Transport and Accessibility Impact Assessment

Shoalhaven Hospital Redevelopment

Prepared for Health Infrastructure NSW c/o Johnstaff

21 September 2022

201815

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Executive Summary

This Transport and Accessibility Impact Assessment (TAIA) assesses the traffic and transport impacts and design elements of the proposed Shoalhaven Hospital redevelopment located at 2 Scenic Drive, Nowra NSW, within the Shoalhaven City Council. The redevelopment involves an extension of the existing hospital to provide larger scale and higher quality medical services to the residents of Shoalhaven. The project includes the retention of the existing hospital buildings and car parks and constructing additional emergency and acute services buildings.

The overall strategy has been proposed to, and discussed with, Shoalhaven City Council during ongoing liaison through a Transport Working Group (TWG) for the project. The TWG has met twice since May 2021, and the project has refined the transport strategy during that period in response to feedback received.

The overall transport strategy for the proposed development is as follows:

- **Pedestrians**
  - Growing demand expected due to high density residential development in the riverfront precinct; provide connectivity to bus services and to local network
- **Cyclists**
  - Growing demand expected due to the implementation of a Green Travel Plan and cycling infrastructure; provide 90 on-site bicycle parking spaces and end-of-trip facilities
- **Public transport**
  - Increased demand expected by bus and train; bus connectivity to train station required, and TfNSW have been advised of the demand for this link
- **Vehicle access**
  - Public vehicle access is distributed along North Street, Shoalhaven Street and Scenic Drive
  - Ambulance and service and loading access is from Shoalhaven Street (from separate driveways)
- **Car parking**
  - Consistent demand expected; on-site provision within the Shoalhaven Hospital for general usage and continued usage of on-street parking in the streets around the site
  - A new multi-storey car park and a new at-grade car park were constructed on the hospital precinct in 2019 in awareness of the upcoming redevelopment. The multi-storey car park was also future-proofed to allow an additional two stories to be constructed.

The proposed design includes existing and new public vehicle accesses distributed along North Street, Shoalhaven Street and Scenic Drive. Ambulance and loading and service vehicle access is proposed from Shoalhaven Street. The proposed hospital will make use of the existing on-site car parks. New pedestrian footpaths are proposed on North Street and Shoalhaven Street, and cyclist infrastructure including bicycle parking and end-of-trip facilities are proposed in Block B. The site is considered to have good road connectivity to Princes Highway via Hyam Street and Bridge Road, or from North Street.

Sustainable transport initiatives will be provided to support the hospital campus as a whole at future demand levels in accordance with the implementation of a Green Travel Plan. Based on these transport initiatives, a total parking demand of 855 spaces is expected for the 2026 scenario during the weekday shift changeover.

Traffic and parking demands of the Shoalhaven Hospital redevelopment are assessed in this report at the opening year scenario in 2026. Further traffic and parking assessments will be undertaken at 18 and 36 months post-opening to determine any further actions required beyond the opening year scenario.

The proposed redevelopment is expected to generate an additional 81 trips during the morning peak hour and 41 trips in the afternoon peak hour by the year 2026. By the year 2031, the hospital is expected to generate an additional 260 trips during the morning peak and 225 trips in the afternoon peak. Both the 2026 and 2031 intersection performance results indicate minor changes from the existing scenario, showing a consistently good Level of Service. Therefore, the intersections continue to demonstrate a suitable operation with the additional volumes generated by the development.

Following approval of this SSD project, it is anticipated that a Construction Traffic Management Plan and Green Travel Plan would be fully developed prior to construction and operation of Shoalhaven Hospital. Preliminary versions of these documents have been provided as part of this TAIA. The final documents and other detailed design elements can be finalised as a condition of development consent.

The proposed development is deemed suitable on consideration of the traffic and transport elements of the site and its surrounds, and the transport strategy proposed for its management.

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Revision Register

Rev	Date	Prepared by	Approved by	Remarks
0	08/07/2022	N. Borja	M. Babbage / P. Yannoulatos	Issued as Draft
0.1	20/07/2022	E. Cowdery	M. Babbage / P. Yannoulatos	Issued as Draft
0.2	21/07/2022	E. Cowdery	M. Babbage / P. Yannoulatos	Issued as Draft
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1 Introduction

1.1 Background

This document is prepared to discuss the traffic and transport elements associated with the Shoalhaven Hospital redevelopment. The report provides an assessment of the traffic related design elements and reviews the vehicle access arrangements and interface with the remainder of the hospital campus.

Taylor Thomson Whitting (TTW) has been engaged Health Infrastructure (HI) NSW to provide traffic engineering consultancy services for the Shoalhaven Hospital redevelopment. The project design is being undertaken by Conrad Gargett Architecture. This Transport and Accessibility Impact Assessment (TAIA) has been prepared in support of a State Significant Development Application (SSD-35999468) and in response to the Secretary's Environmental Assessment Requirements (SEARs) for the site, which have been detailed in Section 1.6 of this report.

1.2 Scope

This TAIA has been developed to assess and address the traffic and transport impacts of the proposed redevelopment. This report covers the following areas:

- Site access
- Car parking
- Traffic generation
- Public and active transport
- Service vehicles and loading

Preparation of this report has included collection of traffic volumes, further detailed later in this report.

A preliminary Construction Traffic Management Plan (CTMP) and preliminary Green Travel Plan (GTP) have also been prepared for the development and should be read in conjunction with this report.

1.3 Guidelines and References

This report has been prepared in the context of and with knowledge of a variety of relevant documents, standards, and guidelines:

- NSW Health Infrastructure Hospital Car Park Design Guidelines, 2019;
- RMS Guide to Traffic Generating Developments;
- TfNSW 16 Regional Cities Services Improvement program;
- Future Transport Strategy 2056;
- NSW Movement and Place Framework;
- NSW Travel Plan Toolkit for Hospital Precincts;
- Stakeholder requirements;
- Australian Standards, including but not limited to:
    - Australian Standard AS2890.1: Off-street car parking
    - Australian Standard AS2890.2: Off-street commercial vehicle facilities
    - Australian Standard AS2890.6: Off-street parking for people with disabilities
- Building Code of Australia (BCA);
- Disability Discrimination Act (DDA);

- Safety in Design (SID) requirements;
- Crime Prevention Through Environmental Design (CPTED) principles
- Austroads Guidelines, including but not limited to:
    - Guide to Road Design
    - Guide to Road Safety
    - Guide to Traffic Management

Additional documentation reviewed from relevant local jurisdictions and similar nearby developments includes:

- Shoalhaven Development Control Plan (DCP) 2014, DCP 18 Chapter G21 Car Parking and Traffic
- Shoalhaven Local Environmental Plan (LEP) 2014

1.4 Consultation

This report has been prepared following consultation between the design team and relevant stakeholders, including the Transport Working Group (TWG) which was assembled for the project. This group included TTW, HI, Shoalhaven City Council and Transport for NSW as relevant. The meeting minutes for both TWG meetings are included in Appendix A. Consultation events and outcomes occurred as follows:

- **18 May 2021**
    - The meeting included representatives from HI, TTW Council and TfNSW.
    - The project was introduced to the Transport Working Group, and the overall strategic transport options.
    - Key feedback included queries about the site operation, transport strategy, and discussions of proposed traffic studies.
- **18 May 2022**
    - The meeting included representatives from Council, TfNSW and HI
    - Key points of discussion included on-street parking and the scope of traffic modelling

A meeting was held on **28 October 2021** with representatives from HI, TTW and those from TfNSW responsible for the '16 Cities' future service planning. The key points of discussion included advice around potential bus interchanging at Stewart Place, potential 'On Demand' bus or shuttle services in the area, and extension of servicing to earlier in the morning (e.g. 6am) and later in the evening (e.g. 7pm). Feedback included that the existing bus route loop around the hospital creates service challenges, and that a turnaround provision (e.g. at the new entry) could be beneficial. Future 'trunk' routes would likely be via the hospital as a major demand generator.

1.5 Planning Context

1.5.1 Shoalhaven Local Environmental Plan

The site is subject to the provisions of the Shoalhaven Local Environmental Plan 2014 (the LEP). Compliance with LEP controls is a legislative requirement, subject to approval from Council and the Department of Planning.

1.5.2 Shoalhaven Development Control Plan

The site is subject to the provisions of the Shoalhaven Development Control Plan 2014 (the DCP). Compliance with DCP controls is generally required, subject to approval from Council and the Department of Planning.

Section 2, Chapter G21 of the DCP refers to Car Parking and Traffic and has been considered in the development of this TAIA.

1.5.3 Future Transport Strategy 2056

Future Transport Strategy 2056 indicates that travel behaviours are currently changing and will continue to change into the future, away from private vehicle use. This is because people have greater flexibility in where and what hours they work, car ownership will reduce and an increase in the number of alternative travel options will arise.

The Strategy states that future investment in regional and outer metropolitan NSW will deliver a 'hub-and-spoke' network to improve connections and access to regional centres.

The transport strategy at Shoalhaven Hospital aligns with the principals of the Future Transport Strategy 2056 as it encourages a shift away from private vehicle usage through the provision of sustainable travel infrastructure and the implementation of a Green Travel Plan to promote alternative travel options.

1.5.4 TfNSW Movement and Place Framework

The TfNSW Movement and Place Framework focuses on providing improved transport networks for the community, including safer and healthier travel options such as walking and cycling.

The Framework aims to produce roads and transport networks which best serve community needs and the people and places within. Transport networks that have been designed in this way attract users, and can encourage travel by walking, cycling, public transport and rideshare for all ages and abilities.

The transport strategy for the proposed hospital redevelopment focuses on safe and healthy travel options in accordance with the TfNSW Movement and Place Framework.

1.6 Response to SEARs

Under application number SSD-35999468 we have been provided with SEARs. These requirements were issued on 23 February 2022 following consultation with local stakeholders. The key issues relevant to a TAIA include those shown in Table 1.1 and have been addressed in various sections of this report as referenced.

Table 1.1: Response to SEARs

	Key items	**Comments and references**
1	**Statutory and Strategic Context**	
	Address the statutory provisions contained in all relevant environmental planning instruments, including: • State Environmental Planning Policy (State & Regional Development) 2011 • *Biodiversity Conservation Act 2016* • State Environmental Planning Policy (Infrastructure 2007) • State Environmental Planning Policy No. 64 – Advertising and Signage • State Environmental Planning Policy No. 55 – Remediation of Land • State Environmental Planning Policy No. 33 – Hazardous and Offensive Development • State Environmental Planning Policy (Coastal management 2018) • Draft State Environmental Planning Policy (Remediation of Land) • Draft State Environmental Planning Policy (Environment) • Shellharbour Local Environmental Plan 2013	*This Transport and Accessibility Impact Assessment has been prepared in the context of the relevant planning policies as listed.*
2	**Policies**	
	Address the relevant planning provisions, goals, and strategic planning objectives in the following: • NSW State Priorities; • Illawarra-Shoalhaven Regional Plan 2015 • Future Transport Strategy 2056 • State Infrastructure Strategy 2018 – 2038 Building the Momentum • Crime Prevention Through Environmental Design (CPTED) Principles • Better Placed: An integrated design policy for the built environment of New South Wales (GANSW 2017) • Shellharbour Development Control Plan 2013	*This Transport and Accessibility Impact Assessment has been prepared in the context of the relevant strategies and objectives as listed.*

	Key items	Comments and references
10	**Traffic, Transport and Accessibility** Provide a transport and accessibility impact assessment, which includes:	
10.1.1	An analysis of the existing transport network, including the road hierarchy and any pedestrian, bicycle or public transport infrastructure, current daily and peak hour vehicle movements, and existing performance levels of nearby intersections.	*Refer to Section 2: Existing Conditions*
10.1.2	Details of the proposed development, including emergency, pedestrian and vehicular access arrangements (including swept path analysis of the largest vehicle and height clearances), parking arrangements and rates (including bicycle and end-of-trip facilities), drop-off/pick-up zone(s) and bus bays/shelters (if applicable), and provisions for servicing and loading/unloading.	*Refer to Section 3: Proposed Works*
10.1.3	Analysis of the impacts of the proposed development (including justification for the methodology used), including predicted modal split, a forecast of additional daily and peak hour multimodal network flows as a result of the development (using industry standard modelling), identification of potential traffic impacts on road capacity, intersection performance and road safety (including pedestrian and cyclist conflict) and any cumulative impact from surrounding approved developments.	*Refer to Section 4: Traffic Assessment*
10.1.4	Measures to mitigate any traffic and parking impacts, including details of any new or upgraded infrastructure to achieve acceptable performance and safety, and the timing, viability, and mechanisms of delivery (including proposed arrangements with local councils or government agencies) of any infrastructure improvements in accordance with the relevant standards.	*Refer to Section 3: Proposed Works and Section 5: Parking Assessment*
10.1.5	Measures to promote sustainable travel choices for employees and visitors, such as connections into existing walking and cycling networks, minimising car parking provision, encouraging car share and public transport, providing adequate bicycle parking and high quality end-of-trip facilities, and implementing a Green Travel Plan.	*Refer to Section 6: Green Travel Plan*
10.2	Provide a Construction Traffic Management Plan detailing construction vehicle movements, routes, access and parking arrangements, coordination with other construction occurring in the area, and how impacts on existing traffic, pedestrian and bicycle networks would be managed and mitigated.	*Refer to Section 7: Preliminary Construction Traffic Management Plan*

1.7 Methodology and References

This TAIA report references the previously undertaken Shoalhaven District Memorial Hospital (SDMH) Updated Car Parking Demand Study by Parking & Traffic Consultants (PTC) dated 7 November 2017. The car parking demand study was undertaken generally in accordance with NSW Health Infrastructure's requirements as part of the Sustainable Hospital Car Park Investment Program (SHCPIP). The study involved patient and visitor intercept surveys, staff online surveys, Journey to Work analysis, and review of historical occupancy information.

Further up-to-date calculations of parking demand for the opening year have been undertaken based on the revised operational forecasts including staff and patient number forecasts provided by HI and the Illawarra Shoalhaven Local Health District (ISLHD).

2 Existing Conditions

2.1 The Site

2.1.1 Site Location

The existing hospital site is located at 2 Scenic Drive, Nowra NSW, within the Shoalhaven City Council local government area. The site has frontage to Scenic Drive to the north and west, Shoalhaven Street to the east and North Street to the south. The site shape is defined by Shoalhaven River to the north and west, with predominantly residential land to the south and largely mixed-use zoned land to the east. The site location within the local road network is shown in Figure 2.1 below.

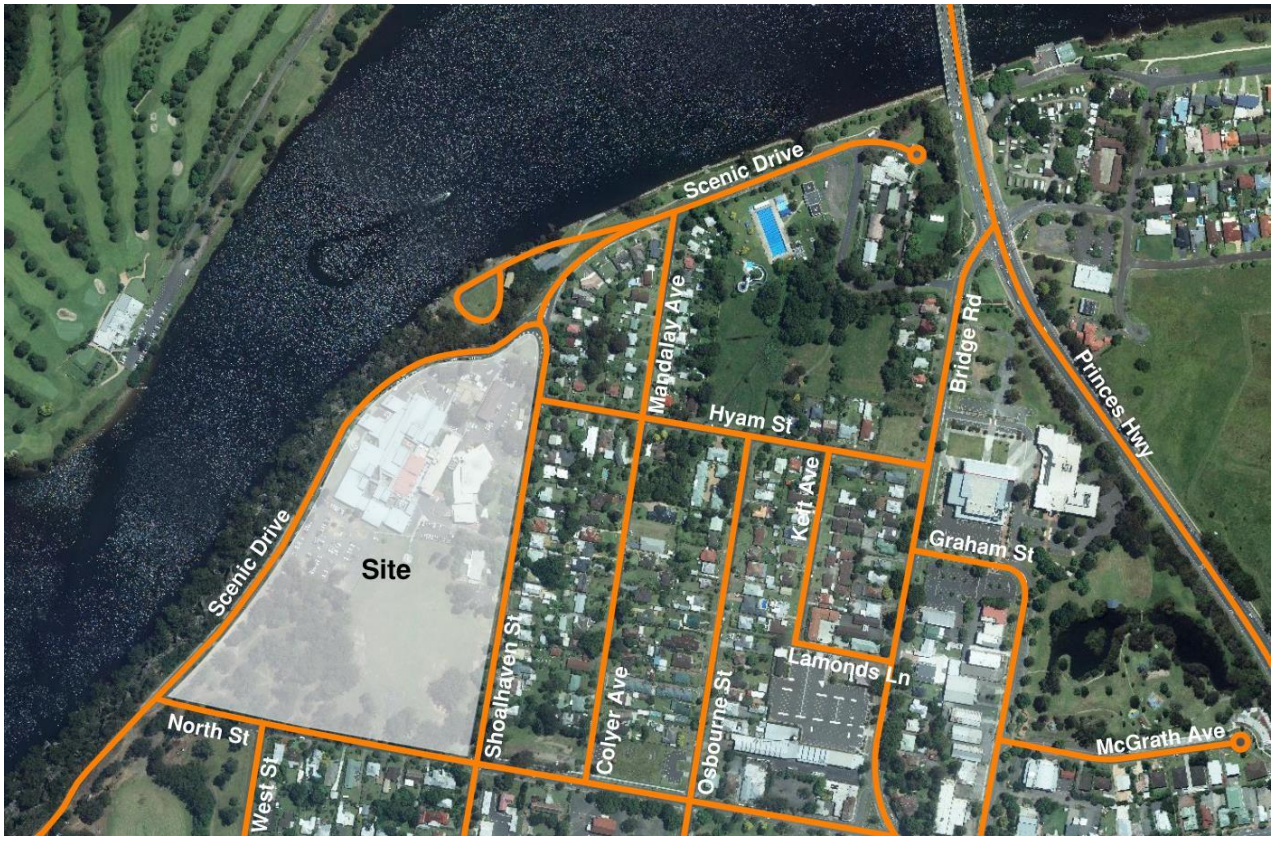


Figure 2.1: Site Location

2.1.2 Existing Operation

The site currently has the following main operational components as shown in Figure 2.2.

- Shoalhaven District Memorial Hospital, including the Shoalhaven Cancer Care Centre
- Grand Pacific Health Centre
- Shoalhaven Community Preschool

Figure 2.2: Site Operations

The hospital operates as the main acute care hospital for the Shoalhaven region. The number of workers on site at Shoalhaven Hospital during a weekday morning shift is 538. This includes the following:

- 368 clinical staff
- 156 admin staff
- 5 retail staff
- 9 VMOs

Generally, the hospital operates during daytime hours, with some areas operating at all times (e.g. Emergency Department, and the intensive care unit). The visiting hours have been amended in response to COVID-19. The current visiting hours are:

- General Wards: 11:00am to 2:00pm and 5:00pm to 8:00pm
- Birthing and Maternity Unit:
    - Partner/support person: 8:00am to 8:00pm
    - Visitors: 11:00am to 2:00pm and 5:00pm to 8:00pm

- Children's Ward:
    - Parents/carers: open 24 hours
- Mental Health Unit: visitors are suspended until further notice

Shoalhaven Hospital includes the Shoalhaven Cancer Care Centre which offers chemotherapy, radiation therapy, haematological and cancer genetic services. The centre operates from Monday to Friday, 8:00am to 5:00pm.

The Grand Pacific Health Centre includes GP consultation as well as pathology, exercise physiology, dietetics, and a range of mental health services. The operating hours are from Monday to Friday, 8:00am to 5:00pm.

Shoalhaven Community Preschool operates as an educational and childcare service for children aged 3 – 6. The preschool is licensed to cater to 40 children and provides out-of-hours care until 4pm. The preschool is open on weekdays from 8:00am to 4:00pm during NSW school terms. Out-of-hours care occurs between 3:30pm and 4:00pm.

2.2 Site Access

Access to the main hospital car park including the multi-storey car park is from Scenic Drive. The Cancer Care Centre car park has two driveways, one on Scenic Drive and the other on North Street. This Scenic Drive car park access also connects to the Grand Pacific Health Centre car park. Various smaller car parks for specialised medical services exist toward the north of Scenic Drive, including access to the staff car park.

2.3 Road Network

2.3.1 Local Road Network

Shoalhaven Street

Shoalhaven Street runs along the eastern boundary of the hospital site, with a single travel lane in each direction. It has a speed limit of 50km/hr, with a school zone at the southern end adjacent to the greenspace area. On-street parking is unrestricted along both sides of the road.

A service entry to the hospital can be accessed from Shoalhaven Street, as well as access to the preschool. A bus stop is located near the hospital service entry, which is accessible by a staff swipe card.

Scenic Drive

Scenic Drive follows the line of the river and borders the hospital to the north and west. It has a single travel lane in each direction with a speed limit of 50km/hr. There are several stretches of 90° parking bays along the hospital frontage on Scenic Drive, and two parallel parking zones. The opposite side of the road is a no parking zone for the length of the site.

The main hospital entry is on Scenic Drive, providing access to the main car park. Access to emergency is via Scenic Drive, as well as an emergency drop-off zone. Access to the Cancer Care Centre and the General Pacific Health Centre is available at the southern end of Scenic Drive.

North Street

North Street bounds the site from the south, with one travel lane in each direction. It is signposted with a speed limit of 50km/hr and includes a school zone at the relevant times. On-street parking is unrestricted on both sides of the road.

An exit driveway from the Cancer Care Centre car park is accessible via North Street.

Bridge Road

Bridge Road provides a connection to the Princes Highway via Hyam Street. The southbound travel direction has two travel lanes before converting to a single lane, while the northbound has a single travel lane for the entire road length. It is signposted with a speed limit of 50 km/hr.

The road provides access to various developments including the Shoalhaven Entertainment Centre, the Nowra Fire Station, and a range of medical practices and other services.

On-street parking is unrestricted.

Local residential streets

The residential streets in the areas surrounding the hospital include Mandalay Avenue, Colyer Avenue, Hyam Street, Osbourne Street, Keft Avenue and Lamonds Lane. These roads consist of similar features such as a 50km/hr speed limit with some areas of school zones. Unrestricted on-street parking is observed along these roads, with one travel lane in each direction.

2.3.2 State and Regional Road Network

The Princes Highway is a state road in the vicinity of the site, and Bolong Road is classified as a regional road. The Princes Highway is the major road providing a connection between the northern side of Shoalhaven River with the southern side. It also connects Sydney to the NSW southern coast and continues down the southern coast of Australia before turning west.

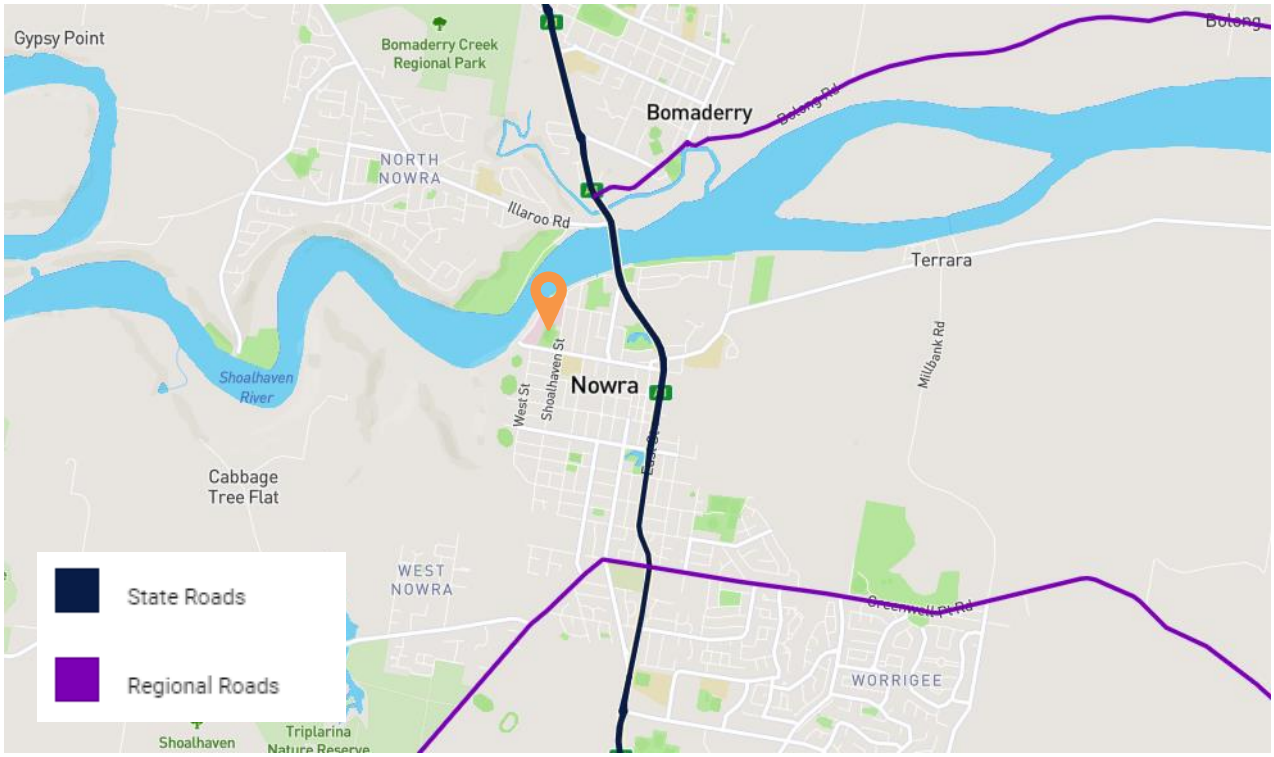


Figure 2.3: Classified road network
Source: NSW Road Network Classifications map (TfNSW)

TfNSW is developing a new bridge over the Shoalhaven River on the Princes Highway at Nowra. This project not only includes the construction of the bridge, but also road and intersection upgrades along the Princes Highway. An indication of the works is shown in Figure 2.4. These works include:

- Princes Highway upgrade between Bolong Road and Moss Street
  - Includes 3 northbound and 3 southbound lanes
- Bridge Road intersection upgrade
  - Includes 2 southbound right turn lanes from Princes Highway into Bridge Street
  - Include 1 left turn lane from Bridge Street to Princes Highway
- Removing the intersection of Bridge Road and Scenic Drive
- A 3.5-metre-wide shared use path on the western side of the bridge connecting the Illaroo Road intersection to the Bridge Road intersection
- Off road shared paths and footpaths along length of road upgrade

These works are expected to be completed by mid-2024. During this construction phase, some disruption and delays are anticipated to affect workers and patients travelling to the hospital site. However, the bridge construction and associated roadworks will provide improved traffic flows and better access between Nowra, North Nowra, and Bomaderry. The active transport infrastructure included in this project will also improve connectivity and safety for pedestrians and cyclists.

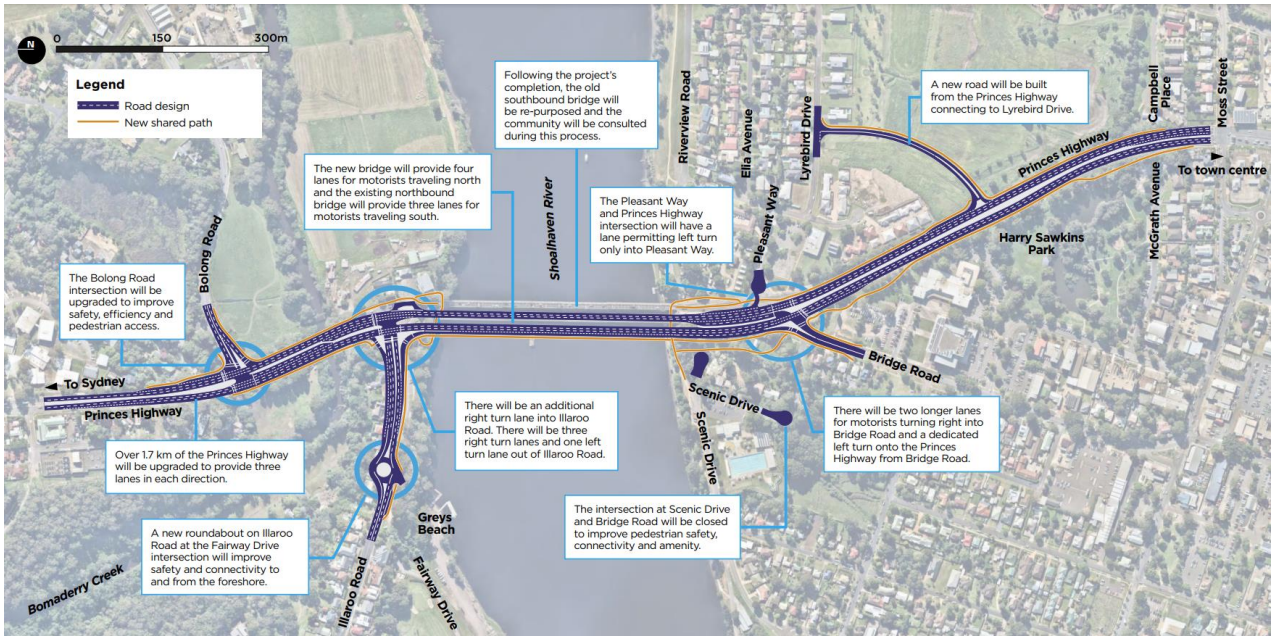


Figure 2.4: Nowra Bridge Works

Source: TfNSW Detailed Design Overview Map July 2020

Another major transport project includes the Princes Highway upgrade between Berry and Bomaderry, just north of Nowra. The approximate scope of works extends for approximately 10.7 km from the Princes Highway intersection with Mullers Lane in Berry to Cambewarra Road in Bomaderry, as seen in Figure 2.5. During construction, the speed limit between along this road segment is lowered to 80 km/hr, with a reduction to 40 km/hr during roadwork. These works are scheduled to be completed in 2022 and work will typically occur between 7am and 6pm on weekdays and between 8am and 1pm on Saturdays. These works may increase travel times for those travelling to the hospital site but will ultimately improve connectivity and travel times after the works are complete.

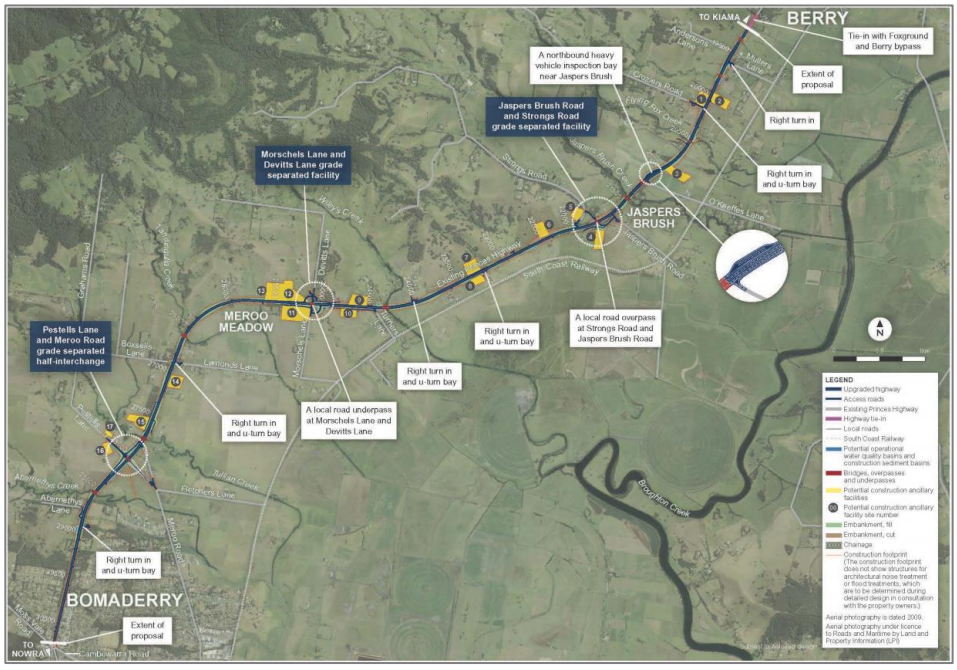


Figure 2.5: Berry to Bomaderry Upgrade Project Extent

Source: RMS Berry to Bomaderry Submissions Report 2014

2.4 Car Parking

2.4.1 Off-Street Parking

The existing hospital campus has a total parking capacity of 693 car parking spaces, 5 ambulance parking spaces, and 19 car parking spaces at the preschool site. The distribution of parking is illustrated in Figure 2.6 and detailed in Table 2.1.

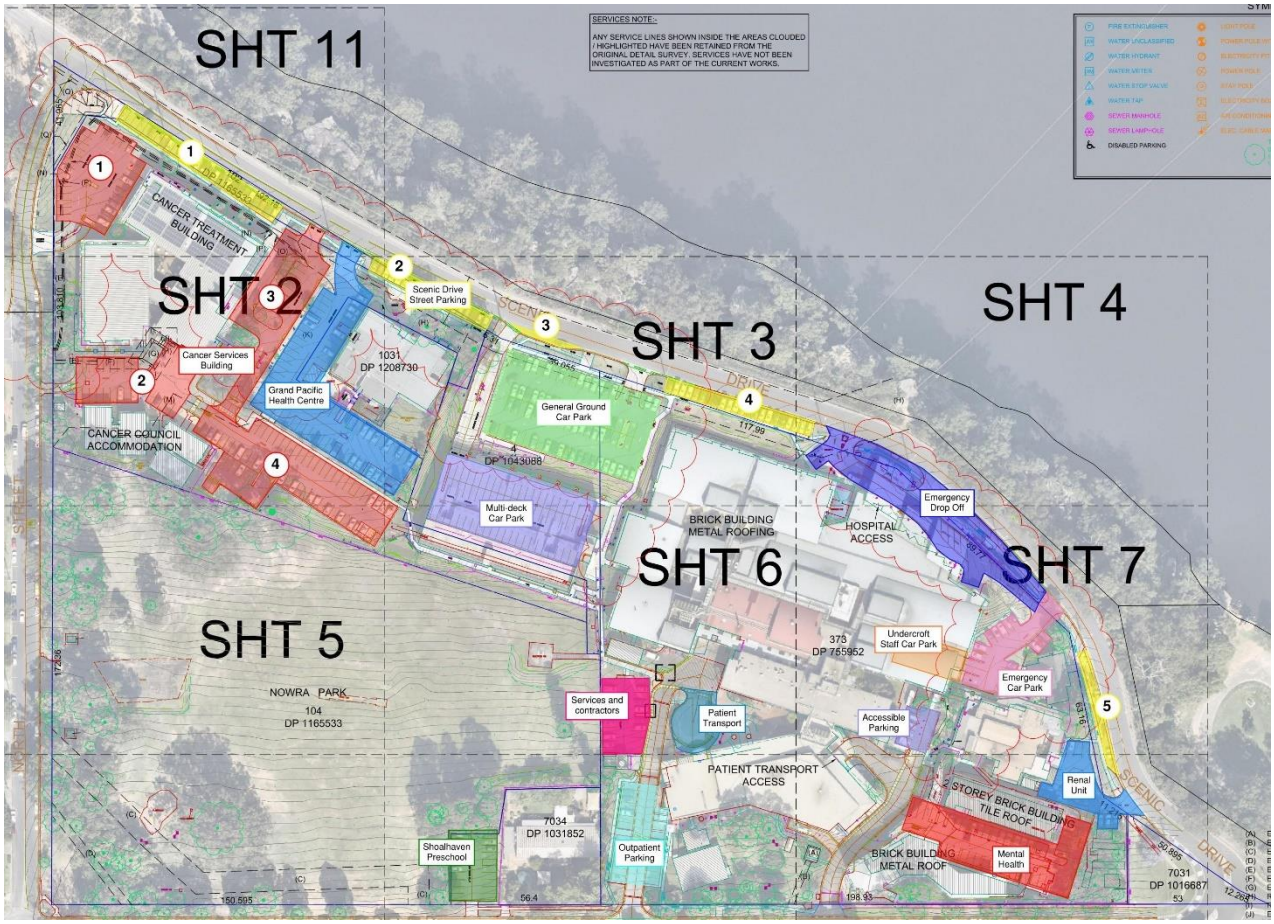


Figure 2.6: On-site car parking modules

Table 2.1: Car parking spaces breakdown

Parking Area		General	Accessible	Total Cars	Ambulance
Cancer Care Centre	Area 1	32	2	34	0
	Area 2	20	2	22	0
	Area 3	5	2	7	0
	Area 4	58	0	58	0
	Total	**115**	**6**	**121**	**0**
Grand Pacific Health Centre	GP Health Centre	64	2	66	0
	Total	**64**	**2**	**66**	**0**
Shoalhaven Hospital	Scenic Dr Area 1	28	0	28	0
	Scenic Dr Area 2	20	0	20	0
	Scenic Dr Area 3	3	0	3	0
	Scenic Dr Area 4	22	0	22	0
	Scenic Dr Area 5	7	0	7	0
	General Ground Car Park	72	4	76	0
	Multi-deck Car Park	230	0	230	0
	Emergency Drop Off	0	2	2	5
	Emergency Car Park	15	1	16	0
	Renal Unit	8	0	8	0
	Mental Health	31	2	33	0
	Outpatient Parking	21	0	21	0
	Services and Contractors	18	0	18	0
	Accessible Parking	0	4	4	0
	Patient Transport	3	0	3	0
	Undercroft Staff Car Park	15	0	15	0
	Total	**493**	**13**	**506**	**5**
Total		**672**	**21**	**693**	**5**
Shoalhaven Preschool	Preschool	17	2	19	0
	Total	**17**	**2**	**19**	**0**

The multi-storey car park currently provides 230 spaces across 3.5 storeys (7 split deck levels from Level -1 to Level 5). The multi-storey car park has been future-proofed to allow additional 2 stories (4 split deck levels) to be constructed, which would provide an estimated 136 additional spaces (subject to detailed design).

2.4.2 On-Street Parking

Scenic Drive has 90° parking provisions for 70 spaces along the site frontage with a 2-hour time restriction. There are also two parallel parking bays, providing capacity for approximately 10 cars. The opposite side of Scenic Drive is signposted as a no parking zone.

Shoalhaven Street and North Street have unrestricted on-street parking on both sides of the road.

Within 400 metres of the site, there is a total on-street parking capacity of 379 spaces. Of these, 30% are generally occupied, resulting in 265 available on-street parking spaces.

2.4.3 Historical On-Street Parking Analysis

The data collected in Table 2.2 is based on historical data provided by Nearmap showing the number of cars recorded parked along the surrounding streets within 400m walkable distance from the site. It is noted that other streets may be used as well, but the primary roads used for parking by hospital users include Shoalhaven Street, Hyam Street and North Street, and are included in the survey study area as shown in Figure 2.7.

Figure 2.7: On-street Parking Survey
Source: Nearmap

Table 2.2: Historical On-Street Parking Occupancy

Date	Day	Time	Shoalhaven Street	North Street	Hyam Street	Total
20/04/21	Tuesday	1:02 PM	75	65	34	174
19/11/20	Thursday	8:10 AM	69	56	37	162
03/10/20	Saturday	9:14 AM	33	2	8	43
24/09/20	Thursday	10:02 AM	84	50	36	170
13/03/20	Friday	8:58 AM	77	60	36	173
27/10/19	Sunday	10:16 AM	21	5	1	27
Total Minimum			**21**	**2**	**1**	**27**
Total Average			**60**	**40**	**25**	**125**
Total Median			**72**	**53**	**35**	**166**
Total Maximum			**84**	**65**	**37**	**174**
Weekday Minimum			**69**	**50**	**34**	**162**
Weekday Average			**76**	**58**	**36**	**170**
Weekday Median			**76**	**58**	**36**	**172**
Weekday Maximum			**84**	**65**	**37**	**174**

This study reflects the average on-street car parking occupancy for the study area in Figure 2.7 is 125 (and 170 for weekdays). The minimum car parking usage recorded is 27 and the maximum is 174.

2.4.4 Hospital Car Park Vacancy Data

The car parking demand summary calculated in Table 2.3 shows a summary of existing weekday parking demand from the Shoalhaven Hospital Car Park Vacancy data provided.

Table 2.3: Shoalhaven Hospital Existing Car Parking Demand Summary

	Apr-21		May-21		Jun-21		Jul-21		Summary (446 spaces)		Summary in Percent	
	Occupancy	Availability	Occupancy	Availability	Occupancy	Availability	Occupancy	Availability	Occupancy	Availability	Occupancy	Availability
Weekday Minimum	207	85	160	231	202	102	218	191	160	85	36%	19%
Weekday Average	246	200	193	253	226	220	237	210	193	200	43%	45%
Weekday Median	234	213	199	247	218	229	237	210	199	210	45%	47%
Weekday Maximum	361	239	215	286	344	244	255	228	215	228	48%	51%

This analysis includes the multi-deck car park, at-grade car park, North Street car park, Cancer Care Parking and J Block. This study shows the average car parking availability is 45% for weekdays. The minimum availability is 19% and the maximum is 51%.

2.5 Emergency Drop-off

The existing drop-off bay is available for emergency drop off purposes and is accessible via Scenic Drive. It consists of a one-way loop where vehicles can set down their passenger at the emergency unit main entrance. The approximate 30m bay has capacity for 3 – 4 vehicles at one time. Figure 2.8 indicates the layout and location of this facility.

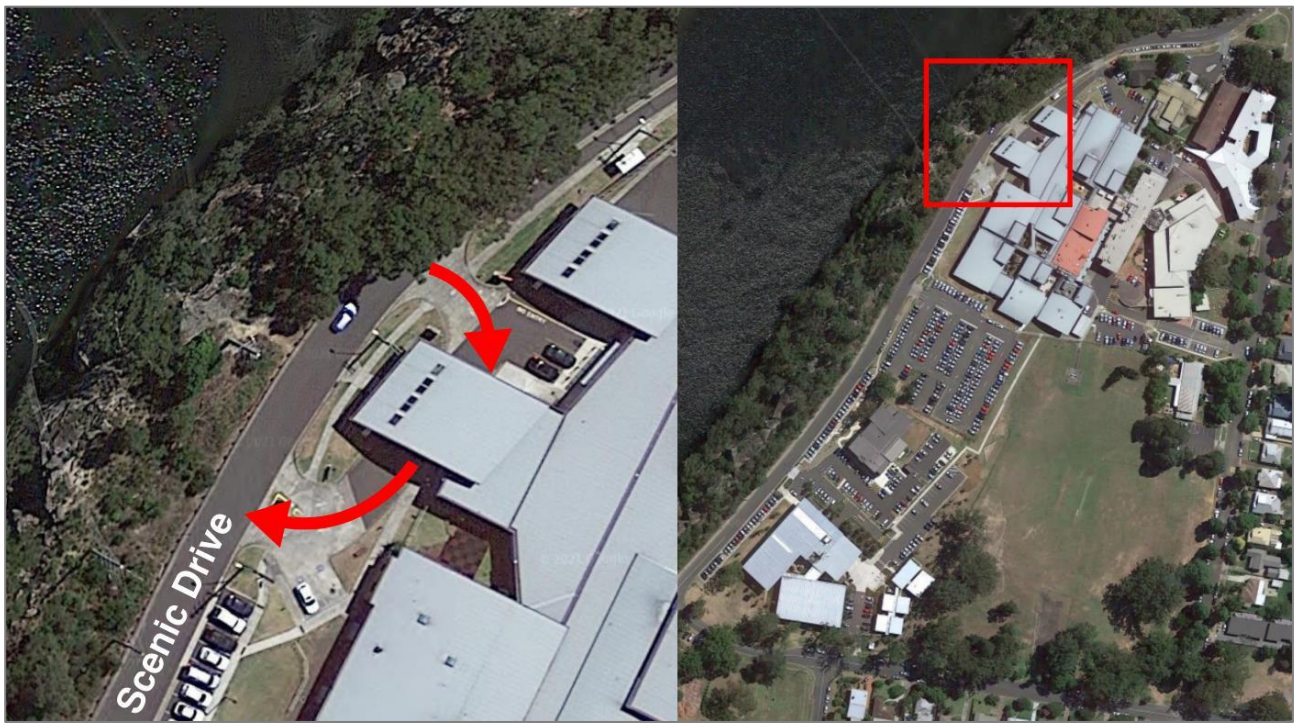


Figure 2.8: Emergency Drop Off

2.6 Public Transport

The hospital site has two bus stops, located on Scenic Drive and Shoalhaven Street, providing connections to rail services and the surrounding suburbs and regions.

2.6.1 Bus Services

Currently, there are four bus operators providing services to the site:

- Shoalbus
- Nowra Coaches
- Stuart's Coaches
- Kennedy's Bus & Coach

Bus stop locations in the vicinity of the site are illustrated in Figure 2.9, with relevant routes and frequencies outlined in Table 2.4.

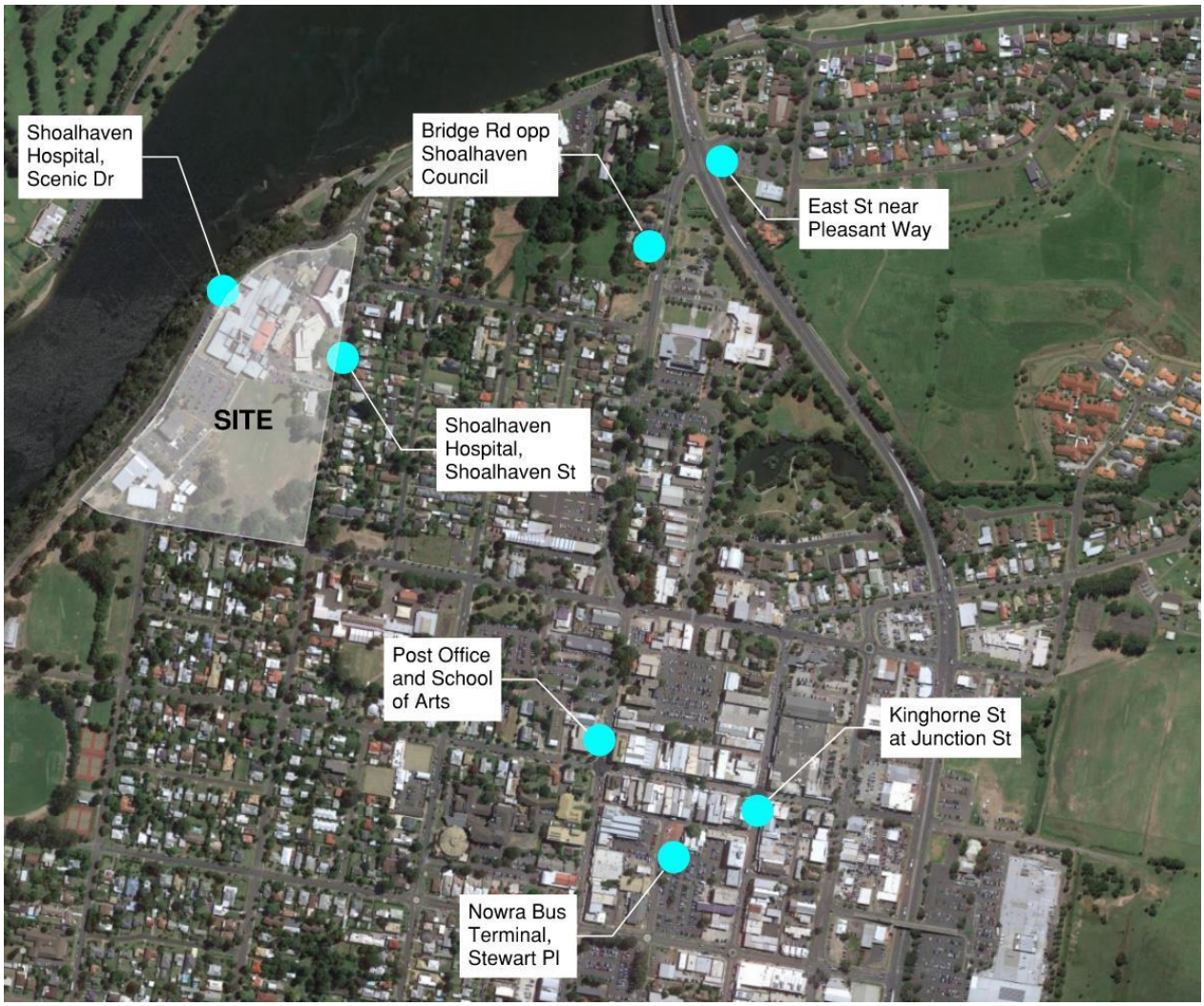


Figure 2.9: Bus Stop Locations

Table 2.4: Bus Routes, Stops and Frequency

Bus Route	Nearby Bus Stops	Frequency
Shoalbus		
Route 130 - Gerringong to Nowra via Gerroa, Berry & Nowra TAFE	Shoalhaven Hospital, Shoalhaven St	Mon – Fri: 10:05, 14:23, 16:27
Route 130 - Nowra to Gerringong via Nowra TAFE, Berry & Gerroa		Mon – Fri: 13:04, 15:04
Route 131 - Bomaderry to Nowra via Bomaderry Station (Loop Service)	Shoalhaven Hospital, Scenic Dr	Mon – Fri: 10:11, 11:51, 12:46, 13:51 Sat: 10:56, 15:11
Route 132 - Nowra to North Nowra (Loop Service)	Bridge Rd opp Shoalhaven Council	Mon – Fri: approx. every 2 hrs Sat: approx. every 2 hrs
	Post Office and School of Arts	
Route 135 - Berrara to Bomaderry Station via Sussex Inlet, Tomerong & Nowra	East St near Pleasant Way	Mon – Fri: approx. every 2-4 hrs Sat: once in morning & at midday
Route 135 - Bomaderry Station to Berrara via Nowra, Tomerong & Sussex Inlet		
Route 139 - Shoalhaven Heads to Nowra via Bomaderry Station	Shoalhaven Hospital, Shoalhaven St	Mon – Fri: 10:11, 13:51 Sat: approx. every 3 hrs from 10:00 to 16:40
Route 139 - Nowra to Shoalhaven Heads via Bomaderry Station	Bridge Rd opp Shoalhaven Council	Mon – Fri: approx. every 2-4hrs from 08:00 to 14:40 Sat: approx. every 3-4 hrs from 08:50 to 15:15
	Post Office and School of Arts	
Stuart's Coaches		
Route 120 - Callala and Currarong to Nowra via Myola	Nowra Bus Terminal, Stewart Pl	Mon – Fri: 08:20, 14:55 Sat: 14:55
Route 120 - Nowra to Currarong and Callala via Myola		Mon – Fri: 09:20, 12:20 Sat: 09:20, 12:20
Nowra Coaches		
Route 101 - Bomaderry to Worrigee via Nowra (Loop Service)	Shoalhaven Hospital, Scenic Dr	Mon – Fri: approx. every 1.5-2 hrs Sat: approx. every 2 hrs
Route 102 - Bomaderry to Vincentia via Nowra & St Georges Basin (Loop Service)	Shoalhaven Hospital, Scenic Dr	Mon – Fri: 10:47 Sat: 13:00, 16:50 Sun: 13:00
Route 103 - Nowra to Hyams Beach via Erowal Bay	Nowra Bus Terminal, Stewart Pl	Mon – Fri: 10:17
Route 103 - Hyams Beach to Nowra via Erowla Bay	Kinghorne St at Junction St	Mon – Fri: 15:10
Kennedy's Bus & Coach		
Route 110 - Greenwell Point to Bomaderry Station via Worrigee Rd & Nowra	Shoalhaven Hospital, Shoalhaven St	Mon – Fri: 08:20, 10:48, 16:25* Sat: 10:32*, 15:28*, 17:41*
Route 110 – Bomaderry Station to Greenwell Point via Nowra Worrigee Rd		Mon – Fri: 08:20, 17:30 Sat: 13:10*, 15:52*
Route 111 - Orient Pnt to Bomaderry Stn via Culburra, Terara Village & Nowra Intg	Shoalhaven Hospital, Shoalhaven St	Mon -Fri: 07:32*, 08:20, 10:48, 15:48*, 17:04* Sat: 10:31*, 15:27*, 17:42*
Route 111 - Bomaderry Stn to Orient Pnt via Nowra Intg, Terara Village & Culburra		Mon – Fri: 08:37*, 13:15, 17:30 Sat: 08:37*, 13:10*, 15:53*
Route 112 - Kangaroo Valley to Nowra via Cambewarra & Bomaderry	Shoalhaven Hospital, Shoalhaven St	Mon – Fri: 08:25, MW14:00*, TTF14:48*, 16:16* Sat: 08:17*, 11:37*, 15:52*, 18:08*
Route 112 – Nowra to Kangaroo Valley via Bomaderry & Cambewarra		Mon – Fri: 07:31*, TTF08:45*, MW09:31*, 13:32 Sat: 07:31*, 11:01*, 15:26*, 17:40*

*Indicates this service must be pre-booked

MW = Service only runs on Monday and Wednesday

TTF = Service only runs on Tuesday, Thursday, and Friday

2.6.2 Train Services

The only train station within the vicinity of the hospital site is Bomaderry train station. This station connects to the Intercity Trains South Coast Line and connects Bomaderry and Kiama. These services occur every 1-2 hours on weekdays and approximately every 2 hours on weekends and public holidays. Passengers are required to transfer at Kiama for services to Sydney.

