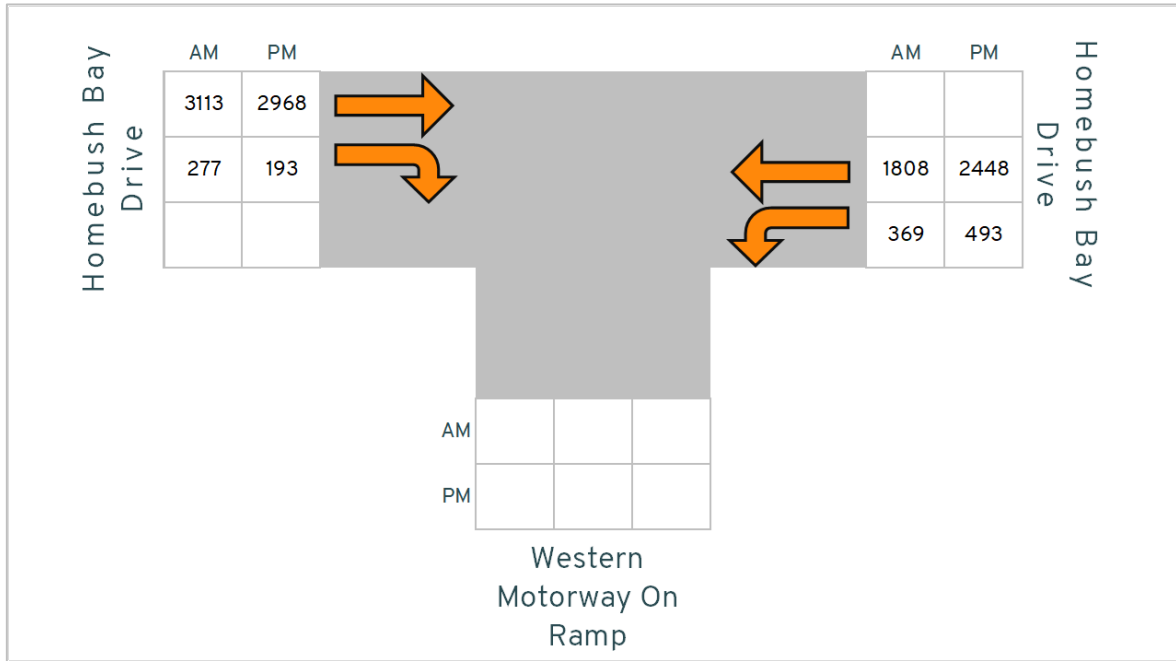
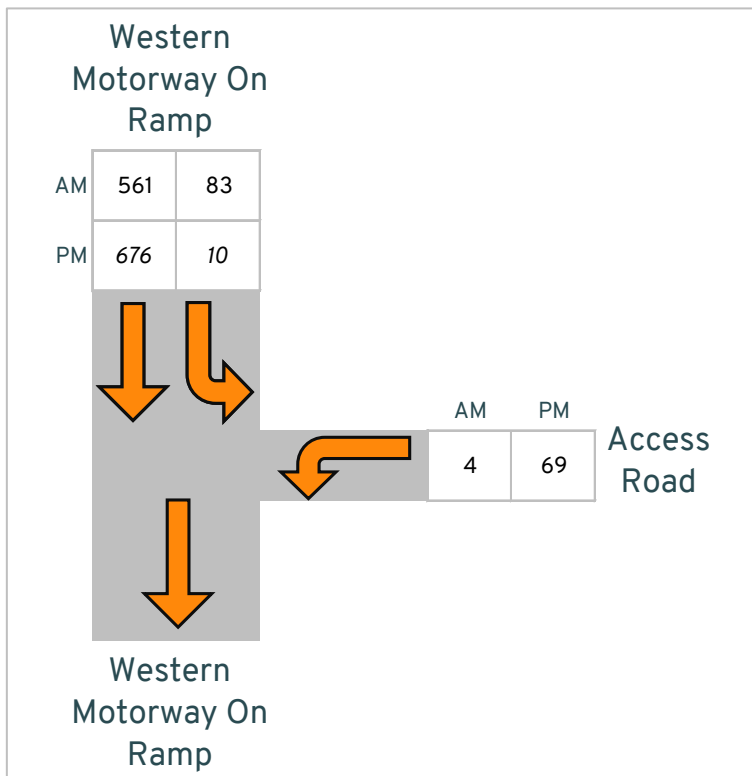


Figure 17: Expected Peak Hour Traffic During Peak Construction – M4 On-Ramp/Access Road



The results of the SIDRA analysis for the morning and evening peak hours during the peak construction periods are provided within Appendix C and summarised in Table 10 and Table 11. The analysis details the net change between existing and post-development conditions at each intersection.



Table 10: Summary of SIDRA Results – Homebush Bay Drive/M4 On-Ramp

Approach / Movement		Existing Conditions (2024)				Peak Construction (2026)				Change in Conditions			
		Ave Delay (sec)	95% Queue (m)	Degree of Saturation	Level of Service	Ave Delay (sec)	95% Queue (m)	Degree of Saturation	Level of Service	Ave Delay (sec)	95% Queue (m)	Degree of Saturation	Level of Service
Morning Peak Hour (6:00am-7:00am)													
Homebush Bay Drive (East)	Left-Turn	15.6	27.2	0.139	B	15.8	32.2	0.161	B	+0.2	+5.0	+0.022	-
	Through	11.2	137.3	0.490	A	11.4	143.5	0.504	A	+0.2	+6.2	+0.014	-
Homebush Bay Drive (West)	Through	0.7	57.0	0.639	A	0.7	61.3	0.658	A	-	+4.3	+0.019	-
	Right-Turn	55.9	124.1	0.668	D	59.5	149.9	0.761	E	+3.6	+25.8	+0.093	D to E
Evening Peak Hour (5:00pm-6:00pm)													
Homebush Bay Drive (East)	Left-Turn	11.7	31.1	0.177	A	11.8	32.2	0.182	A	+0.1	+1.1	+0.005	-
	Through	6.8	161.2	0.565	A	7.0	170.1	0.582	A	+0.2	+8.9	+0.017	-
Homebush Bay Drive (West)	Through	0.6	45.4	0.572	A	0.6	48.4	0.589	A	-	+3	+0.017	-
	Right-Turn	73.5	100.1	0.769	F	74.8	104.8	0.794	F	+1.3	+4.7	+0.025	-



Table 11: Summary of SIDRA Results – Access Road/M4 On-Ramp

Approach / Movement		Existing Conditions (2024)				Peak Construction (2026)				Change in Conditions			
		Ave Delay (sec)	95% Queue (m)	Degree of Saturation	Level of Service	Ave Delay (sec)	95% Queue (m)	Degree of Saturation	Level of Service	Ave Delay (sec)	95% Queue (m)	Degree of Saturation	Level of Service
Morning Peak Hour (6:00am-7:00am)													
Access Road (East)	Left-Turn	7.6	0.2	0.004	A	7.7	0.2	0.004	A	+0.1	-	-	-
M4 On-Ramp (North)	Left-Turn	5.1	0.0	0.007	A	5.1	0.0	0.049	A	-	-	+0.042	-
	Through	0.0	0.0	0.160	A	0.0	0.0	0.165	A	-	-	+0.005	-
Evening Peak Hour (5:00pm-6:00pm)													
Access Road (East)	Left-Turn	7.1	0.4	0.011	A	7.0	2.2	0.063	A	-0.1	1.8	+0.052	-
M4 On-Ramp (North)	Left-Turn	5.1	0.0	0.006	A	5.1	0.0	0.006	A	-	-	-	-
	Through	0.0	0.0	0.179	A	0.0	0.0	0.184	A	-	-	+0.005	-



A summary of the SIDRA analysis for each intersection indicates the following:

Homebush Bay Drive / Western Motorway On-Ramp Intersection

- There is negligible construction traffic travelling through the intersection in the evening peak hour as all vehicles departing the site must turn left out of the access road to the Western Motorway On-Ramp. Accordingly, the SIDRA results for the evening peak hour change marginally as a result of the background traffic growth only.
- The critical movement is the right turn from Homebush Bay Drive to the Western Motorway On-Ramp during the morning peak hour. Under existing conditions this movement experiences an average delay of 55.9 seconds, which increases to 59.5 seconds during the peak construction period. This represents a minor increase of 3.6 seconds compared to existing conditions.
- During the peak construction period, the right turn movement recorded a degree of saturation (DoS) of 0.761 and 0.794 in the morning and evening peak hours, respectively. For a signalised intersection, a DoS in this range is still considered to be operating at a 'Good' level of service.
- The 95th percentile queue for the right turn movement is 149.9 metres in the morning peak hour, representing an increase of 25.8 metres from existing conditions. The 95th percentile queue length under both existing and peak construction conditions exceeds the storage capacity of the right turn lane, and on occasion extends to the intersection of Homebush Bay Drive/Centenary Drive On-Ramp. It is noted that the average queue length during peak construction is much shorter (~90 metres) and can be accommodated within the storage capacity of the lane. In practice, the 95th percentile queue will be experienced one or two cycles across the peak hour, with queues typically accommodated within the turn lane. Therefore, it is considered that the operation of the right turn is acceptable given the impacts are temporary and only during construction. Consideration could be given to allocating more green time to the right turn phase to clear the lane in the morning peak hour.
- The LOS E for the right turn movement is due to the average delay of 59.5 seconds. The average delay is due to the short green time of this phase and the overall cycle time of the signals, which requires vehicles making this movement to typically wait for one cycle.
- The average delay for all vehicles through the intersection is 8.1 seconds and 6.4 seconds in the morning and evening peak hours, respectively. This represents a LOS A during each of the peak hours.

It is noted that the existing traffic volumes on the road network during the construction peak hours are lower than the existing traffic volumes recorded during the road network peak hours as shown in Table 12. Therefore, the addition of 72 vehicle movements during the construction peak hours will result in lower volumes than the existing road network peak hours.

Table 12: Traffic Volumes – Construction Peak Hour vs Road Network Peak Hour

Construction Peak Hour Volumes (2026)		Road Network Peak Hour Volumes (2024)	
Morning Peak (6am-7am)	Evening Peak (5pm-6pm)	Morning Peak (7:45am-8:45am)	Evening Peak (4:15pm-5:15pm)
5,568	6,102	6,322	6,275

Access Road / Western Motorway On-Ramp Intersection

- The intersection is expected to operate with minimal queue lengths on all legs.
- The overall average delay at the intersection is 0.7 and 0.8 seconds in the morning and evening peak hour respectively.
- The intersection is expected to continue to operate with good level of service (LOS A) at all times.

4.1.7 Summary

Overall, the intersections of Homebush Bay Drive/Western Motorway On-Ramp and Access Road/Western Motorway On-Ramp are expected to accommodate the peak construction traffic. While some movements may at times experience delays, the net change as a result of the additional traffic is expected to be minimal.

During the middle of the day the construction traffic movements are expected to be predominantly associated with heavy vehicles with approximately four vehicle movements per hour expected. This increase in traffic would be within the daily variation of traffic volumes on Homebush Bay Drive and can be readily accommodated, including during the road network peak hours.

Accordingly, the road network is able to accommodate the traffic generated by the development during the construction period, irrespective of Port of Newcastle or Port Botany being chosen as the delivery port.

4.2 Operational Phase

During operation, the BESS is expected to generate a minimal level of traffic associated with maintenance and operation services. The BESS is expected to be operated by up to 1-2 maintenance personnel and occasional deliveries resulting in a traffic generation of up to four vehicle movements per week which would result in a negligible change to the traffic environment. There would also be occasional heavy vehicles delivering to the site, but only as required for maintenance.

4.3 Decommissioning Phase

At the end of the operational life of the Project all above ground infrastructure would be dismantled and removed from the Project Area. Traffic generation during decommissioning would be similar to traffic generation during the average construction period. A Decommissioning Traffic Management Plan would be prepared prior to the decommissioning phase in conjunction with the relevant road authorities. This would aim to ensure adequate road safety and road network operations are maintained.

4.4 Summary

The Project is expected to generate its highest level of traffic volumes during the peak construction period. The assessment presented above indicates that the road network is able to accommodate the Project traffic during the peak construction period. The assessment also included a review of the cumulative traffic generated by other major projects within the surrounding area.

During construction the vehicle trips throughout the middle of the day are expected to be predominantly associated with heavy vehicles with approximately four vehicles per hour expected. This increase in traffic would be within the daily variation of traffic volumes on the road network and can be readily accommodated.

During operation the increase in traffic of up to four vehicle movements per week would result in a negligible change to the existing traffic environment.

Accordingly, the road network is able to readily accommodate the traffic generated by the Project during the construction, operation, and decommissioning periods.