The location of the train station in relation to the hospital site is shown in Figure 2.10 below.

Figure 2.10: Train Station Location

The site is approximately 3km (by road) from the station, or a 35-minute walk. Various bus routes also connect the hospital to the station:

- Route 101
- Route 102
- Route 103
- Route 110
- Route 111
- Route 112
- Route 120
- Route 131
- Route 135
- Route 139

2.7 Active Transport

2.7.1 Pedestrian Facilities

Figure 2.11 shows the sections of existing and missing footpaths within the local network surrounding the site.

The Shoalhaven Street frontage has footpaths on both sides of the road, but footpaths are missing from one side of the road where Nowra Recreation Park fronts onto Shoalhaven Street. North Street lacks footpaths on both sides of the road along the site boundary. There are sufficient footpaths on the southern half of the Scenic Drive frontage. The northern half only has footpaths on the hospital side of the road.

The intersection of Shoalhaven Street and Scenic Drive has medians on two of the three intersection legs. The roundabout at Shoalhaven Street and North Street does not provide medians.

Generally, the residential streets adjacent to the hospital site are lacking pedestrian infrastructure, whereas the more commercial, pedestrian generating developments located on Bridge Road and Graham Street have sufficient infrastructure.

There are signalised intersections on the Princes Highway and at the intersection between North Street and Bridge Road.

Figure 2.11: Pedestrian Infrastructure

The Scenic Drive bus stop has one shelter containing benches and is situated on the hospital side of the road. The bus stop on Shoalhaven Street is also on the hospital side of the road meaning crossing is not required to reach either bus stop.

In a broader context, the Nowra Bridge Project contains proposals to construct off-road shared paths and footpaths along Princes Highway between the Bolong Road intersection and the Moss Street intersection. The bridge is also proposed to have a 3.5-metre-wide shared path across the bridge connecting the Illaroo Road intersection to the Bridge Road intersection.

2.7.2 Cycling Facilities

Figure 2.12 demonstrates the existing and proposed bicycle routes in the neighbouring road network. Scenic Drive is indicated to be an existing shared path route. The site frontage along North Street is proposed to be a shared path route.

Other proposed on road routes exist within the local network including Colyer Road, Bridge Road, Princes Highway, and the remaining eastern section of North Street.

As with the pedestrian infrastructure, the off-road shared paths generated by the Nowra Bridge Project will improve cyclist facilities along the Princes Highway and the new bridge.

Figure 2.12: Nowra Cycling Infrastructure

Source: Shoalhaven City Council Bike Plan Maps 2013 (accessed: 17th February 2021)

2.8 Travel Characteristics

2.8.1 Journey To Work

The 2016 Census Journey to Work (JTW) data provides an insight to the current travel mode split for those working in Nowra. It is noted that the 2021 Census JTW data has not yet been published. The JTW data is defined by Statistical Area Level 2 zones and the development site is situated within the Nowra region under travel zone 6129. The mode share data contained in Table 2.5 represents the travel habits of those working within the zone, and which mode they use to travel to work. This data can be used to represent the travel modes of the staff working at Shoalhaven Hospital.

Table 2.5 Summary of Travel Mode Split

Note: values may not add to totals shown due to rounding

Source: ABS Census TableBuilder

Method of Travel to Work	Mode Share (%)
Train	0.3%
Bus	0.3%
Ferry	0.0%
Taxi	0.2%
Car, as driver	88.6%
Car, as passenger	5.5%
Truck	0.7%
Motorbike/scooter	0.9%
Bicycle	0.9%
Walked only	2.2%
Other Mode	0.5%
Total	**100.0%**

2.8.2 User Surveys

A travel survey was undertaken in May 2022 which was distributed to staff, patients, and visitors to report on the travel behaviours of hospital users. This survey provides up-to-date information that is directly applicable to the specific hospital site and its users. The statistics from this survey will reflect the current travel habits of the staff, patients and visitors and can therefore be applied to the future expected staff, patient, and visitor numbers with higher accuracy than general local data (such as the JTW data). This survey provides a basis to create assumptions about the travel modes and habits of hospital users into the future.

A summary of the travel modes used by the various hospital users is contained in Table 2.6.

Table 2.6: Summary of Mode Share Split from Travel Survey

Note: values may not add to totals shown due to rounding

Mode summary	Staff		Patients		Visitors	
	#	%	#	%	#	%
Walk	1	0.9%	1	1.9%	1	0.7%
Bicycle	1	0.9%	0	0.0%	0	0.0%
Bus	0	0.0%	0	0.0%	0	0.0%
Community Transport	0	0.0%	2	3.8%	0	0.0%
Train	0	0.0%	0	0.0%	0	0.0%
Car	103	97.2%	49	92.5%	140	99.3%
Motorbike	1	0.9%	1	1.9%	0	0.0%
Total Responses	**106**	**100%**	**53**	**100%**	**141**	**100%**

Key extracts from the travel surveys can be seen in more detail in Appendix B.

2.9 Traffic Conditions

2.9.1 Data Collection

Traffic data has been collected at several intersections within the local network around the site as follows:

- Hyam Street & Shoalhaven Street
- Hyam Street & Osborne Street
- Hyam Street & Bridge Road
- North Street & West Street
- North Street & Shoalhaven Street
- North Street & Osborne Street
- North Street & Bridge Road & Berry Street

The locations of the studied intersections are shown in Figure 2.13.

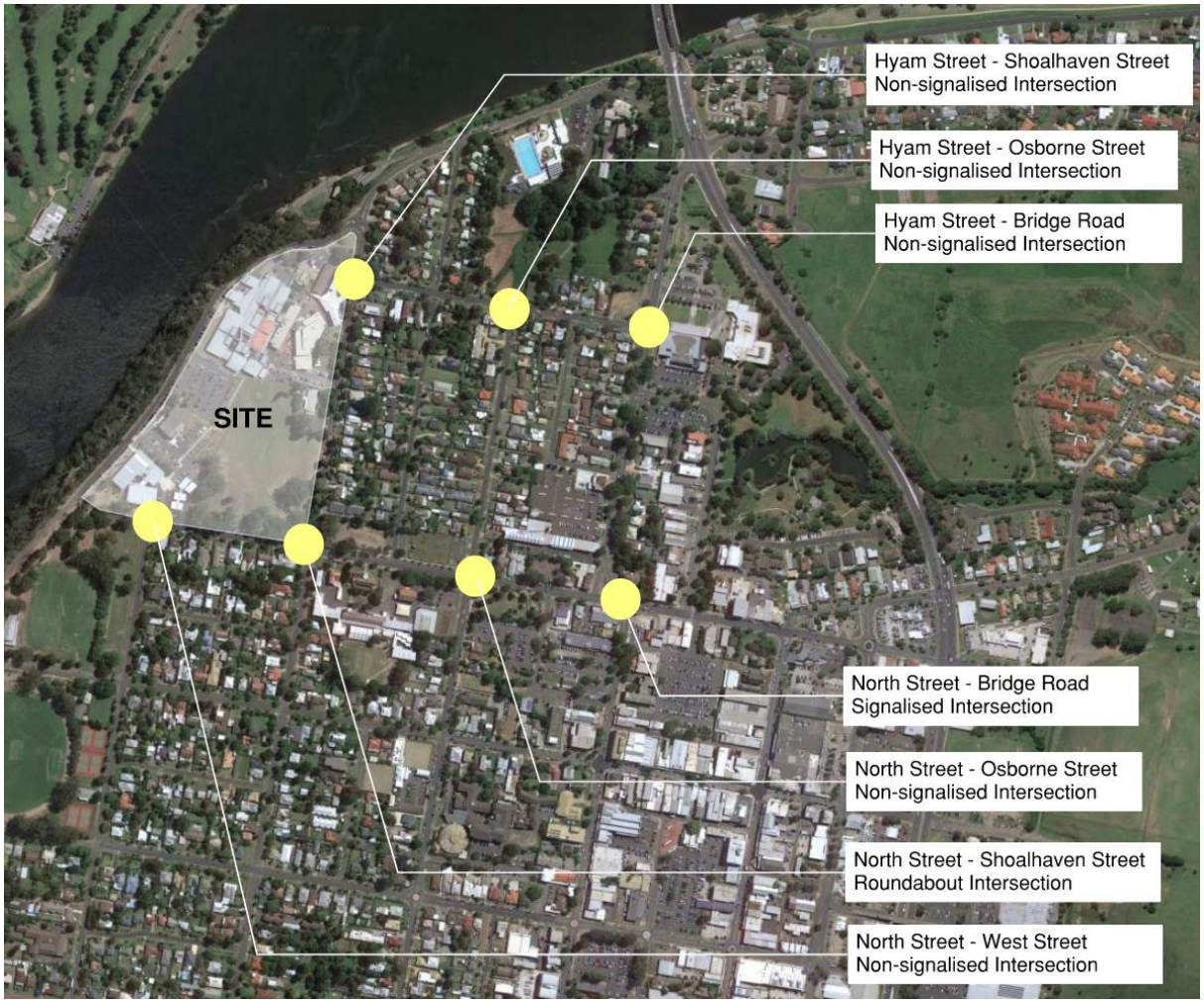


Figure 2.13: Locations of Assessed Intersections

Traffic counts were undertaken at each of these intersections to indicate the volumes and movements of light vehicles, heavy vehicles, buses, and pedestrians. The traffic counts were undertaken on Thursday 26th May 2022 to reflect the traffic behaviours of a typical weekday. The traffic counts indicate a morning peak hour from 8:00am – 9:00am, and an afternoon peak hour of 3:45 – 4:45pm. Following advice from Council, the broader network has an afternoon peak hour of 3:00 – 4:00pm and so intersection analysis for this time period is also included.

The traffic volume data is included in Appendix C.

2.9.2 Intersection Modelling

SIDRA intersection modelling has been undertaken to produce the existing performance of each of the studied intersections. The layout of the studied intersections can be seen in Figure 2.14.

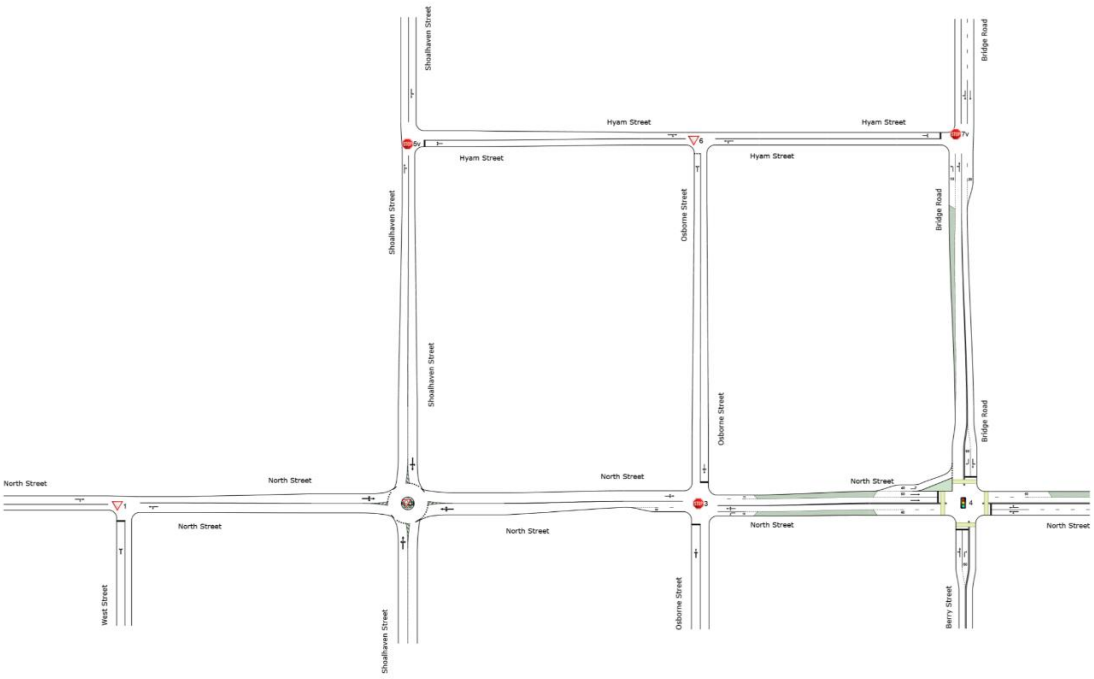


Figure 2.14: SIDRA Network Layout

For the signalised intersection at North St & Bridge Rd & Berry St, a Two-Phase phase sequence has been adopted, and a Practical Cycle Time with maximum cycle time of 150 seconds. The phasing sequence is considered a conservative approach as this is a generic sequence.

2.9.3 Intersection Performance

Table 2.7 summarises the operation and performance of the existing intersections in the road network around the site. Detailed SIDRA results are included in Appendix D.

The results in Table 2.7 indicate that the intersections are performing at a favourable Level of Service (LoS) across the morning and afternoon. An acceptable LoS of A or B is achieved across all intersections and all scenarios.

Pedestrian volumes are modelled for the North St & Bridge Rd & Berry St intersection which contains signalised pedestrian crossings at each intersection leg. Table 2.8 summarises the operation and performance of this intersection for pedestrians. An acceptable LoS of A and B is achieved across all time periods analysed.

Table 2.7: Existing Scenario without Development Vehicle Volumes

Data for unsignalised intersections is the manoeuvre with worst delay
Data for signalised intersections is the intersection total

Intersection	Time	Degree of Saturation	Average Delay (sec)	95% Queue Length (m)	Level of Service
Hyam St & Shoalhaven St	**8:00 – 9:00am**	0.085	7.7	2.2	**A**
	3:45 – 4:45pm	0.059	9.2	1.6	**A**
	3:00 – 4:00pm	*0.049*	*8.1*	*1.3*	***A***
Hyam St & Osborne St	**8:00 – 9:00am**	0.043	5.5	1.0	**A**
	3:45 – 4:45pm	0.211	6.1	5.4	**A**
	3:00 – 4:00pm	*0.165*	*5.7*	*4.2*	***A***
Hyam St & Bridge Rd	**8:00 – 9:00am**	0.054	26.1	1.3	**B**
	3:45 – 4:45pm	0.639	15.2	36.1	**B**
	3:00 – 4:00pm	*0.049*	*8.1*	*1.3*	***A***
North St & West St	**8:00 – 9:00am**	0.041	7.7	1.1	**A**
	3:45 – 4:45pm	0.057	7.7	1.4	**A**
	3:00 – 4:00pm	*0.043*	*8.2*	*1.1*	***A***
North St & Shoalhaven St	**8:00 – 9:00am**	0.066	5.9	1.7	**A**
	3:45 – 4:45pm	0.106	7.8	3.1	**A**
	3:00 – 4:00pm	*0.103*	*6.1*	*2.9*	***A***
North St & Osborne St	**8:00 – 9:00am**	0.238	14.4	7.4	**A**
	3:45 – 4:45pm	0.584	14.8	39.2	**B**
	3:00 – 4:00pm	*0.132*	*17.6*	*3.8*	***B***
North St & Bridge Rd & Berry St	**8:00 – 9:00am**	0.636	13.5	49.8	**A**
	3:45 – 4:45pm	0.515	12.0	26.6	**A**
	3:00 – 4:00pm	*0.500*	*11.7*	*26.7*	***A***

Table 2.8: Existing Scenario without Development Pedestrian Volumes

Intersection	Time	Degree of Saturation	Average Delay (sec)	Level of Service
North St & Bridge Rd & Berry St	**8:00 – 9:00am**	0.166	14.6	**B**
	3:45 – 4:45pm	0.074	9.7	**A**
	3:00 – 4:00pm	*0.072*	*9.7*	***A***

2.9.4 Intersection Observations

In addition to the detailed intersection analysis discussed above, observational assessments were undertaken of several additional intersections within the local road network including:

- Scenic Drive & Shoalhaven Street
- Hyam Street & Colyer Avenue & Mandalay Avenue
- Hyam Street & Keft Avenue
- North Street & Colyer Avenue
- West Street & Westhaven Street
- West Street & Junction Street
- Junction Street & Shoalhaven Street

These intersections were observed on Tuesday 12th July from about 9:00 – 9:30am in the morning, and from about 4:00 – 4:30pm in the afternoon. Similar observations were made at each intersection across both peaks, showing very low vehicle activity and no evidence of queueing. It is noted that vehicle activity particularly near the North Street & Colyer Avenue intersection may have been less than typically expected, as this intersection is located opposite St Michael's Catholic Primary School and observations occurred during the school holidays. Overall, this observational assessment clearly showed low existing vehicle volumes within the network around the hospital.

2.10 Traffic Safety

2.10.1 Crash History

Transport for NSW provides a history of recorded crash data for the period between 2016 and 2020. This data is reviewed to better understand the existing levels of safe road operation at and around the site, and the potential implications of any increases to traffic volumes.

Figure 2.15 presents the crash and casualty statistics map from TfNSW.

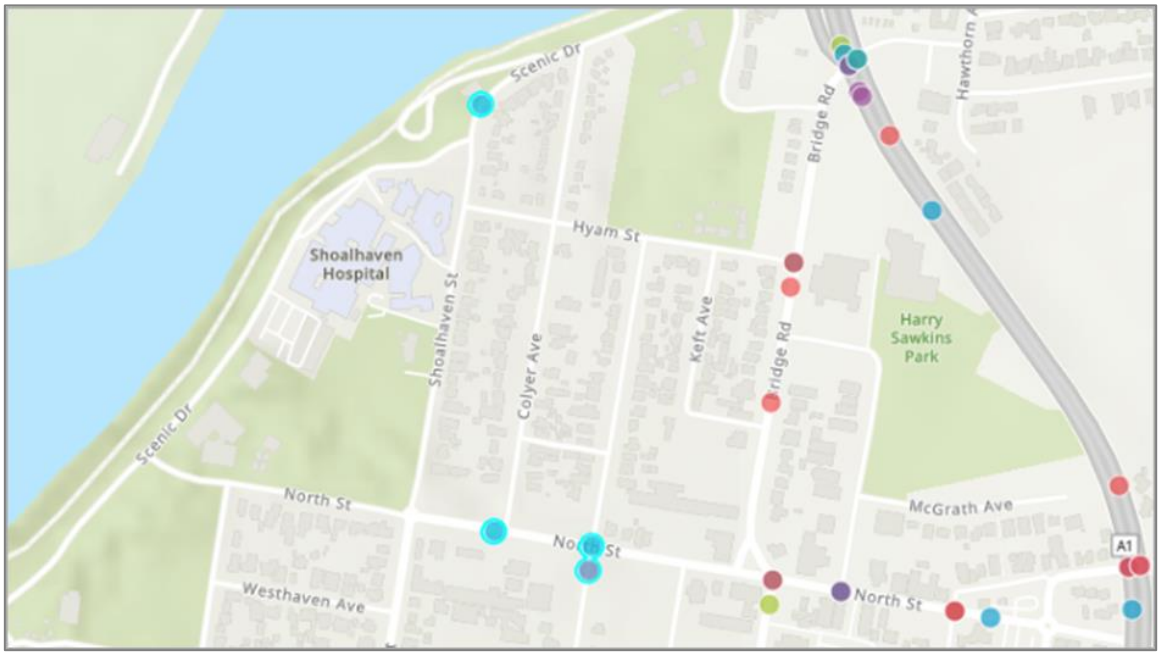


Figure 2.15: Crash and Casualty Statistics

Image Source: https://roadsafety.transport.nsw.gov.au/statistics/interactivecrashstats

The data shows no crashes and relevant injuries along the hospital frontage at Shoalhaven Street. However, some minor and moderate other injury incidents at surrounding streets were recorded along North Street.

Traffic impacts in this area should be carefully considered and treated for future developments.

3 Proposed Works

3.1 Overall Works

The Shoalhaven Hospital redevelopment involves an extension of the existing hospital to provide larger scale and higher quality medical services to the residents of the Shoalhaven region. The project includes the retention of the existing hospital buildings and car parks and constructing a new acute services building. Shoalhaven Preschool will be relocated under a separate planning approval and is to have a dedicated access from North Street. Under Schedule 3 of the SEPP (Infrastructure), the development is not a traffic generating development, as the extension does not involve an increase in 200 or more beds.

The redevelopment will include:

- Increasing the number of acute, subacute and medical surgical beds
- Increasing the number of operating theatres
- Increasing the capacity of the Emergency Department and the intensive care unit
- Improved mental health services
- Improved subacute care including palliative care and rehabilitation
- Increase in ambulatory care services
- Improved outpatient care
- Advanced medical imagery and nuclear medicine capacity
- Advanced telehealth capabilities

The proposed site plan is shown in Figure 3.1.

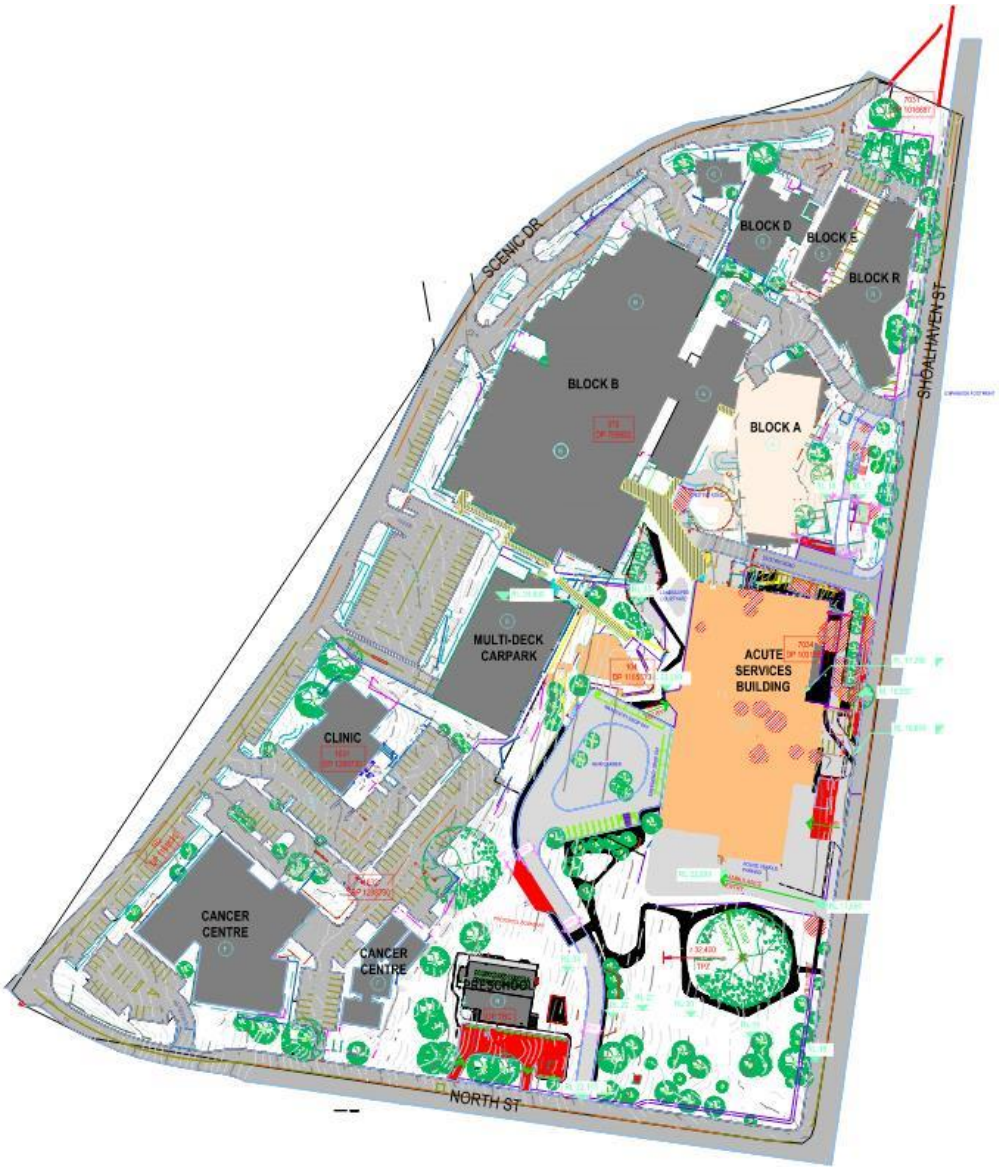


Figure 3.1: Proposed Site Plan
Source: Congrad Gargett

3.2 Hospital Operations

The data in Table 3.1 has been provided relating to increase in hospital activity from the existing condition to the opening year scenario. This table presents the typical number of hospital users on-site on a weekday. The table indicates a relatively low increase in the number of typical hospital users by approximately 16.8%.

Table 3.1: Hospital Operations During a Typical Weekday
Source: ISLHD (received 26/5/22)

Hospital User	Existing (2022)	Opening Year (2026)
Staff (clinical, admin, retail and VMOs)	538	564
Outpatients	68	113
ED presentations	26	31
Visitors	62	95
Other users (volunteers, training, students)	42	63
Fleet vehicles	39	39
Total	**775**	**905 (+16.8%)**

3.3 Site Access

New accesses from North Street and Shoalhaven Street are proposed as per Figure 3.2, with separation for different user groups. These proposed accesses (in addition to the existing accesses) will assist in distributing traffic volumes across the various site frontages.

The new main entry for public vehicles (both general drop off and Emergency Department drop-off) would be accessed from North Street, on the southern boundary of the site.

Ambulance access and loading dock access would be facilitated with new driveways from Shoalhaven Street, on the eastern boundary of the site.

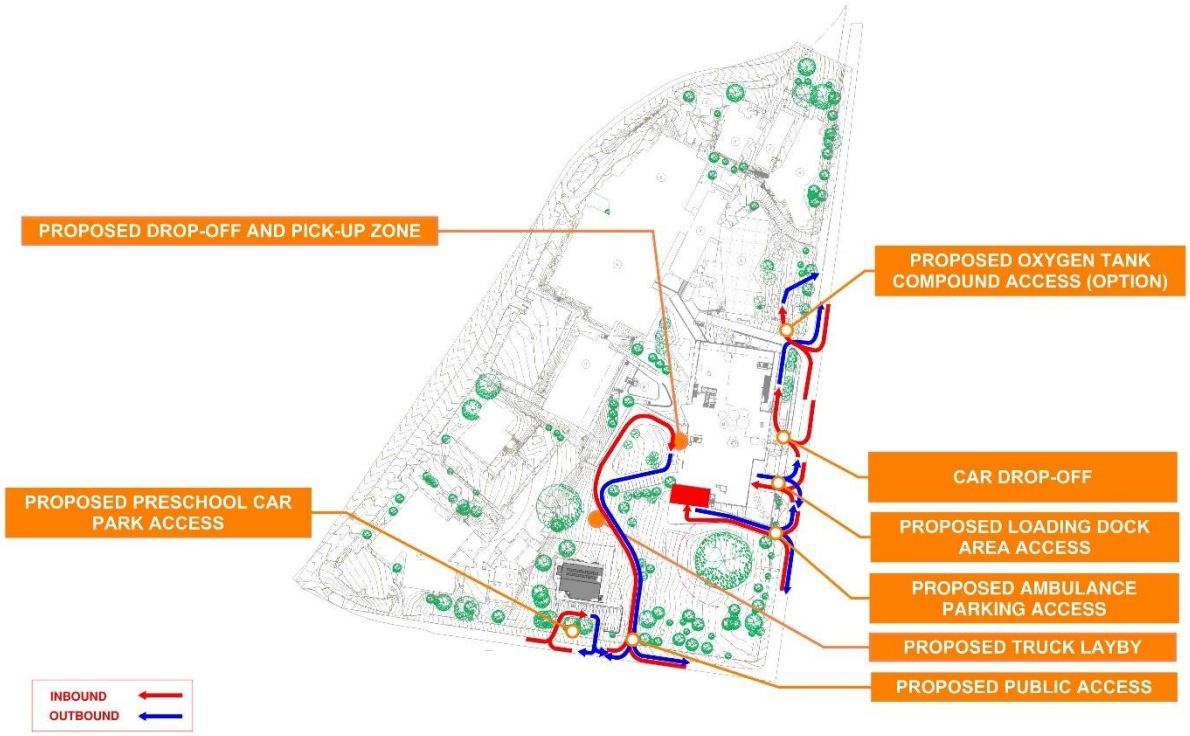


Figure 3.2: Proposed Site Access Arrangements

3.3.1 Vehicle Analysis

Turning path analysis has been undertaken to demonstrate sufficient vehicle access and manoeuvring at the new site and in modified areas of the existing site. Key areas of interest are the new ambulance bay, drop-off zone and the loading dock, where trucks and semi-trailers require access. Swept path analysis for key vehicle movements are included in Appendix E.

Turning path analysis will be completed at minimum 10 km/hr except where moving from a stopped position, such as for exit from the loading dock or individual ambulance bays (increased to 10km/hr once travelling). Current turning sketches will adopt this approach.

Current design vehicles include:

- B99 (AS2890.1) – standard 5.2m large passenger vehicle
- Ambulance (Custom) – 7.37m General Bariatric
- Medium Rigid Vehicle (AS2890.2) – standard 8.8m medium truck
- Heavy Rigid Vehicle (AS2890.2) – standard 12.5m large truck
- Articulated Vehicle (AS2890.2) – standard 20m semi-trailer

3.3.2 Pedestrian Access

The proposal includes new pedestrian footpaths along the Shoalhaven Street and North Street site frontages.

3.3.3 Ambulance Bay

The new ambulance bay is planned to provide capacity for seven ambulances, an increase in two parking spaces compared to the existing provision. Parking for at least one police or correctional vehicle will also be provided. The ambulance bay and manoeuvring area has been designed to cater for bariatric ambulances approximately 7.37m in length. Swept path analysis for this area is included in Appendix E.

3.3.4 Service and Delivery

The proposal includes a new access from Shoalhaven Street. The new access has been designed to cater for various vehicles including Heavy Rigid Vehicles (HRV), Medium Rigid Vehicles (MRV) and Small Rigid Vehicles (SRV). Swept path analysis for this area is included in Appendix E.

3.4 Active Transport Facilities

3.4.1 Bicycle Storage and End-of-Trip Facilities

The proposal includes 90 bicycle storage spaces located in the undercroft parking area of Block B as shown in Figure 3.3. The proposal makes use of the existing end-of-trip facilities in Block B located conveniently to the proposed bicycle storage area as indicated in Figure 3.3.

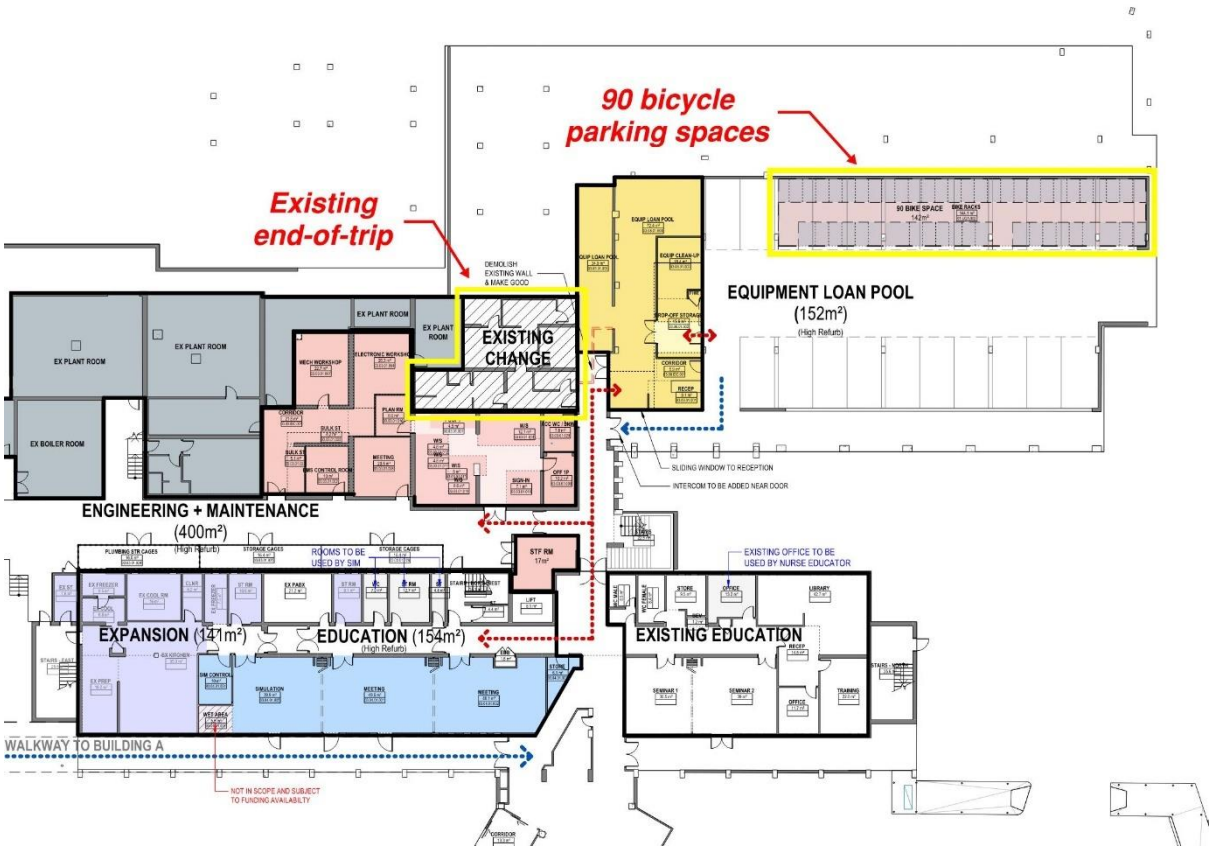


Figure 3.3: Proposed Bicycle Storage and End-of-Trip Facilities
Source: Conrad Gargett (BLB-DD-DR-AR-22101, 16/06/22, Rev 7)

3.5 Drop-off and Pick-up

A public drop off facility is proposed outside the new building and can be accessed via North Street. This pick-up and drop-off area provides access to the main hospital entry and the Emergency Department for the public. The facility is designed to cater for standard passenger vehicles.

3.6 Car Parking

The proposed acute services building includes 11 short-term parking spaces (including 2 accessible spaces) adjacent to the drop off facility and accessible via the proposed driveway on North Street. The proposed building will result in a loss of on-site parking to the north of the building.

Therefore, the adjusted on-site parking provision as a result of the proposal is as follows:

- +11 short-term spaces adjacent to drop off facility
- -39 spaces to the north of the proposed building
- Total proposed on-site provision of 665 car parking spaces

4 Traffic Assessment

The future scenarios modelled in this section include the opening year of 2026, and the year 2031 when staffing numbers are at their peak. Staff numbers are not expected to increase beyond this, meaning the 2031 scenario captures the expected future impact of the development until such time as any updated or new Clinical Services Plan is prepared and further workforce numbers and requirement for new beds and/or treatment spaces is understood.

4.1 Trip Generation

4.1.1 Vehicles

A draft version[1] of the RMS Guide to Traffic Generating Developments provides a trip generation rate specifically for hospitals based on collected survey data throughout urban and regional NSW. For metropolitan hospitals and regional hospitals with lower accessibility, trip generation rates are therefore presented as follows:

- AM Peak = 0.41 (S) + 0.62 (B)
- PM Peak = 0.59 (S) + 0.05 (B)

where S is the number of staff during the main day shift and B is the number of beds at the hospital.

It is noted that the bed numbers have been updated since the intersection modelling was undertaken, including a reduction of 5 beds and 3 beds in the 2022 and 2026 scenarios, respectively. These changes have been updated throughout the report, including Table 4.1 below, but the modelling remains unchanged due to the insignificant impact these changed bed numbers have to the number of trips generated (3 additional AM trips and 0 additional PM trips for the 2031 scenario).

The proposed operational growth for the 2026 scenario will result in 81 additional AM peak trips and 41 additional PM peak trips. For the 2031 scenario, there will be an estimated 260 additional AM peak trips and 225 additional PM peak trips. This data is summarised Table 4.1. The full set of traffic volume data for the future scenarios is included in Appendix C.

Table 4.1: Trip generation estimates

Travel Period	2022	2026		2031	
		Total	Increase	Total	Increase
Number of main day shift staff	502	564	+62	868	+366
Number of beds	214	303	+89	392	+178
AM peak hour trips	339	419	**+81**	**599**	**+260**
PM peak hour trips	307	348	**+41**	**532**	**+225**

The number of main day shift staff is calculated as the number of staff on-site during the main day shift. The provided hospital data indicates that about 45% of clinical staff are on-site during the main day shift for the future scenarios, and 50% of clinical staff are on-site for the existing scenario. For the purpose

[1] *As provided directly to TTW from RMS in August 2018*

of calculating the number of additional trips generated, a conservative approach was adopted (which differs from the value shown in Table 3.1) and assumed 45% of clinical staff are on-site during the existing and future scenarios.

4.1.2 Pedestrians

Additional pedestrian volumes are based on the existing and projected walking mode shares (further detailed in Section 5.3.1). Considering the estimated number of staff, patients and visitors walking in the 2026 scenario, it is estimated that there will be 10 additional pedestrian trips in both the morning and afternoon peaks. For the 2031 scenario, there will be an estimated 27 additional walking trips in both the morning and afternoon peaks.

4.2 Trip Distribution

The trip distributions have been derived from analysing the individual movements within each intersection. A simplified figure showing the distributions for the morning and afternoon peaks can be viewed in Figure 4.1 and Figure 4.2 respectively.

The intersections closest to the site have been further analysed to calculate the proportion of inbound and outbound trips occurring in the morning and afternoon. This calculation has indicated that 70% of morning trips are inbound, and 30% are outbound. In the afternoon, 50% are inbound trips and 50% are outbound. Therefore, applying the number of additional trips generated as per Table 4.1, the following number of inbound and outbound trips are expected:

- 2026 scenario
    - Morning peak: 57 inbound trips and 25 outbound trips
    - Afternoon peak: 21 inbound and outbound trips

- 2031 scenario
    - Morning peak: 181 inbound trips and 79 outbound trips
    - Afternoon peak: 113 inbound and outbound trips

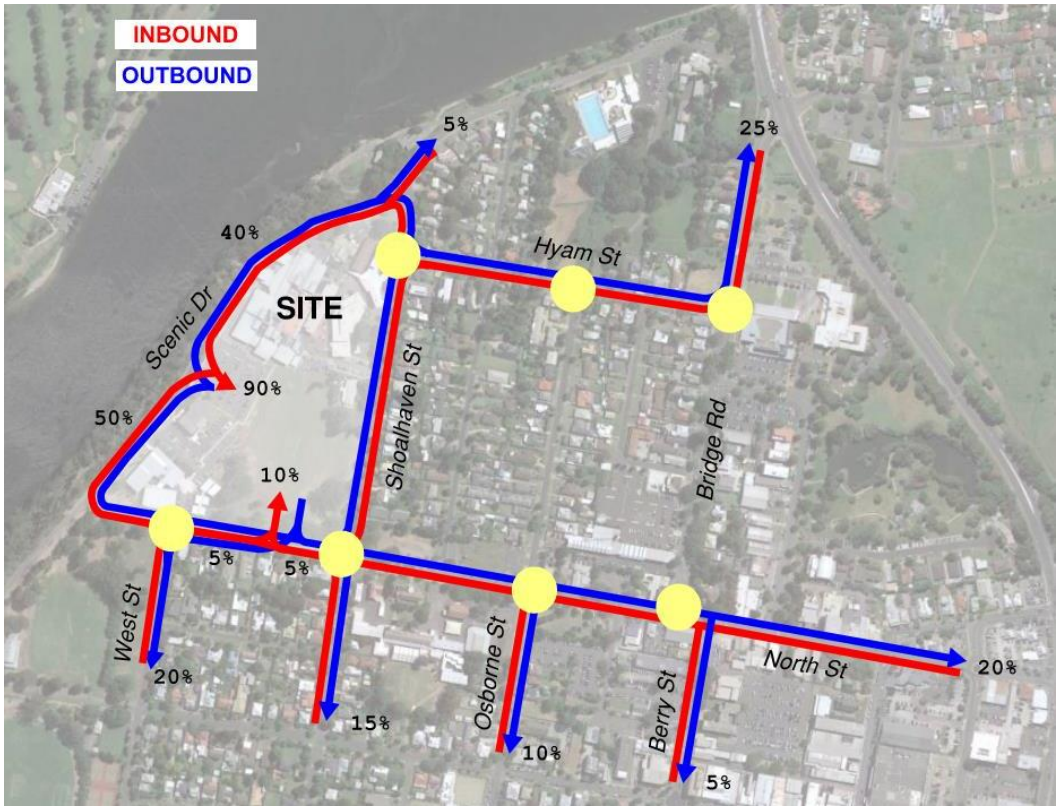


Figure 4.1: AM Trip Distribution

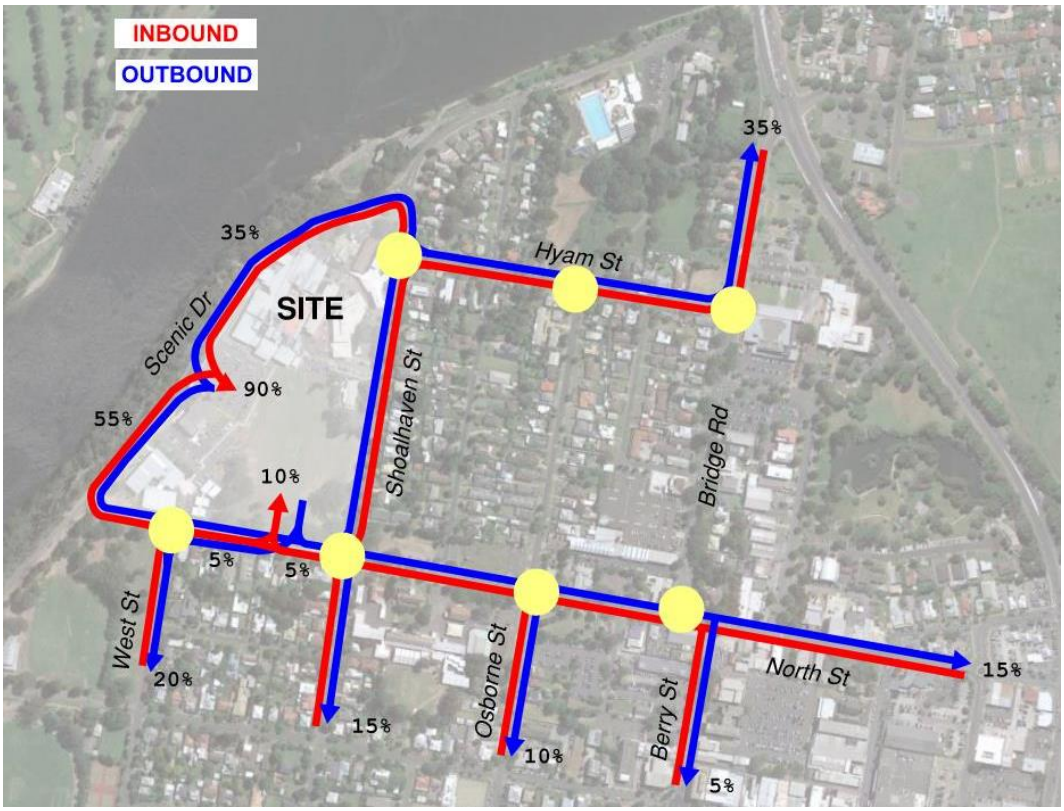


Figure 4.2: PM Trip Distribution

4.3 Intersection Performance

4.3.1 2026 Scenario with Development

Table 4.2 summarises the operation and performance of the intersections in the road network around the site for the year 2026 and accounts for the additional volumes generated by the development. A 2% compound growth rate has been applied to the existing traffic volumes as per advice from Council.

The results indicate very minor changes from the existing scenario as presented in Section 2.9.3, with similarly acceptable LoS achieved across the intersections and various peak times. Detailed SIDRA results are included in Appendix D.

The intersections continue to demonstrate suitable operation across the local road network. It is noted that the Hyam St & Bridge Rd intersection shows a minor reduction in the LoS for the right turn movement from Hyam Street, while all other movements at this intersection indicate a very good LoS. This is due to the high vehicle volumes travelling on Bridge Road, causing delays for vehicles turning out of Hyam Street. The development-related vehicle volumes at this intersection are low, accounting for < 1.5% of total vehicle volumes in the morning and afternoon, meaning the impact of the development is negligible. Furthermore, the right turn movement from Hyam Street recorded very low vehicle volumes of ≤ 11 vehicles across all scenarios.

Pedestrian volumes are modelled for the North St & Bridge Rd & Berry St intersection which contains signalised pedestrian crossings at each intersection leg. Table 4.3 summarises the performance and operation of this intersection for pedestrians. The LoS is shown to be very good and indicates no change from the existing condition as outlined previously in Table 2.8. Therefore, additional pedestrian trips related to the development will not impact intersection performance.

Table 4.2: 2026 Scenario with Development Vehicle Volumes

Data for unsignalised intersections is the manoeuvre with worst delay
Data for signalised intersections is the intersection total

Intersection	Time	Degree of Saturation	Average Delay (sec)	95% Queue Length (m)	Level of Service
Hyam St & Shoalhaven St	**8:00 – 9:00am**	0.107	7.8	2.8	**A**
	3:45 – 4:45pm	0.064	9.4	1.7	**A**
	3:00 – 4:00pm	*0.054*	*8.3*	*1.4*	***A***
Hyam St & Osborne St	**8:00 – 9:00am**	0.051	5.8	1.2	**A**
	3:45 – 4:45pm	0.237	6.3	6.1	**A**
	3:00 – 4:00pm	*0.183*	*5.8*	*4.7*	***A***
Hyam St & Bridge Rd	**8:00 – 9:00am**	0.074	30.5	1.7	**C**
	3:45 – 4:45pm	0.759	18.7	52.4	**B**
	3:00 – 4:00pm	*0.031*	*14.6*	*0.7*	***B***
North St & West St	**8:00 – 9:00am**	0.057	7.7	1.5	**A**
	3:45 – 4:45pm	0.066	7.8	1.7	**A**
	3:00 – 4:00pm	*0.051*	*8.4*	*1.3*	***A***
North St & Shoalhaven St	**8:00 – 9:00am**	0.085	6.1	2.4	**A**
	3:45 – 4:45pm	0.125	7.9	3.7	**A**
	3:00 – 4:00pm	*0.121*	*6.2*	*3.5*	***A***
North St & Osborne St	**8:00 – 9:00am**	0.283	16.1	9.0	**B**
	3:45 – 4:45pm	0.666	17.8	52.1	**B**
	3:00 – 4:00pm	*0.150*	*19.6*	*4.4*	***B***
North St & Bridge Rd & Berry St	**8:00 – 9:00am**	0.686	14.1	56.3	**A**
	3:45 – 4:45pm	0.558	12.2	29.4	**A**
	3:00 – 4:00pm	*0.579*	*12.1*	*31.4*	***A***

Table 4.3: 2026 Intersection Performance for Pedestrians

Intersection	Time	Degree of Saturation	Average Delay (sec)	Level of Service
North St & Bridge Rd & Berry St	**8:00 – 9:00am**	0.181	14.6	**B**
	3:45 – 4:45pm	0.081	9.7	**A**
	3:00 – 4:00pm	*0.079*	*9.7*	***A***

4.3.2 2031 Scenario with Development

Table 4.4 summarises the operation and performance of the intersections in the road network around the site for the year 2031 and accounts for the additional volumes generated by the development. As for the 2026 scenario, a 2% compound growth rate has been applied to the existing traffic volumes as per advice from Council.

The results indicate minor changes from the existing and 2026 scenarios, with similarly acceptable LoS achieved across the intersections and various peak times. Detailed SIDRA results are included in Appendix D.

The intersections continue to demonstrate suitable operation across the local road network. As shown in the 2026 scenario, a reduced LoS at the Hyam St & Bridge Rd intersection is shown for the year 2031. This reduced LoS relates to the right turn movement from Hyam Street and is caused by the increasing vehicle volumes travelling along Bridge Road in 2031. This reduced LoS applies to the minor leg of the intersection only, meaning the flows along Bridge Road, including turning movements into Hyam Street continue to operate very well at LoS A.

The queue lengths outlined in Table 4.4 relate to the 95% queue, which is rare and represents the worse-case scenario. Comparatively, the 85% or 50% queue length for the time period 3:45 – 4:45pm is shown to be 124.3 metres and 68.1 metres, respectively, which would indicate a more typical situation. Despite the long 95% queue length, this worse-case assessment still performs with a LoS D, which generally provides an acceptable level of service.

As similarly outlined in the 2026 scenario, the development-related vehicle volumes at this intersection are minimal and only account for < 6% of the total vehicle volumes across both peaks. The right turn movements from Hyam Street recorded very low vehicle volumes of ≤ 12 vehicles across all scenarios, none of which are related to the hospital development. Therefore, the development does not significantly impact this intersection and the reduction in LoS is a predominantly a result of the background growth over the 10-year horizon to 2031.

Table 4.5 summarises the performance and operation of the North St & Bridge Rd & Berry St intersection for pedestrians. As shown in the 2026 scenario, the LoS is very good and indicates no change from the existing condition, meaning the additional pedestrian trips will not impact intersection performance.

Table 4.4: 2031 Scenario with Development Vehicle Volumes

Data for unsignalised intersections is the manoeuvre with worst delay
Data for signalised intersections is the intersection total

Intersection	Time	Degree of Saturation	Average Delay (sec)	95% Queue Length (m)	Level of Service
Hyam St & Shoalhaven St	**8:00 – 9:00am**	0.154	8.2	4.1	**A**
	3:45 – 4:45pm	0.074	9.9	2.0	**A**
	3:00 – 4:00pm	*0.061*	*8.6*	*1.6*	***A***
Hyam St & Osborne St	**8:00 – 9:00am**	0.057	6.1	1.3	**A**
	3:45 – 4:45pm	0.289	7.2	8.1	**A**
	3:00 – 4:00pm	*0.219*	*6.4*	*5.7*	***A***
Hyam St & Bridge Rd	**8:00 – 9:00am**	0.106	40.7	2.3	**C**
	3:45 – 4:45pm	0.985	48.7	169.3	**D**
	3:00 – 4:00pm	*0.040*	*16.5*	*0.9*	***B***
North St & West St	**8:00 – 9:00am**	0.089	8.1	2.4	**A**
	3:45 – 4:45pm	0.096	8.5	2.5	**A**
	3:00 – 4:00pm	*0.077*	*9.0*	*2.0*	***A***
North St & Shoalhaven St	**8:00 – 9:00am**	0.110	6.3	3.2	**A**
	3:45 – 4:45pm	0.184	8.2	5.9	**A**
	3:00 – 4:00pm	*0.174*	*6.4*	*5.4*	***A***
North St & Osborne St	**8:00 – 9:00am**	0.377	21.0	14.7	**B**
	3:45 – 4:45pm	0.843	28.1	99.5	**B**
	3:00 – 4:00pm	*0.188*	*24.7*	*5.4*	***B***
North St & Bridge Rd & Berry St	**8:00 – 9:00am**	0.796	15.9	68.1	**B**
	3:45 – 4:45pm	0.705	13.0	38.1	**A**
	3:00 – 4:00pm	*0.732*	*13.1*	*41.2*	***A***

Table 4.5: 2031 Intersection Performance for Pedestrians

Intersection	Time	Degree of Saturation	Average Delay (sec)	Level of Service
North St & Bridge Rd & Berry St	**8:00 – 9:00am**	0.202	14.7	**B**
	3:45 – 4:45pm	0.091	9.7	**A**
	3:00 – 4:00pm	*0.089*	*9.7*	***A***

4.4 Cumulative Impacts

There are no current or proposed developments within close proximity of the hospital site. Therefore, there will be no cumulative traffic impacts from surrounding developments.

The Nowra Bridge project is located approximately 650 metres northeast of the site and is currently underway. The project is due for completion in 2024 and is not expected to increase traffic volumes in the surrounding local network due to the nature of the project being transport infrastructure (that is, not a traffic-generating development). During construction, the project may cause some delays to those travelling to the hospital site. However, on completion, the bridge construction and associated roadworks will provide improved traffic flows and better access between Nowra, North Nowra, and Bomaderry.

Morning and afternoon school traffic has also been considered in this assessment. It is noted that both the morning and afternoon school peak hours (approximately 8 – 9:30am and 2:30 – 4:00pm) overlap with the peak hours analysed in the traffic assessment above in Section 4.3. Therefore, any significant school-related traffic will have been integrated into the traffic assessment, and no further impact to the network is expected.

5 Parking Assessment

5.1 Parking Users

5.1.1 Staff

A significant proportion of staff currently drive to the hospital, and this will continue to be the case following the development project. Survey results indicated interest in shifting to alternative travel modes once additional infrastructure and facilities become available.

5.1.2 Patients and Visitors

Outpatients (other than those visiting the Emergency Department) typically demonstrate high levels of private vehicle usage, however based on previous hospital surveys we have found this to be slightly lower than for staff. The survey results indicated a similar trend. Previous hospital surveys have found that each patient presentation generally represents one group of travellers – an outpatient with family or friends, a visitor group to an inpatient, and either transporting or visiting an ED patient.

5.1.3 Volunteers, Students and Training

Other user groups such as volunteers, students and people attending training are also expected to regularly travel to the hospital campus. Due to the nature of their attendance at the hospital, these user groups are expected to behave similarly to hospital staff when it comes to travel.

5.1.4 Fleet Vehicles

Parking for fleet vehicles is generally a set value equal to the total number of fleet vehicles owned by the hospital. We have been advised that as of 2022, the hospital has 39 fleet vehicles, which is to remain consistent in the future horizon years.

5.2 Parking Provision

5.2.1 Rates and Requirements

The City of Shoalhaven Council DCP 2014 provides guidance for the typical parking rates to be implemented for at a hospital site:

- 1 space per 3 beds.
- 1 space for an ambulance, or 2 ambulance spaces if greater than 50 beds.
- 1 space per doctor; plus 1 space per 2 staff (based on the peak number expected at any one time).

Table 5.1 summarises the rates and requirements from the DCP and presents a recommended parking provision for the forecast hospital operations for the opening year in 2026. The number of staff shown in Table 5.1 is the sum of all clinical, admin, retail and VMO staff on-site during a weekday morning shift.

Table 5.1: Parking Rates and Requirements

	Mid-shift		During shift changeover	
Parking Criteria	**Given Rate**	**Requirement**	**Given Rate**	**Requirement**
1 space per 3 beds	303 beds	101 spaces	303 beds	101 spaces
1 space for an ambulance, or 2 ambulance spaces if greater than 50 beds	> 50 beds	2 ambulance spaces	> 50 beds	2 ambulance spaces
1 space per doctor; plus 1 space per 2 staff	564 staff*	282 spaces	824 staff*	412 spaces
Total car parking spaces	**383 car spaces + 2 ambulance spaces**		**513 car spaces + 2 ambulance spaces**	

**Note: the number of doctors is unknown so total staff number is used*

As outlined in Table 5.1, the DCP recommends 383 car parking spaces when considering the demand during a typical weekday morning shift, and 513 car parking spaces considering the demand during the shift changeover between the morning and afternoon shift.

The DCP rates are considered as a guideline, and it is noted the existing parking provision of 693 car parking spaces exceeds this recommendation for both the mid-shift and shift changeover scenario in 2026. Section 5.3 includes a more detailed site-specific parking study that will provide a more accurate estimation of the anticipated parking demand for the development.

5.2.2 On-Site Car Parking

The proposed redevelopment will result in modifications to the existing on-site parking provision. The proposed drop off facility will provide 11 additional parking spaces, but the acute services building footprint will remove 39 parking spaces to the north of the proposed building. Therefore, the proposal will include 665 on-site parking spaces available for hospital users. Management measures and sustainable transport initiatives as presented in the Green Travel Plan (see Section 6) will assist in managing the increase in parking demand and seek to reduce private vehicle volumes travelling to and from the site.

5.2.3 On-Street Car Parking

The development will result in some minor changes to the capacity of on-street parking, due to introduction of new driveways along Shoalhaven Street and North Street.

A previous assessment undertaken by PTC Traffic Consultants reports that within 400 metres of the hospital site, there are 379 on-street parking spaces in the surrounding streets. Of these, PTC has calculated that approximately 70% of the total on-street parking capacity is available for use by hospital users. Therefore, there are 265 on-street parking spaces available within 400 metres of the site for hospital staff, patients, and visitors to use.

5.2.4 Accessible Parking

The proposed site provides at least 24 accessible parking spaces out of a total 693 parking spaces, or approximately 3.5%. This provision exceeds the Building Code of Australia requirement for hospitals which requires accessible parking at a rate of 2% of the total parking provision.

5.2.5 Motorcycle Parking

There are no requirements for motorcycle parking specified in the DCP. Motorcycle parking should be provided in car parks where possible, in locations such as corners or where structural limitations apply, where it would not be possible to provide car parking spaces.

5.2.6 Bicycle Parking and End-of-Trip Facilities

It is proposed that bicycle parking be provided in accordance with the provision for Green Star Projects, which requires 7.5% of total regular occupants with associated facilities as per Table 17B. 4.3.

The proposed bicycle storage area contains 90 bicycle spaces which is beyond the requirement outlined in Table 5.2 and will be sufficient to support the expected future demand.

|| Showers and bathrooms provided to meet statutory accessibility requirements are not included the calculation of end of trip facilities for Green Star projects. || R3.17.01

Table 17B.4.3: End-of-trip Facilities Requirements

Number of Regular Occupants	Showers	Lockers
0-12	1 (unisex)	1.2 per 1 bicycle space
13-49	2	1.2 per 1 bicycle space
50-149	4	1.2 per 1 bicycle space
150-299	6	1.2 per 1 bicycle space
300-500	8	1.2 per 1 bicycle space
Greater than 500	Additional 2 per extra 250 occupants	1.2 per 1 bicycle space

Table 5.2: Bicycle Parking Demand Calculation

	Regular occupants	Bicycle Parking	Showers	Lockers
Existing (2022)	538	41	10	50
Opening Year (2026)	564	43	10	52

5.3 Parking Demand

5.3.1 Transport Initiatives

As part of the proposal, several transport initiatives are to be implemented in order to reduce dependency on private vehicles and to reduce the forecast parking demands. These initiatives include:

- Improved active transport infrastructure including new footpaths, bicycle storage and end-of-trip facilities
- Improved public transport services as per TfNSW 16 Regional Cities Services Improvement Program
- Supporting work from home for eligible staff (e.g. admin staff)
- Promotion of carpooling and facilitating the pairing up of staff

The travel survey contained various questions about sustainable travel initiatives, including whether the survey respondent would be interested in taking up an alternative travel mode such as those listed above. These results have been used to calculate mode share targets for the opening year of 2026 as contained in Table 5.3. The detailed travel survey results are included in Section 2.8.2.

The following assumptions and key issues have been considered when calculating the targets:

- It is assumed that 50% of staff who expressed interest in an alternative travel mode in the survey will switch to using this mode by 2026.
    - To cater for visitors who by nature are less likely to travel via alternative modes, this value was halved to represent the uptake in sustainable travel by visitors (i.e. halved again to 25%).
    - To cater for patients who by nature are even less likely to travel via alternative modes, this value was quartered to represent the uptake in sustainable travel by patients (i.e. halved again to 12.5%).
- The travel mode survey reports the proportion of staff, patients and visitors who use private vehicle to travel to the Hospital but does not breakdown this number to those who currently participate in carpooling.
- A growth of 1% is allocated to the walking mode share for each hospital user. A growth of 2% of allocated to the public transport mode share for staff.
- Some hospital staff are not local to their place of work and may travel significant distances. For some of these staff, public transport is limited or unavailable.
- Some hospital staff work at unusual times of the day when public transport may be unavailable and active transport may be unattractive.
- Due to the unique nature of hospital visitor and patient travel (often in emergency or undesirable scenarios), minor changes to visitor and patient mode share are currently proposed. The most significant opportunity for reduced private vehicle usage is by staff who are better equipped to switch to an alternative travel mode due to the planned nature of their trip to site.

The volume change listed in the last column of Table 5.3 is the difference between the full operational capacity based on existing travel habits, and the full operational capacity with the mode share targets achieved.

Table 5.3: Mode Share Targets

Note: totals may not add to 100% as carpooling is assessed separately to private vehicle use

	Travel Mode	Existing Mode Share	Target for 2026	% Change from Existing
Staff	Private vehicle	98.1%	89.4%	-8.7%
	Carpool	-	13.2%	-
	Public transport	0.0%	2.0%	+2.0%
	Bicycle	0.9%	6.6%	+5.7%
	Walk	0.9%	1.9%	+1.0%
Patients	Private vehicle	94.3%	91.9%	-2.4%
	Carpool	-	3.3%	-
	Community Transport	3.8%	3.8%	0.0%
	Public transport	0.0%	0.0%	0.0%
	Bicycle	0.0%	1.4%	+1.4%
	Walk	1.9%	2.9%	+1.0%
Visitors	Private vehicle	99.3%	95.4%	-3.9%
	Carpool	-	6.6%	-
	Public transport	0.0%	0.0%	0.0%
	Bicycle	0.0%	2.9%	+2.9%
	Walk	0.7%	1.7%	+1.0%

5.3.2 Parking Demand

The demand for car parking of the proposed redevelopment is calculated on the basis that the mode share targets in Table 5.3 are achieved by 2026 as the sustainable travel initiatives and Green Travel Plan is implemented.

Table 5.4 shows the parking demand for the existing year (with existing mode splits) and the year of opening (with target mode shifts achieved). The data used in these calculations including staff, patients and visitor numbers were supplied by the hospital and received on 26th May 2022.

Table 5.4 contains an assessment of the parking demand for during a shift (mid-shift) and during shift changeover (between the morning and afternoon shift). The shift changeover period is considered the worst-case scenario where the parking demand is shown to be the highest, as some morning staff do not depart before the afternoon staff arrive.

It should be noted that the calculations in Table 5.4 assume that all on-site parking is fully utilised before vehicles begin to occupy on-street parking.

Detailed parking demand calculations are included in Appendix F.

Table 5.4: Forecast Parking Demand with Travel Mode Shift Applied

Hospital User	Existing (2022) *(existing mode splits)*	Opening Year (2026) *(mode shift achieved)*
Staff	Mid-shift: 498 Shift changeover: 746	Mid-shift: 382 Shift changeover: 577
Public demand (outpatients, emergency, visitors)	129	190
Other users (fleet, volunteers, training, and students)	79	88
Total mid-shift demand	**706**	**660**
Total shift changeover demand	**954**	**855**
On-site parking capacity	693	665
On-street parking capacity within 400m available to hospital users	265	265
On and off-street parking capacity	**958**	**930**
Cars parked on-site for mid-shift	***693***	***660***
Cars parked on-site for shift changeover	***693***	***665***
Cars parked on-street for mid-shift	***13***	***0***
Cars parked on-street for shift changeover	***261***	***190***

5.3.3 Future Demand

The analysis summarised in Table 5.4 indicates that with the implementation of the sustainable transport initiatives listed in Section 5.3.1 and the mode share targets achieved, the parking demand during a morning weekday shift will be 855 spaces in 2026 during a shift changeover.

Assuming all on-site parking is used, about 190 vehicles are expected to park within surrounding on-street parking in 2026 during the shift changeover. Note that there are approximately 265 on-street parking spaces available for hospital users within 400 metres of the site, meaning the projected 2026 demand will be accommodated within these available on-street spaces.

5.4 Future Traffic and Parking Studies

NSW Health will undertake future traffic and parking studies at 18 and 36 months after the proposed hospital opens to determine any further actions required to address traffic and parking impacts into the future. These studies should include occupancy studies of on-site and on-street parking and travel mode surveys to be distributed to all hospital users.

6 Green Travel Plan

A Green Travel Plan (GTP) is a way to sustainably manage the transport needs of staff, patients, and visitors to a development. The aim of the Plan is to reduce the environmental impact of travel to and from the site and to provide a clear plan of management for vehicle and pedestrian movements within and around the site. This includes encouraging alternate travel methods such as active transport, public transport, and car-pooling, while reducing dependence on private vehicles. This Plan contains management strategies intended to fulfil the objectives listed below and achieve the mode share targets outlined previously in Section 5.3.1.

This preliminary GTP has been prepared to support the development and future operation of the hospital, and to satisfy conditions of the SEARs issued by the Department of Planning, requiring the provision of a Green Travel Plan to promote sustainable travel choices for employees and visitors.

This preliminary GTP has been prepared in knowledge of and with reference to the NSW Travel Plan Toolkit for Hospital Precincts. The Toolkit outlines the process of developing a Travel Plan, and this GTP aligns with this process by first assessing the existing conditions including an analysis of existing travel modes, then developing measurable travel mode targets and implementing actions and activities to fulfil these targets. Strategies for ongoing management of the GTP is also provided in accordance with the Toolkit.

This document is preliminary in nature and is intended to be dynamic and respond to the future operation of the site. It is anticipated that this preliminary GTP will be developed into a more comprehensive and final GTP prior to commencement of operations of the new hospital. This document may also form a reference point for further development of new operational plans in the future.

6.1 Objectives

6.1.1 Reduce the Environmental Footprint of the Development

Reducing the environmental footprint of a development is an essential component of any sustainable transport plan. The use of private vehicles by staff, patients and visitors is a contributor to the environmental footprint of the hospital.

This Plan seeks to decrease the site's environmental footprint by promoting and increasing the use of more sustainable travel options such as public and active transport and educate users about the importance of sustainable practices. These measures aim to decrease the overall environmental impact of the hospital development, advocating the importance of sustainable behaviours to those attending the site and providing a sustainable future.

6.1.2 Promote Sustainable Transport Usage

As part of any long-term sustainable transport plan, promotion of sustainable travel modes is a critical component. Users often face difficulties in using alternative modes due to a simple lack of awareness of their options. If these options can be presented to users in an easy-to-understand format, they may be more likely to change their travel behaviours. Additionally, TfNSW have committed to ongoing enhancement and provision of improved public transport services throughout the Illawarra Shoalhaven region. This is informed by the same population growth forecasts that have informed the hospital redevelopment project.

To improve user understanding of alternative and sustainable transport, this GTP seeks to clearly and regularly inform all hospital users including staff, patients, and visitors.

Promotion of sustainable travel modes assists in educating the community in their awareness of transport opportunities, travel safety, and becoming generally more comfortable with using modes other than a private car. This is of significant long-term benefit to the general public, by developing a community with a good understanding of transport and who are more likely to consider their transport choices in the future.

6.1.3 Reduce Parking Impacts

To reduce parking demands within and around the site, this GTP seeks to reduce the total volume of vehicles requiring parking at the site through use of sustainable alternative travel options. Even small changes in overall travel habits will reduce the utilisation of parking.

6.1.4 Improve User Safety

In the interest of user safety around the hospital campus, it is important that the volume of vehicles moving through the site is reduced as much as possible. This applies to vehicles interacting with pedestrians, and vehicles interacting with other vehicles. While pedestrian paths are provided throughout the site providing separation in most locations, mistakes and accidents can occur which cannot be foreseen or fully prevented. Additionally, the hospital is a high-speed environment when considering ambulance movements.

To improve user safety for pedestrians and vehicles around the hospital, this GTP seeks to reduce the total volume of vehicles travelling to the site.

We note that it is not only hospital user safety but also the safety of the wider road network and community that shall be improved by a reduction in vehicle volumes.

6.1.5 Improve Health and Wellbeing

It is in the interest of any hospital or health provider to ensure the health and wellbeing of its users. This responsibility extends beyond work hours to include daily travel to and from the site. A change from vehicular transport to active transport such as walking, or cycling provides health benefits to users by increasing their amount of daily physical activity.

To improve health and wellbeing of hospital staff, this GTP seeks to increase the use of active transport modes such as walking or cycling.

A reduction in vehicle usage will also create environmental benefits through reduced emissions, which provides further improvements to health and wellbeing of the community more broadly.

6.2 Management Strategies

In order to achieve the mode share targets previously outlined in Section 5.3.1, a number of initiatives and programs are recommended to be implemented as detailed in the following sections. The following base strategies are considered which aim to meet the objectives of the Plan:

- Enable informed users
- Encourage active transport
- Encourage public transport
- Encourage carpooling
- Ongoing management

Actions to encourage active transport, public transport and carpooling would help in reducing total vehicular and parking demand and vehicle activity around the site. By ensuring users are enabled with the appropriate information and undertaking continued management of the sustainable travel strategies, the objectives of the Travel Plan can best be achieved over time.

Each strategy consists of a number of actions which should be implemented to achieve a shift toward the ultimate objectives of the Plan. The staff member responsible for travel (as recommended in these initiatives) should review this checklist periodically to reflect on the site's progress and opportunities.

6.2.1 Strategy 1: Enable Informed Users

Action 1: Provide a Transport Access Guide

Users often face difficulties in using sustainable travel modes due to a lack of effective promotions and awareness of their travel options. If these options can be presented to users more effectively, they may be more likely to change their travel behaviours.

It is recommended that a brochure or leaflet be developed that provides information on public and active transport facilities near the site. Brochures can easily be given to staff, outpatients, visitors, and volunteers and can be developed in-house or by an external consultant. The brochure should also be uploaded to the hospital website to provide information for visitors. The Transport Access Guide can also include the hospital visiting hours, bus services frequency during weekends and nights, and any future changes to public transport services. Additionally, a poster or Transport Access Guide may be displayed on notice boards around the hospital. An example of a Transport Access Guide can be seen in Figure 6.1.

Figure 6.1: Transport Access Guide brochure example
Source: Northern Sydney Local Health District

Action 2: Induction Information for New Users

It is important that all hospital users are aware of the travel options available to them. Particularly for new users, the default option may be to drive to the site if they are unfamiliar with the area.

To ensure that users are aware of their options, a Transport Access Guide (discussed above) and any other relevant information such as health and activity leaflets should be distributed to all users. For staff, distribution methods could include information being included in induction or orientation packages. New staff inductions could also promote the benefits of cycling, walking and use of active transport for people's health. Distribution of sustainable travel information to patients and visitors is also important as they also contribute to travel and parking demands and may be in a position to modify their travel behaviour. This may be done via the hospital website or other online distribution.

Information provided directly in this manner results in users being more likely to engage in sustainable travel patterns, rather than being required to seek out information independently.

Action 3: Periodic Reminders

Travel options can change over time, and new site users may miss pieces of information in provided to them. Periodic reminders can assist in providing continued information to users and aim to provide a greater reach and impact. One convenient way to reach a broad user base is to include information and reminders in periodic staff newsletters or updates. Content could include details on new travel initiatives, mode share progress, and upcoming events or changes, as well as reminding staff of the importance of sustainable travel.

This style of communication could also request feedback from staff regarding current initiatives and any other travel-related concerns.

6.2.2 Strategy 2: Encourage Active Transport

Action 4: Bicycle Storage and End-of-Trip Facilities

Bicycle storage and end-of-trip facilities including showers, change rooms and lockers are important in encouraging hospital users to travel using active transport such as cycling and walking. In particular, these facilities are important for those travelling long distances or during warmer seasons.

Bicycle storage is proposed in the undercroft parking area of Block B. This area contains 90 bicycle parking spaces and is shown in Figure 6.2. The proposal contains the existing end-of-trip facilities in Block B as shown in Figure 6.2 and are located in close proximity to the bicycle storage areas providing convenient access.

These facilities are to be maintained and kept to an appropriate standard as part of ongoing maintenance procedures. Installation of any future bicycle storage should be in accordance with Australian Standards AS2890.3 *Bicycle parking*, and any other specifications from authorities including Shoalhaven City Council.

Usage of bicycle parking and end-of-trip facilities should be monitored over time and additional parking spaces, showers and/or change rooms provided if demand requires. Promotion of these facilities may include:

- Nominating lockers to be used only by staff who travel via active transport modes to encourage more active transport users
- Wayfinding to improve accessibility of end-of-trip facilities and bicycle parking
- Promoting bicycle parking and end-of-trip facilities through correspondence with staff e.g. staff newsletters or staff meetings

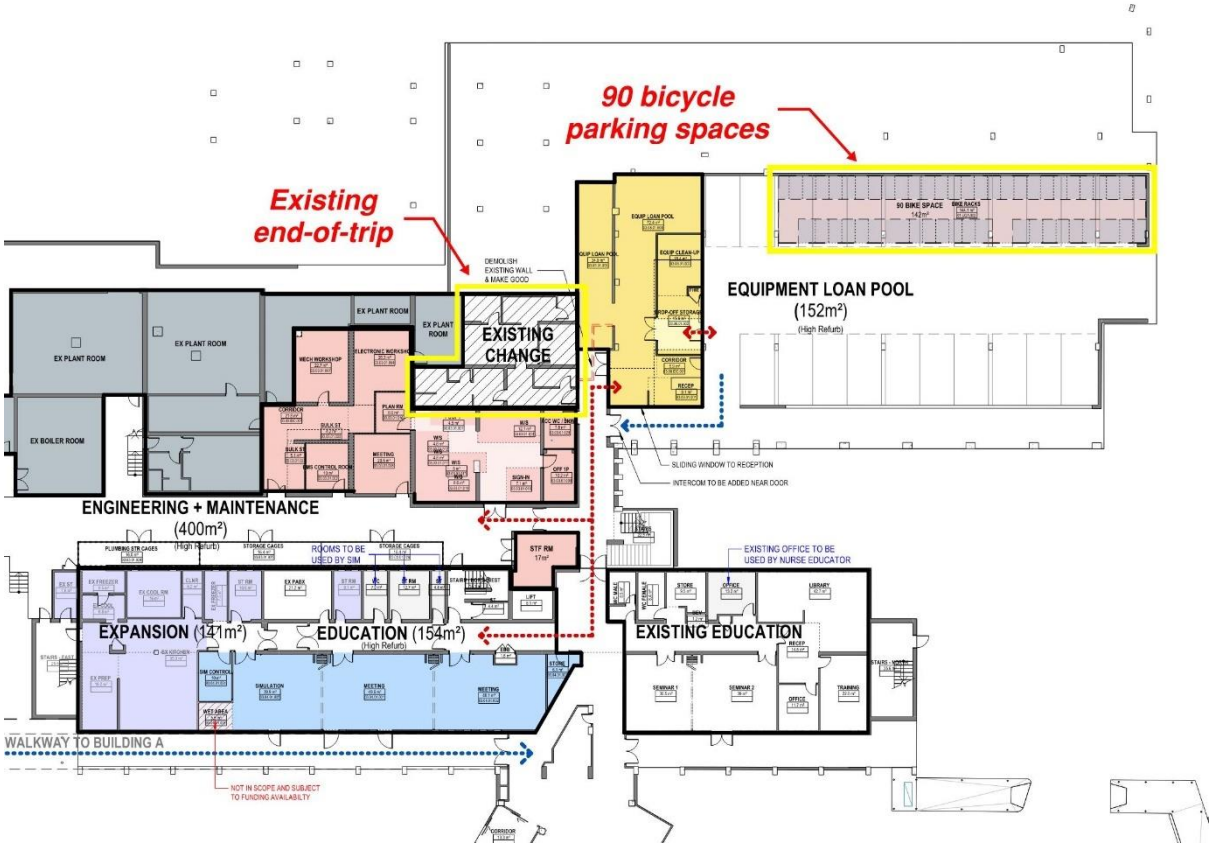


Figure 6.2: Proposed Bicycle Storage and End-of-Trip Facilities
Source: Conrad Gargett (BLB-DD-DR-AR-22101, 16/06/22, Rev 7)

Action 5: 'Ride2Work Day' and Health Events

Various organisations and groups develop programs and events to encourage active transport. For example, Bicycle Network coordinates a Ride2Work Day each year. These events provide a good opportunity for organisations to encourage cycling for their staff, and each event can also assist in influencing the travel behaviour of others through general publicity and awareness. Events hosted at or by the hospital could include organised preferred cycling routes, bike safety programs, bike maintenance instructions, and more.

The hospital should investigate avenues to promote this event and encourage staff involvement. Subject to further discussion, incentives may include competitions or rewards such as a free breakfast.

This and other events should be considered annually. The Hospital General Manager has proposed twice-yearly promotions, in spring and autumn.

6.2.3 Strategy 3: Encourage Public Transport

Action 6: Opal Top-up Facilities

There is limited availability of physical top-up facilities for Opal cards in the vicinity. If users do not utilise automatic top-up, they may avoid public transport options if unsure about their Opal balance or where to add funds to their card. Transport for New South Wales has recently started facilitating debit/credit cards as a replacement to Opal cards. By placing an information board or leaflets outlining options for opal top-up and use of credit/debit card at tapping points would encourage hospital users to use these options.

Action 7: Increased Public Transport Services

The hospital should remain up to date with any proposed plans by Council or TfNSW to increase the public transport services as the local area goes through future development. If the current public transport services are not meeting the demand, the hospital may consult with Council and TfNSW about potential upgrades to the offered services. NSW Health has worked with TfNSW in developing the hospital redevelopment plan, and TfNSW are accounting for this in their current planning for public transport in the region.

6.2.4 Strategy 4: Encourage Carpooling

Action 8: Promotion of Liftango Carpooling

A strategy to encourage hospital users to carpool involves a pairing system that informs of other users who live in nearby areas or along their travel route. Initiating this system might involve a meeting to provide an opportunity for staff members to discuss carpooling options, including coordination of staff by local area. Off-the-shelf alternatives such as the Liftango app may also be an option for staff, patients, and visitors to utilise.

Action 9: Priority Parking

A strategy to encourage carpooling further is to allocate priority parking spaces to those committed to carpooling. Priority parking ensures that carpooling staff will be able to park on-site, while other users may be required to use on-street parking. This may act as an incentive for others to investigate carpooling opportunities. Priority spaces could also come with other benefits, such as a prime location with good accessibility as further encouragement.

6.2.5 Strategy 5: Ongoing Management

Action 10: Support Working from Home

Offering support and provisions for working from home is a strategy to further reduce the volumes of private vehicles travelling to and from the site. This initiative applies to staff members who do not need to be present on site such as admin staff. Working from home 2 or 3 days a week can reduce the car activity around the site and improve parking impacts, as well as reduce the overall environmental footprint of the site as staff are not travelling to and from the hospital each day, some of which often travel for long distances. The hospital and the health district have committed to making this option available to staff.

Action 11: Regular Reviews of Travel Plan

This Green Travel Plan, and other associated documentation (such as a Transport Access Guide) should be reviewed regularly and updated as required. The review should include:

- Updating to reflect any travel-related changes in the local area such as bus services, new cycle routes or pedestrian crossings (this should occur as changes arise)
- Reviewing progress against the proposed mode share targets and update targets if required
- Identification of any shortfalls in the Plan and an updated action plan to address these shortfalls
- An updated travel mode survey to be distributed to all staff, patients, and visitors. Collect data including residential postcodes to inform where hospital users are travelling from.
- Consultation with staff, patients, and visitors to understand travel behaviours and any barriers and facilitators to shift to sustainable travel.
- Adjustments to initiatives and targets based on updated survey results and in response to any issues that may arise

Action 12: Transport Coordinator

To ensure that the ongoing review of this Plan is carried out as expected, responsibility of this task should be allocated to a specific staff member or Transport Coordinator. This staff member could form a sustainability group that would assist in updating the Green Travel Plan and champion the travel initiatives. Responsibilities of the Transport Coordinator may include:

- Implementation and promotion of the actions outlined in the GTP
- Monitoring the effectiveness of the actions
- Ongoing maintenance of the GTP
- Providing advice to staff, patients, visitors, or contractors about transport-related issues
- If required, liaising with external parties such as Council or public transport operators

6.3 Action Checklist

Action	Why	How	When
Strategy 1: Enable Informed Users			
Action 1: Develop a Transport Access Guide for the site	Important to make travel choices clear for site users, including walking, cycling, and public transport services nearby.	Develop brochure or leaflet outlining sustainable travel options to the site and provide to users (including on website).	Every 2 years or as required
Action 2: Include travel information into the induction process for new staff and visitors	Information should be convenient and accessible for users. Staff are the vast majority of travel demands.	Include TAG and any other relevant information sheets in induction packs and other hospital information areas.	Ongoing
Action 3: Provide periodic reminders	Periodic information ensures staff and visitors are kept up to date on any changes and reminded of travel options.	Allocate staff member responsible for periodic newsletter schedule or column relating to sustainable travel.	Ongoing; every 6 months
Strategy 2: Encourage Active Transport			
Action 4: Provide bicycle storage area and end-of-trip facilities	Bicycle parking and end-of-trip facilities encourage greater usage of active transport.	Monitor usage over time and increase parking provisions if necessary.	Ongoing

Action	Why	How	When
Action 5: Promotion of 'Ride2Work Day' and other health events	Hospital users exposed to active travel in an organised manner may be more likely to consider it for their own travel and may also enjoy improved education regarding their options and safety.	Ensure events such as 'Ride2Work Day' and other relevant events are advertised by the hospital with special events held. This may be organised by the sustainable travel representative.	Ongoing; every 6 months
Strategy 3: Encourage Public Transport			
Action 6: Opal card top-up facilities	There are limited top-up facilities (e.g. retail stores) near the site. Users may avoid public transport if they are unsure of their Opal balance or know they have insufficient funds. Facilities also act as a reminder of public transport availability to influence travel habits.	Investigate the feasibility of providing an Opal top-up facility at the main building reception and/or inform people of the options for opal top-up and use of credit/debit card at tapping points	Ongoing
Action 7: Increased public transport services	If public transport services do not meet the demand, then hospital users are more likely to use unsustainable travel modes.	The hospital will consult with Council and TfNSW about plans to upgrade the local public transport services.	Ongoing; if services do not meet demand
Strategy 4: Encourage Carpooling			
Action 8: Advertise Liftango carpooling app	Staff may not be aware of carpooling options and systems available to coordinate travel.	Arrange meeting or workshop with staff, seek additional information from app developer if available.	Ongoing

Action	Why	How	When
Action 9: Provide priority parking for carpooling staff	Staff are more likely to use carpool programs if parking is guaranteed.	Allocate priority parking spaces to those engaging in carpooling.	Ongoing
Strategy 5: Ongoing Management			
Action 10: Support working from home	The ability to work from home allows staff to reduce the private vehicle trips made to and from the hospital.	Provide support and a policy for eligible staff to work from home	Ongoing
Action 11: Review this Green Travel Plan regularly	Consistent review will allow revision of mode share targets and provide an understanding of any deficiencies and possible improvements.	Undertake regular reviews of this Green Travel Plan including an updated travel mode survey of staff, patients, and visitors.	Ongoing; as required
Action 12: Allocate responsibility to a staff member	Sustainable travel documentation, initiatives, and education are unlikely to be maintained if responsibility is not allocated to a particular staff member	Seek out one or more hospital or LHD representatives to take responsibility for sustainable travel. Staff members should also ensure that responsibility is transferred if they leave the LHD.	Ongoing

6.4 Data Collection and Monitoring

6.4.1 Data Collection

Transport Data Collection

Data collection is required for the ongoing management and reviewing of this Plan. These investigations are intended to evaluate whether a particular operation or system is still successfully functioning and meeting demands. Table 6.1 contains suggestions for the data collection context and the types of data to be collected.

Table 6.1: Data Collection Summary

Context	Data to be collected
Buses	• Number of public bus users (during peak periods and overall) • Observational assessments (e.g. queuing, safety concerns)
Emergency Drop off Zone	• Number of users • Set down times • Arrival and departure times • Any non-formal drop-off occurrences • Observational assessments (e.g. queuing, safety concerns)
Car Parking	• Number of daily vacant and occupied spaces • Number of passengers per vehicle • Arrival and departure times
Pedestrian Facilities	• Number of pedestrians entering through gates • Arrival and departure times • Number of pedestrians jaywalking as well as the time and location
Cyclist Facilities	• Number of daily vacant and occupied bicycle parking spaces • Number of cyclists entering through each site access point • Number of end-of-trip facility users

Incident Recording System

It is recommended that the hospital should keep and maintain an on-site traffic incident record. This record would contain a description of the incident, including contact details and what actions were taken by the hospital in response to the incident. It is advised that records of incidents be kept for an extended period of time following the incident occurrence.

The hospital should be able to provide the traffic incident register to relevant authorities on request.

Complaints Management

It is recommended that the hospital should keep and maintain a record of all complaints made in relation to any transport or access issues in a complaint register. Suggestions for what the record may include are:

- The date and time of the complaint
- The method by which the complaint was made (e.g. phone or email)
- Any personal details provided by the complainant
- The nature of the complaint
- Any action taken by the hospital in relation to the complaint including any follow-up communication

It is advised that records of the complaint be kept for an extended period of time after the complaint was made. The hospital should be able to provide a copy of the complaints register to relevant authorities on request.

6.4.2 Program Evaluation

The finalised GTP it is to be maintained by the hospital and shall be distributed to all the concerned logistic personnel and managers. The hospital is also responsible for distributing appropriate information to staff, patients, visitors, volunteers, and contractors as necessary. A copy of the GTP is always to be held on-site and available for review.

The GTP should be reviewed regularly and updated as required. It is recommended that an initial review should take place following 18 months of operation. This review should include detailed observations of the transport operations of the site and adjustments to procedures where necessary.

To ensure that ongoing reviews of this GTP are carried out as expected, responsibility for this task should be allocated to the Travel Coordinator or a specific alternative staff member.

6.4.3 Reporting Findings

The GTP and other associated documentation including the Transport Access Guide should be regularly reviewed and updated as required. The review should include an updated travel mode survey, consultation with staff, patients and visitors, and adjustments to initiatives and targets as necessary.

Sample evaluations and outputs to stakeholders may include:

Hospital data	Health Infrastructure NSW	Staff, patients, and visitors	State / local government
• Annual update • Compare results • Document progress or deficiencies during delivery • Communicate results • Analyse policies, infrastructure, or programs to revisit	• Annual update • Compare results • Document progress or deficiencies during delivery • Communicate results • Analyse policies, infrastructure, or programs to revisit	• Issue report	• Issue verification • Issue resolution • Review public transport network and services

6.5 Governance Framework

6.5.1 Transport Coordinator Roles and Responsibilities

Transport programs must be implemented to achieve travel behaviour change and a specific role is required to implement and manage these programs.

The nominated Transport Coordinator shall:

- Liaise with the hospital and LHD representatives
- Liaise with other internal stakeholders (see below)
- Coordinate communications and publications to staff, patients and visitors as required
- Directly oversee implementation of transport programs where relevant

- Consult and engage external parties to implement transport programs where relevant
- Liaise with the Contractor prior to the construction phase to review and approve proposed construction traffic and access methodologies
- Liaise with the Contractor during the construction phase to maintain safe operations at and around the site

6.5.2 Internal Hospital Stakeholders

The list of internal stakeholders to be consulted by the Travel Coordinator includes:

- Hospital Executive Staff as relevant
- Asset Management
- Grounds Management
- WHS Representative

6.5.3 State and Local Government Stakeholders

The list of external stakeholders to be consulted by the Travel Coordinator includes:

- Shoalhaven City Council
- Transport for NSW
- Busways

In the event of external consultation being required, various state and local stakeholders have provided a nominated contact person, either for addressing concerns and comments or for providing alternative best contacts for a specific issue.

The nominated point of contact at **Shoalhaven City Council** is as follows:

- Name:
  - To be advised by Council for inclusion in post-approval documentation.
- Role:
  - *TBC*
- Phone:
  - *TBC*
- Email:
  - *TBC*

The nominated point of contact at **Transport for NSW** is as follows:

- Name:
  - To be advised by TfNSW for inclusion in post-approval documentation.
- Role:
  - *TBC*
- Phone:
  - *TBC*
- Email:
  - *TBC*

The nominated point of contact at **Shoalbus** is as follows:

- Name:
  - To be advised by Shoalbus for inclusion in post-approval documentation.
- Role:
  - *TBC*
- Phone:

  - *TBC*
- Email:
  - *TBC*

The nominated point of contact at **Nowra Coaches** is as follows:

- Name:
  - To be advised by Nowra Coaches for inclusion in post-approval documentation.
- Role:
  - *TBC*
- Phone:
  - *TBC*
- Email:
  - *TBC*

The nominated point of contact at **Stuart's Coaches** is as follows:

- Name:
  - To be advised by Stuart's Coaches for inclusion in post-approval documentation.
- Role:
  - *TBC*
- Phone:
  - *TBC*
- Email:
  - *TBC*

The nominated point of contact at **Kennedy's Bus & Coach** is as follows:

- Name:
  - To be advised by Kennedy's Bus & Coach for inclusion in post-approval documentation.
- Role:
  - *TBC*
- Phone:
  - *TBC*
- Email:
  - *TBC*

7 Preliminary Construction Traffic Management Plan

This preliminary Construction Traffic Management Plan (CTMP) addresses the proposed construction of the Shoalhaven Hospital redevelopment. It discusses the management of construction vehicles and activities, and an investigation of the local traffic and safety conditions throughout the construction process. A draft CTMP is required in accordance with the SEARs for this development.

A detailed CTMP will be prepared by the builder with consideration of all final design selections. This preliminary CTMP is intended to provide a framework within which a future CTMP can be developed and implemented, and to demonstrate the potential operation of the construction site.

A CTMP is developed to satisfy the duties of various work health and safety legislation, regulations and codes of practice including those from SafeWork NSW. Traffic Guidance Scheme (TGS) will also need to be developed in association with a final CTMP for the future site to demonstrate the traffic control procedures to be implemented. These must be developed in accordance with Transport for NSW and the relevant Australian Standards.

In addition to a detailed CTMP, the builder shall be responsible for acquiring the necessary certificates, licences, consents, permits, and approvals relevant to the construction on this site.

7.1 Construction Operations

7.1.1 Access Arrangements

Access Point

The majority of works will occur adjacent to Shoalhaven Street and North Street, providing good construction access to the site.

Construction Vehicle Access

The large amount of undeveloped area within the site provides adequate space for vehicles to load and unload within the worksite.

Emergency Vehicle Access

Emergency vehicles will be able to enter from the existing emergency vehicle access point at the Shoalhaven Street and access each part of the site uninhibited. They will be able to access neighbouring properties and pass by the site without any issues.

7.1.2 Construction Program

Table 7.1 indicates a preliminary phasing outline of each construction stage including estimated vehicle types and volumes, as well as the approximate number of daily workers and number of workers driving to site. These estimations are based on previous projects but are subject to change following the appointment of a contractor.

The data in the table below is to be updated by the builder once appointed and currently represents estimates only.

Table 7.1: Example of Construction Phasing

Stage	Estimated Duration	Largest Vehicle	Vehicles per Day	Workers per Day	Workers Driving
Site Establishment	1 month	-	-	10	9
Substructure	4 months	Heavy Rigid Vehicle	8	45	40
Structure	8 months	Heavy Rigid Vehicle Semi-trailer	30 2	80	71
Roofing & Façade	4 months	Heavy Rigid Vehicle	2	95	84
Finishes & Services	7 months	Heavy Rigid Vehicle	2	130	115
Landscaping & Completion	4 months	Heavy Rigid Vehicle	2	80	71
Works Complete	2 months	-	-	60	53

The JTW data, as outlined in Table 2.5, indicates that 88.6% of workers will travel via private vehicle. This mode share has been applied to the estimated number of workers per day and produces the number of workers driving to site as shown in the right-hand column of Table 7.1.

7.1.3 Worker Parking

Parking demand generated by construction workers is estimated to be 115 at its peak. Construction workers will not park on the local roads surrounding the hospital and will not park in existing on-site parking spaces except with specific authorisation. Builders tendering for the project will be required to develop and commit to alternative methods of bringing workers to the site.

Some provision of parking for construction workers may be available within the construction area itself due to the large area. This parking can be repositioned depending on the construction activities during any given phase. Car parking for workers is subject to the final CTMP.

7.2 Construction Traffic Management

7.2.1 Vehicle Management

Vehicle movements will occur within the prescribed working hours. Delivery and removal trucks where appropriate will have a staggered arrival schedule and occur outside general peak hours. Avoiding peak hours allows for minimal queueing of construction vehicles on the local roadway and prevents congestion in the neighbouring areas. Any vehicles arriving after the worksite has reached maximum capacity will be expected to reschedule their delivery and depart, although it is anticipated that enough queueing space will be available.

Careful management of heavy construction vehicles exiting the site will ensure traffic safety. The relatively low traffic volumes on Shoalhaven Street means vehicles are expected to use suitable traffic gaps to exit.

To successfully coordinate and execute these processes, communication between all delivery depots and waste management centres will be maintained.

7.2.2 Construction Vehicle Routes

Given the extensive space available within the construction site, it is anticipated that all vehicles will be able to manoeuvre on-site, entering and exiting in a forward direction.

Possible construction vehicle routes showing access to Shoalhaven Street and North Street are illustrated in Figure 7.1, but these are indicative only and will be confirmed in the final CTMP.

Figure 7.1: Indicative Construction Vehicle Routes

7.2.3 Public Transport Impacts

No changes to local public transport routes and services are anticipated as a result of the construction. These routes are likely to experience only minor impacts due to the presence of additional truck movements. These truck movements are not expected to cause delays on local roads or create flow-on impacts to other streets.

7.2.4 Cumulative Impacts

Further details about nearby construction works will be confirmed in a final CTMP.

7.3 Road Safety

7.3.1 Construction Vehicle Routes and Intersections

There are several intersections within the possible vehicle routes, and possible safety impacts for all road users need to be assessed. Notable intersections near the site have been summarised according to their type in Table 7.2.

Table 7.2: Intersection Summary

Type of Intersection	Relevant Intersection/s
Signalised	Princes Highway / Bridge Road Princes Highway / Worrigee Street
Unsignalised T-intersection	Bridge Road / Hyam Street Hyam Street / Shoalhaven Street
Unsignalised intersection	Shoalhaven Street / Worrigee Street Princes Highway / North Street
Roundabout	North Street / Shoalhaven Street

7.3.2 Construction Traffic Management

It is expected that all the loading/unloading activities will occur and will be accommodated within the site compound. An on-street works zone is not likely to be required for such activities.

Traffic controllers will be implemented at the site entries as required to ensure safe and efficient movement of vehicles, pedestrians, and the safety of workers within site.

All deliveries are to be made within the approved work hours. Truck movements to and from the site will be scheduled outside of network peak hours to reduce impacts to the local road network.

During days of high estimated vehicle movements, communication between the site, concrete batching plant and/or vehicles will be maintained to stagger the arrival of vehicles, for them to be accommodated within the worksite and to minimise traffic disruptions.

This will have minimal impact to the surrounding roads as activities will be managed within the site boundary with trucks entering and exiting in forward direction.

7.3.3 Pedestrians and Cyclists

During hospital peak hours, pedestrian and cyclist activity is expected as patients, visitors and staff arrive and depart from the site. As discussed, construction vehicle movements will be scheduled outside peak hours to ensure pedestrian safety. Pedestrians will be prohibited from entering or passing through specific areas of the site during construction, enforced by fencing around the perimeter. Signage should be fitted to communicate

to staff, patients and visitors the alternate access points and routes within the site. Any changes to external pedestrian routes should also be communicated with signage and detours clearly marked.

7.3.4 Communication of Works

Prior to any site works taking place, notification of commencement of the works shall be distributed to the neighbourhood. Notification is to include information or comment.

As part of the site induction procedures, all contractors will be made aware of this CTMP, the relevant Traffic Control Plans, and their responsibility to adhere to these plans.

7.3.5 Public Infrastructure

On occasions when particularly large vehicles are required to access the site, some mounting or crossing of public kerbs and medians may be necessary. The builder shall repair any damage to this infrastructure if large vehicles are required to mount the devices. Any other road markings damaged as a result of vehicles associated with the construction shall be repaired as a responsibility of the builder.

8 Conclusion and Recommendations

8.1 Summary

This TAIA has been prepared to assess the traffic and transport impacts and design elements of the proposed Shoalhaven Hospital redevelopment. The overall transport strategy for the proposed development is as follows:

- **Pedestrians**
  - Growing demand expected due to high density residential development in the riverfront precinct; provide connectivity to bus services and to local network
- **Cyclists**
  - Growing demand expected due to the implementation of a Green Travel Plan and cycling infrastructure; provide 90 on-site bicycle parking spaces and end-of-trip facilities
- **Public transport**
  - Increased demand expected by bus and train; bus connectivity to train station required, and TfNSW have been advised of the demand for this link
- **Vehicle access**
  - Public vehicle access is distributed along North Street, Shoalhaven Street and Scenic Drive
  - Ambulance and service and loading access is from Shoalhaven Street (from separate driveways)
- **Car parking**
  - Consistent demand expected; on-site provision within the Shoalhaven Hospital for general usage and continued usage of on-street parking in the streets around the site
  - A new multi-storey car park and a new at-grade car park were constructed on the hospital precinct in 2019 in awareness of the upcoming redevelopment. The multi-storey car park was also future-proofed to allow an additional two stories to be constructed.

This overall strategy has been proposed to, and discussed with, Shoalhaven City Council during ongoing liaison through a Transport Working Group (TWG) for the project. The TWG has met twice since May 2021, and the project has refined the transport strategy during that period in response to feedback received.

The proposed development is deemed suitable on consideration of the traffic and transport elements of the site and its surrounds, and the transport strategy proposed for its management.

8.2 Next Steps

Following approval of this SSDA, the expected future works and actions would include:

- Future traffic and parking studies undertaken at 18 and 36 months after opening to determine any further actions required to address traffic and parking impacts into the future
- Further development of the preliminary Green Travel Plan and preliminary Construction Traffic Management Plan (subject to any relevant conditions of consent).

Prepared by

EMMA COWDERY

Traffic Engineer

Approved by

PAUL YANNOULATOS

Technical Director

TAYLOR THOMSON WHITTING (NSW) PTY LTD
in its capacity as trustee for the
TAYLOR THOMSON WHITTING NSW TRUST

Appendix A

Meeting Minutes

Minutes of meeting

Project: Shoalhaven Hospital Redevelopment

Meeting: Transport Working Group Meeting 01

Date: 18/05/2021

Taken By: Rowan Joyce

Venue: Microsoft Teams

Time: 4:00pm

Present	Apologies	Name	Company	Intl
X		Scott Wells	Shoalhaven City Council (SCC)	SW
	X	Gordon Clark	Shoalhaven City Council (SCC)	GC
X		Scott Haylett	Shoalhaven City Council (SCC)	SH
X		Mellissa Dunn	Shoalhaven City Council (SCC)	MD
	X	David Paisley	Shoalhaven City Council (SCC)	DP
X		Theophilus Prakash	Shoalhaven City Council (SCC)	TP
X		Chris Millet	TfNSW	CM
X		Nathan Boscaro	TfNSW	N. Boscaro
X		Paul Yannoulatos	Taylor Thomson Whitting (TTW)	PY
X		Michael Babbage	Taylor Thomson Whitting (TTW)	MB
X		Nathaniel Borja	Taylor Thomson Whitting (TTW)	N. Borja
X		Rowan Joyce	Johnstaff (JSP)	RJ

Item	Description	Action By	Due Date
1.	**Introduction** RJ provided a brief introduction and noted attendees as recorded above.	Note	
2.	**Presentation** MB ran through a PowerPoint presentation (refer attached) and provided an overview of the project and traffic considerations. The main considerations were summarised as: pedestrians and cyclists are a high priority travel mode but expected to see low usage, private vehicles are a discouraged travel mode but necessary, and that public transport may be a practical option for many staff but usually sees low uptake at hospitals.	Note	
3.	**Discussion**	Note	
3.1.	MB opened to floor up for discussion	Note	
3.2.	SW noted they were hoping to see more detailed information on the planned development including the scale and key functions/features and queried the estimated parking demands and proposed access points. MB advised that the parking and access elements are still in the early investigation stages. TTW and JSP noted that at this stage we are unable to provide more information as we do not have an agreed scope for the project and the projected staffing numbers and parking numbers are not yet confirmed. Although we have progressed the Masterplan, a preferred option has not yet been approved and impacts to traffic, access and parking have not been confirmed.	Note	

3.3.	SW noted that moving ambulance access back to Shoalhaven Street (where it was historically located) would make sense. The move to Scenic Drive (the current location) has been somewhat confusing.	Note	
3.4.	SW noted parking around the site is a concern to council. 300 to 400 cars have been noted parked around the hospital. The recently completed multi storey car park is underutilised, may be due to paid parking arrangement. Particular problem streets include West Street, Colyer Avenue, and Mandalay Avenue.	Note	
3.5.	SW noted that traffic issues associated with housing developments on the northern side, development of river precinct and the Nowra bridge project are not resolved. Traffic modelling for the Nowra Bridge project did not extend downstream to the Nowra CBD. Also, the Nowra CBD Traffic strategy is not yet finalised. These unresolved items will impact the Hospital. There is an overarching traffic study that is required to be completed that takes in all of these considerations.	Note	
3.6.	CM acknowledged the broader local/regional concerns and noted that the overarching modelling exercise is outside the requirements of the Hospital Redevelopment Project.	Note	
3.7.	CM noted it is difficult to determine what analysis and assessment is required until we understand the master plan and are provided with bed numbers and parking numbers.	Note	
3.8.	CM would consider it beneficial for TfNSW to make comments on and influence the Master Plan options. SW would consider it acceptable for the Hospital to determine their own Master Plan options, provided that the project can adequately interface with / treat the local road network.	Note	
3.9.	MB asked what elements of the project SCC and TfNSW were interested in so that the right information can be provided.	Note	
3.10.	SW noted they would like to see how it is proposed to resolve parking and pedestrian safety. It is noted that many staff park on the surrounding streets then walk to the hospital. These pedestrian movements from vehicles need to be considered and appropriately addressed, even if the walk-only travel pattern is relatively low. SW noted ongoing/recent footpath works on Hyam Street due to existing issues accessing on-street parking, and that additional similar works could be required in the area.	Note	
3.11.	CM noted that they would like to see a green travel plan along with cyclist and pedestrian Management Plans.	Note	
3.12.	CM noted that major road works would most likely not be required but local road improvements to provide for better parking and pedestrian access will be required. The aim should be to simplify the road network. SW generally agreed that local road works requirements would be more likely.	Note	
3.13.	SW noted that they have undertaken traffic surveys and collected a lot of data from the area and SCC are happy to share this information. MB noted that provision of this information would be appreciated. SW also highlighted that an adopted CBD Strategy and Master Plan currently exist, and that the ability for Hospital works/projects to integrate with the local works would be an advantage.	Note	
3.14.	SW noted that Gordon Clark had provided a contact list and requested that invites for future meetings are sent to all on this list, those that are required will attend.	Note	
3.15.	CM noted that TfNSW will appoint a project officer. This person should be the first point of contact for all correspondence and meetings.	Note	
3.16.	MB noted that the next meeting will be scheduled following confirmation of masterplan layout and bed and parking numbers.	Note	
4.	**Meeting Closed**		

	5:00pm		
5.	**Next Meeting** TBC		

Minutes of meeting

Project: Shoalhaven Hospital Redevelopment

Meeting: Transport Working Group Meeting 02

Date: 18/05/2022

Taken By: XX XX

Venue: Microsoft Teams

Time: 9:00am – 10:00am

Present	Apologies	Name	Company	Intl
X		Scott Wells	Shoalhaven City Council (SCC)	SW
X		Scott Haylett	Shoalhaven City Council (SCC)	SH
	X	Gordon Clark	Shoalhaven City Council (SCC)	GC
X		Scott Haylett	Shoalhaven City Council (SCC)	SH
X		Mellissa Dunn	Shoalhaven City Council (SCC)	MD
X		David Paisley	Shoalhaven City Council (SCC)	DP
	X	Theophilus Prakash	Shoalhaven City Council (SCC)	TP
X		Chris Millet	TfNSW	CM
X		Fiona Mclauchlan	TfNSW	FM
X		Tim Sullivan	TfNSW	TS
X		Andrew Lissenden	TfNSW	AL
X		Paul Yannoulatos	Taylor Thomson Whitting (TTW)	PY
X		Michael Babbage	Taylor Thomson Whitting (TTW)	MB
X		Nathaniel Borja	Taylor Thomson Whitting (TTW)	NB
X		David Wood	Johnstaff (JSP)	DW
X		Oliver Klein	Planning	OK
X		Gilda Barakat	Johnstaff (JSP)	GB
X		Jeremy Hart	Health Infrastructure	HI

Item	Description	Action By	Due Date
1.	**Introduction** DW provided a brief introduction and noted attendees as recorded above.	Note	
2.	**Presentation** PY ran through a PowerPoint presentation (refer attached) and provided an overview of the project and traffic considerations.	Note	
3.	**Discussion**	Note	
3.1.	PY opened to floor up for discussion	Note	
3.2.	SW noted they were hoping to see more detailed information on the planned development. TTW and JSP noted that at this stage we are unable to provide more information as we do not have an agreed scope for the project and the projected staffing numbers and parking numbers are not yet confirmed. Although we have	Note	

	progressed the Masterplan, a preferred option has not yet been approved and impacts to traffic, access and parking have not been confirmed.		
3.3.	SW noted parking around the site is a concern to council. 300 to 400 cars have been noted parked around the hospital. The recently completed multi storey car park is underutilised, may be due to paid parking arrangement.	Note	
3.4.	SW noted that traffic issues associated with housing developments on the northern side, development of river precinct and the Nowra bridge project are not resolved. Also, the Nowra CBD Traffic strategy is not yet finalised. These unresolved items will impact the Hospital. There is an overarching traffic study that is required to be completed that takes in all of these considerations.	Note	
3.5.	CM noted that the overarching modelling exercise is outside the requirements of the Hospital Redevelopment Project.	Note	
3.6.	CM noted it is difficult to determine what analysis and assessment is required until we understand the master plan and are provided with bed numbers and parking numbers.	Note	
3.7.	MB asked what elements of the project SCC and TfNSW were interested in so that the right information can be provided.	Note	
3.8.	SW noted they would like to see how it is proposed to resolve parking and pedestrian safety. It is noted that many staff park on the surrounding streets then walk to the hospital. This needs to be considered and appropriately addressed.	Note	
3.9.	CM noted that they would like to see a green travel plan along with cyclist and pedestrian Management Plans.	Note	
3.10.	CM Noted that major road works would most likely not be required but local road improvements to provide for better parking and pedestrian access will be required.	Note	
3.11.	SW Noted that they have undertaken traffic surveys and collected a lot of data from the area and SCC are happy to share this information. MB noted that provision of this information would be appreciated.	Note	
3.12.	SW noted that Gordon Clark had provided a contact list and requested that invites for future meetings are sent to all on this list, those that are required will attend.	Note	
3.13.	CM Noted that TfNSW will appoint a project officer. This person should be the first point of contact for all correspondence and meetings.	Note	
3.14.	MB noted that the next meeting will be scheduled following confirmation of masterplan layout and bed and parking numbers.	Note	
4.	**Meeting Closed** 10:00am		
5.	**Next Meeting** TBC		

Appendix B

PTC Travel Mode Survey Results

This report is filtered
Only show: #18 Question "What is your normal work pattern? (Please choose the option which is the closest to your normal work pattern)" is one of the following answers ("Day shift (Clinical staff)","Office hours (or near to) e.g. Administration staff")

Report for Shoalhaven Hospital Staff Travel Survey

Response Counts

Completion Rate:	**100%**		
	Complete		106

Totals: 106

How do you normally travel to work?