5. Route Assessment

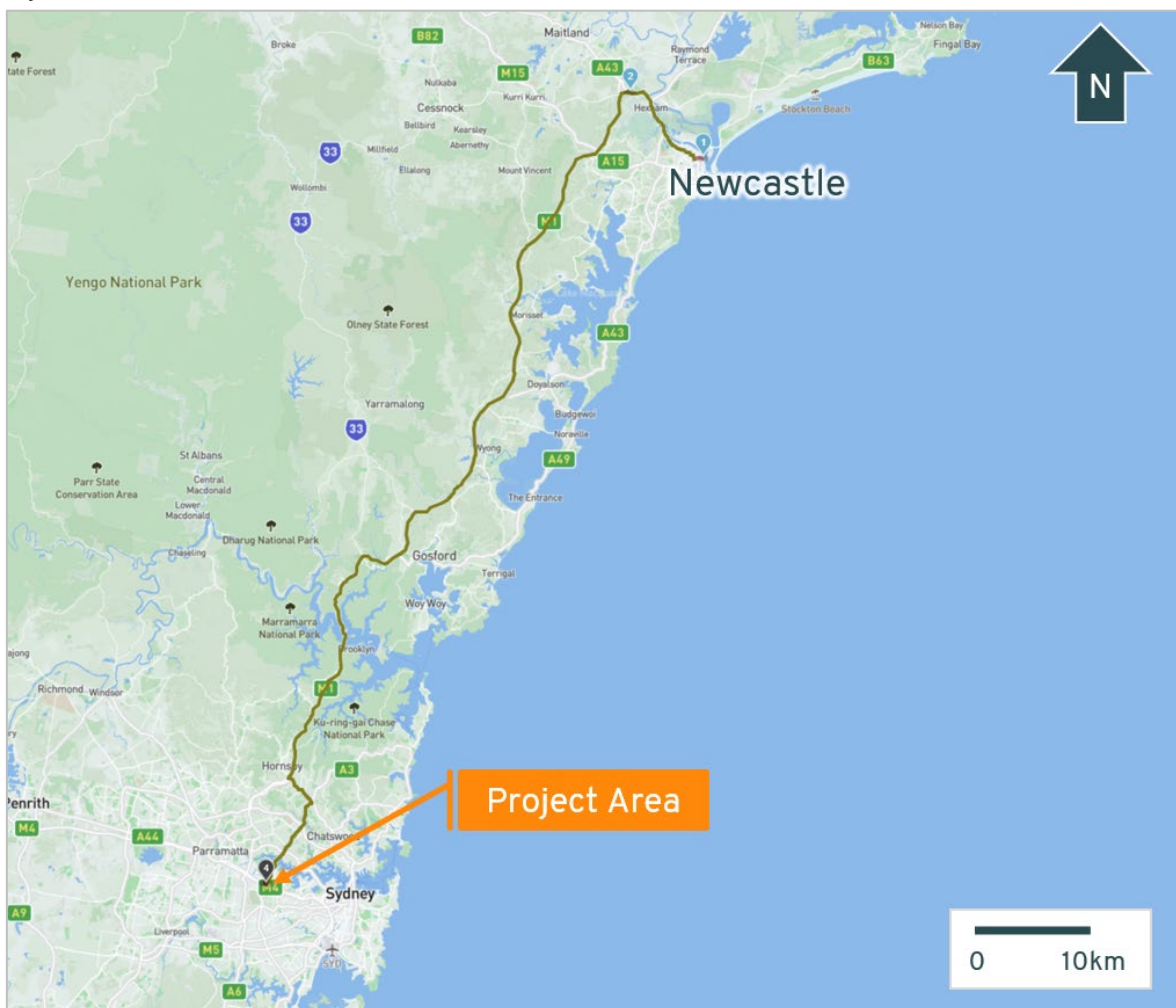
5.1 Plant Delivery - Heavy Vehicles

5.1.1 Access Routes

All plant is expected to be delivered from Port of Newcastle or Port Botany. The following provides a review of the proposed access routes for heavy vehicles (excluding OSOM vehicles) travelling from the ports. The proposed access routes are outlined in Figure 18 and Figure 19, with a summary of the relevant roads provided in Table 13.

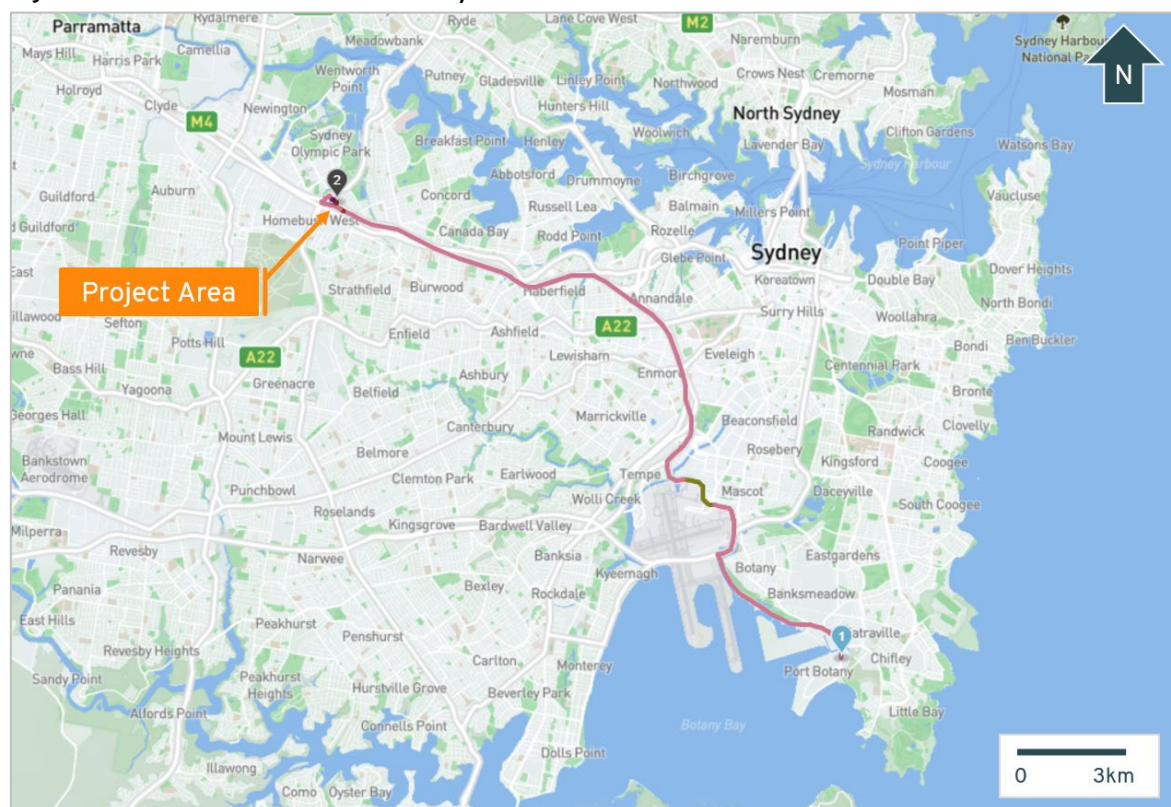
The access routes utilise roads that are designated for B-Double vehicles as outlined within the NHVR Restricted Access Vehicle Map and subsequently vehicles up to a 26 metre B-Double are able to readily access the site from each port subject to Council and WestConnex/Transurban approval for the use of the access road.

Figure 18: Access Route from Port of Newcastle



Source: NHVR Route Planner - Route ID: 1W28P-7 v2

Figure 19: Access Route from Port Botany



Source: NHVR Route Planner – Route ID: 1W2I9-3 v1

Table 13: B-Double Vehicle Routes - Access Roads

Road Name	State	Jurisdiction	B-Double Approved
Route from Port of Newcastle			
Selwyn Street, George Street	New South Wales	City of Newcastle	Approved
Industrial Drive		TfNSW	
Maitland Road			
New England Highway			
John Renshaw Drive			
Pacific Motorway			
Pacific Highway			
Ryde Road			
Lane Cove Road			
Devlin Street			
Church Street			
Concord Road			
Homebush Bay Drive			
Western Motorway On-Ramp			
Access Road	Strathfield Municipal Council / WestConnex	Unrated	

Road Name	State	Jurisdiction	B-Double Approved
Route from Port Botany			
Bumbarah Point Road	New South Wales	TfNSW	Approved
Botany Road			
Foreshore Road			
General Holmes Drive			
Joyce Drive			
Qantas Drive			Approved with conditions
Sydney Gateway			
M8 Motorway Tunnel			
M4 East Tunnel			Approved
Western Motorway			
Centenary Drive Off Ramp			
Homebush Bay Drive			
Western Motorway On-Ramp		Strathfield Municipal Council / WestConnex	Unrated
Access Road			

5.2 Plant Delivery – OSOM Vehicles

OSOM vehicles are expected to access the site can be separated into the following categories:

- The vehicle combinations to transport the batteries which are anticipated to be prime mover with 2 by 4 axle dolly and 4 by 4 axle low loader. These combinations would be kept under 3.5 metres width and less than 26 metres length and would not be classified as High Risk. However, these vehicles would likely be considered OSOM due to the mass of the load.
- The control and switchroom components are anticipated to arrive in parts and be assembled on-site. These components are anticipated to be transported by a vehicle similar to the battery container vehicle or other OSOM vehicle classified as Class 1.

There are no high-risk OSOM vehicles anticipated during the construction of the Project. The largest vehicle expected to access the site is the battery container vehicle outlined above.

The OSOM vehicles would comply with the *National Heavy Vehicle Regulator Multi-State Class 1 Load Carrying Vehicle Mass Exemption Notice 2020 Information Sheet*. The vehicle types and any necessary permits would be confirmed and obtained (as needed) once the construction methodology is determined.

5.2.1 OSOM Access Routes

The battery and control/switchroom components are expected to be delivered from Port of Newcastle or Port Botany. The following provides a review of the proposed access routes for Class 1 OSOM vehicles travelling from each of the ports.

5.2.1.1 Port of Newcastle

The OSOM vehicle from Port of Newcastle is proposed to utilise the route outlined within Figure 18 which adopts approved routes within the NSW Oversize Overmass Load Carrying Vehicles Network Map. Travel conditions are in effect on a number of the roads on the route mostly associated with other major projects and time of travel. All roads with travel conditions are managed by TfNSW and are detailed in Table 14.

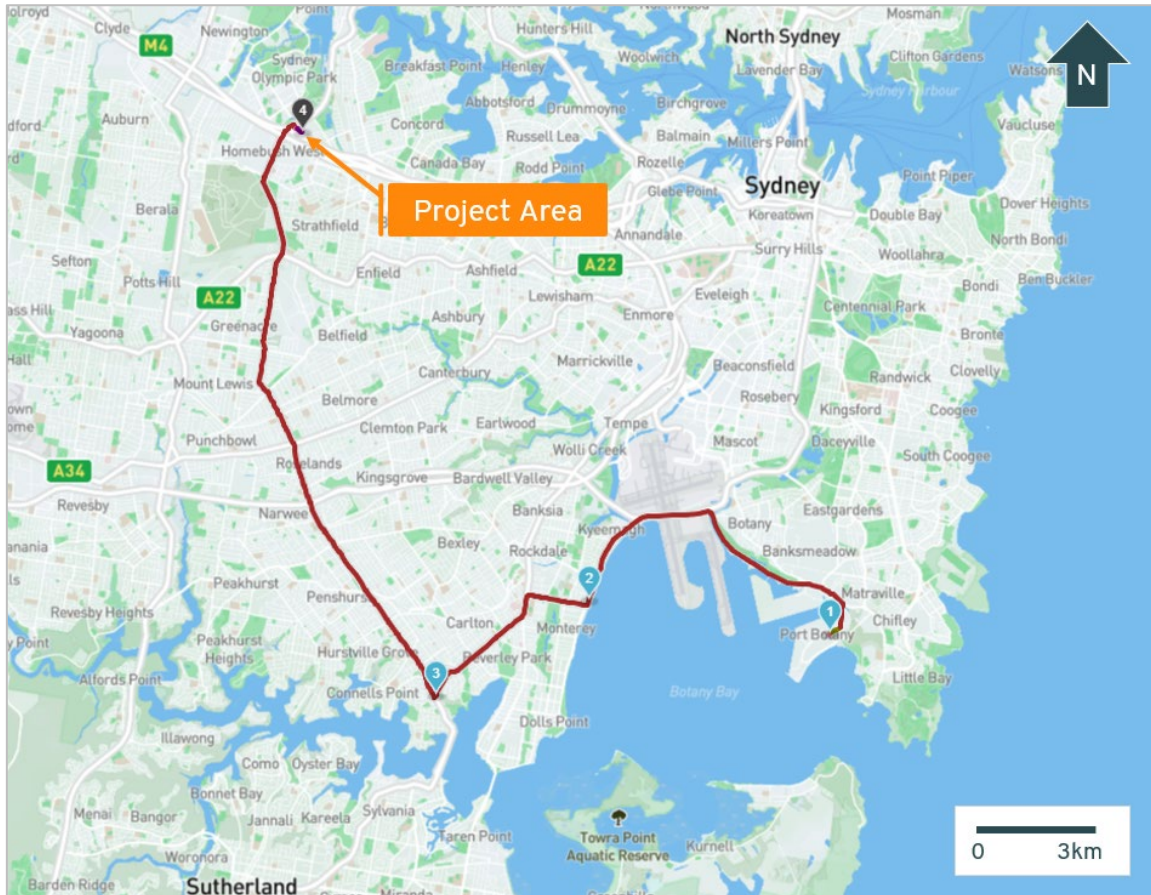
Table 14: Roads with Restrictions or Conditions on Class 1 OSOM Vehicle Routes

Road Name	Location	Restrictions or Conditions of Travel
Route from Newcastle		
Maitland Road	Sparke St, Hexham to Phoenix Rd, Lenaghan	Approved with Conditions: Prior to travel on the Pacific Highway/Maitland Road at Hexham, the operator must contact the Hexham Straight Widening Project on 1800 515 141 a minimum of five (5) days prior to your proposed commencement date. Failure to provide notice may result in delays to travel.
New England Highway		Approved with Conditions: Prior to travel on the Pacific Highway, New England Highway and Pacific Motorway between Tomago, Tarro and Lenaghan, the operator must contact the Black Hill to Tomago Project on 1800 094 895 a minimum of five (5) days prior to your proposed commencement date. Failure to provide notice may result in delays to travel.
John Renshaw Drive		
Pacific Motorway	Central Coast Hwy, Somersby to Hawkesbury River Bridge, Mooney	Approved with Conditions - Vehicles or combinations exceeding 3.5 metres wide or 25.0 metres long are not permitted to travel between sunrise and 9:00am and between 4:00pm and sunset on weekdays (except state-wide public holidays). - Travel is not permitted after 4.00pm on Sundays or state-wide public holidays.
Pacific Highway	Pacific Mwy, Wahroonga to Ryde Rd, Pymble	Approved with Conditions Vehicles or combinations exceeding 3.5 metres wide or 25.0 metres long are not permitted to travel between 8:30am and sunset on weekends or a state-wide public holiday.

5.2.1.2 Port Botany

The OSOM vehicle from Port Botany will be required to take a less direct route to the site due to travel restrictions on all tunnels exiting Port Botany. The proposed route is shown in Figure 20, and adopts approved routes within the NSW Oversize Overmass Load Carrying Vehicles Network Map, which are detailed in Table 15.