Value	Percent	Responses
Car	97.2%	103
Motorbike	0.9%	1
Bicycle	0.9%	1
Walk	0.9%	1

Totals: 106

Bus Only - please specify bus route	Count
Totals	0

Other (Please specify)	Count
Totals	0

Will you take express shuttle buses from Hospital to train station if the shuttle buses are provided?

Value	Percent	Responses
Yes	19.8%	21
No	74.5%	79
Other (please specify)	5.7%	6

Totals: 106

Other (please specify)	Count
N/A	2
I would consider dependent upon time and frequency of shuttle buses	1
Live south of Nowra - wouldn't take train	1
N/A to me	1
Not Applicable	1
Totals	6

Will you take express shuttle buses from Hospital to a bus stop if the shuttle buses are provided?

Value	Percent	Responses
Yes	17.0%	18
No	75.5%	80
Other (please specify)	7.5%	8

Totals: 106

Other (please specify)	Count
N/A	2
N/A to me	1
Not applicable	1
depends on where the bus stops are located	1
possibly	1
walk if close	1
Totals	7

In the car you travel to work in, how many other Shoalhaven Hospital staff is in the car (including the driver)?

Value	Percent	Responses
Driver alone	96.1%	99
Driver + 1 other hospital staff	3.9%	4

Totals: 103

You have indicated you travel to work by car, for which reasons do you not use other modes? (Please tick all that apply)

Value	Percent	Responses
Driving is more convenient and comfortable	56.3%	58
Lack of convenient alternatives	66.0%	68
Insufficient services when I am normally rostered to work	35.9%	37
No direct route (e.g. need to change buses)	27.2%	28
Takes longer by other modes	47.6%	49
Need to travel to multiple destinations between home and work (e.g. shopping, pick-up & drop-off kids etc.)	43.7%	45
Other (Please specify)	1.0%	1

Other (Please specify)	Count
Would cycle but the roads are crappy and dangerous for a bike rider, especially after dark	1
Totals	1

Would you be interested in car sharing/car pooling with a colleague?

Value	Percent	Responses
Yes	26.3%	26
No	73.7%	73

Totals: 99

Would you be interested in cycling to work?

Value	Percent	Responses
Yes	11.4%	12
No	88.6%	93

Totals: 105

Which measures would encourage you to walk or ride a bicycle? If you already walk or ride a bicycle - what measures would you like to see more?

Value	Percent	Responses
Lower speed roads	2.8%	3
Secured bike storage	17.9%	19
Safe place to store my helmet	2.8%	3
Safe place to store my scooter / skateboard / rollerblades	2.8%	3
Better lighting	9.4%	10
More shade	2.8%	3
More crossings and footpaths	11.3%	12
More weather protection (e.g. covered walkways)	8.5%	9
Back-up options in case of inclement weather (e.g. bus, train or car for rainy days, or days when the weather changes)	13.2%	14
Shower / change rooms at Hospital	20.8%	22
Better availability of information	1.9%	2
Bicycle group so I can ride with others	3.8%	4
Walking group so I can walk with others	2.8%	3
Loan / discount to buy a bicycle / helmet	2.8%	3
Other (please specify)	17.9%	19
No measure would encourage me to walk or ride a bicycle	55.7%	59

Which measures would encourage you to use public transport? If you already use public transport, what would you like to see more? (please tick all that apply)

Value	Percent	Responses
Cheaper public transport	8.5%	9
More frequent public transport	38.7%	41
Bus route to my neighbourhood	38.7%	41
Improved waiting area at hospital (shade / weather protection)	12.3%	13
Improved waiting area at home (shade / weather protection)	8.5%	9
Better connections to other transport (train or bus)	17.9%	19
Public transport group so I can travel with others	1.9%	2
Information about public transport	8.5%	9
Dedicated hospital shuttle bus routes	22.6%	24
More Opal top-up facilities	4.7%	5
Other (please specify)	2.8%	3
No measure would encourage me to use public transport	46.2%	49

Other (please specify)	Count
have a national COVID zero policy instead of letting it rip and do nothing and live with virus and let people die and let covid spread in public transport.	1
none, I live too close	1
this is a rural area - people live a long way from work - it would not be possible/financially viable for public transport options to be set up	1
Totals	3

Which measures would encourage you to carpool?

Value	Percent	Responses
I already participate in carpool	3.8%	4
Help finding someone to carpool with	20.8%	22
Reduced parking cost	7.5%	8
Know the driver personnalyy	24.5%	26
Free parking	30.2%	32
Sharing driving responsibility	12.3%	13
Certainty in finding a car space (i.e. dedicated car space for carpoolers)	17.0%	18
Secure parking	11.3%	12
A ride home if I need to assist with a sick child / personal responsibilities	31.1%	33
Other (please specify)	26.4%	28
N/A - I have no need to travel by car	5.7%	6

Other (please specify)	Count
none	2
Can't because of kids	1
Car pooling is not suitable for me	1
Dont want to carpool	1
I DONT WANT TO CAR POOL	1
I do varied shift hrs that others don't do	1
I dont want to car pool	1
I need my care during the day, so nothing would encourage this	1
Totals	28

This report is filtered
Only show: #1 Question "What is the purpose of your visit today?" is one of the following answers ("Outpatient (e.g. Clinic, ED, X-ray etc.)")

Report for Shoalhaven Hospital Patient/Visitor Travel Survey

Response Counts

Completion Rate:	**100%**		
	Complete		53

Totals: 53

What was your principal mode of transport today?

Value	Percent	Responses
Private car (includes being dropped off)	92.5%	49
Motorbike	1.9%	1
Walk	1.9%	1
Other (Please specify)	3.8%	2

Totals: 53

Bus only - please specify bus route number	Count
Totals	0

Other (Please specify)	Count
Community transport	1
Community transport	1
Totals	2

You indicated you travelled by car, how many people were in the car (including the driver)?

Value	Percent	Responses
Driver alone	51.0%	25
2 People	42.9%	21
3 People	4.1%	2
More than 3 people	2.0%	1

Totals: 49

For what reasons did you travel to Hospital by car and not use other modes? (Please tick all that apply)

Value	Percent	Responses
Driving is more convenient and comfortable	71.4%	35
Lack of convenient alternatives	46.9%	23
Insufficient services to meet appropriate time	10.2%	5
No direct route (e.g. need to change buses)	18.4%	9
Take longer by other modes	12.2%	6
Multiple destinations between home and hospital (e.g. shopping, pick-up & drop-off others etc.)	10.2%	5
Other (Please specify)	4.1%	2

Other (Please specify)	Count
Cost	1
Weather	1
Totals	2

This report is filtered
Only show: #1 Question "What is the purpose of your visit today?" is one of the following answers ("Visitor")

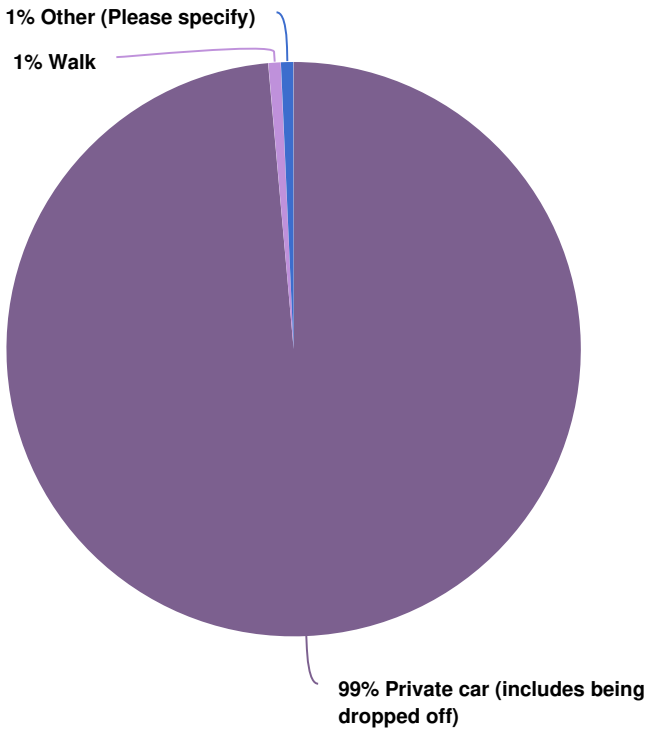
Report for Shoalhaven Hospital Patient/Visitor Travel Survey

Response Counts

Completion Rate:	**100%**		
	Complete		142

Totals: 142

2. What was your principal mode of transport today?



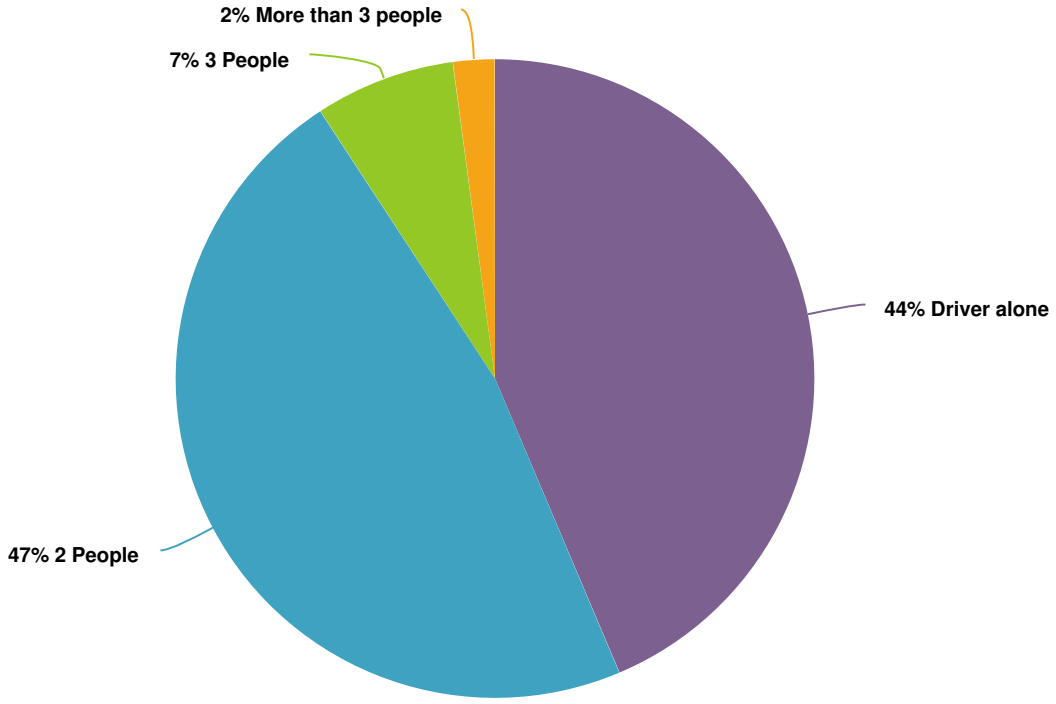
Value	Percent	Responses
Private car (includes being dropped off)	98.6%	140
Walk	0.7%	1
Other (Please specify)	0.7%	1

Totals: 142

Bus only - please specify bus route number	Count
Totals	0

Other (Please specify)	Count
Totals	0

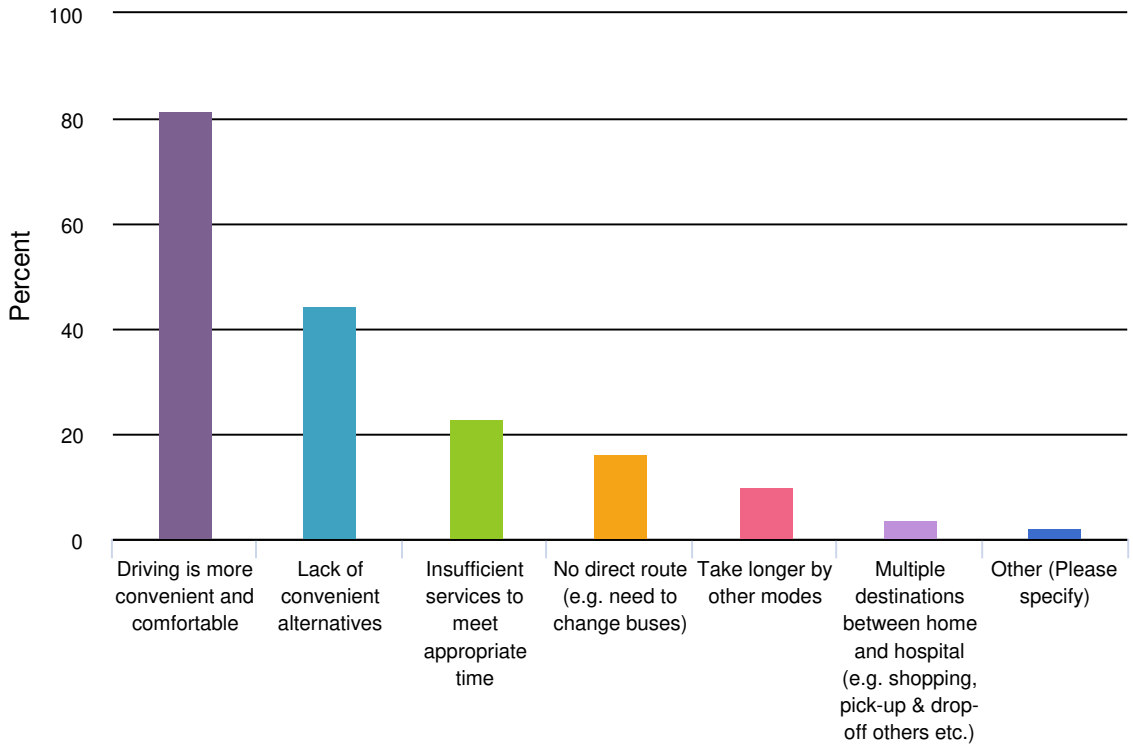
3. You indicated you travelled by car, how many people were in the car (including the driver)?



Value	Percent	Responses
Driver alone	43.6%	61
2 People	47.1%	66
3 People	7.1%	10
More than 3 people	2.1%	3

Totals: 140

6. For what reasons did you travel to Hospital by car and not use other modes? (Please tick all that apply)



Value	Percent	Responses
Driving is more convenient and comfortable	81.4%	114
Lack of convenient alternatives	44.3%	62
Insufficient services to meet appropriate time	22.9%	32
No direct route (e.g. need to change buses)	16.4%	23
Take longer by other modes	10.0%	14
Multiple destinations between home and hospital (e.g. shopping, pick-up & drop-off others etc.)	3.6%	5
Other (Please specify)	2.1%	3

Other (Please specify)	Count
Raining	1
Totals	1

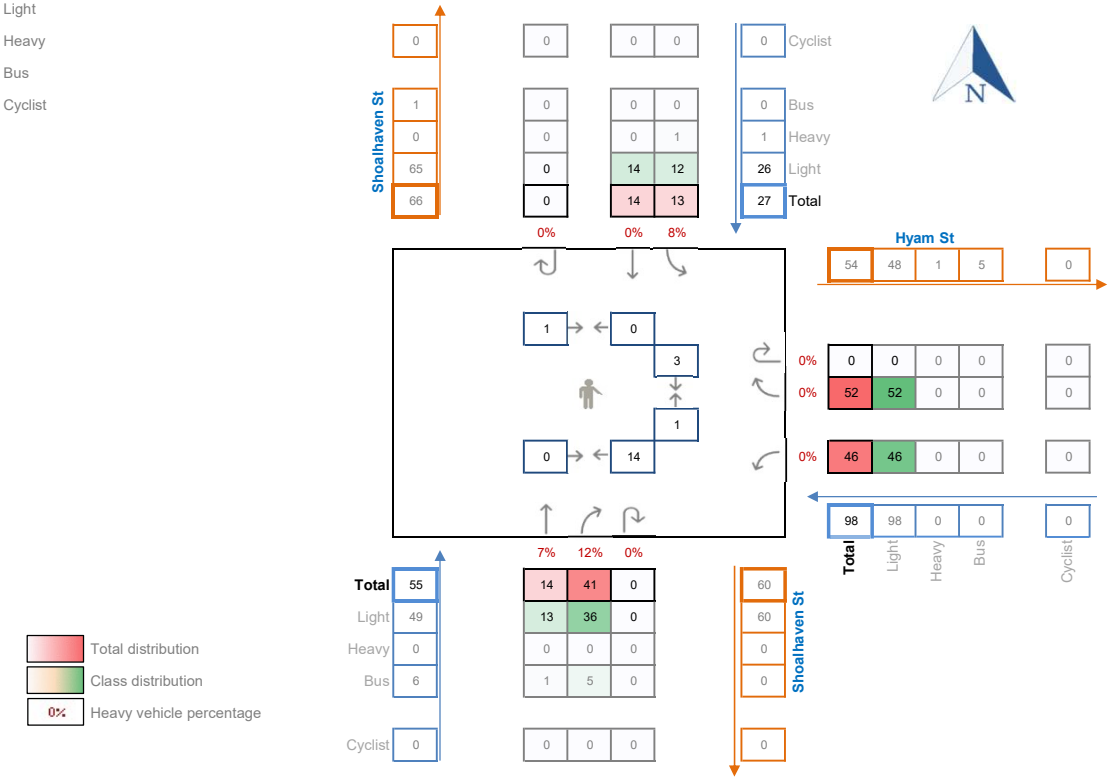
Appendix C

2022 Traffic Volumes

Location: Hyam St & Shoalhaven St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 08:00 to 09:00
Notes: 0

AM Peak: 07:45-08:45
PM Peak: 15:45-16:45

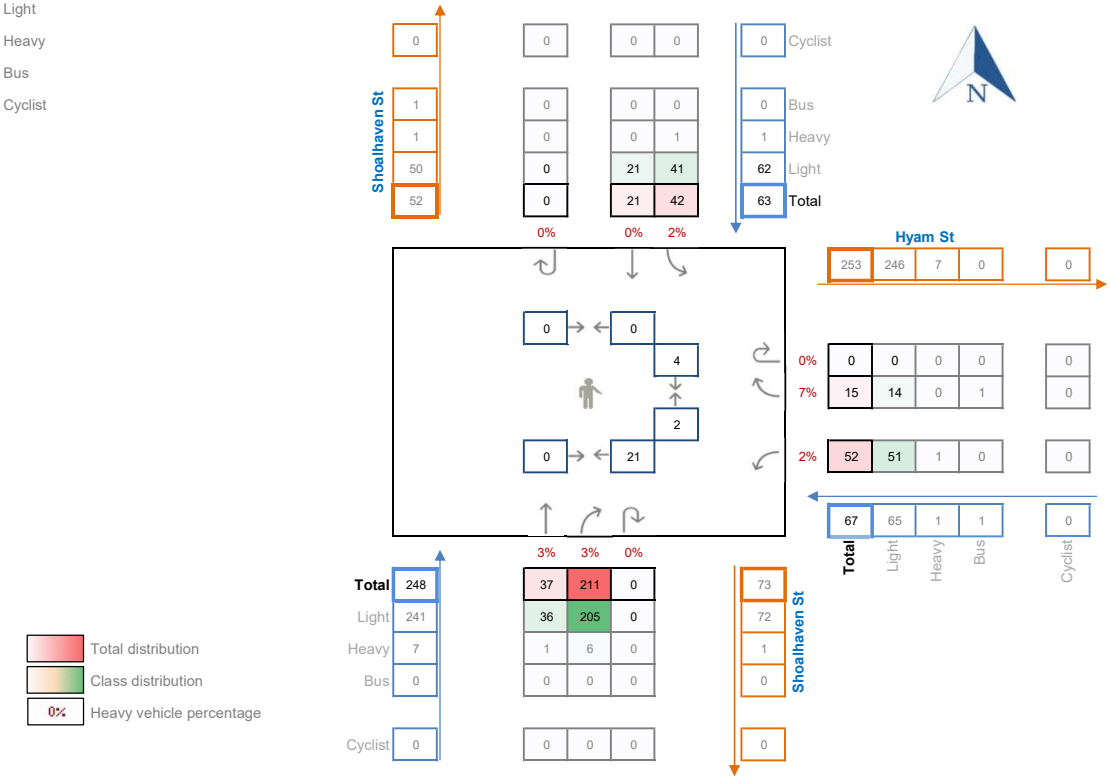
Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: Hyam St & Shoalhaven St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 15:45 to 16:45
Notes: 0

AM Peak: 07:45-08:45
PM Peak: 15:45-16:45

Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist

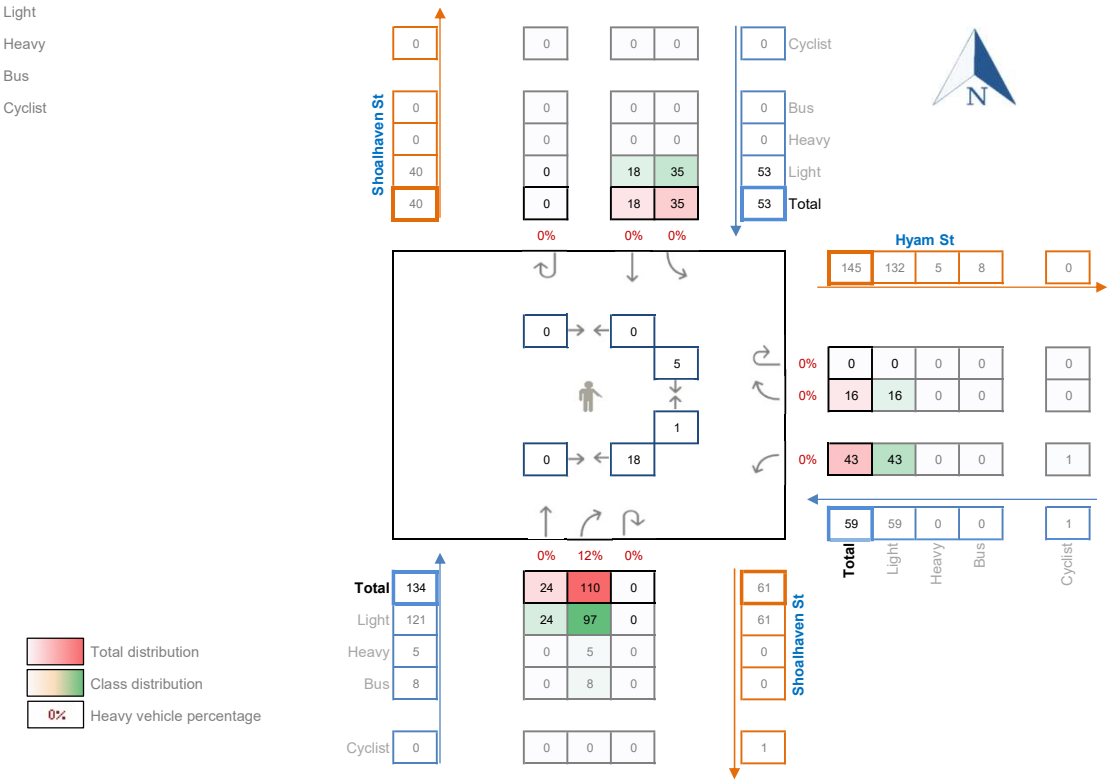


Total distribution
Class distribution
0% Heavy vehicle percentage

Location: Hyam St & Shoalhaven St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 15:00 to 16:00
Notes: 0

AM Peak: 07:45-08:45
PM Peak: 15:45-16:45

Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist

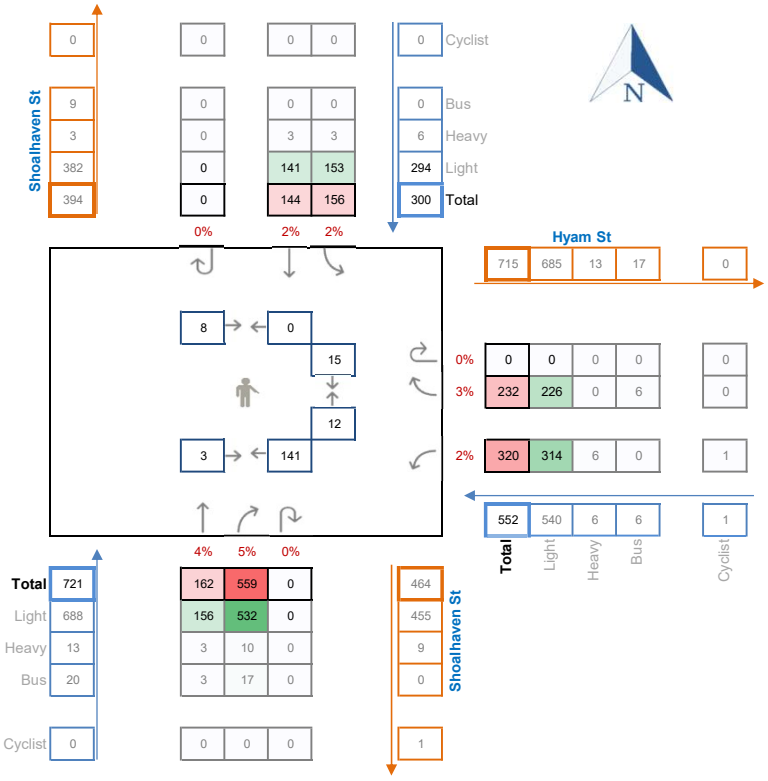


Total distribution
Class distribution
0% Heavy vehicle percentage

Location: Hyam St & Shoalhaven St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: Full Duration to 18:00
Notes: 0

AM Peak: 07:45-08:45
PM Peak: 15:45-16:45

Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist

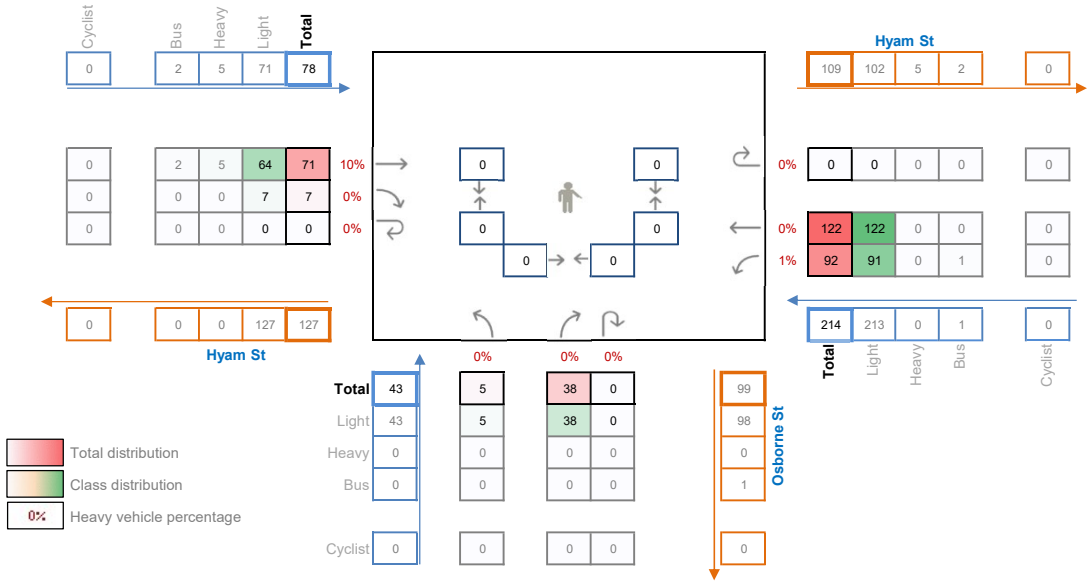


Total distribution
Class distribution
0% Heavy vehicle percentage

Location: Hyam St & Osborne St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 08:00 to 09:00
Notes: 0

AM Peak: 07:45-08:45
PM Peak: 16:00-17:00

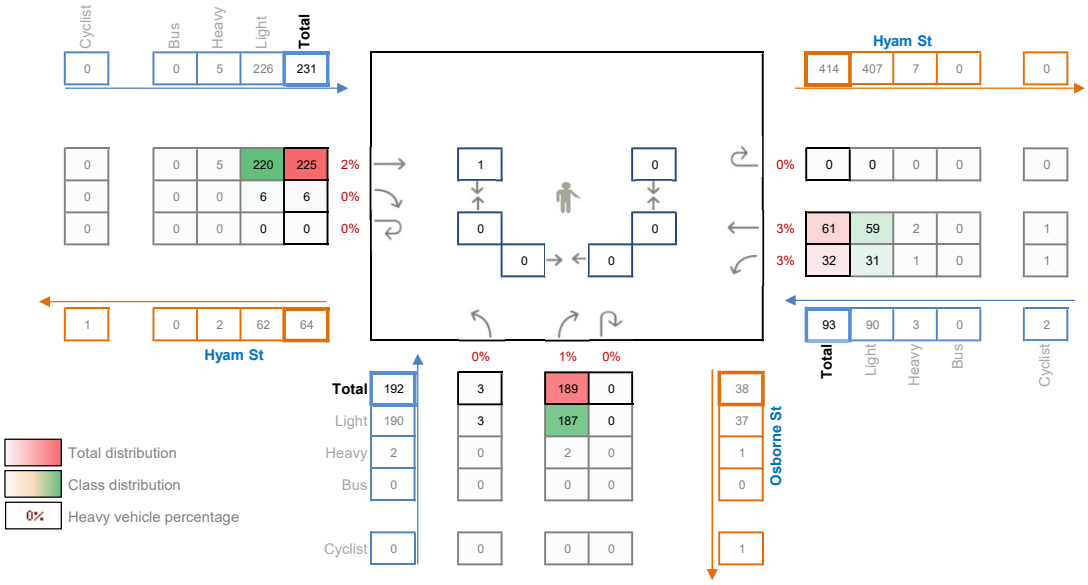
Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: Hyam St & Osborne St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 15:45 to 16:45
Notes: 0

AM Peak: 07:45-08:45
PM Peak: 16:00-17:00

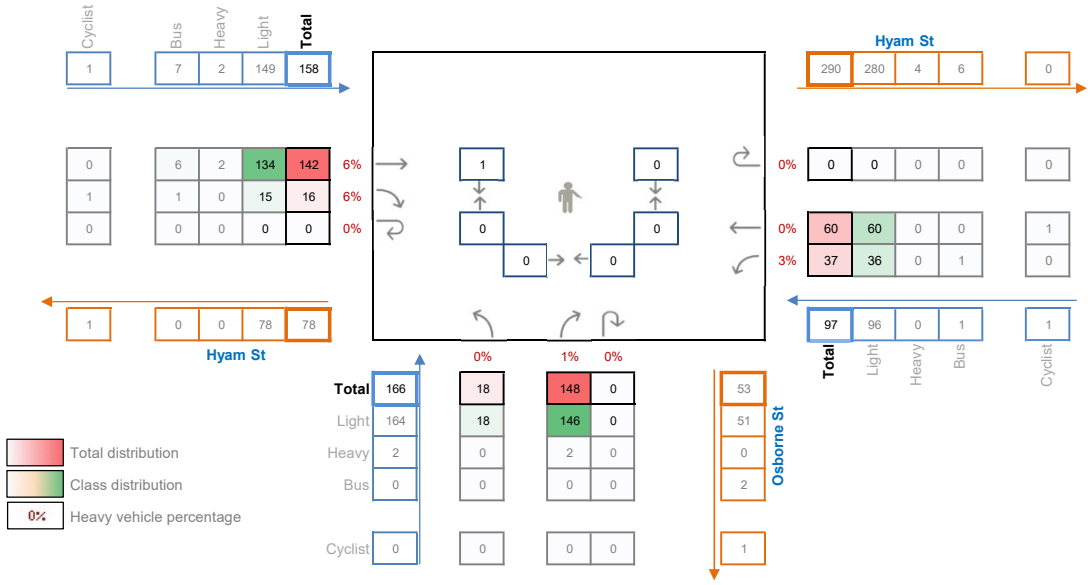
Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: Hyam St & Osborne St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 15:00 to 16:00
Notes: 0

AM Peak: 07:45-08:45
PM Peak: 16:00-17:00

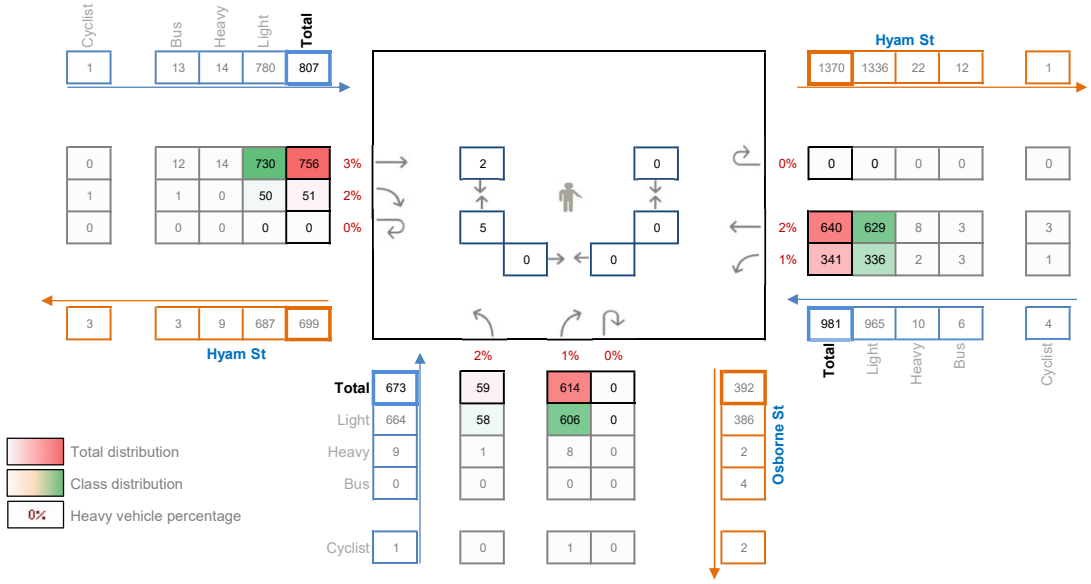
Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: Hyam St & Osborne St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: Full Duration to 18:00
Notes: 0

AM Peak: 07:45-08:45
PM Peak: 16:00-17:00

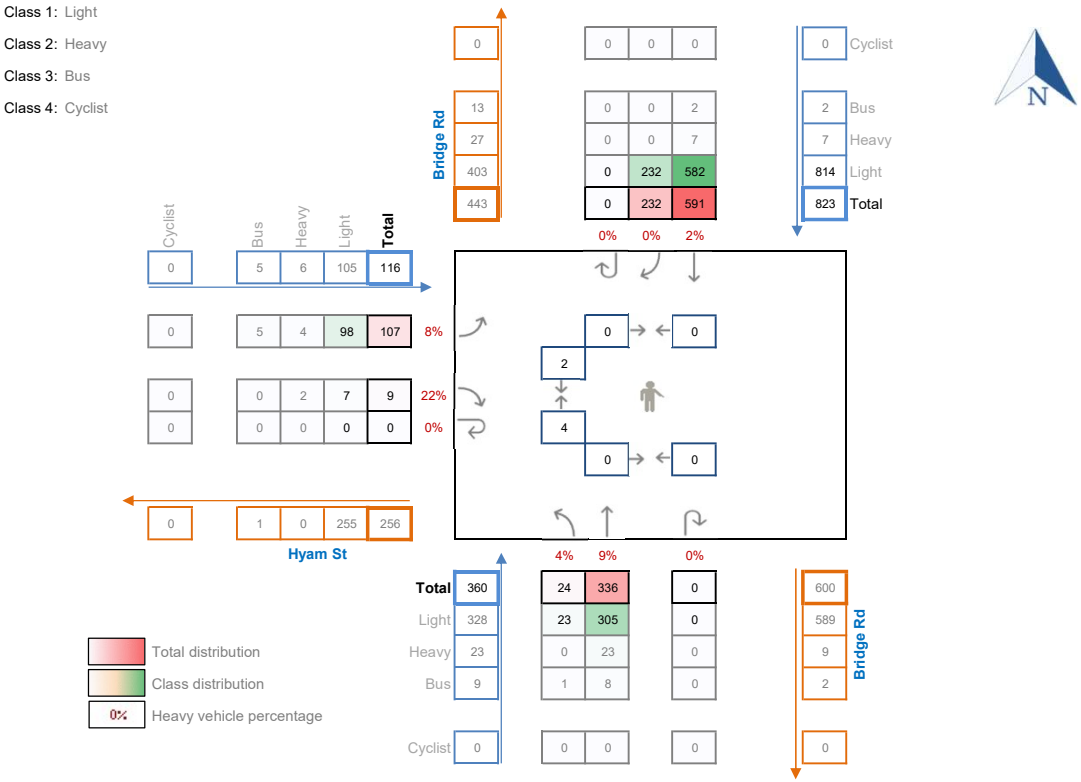
Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: Hyam St & Bridge Rd
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 08:00 to 09:00
Notes: 0

AM Peak: 08:00-09:00
PM Peak: 16:00-17:00

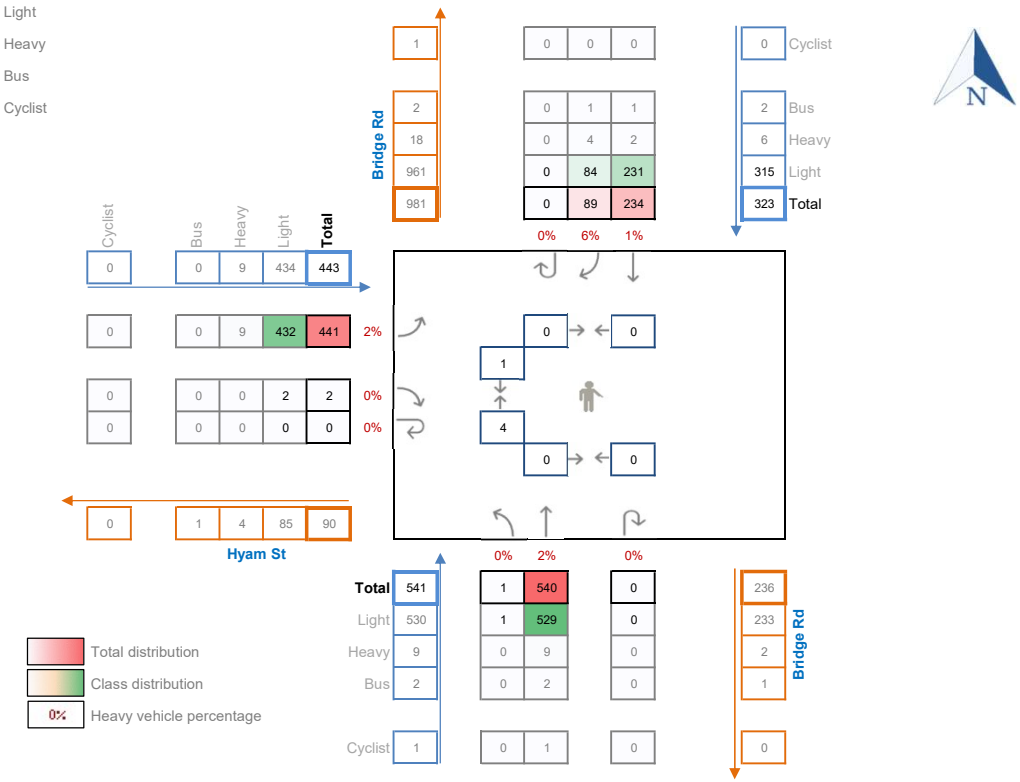
Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: Hyam St & Bridge Rd
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 15:45 to 16:45
Notes: 0

AM Peak: 08:00-09:00
PM Peak: 16:00-17:00

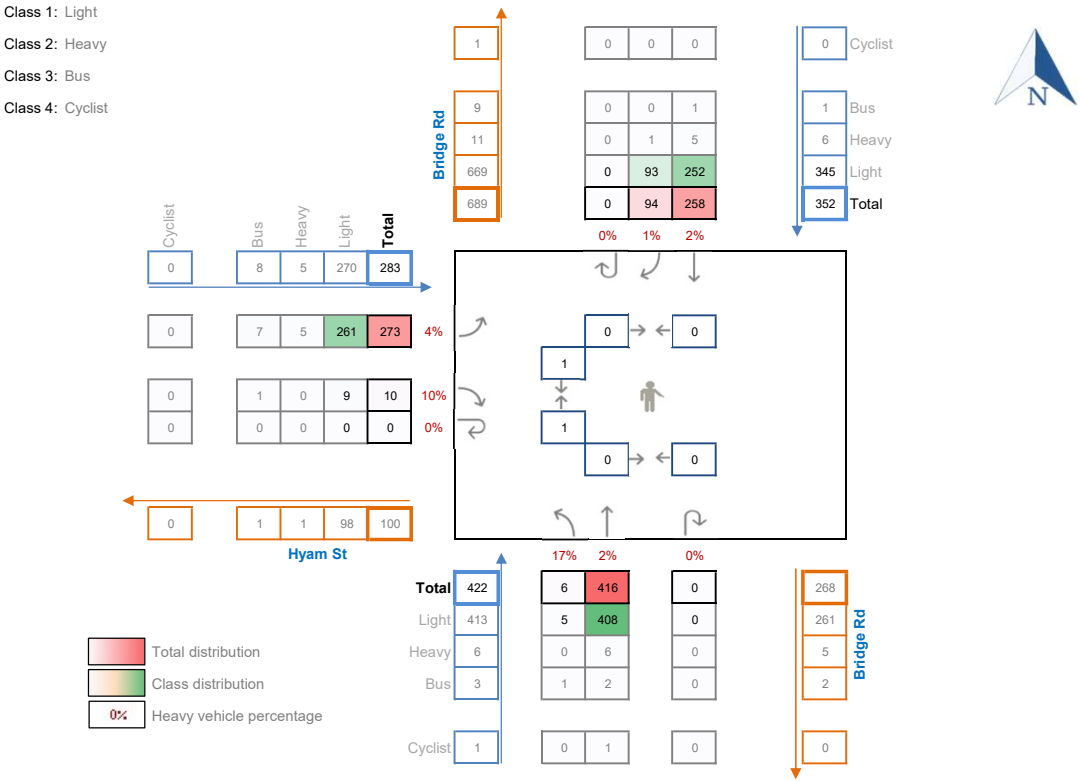
Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: Hyam St & Bridge Rd
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 15:00 to 16:00
Notes: 0

AM Peak: 08:00-09:00
PM Peak: 16:00-17:00

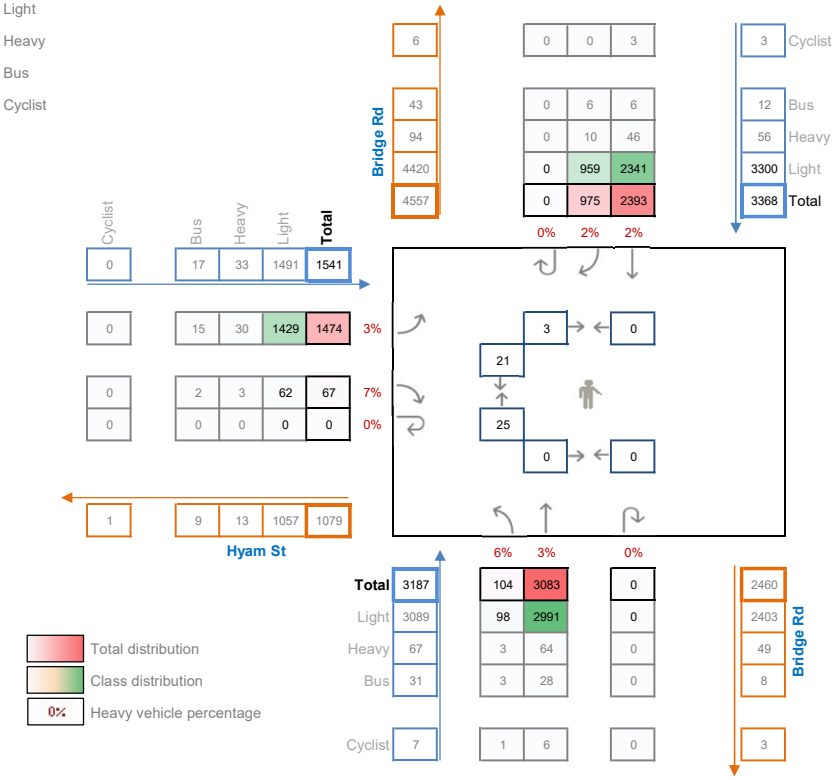
Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: Hyam St & Bridge Rd
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: Full Duration **to** 18:00
Notes: 0

AM Peak: 08:00-09:00
PM Peak: 16:00-17:00

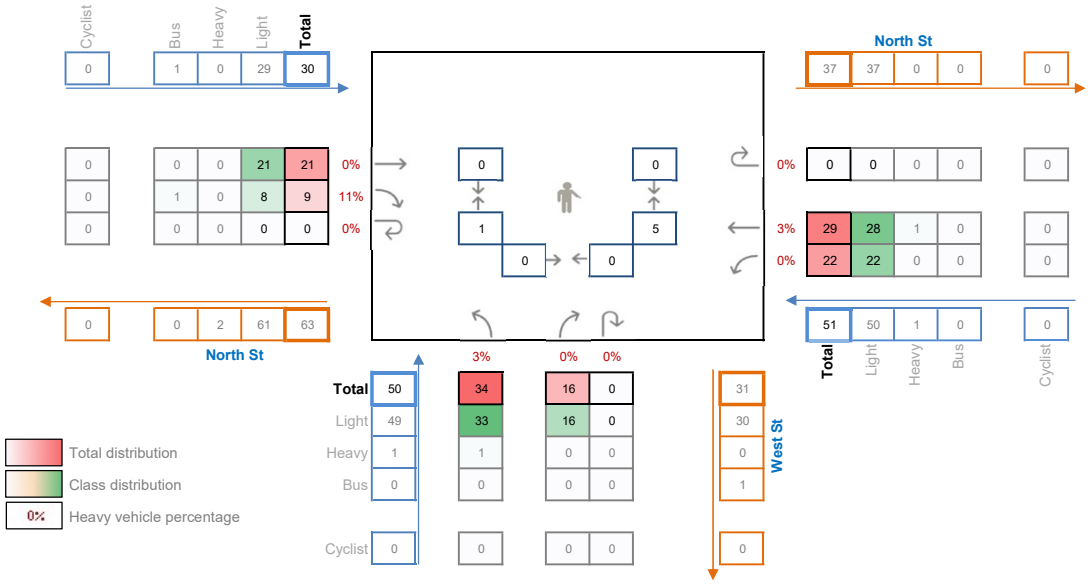
Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: North St & West St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 08:00 to 09:00
Notes: 0

AM Peak: 09:00-10:00
PM Peak: 15:00-16:00

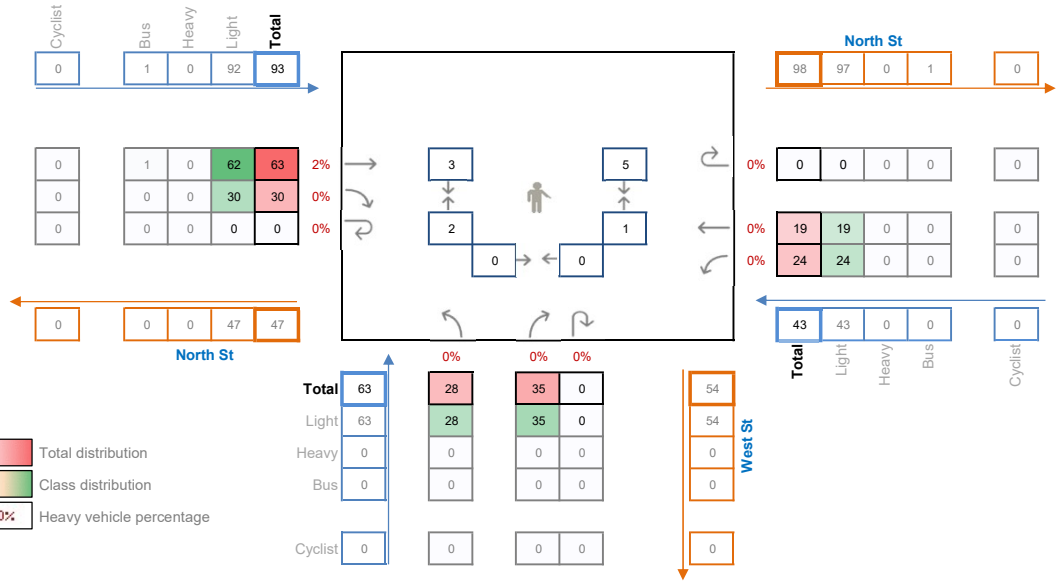
Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: North St & West St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 15:45 to 16:45
Notes: 0

AM Peak: 09:00-10:00
PM Peak: 15:00-16:00

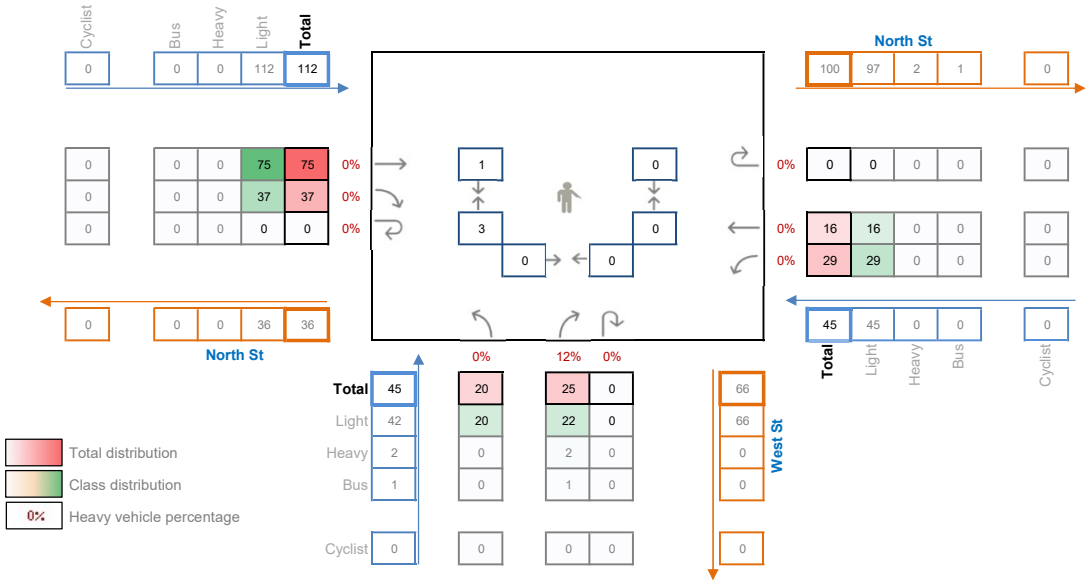
Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: North St & West St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 15:00 to 16:00
Notes: 0

AM Peak: 09:00-10:00
PM Peak: 15:00-16:00

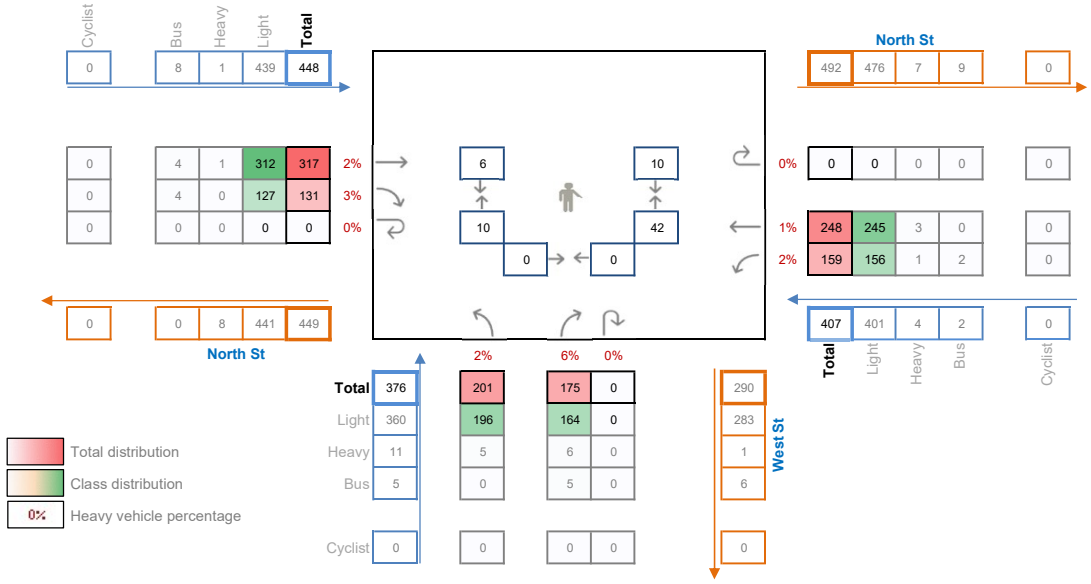
Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: North St & West St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: Full Duration to 18:00
Notes: 0

AM Peak: 09:00-10:00
PM Peak: 15:00-16:00

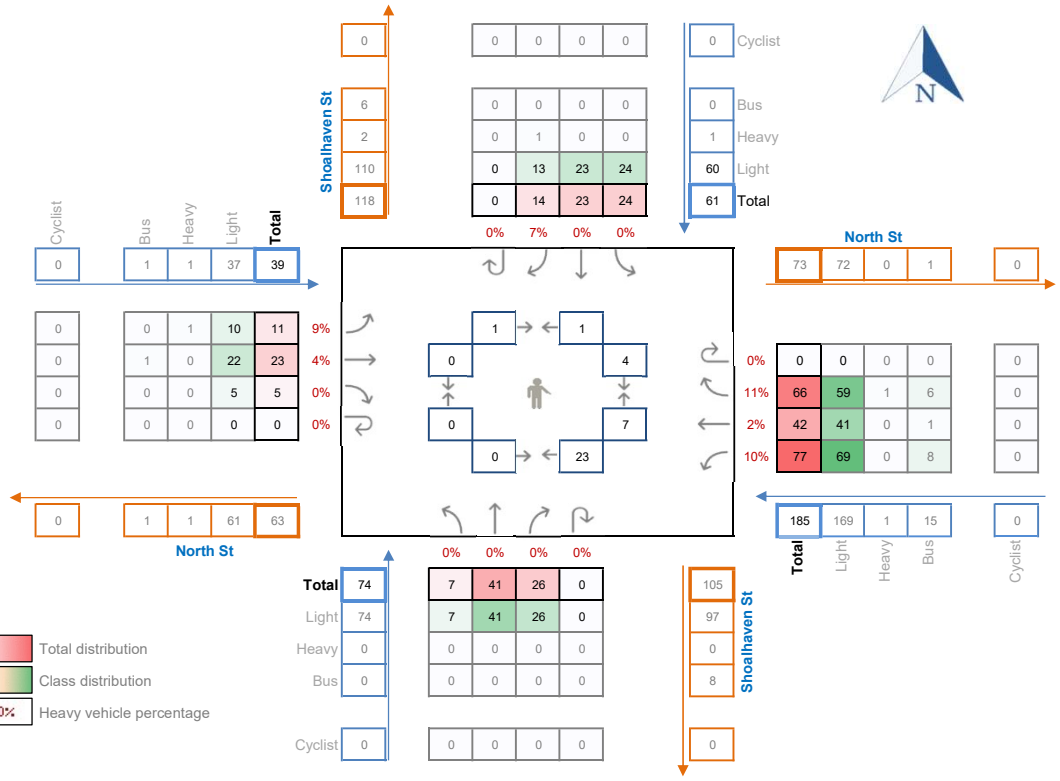
Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: North St & Shoalhaven St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 08:00 to 09:00
Notes: 0

AM Peak: 07:45-08:45
PM Peak: 15:45-16:45

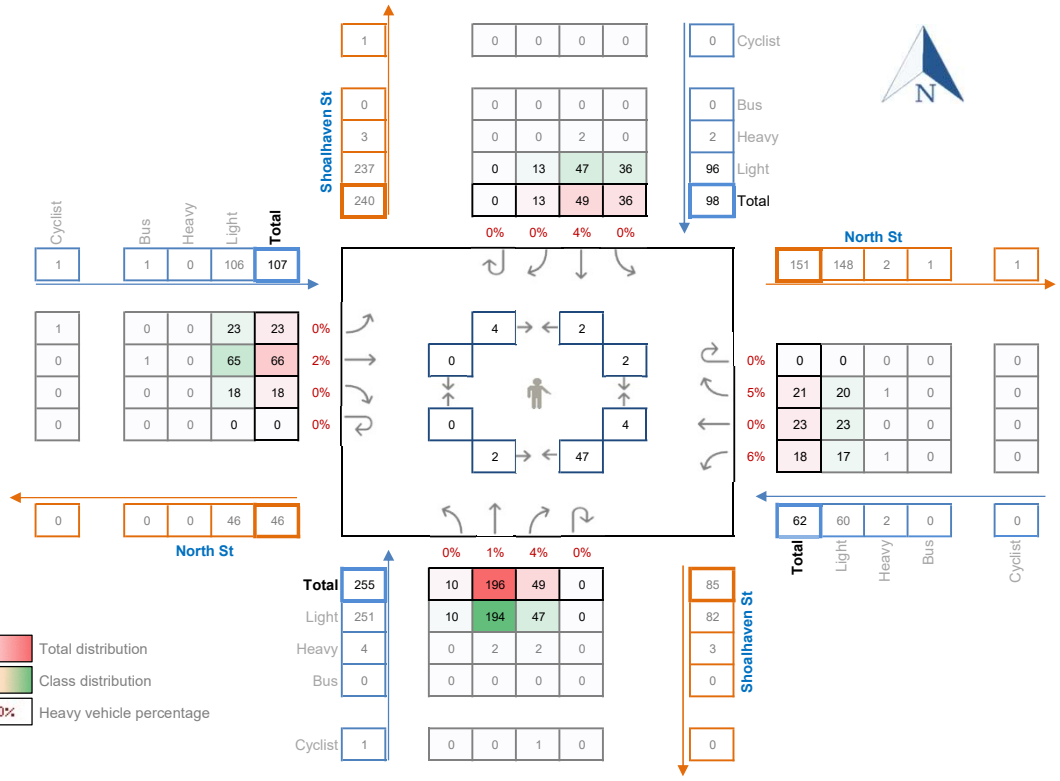
Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: North St & Shoalhaven St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 15:45 to 16:45
Notes: 0

AM Peak: 07:45-08:45
PM Peak: 15:45-16:45

Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: North St & Shoalhaven St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 15:00 to 16:00
Notes: 0

AM Peak: 07:45-08:45
PM Peak: 15:45-16:45

Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist

Location: North St & Shoalhaven St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: Full Duration to 18:00
Notes: 0

AM Peak: 07:45-08:45
PM Peak: 15:45-16:45

Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist

Location: North St & Osborne St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 08:00 to 09:00
Notes: 0

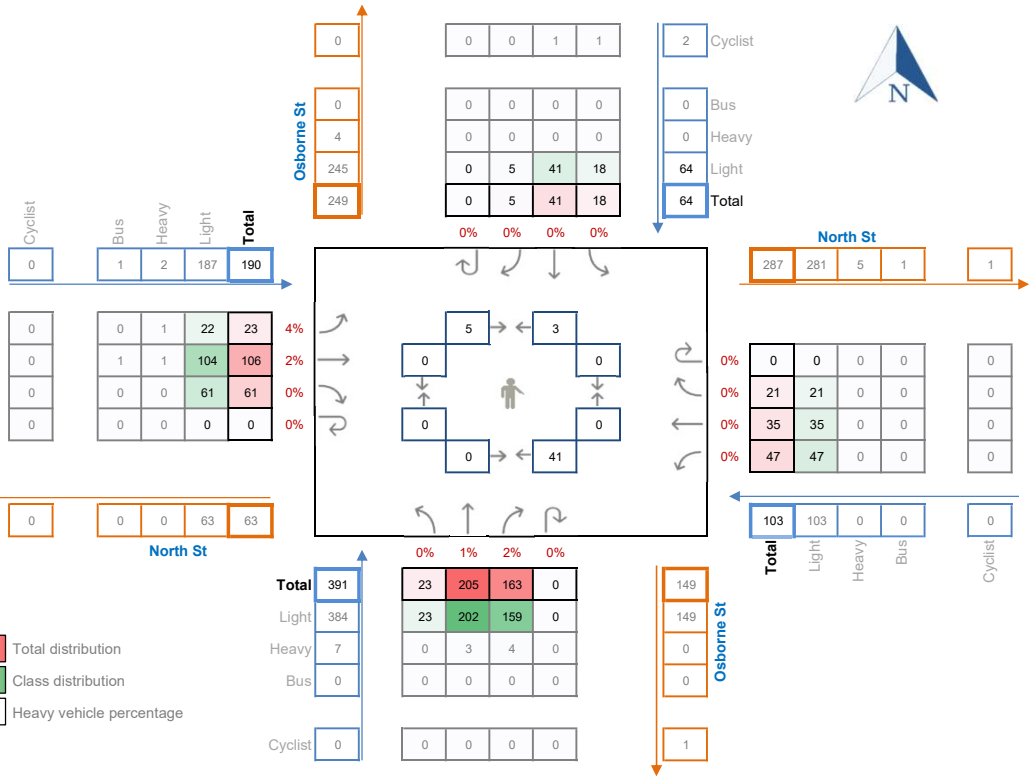
AM Peak: 08:00-09:00
PM Peak: 15:30-16:30

Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist

Location: North St & Osborne St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 15:45 to 16:45
Notes: 0

AM Peak: 08:00-09:00
PM Peak: 15:30-16:30

Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist



Location: North St & Osborne St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 15:00 to 16:00
Notes: 0

AM Peak: 08:00-09:00
PM Peak: 15:30-16:30

Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist

Total distribution
Class distribution
0% Heavy vehicle percentage

Location: North St & Osborne St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: Full Duration to 18:00
Notes: 0

AM Peak: 08:00-09:00
PM Peak: 15:30-16:30

Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist

Total distribution
Class distribution
0% Heavy vehicle percentage

Location: North St & Bridge Rd
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 08:00 to 09:00
Notes: West approach left turns include vehicles using the slip lane (In front of the TAB)

AM Peak: 08:15-09:15
PM Peak: 14:30-15:30

Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist

Location: North St & Bridge Rd
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 15:45 to 16:45
Notes: West approach left turns include vehicles using the slip lane (In front of the TAB)

AM Peak: 08:15-09:15
PM Peak: 14:30-15:30

Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist

Location: North St & Bridge Rd
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: 15:00 to 16:00
Notes: West approach left turns include vehicles using the slip lane (In front of the TAB)

AM Peak: 08:15-09:15
PM Peak: 14:30-15:30

Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist

Location: North St & Osborne St
Date: Thursday, 26 May 2022
Survey Duration: 0600-1000 & 1400-1800
Survey Period: Full Duration to 18:00
Notes: 0

AM Peak: 08:00-09:00
PM Peak: 15:30-16:30

Class 1: Light
Class 2: Heavy
Class 3: Bus
Class 4: Cyclist

Total distribution
Class distribution
0% Heavy vehicle percentage

2026 Projected Traffic Volumes

Hyam Street & Shoalhaven Street

AM Peak — ***PM Peak (3:45pm - 4:45pm)*** — ***PM Peak (3:00pm - 4:00pm)***

Shoalhaven Street (north approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
18	1	0	0	23	0	0	0	-	-	-	-	0	0	0	0	49	1	0	0	25	0	0	0	-	-	-	-	0	0	0	0	43	0	0	0	21	0	0	0	-	-	-	-	0	0	0	0

Shoalhaven Street (south approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
-	-	-	-	26	0	1	0	40	0	5	0	0	0	0	0	-	-	-	-	41	1	0	0	224	6	0	0	0	0	0	0	-	-	-	-	28	0	0	0	107	5	9	0	0	0	0	0

Hyam Street (east approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
53	0	0	0	-	-	-	-	67	0	0	0	0	0	0	0	55	1	0	0	-	-	-	-	15	0	1	0	0	0	0	0	47	0	0	1	-	-	-	-	17	0	0	0	0	0	0	0

Hyam Street & Osbourne Street

AM Peak — ***PM Peak (3:45pm - 4:45pm)*** — ***PM Peak (3:00pm - 4:00pm)***

Osbourne Street (south approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
5	0	0	0	-	-	-	-	41	0	0	0	0	0	0	0	3	0	0	0	-	-	-	-	202	2	0	0	0	0	0	0	19	0	0	0	-	-	-	-	158	2	0	0	0	0	0	0

Hyam Street (east approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
99	0	1	0	146	0	0	0	-	-	-	-	0	0	0	0	34	1	0	1	71	2	0	1	-	-	-	-	0	0	0	0	39	0	1	0	72	0	0	1	-	-	-	-	0	0	0	0

Hyam Street (west approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
-	-	-	-	75	5	2	0	8	0	0	0	0	0	0	0	-	-	-	-	243	5	0	0	6	0	0	0	0	0	0	0	-	-	-	-	150	2	6	0	16	0	1	1	0	0	0	0

Hyam Street & Bridge Road

AM Peak — ***PM Peak (3:45pm - 4:45pm)*** — ***PM Peak (3:00pm - 4:00pm)***

Bridge Road (north approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
-	-	-	-	630	8	2	0	265	0	0	0	0	0	0	0	-	-	-	-	250	2	1	0	98	4	1	0	0	0	0	0	-	-	-	-	273	5	1	0	108	1	0	0	0	0	0	0

Bridge Road (south approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
25	0	1	0	330	25	9	0	-	-	-	-	0	0	0	0	1	0	0	0	573	10	2	1	-	-	-	-	0	0	0	0	5	0	1	0	442	6	2	1	-	-	-	-	0	0	0	0

Hyam Street (west approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
112	4	5	0	-	-	-	-	8	2	0	0	0	0	0	0	475	10	0	0	-	-	-	-	2	0	0	0	0	0	0	0	290	5	8	0	-	-	-	-	10	0	1	0	0	0	0	0

North Street & West Street

AM Peak — ***PM Peak (3:45pm - 4:45pm)*** — ***PM Peak (3:00pm - 4:00pm)***

West Street (south approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
42	1	0	0	-	-	-	-	23	0	0	0	0	0	0	0	33	0	0	0	-	-	-	-	39	0	0	0	0	0	0	0	25	0	0	0	-	-	-	-	25	2	1	0	0	0	0	0

North Street (east approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
26	0	0	0	52	1	0	0	-	-	-	-	0	0	0	0	27	0	0	0	29	0	0	0	-	-	-	-	0	0	0	0	32	0	0	0	25	0	0	0	-	-	-	-	0	0	0	0

North Street (west approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
-	-	-	-	33	0	0	0	11	0	1	0	0	0	0	0	-	-	-	-	75	0	1	0	35	0	0	0	0	0	0	0	-	-	-	-	89	0	0	0	43	0	0	0	0	0	0	0

North Street & Shoalhaven Street

AM Peak | ***PM Peak (3:45pm - 4:45pm)*** | ***PM Peak (3:00pm - 4:00pm)***

Shoalhaven Street (north approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
27	0	0	0	27	0	0	0	21	1	0	0	0	0	0	0	40	0	0	0	52	2	0	0	16	0	0	0	0	0	0	0	43	0	0	0	61	0	0	0	14	0	0	0	0	0	0	0

Shoalhaven Street (south approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
11	0	0	0	50	0	0	0	28	0	0	0	0	0	0	0	13	0	0	0	211	2	0	0	51	2	0	1	0	0	0	0	11	0	0	0	88	1	1	0	35	1	0	1	0	0	0	0

North Street (east approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
75	0	9	0	61	0	1	0	67	1	6	0	0	0	0	0	18	1	0	0	30	0	0	0	23	1	0	0	0	0	0	0	39	2	6	0	34	0	0	0	41	1	8	0	0	0	0	0

North Street (west approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
16	1	0	0	31	0	1	0	6	0	0	0	0	0	0	0	27	0	0	1	75	0	1	0	21	0	0	0	0	0	0	0	17	0	0	2	85	1	0	0	24	0	2	2	0	0	0	0

North Street & Osborne Street

AM Peak | ***PM Peak (3:45pm - 4:45pm)*** | ***PM Peak (3:00pm - 4:00pm)***

Osbourne Street (north approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
28	1	0	1	70	0	1	0	5	0	0	0	0	0	0	0	19	0	0	1	44	0	0	1	5	0	0	0	0	0	0	0	40	0	0	0	55	0	1	0	2	0	1	0	0	0	0	0

Osbourne Street (south approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
92	0	2	0	38	0	1	0	38	0	6	0	0	0	0	0	27	0	0	0	219	3	0	0	172	4	0	0	0	0	0	0	32	0	8	0	163	2	1	0	77	2	0	0	0	0	0	0

North Street (east approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
65	1	0	0	196	0	10	0	17	0	0	0	0	0	0	0	51	0	0	0	42	0	0	0	23	0	0	0	0	0	0	0	56	1	0	0	70	0	2	0	36	0	0	0	0	0	0	0

North Street (west approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
6	0	0	0	138	0	1	0	39	0	0	0	0	0	0	0	24	1	0	0	117	1	1	0	68	0	0	0	0	0	0	0	21	1	0	0	200	1	0	0	67	0	0	0	0	0	0	0

North Street & Bridge Road

AM Peak | ***PM Peak (3:45pm - 4:45pm)*** | ***PM Peak (3:00pm - 4:00pm)***

Bridge Road (north approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
79	3	1	0	318	3	0	0	123	1	1	0	0	0	0	0	61	0	0	0	180	2	0	0	36	0	1	0	0	0	0	0	78	0	1	0	176	1	1	0	36	1	1	0	0	0	0	0

Berry Street (south approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
56	2	2	0	145	0	5	0	0	0	0	0	0	0	0	0	190	0	0	1	109	0	1	0	1	0	0	0	0	0	0	0	117	4	0	0	192	0	0	0	1	0	0	0	0	0	0	0

North Street (east approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
70	1	0	0	220	3	8	0	131	9	1	0	0	0	0	0	41	0	0	0	32	1	0	0	124	0	0	0	0	0	0	0	80	0	1	0	78	1	0	0	124	3	0	0	0	0	0	0

North Street (west approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
26	1	1	0	210	6	6	0	70	2	0	3	0	0	0	0	3	0	0	0	146	1	1	0	51	0	0	0	0	0	0	0	9	1	2	0	178	1	0	0	75	0	0	0	0	0	0	0

2031 Projected Traffic Volumes

Hyam Street & Shoalhaven Street

AM Peak — ***PM Peak (3:45pm - 4:45pm)*** — ***PM Peak (3:00pm - 4:00pm)***

Shoalhaven Street (north approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
30	1	0	0	42	0	0	0	-	-	-	-	0	0	0	0	77	1	0	0	36	0	0	0	-	-	-	-	0	0	0	0	70	0	0	0	33	0	0	0	-	-	-	-	0	0	0	0

Shoalhaven Street (south approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
-	-	-	-	56	0	1	0	47	0	6	0	0	0	0	0	-	-	-	-	54	1	0	0	256	7	0	0	0	0	0	0	-	-	-	-	40	0	0	0	127	6	10	0	0	0	0	0

Hyam Street (east approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
64	0	0	0	-	-	-	-	98	0	0	0	0	0	0	0	61	1	0	0	-	-	-	-	17	0	1	0	0	0	0	0	51	0	0	1	-	-	-	-	19	0	0	0	0	0	0	0

Hyam Street & Osbourne Street

AM Peak — ***PM Peak (3:45pm - 4:45pm)*** — ***PM Peak (3:00pm - 4:00pm)***

Osbourne Street (south approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
6	0	0	0	-	-	-	-	45	0	0	0	0	0	0	0	4	0	0	0	-	-	-	-	223	2	0	0	0	0	0	0	22	0	0	0	-	-	-	-	174	2	0	0	0	0	0	0

Hyam Street (east approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
109	0	1	0	191	0	0	0	-	-	-	-	0	0	0	0	37	1	0	1	111	2	0	1	-	-	-	-	0	0	0	0	43	0	1	0	112	0	0	1	-	-	-	-	0	0	0	0

Hyam Street (west approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
-	-	-	-	96	6	2	0	8	0	0	0	0	0	0	0	-	-	-	-	291	6	0	0	7	0	0	0	0	0	0	0	-	-	-	-	188	2	7	0	18	0	1	1	0	0	0	0

Hyam Street & Bridge Road

AM Peak — ***PM Peak (3:45pm - 4:45pm)*** — ***PM Peak (3:00pm - 4:00pm)***

Bridge Road (north approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
-	-	-	-	696	8	2	0	322	0	0	0	0	0	0	0	-	-	-	-	276	2	1	0	140	5	1	0	0	0	0	0	-	-	-	-	301	6	1	0	151	1	0	0	0	0	0	0

Bridge Road (south approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
27	0	1	0	365	27	10	0	-	-	-	-	0	0	0	0	1	0	0	0	632	11	2	1	-	-	-	-	0	0	0	0	6	0	1	0	488	7	2	1	-	-	-	-	0	0	0	0

Hyam Street (west approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
137	5	6	0	-	-	-	-	8	2	0	0	0	0	0	0	556	11	0	0	-	-	-	-	2	0	0	0	0	0	0	0	352	6	8	0	-	-	-	-	11	0	1	0	0	0	0	0

North Street & West Street

AM Peak — ***PM Peak (3:45pm - 4:45pm)*** — ***PM Peak (3:00pm - 4:00pm)***

West Street (south approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
57	1	0	0	-	-	-	-	37	0	0	0	0	0	0	0	50	0	0	0	-	-	-	-	48	0	0	0	0	0	0	0	41	0	0	0	-	-	-	-	32	2	1	0	0	0	0	0

North Street (east approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
34	0	0	0	105	1	0	0	-	-	-	-	0	0	0	0	35	0	0	0	68	0	0	0	-	-	-	-	0	0	0	0	41	0	0	0	64	0	0	0	-	-	-	-	0	0	0	0

North Street (west approach)

Left					Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
-	-	-	-	56	0	0	0	18	0	1	0	0	0	0	0	-	-	-	-	119	0	1	0	53	0	0	0	0	0	0	0	-	-	-	-	135	0	0	0	61	0	0	0	0	0	0	0

North Street & Shoalhaven Street

AM Peak — ***PM Peak (3:45pm - 4:45pm)*** — ***PM Peak (3:00pm - 4:00pm)***

Shoalhaven Street (north approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
33	0	0	0	35	0	0	0	38	1	0	0	0	0	0	0	49	0	0	0	62	2	0	0	27	0	0	0	0	0	0	0	53	0	0	0	72	0	0	0	24	0	0	0	0	0	0	0

Shoalhaven Street (south approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
17	0	0	0	67	0	0	0	31	0	0	0	0	0	0	0	23	0	0	0	238	2	0	0	56	2	0	1	0	0	0	0	21	0	0	0	102	1	1	0	38	1	0	1	0	0	0	0

North Street (east approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
82	0	10	0	103	0	1	0	80	1	7	0	0	0	0	0	20	1	0	0	55	0	0	0	30	1	0	0	0	0	0	0	43	2	7	0	60	0	0	0	50	1	8	0	0	0	0	0

North Street (west approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
29	1	0	0	49	0	1	0	10	0	0	0	0	0	0	0	38	0	0	1	106	0	1	0	33	0	0	0	0	0	0	0	28	0	0	2	116	1	0	0	35	0	2	2	0	0	0	0

North Street & Osborne Street

AM Peak — ***PM Peak (3:45pm - 4:45pm)*** — ***PM Peak (3:00pm - 4:00pm)***

Osbourne Street (north approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
31	1	0	1	78	0	1	0	6	0	0	0	0	0	0	0	22	0	0	1	49	0	0	1	6	0	0	0	0	0	0	0	44	0	0	0	61	0	1	0	2	0	1	0	0	0	0	0

Osbourne Street (south approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
112	0	2	0	42	0	1	0	42	0	7	0	0	0	0	0	38	0	0	0	241	4	0	0	190	5	0	0	0	0	0	0	44	0	8	0	180	2	1	0	85	2	0	0	0	0	0	0

North Street (east approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
72	1	0	0	246	0	11	0	19	0	0	0	0	0	0	0	56	0	0	0	65	0	0	0	25	0	0	0	0	0	0	0	62	1	0	0	96	0	2	0	39	0	0	0	0	0	0	0

North Street (west approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
7	0	0	0	166	0	1	0	49	0	0	0	0	0	0	0	26	1	0	0	147	1	1	0	84	0	0	0	0	0	0	0	23	1	0	0	239	1	0	0	83	0	0	0	0	0	0	0

North Street & Bridge Road

AM Peak — ***PM Peak (3:45pm - 4:45pm)*** — ***PM Peak (3:00pm - 4:00pm)***

Bridge Road (north approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
87	4	1	0	351	4	0	0	136	1	1	0	0	0	0	0	67	0	0	0	198	2	0	0	39	0	1	0	0	0	0	0	86	0	1	0	195	1	1	0	39	1	1	0	0	0	0	0

Berry Street (south approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
68	2	2	0	160	0	6	0	0	0	0	0	0	0	0	0	215	0	0	1	121	0	1	0	1	0	0	0	0	0	0	0	134	5	0	0	212	0	0	0	1	0	0	0	0	0	0	0

North Street (east approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
78	1	0	0	267	4	8	0	145	10	1	0	0	0	0	0	45	0	0	0	49	1	0	0	137	0	0	0	0	0	0	0	88	0	1	0	99	1	0	0	137	4	0	0	0	0	0	0

North Street (west approach)

Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn				Left				Straight				Right				U-Turn			
L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C	L	H	B	C
29	1	1	0	242	7	7	0	80	2	0	4	0	0	0	0	4	0	0	0	175	1	1	0	61	0	0	0	0	0	0	0	10	1	2	0	211	1	0	0	87	0	0	0	0	0	0	0

Appendix D

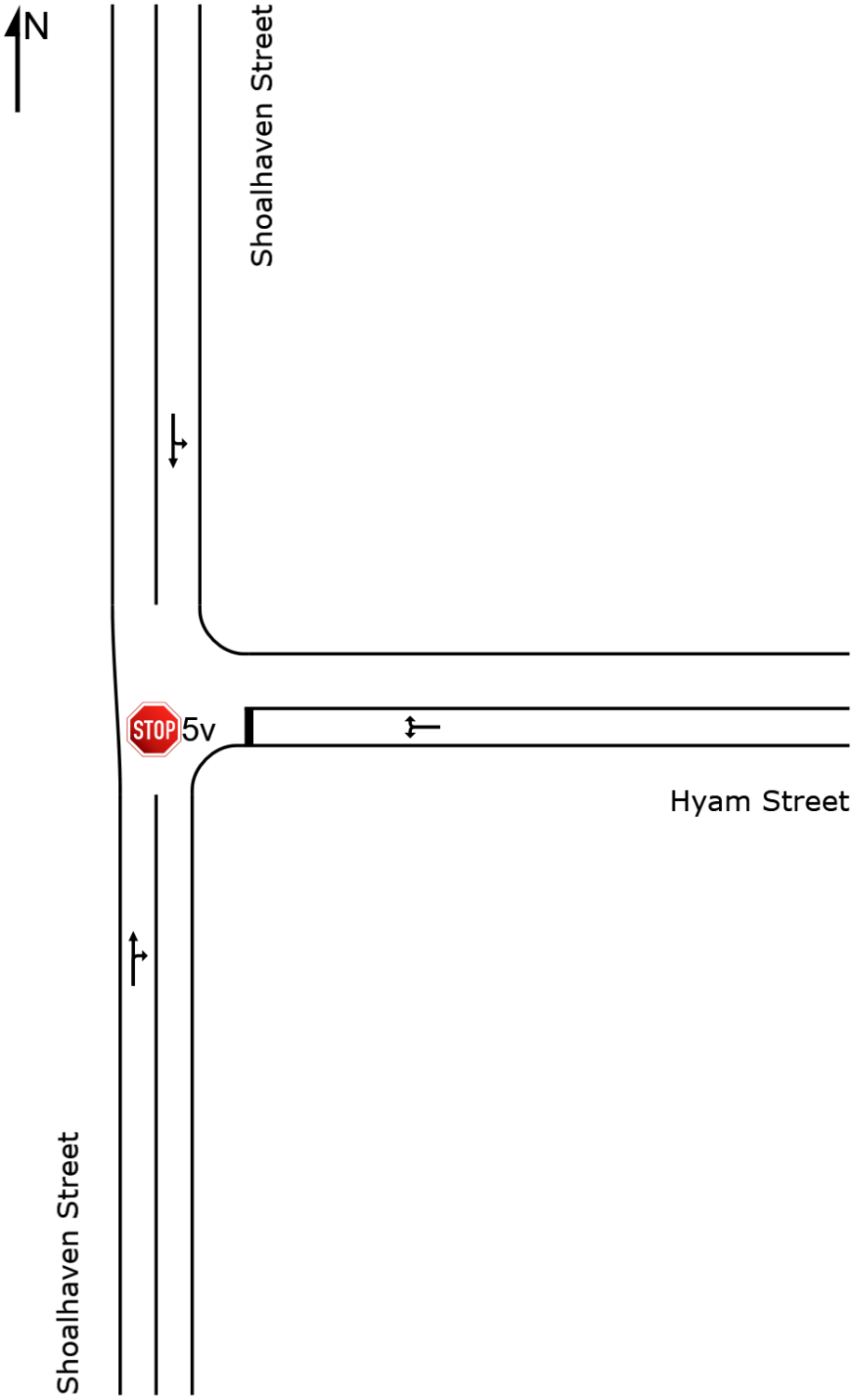
SIDRA Intersection Performance Results

SITE LAYOUT

Site: 5v [Shoalhaven Street - Hyam Street (Site Folder: No Dev 2022 AM)]

AM Peak
Without Development
Site Category: Existing Scenario
Stop (Two-Way)

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

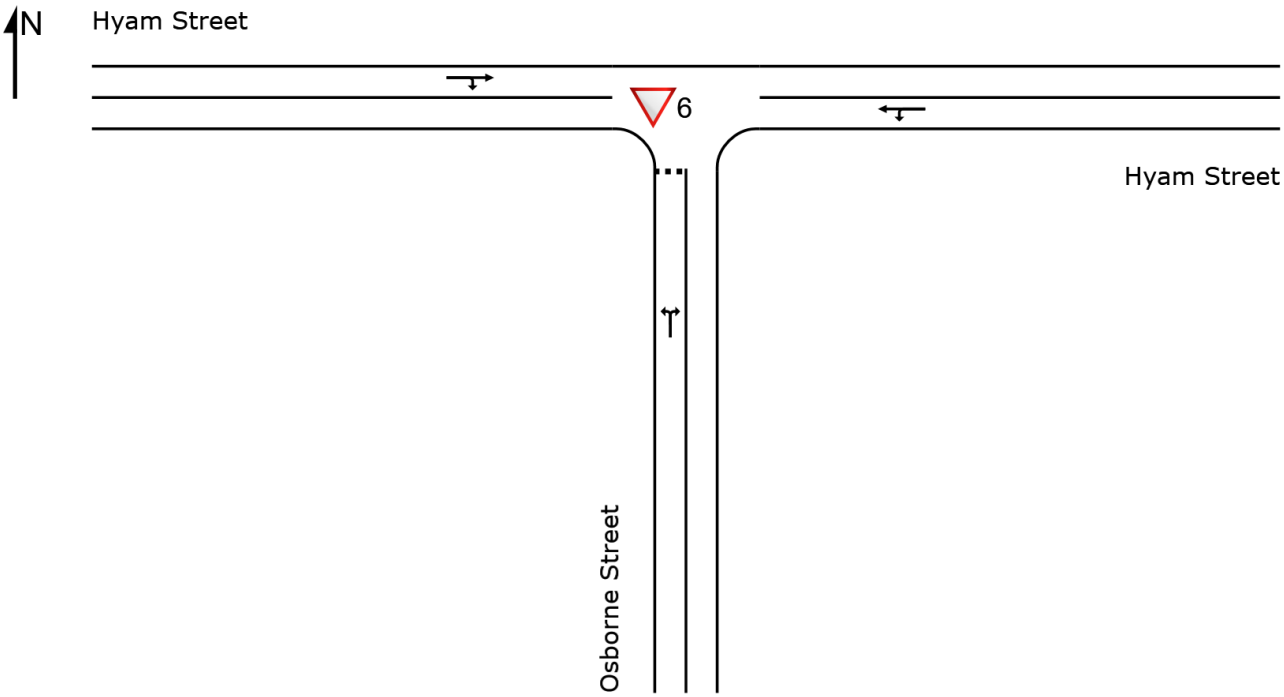


SITE LAYOUT

Site: 6 [Hyam Street - Osborne Street (Site Folder: No Dev 2022 AM)]

AM Peak
Without Development
Site Category: Existing Scenario
Give-Way (Two-Way)

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

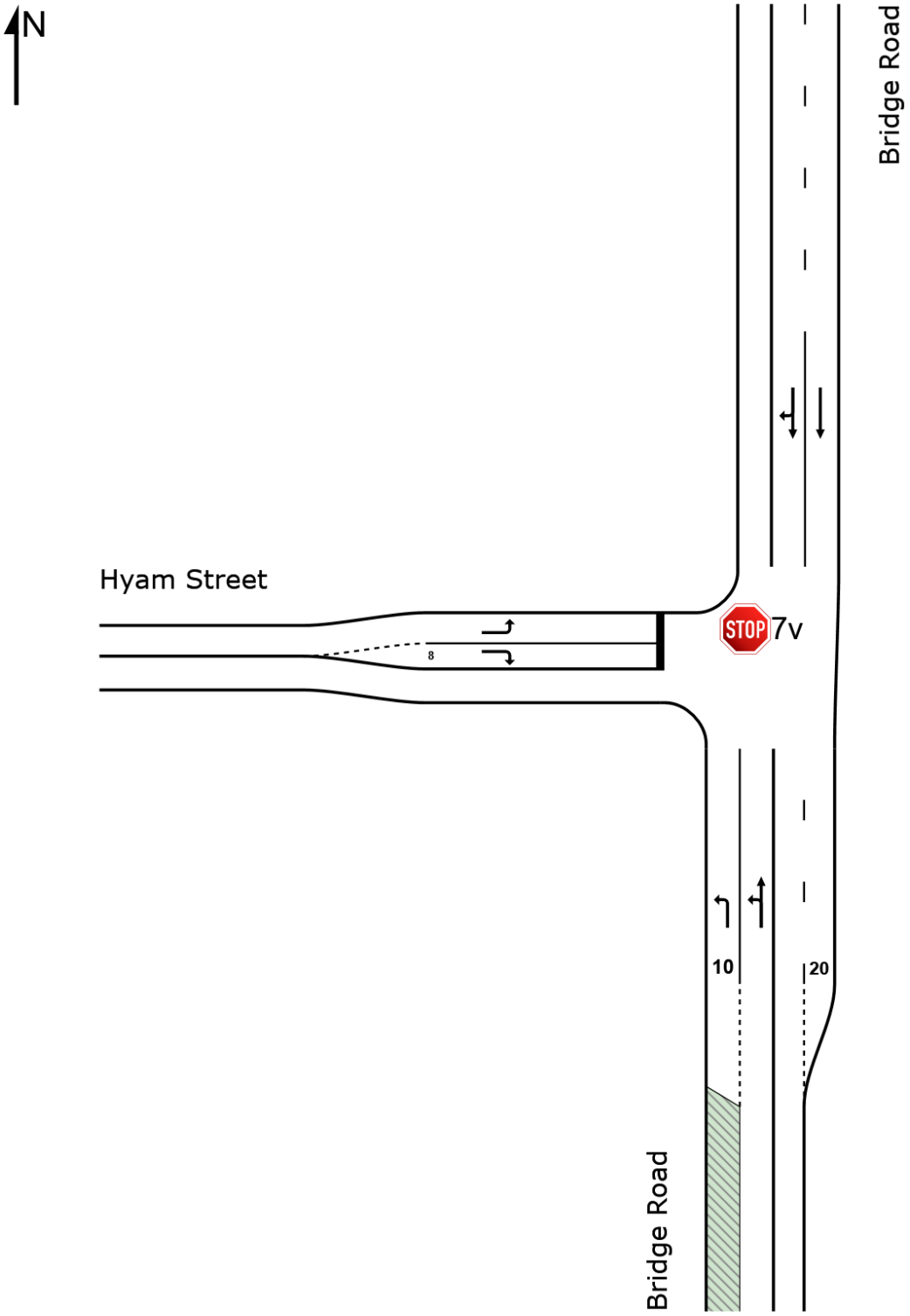


SITE LAYOUT

Site: 7v [Bridge Road - Hyam Street (Site Folder: No Dev 2022 AM)]

AM Peak
Without Development
Site Category: Existing Scenario
Stop (Two-Way)

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



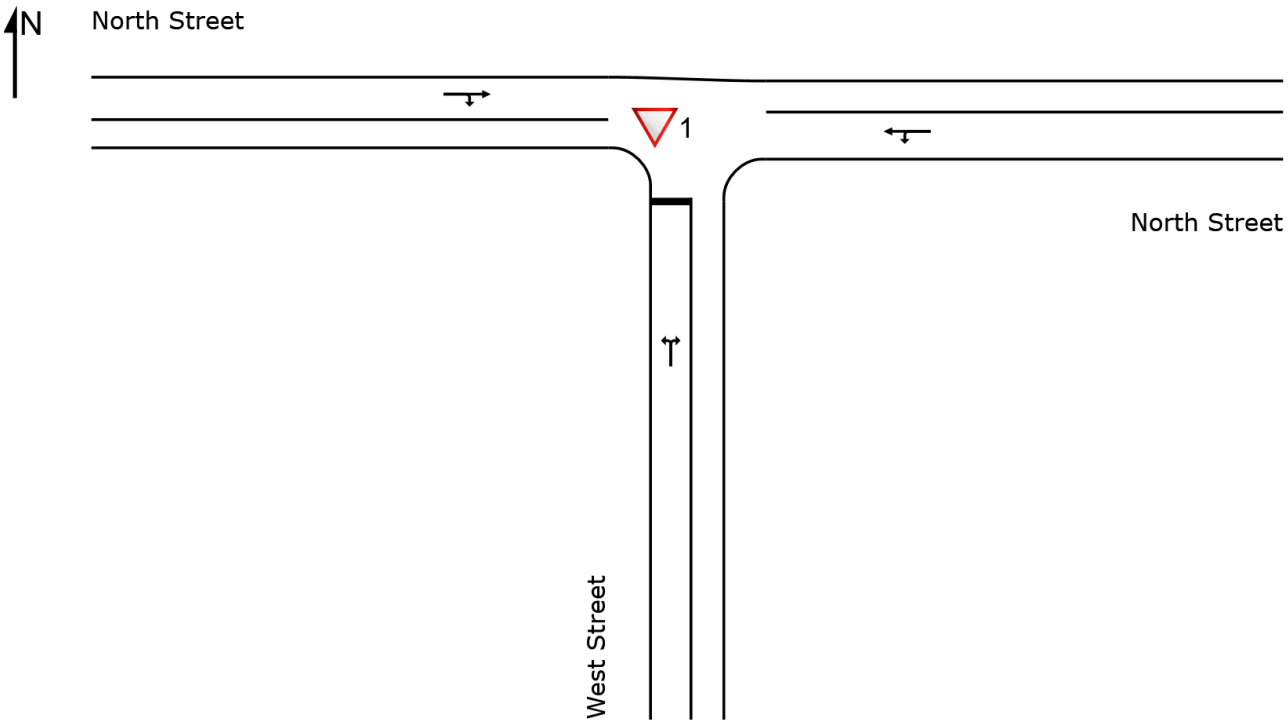
SITE LAYOUT

Site: 1 [North Street - West Street (Site Folder: No Dev 2022 AM)]

AM Peak
Without Development

Site Category: Existing Scenario
Give-Way (Two-Way)

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



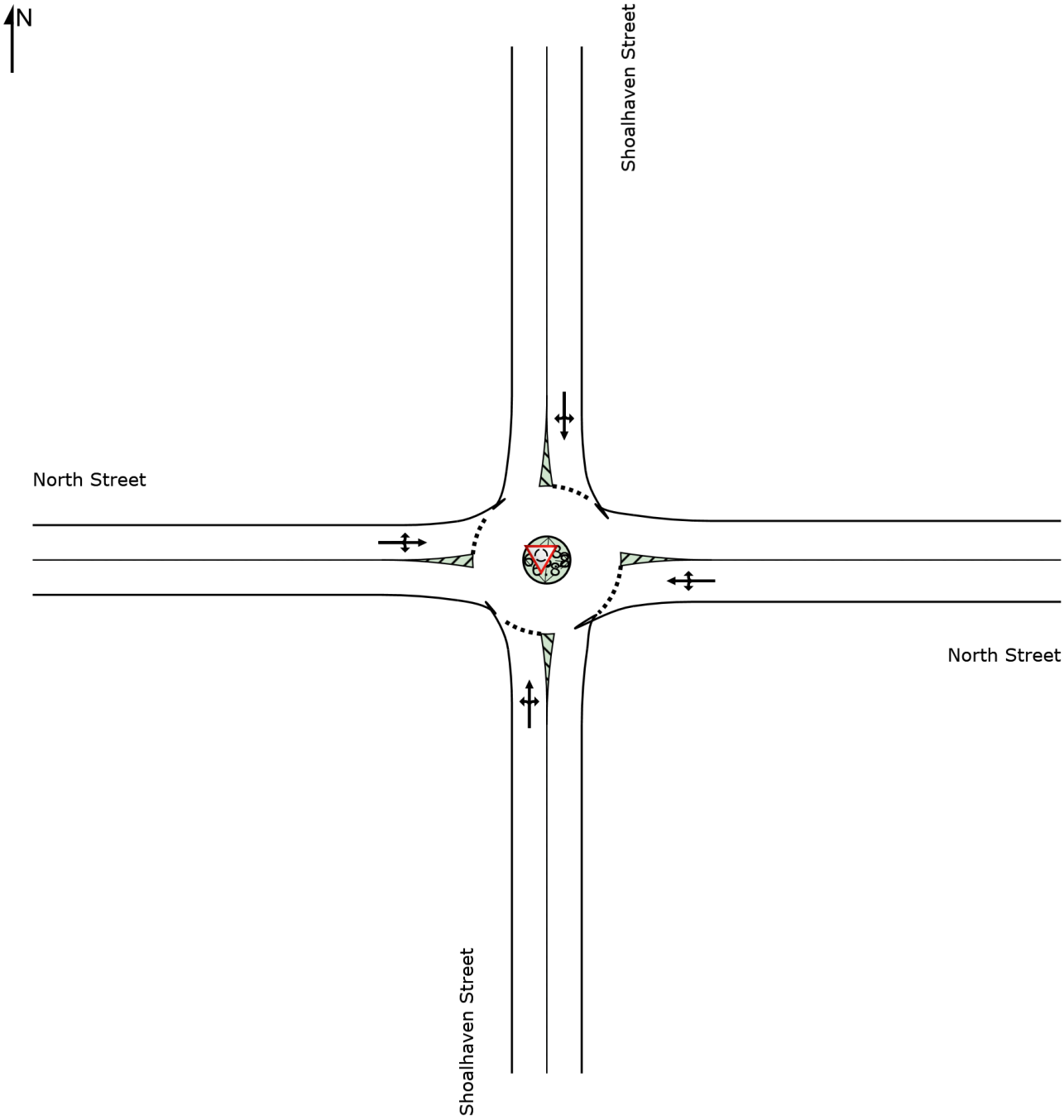
Organisation: TAYLOR THOMSON WHITTING | Licence: NETWORK / 1PC | Created: Tuesday, 30 August 2022 6:09:17 PM
Project: P:\2020\2018\201815\Reports\TTW\Traffic\Traffic Modelling\201815 Shoalhaven Hospital.sip9

SITE LAYOUT

Site: 2 [North Street - Shoalhaven Street (Site Folder: No Dev 2022 AM)]

AM Peak
Without Development
Site Category: Existing Scenario
Roundabout

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

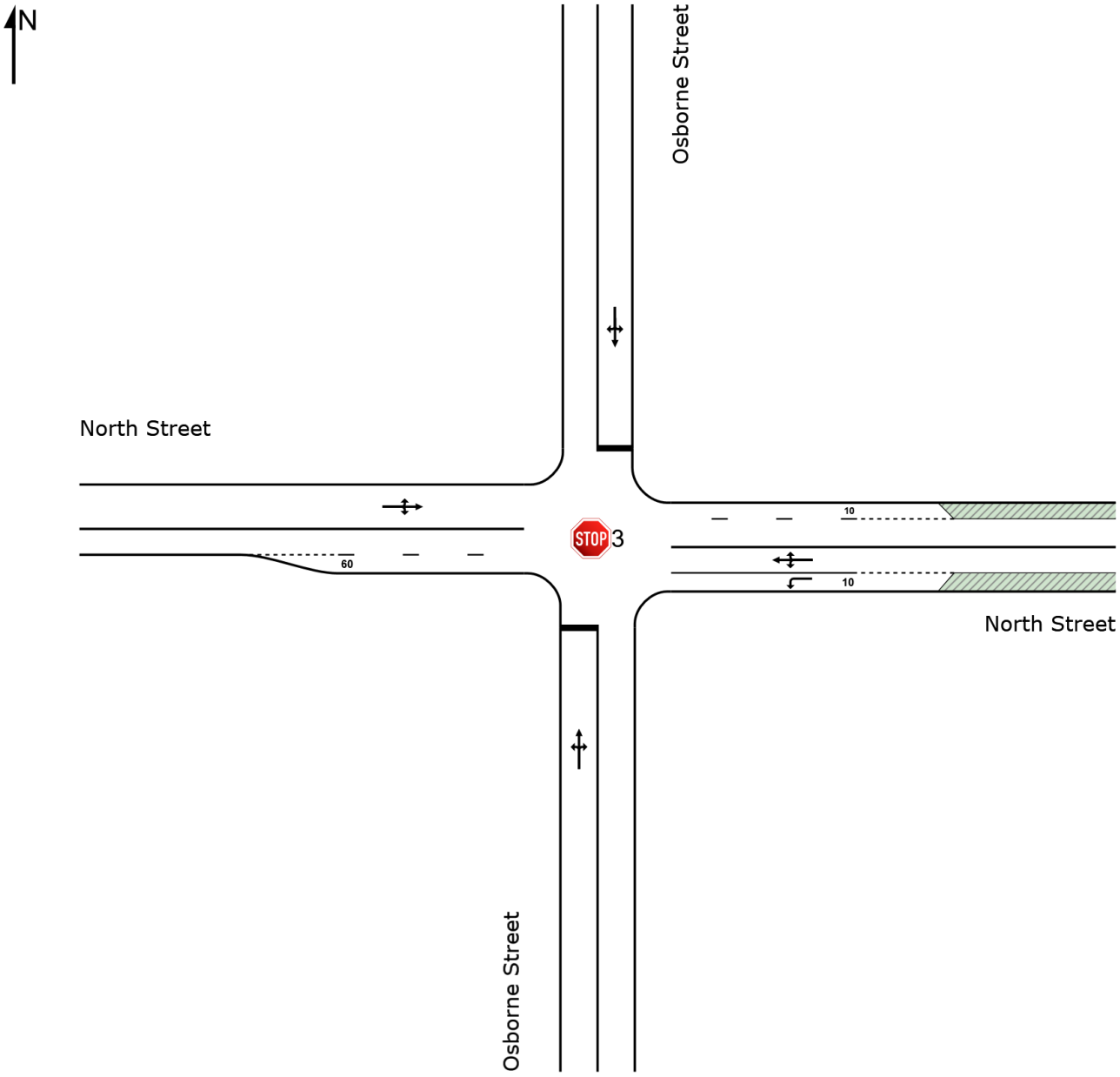


SITE LAYOUT

Site: 3 [North Street - Osborne Street (Site Folder: No Dev 2022 AM)]

AM Peak
Without Development
Site Category: Existing Scenario
Stop (Two-Way)