Figure 20: OSOM Access Route from Port Botany



Source: NHVR Route Planner – Route ID: 1WL7S-5 v1

Table 15: Class 1 OSOM Vehicle Route – Port Botany

Road Name	State	Jurisdiction	Class 1 OSOM Approved
Route from Port Botany			
Bumborah Point Road,	New South Wales	TfNSW	Approved
Botany Road			
Foreshore Road			
General Holmes Drive			
The Grand Parade			
President Avenue			
Princes Hwy			
King Georges Road			
Wiley Avenue			
Roberts Road			
Centenary Drive			
Western Motorway On-Ramp			
Access Road		Strathfield Municipal Council / WestConnex	Unrated

A review of the load limits on all bridges and structures along the adopted routes will be undertaken as part of the permit process for OSOM vehicles, noting that the routes predominantly utilise roads forming part of the approved Class 1 OSOM network. Formal approval will be sought from the rail authority for any railway crossings on the adopted route. The State roads along the routes have been utilised for other renewable energy projects. Accordingly, it is expected that the vehicle loading will be within the allowable limit for all bridges, culverts and other structures on the State road network.

The access routes utilise roads that are designated for OSOM Class 1 vehicles as outlined within the NHVR NSW Oversize Overmass Load Carrying Vehicles Network Map. Subsequently the vehicles proposed for the transport of the largest BESS components are able to access the site from the designated ports with the appropriate Class 1 permits, subject to those conditions listed above.

5.3 Mitigation Measures

A CTMP is to be developed which is recommended to include the following measures to minimise the impact of construction traffic:

- Community notifications will be undertaken where required. The office located on the south side of the access road will be notified regarding the timing of major deliveries which may require additional traffic control or disrupt access.

It is recommended that any OSOM movements are timed so they do not coincide with other OSOM vehicles within the surrounding area to limit the impact to the road network, which can be undertaken as part of the permit application process. Accordingly, it is concluded that the proposed routes are suitable for use by heavy vehicles and OSOM vehicles associated with the Project, with permits to be applied for as part of the finalisation of the CTMP.

6. Site Access

6.1 Turn Treatments

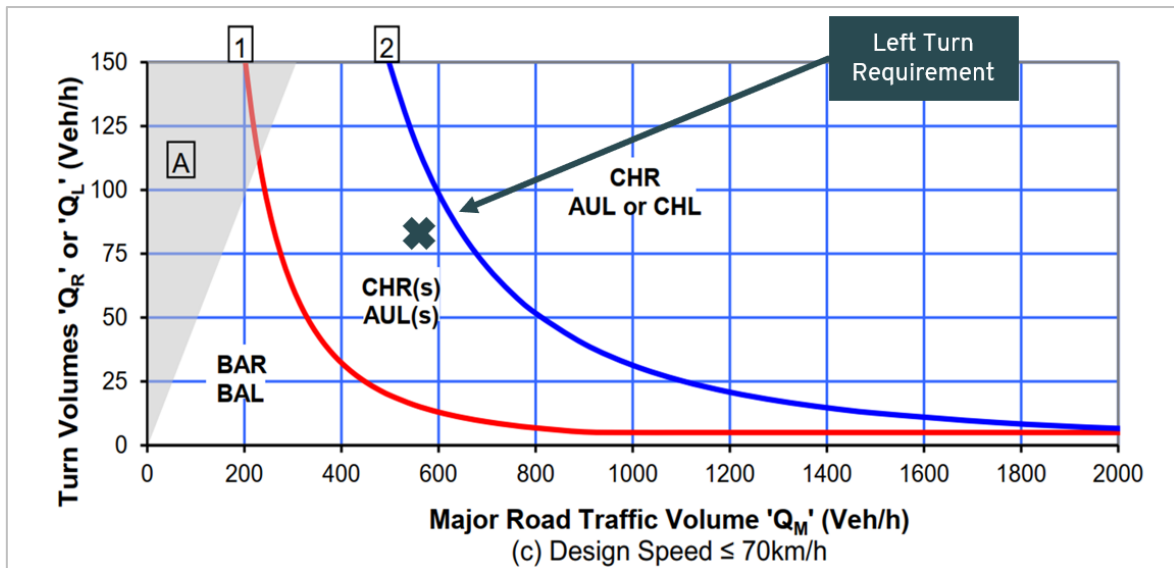
Austrroads Guide to Traffic Management Part 6: Intersections, Interchanges, and Crossings specifies the turning treatments required at intersections. Figure 3.25 of the guide specifies the required turn treatments on the major road at unsignalised intersections.

The nearest State road connections to access the site are the intersections of Homebush Bay Drive/Western Motorway On-Ramp (signalised) and Western Motorway On-Ramp/Access Road (unsignalised). Accordingly, a turn treatment assessment is required for the Western Motorway On-Ramp/Access Road only as it is unsignalised.

The requirement to provide turn facilities is primarily generated during the morning peak hour when the workforce access the site, which occurs between 6:00am to 7:00am. An assessment has been undertaken based on the traffic volumes during the morning peak hour shown at Figure 17 with a design speed of 70km/hr.

The expected traffic volumes at this intersection have been plotted within Figure 21 in accordance with the *Austrroads Guide*. The assessment has been undertaken on a left turn only as right turn movements into the access road are not permitted.

Figure 21: Turn Treatment Requirement for Western Motorway On-Ramp/Access Road



Based on the anticipated construction traffic volumes, the intersection requires a Short Auxiliary Left Turn (AUL(s)) treatment to meet the requirements of the *Austrroads Guide*. The intersection is provided with this treatment under existing conditions and as such, no road upgrades are required to meet the turn treatment requirements of the *Austrroads Guide*.

6.2 Access Design

The site is proposed to have two access points to the access road from the Western Motorway On-Ramp. The northern access is proposed to be entry only and the southern access exit only. The location of the two site accesses can be seen in Figure 22.

Figure 22: Site Access Locations



Source: Nearmap

The access road serves the site and an existing office building only. The 7-day tube counts completed of the access road indicate that the largest vehicle currently using the access road is up to a 6.4 metre small rigid vehicle (SRV), which occurs very infrequently (approximately 20 per movements per day and no more than two movements in an hour). All other recorded vehicles on the access road were passenger vehicles.

A 26 m B-Double has similar dimensions and manoeuvrability to the anticipated battery container vehicle and as such, is considered an appropriate design vehicle. A swept path assessment has been completed at the intersection of Western Motorway On-Ramp/Access Road using a 26 m B-Double which is attached at Appendix D. The assessment found that simultaneous two-way passing cannot occur at the intersection by two 26 m B-Doubles due to the consecutive high radius bends. However, passing can occur at the intersection by a 26m B-Double and a B99 vehicle, meaning that passenger vehicles can continue to access the office on the access road without disruption.

Given the requirement for these larger vehicles will be limited to the construction phase of the Project only, and the low number of these vehicles accessing the site during the peak construction phase (up to 12 B-Double/battery container vehicles per day), it is considered appropriate to manage vehicle movements along the access road and at the intersection of Western Motorway On-Ramp/Access Road using traffic management measures rather than road widening. This aligns with feedback received from TfNSW as part of the consultation process. The details of the traffic management measures would be addressed within the CTMP for the Project, with a discussion provided at Section 7.

A swept path assessment has also been completed for the site entry and exit by a 26 m B-Double as shown at Appendix D. A small section of guard rail is required to be removed on the east side of the access road for the site entry. It is understood this will be completed as part of the separate Part 5 HV connection assessment and does not form part of this application. As such, the site entry would be available/open by the time the BESS construction commences.

The site exit is existing, however, will require the removal of some vegetation growing within the verge (i.e. weeds/shrubs growing through the existing road base), as well as removal of a section of fence. Heavy vehicles exiting the site would be required to give way to vehicles travelling on the southern section of the access road as shown in the swept path diagrams. This is an acceptable outcome given the low volume of vehicles in the southern section of the access road, the low level of heavy vehicle movements during the peak construction phase (up to 10 exiting movements per day), the relatively straight alignment of the road, and that exiting vehicles have good sightlines to vehicles on the access road (discussed further at Section 6.3).

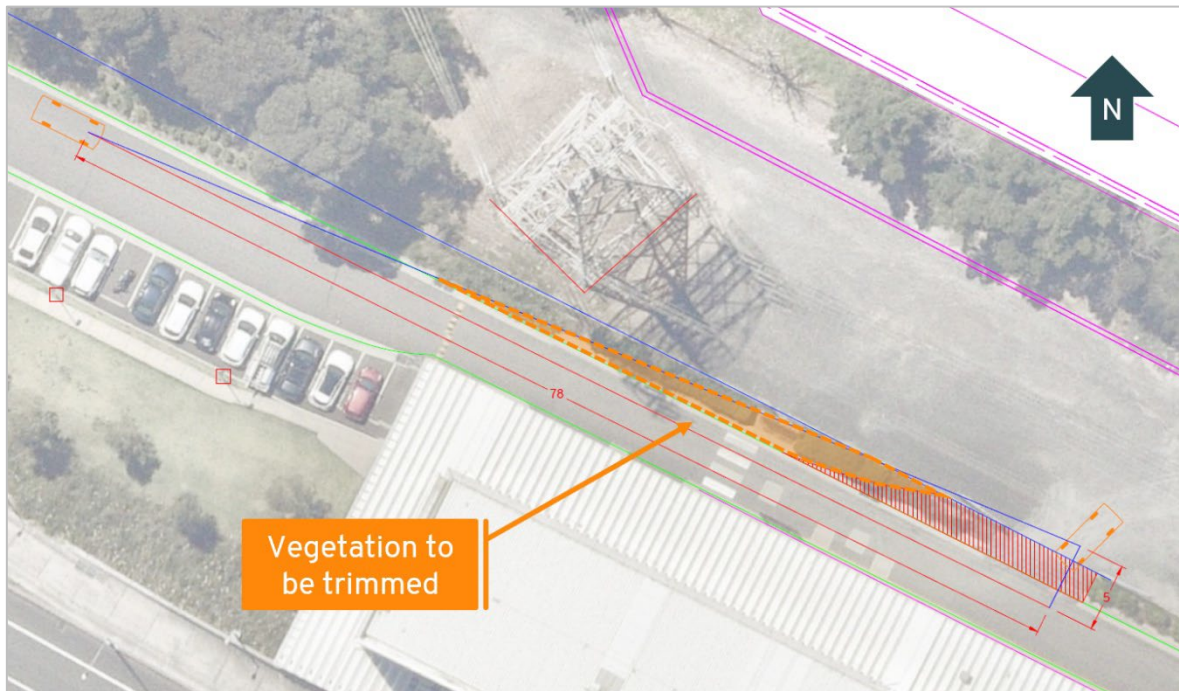
6.3 Sight Distance

The site exit is existing. Accordingly, a sight distance assessment is not technically required as the access is existing. Notwithstanding, a desktop review of the sightlines available for exiting vehicles has been completed.

Given the access is towards the end of the road and there are speed humps present, vehicles would be travelling at low speeds when approaching the site exit. Based on a design speed of 40 km/hr, a Safe Intersection Sight Distance (SISD) of 78 metres is required under Table 3.1 of the *Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections*, assuming an 8% downgrade along the access road.

A SISD drawing is provided in Appendix E which can also be seen in Figure 23. The SISD assessment indicates that the sight distance available meets the requirements of the Austroads Guide, subject to some removal of vegetation (weeds/shrubs) in the northern verge.

Figure 23: Sight Distance at Site Exit



Source: MetroMap

The intersection of Western Motorway On-Ramp/Access Road is existing and has good sightlines for exiting vehicles, including to cyclists traveling in the bicycle lane. Accordingly, no further upgrades are required to improve sightlines at this intersection.

7. Traffic Management Plan

It is recommended that a CTMP be prepared prior to commencement of construction of the development. The CTMP should be prepared and implemented in accordance with Australian Standard 1742.3 and the Work Health and Safety Regulation 2017. The CTMP would provide additional information regarding the traffic volumes and distribution of construction vehicles that is not available at this time including:

- Road transport volumes, distribution and vehicle types broken down into:
 - Hours and days of construction.
 - Schedules for phasing/staging of the Project.
- The origin, destination and routes for:
 - Employee and contractor light vehicles.
 - Heavy vehicle traffic.
 - Oversize/overmass vehicles.
- A map of the primary haulage routes highlighting critical locations.
- An induction process for vehicle operators and regular toolbox meetings.
- A complaint resolution and disciplinary procedure.
- Local climatic conditions that may impact road safety of employees throughout all project phases (e.g. fog, wet and significant dry, dusty weather).

The following provides recommended measures that should be adopted within the CTMP to minimise the impact of construction traffic along the road network.

7.1 Information and Communication

The implementation of a community information and awareness program would assist in managing the traffic impacts. Prior to construction commencing and during the construction period, a program of consultation shall be initiated to ensure local residents are aware of construction traffic accessing the Project. This program may include elements of the following as appropriate to the phase of works:

- Press releases in local newspapers.
- Specific emails, newsletters and individual letter drops to neighbouring residents along the access route to the Project.
- Provision of a website providing details of the status of works and contact details for complaints or enquiries.
- Provide key contact personnel and contact details, including out of hours contact information to residents, schools, public activities and business operating alongside the local route.

Community notifications will be undertaken where required. The office on the access road will be notified regarding the timing of major deliveries which may require additional traffic control or disrupt access.

7.2 Access Road Management Measures

As discussed at Section 6.2, simultaneous two-way passing cannot occur at the intersection of Western Motorway On-Ramp/Access Road by two 26 m B-Doubles due to the consecutive high radius bends. Given the requirement for these larger vehicles will be limited to the construction phase of the Project only, and the low number of these vehicles accessing the site during the peak construction phase, it is considered appropriate to manage vehicle movements along the access road using traffic management measures, which aligns with feedback received from TfNSW as part of the consultation process.

The details of the traffic management measures would be addressed within the CTMP for the Project. However, it is anticipated that these would include the following:

- Scheduling of deliveries to minimise the likelihood of heavy vehicles arriving/departing the site at the same time.
- Driver protocols to radio the site manager/other drivers prior to arriving/departing the site to manage vehicle movements along the access road.
- Traffic controllers to hold exiting vehicles on the access road while a 26 m B-Double/battery container vehicle arrives at the site. It is noted that the default arrangement would be to give priority to arriving vehicles to prevent any queuing on the State road network.

7.3 Signage

If required, warning signs advising of the changed traffic operations and heavy vehicles could be provided to inform road users of the changed traffic conditions. The type and location of warning signs would be determined in consultation with the road authorities as part of the CTMP approval process, as required.

7.4 Shuttle Buses

While not proposed at this stage, a shuttle bus program may be implemented to transport some of the workforce to and from site for a portion of the construction phase. A local bus company would be contracted to manage the service.

Measures to ensure any shuttle bus program implemented can be practically achieved and monitored would be included within the Construction Environmental Management Plan and/or CTMP. Recommended measures could include:

- Limiting car parking for light vehicles on-site.
- Regular toolbox meeting sessions identifying method of travel to work and strongly encouraging use of the shuttle buses.
- Identifying the bus drop off/pick up locations and clearly communicating these locations with the workforce.
- Allocating a team member to be responsible for enforcement and management of the shuttle buses.
- Identifying mechanisms to be put in place if shuttle bus passenger numbers are not achieved.

7.5 On-Site Mitigation Measures

On-site mitigation measures targeted at safety and reducing the impact of on-site transport would include:

- On-site speed restrictions.
- Appropriate dust suppression measures.
- Maintenance program for on-site access tracks to ensure safe access.
- Loading and unloading is proposed to occur within the work area. No street or roads would be used for material storage at any time.
- Sufficient car parking is to be provided on-site to ensure vehicles do not park on the surrounding road network.
- All car parking and loading areas to be designed in accordance with the relevant Australian Standard (2890 series) and Council requirements.

It is noted that there are extensive areas available on the existing site for parking vehicles and as such, there is not anticipated to be any on-street parking impacts during construction of the Project.

7.6 Driver Protocols

Management of vehicular access to and from the site is essential in order to maintain the safety of the general public as well as the workforce. A Driver Code of Conduct is to be implemented as a measure to maintain safety within and around the site:

- All vehicles would enter and exit the site in a forward direction.
- Safety initiatives for impacts to residential areas and/or school bus zones.
- Utilisation of only the designated transport routes.
- Construction vehicle movements are to abide by finalised schedules as agreed by the relevant authorities.
- All permits for working within the road reserve must be received from the relevant authority prior to works commencing.

The above recommendations will ensure the construction traffic would have a minimal impact to the capacity and safety of the surrounding road network. The CTMP would be prepared in conjunction with consultation with Transport for NSW and Strathfield Council.

8. Mitigation Measure Summary

The assessment has identified a number of traffic management measures that are to be implemented during construction and recommended to be included in the CTMP. The key measures are summarised below:

- Prior to construction, a pre-condition survey of the access road should be undertaken by the appointed contractor in consultation with Council and/or WestConnex/Transurban as the road manager. During construction, the access road is to be monitored and maintained to ensure continued safe use by all road users, and any faults attributed to construction of the Project rectified. At the end of construction, a post-condition survey would be undertaken of the access road to ensure the road is left in a condition equivalent to that at the start of construction.
- Neighbours of the Project are to be consulted and notified regarding the timing of major deliveries which may require additional traffic control and disrupt access.
- Traffic management measures to ensure the 26 m B-Double/battery container vehicle can safely access the site through the Western Motorway On-Ramp/Access Road intersection, as discussed at Section 7.2.
- It is recommended that any OSOM vehicle trips be timed so they do not coincide with other OSOM vehicles within the surrounding area to limit the impact to the road network, which can be undertaken as part of the permit application.

8.1 Schedule of Road Upgrades

There are no road upgrades proposed for the construction of the BESS as part of this application. Instead, the above traffic management measures are proposed to control construction vehicle movements on the access road, noting the following:

- A small section of guard rail is required to be removed on the east side of the access road for the site entry. It is understood this will be completed as part of the separate Part 5 HV connection assessment and does not form part of this application. As such, the site entry would be available/open by the time the BESS construction commences.
- Vegetation (weeds/shrubs) are to be trimmed/removed on the northern side of the access road as shown in Figure 23 to ensure appropriate sightlines are available for vehicles exiting the site to the access road.

The above should be undertaken in consultation with the road authority prior to construction commencing, as required.

9. Conclusion

Amber has assessed the traffic impacts of the proposed Homebush BESS project. The Project address is 10 Homebush Bay Drive, Homebush, and is located within the Strathfield Council LGA. The site is approximately 10 km west of Sydney CBD. Vehicle access to the site is via an access road which connects to the Western Motorway On-Ramp.

The construction period is expected to commence in late-2025 and take approximately 22 months, with the peak construction period expected to take 6 months. A construction workforce of up to 100 personnel would be on-site during the peak construction phase. These staff would be primarily located in Sydney.

Plant is expected to be delivered from either Port of Newcastle or Port Botany. The largest project component are the battery containers, which are expected to be delivered from either Port of Newcastle or Port Botany. General construction materials and equipment will be sourced from the Sydney region where practicable.

The above assessment determined the following:

- The site is expected to generate up to 154 vehicles per day during the peak construction period, including 20 heavy vehicles and 134 light vehicles.
- The road network is able to accommodate the traffic generated by the development during the construction, operation and decommissioning stages. Further, the cumulative impact of the site traffic with nearby developments is expected to be minimal.
- The B-Double access routes utilises roads that are generally designated within the Transport for New South Wales Restricted Access Vehicle Map. The access road is unrated for B-Doubles and will require approval from Strathfield Council and WestConnex/Transurban.
- The largest vehicle expected to access the site is the vehicle delivering the battery containers, which are expected to generate 10 trips per day during the peak construction phase. The access route for these vehicles would be from either Port of Newcastle or Port Botany. The vehicle combination would be kept under 3.5 metres width and less than 26 metres length and would not be classified as High Risk OSOM.
- The site accesses on the access road are designed to accommodate the Project traffic and are provided with adequate sight distance to allow vehicles to safely enter the road network.
- In order to mitigate the impacts of the development during construction a CTMP would be prepared which should include the recommendations provided within this document.

Accordingly, based on the assessment above, it is concluded that the proposed access arrangements are suitable to accommodate the expected construction vehicle types and traffic volumes during the construction and operation phase of the Project.

Appendix A

Response to TfNSW Agency Advice



TfNSW Comment	Response
Details of all traffic types and volumes likely to be generated during construction and operation, including a description of haul routes and vehicle types. Traffic flows are to be shown diagrammatically to a level of detail sufficient for easy interpretation.	Surveyed traffic data is presented at Section 2.3 and attached at Appendix B. The anticipated Project traffic is presented in Section 4.1.1. Section 4 shows the different vehicle classifications using the road network, different impacts at differing peak times of day, and traffic distribution. Diagrams of the Project traffic volumes are also provided in this section. The traffic assessment within this report has subsequently focused on the traffic impacts during construction when the majority of vehicle movements are generated. Section 5 details the anticipated heavy vehicles and OSOM vehicles required for construction of the Project, as well as the anticipated haulage routes.
An analysis of the existing traffic network, including the road hierarchy, current and future daily peak hour (light and heavy) vehicle movements and existing performance levels of nearby intersections. Specifically, TfNSW requests further assessment of the following signalised intersections: – Homebush Bay Drive/ slip road off eastbound on-ramp to Western Motorway (M4) – Centenary Drive/ Homebush Bay Drive/ Western Motorway	A SIDRA assessment has been completed of the intersections of Homebush Bay Drive/Western Motorway On-Ramp and the Access Road/Western Motorway On-Ramp as the two nearest State road connections. The SIDRA analysis is detailed at Section 4, which includes an assessment of the existing and peak construction performance at the analysed intersections. The analysis indicates that these intersections will continue to operate generally consistent with existing conditions during the peak construction phase. An assessment of the Western Motorway Off-Ramps at Centenary Drive and Homebush Bay Drive has not been completed as the Project is expected to generate negligible movements through these intersections during the construction peak hours. That is, the level of additional traffic through these intersections would be within the daily variation and are anticipated to have a negligible impact compared to existing conditions.
Plans demonstrating how all vehicles likely to be generated and will access the site during construction and operation and awaiting loading, unloading, or servicing can be accommodated on the site to avoid queuing in the street network.	The design of the site accesses is discussed at Section 6 and swept paths are attached at Appendix D. There are significant areas available on-site for vehicle passing, loading, and unloading of materials without disrupting the road network. Swept path diagrams of a 26 m B-Double accessing the site are attached at Appendix D.
A forecast of additional daily and peak hour vehicle movements because of the proposal and identification of potential traffic impacts on road capacity, intersection performance and road safety (including pedestrian and cycle conflict).	Surveyed traffic data is presented at Section 2.3 and attached at Appendix B. The anticipated Project traffic is presented in Section 4.1.1. A SIDRA assessment of the two nearest State road connections is detailed at Section 4.

TfNSW Comment	Response
Undertake traffic and network modelling to understand the impacts of the development site and intersections (using SIDRA modelling or similar at 5-year intervals), plus any traffic changes as a result any planned or committed road projects.	A SIDRA assessment has been completed of the intersections of Homebush Bay Drive/Western Motorway On-Ramp and the Access Road/Western Motorway On-Ramp as the two nearest State road connections. A growth rate of 1.5% has been applied to the background traffic over a two year period, which aligns with the peak construction period. There are road upgrades planned at the intersection of Homebush Bay Drive/Australia Avenue, however, it is not anticipated that this road project will impact the proposed access routes of construction traffic. The SIDRA analysis is detailed at Section 4, which indicates that the modelled intersections will continue to operate generally consistent with existing conditions during the peak construction phase.
Proposals to mitigate any traffic impacts, including intersection upgrades to achieve acceptable performance.	Recommendations have been provided for inclusion within the CTMP at Section 7. Mitigation measures are outlined at Section 8.
Detailed plans of the site access and proposed layout of the internal road and pedestrian network and parking on site in accordance with the relevant Australian Standards and Council's DCP.	The site accesses are discussed at Section 6. There are significant areas available on-site for vehicle parking during construction. During operation, there would be no more than 1-2 maintenance vehicles accessing the site per week. An internal access road will be provided for these vehicles to access different areas of the site which will be designed in accordance with AS/NZS2890.1:2004 and DCP requirements. Separated pedestrian paths are not considered necessary and use of the vehicle accessways by pedestrians across the site is appropriate based on the level of traffic generated during operation.
Swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site.	Swept path assessment attached at Appendix D.
Details of road upgrades, infrastructure works, or new roads or access points required for the development.	Road upgrades are discussed at Section 8.

Appendix B

Traffic Survey Data



TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

trafficsurvey.com.au



Intersection of Homebush Bay Dr and Western Motorway

GPS -33.855931, 151.072459

Date:	Thu 21/11/24
Weather:	Fine
Suburban:	Homebush
Customer:	Amber

North:	N/A
East:	Homebush Bay Dr
South:	Western Motorway On Ramp
West:	Homebush Bay Dr

Survey Period	AM: 6:00 AM-10:00 AM
	PM: 3:00 PM-7:00 PM
Traffic Peak	AM: 7:45 AM-8:45 AM
	PM: 4:15 PM-5:15 PM

All Vehicles

Time		Approach Homebush Bay			Approach Western Motorway			Approach Homebush Bay			Hourly Total	
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	Hour	Peak
6:00	6:15	0	399	42	0	0	1	0	43	760	5335	
6:15	6:30	0	445	70	0	0	0	0	66	803	5425	
6:30	6:45	0	471	86	0	0	0	0	68	735	5502	
6:45	7:00	0	440	119	0	0	0	0	63	724	5629	
7:00	7:15	0	451	93	0	0	0	0	76	715	5856	
7:15	7:30	0	591	117	0	0	0	0	57	696	6104	
7:30	7:45	0	534	146	0	0	0	0	75	732	6233	
7:45	8:00	0	550	140	0	0	0	0	70	813	6322	Peak
8:00	8:15	0	558	160	0	0	0	0	58	807	6231	
8:15	8:30	0	490	173	0	0	0	0	67	860	6083	
8:30	8:45	0	508	147	0	0	1	0	71	849	5816	
8:45	9:00	0	439	114	0	0	0	0	70	859	5533	
9:00	9:15	0	503	117	0	0	0	0	52	763	5349	
9:15	9:30	0	464	80	0	0	0	0	40	739		
9:30	9:45	0	437	94	0	0	0	0	50	712		
9:45	10:00	0	491	89	0	0	0	0	41	677		
15:00	15:15	0	647	92	0	0	0	0	47	703	5921	
15:15	15:30	0	617	128	0	0	0	0	58	612	5909	
15:30	15:45	0	601	92	0	0	0	0	57	737	6062	
15:45	16:00	0	553	116	0	1	0	0	66	794	6147	
16:00	16:15	0	647	105	0	0	0	0	54	671	6174	
16:15	16:30	0	625	110	0	0	0	0	72	761	6275	Peak
16:30	16:45	0	598	107	0	0	0	0	53	814	6213	
16:45	17:00	0	594	105	0	0	0	0	86	772	6044	
17:00	17:15	0	596	131	0	0	0	0	52	799	5923	
17:15	17:30	0	607	124	0	0	0	0	60	715	5765	
17:30	17:45	0	593	135	0	0	0	0	35	640	5546	
17:45	18:00	0	580	89	0	0	0	0	40	727	5630	
18:00	18:15	0	623	87	0	0	0	0	27	683	5696	
18:15	18:30	0	551	75	0	0	0	0	25	636		
18:30	18:45	0	502	76	0	0	0	0	33	876		
18:45	19:00	0	569	68	0	1	0	0	26	838		

Peak Time		Approach Homebush Bay			Approach Western Motorway			Approach Homebush Bay			Peak total	
Period Start	Period End	U	WB	L	U	R	L	U	R	EB		
7:45	8:45	0	2106	620	0	0	1	0	266	3329	6322	
16:15	17:15	0	2413	453	0	0	0	0	263	3146	6275	

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

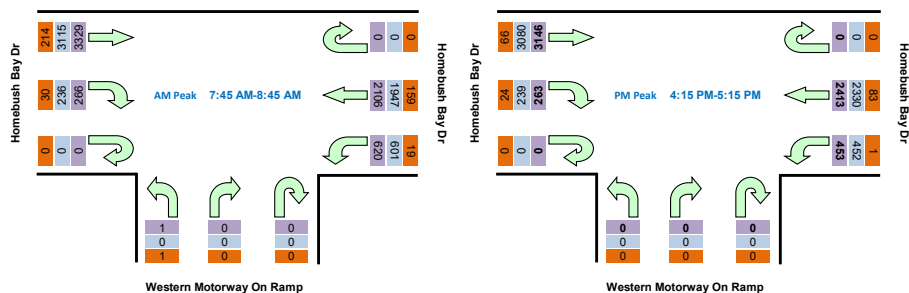
Total	
Light	
Heavy	



North



North



TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

trafficsurvey.com.au



Intersection of Western Access Rd and Western Motorway

GPS -33.856270, 151.072681

Date:	Thu 21/11/24
Weather:	Fine
Suburban:	Homebush
Customer:	Amber

North:	Western Motorway On Ramp
East:	N/A
South:	Western Motorway On Ramp
West:	Western Access Rd