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

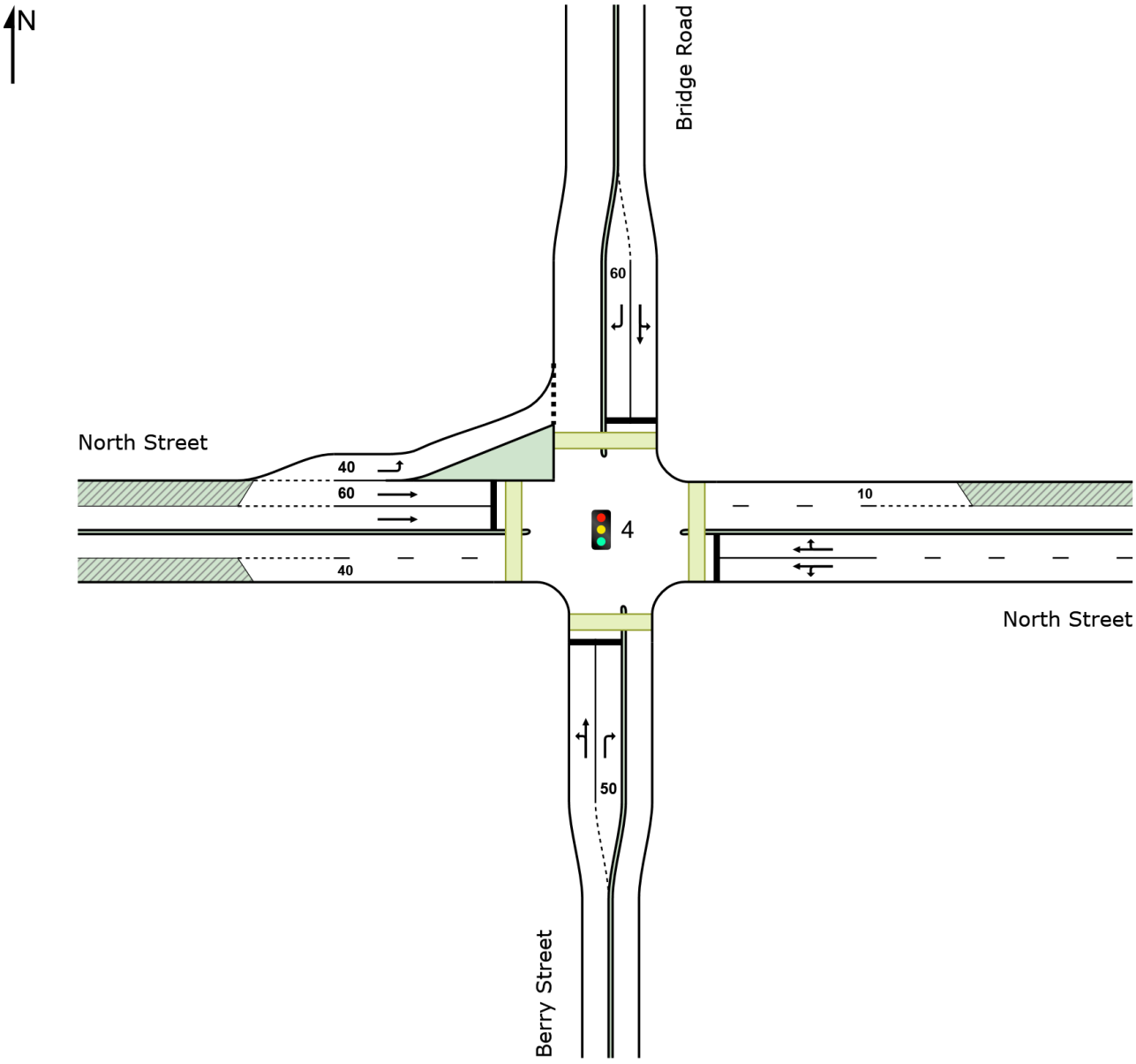


SITE LAYOUT

Site: 4 [North Street - Bridge Road - Berry Road (Site Folder: No Dev 2022 AM)]

AM Peak
Without Development
Site Category: Existing Scenario
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



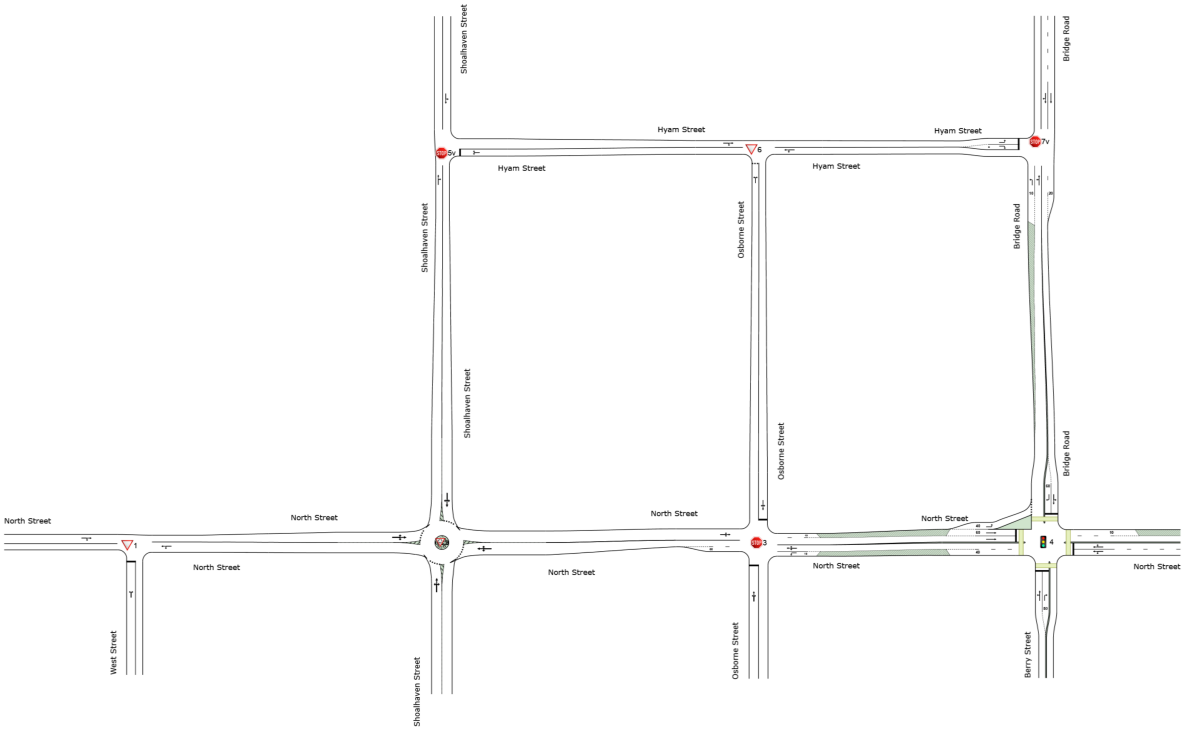
NETWORK LAYOUT

Network: N101 [Network (Network Folder: No Dev 2022 AM)]

New Network
Network Category: (None)

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

N



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
5v	NA	Shoalhaven Street - Hyam Street
6	NA	Hyam Street - Osborne Street
7v	NA	Bridge Road - Hyam Street
1	NA	North Street - West Street
2	NA	North Street - Shoalhaven Street
3	NA	North Street - Osborne Street
4	NA	North Street - Bridge Road - Berry Road

MOVEMENT SUMMARY

Site: 5v [Shoalhaven Street - Hyam Street (Site Folder: No Dev 2022 AM)]

AM Peak
Without Development
Site Category: Existing Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
8	T1	14	1	15	7.1	0.035	0.1	LOS A	0.2	1.2	0.10	0.39	0.10	44.7
9	R2	41	5	43	12.2	0.035	4.7	LOS A	0.2	1.2	0.10	0.39	0.10	43.6
Approach		55	6	58	10.9	0.035	3.6	NA	0.2	1.2	0.10	0.39	0.10	43.9
East: Hyam Street														
10	L2	46	0	48	0.0	0.085	7.5	LOS A	0.3	2.2	0.07	0.95	0.07	40.4
12	R2	52	0	55	0.0	0.085	7.7	LOS A	0.3	2.2	0.07	0.95	0.07	15.0
Approach		98	0	103	0.0	0.085	7.6	LOS A	0.3	2.2	0.07	0.95	0.07	26.9
North: Shoalhaven Street														
1	L2	13	1	14	7.7	0.015	4.5	LOS A	0.0	0.0	0.00	0.26	0.00	40.0
2	T1	14	0	15	0.0	0.015	0.0	LOS A	0.0	0.0	0.00	0.26	0.00	46.9
Approach		27	1	28	3.7	0.015	2.2	NA	0.0	0.0	0.00	0.26	0.00	44.8
All Vehicles		180	7	189	3.9	0.085	5.5	NA	0.3	2.2	0.07	0.68	0.07	33.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [Hyam Street - Osborne Street (Site Folder: No Dev 2022 AM)]

AM Peak
Without Development
Site Category: Existing Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	5	0	5	0.0	0.043	4.9	LOS A	0.1	1.0	0.28	0.57	0.28	42.2
3	R2	38	0	40	0.0	0.043	5.5	LOS A	0.1	1.0	0.28	0.57	0.28	41.1
Approach		43	0	45	0.0	0.043	5.4	LOS A	0.1	1.0	0.28	0.57	0.28	41.2
East: Hyam Street														
4	L2	92	1	97	1.1	0.118	4.6	LOS A	0.0	0.0	0.00	0.23	0.00	46.2
5	T1	122	0	128	0.0	0.118	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	43.7
Approach		214	1	225	0.5	0.118	2.0	NA	0.0	0.0	0.00	0.23	0.00	45.3
West: Hyam Street														
11	T1	71	7	75	9.9	0.046	0.1	LOS A	0.1	0.4	0.07	0.05	0.07	47.4
12	R2	7	0	7	0.0	0.046	5.3	LOS A	0.1	0.4	0.07	0.05	0.07	47.0
Approach		78	7	82	9.0	0.046	0.6	NA	0.1	0.4	0.07	0.05	0.07	47.3
All Vehicles		335	8	353	2.4	0.118	2.1	NA	0.1	1.0	0.05	0.23	0.05	44.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7v [Bridge Road - Hyam Street (Site Folder: No Dev 2022 AM)]

AM Peak
Without Development
Site Category: Existing Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bridge Road														
1	L2	24	1	25	4.2	0.014	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	35.6
2	T1	336	31	354	9.2	0.192	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		360	32	379	8.9	0.192	0.3	NA	0.0	0.0	0.00	0.04	0.00	49.0
North: Bridge Road														
8	T1	591	9	622	1.5	0.481	2.1	LOS A	4.1	29.2	0.34	0.20	0.46	42.7
9	R2	232	0	244	0.0	0.481	8.3	LOS A	4.1	29.2	0.49	0.29	0.66	38.9
Approach		823	9	866	1.1	0.481	3.8	NA	4.1	29.2	0.38	0.23	0.51	41.5
West: Hyam Street														
10	L2	107	9	113	8.4	0.122	9.7	LOS A	0.5	3.6	0.45	0.91	0.45	34.5
12	R2	9	2	9	22.2	0.054	26.1	LOS B	0.2	1.3	0.84	1.01	0.84	17.1
Approach		116	11	122	9.5	0.122	10.9	LOS A	0.5	3.6	0.48	0.92	0.48	32.8
All Vehicles		1299	52	1367	4.0	0.481	3.5	NA	4.1	29.2	0.28	0.24	0.37	42.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [North Street - West Street (Site Folder: No Dev 2022 AM)]

AM Peak
Without Development

Site Category: Existing Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Street														
1	L2	34	1	36	2.9	0.041	7.7	LOS A	0.2	1.1	0.10	0.93	0.10	32.6
3	R2	16	0	17	0.0	0.041	7.4	LOS A	0.2	1.1	0.10	0.93	0.10	36.7
Approach		50	1	53	2.0	0.041	7.6	LOS A	0.2	1.1	0.10	0.93	0.10	34.2
East: North Street														
4	L2	22	0	23	0.0	0.026	4.6	LOS A	0.0	0.0	0.00	0.23	0.00	44.8
5	T1	29	1	31	3.4	0.026	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	45.8
Approach		51	1	54	2.0	0.026	2.0	NA	0.0	0.0	0.00	0.23	0.00	45.4
West: North Street														
11	T1	21	0	22	0.0	0.017	0.1	LOS A	0.1	0.4	0.09	0.16	0.09	46.6
12	R2	9	1	9	11.1	0.017	4.8	LOS A	0.1	0.4	0.09	0.16	0.09	41.5
Approach		30	1	32	3.3	0.017	1.5	NA	0.1	0.4	0.09	0.16	0.09	45.3
All Vehicles		131	3	138	2.3	0.041	4.0	NA	0.2	1.1	0.06	0.48	0.06	40.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [North Street - Shoalhaven Street (Site Folder: No Dev 2022 AM)]

AM Peak
Without Development
Site Category: Existing Scenario
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
1	L2	7	0	7	0.0	0.066	3.6	LOS A	0.2	1.7	0.23	0.47	0.23	34.4
2	T1	41	0	43	0.0	0.066	2.9	LOS A	0.2	1.7	0.23	0.47	0.23	37.1
3	R2	26	0	27	0.0	0.066	5.9	LOS A	0.2	1.7	0.23	0.47	0.23	34.1
Approach		74	0	78	0.0	0.066	4.0	LOS A	0.2	1.7	0.23	0.47	0.23	36.2
East: North Street														
4	L2	77	8	81	10.4	0.147	3.5	LOS A	0.4	3.3	0.10	0.48	0.10	32.5
5	T1	42	1	44	2.4	0.147	2.6	LOS A	0.4	3.3	0.10	0.48	0.10	36.1
6	R2	66	7	69	10.6	0.147	5.6	LOS A	0.4	3.3	0.10	0.48	0.10	37.2
Approach		185	16	195	8.6	0.147	4.0	LOS A	0.4	3.3	0.10	0.48	0.10	35.6
North: Shoalhaven Street														
7	L2	24	0	25	0.0	0.052	3.3	LOS A	0.2	1.4	0.14	0.44	0.14	36.5
8	T1	23	0	24	0.0	0.052	2.7	LOS A	0.2	1.4	0.14	0.44	0.14	37.5
9	R2	14	1	15	7.1	0.052	5.6	LOS A	0.2	1.4	0.14	0.44	0.14	37.8
Approach		61	1	64	1.6	0.052	3.6	LOS A	0.2	1.4	0.14	0.44	0.14	37.2
West: North Street														
10	L2	11	1	12	9.1	0.036	3.7	LOS A	0.1	1.0	0.24	0.43	0.24	36.9
11	T1	23	1	24	4.3	0.036	3.0	LOS A	0.1	1.0	0.24	0.43	0.24	36.3
12	R2	5	0	5	0.0	0.036	5.9	LOS A	0.1	1.0	0.24	0.43	0.24	36.1
Approach		39	2	41	5.1	0.036	3.6	LOS A	0.1	1.0	0.24	0.43	0.24	36.5
All Vehicles		359	19	378	5.3	0.147	3.9	LOS A	0.4	3.3	0.15	0.47	0.15	36.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [North Street - Osborne Street (Site Folder: No Dev 2022 AM)]

AM Peak
Without Development
Site Category: Existing Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	81	2	85	2.5	0.238	7.6	LOS A	1.0	7.4	0.46	0.91	0.46	31.0
2	T1	36	1	38	2.8	0.238	10.8	LOS A	1.0	7.4	0.46	0.91	0.46	34.3
3	R2	41	6	43	14.6	0.238	14.4	LOS A	1.0	7.4	0.46	0.91	0.46	30.8
Approach		158	9	166	5.7	0.238	10.1	LOS A	1.0	7.4	0.46	0.91	0.46	32.0
East: North Street														
4	L2	61	1	64	1.6	0.122	3.5	LOS A	0.1	1.1	0.02	0.33	0.02	37.3
5	T1	177	9	186	5.1	0.122	0.1	LOS A	0.1	1.1	0.06	0.08	0.06	38.4
6	R2	16	0	17	0.0	0.122	3.9	LOS A	0.1	1.1	0.06	0.08	0.06	39.2
Approach		254	10	267	3.9	0.122	1.1	NA	0.1	1.1	0.05	0.14	0.05	38.2
North: Osborne Street														
7	L2	27	1	28	3.7	0.148	7.4	LOS A	0.6	4.4	0.43	0.92	0.43	33.4
8	T1	66	1	69	1.5	0.148	10.8	LOS A	0.6	4.4	0.43	0.92	0.43	34.4
9	R2	5	0	5	0.0	0.148	12.3	LOS A	0.6	4.4	0.43	0.92	0.43	33.1
Approach		98	2	103	2.0	0.148	10.0	LOS A	0.6	4.4	0.43	0.92	0.43	34.1
West: North Street														
10	L2	6	0	6	0.0	0.097	4.5	LOS A	0.3	2.3	0.19	0.12	0.19	38.9
11	T1	123	1	129	0.8	0.097	0.5	LOS A	0.3	2.3	0.19	0.12	0.19	37.1
12	R2	34	0	36	0.0	0.097	4.6	LOS A	0.3	2.3	0.19	0.12	0.19	38.0
Approach		163	1	172	0.6	0.097	1.5	NA	0.3	2.3	0.19	0.12	0.19	37.4
All Vehicles		673	22	708	3.3	0.238	4.6	NA	1.0	7.4	0.23	0.43	0.23	35.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [North Street - Bridge Road - Berry Road (Site Folder: No Dev 2022 AM)]

AM Peak
Without Development
Site Category: Existing Scenario
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Berry Street														
1	L2	53	4	56	7.5	0.334	16.7	LOS B	3.1	22.7	0.80	0.68	0.80	34.9
2	T1	139	5	146	3.6	0.334	11.5	LOS A	3.1	22.7	0.80	0.68	0.80	37.4
3	R2	1	0	1	0.0	0.004	20.6	LOS B	0.0	0.1	0.87	0.58	0.87	23.4
Approach		193	9	203	4.7	0.334	13.0	LOS A	3.1	22.7	0.80	0.68	0.80	36.7
East: North Street														
4	L2	66	1	69	1.5	0.172	16.1	LOS B	1.4	9.7	0.77	0.70	0.77	28.0
5	T1	203	10	214	4.9	* 0.607	11.8	LOS A	5.6	41.2	0.85	0.77	0.88	30.4
6	R2	130	9	137	6.9	0.607	16.3	LOS B	5.6	41.2	0.86	0.78	0.89	33.0
Approach		399	20	420	5.0	0.607	14.0	LOS A	5.6	41.2	0.84	0.76	0.86	31.0
North: Bridge Road														
7	L2	77	4	81	5.2	0.636	18.3	LOS B	7.0	49.8	0.90	0.80	0.94	23.9
8	T1	297	3	313	1.0	* 0.636	13.3	LOS A	7.0	49.8	0.90	0.80	0.94	36.3
9	R2	116	2	122	1.7	0.317	18.6	LOS B	2.1	14.7	0.85	0.75	0.85	33.6
Approach		490	9	516	1.8	0.636	15.4	LOS B	7.0	49.8	0.89	0.79	0.92	33.5
West: North Street														
10	L2	26	2	27	7.7	0.028	6.6	LOS A	0.1	0.9	0.45	0.60	0.45	42.9
11	T1	201	12	212	6.0	0.254	9.5	LOS A	2.5	18.1	0.72	0.58	0.72	34.6
Approach		227	14	239	6.2	0.254	9.2	LOS A	2.5	18.1	0.69	0.58	0.69	35.9
All Vehicles		1309	52	1378	4.0	0.636	13.5	LOS A	7.0	49.8	0.83	0.73	0.85	33.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Berry Street												
P1	Full	284	299	14.6	LOS B	0.3	0.3	0.86	0.86	177.8	212.1	1.19
East: North Street												
P2	Full	10	11	14.5	LOS B	0.0	0.0	0.85	0.85	179.2	214.2	1.20
North: Bridge Road												

P3 Full	7	7	14.5	LOS B	0.0	0.0	0.85	0.85	179.5	214.6	1.20
West: North Street											
P4 Full	1	1	14.5	LOS B	0.0	0.0	0.85	0.85	179.4	214.4	1.20
All Pedestrians	302	318	14.6	LOS B	0.3	0.3	0.86	0.86	177.9	212.2	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 5v [Shoalhaven Street - Hyam Street (Site Folder: No Dev 2022 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
Without Development
Site Category: Existing Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
8	T1	37	1	39	2.7	0.154	0.2	LOS A	0.8	5.6	0.18	0.44	0.18	43.7
9	R2	211	6	222	2.8	0.154	4.8	LOS A	0.8	5.6	0.18	0.44	0.18	42.6
Approach		248	7	261	2.8	0.154	4.1	NA	0.8	5.6	0.18	0.44	0.18	42.8
East: Hyam Street														
10	L2	52	1	55	1.9	0.059	7.6	LOS A	0.2	1.6	0.06	0.96	0.06	40.2
12	R2	15	1	16	6.7	0.059	9.2	LOS A	0.2	1.6	0.06	0.96	0.06	16.0
Approach		67	2	71	3.0	0.059	7.9	LOS A	0.2	1.6	0.06	0.96	0.06	35.0
North: Shoalhaven Street														
1	L2	42	1	44	2.4	0.034	4.5	LOS A	0.0	0.0	0.00	0.36	0.00	38.6
2	T1	21	0	22	0.0	0.034	0.0	LOS A	0.0	0.0	0.00	0.36	0.00	45.7
Approach		63	1	66	1.6	0.034	3.0	NA	0.0	0.0	0.00	0.36	0.00	42.2
All Vehicles		378	10	398	2.6	0.154	4.6	NA	0.8	5.6	0.13	0.52	0.13	41.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [Hyam Street - Osborne Street (Site Folder: No Dev 2022 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
Without Development
Site Category: Existing Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	3	0	3	0.0	0.211	4.8	LOS A	0.8	5.4	0.38	0.65	0.38	41.7
3	R2	189	2	199	1.1	0.211	6.1	LOS A	0.8	5.4	0.38	0.65	0.38	40.6
Approach		192	2	202	1.0	0.211	6.1	LOS A	0.8	5.4	0.38	0.65	0.38	40.6
East: Hyam Street														
4	L2	32	1	34	3.1	0.052	4.6	LOS A	0.0	0.0	0.00	0.19	0.00	46.6
5	T1	61	2	64	3.3	0.052	0.0	LOS A	0.0	0.0	0.00	0.19	0.00	44.8
Approach		93	3	98	3.2	0.052	1.6	NA	0.0	0.0	0.00	0.19	0.00	45.8
West: Hyam Street														
11	T1	225	5	237	2.2	0.127	0.0	LOS A	0.0	0.3	0.01	0.01	0.01	49.3
12	R2	6	0	6	0.0	0.127	4.9	LOS A	0.0	0.3	0.01	0.01	0.01	47.7
Approach		231	5	243	2.2	0.127	0.1	NA	0.0	0.3	0.01	0.01	0.01	49.2
All Vehicles		516	10	543	1.9	0.211	2.6	NA	0.8	5.4	0.15	0.28	0.15	43.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7v [Bridge Road - Hyam Street (Site Folder: No Dev 2022 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
Without Development
Site Category: Existing Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bridge Road														
1	L2	1	0	1	0.0	0.001	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	35.8
2	T1	540	11	568	2.0	0.295	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		541	11	569	2.0	0.295	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.8
North: Bridge Road														
8	T1	234	3	246	1.3	0.216	1.9	LOS A	1.2	8.5	0.32	0.18	0.32	42.7
9	R2	89	5	94	5.6	0.216	8.7	LOS A	1.2	8.5	0.49	0.28	0.49	38.1
Approach		323	8	340	2.5	0.216	3.8	NA	1.2	8.5	0.37	0.21	0.37	41.3
West: Hyam Street														
10	L2	441	9	464	2.0	0.639	15.2	LOS B	5.1	36.1	0.73	1.25	1.36	29.4
12	R2	2	0	2	0.0	0.005	13.8	LOS A	0.0	0.1	0.66	0.88	0.66	24.6
Approach		443	9	466	2.0	0.639	15.2	LOS B	5.1	36.1	0.73	1.24	1.36	29.4
All Vehicles		1307	28	1376	2.1	0.639	6.1	NA	5.1	36.1	0.34	0.47	0.55	38.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [North Street - West Street (Site Folder: No Dev 2022 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
Without Development

Site Category: Existing Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Street														
1	L2	28	0	29	0.0	0.057	7.5	LOS A	0.2	1.4	0.08	0.95	0.08	32.6
3	R2	35	0	37	0.0	0.057	7.7	LOS A	0.2	1.4	0.08	0.95	0.08	36.6
Approach		63	0	66	0.0	0.057	7.6	LOS A	0.2	1.4	0.08	0.95	0.08	35.1
East: North Street														
4	L2	24	0	25	0.0	0.022	4.6	LOS A	0.0	0.0	0.00	0.30	0.00	43.9
5	T1	19	0	20	0.0	0.022	0.0	LOS A	0.0	0.0	0.00	0.30	0.00	44.9
Approach		43	0	45	0.0	0.022	2.5	NA	0.0	0.0	0.00	0.30	0.00	44.3
West: North Street														
11	T1	63	1	66	1.6	0.051	0.1	LOS A	0.2	1.2	0.08	0.17	0.08	46.2
12	R2	30	0	32	0.0	0.051	4.7	LOS A	0.2	1.2	0.08	0.17	0.08	41.3
Approach		93	1	98	1.1	0.051	1.6	NA	0.2	1.2	0.08	0.17	0.08	44.9
All Vehicles		199	1	209	0.5	0.057	3.7	NA	0.2	1.4	0.06	0.45	0.06	41.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [North Street - Shoalhaven Street (Site Folder: No Dev 2022 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
Without Development
Site Category: Existing Scenario
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
1	L2	10	0	11	0.0	0.200	4.4	LOS A	0.9	6.1	0.16	0.48	0.16	39.4
2	T1	196	2	206	1.0	0.200	3.9	LOS A	0.9	6.1	0.16	0.48	0.16	43.7
3	R2	49	2	52	4.1	0.200	7.0	LOS A	0.9	6.1	0.16	0.48	0.16	37.2
Approach		255	4	268	1.6	0.200	4.5	LOS A	0.9	6.1	0.16	0.48	0.16	42.8
East: North Street														
4	L2	18	1	19	5.6	0.053	4.6	LOS A	0.2	1.1	0.14	0.53	0.14	34.7
5	T1	23	0	24	0.0	0.053	3.9	LOS A	0.2	1.1	0.14	0.53	0.14	40.7
6	R2	21	1	22	4.8	0.053	6.9	LOS A	0.2	1.1	0.14	0.53	0.14	42.8
Approach		62	2	65	3.2	0.053	5.1	LOS A	0.2	1.1	0.14	0.53	0.14	40.4
North: Shoalhaven Street														
7	L2	36	0	38	0.0	0.089	4.7	LOS A	0.4	2.6	0.25	0.51	0.25	42.1
8	T1	49	2	52	4.1	0.089	4.3	LOS A	0.4	2.6	0.25	0.51	0.25	43.1
9	R2	13	0	14	0.0	0.089	7.2	LOS A	0.4	2.6	0.25	0.51	0.25	44.1
Approach		98	2	103	2.0	0.089	4.8	LOS A	0.4	2.6	0.25	0.51	0.25	42.9
West: North Street														
10	L2	23	0	24	0.0	0.106	5.2	LOS A	0.4	3.1	0.36	0.56	0.36	42.8
11	T1	66	1	69	1.5	0.106	4.8	LOS A	0.4	3.1	0.36	0.56	0.36	40.1
12	R2	18	0	19	0.0	0.106	7.8	LOS A	0.4	3.1	0.36	0.56	0.36	39.5
Approach		107	1	113	0.9	0.106	5.4	LOS A	0.4	3.1	0.36	0.56	0.36	40.8
All Vehicles		522	9	549	1.7	0.200	4.8	LOS A	0.9	6.1	0.22	0.51	0.22	42.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [North Street - Osborne Street (Site Folder: No Dev 2022 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
Without Development
Site Category: Existing Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	23	0	24	0.0	0.584	9.9	LOS A	5.5	39.2	0.54	1.07	0.82	32.2
2	T1	205	3	216	1.5	0.584	13.4	LOS A	5.5	39.2	0.54	1.07	0.82	38.0
3	R2	163	4	172	2.5	0.584	14.8	LOS B	5.5	39.2	0.54	1.07	0.82	32.0
Approach		391	7	412	1.8	0.584	13.8	LOS A	5.5	39.2	0.54	1.07	0.82	35.7
East: North Street														
4	L2	47	0	49	0.0	0.050	4.7	LOS A	0.2	1.1	0.10	0.37	0.10	42.2
5	T1	35	0	37	0.0	0.050	0.2	LOS A	0.2	1.1	0.16	0.29	0.16	41.6
6	R2	21	0	22	0.0	0.050	5.0	LOS A	0.2	1.1	0.16	0.29	0.16	44.5
Approach		103	0	108	0.0	0.050	3.2	NA	0.2	1.1	0.13	0.33	0.13	42.7
North: Osborne Street														
7	L2	18	0	19	0.0	0.085	8.2	LOS A	0.3	2.5	0.36	0.88	0.36	39.4
8	T1	42	1	44	2.4	0.085	9.8	LOS A	0.3	2.5	0.36	0.88	0.36	40.9
9	R2	5	0	5	0.0	0.085	12.7	LOS A	0.3	2.5	0.36	0.88	0.36	39.0
Approach		65	1	68	1.5	0.085	9.6	LOS A	0.3	2.5	0.36	0.88	0.36	40.4
West: North Street														
10	L2	23	1	24	4.3	0.114	4.9	LOS A	0.5	3.4	0.14	0.23	0.14	45.5
11	T1	106	2	112	1.9	0.114	0.5	LOS A	0.5	3.4	0.14	0.23	0.14	43.1
12	R2	61	0	64	0.0	0.114	4.9	LOS A	0.5	3.4	0.14	0.23	0.14	43.4
Approach		190	3	200	1.6	0.114	2.4	NA	0.5	3.4	0.14	0.23	0.14	43.7
All Vehicles		749	11	788	1.5	0.584	9.1	NA	5.5	39.2	0.37	0.74	0.51	38.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [North Street - Bridge Road - Berry Road (Site Folder: No Dev 2022 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
Without Development
Site Category: Existing Scenario
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Berry Street														
1	L2	175	0	184	0.0	0.515	14.7	LOS B	3.8	26.6	0.87	0.77	0.87	34.8
2	T1	102	1	107	1.0	* 0.515	10.0	LOS A	3.8	26.6	0.87	0.77	0.87	37.2
3	R2	1	0	1	0.0	0.003	14.3	LOS A	0.0	0.1	0.78	0.58	0.78	27.5
Approach		278	1	293	0.4	0.515	13.0	LOS A	3.8	26.6	0.87	0.77	0.87	35.7
East: North Street														
4	L2	39	1	41	2.6	0.114	15.9	LOS B	0.5	3.8	0.85	0.70	0.85	27.4
5	T1	28	1	29	3.6	* 0.333	9.5	LOS A	1.9	13.0	0.82	0.74	0.82	31.0
6	R2	115	0	121	0.0	0.333	14.0	LOS A	1.9	13.0	0.82	0.74	0.82	33.5
Approach		182	2	192	1.1	0.333	13.7	LOS A	1.9	13.0	0.82	0.73	0.82	31.9
North: Bridge Road														
7	L2	56	0	59	0.0	0.410	14.4	LOS A	2.9	20.7	0.84	0.71	0.84	25.4
8	T1	168	2	177	1.2	0.410	9.6	LOS A	2.9	20.7	0.84	0.71	0.84	38.9
9	R2	34	1	36	2.9	0.107	16.0	LOS B	0.5	3.3	0.85	0.70	0.85	35.2
Approach		258	3	272	1.2	0.410	11.5	LOS A	2.9	20.7	0.84	0.71	0.84	35.2
West: North Street														
10	L2	3	0	3	0.0	0.003	6.3	LOS A	0.0	0.1	0.48	0.56	0.48	42.9
11	T1	134	2	141	1.5	0.206	8.9	LOS A	1.4	9.6	0.77	0.60	0.77	35.4
Approach		137	2	144	1.5	0.206	8.8	LOS A	1.4	9.6	0.77	0.60	0.77	35.6
All Vehicles		855	8	900	0.9	0.515	12.0	LOS A	3.8	26.6	0.84	0.71	0.84	34.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Berry Street												
P1	Full	168	177	9.7	LOS A	0.1	0.1	0.81	0.81	172.8	212.1	1.23
East: North Street												
P2	Full	12	13	9.6	LOS A	0.0	0.0	0.80	0.80	174.4	214.2	1.23
North: Bridge Road												

P3 Full	4	4	9.6	LOS A	0.0	0.0	0.80	0.80	174.7	214.6	1.23
West: North Street											
P4 Full	5	5	9.6	LOS A	0.0	0.0	0.80	0.80	174.5	214.4	1.23
All Pedestrians	189	199	9.7	LOS A	0.1	0.1	0.81	0.81	173.0	212.3	1.23

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 5v [Shoalhaven Street - Hyam Street (Site Folder: No Dev 2022 PM NETWORK PEAK)]

PM - 3:00pm to 4:00pm
Without Development
Site Category: Existing Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
8	T1	24	0	25	0.0	0.086	0.2	LOS A	0.4	3.1	0.15	0.42	0.15	44.1
9	R2	110	13	116	11.8	0.086	4.9	LOS A	0.4	3.1	0.15	0.42	0.15	42.6
Approach		134	13	141	9.7	0.086	4.0	NA	0.4	3.1	0.15	0.42	0.15	42.9
East: Hyam Street														
10	L2	43	0	45	0.0	0.049	7.5	LOS A	0.2	1.3	0.06	0.96	0.06	40.4
12	R2	16	0	17	0.0	0.049	8.1	LOS A	0.2	1.3	0.06	0.96	0.06	15.0
Approach		59	0	62	0.0	0.049	7.7	LOS A	0.2	1.3	0.06	0.96	0.06	33.4
North: Shoalhaven Street														
1	L2	35	0	37	0.0	0.029	4.5	LOS A	0.0	0.0	0.00	0.35	0.00	38.9
2	T1	18	0	19	0.0	0.029	0.0	LOS A	0.0	0.0	0.00	0.35	0.00	45.7
Approach		53	0	56	0.0	0.029	3.0	NA	0.0	0.0	0.00	0.35	0.00	42.4
All Vehicles		246	13	259	5.3	0.086	4.7	NA	0.4	3.1	0.10	0.54	0.10	40.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [Hyam Street - Osborne Street (Site Folder: No Dev 2022 PM NETWORK PEAK)]

PM - 3:00pm to 4:00pm
Without Development
Site Category: Existing Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	18	0	19	0.0	0.165	4.8	LOS A	0.6	4.2	0.27	0.59	0.27	42.3
3	R2	148	2	156	1.4	0.165	5.7	LOS A	0.6	4.2	0.27	0.59	0.27	41.1
Approach		166	2	175	1.2	0.165	5.6	LOS A	0.6	4.2	0.27	0.59	0.27	41.2
East: Hyam Street														
4	L2	37	1	39	2.7	0.054	4.6	LOS A	0.0	0.0	0.00	0.21	0.00	46.5
5	T1	60	0	63	0.0	0.054	0.0	LOS A	0.0	0.0	0.00	0.21	0.00	44.4
Approach		97	1	102	1.0	0.054	1.7	NA	0.0	0.0	0.00	0.21	0.00	45.6
West: Hyam Street														
11	T1	142	8	149	5.6	0.091	0.0	LOS A	0.1	0.8	0.05	0.06	0.05	47.6
12	R2	16	1	17	6.3	0.091	5.0	LOS A	0.1	0.8	0.05	0.06	0.05	47.0
Approach		158	9	166	5.7	0.091	0.5	NA	0.1	0.8	0.05	0.06	0.05	47.5
All Vehicles		421	12	443	2.9	0.165	2.8	NA	0.6	4.2	0.12	0.30	0.12	43.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7v [Bridge Road - Hyam Street (Site Folder: No Dev 2022 PM NETWORK PEAK)]

PM - 3:00pm to 4:00pm
Without Development
Site Category: Existing Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bridge Road														
1	L2	6	1	6	16.7	0.004	4.6	LOS A	0.0	0.0	0.00	0.52	0.00	34.9
2	T1	416	8	438	1.9	0.227	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		422	9	444	2.1	0.227	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.7
North: Bridge Road														
8	T1	258	6	272	2.3	0.210	1.2	LOS A	1.0	7.4	0.28	0.17	0.28	44.2
9	R2	94	1	99	1.1	0.210	7.2	LOS A	1.0	7.4	0.40	0.24	0.40	40.4
Approach		352	7	371	2.0	0.210	2.8	NA	1.0	7.4	0.31	0.19	0.31	43.1
West: Hyam Street														
10	L2	273	12	287	4.4	0.419	12.3	LOS A	2.3	16.4	0.59	1.08	0.79	31.9
12	R2	10	1	11	10.0	0.042	20.2	LOS B	0.1	1.1	0.75	1.00	0.75	20.0
Approach		283	13	298	4.6	0.419	12.6	LOS A	2.3	16.4	0.60	1.08	0.79	31.4
All Vehicles		1057	29	1113	2.7	0.419	4.4	NA	2.3	16.4	0.26	0.35	0.31	40.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [North Street - West Street (Site Folder: No Dev 2022 PM NETWORK PEAK)]

PM - 3:00pm to 4:00pm
Without Development

Site Category: Existing Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Street														
1	L2	20	0	21	0.0	0.043	7.5	LOS A	0.2	1.1	0.07	0.97	0.07	32.4
3	R2	25	3	26	12.0	0.043	8.2	LOS A	0.2	1.1	0.07	0.97	0.07	36.2
Approach		45	3	47	6.7	0.043	7.9	LOS A	0.2	1.1	0.07	0.97	0.07	34.8
East: North Street														
4	L2	29	0	31	0.0	0.023	4.6	LOS A	0.0	0.0	0.00	0.35	0.00	43.3
5	T1	16	0	17	0.0	0.023	0.0	LOS A	0.0	0.0	0.00	0.35	0.00	44.2
Approach		45	0	47	0.0	0.023	2.9	NA	0.0	0.0	0.00	0.35	0.00	43.6
West: North Street														
11	T1	75	0	79	0.0	0.061	0.1	LOS A	0.2	1.5	0.09	0.18	0.09	46.1
12	R2	37	0	39	0.0	0.061	4.7	LOS A	0.2	1.5	0.09	0.18	0.09	41.2
Approach		112	0	118	0.0	0.061	1.6	NA	0.2	1.5	0.09	0.18	0.09	44.8
All Vehicles		202	3	213	1.5	0.061	3.3	NA	0.2	1.5	0.06	0.39	0.06	41.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [North Street - Shoalhaven Street (Site Folder: No Dev 2022 PM NETWORK PEAK)]

PM - 3:00pm to 4:00pm
Without Development
Site Category: Existing Scenario
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
1	L2	8	0	8	0.0	0.106	3.4	LOS A	0.4	3.0	0.20	0.44	0.20	34.8
2	T1	82	2	86	2.4	0.106	2.8	LOS A	0.4	3.0	0.20	0.44	0.20	37.4
3	R2	33	1	35	3.0	0.106	5.7	LOS A	0.4	3.0	0.20	0.44	0.20	34.5
Approach		123	3	129	2.4	0.106	3.6	LOS A	0.4	3.0	0.20	0.44	0.20	36.8
East: North Street														
4	L2	44	8	46	18.2	0.104	3.6	LOS A	0.3	2.4	0.15	0.49	0.15	32.2
5	T1	27	0	28	0.0	0.104	2.7	LOS A	0.3	2.4	0.15	0.49	0.15	35.9
6	R2	45	8	47	17.8	0.104	5.7	LOS A	0.3	2.4	0.15	0.49	0.15	37.0
Approach		116	16	122	13.8	0.104	4.2	LOS A	0.3	2.4	0.15	0.49	0.15	35.5
North: Shoalhaven Street														
7	L2	39	0	41	0.0	0.094	3.6	LOS A	0.4	2.6	0.25	0.44	0.25	36.4
8	T1	55	0	58	0.0	0.094	3.0	LOS A	0.4	2.6	0.25	0.44	0.25	37.4
9	R2	11	0	12	0.0	0.094	5.9	LOS A	0.4	2.6	0.25	0.44	0.25	37.8
Approach		105	0	111	0.0	0.094	3.5	LOS A	0.4	2.6	0.25	0.44	0.25	37.1
West: North Street														
10	L2	14	0	15	0.0	0.103	3.8	LOS A	0.4	2.9	0.28	0.46	0.28	36.8
11	T1	75	1	79	1.3	0.103	3.1	LOS A	0.4	2.9	0.28	0.46	0.28	36.0
12	R2	22	2	23	9.1	0.103	6.1	LOS A	0.4	2.9	0.28	0.46	0.28	35.8
Approach		111	3	117	2.7	0.103	3.8	LOS A	0.4	2.9	0.28	0.46	0.28	36.2
All Vehicles		455	22	479	4.8	0.106	3.8	LOS A	0.4	3.0	0.22	0.46	0.22	36.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [North Street - Osborne Street (Site Folder: No Dev 2022 PM NETWORK PEAK)]

PM - 3:00pm to 4:00pm
Without Development
Site Category: Existing Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	35	7	37	20.0	0.450	9.0	LOS A	3.0	21.5	0.50	1.06	0.69	28.8
2	T1	154	3	162	1.9	0.450	13.0	LOS A	3.0	21.5	0.50	1.06	0.69	32.8
3	R2	73	2	77	2.7	0.450	15.3	LOS B	3.0	21.5	0.50	1.06	0.69	28.8
Approach		262	12	276	4.6	0.450	13.1	LOS A	3.0	21.5	0.50	1.06	0.69	31.6
East: North Street														
4	L2	53	1	56	1.9	0.075	3.7	LOS A	0.3	1.9	0.12	0.33	0.12	36.8
5	T1	63	2	66	3.2	0.075	0.3	LOS A	0.3	1.9	0.22	0.21	0.22	35.5
6	R2	33	0	35	0.0	0.075	4.2	LOS A	0.3	1.9	0.22	0.21	0.22	37.8
Approach		149	3	157	2.0	0.075	2.4	NA	0.3	1.9	0.18	0.25	0.18	36.7
North: Osborne Street														
7	L2	37	0	39	0.0	0.132	7.6	LOS A	0.5	3.8	0.44	0.90	0.44	33.7
8	T1	52	1	55	1.9	0.132	10.6	LOS A	0.5	3.8	0.44	0.90	0.44	34.6
9	R2	3	1	3	33.3	0.132	17.6	LOS B	0.5	3.8	0.44	0.90	0.44	33.3
Approach		92	2	97	2.2	0.132	9.7	LOS A	0.5	3.8	0.44	0.90	0.44	34.2
West: North Street														
10	L2	20	1	21	5.0	0.152	3.9	LOS A	0.5	3.8	0.14	0.14	0.14	38.8
11	T1	183	2	193	1.1	0.152	0.3	LOS A	0.5	3.8	0.14	0.14	0.14	37.1
12	R2	60	0	63	0.0	0.152	4.0	LOS A	0.5	3.8	0.14	0.14	0.14	38.0
Approach		263	3	277	1.1	0.152	1.5	NA	0.5	3.8	0.14	0.14	0.14	37.6
All Vehicles		766	20	806	2.6	0.450	6.6	NA	3.0	21.5	0.31	0.57	0.37	34.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [North Street - Bridge Road - Berry Road (Site Folder: No Dev 2022 PM NETWORK PEAK)]

PM - 3:00pm to 4:00pm
Without Development
Site Category: Existing Scenario
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Berry Street														
1	L2	111	4	117	3.6	0.483	13.9	LOS A	3.8	26.7	0.84	0.73	0.84	36.4
2	T1	178	1	187	0.6	* 0.483	9.1	LOS A	3.8	26.7	0.84	0.73	0.84	38.8
3	R2	1	0	1	0.0	0.003	14.3	LOS A	0.0	0.1	0.78	0.58	0.78	27.5
Approach		290	5	305	1.7	0.483	10.9	LOS A	3.8	26.7	0.84	0.73	0.84	38.0
East: North Street														
4	L2	75	1	79	1.3	0.262	17.4	LOS B	1.1	7.8	0.91	0.74	0.91	26.3
5	T1	70	1	74	1.4	* 0.500	11.0	LOS A	2.7	19.2	0.89	0.76	0.89	30.4
6	R2	118	3	124	2.5	0.500	15.5	LOS B	2.7	19.2	0.89	0.76	0.89	32.9
Approach		263	5	277	1.9	0.500	14.8	LOS B	2.7	19.2	0.90	0.76	0.90	30.5
North: Bridge Road														
7	L2	73	1	77	1.4	0.395	13.6	LOS A	3.0	21.1	0.81	0.70	0.81	25.7
8	T1	165	2	174	1.2	0.395	8.8	LOS A	3.0	21.1	0.81	0.70	0.81	39.4
9	R2	35	2	37	5.7	0.102	15.0	LOS B	0.5	3.3	0.81	0.69	0.81	35.8
Approach		273	5	287	1.8	0.395	10.9	LOS A	3.0	21.1	0.81	0.70	0.81	34.9
West: North Street														
10	L2	11	3	12	27.3	0.014	7.1	LOS A	0.0	0.4	0.55	0.59	0.55	42.4
11	T1	164	2	173	1.2	0.283	9.9	LOS A	1.8	12.6	0.82	0.64	0.82	34.1
Approach		175	5	184	2.9	0.283	9.8	LOS A	1.8	12.6	0.80	0.64	0.80	34.9
All Vehicles		1001	20	1054	2.0	0.500	11.7	LOS A	3.8	26.7	0.84	0.71	0.84	34.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Berry Street												
P1	Full	164	173	9.7	LOS A	0.1	0.1	0.81	0.81	172.8	212.1	1.23
East: North Street												
P2	Full	6	6	9.6	LOS A	0.0	0.0	0.80	0.80	174.4	214.2	1.23
North: Bridge Road												

P3 Full	26	27	9.6	LOS A	0.0	0.0	0.80	0.80	174.7	214.6	1.23
West: North Street											
P4 Full	5	5	9.6	LOS A	0.0	0.0	0.80	0.80	174.5	214.4	1.23
All Pedestrians	201	212	9.7	LOS A	0.1	0.1	0.80	0.80	173.2	212.5	1.23

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 5v [Shoalhaven Street - Hyam Street (Site Folder: Dev 2026 AM)]

AM Peak
With Development
Site Category: Opening Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
8	T1	27	1	28	3.7	0.045	0.1	LOS A	0.2	1.5	0.12	0.33	0.12	45.4
9	R2	45	5	47	11.1	0.045	4.8	LOS A	0.2	1.5	0.12	0.33	0.12	44.1
Approach		72	6	76	8.3	0.045	3.0	NA	0.2	1.5	0.12	0.33	0.12	44.6
East: Hyam Street														
10	L2	53	0	56	0.0	0.107	7.5	LOS A	0.4	2.8	0.10	0.94	0.10	40.4
12	R2	67	0	71	0.0	0.107	7.8	LOS A	0.4	2.8	0.10	0.94	0.10	15.0
Approach		120	0	126	0.0	0.107	7.7	LOS A	0.4	2.8	0.10	0.94	0.10	26.2
North: Shoalhaven Street														
1	L2	19	1	20	5.3	0.023	4.5	LOS A	0.0	0.0	0.00	0.24	0.00	40.6
2	T1	23	0	24	0.0	0.023	0.0	LOS A	0.0	0.0	0.00	0.24	0.00	47.1
Approach		42	1	44	2.4	0.023	2.0	NA	0.0	0.0	0.00	0.24	0.00	45.3
All Vehicles		234	7	246	3.0	0.107	5.2	NA	0.4	2.8	0.09	0.63	0.09	34.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [Hyam Street - Osborne Street (Site Folder: Dev 2026 AM)]

AM Peak
With Development
Site Category: Opening Year Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	5	0	5	0.0	0.051	5.0	LOS A	0.2	1.2	0.32	0.59	0.32	42.1
3	R2	43	2	45	4.7	0.051	5.8	LOS A	0.2	1.2	0.32	0.59	0.32	40.8
Approach		48	2	51	4.2	0.051	5.7	LOS A	0.2	1.2	0.32	0.59	0.32	40.9
East: Hyam Street														
4	L2	100	1	105	1.0	0.136	4.6	LOS A	0.0	0.0	0.00	0.22	0.00	46.3
5	T1	146	0	154	0.0	0.136	0.0	LOS A	0.0	0.0	0.00	0.22	0.00	44.0
Approach		246	1	259	0.4	0.136	1.9	NA	0.0	0.0	0.00	0.22	0.00	45.4
West: Hyam Street														
11	T1	82	7	86	8.5	0.053	0.1	LOS A	0.1	0.5	0.07	0.05	0.07	47.3
12	R2	8	0	8	0.0	0.053	5.4	LOS A	0.1	0.5	0.07	0.05	0.07	47.0
Approach		90	7	95	7.8	0.053	0.6	NA	0.1	0.5	0.07	0.05	0.07	47.3
All Vehicles		384	10	404	2.6	0.136	2.0	NA	0.2	1.2	0.06	0.23	0.06	44.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7v [Bridge Road - Hyam Street (Site Folder: Dev 2026 AM)]

AM Peak
With Development
Site Category: Opening Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bridge Road														
1	L2	26	1	27	3.8	0.015	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	35.6
2	T1	364	34	383	9.3	0.208	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		390	35	411	9.0	0.208	0.3	NA	0.0	0.0	0.00	0.04	0.00	49.0
North: Bridge Road														
8	T1	640	10	674	1.6	0.544	2.6	LOS A	5.5	38.6	0.38	0.23	0.56	41.6
9	R2	265	0	279	0.0	0.544	9.2	LOS A	5.5	38.6	0.56	0.34	0.82	37.5
Approach		905	10	953	1.1	0.544	4.6	NA	5.5	38.6	0.43	0.26	0.64	40.2
West: Hyam Street														
10	L2	121	9	127	7.4	0.143	9.9	LOS A	0.6	4.2	0.48	0.92	0.48	34.3
12	R2	10	2	11	20.0	0.074	30.5	LOS C	0.2	1.7	0.87	1.01	0.87	15.4
Approach		131	11	138	8.4	0.143	11.4	LOS A	0.6	4.2	0.51	0.93	0.51	32.3
All Vehicles		1426	56	1501	3.9	0.544	4.0	NA	5.5	38.6	0.32	0.26	0.45	41.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [North Street - West Street (Site Folder: Dev 2026 AM)]

AM Peak
With Development

Site Category: Opening Year Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Street														
1	L2	43	1	45	2.3	0.057	7.7	LOS A	0.2	1.5	0.15	0.91	0.15	32.6
3	R2	23	0	24	0.0	0.057	7.6	LOS A	0.2	1.5	0.15	0.91	0.15	36.7
Approach		66	1	69	1.5	0.057	7.7	LOS A	0.2	1.5	0.15	0.91	0.15	34.4
East: North Street														
4	L2	26	0	27	0.0	0.040	4.6	LOS A	0.0	0.0	0.00	0.18	0.00	45.6
5	T1	53	1	56	1.9	0.040	0.0	LOS A	0.0	0.0	0.00	0.18	0.00	46.8
Approach		79	1	83	1.3	0.040	1.5	NA	0.0	0.0	0.00	0.18	0.00	46.4
West: North Street														
11	T1	33	0	35	0.0	0.025	0.1	LOS A	0.1	0.5	0.11	0.14	0.11	46.7
12	R2	12	1	13	8.3	0.025	4.9	LOS A	0.1	0.5	0.11	0.14	0.11	41.7
Approach		45	1	47	2.2	0.025	1.4	NA	0.1	0.5	0.11	0.14	0.11	45.6
All Vehicles		190	3	200	1.6	0.057	3.6	NA	0.2	1.5	0.08	0.42	0.08	41.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [North Street - Shoalhaven Street (Site Folder: Dev 2026 AM)]

AM Peak
With Development
Site Category: Opening Year Scenario
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
1	L2	11	0	12	0.0	0.085	3.7	LOS A	0.3	2.4	0.27	0.48	0.27	34.3
2	T1	52	2	55	3.8	0.085	3.1	LOS A	0.3	2.4	0.27	0.48	0.27	37.0
3	R2	29	1	31	3.4	0.085	6.1	LOS A	0.3	2.4	0.27	0.48	0.27	33.9
Approach		92	3	97	3.3	0.085	4.1	LOS A	0.3	2.4	0.27	0.48	0.27	36.1
East: North Street														
4	L2	84	9	88	10.7	0.177	3.5	LOS A	0.5	4.1	0.12	0.48	0.12	32.5
5	T1	62	1	65	1.6	0.177	2.6	LOS A	0.5	4.1	0.12	0.48	0.12	36.1
6	R2	74	7	78	9.5	0.177	5.6	LOS A	0.5	4.1	0.12	0.48	0.12	37.2
Approach		220	17	232	7.7	0.177	3.9	LOS A	0.5	4.1	0.12	0.48	0.12	35.6
North: Shoalhaven Street														
7	L2	27	0	28	0.0	0.065	3.4	LOS A	0.2	1.8	0.17	0.45	0.17	36.3
8	T1	27	0	28	0.0	0.065	2.7	LOS A	0.2	1.8	0.17	0.45	0.17	37.3
9	R2	22	1	23	4.5	0.065	5.7	LOS A	0.2	1.8	0.17	0.45	0.17	37.7
Approach		76	1	80	1.3	0.065	3.8	LOS A	0.2	1.8	0.17	0.45	0.17	37.1
West: North Street														
10	L2	17	1	18	5.9	0.051	3.8	LOS A	0.2	1.4	0.26	0.44	0.26	36.9
11	T1	32	1	34	3.1	0.051	3.1	LOS A	0.2	1.4	0.26	0.44	0.26	36.2
12	R2	6	0	6	0.0	0.051	6.0	LOS A	0.2	1.4	0.26	0.44	0.26	36.0
Approach		55	2	58	3.6	0.051	3.6	LOS A	0.2	1.4	0.26	0.44	0.26	36.5
All Vehicles		443	23	466	5.2	0.177	3.9	LOS A	0.5	4.1	0.18	0.47	0.18	36.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [North Street - Osborne Street (Site Folder: Dev 2026 AM)]