Survey	AM: 6:00 AM-10:00 AM
Period	PM: 3:00 PM-7:00 PM
Traffic	AM: 7:30 AM-8:30 AM
Peak	PM: 4:45 PM-5:45 PM

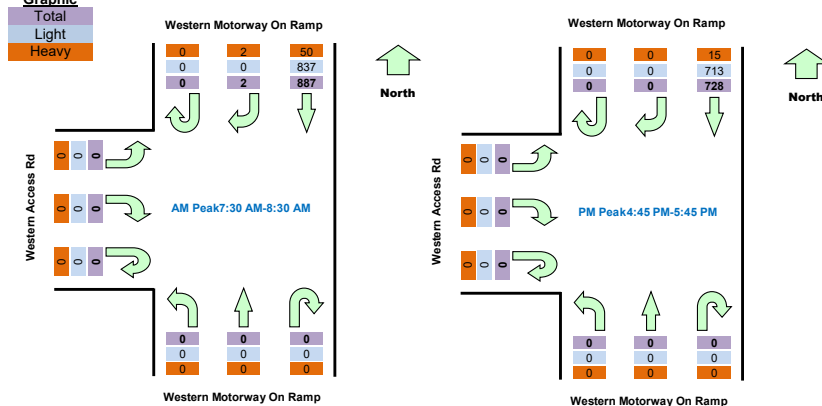
All Vehicles

Time		proach Western Motorway			proach Western Motorway			Approach Western Acces			Hourly Total	
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	Hour	Peak
6:00	6:15	1	0	84	0	0	0	0	0	0	557	
6:15	6:30	0	0	136	0	0	0	0	0	0	641	
6:30	6:45	0	0	154	0	0	0	0	0	0	679	
6:45	7:00	0	0	182	0	0	0	0	0	0	746	
7:00	7:15	0	0	169	0	0	0	0	0	0	774	
7:15	7:30	0	0	174	0	0	0	0	0	0	823	
7:30	7:45	0	1	220	0	0	0	0	0	0	889	Peak
7:45	8:00	0	0	210	0	0	0	0	0	0	887	
8:00	8:15	0	1	217	0	0	0	0	0	0	861	
8:15	8:30	0	0	240	0	0	0	0	0	0	812	
8:30	8:45	0	0	218	0	0	0	0	0	1	692	
8:45	9:00	0	0	184	0	0	0	0	0	0	617	
9:00	9:15	0	0	169	0	0	0	0	0	0	564	
9:15	9:30	0	0	120	0	0	0	0	0	0		
9:30	9:45	0	0	144	0	0	0	0	0	0		
9:45	10:00	0	0	130	0	0	0	0	1	0		
15:00	15:15	0	0	139	0	0	0	0	0	0	658	
15:15	15:30	0	0	186	0	0	0	0	0	0	678	
15:30	15:45	0	0	149	0	0	0	0	0	0	675	
15:45	16:00	0	1	181	0	0	0	0	1	1	686	
16:00	16:15	0	0	159	0	0	0	0	0	0	693	
16:15	16:30	0	1	181	0	0	0	0	1	0	717	
16:30	16:45	0	0	160	0	0	0	0	0	0	718	
16:45	17:00	0	0	191	0	0	0	0	0	0	728	Peak
17:00	17:15	0	0	183	0	0	0	0	0	0	666	
17:15	17:30	0	0	184	0	0	0	0	0	0	597	
17:30	17:45	0	0	170	0	0	0	0	0	0	513	
17:45	18:00	0	0	129	0	0	0	0	0	0	453	
18:00	18:15	0	1	113	0	0	0	0	0	0	418	
18:15	18:30	0	0	100	0	0	0	0	0	0		
18:30	18:45	0	0	109	0	0	0	0	1	0		
18:45	19:00	1	0	93	0	0	0	0	0	0		

Peak Time		proach Western Motorway			proach Western Motorway			Approach Western Acces			Peak total
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	
7:30	8:30	0	2	887	0	0	0	0	0	0	889
16:45	17:45	0	0	728	0	0	0	0	0	0	728

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic



TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

trafficsurvey.com.au



Intersection of Western Motorway On Ramp and Eastern

GPS -33.856709, 151.072997

Date:	Thu 21/11/24
Weather:	Fine
Suburban:	Homebush
Customer:	Amber

North:	Western Motorway On Ramp
East:	Eastern Access Rd
South:	Western Motorway On Ramp
West:	N/A

Survey	AM: 6:00 AM-10:00 AM
Period	PM: 3:00 PM-7:00 PM
Traffic	AM: 7:30 AM-8:30 AM
Peak	PM: 4:45 PM-5:45 PM

All Vehicles

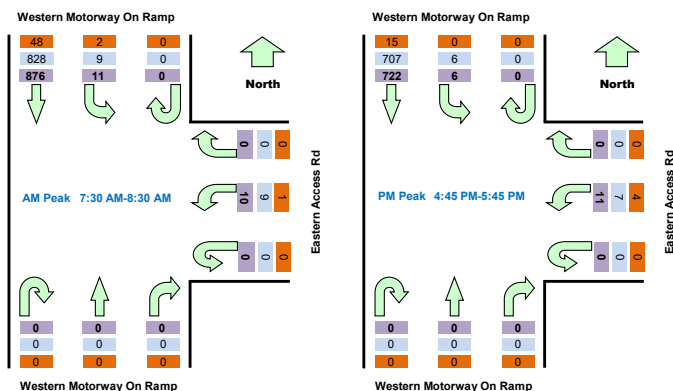
Time		Approach Western Motorway			Approach Eastern Access			Approach Western Motorway			Hourly Total	
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	Hour	Peak
6:00	6:15	0	84	0	0	0	1	0	0	0	560	
6:15	6:30	0	134	2	0	0	0	0	0	0	647	
6:30	6:45	0	150	4	0	0	2	0	0	0	686	
6:45	7:00	0	177	5	0	0	1	0	0	0	758	
7:00	7:15	0	168	1	0	0	3	0	0	0	786	
7:15	7:30	0	173	1	0	0	1	0	0	0	831	
7:30	7:45	0	218	2	0	0	8	0	0	0	897	Peak
7:45	8:00	0	205	5	0	0	1	0	0	0	888	
8:00	8:15	0	217	0	0	0	0	0	0	0	862	
8:15	8:30	0	236	4	0	0	1	0	0	0	815	
8:30	8:45	0	215	3	0	0	1	0	0	0	695	
8:45	9:00	0	183	1	0	0	1	0	0	0	622	
9:00	9:15	0	167	2	0	0	1	0	0	0	573	
9:15	9:30	0	119	1	0	0	1	0	0	0		
9:30	9:45	0	141	3	0	0	2	0	0	0		
9:45	10:00	0	130	1	0	0	5	0	0	0		
15:00	15:15	0	138	1	0	0	1	0	0	0	660	
15:15	15:30	0	185	1	0	0	0	0	0	0	682	
15:30	15:45	0	148	1	0	0	1	0	0	0	682	
15:45	16:00	0	181	1	0	0	2	0	0	0	701	
16:00	16:15	0	154	5	1	0	2	0	0	0	713	
16:15	16:30	0	177	5	0	0	4	0	0	0	735	
16:30	16:45	0	157	3	0	0	9	0	0	0	735	
16:45	17:00	0	190	1	0	0	5	0	0	0	739	Peak
17:00	17:15	0	182	1	0	0	1	0	0	0	677	
17:15	17:30	0	182	2	0	0	2	0	0	0	608	
17:30	17:45	0	168	2	0	0	3	0	0	0	523	
17:45	18:00	0	124	5	0	0	5	0	0	0	462	
18:00	18:15	0	112	1	0	0	2	0	0	0	422	
18:15	18:30	0	99	1	0	0	1	0	0	0		
18:30	18:45	0	109	1	0	0	2	0	0	0		
18:45	19:00	0	91	2	0	0	1	0	0	0		

Peak Time		Approach Western Motorway			Approach Eastern Access			Approach Western Motorway			Peak total
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	
7:30	8:30	0	876	11	0	0	10	0	0	0	897
16:45	17:45	0	722	6	0	0	11	0	0	0	739

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy



TRANS TRAFFIC SURVEY

trafficsurvey.com.au

T. 1300 82 88 82 - F. 1300 83 88 83 - E. traffic@trafficsurvey.com.au - W. www.trafficsurvey.com.au

AUTOMATIC COUNT SUMMARY

Street Name :	Site Access	Location :	At Property 10K Homebush Bay Dr
Suburb :	Homebush	Start Date :	00:00 Wed 20/November/2024
Machine ID:	YD70XHD5	Finish Date :	00:00 Wed 27/November/2024
Site ID:	3566	Speed Zone :	50 km/h
Prepared By :	Vo Son Binh	Email:	binh@trafficsurvey.com.au

GPS information		Direction of Travel		
Lat 33° 51' 25.70 South Long 151° 4' 24.75 East		Both directions	Northbound	Southbound
Traffic Volume : (Vehicles/Day)	Weekdays Average	306	144	162
	7 Day Average	262	123	139
Weekday	AM	07:00	20	9
Peak hour starts	PM	17:00	21	12
Speeds : (Km/Hr)	85th Percentile	34.1	33.6	34.6
	Average	29.8	29.7	29.9
Classification % :	Light Vehicles up to 5.5m	92.0%	91.9%	92.0%

Location

GPS Information [Load Google Map \(internet required\)](#)
(Latitude, Longitude) -33.857140, 151.073542



[Speed Data](#) [Speed Graph](#) [Speed Bin](#)
[Volume Data](#) [Volume Graph](#) [Classification](#)



QUALITY ASSURED COMPANY BY ISO 9001:2015

OH&S SYSTEM CERTIFIED TO ISO 4801:2001

ENVIRONMENT MANAGEMENT SYSTEM CERTIFIED TO ISO14001:2015

Status of movement – Covid 19

"Traffic behaviour is not the same as pre-pandemic (traditional morning/afternoon peak is much less pronounced and school start/finish times are much more pronounced), the current patterns are close enough to what probably is going to be a 'COVID normal' situation for at least the next year or two. Workplaces are currently not all yet open. These results should be used for indicative assessment only."



Site Site Access

Direction Both directions ▼

[Back to Site Summary Page](#)

Day Date	Monday 25/11/2024	Tuesday 26/11/2024	Wednesday 20/11/2024	Thursday 21/11/2024	Friday 22/11/2024	Saturday 23/11/2024	Sunday 24/11/2024	7 days		Weekday		Weekend	
	07:00	05:00	11:00	07:00	10:00	11:00	10:00	Total	Average	Total	Average	Total	Average
AM Peak	07:00	05:00	11:00	07:00	10:00	11:00	10:00	N/A	11:00	N/A	07:00	N/A	11:00
PM Peak	17:00	19:00	18:00	16:00	14:00	13:00	14:00	N/A	17:00	N/A	17:00	N/A	13:00
00:00	7	2	0	3	1	3	3	19	3	13	3	6	3
01:00	6	2	1	5	0	0	0	14	2	14	3	0	0
02:00	6	7	3	4	12	0	1	33	5	32	6	1	1
03:00	3	3	6	8	2	0	0	22	3	22	4	0	0
04:00	3	3	4	4	10	4	5	33	5	24	5	9	5
05:00	18	20	18	19	12	5	3	95	14	87	17	8	4
06:00	18	9	18	15	9	1	1	71	10	69	14	2	1
07:00	22	17	20	22	19	3	3	106	15	100	20	6	3
08:00	7	19	14	11	9	2	3	65	9	60	12	5	3
09:00	17	18	15	16	15	9	9	99	14	81	16	18	9
10:00	10	4	11	15	30	4	13	87	12	70	14	17	9
11:00	16	13	23	11	23	11	13	110	16	86	17	24	12
12:00	16	8	17	33	17	11	10	112	16	91	18	21	11
13:00	14	19	18	20	19	27	10	127	18	90	18	37	19
14:00	17	8	20	15	35	6	20	121	17	95	19	26	13
15:00	15	14	13	8	22	14	7	93	13	72	14	21	11
16:00	15	20	17	36	14	12	10	124	18	102	20	22	11
17:00	22	19	24	21	18	17	9	130	19	104	21	26	13
18:00	16	8	26	11	22	10	14	107	15	83	17	24	12
19:00	10	21	14	20	3	3	10	81	12	68	14	13	7
20:00	18	10	14	17	5	4	4	72	10	64	13	8	4
21:00	13	17	6	19	3	4	7	69	10	58	12	11	6
22:00	6	3	6	5	4	3	3	30	4	24	5	6	3
23:00	2	2	1	4	3	6	4	22	3	12	2	10	5
Total	297	266	309	342	307	159	162	1842	263	1521	304	321	161
% Heavy	8.08%	9.02%	10.68%	11.40%	6.51%	2.52%	6.79%	8.41%		9.20%		4.67%	



Site Site Access

Direction Northbound ▼

[Back to Site Summary Page](#)

Day Date	Monday 25/11/2024	Tuesday 26/11/2024	Wednesday 20/11/2024	Thursday 21/11/2024	Friday 22/11/2024	Saturday 23/11/2024	Sunday 24/11/2024	7 days		Weekday		Weekend	
AM Peak	06:00	07:00	11:00	07:00	10:00	11:00	11:00	Total	Average	Total	Average	Total	Average
PM Peak	17:00	17:00	18:00	16:00	14:00	13:00	14:00	N/A	07:00	N/A	07:00	N/A	11:00
								N/A	13:00	N/A	16:00	N/A	13:00
00:00	3	1	0	1	0	1	1	7	1	5	1	2	1
01:00	3	1	1	2	0	0	0	7	1	7	1	0	0
02:00	2	1	0	1	5	0	0	9	1	9	2	0	0
03:00	0	0	1	1	0	0	0	2	0	2	0	0	0
04:00	1	0	1	0	3	1	2	8	1	5	1	3	2
05:00	2	7	5	7	5	1	0	27	4	26	5	1	1
06:00	12	4	10	4	4	1	1	36	5	34	7	2	1
07:00	8	9	8	13	7	2	2	49	7	45	9	4	2
08:00	1	7	5	3	3	1	1	21	3	19	4	2	1
09:00	9	8	5	9	6	4	5	46	7	37	7	9	5
10:00	5	1	6	9	13	2	6	42	6	34	7	8	4
11:00	6	3	13	4	12	6	8	52	7	38	8	14	7
12:00	8	4	7	19	7	5	4	54	8	45	9	9	5
13:00	10	11	9	12	11	14	5	72	10	53	11	19	10
14:00	8	3	11	7	16	3	10	58	8	45	9	13	7
15:00	10	10	6	4	13	6	4	53	8	43	9	10	5
16:00	6	11	12	21	8	6	3	67	10	58	12	9	5
17:00	15	13	12	11	10	7	4	72	10	61	12	11	6
18:00	10	4	15	6	13	6	9	63	9	48	10	15	8
19:00	2	10	5	12	2	2	5	38	5	31	6	7	4
20:00	5	1	2	4	2	1	1	16	2	14	3	2	1
21:00	7	10	2	10	1	2	4	36	5	30	6	6	3
22:00	4	3	5	5	2	1	0	20	3	19	4	1	1
23:00	0	1	0	2	2	4	2	11	2	5	1	6	3
Total	137	123	141	167	145	76	77	866	124	713	143	153	77
% Heavy	6.57%	8.13%	9.93%	11.38%	6.21%	1.32%	7.79%	7.85%		8.56%		4.58%	



Site Site Access

Direction Southbound ▼

[Back to Site Summary Page](#)

Day Date	Monday 25/11/2024	Tuesday 26/11/2024	Wednesday 20/11/2024	Thursday 21/11/2024	Friday 22/11/2024	Saturday 23/11/2024	Sunday 24/11/2024	7 days		Weekday		Weekend	
AM Peak	05:00	05:00	05:00	05:00	10:00	09:00	10:00	Total	Average	Total	Average	Total	Average
PM Peak	20:00	19:00	17:00	16:00	14:00	13:00	14:00	N/A	05:00	N/A	05:00	N/A	09:00
								N/A	14:00	N/A	14:00	N/A	13:00
00:00	4	1	0	2	1	2	2	12	2	8	2	4	2
01:00	3	1	0	3	0	0	0	7	1	7	1	0	0
02:00	4	6	3	3	7	0	1	24	3	23	5	1	1
03:00	3	3	5	7	2	0	0	20	3	20	4	0	0
04:00	2	3	3	4	7	3	3	25	4	19	4	6	3
05:00	16	13	13	12	7	4	3	68	10	61	12	7	4
06:00	6	5	8	11	5	0	0	35	5	35	7	0	0
07:00	14	8	12	9	12	1	1	57	8	55	11	2	1
08:00	6	12	9	8	6	1	2	44	6	41	8	3	2
09:00	8	10	10	7	9	5	4	53	8	44	9	9	5
10:00	5	3	5	6	17	2	7	45	6	36	7	9	5
11:00	10	10	10	7	11	5	5	58	8	48	10	10	5
12:00	8	4	10	14	10	6	6	58	8	46	9	12	6
13:00	4	8	9	8	8	13	5	55	8	37	7	18	9
14:00	9	5	9	8	19	3	10	63	9	50	10	13	7
15:00	5	4	7	4	9	8	3	40	6	29	6	11	6
16:00	9	9	5	15	6	6	7	57	8	44	9	13	7
17:00	7	6	12	10	8	10	5	58	8	43	9	15	8
18:00	6	4	11	5	9	4	5	44	6	35	7	9	5
19:00	8	11	9	8	1	1	5	43	6	37	7	6	3
20:00	13	9	12	13	3	3	3	56	8	50	10	6	3
21:00	6	7	4	9	2	2	3	33	5	28	6	5	3
22:00	2	0	1	0	2	2	3	10	1	5	1	5	3
23:00	2	1	1	2	1	2	2	11	2	7	1	4	2
Total	160	143	168	175	162	83	85	976	139	808	162	168	84
% Heavy	9.38%	9.79%	11.31%	11.43%	6.79%	3.61%	5.88%	8.91%		9.78%		4.76%	

Appendix C

SIDRA Results



SITE LAYOUT

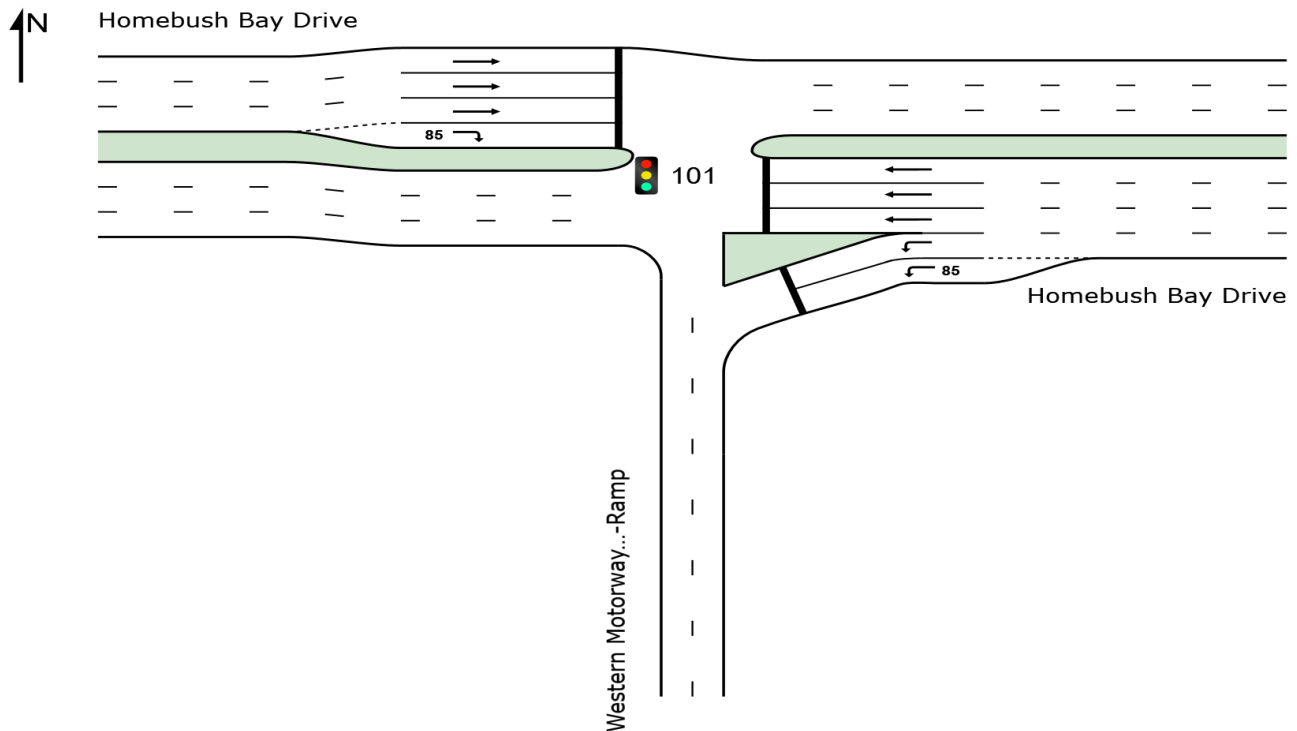
 Site: 101 [AM 2024 - Homebush Bay Drive / Western Motorway
On-Ramp (Site Folder: General)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: AMBER ORGANISATION | Licence: NETWORK / 1PC | Created: Wednesday, 19 February 2025 9:41:13 AM

Project: C:\Users\Kirk Ballantyne\OneDrive - Amber Organisation Pty Ltd\Amber\Jobs\1080 - Homebush BESS\Modelling\1080 - 250205.sip9

MOVEMENT SUMMARY

 Site: 101 [AM 2024 - Homebush Bay Drive / Western Motorway On-Ramp (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 129 seconds (Site User-Given Phase Times)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
East: Homebush Bay Drive															
4	L2	All MCs	334	4.0	334	4.0	0.139	15.6	LOS B	3.8	27.2	0.39	0.70	0.39	47.0
5	T1	All MCs	1847	5.2	1847	5.2	* 0.490	11.2	LOS A	18.8	137.3	0.54	0.49	0.54	64.2
Approach			2181	5.0	2181	5.0	0.490	11.9	LOS A	18.8	137.3	0.51	0.52	0.51	62.0
West: Homebush Bay Drive															
11	T1	All MCs	3181	10.0	3181	10.0	* 0.639	0.7	LOS A	7.5	57.0	0.24	0.14	0.24	78.0
12	R2	All MCs	253	25.2	253	25.2	0.668	55.9	LOS D	14.6	124.1	0.96	0.84	0.96	24.8
Approach			3434	11.1	3434	11.1	0.668	4.8	LOS A	14.6	124.1	0.29	0.20	0.29	71.1
All Vehicles			5615	8.7	5615	8.7	0.668	7.5	LOS A	18.8	137.3	0.38	0.32	0.38	67.3

Site Level of Service (LOS) Method: Delay (RTA 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)

PHASING SUMMARY

 **Site: 101 [AM 2024 - Homebush Bay Drive / Western Motorway On-Ramp (Site Folder: General)]**

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 129 seconds (Site User-Given Phase Times)

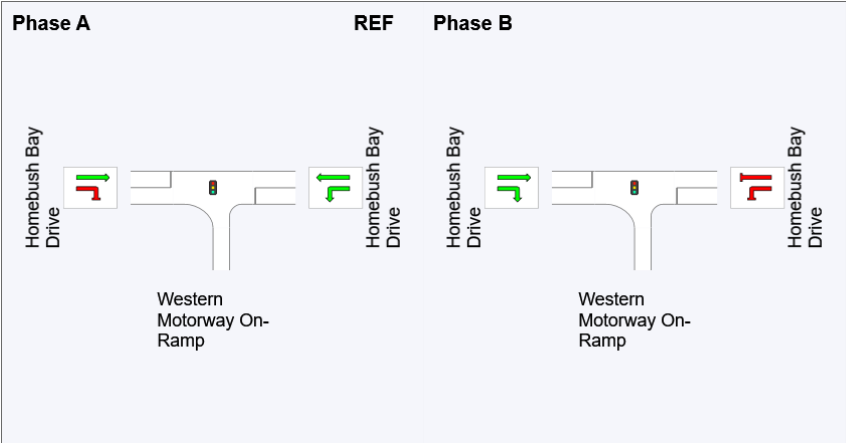
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Two-Phase
Input Phase Sequence: A, B
Output Phase Sequence: A, B
Reference Phase: Phase A

Phase Timing Summary

Phase	A	B
Phase Change Time (sec)	0	92
Green Time (sec)	86	31
Phase Time (sec)	92	37
Phase Split	71%	29%
Phase Frequency (%)	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

 Normal Movement	 Permitted/Opposed
 Slip/Bypass-Lane Movement	 Opposed Slip/Bypass-Lane
 Stopped Movement	 Turn On Red
 Other Movement Class (MC) Running	 Undetected Movement
 Mixed Running & Stopped MCs	 Continuous Movement
 Other Movement Class (MC) Stopped	 Phase Transition Applied

MOVEMENT SUMMARY

 Site: 101 [AM 2027 BESS - Homebush Bay Drive / Western Motorway On-Ramp (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 129 seconds (Site User-Given Phase Times)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
East: Homebush Bay Drive															
4	L2	All MCs	388	4.1	388	4.1	0.161	15.8	LOS B	4.4	32.2	0.40	0.71	0.40	46.8
5	T1	All MCs	1903	5.2	1903	5.2	* 0.504	11.4	LOS A	19.6	143.5	0.54	0.49	0.54	64.0
Approach			2292	5.0	2292	5.0	0.504	12.1	LOS A	19.6	143.5	0.52	0.53	0.52	61.5
West: Homebush Bay Drive															
11	T1	All MCs	3277	10.0	3277	10.0	* 0.658	0.7	LOS A	8.1	61.3	0.25	0.15	0.25	77.9
12	R2	All MCs	292	23.1	292	23.1	0.761	59.5	LOS E	17.9	149.9	0.99	0.88	1.05	23.8
Approach			3568	11.1	3568	11.1	0.761	5.5	LOS A	17.9	149.9	0.31	0.21	0.32	69.9
All Vehicles			5860	8.7	5860	8.7	0.761	8.1	LOS A	19.6	149.9	0.39	0.34	0.40	66.5

Site Level of Service (LOS) Method: Delay (RTA 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)

PHASING SUMMARY

 **Site: 101 [AM 2027 BESS - Homebush Bay Drive / Western Motorway On-Ramp (Site Folder: General)]**

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 129 seconds (Site User-Given Phase Times)

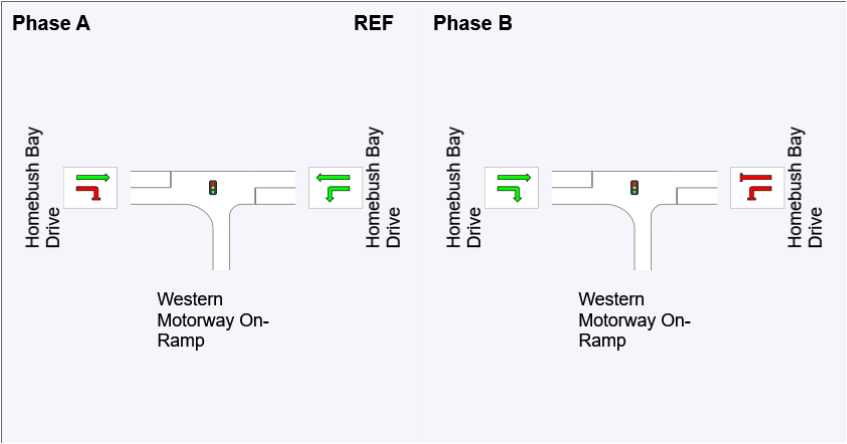
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Two-Phase
Input Phase Sequence: A, B
Output Phase Sequence: A, B
Reference Phase: Phase A

Phase Timing Summary

Phase	A	B
Phase Change Time (sec)	0	92
Green Time (sec)	86	31
Phase Time (sec)	92	37
Phase Split	71%	29%
Phase Frequency (%)	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