AM Peak
With Development
Site Category: Opening Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	94	2	99	2.1	0.283	7.9	LOS A	1.2	9.0	0.50	0.92	0.51	30.6
2	T1	39	1	41	2.6	0.283	11.8	LOS A	1.2	9.0	0.50	0.92	0.51	34.0
3	R2	44	6	46	13.6	0.283	16.1	LOS B	1.2	9.0	0.50	0.92	0.51	30.4
Approach		177	9	186	5.1	0.283	10.8	LOS A	1.2	9.0	0.50	0.92	0.51	31.6
East: North Street														
4	L2	66	1	69	1.5	0.138	3.5	LOS A	0.2	1.2	0.02	0.34	0.02	37.2
5	T1	206	10	217	4.9	0.138	0.1	LOS A	0.2	1.2	0.06	0.07	0.06	38.5
6	R2	17	0	18	0.0	0.138	4.0	LOS A	0.2	1.2	0.06	0.07	0.06	39.3
Approach		289	11	304	3.8	0.138	1.1	NA	0.2	1.2	0.05	0.13	0.05	38.2
North: Osborne Street														
7	L2	29	1	31	3.4	0.172	7.5	LOS A	0.7	5.1	0.47	0.93	0.47	33.1
8	T1	71	1	75	1.4	0.172	11.7	LOS A	0.7	5.1	0.47	0.93	0.47	34.1
9	R2	5	0	5	0.0	0.172	13.7	LOS A	0.7	5.1	0.47	0.93	0.47	32.8
Approach		105	2	111	1.9	0.172	10.6	LOS A	0.7	5.1	0.47	0.93	0.47	33.8
West: North Street														
10	L2	6	0	6	0.0	0.111	4.7	LOS A	0.4	2.8	0.21	0.12	0.21	38.8
11	T1	139	1	146	0.7	0.111	0.6	LOS A	0.4	2.8	0.21	0.12	0.21	36.9
12	R2	39	0	41	0.0	0.111	4.8	LOS A	0.4	2.8	0.21	0.12	0.21	37.9
Approach		184	1	194	0.5	0.111	1.6	NA	0.4	2.8	0.21	0.12	0.21	37.3
All Vehicles		755	23	795	3.0	0.283	4.8	NA	1.2	9.0	0.25	0.43	0.25	35.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [North Street - Bridge Road - Berry Road (Site Folder: Dev 2026 AM)]

AM Peak
With Development
Site Category: Opening Year Scenario
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Berry Street														
1	L2	60	4	63	6.7	0.364	16.9	LOS B	3.5	25.0	0.81	0.69	0.81	34.8
2	T1	150	5	158	3.3	0.364	11.6	LOS A	3.5	25.0	0.81	0.69	0.81	37.2
3	R2	1	0	1	0.0	0.004	20.7	LOS B	0.0	0.1	0.87	0.58	0.87	23.4
Approach		211	9	222	4.3	0.364	13.2	LOS A	3.5	25.0	0.81	0.69	0.81	36.5
East: North Street														
4	L2	71	1	75	1.4	0.192	16.2	LOS B	1.5	11.1	0.78	0.70	0.78	28.1
5	T1	231	11	243	4.8	* 0.679	13.1	LOS A	6.7	49.2	0.88	0.84	0.98	29.4
6	R2	141	10	148	7.1	0.679	17.7	LOS B	6.7	49.2	0.89	0.85	1.00	32.0
Approach		443	22	466	5.0	0.679	15.0	LOS B	6.7	49.2	0.87	0.82	0.95	30.1
North: Bridge Road														
7	L2	83	4	87	4.8	0.686	19.2	LOS B	7.9	56.3	0.92	0.85	1.02	23.5
8	T1	321	3	338	0.9	* 0.686	14.2	LOS A	7.9	56.3	0.92	0.85	1.02	35.7
9	R2	125	2	132	1.6	0.353	18.8	LOS B	2.3	16.1	0.86	0.76	0.86	33.5
Approach		529	9	557	1.7	0.686	16.1	LOS B	7.9	56.3	0.91	0.83	0.98	33.1
West: North Street														
10	L2	28	2	29	7.1	0.031	6.6	LOS A	0.1	1.0	0.45	0.60	0.45	42.9
11	T1	222	12	234	5.4	0.280	9.6	LOS A	2.7	20.1	0.72	0.58	0.72	34.5
Approach		250	14	263	5.6	0.280	9.3	LOS A	2.7	20.1	0.69	0.59	0.69	35.8
All Vehicles		1433	54	1508	3.8	0.686	14.1	LOS A	7.9	56.3	0.84	0.76	0.90	33.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Berry Street												
P1	Full	310	326	14.6	LOS B	0.3	0.3	0.86	0.86	177.8	212.1	1.19
East: North Street												
P2	Full	14	15	14.5	LOS B	0.0	0.0	0.85	0.85	179.2	214.2	1.20
North: Bridge Road												

P3 Full	11	12	14.5	LOS B	0.0	0.0	0.85	0.85	179.5	214.6	1.20
West: North Street											
P4 Full	3	3	14.5	LOS B	0.0	0.0	0.85	0.85	179.4	214.4	1.20
All Pedestrians	338	356	14.6	LOS B	0.3	0.3	0.86	0.86	177.9	212.3	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 5v [Shoalhaven Street - Hyam Street (Site Folder: Dev 2026 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
With Development
Site Category: Opening Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
8	T1	42	1	44	2.4	0.170	0.3	LOS A	0.9	6.3	0.20	0.44	0.20	43.7
9	R2	230	6	242	2.6	0.170	4.9	LOS A	0.9	6.3	0.20	0.44	0.20	42.6
Approach		272	7	286	2.6	0.170	4.2	NA	0.9	6.3	0.20	0.44	0.20	42.7
East: Hyam Street														
10	L2	56	1	59	1.8	0.064	7.6	LOS A	0.2	1.7	0.07	0.96	0.07	40.1
12	R2	16	1	17	6.3	0.064	9.4	LOS A	0.2	1.7	0.07	0.96	0.07	16.0
Approach		72	2	76	2.8	0.064	8.0	LOS A	0.2	1.7	0.07	0.96	0.07	35.0
North: Shoalhaven Street														
1	L2	50	1	53	2.0	0.041	4.5	LOS A	0.0	0.0	0.00	0.36	0.00	38.6
2	T1	25	0	26	0.0	0.041	0.0	LOS A	0.0	0.0	0.00	0.36	0.00	45.7
Approach		75	1	79	1.3	0.041	3.0	NA	0.0	0.0	0.00	0.36	0.00	42.2
All Vehicles		419	10	441	2.4	0.170	4.6	NA	0.9	6.3	0.14	0.52	0.14	41.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [Hyam Street - Osborne Street (Site Folder: Dev 2026 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
With Development
Site Category: Opening Year Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	3	0	3	0.0	0.237	4.8	LOS A	0.9	6.1	0.41	0.68	0.41	41.5
3	R2	204	2	215	1.0	0.237	6.3	LOS A	0.9	6.1	0.41	0.68	0.41	40.3
Approach		207	2	218	1.0	0.237	6.3	LOS A	0.9	6.1	0.41	0.68	0.41	40.3
East: Hyam Street														
4	L2	35	1	37	2.9	0.060	4.6	LOS A	0.0	0.0	0.00	0.18	0.00	46.7
5	T1	73	2	77	2.7	0.060	0.0	LOS A	0.0	0.0	0.00	0.18	0.00	45.0
Approach		108	3	114	2.8	0.060	1.5	NA	0.0	0.0	0.00	0.18	0.00	45.9
West: Hyam Street														
11	T1	248	5	261	2.0	0.140	0.0	LOS A	0.0	0.3	0.01	0.01	0.01	49.4
12	R2	6	0	6	0.0	0.140	4.9	LOS A	0.0	0.3	0.01	0.01	0.01	47.7
Approach		254	5	267	2.0	0.140	0.1	NA	0.0	0.3	0.01	0.01	0.01	49.3
All Vehicles		569	10	599	1.8	0.237	2.6	NA	0.9	6.1	0.15	0.28	0.15	43.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7v [Bridge Road - Hyam Street (Site Folder: Dev 2026 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
With Development
Site Category: Opening Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bridge Road														
1	L2	1	0	1	0.0	0.001	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	35.8
2	T1	585	12	616	2.1	0.320	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach		586	12	617	2.0	0.320	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.8
North: Bridge Road														
8	T1	253	3	266	1.2	0.250	2.4	LOS A	1.5	10.9	0.34	0.20	0.36	41.9
9	R2	103	5	108	4.9	0.250	9.4	LOS A	1.5	10.9	0.54	0.31	0.58	36.9
Approach		356	8	375	2.2	0.250	4.4	NA	1.5	10.9	0.40	0.23	0.43	40.2
West: Hyam Street														
10	L2	485	10	511	2.1	0.759	18.7	LOS B	7.4	52.4	0.82	1.42	1.93	26.9
12	R2	2	0	2	0.0	0.006	15.1	LOS B	0.0	0.1	0.70	0.90	0.70	23.6
Approach		487	10	513	2.1	0.759	18.7	LOS B	7.4	52.4	0.82	1.42	1.93	26.9
All Vehicles		1429	30	1504	2.1	0.759	7.5	NA	7.4	52.4	0.38	0.54	0.76	36.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [North Street - West Street (Site Folder: Dev 2026 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
With Development
Site Category: Opening Year Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Street														
1	L2	33	0	35	0.0	0.066	7.6	LOS A	0.2	1.7	0.11	0.93	0.11	32.5
3	R2	39	0	41	0.0	0.066	7.8	LOS A	0.2	1.7	0.11	0.93	0.11	36.5
Approach		72	0	76	0.0	0.066	7.7	LOS A	0.2	1.7	0.11	0.93	0.11	35.0
East: North Street														
4	L2	27	0	28	0.0	0.029	4.6	LOS A	0.0	0.0	0.00	0.26	0.00	44.5
5	T1	30	1	32	3.3	0.029	0.0	LOS A	0.0	0.0	0.00	0.26	0.00	45.5
Approach		57	1	60	1.8	0.029	2.2	NA	0.0	0.0	0.00	0.26	0.00	45.0
West: North Street														
11	T1	76	1	80	1.3	0.061	0.1	LOS A	0.2	1.4	0.10	0.17	0.10	46.1
12	R2	35	0	37	0.0	0.061	4.7	LOS A	0.2	1.4	0.10	0.17	0.10	41.2
Approach		111	1	117	0.9	0.061	1.6	NA	0.2	1.4	0.10	0.17	0.10	44.8
All Vehicles		240	2	253	0.8	0.066	3.5	NA	0.2	1.7	0.08	0.42	0.08	41.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [North Street - Shoalhaven Street (Site Folder: Dev 2026 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
With Development
Site Category: Opening Year Scenario
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
1	L2	13	0	14	0.0	0.223	4.4	LOS A	1.0	7.0	0.19	0.48	0.19	39.3
2	T1	213	2	224	0.9	0.223	4.0	LOS A	1.0	7.0	0.19	0.48	0.19	43.6
3	R2	53	2	56	3.8	0.223	7.0	LOS A	1.0	7.0	0.19	0.48	0.19	37.0
Approach		279	4	294	1.4	0.223	4.6	LOS A	1.0	7.0	0.19	0.48	0.19	42.7
East: North Street														
4	L2	19	1	20	5.3	0.063	4.6	LOS A	0.2	1.3	0.15	0.53	0.15	34.8
5	T1	30	0	32	0.0	0.063	3.9	LOS A	0.2	1.3	0.15	0.53	0.15	40.7
6	R2	24	1	25	4.2	0.063	7.0	LOS A	0.2	1.3	0.15	0.53	0.15	42.8
Approach		73	2	77	2.7	0.063	5.1	LOS A	0.2	1.3	0.15	0.53	0.15	40.5
North: Shoalhaven Street														
7	L2	40	0	42	0.0	0.101	4.7	LOS A	0.4	3.0	0.28	0.52	0.28	42.0
8	T1	54	2	57	3.7	0.101	4.4	LOS A	0.4	3.0	0.28	0.52	0.28	43.0
9	R2	16	0	17	0.0	0.101	7.3	LOS A	0.4	3.0	0.28	0.52	0.28	44.0
Approach		110	2	116	1.8	0.101	4.9	LOS A	0.4	3.0	0.28	0.52	0.28	42.8
West: North Street														
10	L2	27	0	28	0.0	0.125	5.4	LOS A	0.5	3.7	0.39	0.58	0.39	42.7
11	T1	76	1	80	1.3	0.125	5.0	LOS A	0.5	3.7	0.39	0.58	0.39	39.9
12	R2	21	0	22	0.0	0.125	7.9	LOS A	0.5	3.7	0.39	0.58	0.39	39.3
Approach		124	1	131	0.8	0.125	5.5	LOS A	0.5	3.7	0.39	0.58	0.39	40.7
All Vehicles		586	9	617	1.5	0.223	4.9	LOS A	1.0	7.0	0.24	0.52	0.24	42.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [North Street - Osborne Street (Site Folder: Dev 2026 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
With Development
Site Category: Opening Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	27	0	28	0.0	0.666	11.9	LOS A	7.3	52.1	0.60	1.14	1.07	32.5
2	T1	222	3	234	1.4	0.666	16.1	LOS B	7.3	52.1	0.60	1.14	1.07	40.5
3	R2	176	4	185	2.3	0.666	17.8	LOS B	7.3	52.1	0.60	1.14	1.07	32.4
Approach		425	7	447	1.6	0.666	16.6	LOS B	7.3	52.1	0.60	1.14	1.07	37.3
East: North Street														
4	L2	51	0	54	0.0	0.057	5.7	LOS A	0.2	1.3	0.10	0.40	0.10	46.1
5	T1	42	0	44	0.0	0.057	0.2	LOS A	0.2	1.3	0.16	0.30	0.16	47.0
6	R2	23	0	24	0.0	0.057	6.0	LOS A	0.2	1.3	0.16	0.30	0.16	50.1
Approach		116	0	122	0.0	0.057	3.8	NA	0.2	1.3	0.14	0.34	0.14	47.4
North: Osborne Street														
7	L2	19	0	20	0.0	0.092	8.8	LOS A	0.4	2.6	0.38	0.89	0.38	43.4
8	T1	44	0	46	0.0	0.092	10.6	LOS A	0.4	2.6	0.38	0.89	0.38	45.6
9	R2	5	0	5	0.0	0.092	14.1	LOS A	0.4	2.6	0.38	0.89	0.38	43.0
Approach		68	0	72	0.0	0.092	10.4	LOS A	0.4	2.6	0.38	0.89	0.38	44.9
West: North Street														
10	L2	25	1	26	4.0	0.128	5.9	LOS A	0.5	3.8	0.16	0.24	0.16	51.3
11	T1	119	2	125	1.7	0.128	0.6	LOS A	0.5	3.8	0.16	0.24	0.16	48.9
12	R2	68	0	72	0.0	0.128	5.9	LOS A	0.5	3.8	0.16	0.24	0.16	47.9
Approach		212	3	223	1.4	0.128	2.9	NA	0.5	3.8	0.16	0.24	0.16	49.0
All Vehicles		821	10	864	1.2	0.666	10.7	NA	7.3	52.1	0.40	0.77	0.65	40.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [North Street - Bridge Road - Berry Road (Site Folder: Dev 2026 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
With Development
Site Category: Opening Year Scenario
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Berry Street														
1	L2	190	0	200	0.0	0.558	14.9	LOS B	4.2	29.4	0.89	0.79	0.90	34.6
2	T1	110	1	116	0.9	* 0.558	10.2	LOS A	4.2	29.4	0.89	0.79	0.90	37.0
3	R2	1	0	1	0.0	0.003	15.2	LOS B	0.0	0.1	0.81	0.58	0.81	26.8
Approach		301	1	317	0.3	0.558	13.2	LOS A	4.2	29.4	0.89	0.78	0.90	35.5
East: North Street														
4	L2	41	0	43	0.0	0.118	15.9	LOS B	0.6	3.9	0.85	0.70	0.85	27.4
5	T1	33	1	35	3.0	* 0.371	9.6	LOS A	2.1	14.5	0.83	0.74	0.83	30.9
6	R2	124	0	131	0.0	0.371	14.1	LOS A	2.1	14.5	0.83	0.74	0.83	33.5
Approach		198	1	208	0.5	0.371	13.8	LOS A	2.1	14.5	0.83	0.73	0.83	31.9
North: Bridge Road														
7	L2	61	0	64	0.0	0.445	14.5	LOS B	3.2	22.8	0.85	0.72	0.85	25.4
8	T1	182	2	192	1.1	0.445	9.8	LOS A	3.2	22.8	0.85	0.72	0.85	38.8
9	R2	37	1	39	2.7	0.122	17.0	LOS B	0.5	3.8	0.88	0.70	0.88	34.6
Approach		280	3	295	1.1	0.445	11.7	LOS A	3.2	22.8	0.86	0.72	0.86	35.0
West: North Street														
10	L2	3	0	3	0.0	0.003	6.6	LOS A	0.0	0.1	0.51	0.56	0.51	42.7
11	T1	148	2	156	1.4	0.227	8.9	LOS A	1.5	10.7	0.78	0.61	0.78	35.3
Approach		151	2	159	1.3	0.227	8.9	LOS A	1.5	10.7	0.77	0.61	0.77	35.5
All Vehicles		930	7	979	0.8	0.558	12.2	LOS A	4.2	29.4	0.85	0.72	0.85	34.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Berry Street												
P1	Full	185	195	9.7	LOS A	0.1	0.1	0.81	0.81	172.8	212.1	1.23
East: North Street												
P2	Full	16	17	9.6	LOS A	0.0	0.0	0.80	0.80	174.4	214.2	1.23
North: Bridge Road												

P3 Full	7	7	9.6	LOS A	0.0	0.0	0.80	0.80	174.7	214.6	1.23
West: North Street											
P4 Full	8	8	9.6	LOS A	0.0	0.0	0.80	0.80	174.5	214.4	1.23
All Pedestrians	216	227	9.7	LOS A	0.1	0.1	0.81	0.81	173.1	212.4	1.23

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 5v [Shoalhaven Street - Hyam Street (Site Folder: Dev 2026 PM NETWORK PEAK)]

PM Peak - 3:00pm to 4:00m
With Development
Site Category: Opening Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
8	T1	28	0	29	0.0	0.096	0.2	LOS A	0.5	3.5	0.17	0.42	0.17	44.1
9	R2	121	14	127	11.6	0.096	4.9	LOS A	0.5	3.5	0.17	0.42	0.17	42.6
Approach		149	14	157	9.4	0.096	4.0	NA	0.5	3.5	0.17	0.42	0.17	42.9
East: Hyam Street														
10	L2	47	0	49	0.0	0.054	7.5	LOS A	0.2	1.4	0.07	0.96	0.07	40.3
12	R2	17	0	18	0.0	0.054	8.3	LOS A	0.2	1.4	0.07	0.96	0.07	15.0
Approach		64	0	67	0.0	0.054	7.7	LOS A	0.2	1.4	0.07	0.96	0.07	33.6
North: Shoalhaven Street														
1	L2	43	0	45	0.0	0.034	4.5	LOS A	0.0	0.0	0.00	0.36	0.00	38.7
2	T1	21	0	22	0.0	0.034	0.0	LOS A	0.0	0.0	0.00	0.36	0.00	45.7
Approach		64	0	67	0.0	0.034	3.0	NA	0.0	0.0	0.00	0.36	0.00	42.2
All Vehicles		277	14	292	5.1	0.096	4.6	NA	0.5	3.5	0.11	0.53	0.11	40.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [Hyam Street - Osborne Street (Site Folder: Dev 2026 PM NETWORK PEAK)]

PM Peak - 3:00pm to 4:00m
With Development
Site Category: Opening Year Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	19	0	20	0.0	0.183	4.8	LOS A	0.7	4.7	0.30	0.60	0.30	42.1
3	R2	160	2	168	1.3	0.183	5.8	LOS A	0.7	4.7	0.30	0.60	0.30	40.9
Approach		179	2	188	1.1	0.183	5.7	LOS A	0.7	4.7	0.30	0.60	0.30	41.0
East: Hyam Street														
4	L2	40	1	42	2.5	0.062	4.6	LOS A	0.0	0.0	0.00	0.19	0.00	46.6
5	T1	72	0	76	0.0	0.062	0.0	LOS A	0.0	0.0	0.00	0.19	0.00	44.7
Approach		112	1	118	0.9	0.062	1.6	NA	0.0	0.0	0.00	0.19	0.00	45.8
West: Hyam Street														
11	T1	158	8	166	5.1	0.100	0.1	LOS A	0.1	0.9	0.05	0.05	0.05	47.6
12	R2	17	1	18	5.9	0.100	5.0	LOS A	0.1	0.9	0.05	0.05	0.05	47.0
Approach		175	9	184	5.1	0.100	0.5	NA	0.1	0.9	0.05	0.05	0.05	47.5
All Vehicles		466	12	491	2.6	0.183	2.8	NA	0.7	4.7	0.13	0.30	0.13	43.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7v [Bridge Road - Hyam Street (Site Folder: Dev 2026 PM NETWORK PEAK)]

PM Peak - 3:00pm to 4:00m
With Development
Site Category: Opening Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bridge Road														
1	L2	6	1	6	16.7	0.004	4.6	LOS A	0.0	0.0	0.00	0.52	0.00	34.9
2	T1	450	8	474	1.8	0.246	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		456	9	480	2.0	0.246	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.7
North: Bridge Road														
8	T1	279	6	294	2.2	0.239	1.5	LOS A	1.3	9.0	0.30	0.18	0.30	43.6
9	R2	109	1	115	0.9	0.239	7.6	LOS A	1.3	9.0	0.44	0.26	0.44	39.7
Approach		388	7	408	1.8	0.239	3.2	NA	1.3	9.0	0.34	0.20	0.34	42.4
West: Hyam Street														
10	L2	303	13	319	4.3	0.389	11.5	LOS A	2.1	15.6	0.60	1.06	0.75	32.7
12	R2	11	1	12	9.1	0.031	14.6	LOS B	0.1	0.7	0.67	0.99	0.67	24.0
Approach		314	14	331	4.5	0.389	11.6	LOS A	2.1	15.6	0.60	1.05	0.75	32.4
All Vehicles		1158	30	1219	2.6	0.389	4.3	NA	2.1	15.6	0.28	0.36	0.32	41.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [North Street - West Street (Site Folder: Dev 2026 PM NETWORK PEAK)]

PM Peak - 3:00pm to 4:00m
With Development
Site Category: Opening Year Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Street														
1	L2	25	0	26	0.0	0.051	7.5	LOS A	0.2	1.3	0.10	0.95	0.10	32.4
3	R2	28	3	29	10.7	0.051	8.4	LOS A	0.2	1.3	0.10	0.95	0.10	36.2
Approach		53	3	56	5.7	0.051	8.0	LOS A	0.2	1.3	0.10	0.95	0.10	34.7
East: North Street														
4	L2	32	0	34	0.0	0.029	4.6	LOS A	0.0	0.0	0.00	0.30	0.00	43.9
5	T1	25	0	26	0.0	0.029	0.0	LOS A	0.0	0.0	0.00	0.30	0.00	44.8
Approach		57	0	60	0.0	0.029	2.6	NA	0.0	0.0	0.00	0.30	0.00	44.3
West: North Street														
11	T1	89	0	94	0.0	0.072	0.1	LOS A	0.3	1.8	0.10	0.18	0.10	46.0
12	R2	43	0	45	0.0	0.072	4.7	LOS A	0.3	1.8	0.10	0.18	0.10	41.1
Approach		132	0	139	0.0	0.072	1.6	NA	0.3	1.8	0.10	0.18	0.10	44.7
All Vehicles		242	3	255	1.2	0.072	3.2	NA	0.3	1.8	0.08	0.38	0.08	42.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [North Street - Shoalhaven Street (Site Folder: Dev 2026 PM NETWORK PEAK)]

PM Peak - 3:00pm to 4:00m
With Development
Site Category: Opening Year Scenario
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
1	L2	11	0	12	0.0	0.120	3.5	LOS A	0.5	3.4	0.22	0.45	0.22	34.7
2	T1	90	2	95	2.2	0.120	2.9	LOS A	0.5	3.4	0.22	0.45	0.22	37.3
3	R2	36	1	38	2.8	0.120	5.8	LOS A	0.5	3.4	0.22	0.45	0.22	34.4
Approach		137	3	144	2.2	0.120	3.7	LOS A	0.5	3.4	0.22	0.45	0.22	36.7
East: North Street														
4	L2	47	8	49	17.0	0.118	3.7	LOS A	0.4	2.7	0.17	0.49	0.17	32.1
5	T1	34	0	36	0.0	0.118	2.7	LOS A	0.4	2.7	0.17	0.49	0.17	35.9
6	R2	50	9	53	18.0	0.118	5.8	LOS A	0.4	2.7	0.17	0.49	0.17	37.0
Approach		131	17	138	13.0	0.118	4.2	LOS A	0.4	2.7	0.17	0.49	0.17	35.5
North: Shoalhaven Street														
7	L2	43	0	45	0.0	0.107	3.7	LOS A	0.4	3.1	0.27	0.45	0.27	36.3
8	T1	61	0	64	0.0	0.107	3.0	LOS A	0.4	3.1	0.27	0.45	0.27	37.3
9	R2	14	0	15	0.0	0.107	6.0	LOS A	0.4	3.1	0.27	0.45	0.27	37.7
Approach		118	0	124	0.0	0.107	3.6	LOS A	0.4	3.1	0.27	0.45	0.27	37.0
West: North Street														
10	L2	17	0	18	0.0	0.121	3.8	LOS A	0.5	3.5	0.30	0.47	0.30	36.8
11	T1	86	1	91	1.2	0.121	3.2	LOS A	0.5	3.5	0.30	0.47	0.30	35.9
12	R2	26	2	27	7.7	0.121	6.2	LOS A	0.5	3.5	0.30	0.47	0.30	35.7
Approach		129	3	136	2.3	0.121	3.9	LOS A	0.5	3.5	0.30	0.47	0.30	36.1
All Vehicles		515	23	542	4.5	0.121	3.9	LOS A	0.5	3.5	0.24	0.47	0.24	36.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [North Street - Osborne Street (Site Folder: Dev 2026 PM NETWORK PEAK)]

PM Peak - 3:00pm to 4:00m
With Development
Site Category: Opening Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	40	8	42	20.0	0.522	10.0	LOS A	3.8	27.6	0.55	1.12	0.85	27.7
2	T1	166	3	175	1.8	0.522	14.7	LOS B	3.8	27.6	0.55	1.12	0.85	32.0
3	R2	79	2	83	2.5	0.522	17.6	LOS B	3.8	27.6	0.55	1.12	0.85	27.7
Approach		285	13	300	4.6	0.522	14.9	LOS B	3.8	27.6	0.55	1.12	0.85	30.6
East: North Street														
4	L2	57	1	60	1.8	0.083	3.7	LOS A	0.3	2.1	0.12	0.33	0.12	36.8
5	T1	72	2	76	2.8	0.083	0.4	LOS A	0.3	2.1	0.23	0.21	0.23	35.6
6	R2	36	0	38	0.0	0.083	4.3	LOS A	0.3	2.1	0.23	0.21	0.23	37.8
Approach		165	3	174	1.8	0.083	2.4	NA	0.3	2.1	0.19	0.25	0.19	36.7
North: Osborne Street														
7	L2	40	0	42	0.0	0.150	7.7	LOS A	0.6	4.4	0.47	0.91	0.47	33.4
8	T1	56	1	59	1.8	0.150	11.3	LOS A	0.6	4.4	0.47	0.91	0.47	34.4
9	R2	3	1	3	33.3	0.150	19.6	LOS B	0.6	4.4	0.47	0.91	0.47	33.0
Approach		99	2	104	2.0	0.150	10.1	LOS A	0.6	4.4	0.47	0.91	0.47	34.0
West: North Street														
10	L2	22	1	23	4.5	0.169	4.0	LOS A	0.6	4.3	0.16	0.14	0.16	38.8
11	T1	201	1	212	0.5	0.169	0.4	LOS A	0.6	4.3	0.16	0.14	0.16	37.0
12	R2	67	0	71	0.0	0.169	4.1	LOS A	0.6	4.3	0.16	0.14	0.16	37.9
Approach		290	2	305	0.7	0.169	1.5	NA	0.6	4.3	0.16	0.14	0.16	37.5
All Vehicles		839	20	883	2.4	0.522	7.2	NA	3.8	27.6	0.33	0.59	0.43	33.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [North Street - Bridge Road - Berry Road (Site Folder: Dev 2026 PM NETWORK PEAK)]

PM Peak - 3:00pm to 4:00m
With Development
Site Category: Opening Year Scenario
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Berry Street														
1	L2	121	4	127	3.3	0.579	15.2	LOS B	4.4	31.4	0.90	0.79	0.93	35.3
2	T1	192	0	202	0.0	* 0.579	10.4	LOS A	4.4	31.4	0.90	0.79	0.93	37.8
3	R2	1	0	1	0.0	0.003	15.2	LOS B	0.0	0.1	0.81	0.58	0.81	26.8
Approach		314	4	331	1.3	0.579	12.3	LOS A	4.4	31.4	0.90	0.79	0.93	36.9
East: North Street														
4	L2	81	1	85	1.2	0.235	16.3	LOS B	1.1	8.1	0.88	0.74	0.88	27.1
5	T1	79	1	83	1.3	* 0.495	10.1	LOS A	2.8	20.2	0.87	0.76	0.87	31.2
6	R2	127	3	134	2.4	0.495	14.6	LOS B	2.8	20.2	0.87	0.76	0.87	33.7
Approach		287	5	302	1.7	0.495	13.9	LOS A	2.8	20.2	0.87	0.75	0.87	31.3
North: Bridge Road														
7	L2	79	1	83	1.3	0.473	14.7	LOS B	3.5	24.4	0.86	0.73	0.86	25.2
8	T1	178	2	187	1.1	0.473	9.9	LOS A	3.5	24.4	0.86	0.73	0.86	38.5
9	R2	38	2	40	5.3	0.129	17.0	LOS B	0.5	4.0	0.88	0.70	0.88	34.6
Approach		295	5	311	1.7	0.473	12.1	LOS A	3.5	24.4	0.86	0.73	0.86	34.1
West: North Street														
10	L2	12	3	13	25.0	0.015	7.1	LOS A	0.1	0.4	0.55	0.60	0.55	42.4
11	T1	179	1	188	0.6	0.273	9.1	LOS A	1.9	13.1	0.79	0.62	0.79	35.1
Approach		191	4	201	2.1	0.273	8.9	LOS A	1.9	13.1	0.77	0.62	0.77	35.8
All Vehicles		1087	18	1144	1.7	0.579	12.1	LOS A	4.4	31.4	0.86	0.73	0.87	34.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Berry Street												
P1	Full	181	191	9.7	LOS A	0.1	0.1	0.81	0.81	172.8	212.1	1.23
East: North Street												
P2	Full	9	9	9.6	LOS A	0.0	0.0	0.80	0.80	174.4	214.2	1.23
North: Bridge Road												

P3 Full	31	33	9.6	LOS A	0.0	0.0	0.80	0.80	174.7	214.6	1.23
West: North Street											
P4 Full	8	8	9.6	LOS A	0.0	0.0	0.80	0.80	174.5	214.4	1.23
All Pedestrians	229	241	9.7	LOS A	0.1	0.1	0.81	0.81	173.2	212.6	1.23

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 5v [Shoalhaven Street - Hyam Street (Site Folder: Dev 2031 AM)]

AM Peak
With Development
Site Category: 10 Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
8	T1	57	1	60	1.8	0.068	0.2	LOS A	0.3	2.2	0.16	0.25	0.16	46.1
9	R2	53	6	56	11.3	0.068	4.9	LOS A	0.3	2.2	0.16	0.25	0.16	44.7
Approach		110	7	116	6.4	0.068	2.5	NA	0.3	2.2	0.16	0.25	0.16	45.4
East: Hyam Street														
10	L2	64	0	67	0.0	0.154	7.6	LOS A	0.6	4.1	0.16	0.92	0.16	40.2
12	R2	98	0	103	0.0	0.154	8.2	LOS A	0.6	4.1	0.16	0.92	0.16	14.9
Approach		162	0	171	0.0	0.154	8.0	LOS A	0.6	4.1	0.16	0.92	0.16	24.9
North: Shoalhaven Street														
1	L2	31	1	33	3.2	0.039	4.5	LOS A	0.0	0.0	0.00	0.23	0.00	41.1
2	T1	42	0	44	0.0	0.039	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	47.2
Approach		73	1	77	1.4	0.039	1.9	NA	0.0	0.0	0.00	0.23	0.00	45.7
All Vehicles		345	8	363	2.3	0.154	4.9	NA	0.6	4.1	0.13	0.56	0.13	34.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [Hyam Street - Osborne Street (Site Folder: Dev 2031 AM)]

AM Peak
With Development
Site Category: 10 Year Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	6	0	6	0.0	0.057	5.2	LOS A	0.2	1.3	0.36	0.61	0.36	41.8
3	R2	45	0	47	0.0	0.057	6.1	LOS A	0.2	1.3	0.36	0.61	0.36	40.7
Approach		51	0	54	0.0	0.057	6.0	LOS A	0.2	1.3	0.36	0.61	0.36	40.8
East: Hyam Street														
4	L2	110	1	116	0.9	0.166	4.6	LOS A	0.0	0.0	0.00	0.20	0.00	46.5
5	T1	191	0	201	0.0	0.166	0.0	LOS A	0.0	0.0	0.00	0.20	0.00	44.5
Approach		301	1	317	0.3	0.166	1.7	NA	0.0	0.0	0.00	0.20	0.00	45.7
West: Hyam Street														
11	T1	104	8	109	7.7	0.065	0.1	LOS A	0.1	0.5	0.07	0.04	0.07	47.7
12	R2	8	0	8	0.0	0.065	5.7	LOS A	0.1	0.5	0.07	0.04	0.07	47.1
Approach		112	8	118	7.1	0.065	0.5	NA	0.1	0.5	0.07	0.04	0.07	47.6
All Vehicles		464	9	488	1.9	0.166	1.9	NA	0.2	1.3	0.06	0.21	0.06	45.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7v [Bridge Road - Hyam Street (Site Folder: Dev 2031 AM)]

AM Peak
With Development
Site Category: 10 Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bridge Road														
1	L2	28	1	29	3.6	0.016	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	35.6
2	T1	402	37	423	9.2	0.230	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		430	38	453	8.8	0.230	0.3	NA	0.0	0.0	0.00	0.03	0.00	49.0
North: Bridge Road														
8	T1	706	10	743	1.4	0.646	3.7	LOS A	8.2	57.8	0.44	0.29	0.76	39.6
9	R2	322	0	339	0.0	0.646	11.0	LOS A	8.2	57.8	0.67	0.44	1.16	35.0
Approach		1028	10	1082	1.0	0.646	6.0	NA	8.2	57.8	0.51	0.34	0.89	38.0
West: Hyam Street														
10	L2	148	11	156	7.4	0.185	10.3	LOS A	0.7	5.6	0.51	0.95	0.51	33.9
12	R2	10	2	11	20.0	0.106	40.7	LOS C	0.3	2.3	0.91	1.00	0.91	12.4
Approach		158	13	166	8.2	0.185	12.2	LOS A	0.7	5.6	0.54	0.95	0.54	31.6
All Vehicles		1616	61	1701	3.8	0.646	5.1	NA	8.2	57.8	0.38	0.32	0.62	39.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [North Street - West Street (Site Folder: Dev 2031 AM)]

AM Peak
With Development

Site Category: 10 Year Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Street														
1	L2	58	1	61	1.7	0.089	7.9	LOS A	0.3	2.4	0.24	0.89	0.24	32.4
3	R2	37	0	39	0.0	0.089	8.1	LOS A	0.3	2.4	0.24	0.89	0.24	36.5
Approach		95	1	100	1.1	0.089	8.0	LOS A	0.3	2.4	0.24	0.89	0.24	34.3
East: North Street														
4	L2	34	0	36	0.0	0.071	4.6	LOS A	0.0	0.0	0.00	0.13	0.00	46.4
5	T1	106	1	112	0.9	0.071	0.0	LOS A	0.0	0.0	0.00	0.13	0.00	47.6
Approach		140	1	147	0.7	0.071	1.1	NA	0.0	0.0	0.00	0.13	0.00	47.3
West: North Street														
11	T1	56	0	59	0.0	0.042	0.2	LOS A	0.1	0.9	0.14	0.14	0.14	46.4
12	R2	19	1	20	5.3	0.042	5.1	LOS A	0.1	0.9	0.14	0.14	0.14	41.5
Approach		75	1	79	1.3	0.042	1.4	NA	0.1	0.9	0.14	0.14	0.14	45.4
All Vehicles		310	3	326	1.0	0.089	3.3	NA	0.3	2.4	0.11	0.37	0.11	42.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [North Street - Shoalhaven Street (Site Folder: Dev 2031 AM)]

AM Peak
With Development
Site Category: 10 Year Scenario
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
1	L2	17	0	18	0.0	0.110	4.1	LOS A	0.5	3.2	0.34	0.51	0.34	34.1
2	T1	67	0	71	0.0	0.110	3.4	LOS A	0.5	3.2	0.34	0.51	0.34	36.9
3	R2	31	0	33	0.0	0.110	6.3	LOS A	0.5	3.2	0.34	0.51	0.34	33.7
Approach		115	0	121	0.0	0.110	4.3	LOS A	0.5	3.2	0.34	0.51	0.34	36.0
East: North Street														
4	L2	92	10	97	10.9	0.233	3.6	LOS A	0.8	5.7	0.16	0.47	0.16	32.5
5	T1	104	1	109	1.0	0.233	2.7	LOS A	0.8	5.7	0.16	0.47	0.16	36.1
6	R2	88	8	93	9.1	0.233	5.7	LOS A	0.8	5.7	0.16	0.47	0.16	37.2
Approach		284	19	299	6.7	0.233	3.9	LOS A	0.8	5.7	0.16	0.47	0.16	35.7
North: Shoalhaven Street														
7	L2	33	0	35	0.0	0.093	3.5	LOS A	0.4	2.6	0.20	0.48	0.20	36.1
8	T1	35	0	37	0.0	0.093	2.8	LOS A	0.4	2.6	0.20	0.48	0.20	37.1
9	R2	39	1	41	2.6	0.093	5.8	LOS A	0.4	2.6	0.20	0.48	0.20	37.5
Approach		107	1	113	0.9	0.093	4.1	LOS A	0.4	2.6	0.20	0.48	0.20	36.9
West: North Street														
10	L2	30	1	32	3.3	0.085	3.9	LOS A	0.3	2.4	0.30	0.46	0.30	36.8
11	T1	50	1	53	2.0	0.085	3.2	LOS A	0.3	2.4	0.30	0.46	0.30	36.0
12	R2	10	0	11	0.0	0.085	6.1	LOS A	0.3	2.4	0.30	0.46	0.30	35.9
Approach		90	2	95	2.2	0.085	3.8	LOS A	0.3	2.4	0.30	0.46	0.30	36.4
All Vehicles		596	22	627	3.7	0.233	4.0	LOS A	0.8	5.7	0.22	0.48	0.22	36.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [North Street - Osborne Street (Site Folder: Dev 2031 AM)]

AM Peak
With Development
Site Category: 10 Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	114	2	120	1.8	0.377	9.2	LOS A	2.0	14.7	0.58	1.01	0.74	28.9
2	T1	43	1	45	2.3	0.377	14.8	LOS B	2.0	14.7	0.58	1.01	0.74	32.8
3	R2	49	7	52	14.3	0.377	21.0	LOS B	2.0	14.7	0.58	1.01	0.74	28.8
Approach		206	10	217	4.9	0.377	13.2	LOS A	2.0	14.7	0.58	1.01	0.74	30.0
East: North Street														
4	L2	73	1	77	1.4	0.167	3.5	LOS A	0.2	1.3	0.01	0.36	0.01	37.1
5	T1	257	11	271	4.3	0.167	0.1	LOS A	0.2	1.3	0.06	0.06	0.06	38.7
6	R2	19	0	20	0.0	0.167	4.1	LOS A	0.2	1.3	0.06	0.06	0.06	39.4
Approach		349	12	367	3.4	0.167	1.0	NA	0.2	1.3	0.05	0.12	0.05	38.3
North: Osborne Street														
7	L2	32	1	34	3.1	0.223	7.6	LOS A	0.9	6.5	0.53	0.95	0.53	32.3
8	T1	79	1	83	1.3	0.223	13.5	LOS A	0.9	6.5	0.53	0.95	0.53	33.4
9	R2	6	0	6	0.0	0.223	16.5	LOS B	0.9	6.5	0.53	0.95	0.53	32.0
Approach		117	2	123	1.7	0.223	12.0	LOS A	0.9	6.5	0.53	0.95	0.53	33.0
West: North Street														
10	L2	7	0	7	0.0	0.139	5.1	LOS A	0.5	3.8	0.25	0.13	0.25	38.6
11	T1	167	1	176	0.6	0.139	0.8	LOS A	0.5	3.8	0.25	0.13	0.25	36.6
12	R2	49	0	52	0.0	0.139	5.2	LOS A	0.5	3.8	0.25	0.13	0.25	37.7
Approach		223	1	235	0.4	0.139	1.9	NA	0.5	3.8	0.25	0.13	0.25	37.0
All Vehicles		895	25	942	2.8	0.377	5.5	NA	2.0	14.7	0.28	0.44	0.32	34.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [North Street - Bridge Road - Berry Road (Site Folder: Dev 2031 AM)]

AM Peak
With Development
Site Category: 10 Year Scenario
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Berry Street														
1	L2	72	4	76	5.6	0.413	17.3	LOS B	4.0	28.9	0.82	0.71	0.82	34.5
2	T1	166	6	175	3.6	0.413	11.9	LOS A	4.0	28.9	0.82	0.71	0.82	37.0
3	R2	1	0	1	0.0	0.005	21.7	LOS B	0.0	0.1	0.89	0.58	0.89	22.8
Approach		239	10	252	4.2	0.413	13.5	LOS A	4.0	28.9	0.82	0.71	0.82	36.3
East: North Street														
4	L2	79	1	83	1.3	0.225	16.3	LOS B	1.9	13.3	0.79	0.70	0.79	28.2
5	T1	279	12	294	4.3	* 0.796	17.0	LOS B	9.2	67.1	0.94	0.97	1.20	26.6
6	R2	156	11	164	7.1	0.796	22.2	LOS B	9.2	67.1	0.96	1.01	1.26	29.0
Approach		514	24	541	4.7	0.796	18.5	LOS B	9.2	67.1	0.92	0.94	1.16	27.6
North: Bridge Road														
7	L2	92	5	97	5.4	0.761	21.1	LOS B	9.6	68.1	0.95	0.94	1.15	22.8
8	T1	355	4	374	1.1	* 0.761	16.1	LOS B	9.6	68.1	0.95	0.94	1.15	34.4
9	R2	138	2	145	1.4	0.413	19.9	LOS B	2.6	18.5	0.90	0.77	0.90	32.9
Approach		585	11	616	1.9	0.761	17.8	LOS B	9.6	68.1	0.94	0.90	1.09	32.1
West: North Street														
10	L2	31	2	33	6.5	0.035	6.6	LOS A	0.2	1.1	0.45	0.60	0.45	42.9
11	T1	256	14	269	5.5	0.322	9.8	LOS A	3.2	23.6	0.74	0.60	0.74	34.3
Approach		287	16	302	5.6	0.322	9.5	LOS A	3.2	23.6	0.71	0.60	0.71	35.6
All Vehicles		1625	61	1711	3.8	0.796	15.9	LOS B	9.6	68.1	0.88	0.83	1.00	31.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Berry Street												
P1	Full	346	364	14.7	LOS B	0.4	0.4	0.86	0.86	177.8	212.1	1.19
East: North Street												
P2	Full	19	20	14.5	LOS B	0.0	0.0	0.85	0.85	179.2	214.2	1.20
North: Bridge Road												

P3 Full	15	16	14.5	LOS B	0.0	0.0	0.85	0.85	179.5	214.6	1.20
West: North Street											
P4 Full	7	7	14.5	LOS B	0.0	0.0	0.85	0.85	179.4	214.4	1.20
All Pedestrians	387	407	14.7	LOS B	0.4	0.4	0.86	0.86	178.0	212.3	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 5v [Shoalhaven Street - Hyam Street (Site Folder: Dev 2031 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
With Development
Site Category: 10 Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
8	T1	55	1	58	1.8	0.205	0.4	LOS A	1.1	7.8	0.26	0.44	0.26	43.5
9	R2	263	7	277	2.7	0.205	5.0	LOS A	1.1	7.8	0.26	0.44	0.26	42.4
Approach		318	8	335	2.5	0.205	4.2	NA	1.1	7.8	0.26	0.44	0.26	42.6
East: Hyam Street														
10	L2	62	1	65	1.6	0.074	7.6	LOS A	0.3	2.0	0.10	0.95	0.10	40.0
12	R2	18	1	19	5.6	0.074	9.9	LOS A	0.3	2.0	0.10	0.95	0.10	15.9
Approach		80	2	84	2.5	0.074	8.1	LOS A	0.3	2.0	0.10	0.95	0.10	34.8
North: Shoalhaven Street														
1	L2	78	1	82	1.3	0.062	4.5	LOS A	0.0	0.0	0.00	0.37	0.00	38.5
2	T1	36	0	38	0.0	0.062	0.0	LOS A	0.0	0.0	0.00	0.37	0.00	45.6
Approach		114	1	120	0.9	0.062	3.1	NA	0.0	0.0	0.00	0.37	0.00	42.0
All Vehicles		512	11	539	2.1	0.205	4.6	NA	1.1	7.8	0.18	0.50	0.18	41.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [Hyam Street - Osborne Street (Site Folder: Dev 2031 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
With Development
Site Category: 10 Year Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	4	0	4	0.0	0.289	5.1	LOS A	1.1	8.1	0.48	0.75	0.51	40.7
3	R2	225	2	237	0.9	0.289	7.2	LOS A	1.1	8.1	0.48	0.75	0.51	39.5
Approach		229	2	241	0.9	0.289	7.1	LOS A	1.1	8.1	0.48	0.75	0.51	39.6
East: Hyam Street														
4	L2	38	1	40	2.6	0.084	4.6	LOS A	0.0	0.0	0.00	0.14	0.00	47.2
5	T1	113	2	119	1.8	0.084	0.0	LOS A	0.0	0.0	0.00	0.14	0.00	46.1
Approach		151	3	159	2.0	0.084	1.2	NA	0.0	0.0	0.00	0.14	0.00	46.6
West: Hyam Street														
11	T1	297	6	313	2.0	0.167	0.0	LOS A	0.1	0.4	0.02	0.01	0.02	49.3
12	R2	7	0	7	0.0	0.167	5.1	LOS A	0.1	0.4	0.02	0.01	0.02	47.7
Approach		304	6	320	2.0	0.167	0.1	NA	0.1	0.4	0.02	0.01	0.02	49.3
All Vehicles		684	11	720	1.6	0.289	2.7	NA	1.1	8.1	0.17	0.29	0.18	43.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7v [Bridge Road - Hyam Street (Site Folder: Dev 2031 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
With Development
Site Category: 10 Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bridge Road														
1	L2	1	0	1	0.0	0.001	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	35.8
2	T1	645	13	679	2.0	0.353	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
Approach		646	13	680	2.0	0.353	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.8
North: Bridge Road														
8	T1	279	3	294	1.1	0.338	3.2	LOS A	2.4	16.9	0.36	0.24	0.46	40.5
9	R2	146	6	154	4.1	0.338	11.0	LOS A	2.4	16.9	0.66	0.44	0.84	34.1
Approach		425	9	447	2.1	0.338	5.8	NA	2.4	16.9	0.47	0.31	0.59	37.9
West: Hyam Street														
10	L2	567	11	597	1.9	0.985	48.7	LOS D	23.8	169.3	0.99	2.67	5.63	15.1
12	R2	2	0	2	0.0	0.008	17.5	LOS B	0.0	0.2	0.76	0.93	0.76	21.7
Approach		569	11	599	1.9	0.985	48.6	LOS D	23.8	169.3	0.99	2.66	5.62	15.2
All Vehicles		1640	33	1726	2.0	0.985	18.4	NA	23.8	169.3	0.46	1.00	2.10	26.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [North Street - West Street (Site Folder: Dev 2031 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
With Development
Site Category: 10 Year Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Street														
1	L2	50	0	53	0.0	0.096	7.7	LOS A	0.4	2.5	0.19	0.91	0.19	32.2
3	R2	48	0	51	0.0	0.096	8.5	LOS A	0.4	2.5	0.19	0.91	0.19	36.3
Approach		98	0	103	0.0	0.096	8.1	LOS A	0.4	2.5	0.19	0.91	0.19	34.5
East: North Street														
4	L2	35	0	37	0.0	0.052	4.6	LOS A	0.0	0.0	0.00	0.18	0.00	45.6
5	T1	68	0	72	0.0	0.052	0.0	LOS A	0.0	0.0	0.00	0.18	0.00	46.7
Approach		103	0	108	0.0	0.052	1.6	NA	0.0	0.0	0.00	0.18	0.00	46.3
West: North Street														
11	T1	120	1	126	0.8	0.096	0.2	LOS A	0.3	2.4	0.14	0.17	0.14	45.9
12	R2	53	0	56	0.0	0.096	4.9	LOS A	0.3	2.4	0.14	0.17	0.14	40.9
Approach		173	1	182	0.6	0.096	1.6	NA	0.3	2.4	0.14	0.17	0.14	44.6
All Vehicles		374	1	394	0.3	0.096	3.3	NA	0.4	2.5	0.12	0.37	0.12	42.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [North Street - Shoalhaven Street (Site Folder: Dev 2031 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
With Development
Site Category: 10 Year Scenario
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
1	L2	23	0	24	0.0	0.270	4.7	LOS A	1.3	8.9	0.26	0.51	0.26	38.9
2	T1	240	2	253	0.8	0.270	4.2	LOS A	1.3	8.9	0.26	0.51	0.26	43.3
3	R2	58	2	61	3.4	0.270	7.2	LOS A	1.3	8.9	0.26	0.51	0.26	36.5
Approach		321	4	338	1.2	0.270	4.8	LOS A	1.3	8.9	0.26	0.51	0.26	42.3
East: North Street														
4	L2	21	1	22	4.8	0.094	4.7	LOS A	0.3	2.0	0.18	0.53	0.18	34.8
5	T1	55	0	58	0.0	0.094	4.0	LOS A	0.3	2.0	0.18	0.53	0.18	40.7
6	R2	31	1	33	3.2	0.094	7.0	LOS A	0.3	2.0	0.18	0.53	0.18	42.9
Approach		107	2	113	1.9	0.094	5.0	LOS A	0.3	2.0	0.18	0.53	0.18	40.7
North: Shoalhaven Street														
7	L2	49	0	52	0.0	0.133	5.0	LOS A	0.6	4.1	0.33	0.55	0.33	41.6
8	T1	64	2	67	3.1	0.133	4.6	LOS A	0.6	4.1	0.33	0.55	0.33	42.7
9	R2	27	0	28	0.0	0.133	7.5	LOS A	0.6	4.1	0.33	0.55	0.33	43.7
Approach		140	2	147	1.4	0.133	5.3	LOS A	0.6	4.1	0.33	0.55	0.33	42.5
West: North Street														
10	L2	38	0	40	0.0	0.184	5.6	LOS A	0.8	5.9	0.44	0.61	0.44	42.5
11	T1	107	1	113	0.9	0.184	5.2	LOS A	0.8	5.9	0.44	0.61	0.44	39.5
12	R2	33	0	35	0.0	0.184	8.2	LOS A	0.8	5.9	0.44	0.61	0.44	39.0
Approach		178	1	187	0.6	0.184	5.9	LOS A	0.8	5.9	0.44	0.61	0.44	40.4
All Vehicles		746	9	785	1.2	0.270	5.2	LOS A	1.3	8.9	0.31	0.54	0.31	41.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [North Street - Osborne Street (Site Folder: Dev 2031 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
With Development
Site Category: 10 Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	38	0	40	0.0	0.843	19.2	LOS B	14.0	99.5	0.76	1.46	2.11	26.1
2	T1	245	4	258	1.6	0.843	25.5	LOS B	14.0	99.5	0.76	1.46	2.11	34.5
3	R2	195	5	205	2.6	0.843	28.1	LOS B	14.0	99.5	0.76	1.46	2.11	26.1
Approach		478	9	503	1.9	0.843	26.0	LOS B	14.0	99.5	0.76	1.46	2.11	31.0
East: North Street														
4	L2	56	0	59	0.0	0.071	5.7	LOS A	0.2	1.5	0.09	0.39	0.09	46.4
5	T1	65	0	68	0.0	0.071	0.2	LOS A	0.2	1.5	0.17	0.25	0.17	48.4
6	R2	25	0	26	0.0	0.071	6.1	LOS A	0.2	1.5	0.17	0.25	0.17	50.8
Approach		146	0	154	0.0	0.071	3.3	NA	0.2	1.5	0.14	0.30	0.14	48.2
North: Osborne Street														
7	L2	22	0	23	0.0	0.117	9.0	LOS A	0.5	3.3	0.44	0.90	0.44	42.7
8	T1	49	0	52	0.0	0.117	11.6	LOS A	0.5	3.3	0.44	0.90	0.44	44.9
9	R2	6	0	6	0.0	0.117	16.5	LOS B	0.5	3.3	0.44	0.90	0.44	42.2
Approach		77	0	81	0.0	0.117	11.2	LOS A	0.5	3.3	0.44	0.90	0.44	44.1
West: North Street														
10	L2	27	1	28	3.7	0.159	6.1	LOS A	0.7	4.9	0.19	0.24	0.19	51.2
11	T1	149	2	157	1.3	0.159	0.7	LOS A	0.7	4.9	0.19	0.24	0.19	48.7
12	R2	84	0	88	0.0	0.159	6.1	LOS A	0.7	4.9	0.19	0.24	0.19	47.8
Approach		260	3	274	1.2	0.159	3.0	NA	0.7	4.9	0.19	0.24	0.19	48.8
All Vehicles		961	12	1012	1.2	0.843	15.2	NA	14.0	99.5	0.48	0.91	1.16	36.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [North Street - Bridge Road - Berry Road (Site Folder: Dev 2031 PM COUNTS PEAK)]