 Normal Movement	 Permitted/Opposed
 Slip/Bypass-Lane Movement	 Opposed Slip/Bypass-Lane
 Stopped Movement	 Turn On Red
 Other Movement Class (MC) Running	 Undetected Movement
 Mixed Running & Stopped MCs	 Continuous Movement
 Other Movement Class (MC) Stopped	 Phase Transition Applied

MOVEMENT SUMMARY

 Site: 101 [PM 2024 - Homebush Bay Drive / Western Motorway On-Ramp (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
East: Homebush Bay Drive															
4	L2	All MCs	504	0.7	504	0.7	0.177	11.7	LOS A	4.4	31.1	0.28	0.68	0.28	51.4
5	T1	All MCs	2501	2.9	2501	2.9	* 0.565	6.8	LOS A	22.5	161.2	0.44	0.40	0.44	69.6
Approach			3005	2.5	3005	2.5	0.565	7.6	LOS A	22.5	161.2	0.41	0.45	0.41	67.0
West: Homebush Bay Drive															
11	T1	All MCs	3033	1.3	3033	1.3	* 0.572	0.6	LOS A	6.4	45.4	0.19	0.12	0.19	78.3
12	R2	All MCs	197	5.2	197	5.2	0.769	73.5	LOS F	13.7	100.1	1.00	0.87	1.10	20.7
Approach			3229	1.5	3229	1.5	0.769	5.0	LOS A	13.7	100.1	0.24	0.16	0.25	71.0
All Vehicles			6235	2.0	6235	2.0	0.769	6.3	LOS A	22.5	161.2	0.33	0.30	0.33	69.1

Site Level of Service (LOS) Method: Delay (RTA 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)

PHASING SUMMARY

 Site: 101 [PM 2024 - Homebush Bay Drive / Western Motorway On-Ramp (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

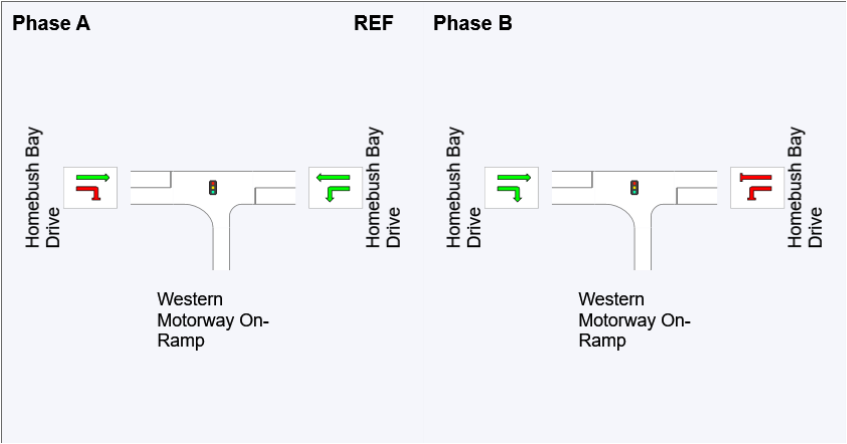
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Two-Phase
Input Phase Sequence: A, B
Output Phase Sequence: A, B
Reference Phase: Phase A

Phase Timing Summary

Phase	A	B
Phase Change Time (sec)	0	114
Green Time (sec)	108	20
Phase Time (sec)	114	26
Phase Split	81%	19%
Phase Frequency (%)	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

 Normal Movement	 Permitted/Opposed
 Slip/Bypass-Lane Movement	 Opposed Slip/Bypass-Lane
 Stopped Movement	 Turn On Red
 Other Movement Class (MC) Running	 Undetected Movement
 Mixed Running & Stopped MCs	 Continuous Movement
 Other Movement Class (MC) Stopped	 Phase Transition Applied

MOVEMENT SUMMARY

 Site: 101 [PM 2027 BESS - Homebush Bay Drive / Western Motorway On-Ramp (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Homebush Bay Drive															
4	L2	All MCs	519	0.7	519	0.7	0.182	11.8	LOS A	4.6	32.2	0.28	0.69	0.28	51.4
5	T1	All MCs	2577	2.9	2577	2.9	* 0.582	7.0	LOS A	23.7	170.1	0.45	0.41	0.45	69.4
Approach			3096	2.5	3096	2.5	0.582	7.8	LOS A	23.7	170.1	0.42	0.46	0.42	66.9
West: Homebush Bay Drive															
11	T1	All MCs	3124	1.3	3124	1.3	* 0.589	0.6	LOS A	6.8	48.4	0.20	0.12	0.20	78.3
12	R2	All MCs	203	5.2	203	5.2	0.794	74.8	LOS F	14.3	104.8	1.00	0.89	1.13	20.4
Approach			3327	1.5	3327	1.5	0.794	5.1	LOS A	14.3	104.8	0.25	0.17	0.26	70.8
All Vehicles			6423	2.0	6423	2.0	0.794	6.4	LOS A	23.7	170.1	0.33	0.31	0.34	68.9

Site Level of Service (LOS) Method: Delay (RTA 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)

PHASING SUMMARY

 **Site: 101 [PM 2027 BESS - Homebush Bay Drive / Western Motorway On-Ramp (Site Folder: General)]**

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

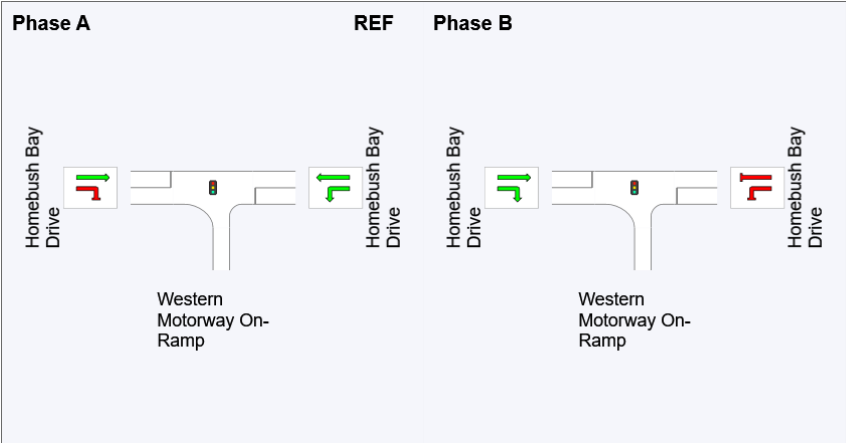
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Two-Phase
Input Phase Sequence: A, B
Output Phase Sequence: A, B
Reference Phase: Phase A

Phase Timing Summary

Phase	A	B
Phase Change Time (sec)	0	114
Green Time (sec)	108	20
Phase Time (sec)	114	26
Phase Split	81%	19%
Phase Frequency (%)	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

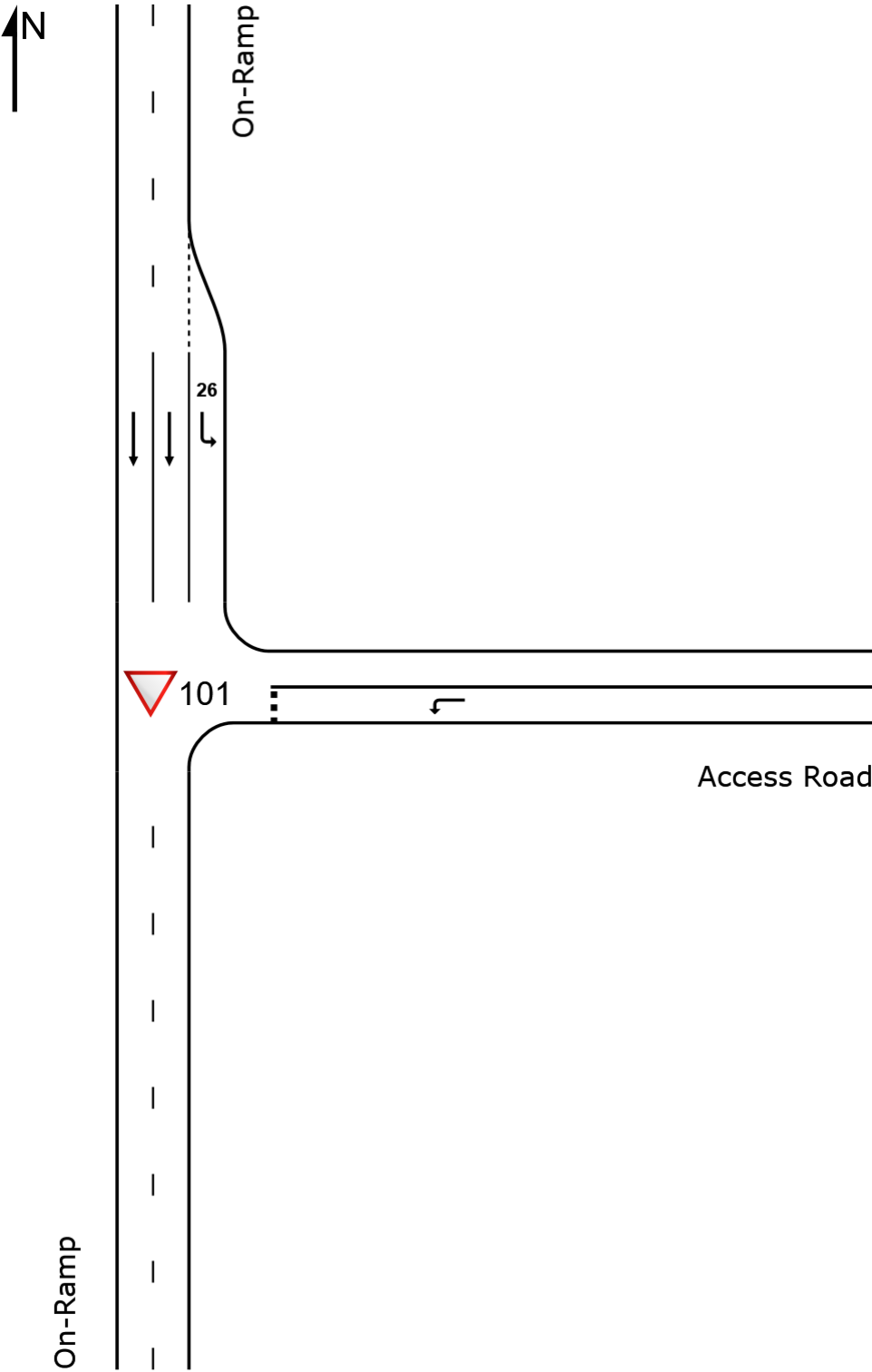
 Normal Movement	 Permitted/Opposed
 Slip/Bypass-Lane Movement	 Opposed Slip/Bypass-Lane
 Stopped Movement	 Turn On Red
 Other Movement Class (MC) Running	 Undetected Movement
 Mixed Running & Stopped MCs	 Continuous Movement
 Other Movement Class (MC) Stopped	 Phase Transition Applied

SITE LAYOUT

▼ Site: 101 [AM 2024 - Western Motorway On-Ramp / Access Road (Site Folder: General)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [AM 2024 - Western Motorway On-Ramp / Access Road (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Access Road															
4	L2	All MCs	4	50.0	4	50.0	0.004	7.6	LOS A	0.0	0.2	0.39	0.53	0.39	46.5
Approach			4	50.0	4	50.0	0.004	7.6	LOS A	0.0	0.2	0.39	0.53	0.39	46.5
North: On-Ramp															
7	L2	All MCs	12	9.1	12	9.1	0.007	5.1	LOS A	0.0	0.0	0.00	0.57	0.00	40.0
8	T1	All MCs	574	13.6	574	13.6	0.160	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			585	13.5	585	13.5	0.160	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.6
All Vehicles			589	13.8	589	13.8	0.160	0.2	NA	0.0	0.2	0.00	0.01	0.00	59.5

Site Level of Service (LOS) Method: Delay (RTA 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.

MOVEMENT SUMMARY

▼ Site: 101 [AM 2027 BESS - Western Motorway On-Ramp / Access Road (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival Flows [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Access Road															
4	L2	All MCs	4	50.0	4	50.0	0.004	7.7	LOS A	0.0	0.2	0.40	0.54	0.40	46.4
Approach			4	50.0	4	50.0	0.004	7.7	LOS A	0.0	0.2	0.40	0.54	0.40	46.4
North: On-Ramp															
7	L2	All MCs	87	7.2	87	7.2	0.049	5.1	LOS A	0.0	0.0	0.00	0.57	0.00	40.3
8	T1	All MCs	591	13.6	591	13.6	0.165	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			678	12.8	678	12.8	0.165	0.7	NA	0.0	0.0	0.00	0.07	0.00	58.0
All Vehicles			682	13.0	682	13.0	0.165	0.7	NA	0.0	0.2	0.00	0.08	0.00	57.9

Site Level of Service (LOS) Method: Delay (RTA 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.

MOVEMENT SUMMARY

Site: 101 [PM 2024 - Western Motorway On-Ramp / Access Road (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
East: Access Road															
4	L2	All MCs	12	18.2	12	18.2	0.011	7.1	LOS A	0.0	0.4	0.40	0.55	0.40	47.9
Approach			12	18.2	12	18.2	0.011	7.1	LOS A	0.0	0.4	0.40	0.55	0.40	47.9
North: On-Ramp															
7	L2	All MCs	11	10.0	11	10.0	0.006	5.1	LOS A	0.0	0.0	0.00	0.57	0.00	39.8
8	T1	All MCs	691	1.7	691	1.7	0.179	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			701	1.8	701	1.8	0.179	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.7
All Vehicles			713	2.1	713	2.1	0.179	0.2	NA	0.0	0.4	0.01	0.02	0.01	59.4

Site Level of Service (LOS) Method: Delay (RTA 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).

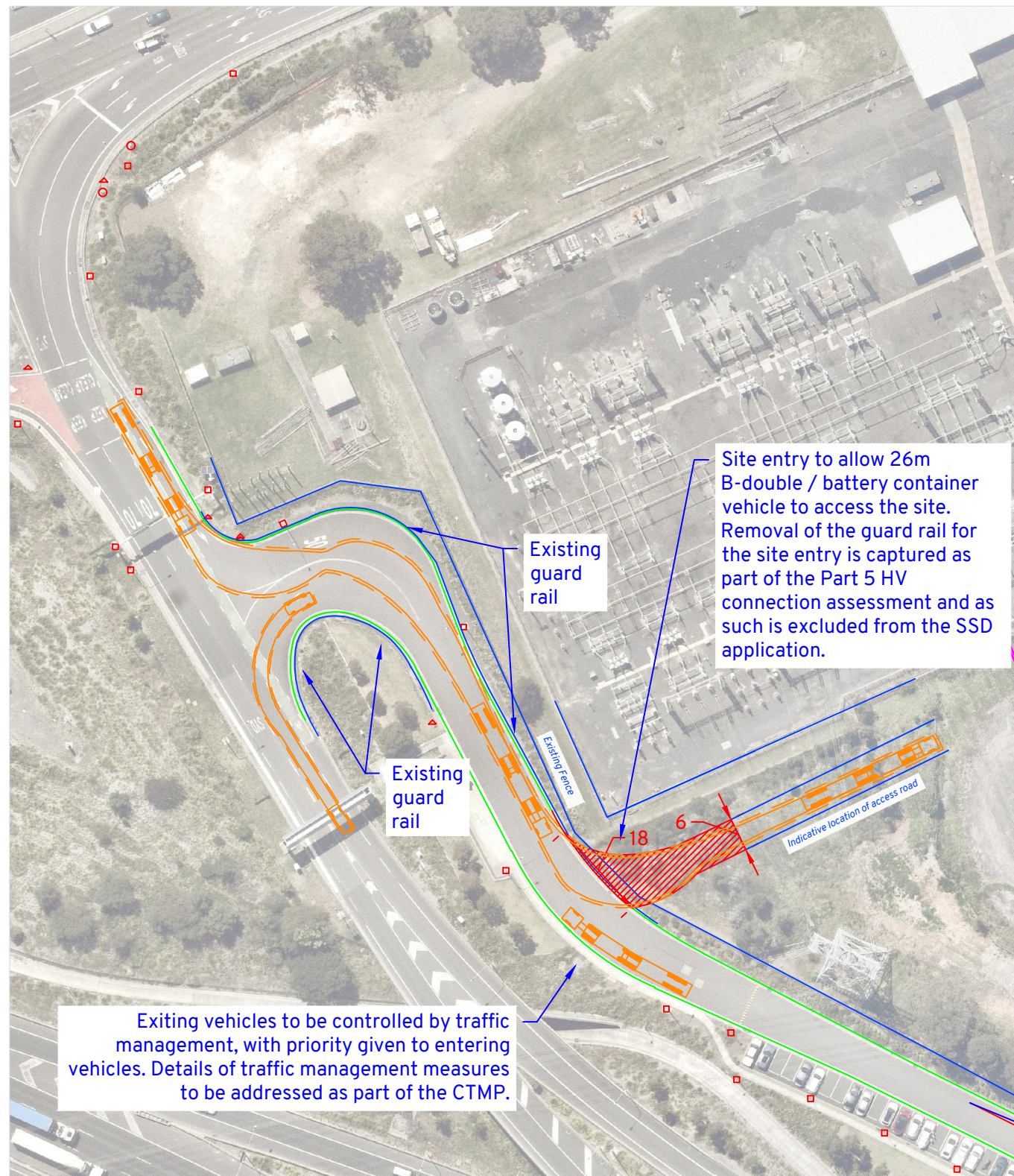
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

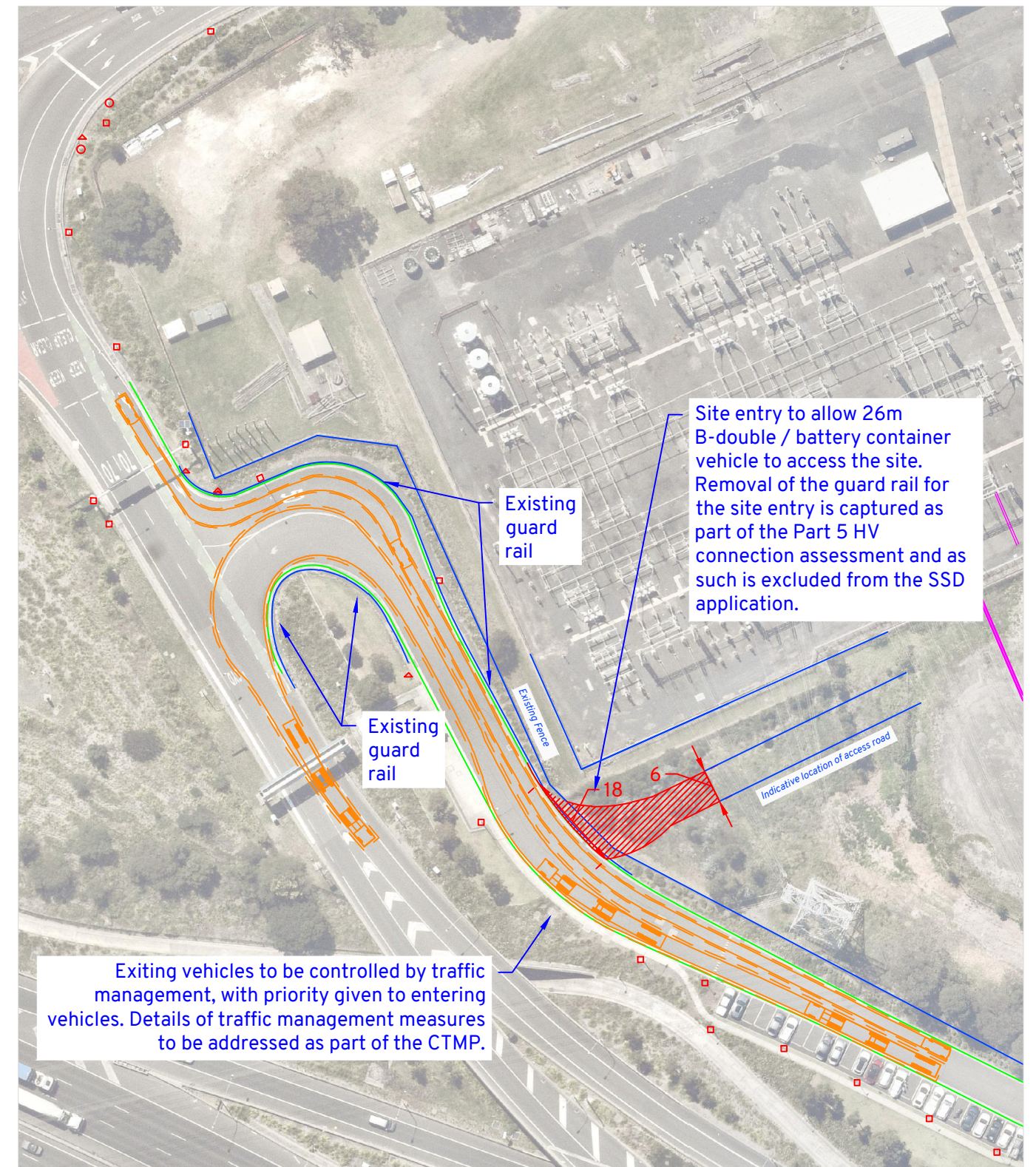
Appendix D

Swept Path Assessment





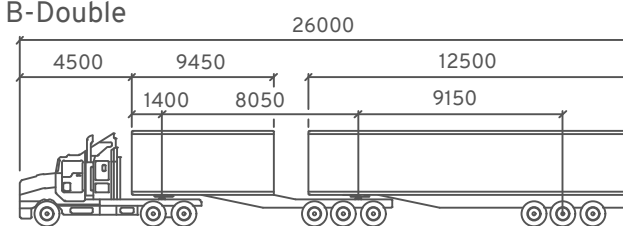
26m B-Double Entry Manoeuvre - Two-Way Passing



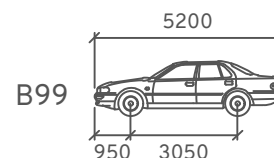
26m B-Double Exit Manoeuvre - Two-Way Passing

Vehicle Envelope
500mm Clearance
Reverse Manoeuvre
Min. Design Speed 5km/h

26.0m B-Double



Tractor Width : 2500 mm
Trailer Width : 2500 mm
Tractor Track : 2500 mm
Trailer Track : 2500 mm
Lock to Lock : 6.0s
Steering Angle : 22.2
Articulating Angle : 70.0



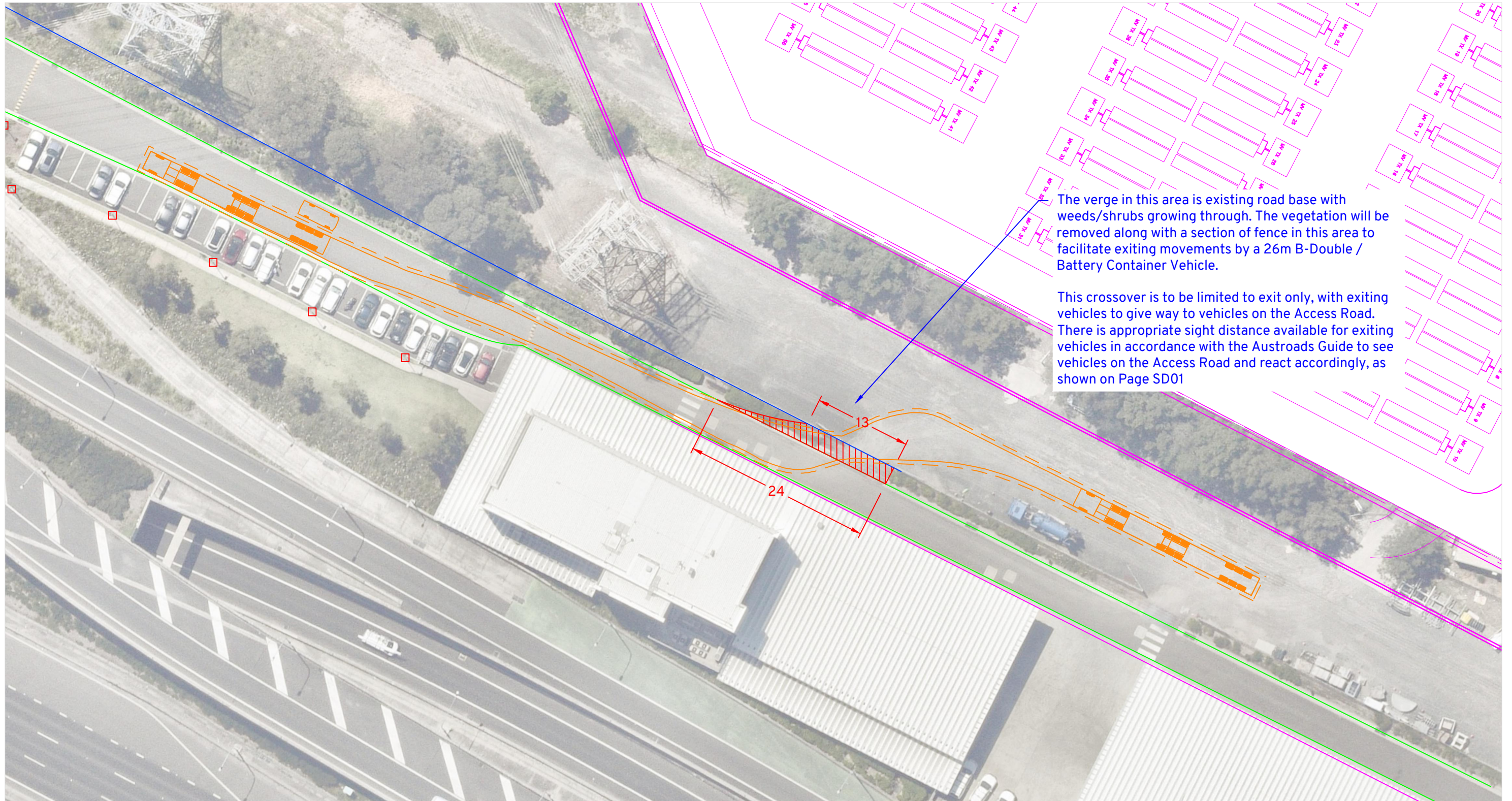
Width : 1940 mm
Track : 1840 mm
Height : 2200 mm
Lock to Lock : 6.0s
Steering Angle : 33.9



10 Homebush Bay Drive, Homebush
Homebush BESS
Swept Path Assessment

DRAWN: KB
DATE: 30/05/2025
DWG NO: 1080 S01F
SCALE at A3: 1:1000

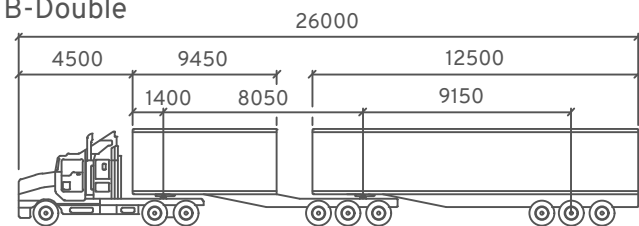
Amber S01



26m B-Double exiting site to Access Road

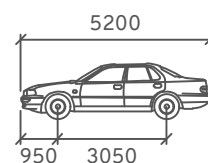
Vehicle Envelope
 500mm Clearance
 Reverse Manoeuvre
 Min. Design Speed 5km/h

26.0m B-Double



mm
 Tractor Width : 2500
 Trailer Width : 2500
 Tractor Track : 2500
 Trailer Track : 2500
 Lock to Lock : 6.0s
 Steering Angle : 22.2
 Articulating Angle : 70.0

B99



mm
 Width : 1940
 Track : 1840
 Height : 2200
 Lock to Lock : 6.0s
 Steering Angle : 33.9



10 Homebush Bay Drive, Homebush
 Homebush BESS
 Swept Path Assessment

DRAWN: KB
 DATE: 30/05/2025
 DWG NO: 1080 S01F
 SCALE at A3: 1:500

Amber S02

Appendix E

Sight Distance Assessment





Sight Distance at Site Exit

Sight Distance

Sight Line



10 Homebush Bay Drive, Homebush
Homebush BESS
Sight Distance Assessment

DRAWN: KB
DATE: 30/05/2025
DWG NO: 1080 S01F
SCALE at A3: 1:250

Amber SD01