PM Peak - 3:45pm to 4:45pm
With Development
Site Category: 10 Year Scenario
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Berry Street														
1	L2	215	0	226	0.0	0.705	17.6	LOS B	5.4	38.1	0.96	0.91	1.15	32.7
2	T1	122	1	128	0.8	* 0.705	12.8	LOS A	5.4	38.1	0.96	0.91	1.15	35.2
3	R2	1	0	1	0.0	0.003	16.2	LOS B	0.0	0.1	0.85	0.58	0.85	26.1
Approach		338	1	356	0.3	0.705	15.9	LOS B	5.4	38.1	0.96	0.91	1.15	33.7
East: North Street														
4	L2	45	0	47	0.0	0.115	14.1	LOS A	0.6	4.1	0.79	0.70	0.79	29.0
5	T1	50	1	53	2.0	* 0.406	9.0	LOS A	2.4	16.7	0.81	0.74	0.81	31.6
6	R2	137	0	144	0.0	0.406	13.5	LOS A	2.4	16.7	0.81	0.74	0.81	34.2
Approach		232	1	244	0.4	0.406	12.6	LOS A	2.4	16.7	0.81	0.73	0.81	32.8
North: Bridge Road														
7	L2	67	0	71	0.0	0.550	15.8	LOS B	3.8	27.0	0.91	0.77	0.92	24.8
8	T1	200	2	211	1.0	0.550	11.0	LOS A	3.8	27.0	0.91	0.77	0.92	37.8
9	R2	40	1	42	2.5	0.163	19.1	LOS B	0.6	4.4	0.95	0.70	0.95	33.3
Approach		307	3	323	1.0	0.550	13.1	LOS A	3.8	27.0	0.91	0.76	0.92	34.1
West: North Street														
10	L2	4	0	4	0.0	0.004	6.6	LOS A	0.0	0.1	0.51	0.57	0.51	42.7
11	T1	177	2	186	1.1	0.244	8.2	LOS A	1.7	12.3	0.75	0.59	0.75	36.2
Approach		181	2	191	1.1	0.244	8.1	LOS A	1.7	12.3	0.75	0.59	0.75	36.4
All Vehicles		1058	7	1114	0.7	0.705	13.0	LOS A	5.4	38.1	0.87	0.77	0.94	34.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Berry Street												
P1	Full	208	219	9.7	LOS A	0.2	0.2	0.81	0.81	172.8	212.1	1.23
East: North Street												
P2	Full	21	22	9.6	LOS A	0.0	0.0	0.80	0.80	174.4	214.2	1.23
North: Bridge Road												

P3 Full	12	13	9.6	LOS A	0.0	0.0	0.80	0.80	174.7	214.6	1.23
West: North Street											
P4 Full	13	14	9.6	LOS A	0.0	0.0	0.80	0.80	174.5	214.4	1.23
All Pedestrians	254	267	9.7	LOS A	0.2	0.2	0.81	0.81	173.1	212.5	1.23

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 5v [Shoalhaven Street - Hyam Street (Site Folder: Dev 2031 PM NETWORK PEAK)]

PM Peak - 3:00pm to 4:00m
With Development
Site Category: 10 Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
8	T1	40	0	42	0.0	0.121	0.4	LOS A	0.6	4.5	0.23	0.41	0.23	44.0
9	R2	143	16	151	11.2	0.121	5.0	LOS A	0.6	4.5	0.23	0.41	0.23	42.5
Approach		183	16	193	8.7	0.121	4.0	NA	0.6	4.5	0.23	0.41	0.23	42.8
East: Hyam Street														
10	L2	51	0	54	0.0	0.061	7.6	LOS A	0.2	1.6	0.09	0.94	0.09	40.3
12	R2	19	0	20	0.0	0.061	8.6	LOS A	0.2	1.6	0.09	0.94	0.09	15.0
Approach		70	0	74	0.0	0.061	7.8	LOS A	0.2	1.6	0.09	0.94	0.09	33.3
North: Shoalhaven Street														
1	L2	70	0	74	0.0	0.055	4.5	LOS A	0.0	0.0	0.00	0.36	0.00	38.7
2	T1	33	0	35	0.0	0.055	0.0	LOS A	0.0	0.0	0.00	0.36	0.00	45.6
Approach		103	0	108	0.0	0.055	3.1	NA	0.0	0.0	0.00	0.36	0.00	42.1
All Vehicles		356	16	375	4.5	0.121	4.5	NA	0.6	4.5	0.14	0.50	0.14	40.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [Hyam Street - Osborne Street (Site Folder: Dev 2031 PM NETWORK PEAK)]

PM Peak - 3:00pm to 4:00m
With Development
Site Category: 10 Year Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	22	0	23	0.0	0.219	5.0	LOS A	0.8	5.7	0.37	0.65	0.37	41.6
3	R2	176	2	185	1.1	0.219	6.4	LOS A	0.8	5.7	0.37	0.65	0.37	40.4
Approach		198	2	208	1.0	0.219	6.2	LOS A	0.8	5.7	0.37	0.65	0.37	40.6
East: Hyam Street														
4	L2	44	1	46	2.3	0.086	4.6	LOS A	0.0	0.0	0.00	0.15	0.00	47.1
5	T1	112	0	118	0.0	0.086	0.0	LOS A	0.0	0.0	0.00	0.15	0.00	45.7
Approach		156	1	164	0.6	0.086	1.3	NA	0.0	0.0	0.00	0.15	0.00	46.3
West: Hyam Street														
11	T1	197	9	207	4.6	0.123	0.1	LOS A	0.1	1.1	0.06	0.05	0.06	47.7
12	R2	19	1	20	5.3	0.123	5.2	LOS A	0.1	1.1	0.06	0.05	0.06	47.0
Approach		216	10	227	4.6	0.123	0.5	NA	0.1	1.1	0.06	0.05	0.06	47.5
All Vehicles		570	13	600	2.3	0.219	2.7	NA	0.8	5.7	0.15	0.29	0.15	43.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7v [Bridge Road - Hyam Street (Site Folder: Dev 2031 PM NETWORK PEAK)]

PM Peak - 3:00pm to 4:00m
With Development
Site Category: 10 Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bridge Road														
1	L2	7	1	7	14.3	0.004	4.6	LOS A	0.0	0.0	0.00	0.52	0.00	35.0
2	T1	497	9	523	1.8	0.271	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		504	10	531	2.0	0.271	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.7
North: Bridge Road														
8	T1	308	7	324	2.3	0.308	2.1	LOS A	2.0	14.1	0.34	0.23	0.39	42.3
9	R2	152	1	160	0.7	0.308	8.5	LOS A	2.0	14.1	0.54	0.36	0.61	37.6
Approach		460	8	484	1.7	0.308	4.2	NA	2.0	14.1	0.40	0.27	0.46	40.5
West: Hyam Street														
10	L2	366	14	385	3.8	0.503	13.0	LOS A	3.3	23.6	0.66	1.14	0.99	31.3
12	R2	12	1	13	8.3	0.040	16.5	LOS B	0.1	0.9	0.72	1.00	0.72	22.4
Approach		378	15	398	4.0	0.503	13.2	LOS A	3.3	23.6	0.66	1.13	0.98	31.0
All Vehicles		1342	33	1413	2.5	0.503	5.2	NA	3.3	23.6	0.32	0.42	0.44	39.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [North Street - West Street (Site Folder: Dev 2031 PM NETWORK PEAK)]

PM Peak - 3:00pm to 4:00m
With Development
Site Category: 10 Year Scenario
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Street														
1	L2	41	0	43	0.0	0.077	7.7	LOS A	0.3	2.0	0.18	0.92	0.18	32.1
3	R2	35	3	37	8.6	0.077	9.0	LOS A	0.3	2.0	0.18	0.92	0.18	36.0
Approach		76	3	80	3.9	0.077	8.3	LOS A	0.3	2.0	0.18	0.92	0.18	34.2
East: North Street														
4	L2	41	0	43	0.0	0.053	4.6	LOS A	0.0	0.0	0.00	0.21	0.00	45.2
5	T1	64	0	67	0.0	0.053	0.0	LOS A	0.0	0.0	0.00	0.21	0.00	46.3
Approach		105	0	111	0.0	0.053	1.8	NA	0.0	0.0	0.00	0.21	0.00	45.8
West: North Street														
11	T1	135	0	142	0.0	0.109	0.2	LOS A	0.4	2.7	0.15	0.17	0.15	45.8
12	R2	61	0	64	0.0	0.109	4.9	LOS A	0.4	2.7	0.15	0.17	0.15	40.8
Approach		196	0	206	0.0	0.109	1.6	NA	0.4	2.7	0.15	0.17	0.15	44.5
All Vehicles		377	3	397	0.8	0.109	3.0	NA	0.4	2.7	0.11	0.33	0.11	42.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [North Street - Shoalhaven Street (Site Folder: Dev 2031 PM NETWORK PEAK)]

PM Peak - 3:00pm to 4:00m
With Development
Site Category: 10 Year Scenario
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Shoalhaven Street														
1	L2	21	0	22	0.0	0.150	3.7	LOS A	0.6	4.5	0.28	0.47	0.28	34.5
2	T1	104	2	109	1.9	0.150	3.1	LOS A	0.6	4.5	0.28	0.47	0.28	37.1
3	R2	39	1	41	2.6	0.150	6.0	LOS A	0.6	4.5	0.28	0.47	0.28	34.1
Approach		164	3	173	1.8	0.150	3.9	LOS A	0.6	4.5	0.28	0.47	0.28	36.4
East: North Street														
4	L2	52	9	55	17.3	0.156	3.8	LOS A	0.5	3.8	0.20	0.50	0.20	32.1
5	T1	60	0	63	0.0	0.156	2.8	LOS A	0.5	3.8	0.20	0.50	0.20	35.9
6	R2	59	9	62	15.3	0.156	5.9	LOS A	0.5	3.8	0.20	0.50	0.20	37.0
Approach		171	18	180	10.5	0.156	4.2	LOS A	0.5	3.8	0.20	0.50	0.20	35.6
North: Shoalhaven Street														
7	L2	53	0	56	0.0	0.140	3.9	LOS A	0.6	4.2	0.33	0.49	0.33	36.1
8	T1	72	0	76	0.0	0.140	3.3	LOS A	0.6	4.2	0.33	0.49	0.33	37.0
9	R2	24	0	25	0.0	0.140	6.2	LOS A	0.6	4.2	0.33	0.49	0.33	37.5
Approach		149	0	157	0.0	0.140	4.0	LOS A	0.6	4.2	0.33	0.49	0.33	36.8
West: North Street														
10	L2	28	0	29	0.0	0.174	4.0	LOS A	0.8	5.4	0.34	0.50	0.34	36.6
11	T1	117	1	123	0.9	0.174	3.4	LOS A	0.8	5.4	0.34	0.50	0.34	35.7
12	R2	37	2	39	5.4	0.174	6.4	LOS A	0.8	5.4	0.34	0.50	0.34	35.5
Approach		182	3	192	1.6	0.174	4.1	LOS A	0.8	5.4	0.34	0.50	0.34	35.9
All Vehicles		666	24	701	3.6	0.174	4.0	LOS A	0.8	5.4	0.29	0.49	0.29	36.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [North Street - Osborne Street (Site Folder: Dev 2031 PM NETWORK PEAK)]

PM Peak - 3:00pm to 4:00m
With Development
Site Category: 10 Year Scenario
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Osborne Street														
1	L2	52	8	55	15.4	0.676	13.3	LOS A	6.1	43.9	0.64	1.28	1.33	24.7
2	T1	183	3	193	1.6	0.676	20.3	LOS B	6.1	43.9	0.64	1.28	1.33	29.7
3	R2	87	2	92	2.3	0.676	24.4	LOS B	6.1	43.9	0.64	1.28	1.33	24.8
Approach		322	13	339	4.0	0.676	20.3	LOS B	6.1	43.9	0.64	1.28	1.33	28.0
East: North Street														
4	L2	63	1	66	1.6	0.101	3.7	LOS A	0.4	2.5	0.11	0.33	0.11	36.9
5	T1	98	2	103	2.0	0.101	0.4	LOS A	0.4	2.5	0.23	0.18	0.23	35.9
6	R2	39	0	41	0.0	0.101	4.5	LOS A	0.4	2.5	0.23	0.18	0.23	38.0
Approach		200	3	211	1.5	0.101	2.3	NA	0.4	2.5	0.19	0.23	0.19	36.8
North: Osborne Street														
7	L2	44	0	46	0.0	0.188	8.0	LOS A	0.8	5.4	0.53	0.93	0.53	32.8
8	T1	62	1	65	1.6	0.188	12.8	LOS A	0.8	5.4	0.53	0.93	0.53	33.8
9	R2	3	1	3	33.3	0.188	24.7	LOS B	0.8	5.4	0.53	0.93	0.53	32.4
Approach		109	2	115	1.8	0.188	11.2	LOS A	0.8	5.4	0.53	0.93	0.53	33.4
West: North Street														
10	L2	24	1	25	4.2	0.205	4.2	LOS A	0.8	5.7	0.19	0.15	0.19	38.7
11	T1	240	1	253	0.4	0.205	0.5	LOS A	0.8	5.7	0.19	0.15	0.19	36.8
12	R2	83	0	87	0.0	0.205	4.3	LOS A	0.8	5.7	0.19	0.15	0.19	37.8
Approach		347	2	365	0.6	0.205	1.7	NA	0.8	5.7	0.19	0.15	0.19	37.3
All Vehicles		978	20	1029	2.0	0.676	9.0	NA	6.1	43.9	0.38	0.62	0.60	32.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [North Street - Bridge Road - Berry Road (Site Folder: Dev 2031 PM NETWORK PEAK)]

PM Peak - 3:00pm to 4:00m
With Development
Site Category: 10 Year Scenario
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Berry Street														
1	L2	139	5	146	3.6	0.732	18.2	LOS B	5.8	41.2	0.96	0.94	1.21	33.1
2	T1	212	0	223	0.0	* 0.732	13.3	LOS A	5.8	41.2	0.96	0.94	1.21	35.7
3	R2	1	0	1	0.0	0.004	17.2	LOS B	0.0	0.1	0.88	0.58	0.88	25.5
Approach		352	5	371	1.4	0.732	15.3	LOS B	5.8	41.2	0.96	0.94	1.21	34.7
East: North Street														
4	L2	89	1	94	1.1	0.221	15.3	LOS B	1.2	8.4	0.84	0.73	0.84	27.9
5	T1	100	1	105	1.0	* 0.532	10.2	LOS A	3.4	23.9	0.88	0.77	0.88	31.2
6	R2	141	4	148	2.8	0.532	14.7	LOS B	3.4	23.9	0.88	0.77	0.88	33.7
Approach		330	6	347	1.8	0.532	13.5	LOS A	3.4	23.9	0.87	0.76	0.87	31.5
North: Bridge Road														
7	L2	87	1	92	1.1	0.588	16.2	LOS B	4.2	29.5	0.92	0.80	0.97	24.5
8	T1	197	2	207	1.0	0.588	11.3	LOS A	4.2	29.5	0.92	0.80	0.97	37.4
9	R2	41	2	43	4.9	0.173	19.2	LOS B	0.6	4.6	0.95	0.70	0.95	33.3
Approach		325	5	342	1.5	0.588	13.7	LOS A	4.2	29.5	0.92	0.79	0.97	33.1
West: North Street														
10	L2	13	3	14	23.1	0.017	7.4	LOS A	0.1	0.5	0.59	0.60	0.59	42.1
11	T1	212	1	223	0.5	0.291	8.3	LOS A	2.1	14.9	0.76	0.61	0.76	36.0
Approach		225	4	237	1.8	0.291	8.3	LOS A	2.1	14.9	0.75	0.61	0.75	36.6
All Vehicles		1232	20	1297	1.6	0.732	13.1	LOS A	5.8	41.2	0.89	0.79	0.97	33.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

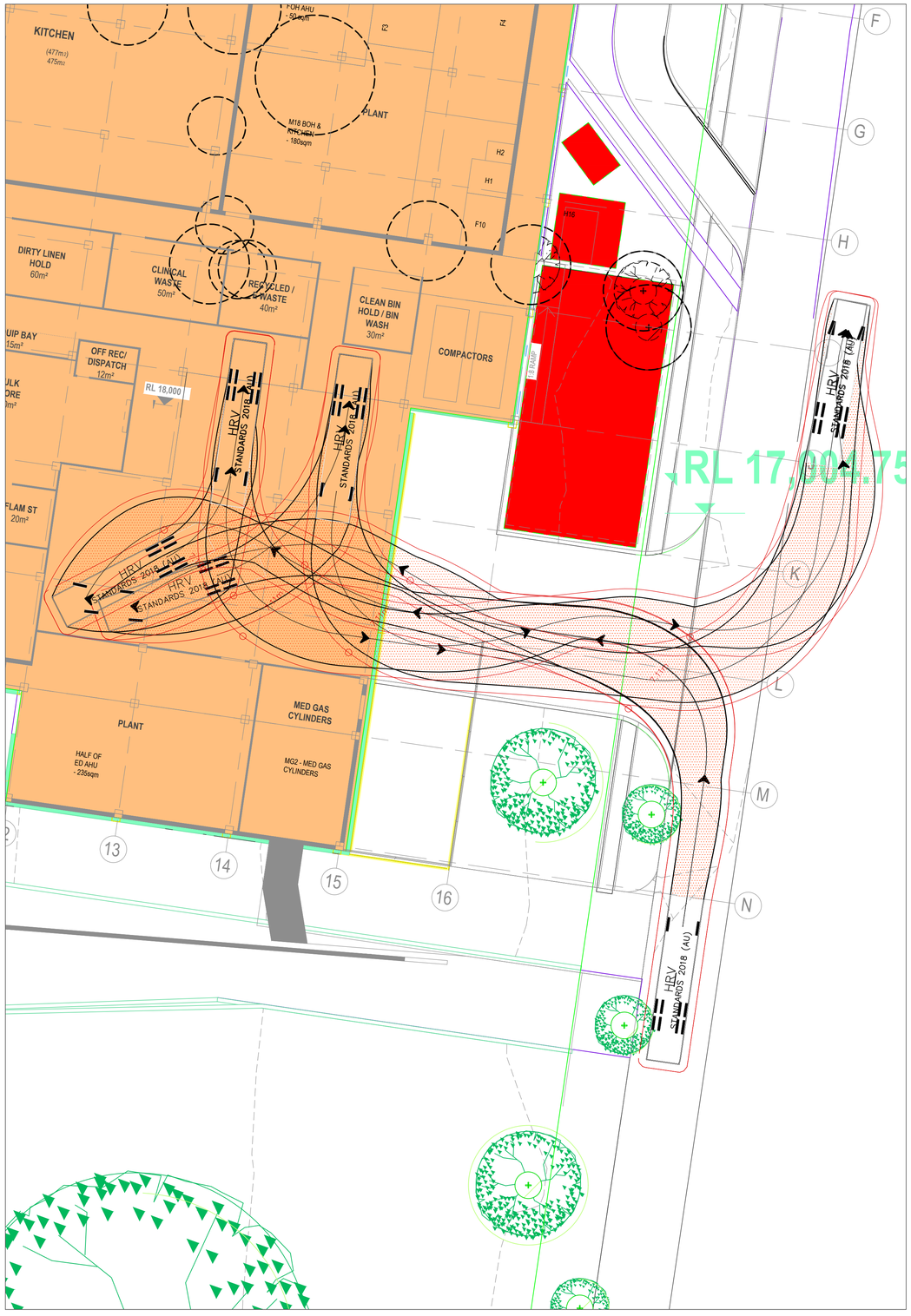
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Berry Street												
P1	Full	203	214	9.7	LOS A	0.1	0.1	0.81	0.81	172.8	212.1	1.23
East: North Street												
P2	Full	14	15	9.6	LOS A	0.0	0.0	0.80	0.80	174.4	214.2	1.23
North: Bridge Road												

P3 Full	38	40	9.6	LOS A	0.0	0.0	0.80	0.80	174.7	214.6	1.23
West: North Street											
P4 Full	13	14	9.6	LOS A	0.0	0.0	0.80	0.80	174.5	214.4	1.23
All Pedestrians	268	282	9.7	LOS A	0.1	0.1	0.81	0.81	173.3	212.7	1.23

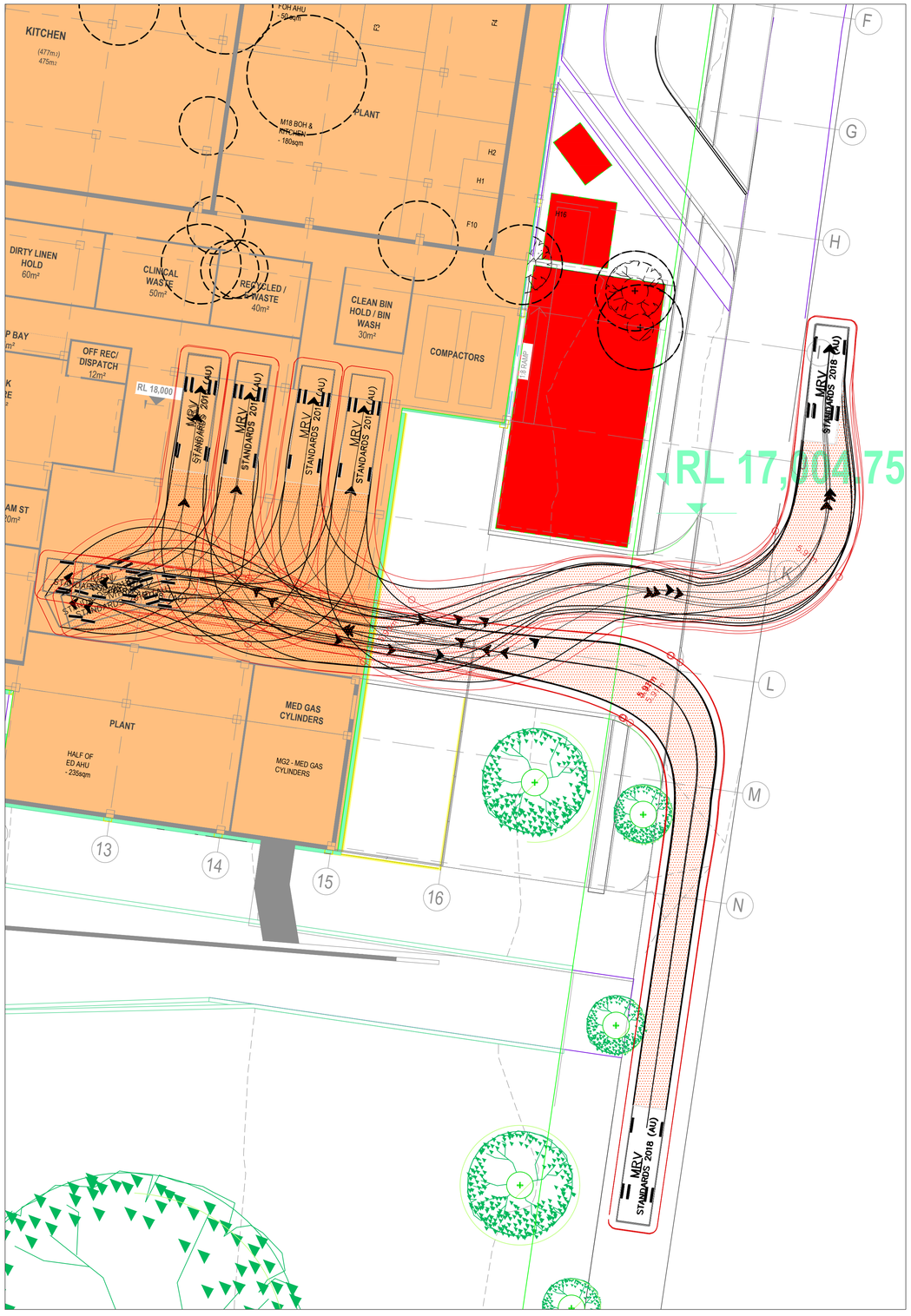
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Appendix E

Swept Path Analysis

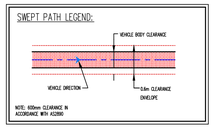


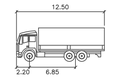
HEAVY RIGID VEHICLE



MEDIUM RIGID VEHICLE

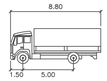
SWEPT PATH LEGEND:





HRV

	meters
Width	: 2.50
Trock	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.7



MRV

	meters
Width	: 2.50
Trock	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

FileName: SK12.dwg - USER: Nathanielb - Plot File Created: Nov 16, 2021 - 2:36pm

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
P1	PRELIMINARY	NB	NB	16.11.21

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Project
SHOALHAVEN HOSPITAL REDEVELOPMENT

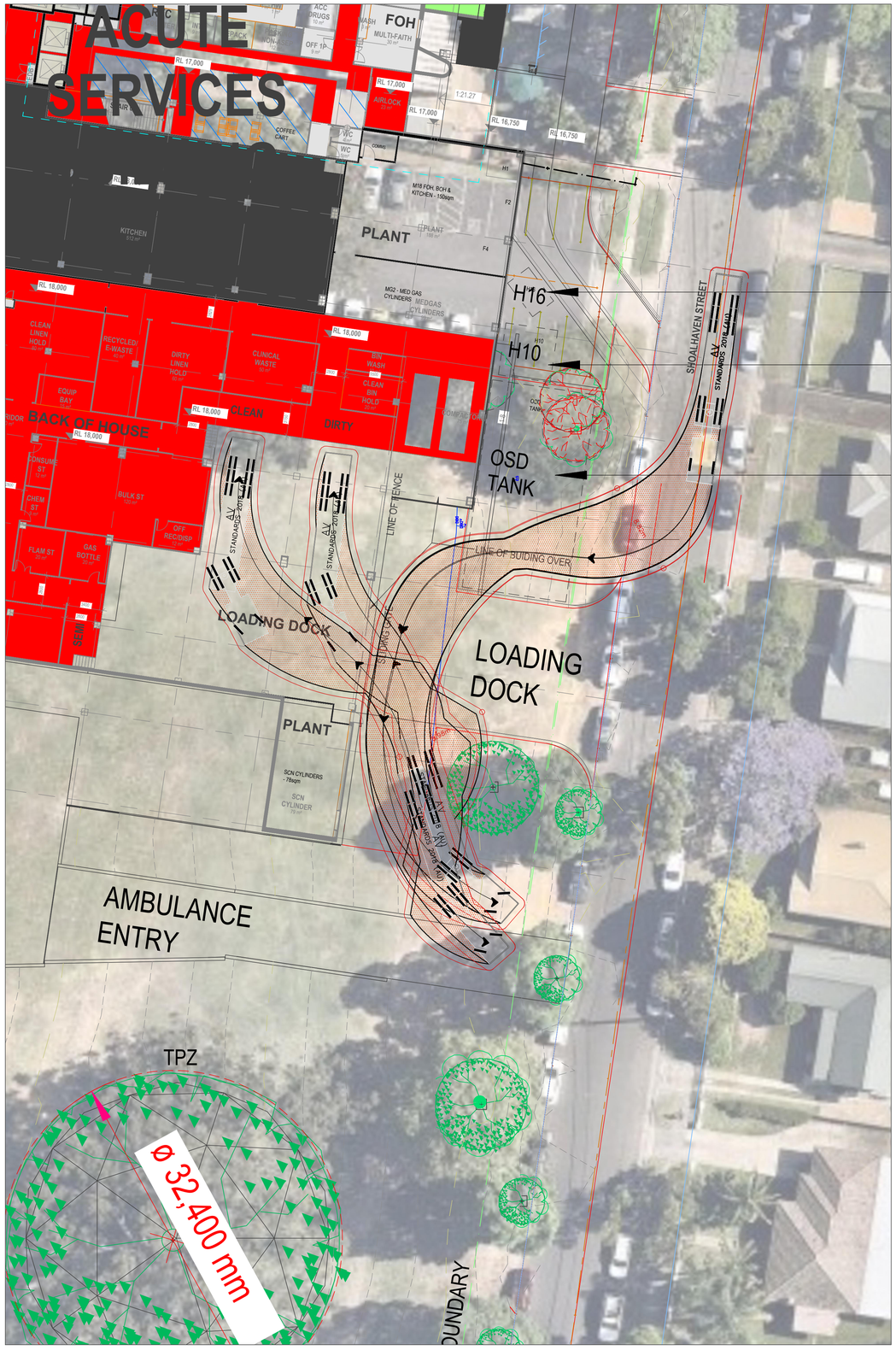
Sheet Subject
SWEPT PATH ANALYSIS LOADING DOCK AREA HEAVY RIGID VEHICLE AND MEDIUM RIGID VEHICLE

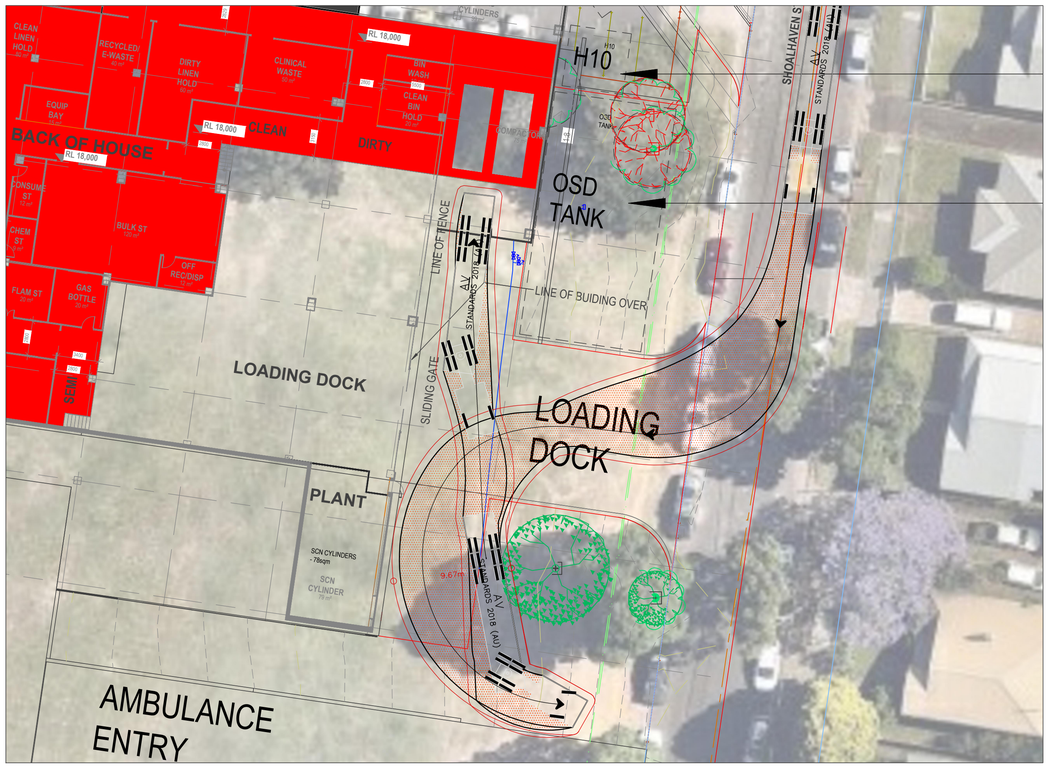
PRELIMINARY
NOT FOR CONSTRUCTION

Scale : A1	Drawn	Authorised
1:2.00	NB	

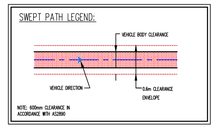
Job No	Drawing No	Revision
201815	SK10	P1

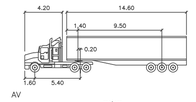
Plot File Created: Nov 16, 2021 - 2:36pm





SWEPT PATH LEGEND:





AV

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 72.0
Trailer Track	: 2.50		

FileName: SK20.dwg - USER: NotNamib - Plot File Created: Feb 23, 2022 - 4:58pm

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
P1	PRELIMINARY	NB	NB	23.02.22

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Project
SHOALHAVEN HOSPITAL REDEVELOPMENT

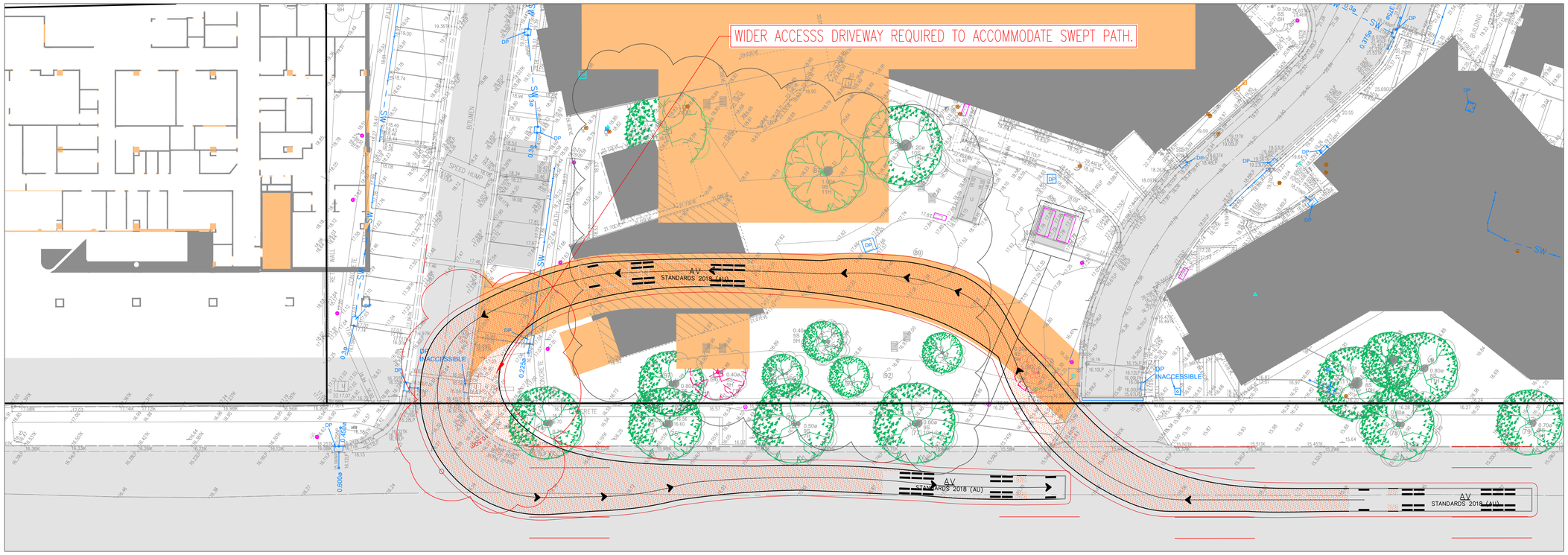
Sheet Subject
SWEPT PATH ANALYSIS SEMI-TRAILER TRUCK (AV)

PRELIMINARY
NOT FOR CONSTRUCTION

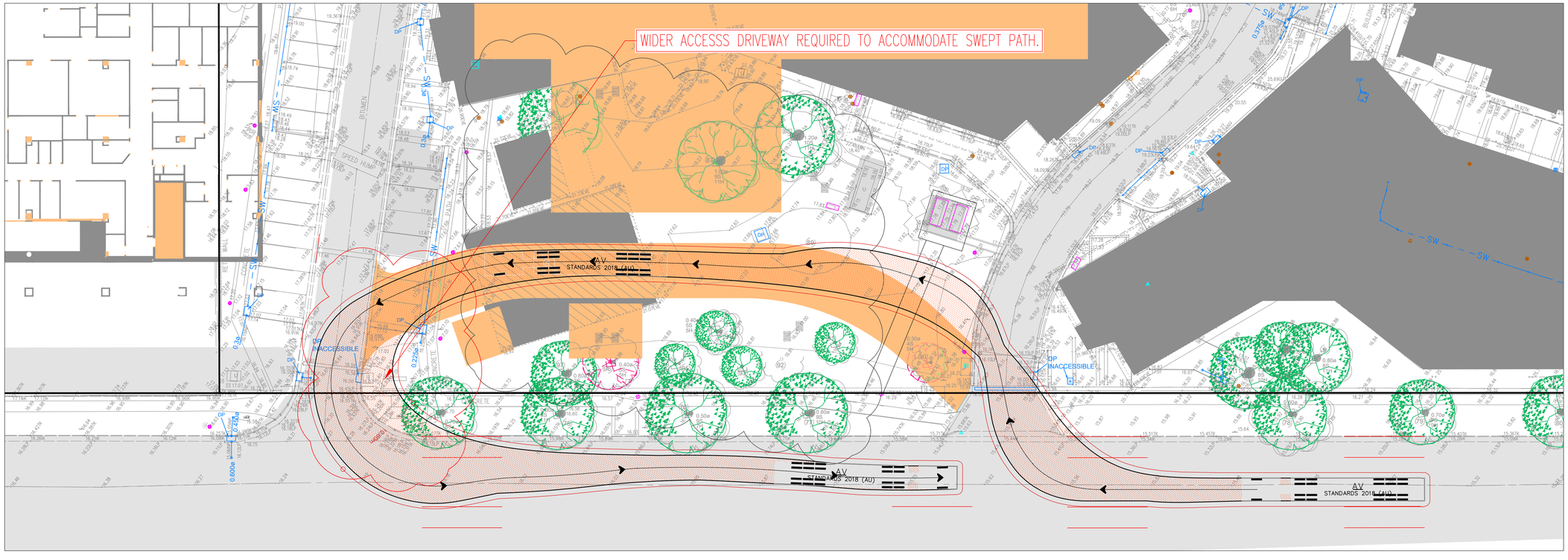
Scale : A1	Drawn	Authorised
1:250	NB	

Job No	Drawing No	Revision
201815	SK20	P1

Plot File Created: Feb 23, 2022 - 4:58pm

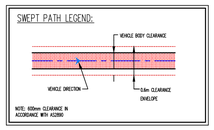


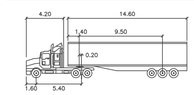
ALTERNATIVE BULK OXYGEN LOCATION OPTION 1 (ALT 1) - FORWARD MOVEMENT



ALTERNATIVE BULK OXYGEN LOCATION OPTION 1 (ALT 2) - FORWARD MOVEMENT

SWEPT PATH LEGEND:





AV

meters			
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 72.0
Trailer Track	: 2.50		

PRELIMINARY
NOT FOR CONSTRUCTION

Filename: SK24.dwg - USER: Netherlands - Plot File Created: Mar 11, 2022 - 3:04pm

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
P1	PRELIMINARY	NB	NB	11.03.22

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Civil Engineer
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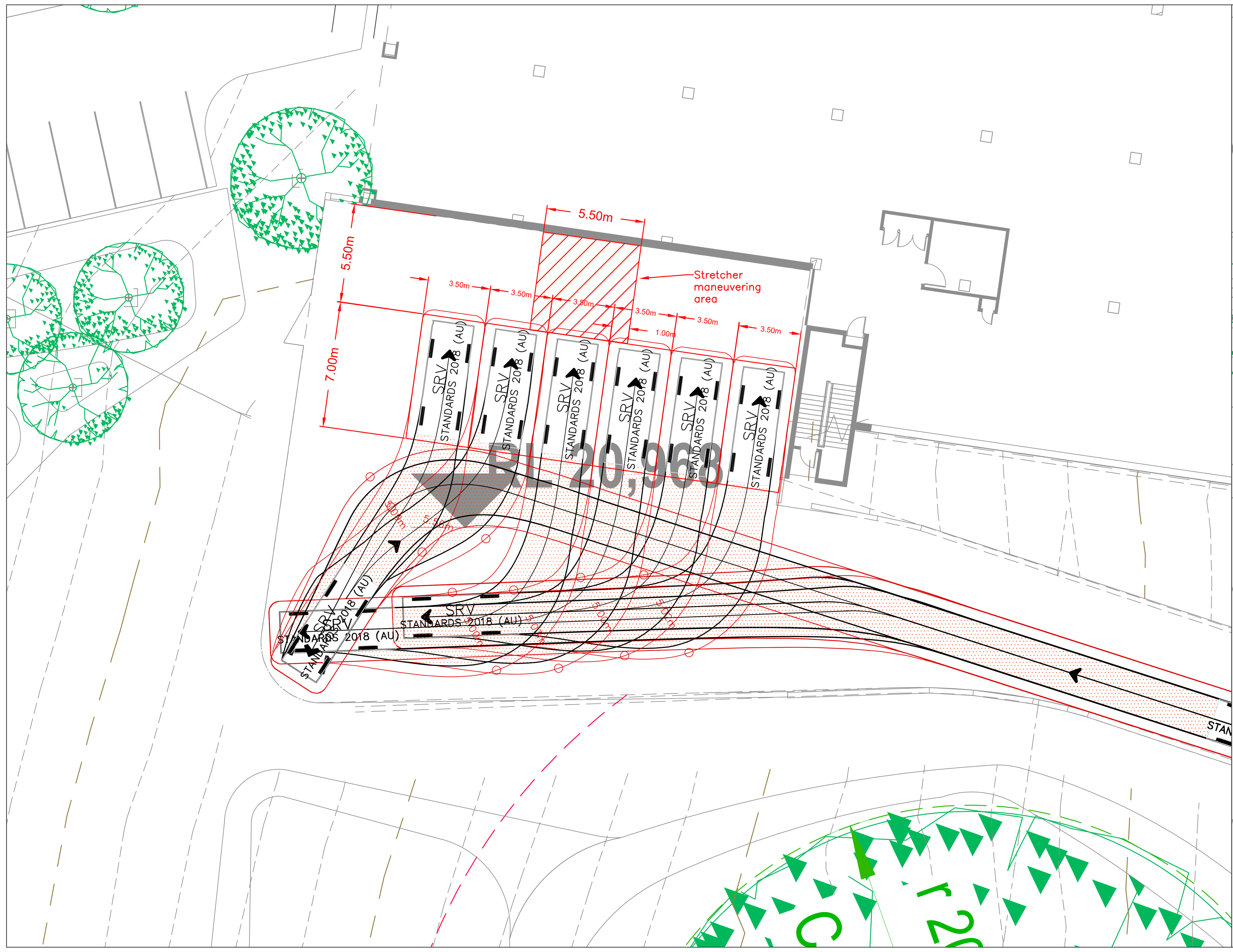
Project
SHOALHAVEN HOSPITAL REDEVELOPMENT

Sheet Subject
SEMI-TRAILER TRUCK (20m AV) ACCESS TO BULK OXYGEN TANK
ALTERNATIVE OPTION 1

Scale : A1	Drawn	Authorised
1:250	NB	

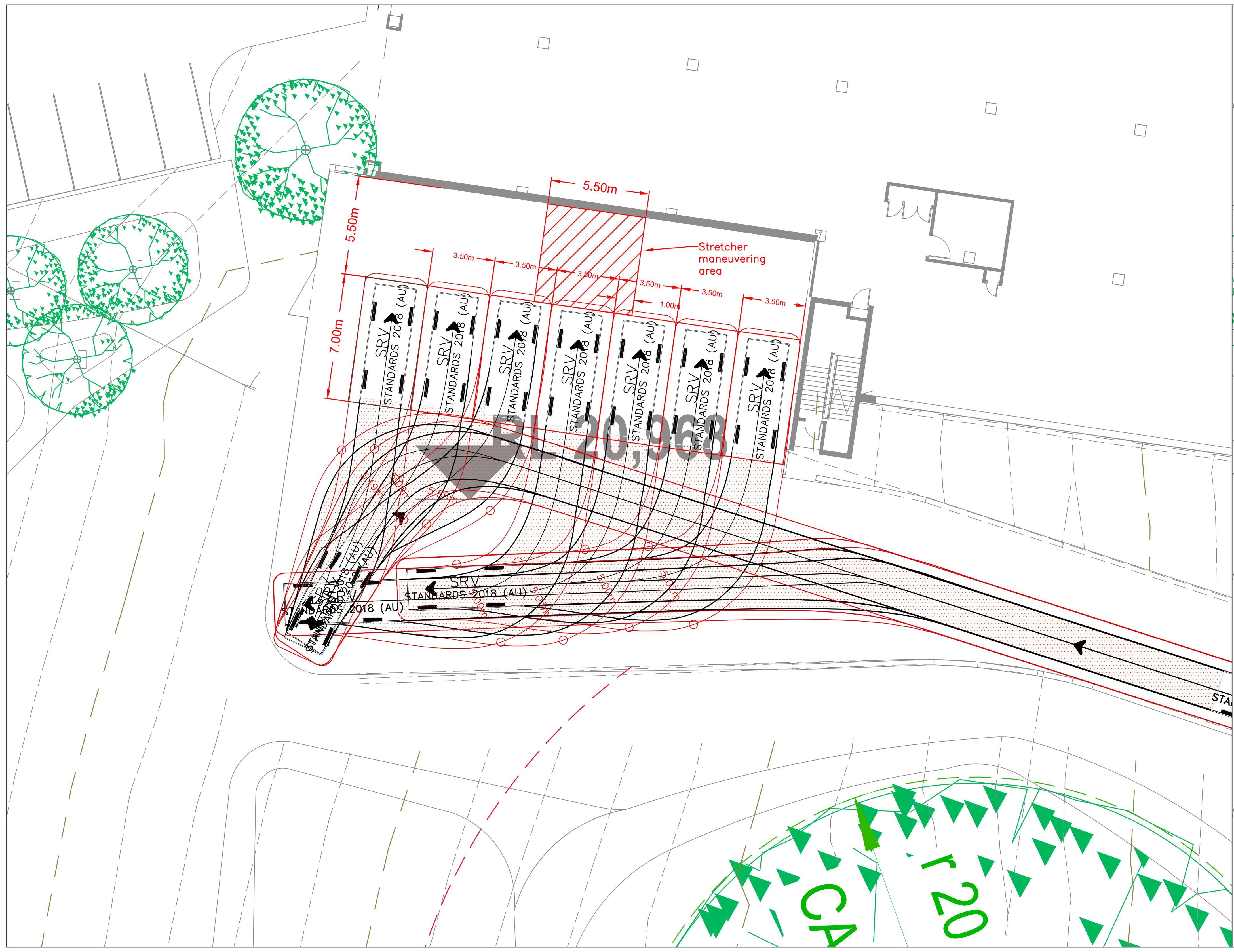
Job No	Drawing No	Revision
201815	SK24	P1

Plot File Created: Mar 11, 2022 - 3:04pm

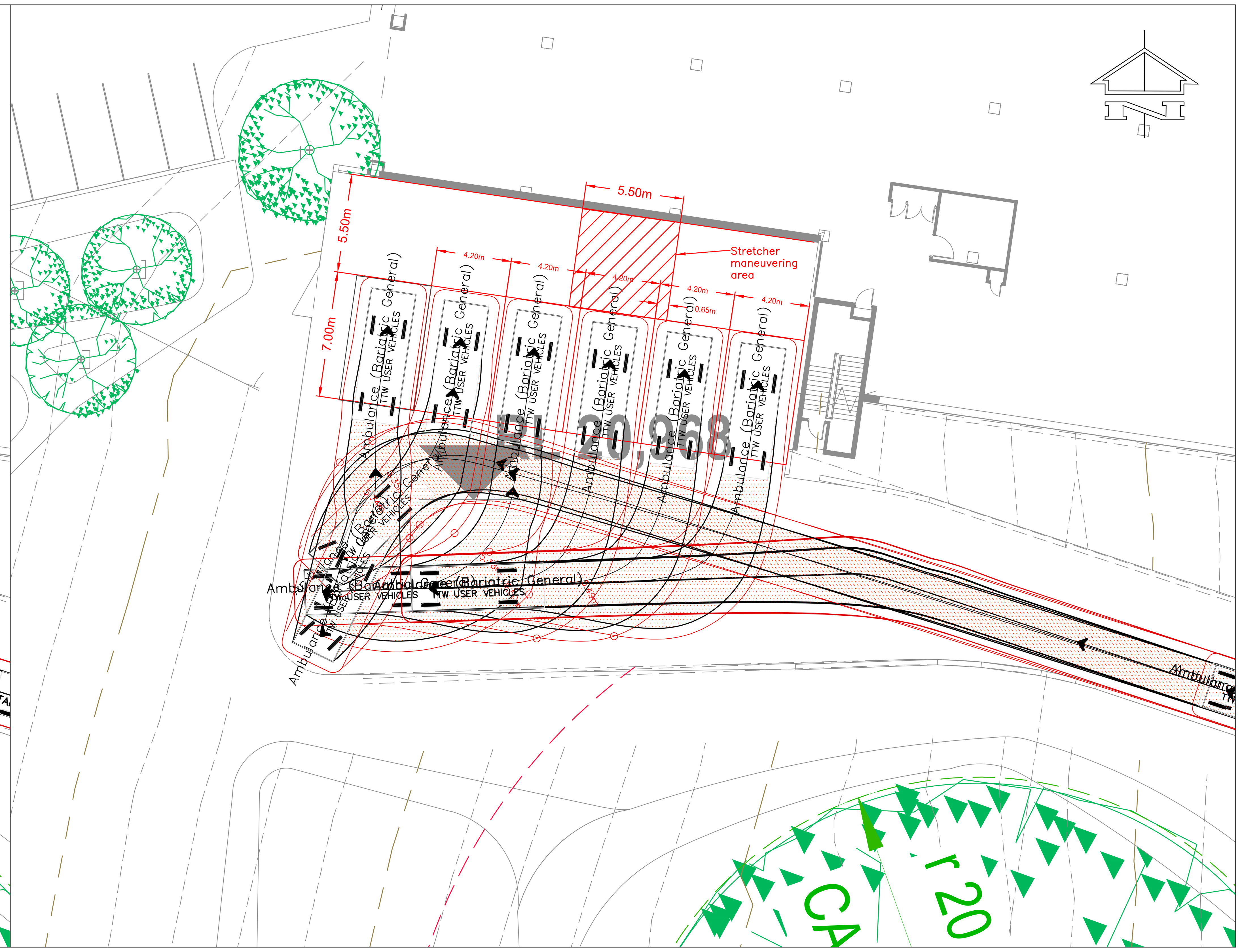


3.5M WIDE SPACES WITH POLICE & CORRECTIONAL VEHICLE PARKING

4.2M WIDE SPACES WITH POLICE & CORRECTIONAL VEHICLE PARKING



3.5M WIDE SPACES WITH RELOCATED POLICE & CORRECTIONAL VEHICLE PARKING



4.2M WIDE SPACES WITH RELOCATED POLICE & CORRECTIONAL VEHICLE PARKING

TTW Structural Civil Traffic Façade
612 9439 7288 | Level 6, 73 Miller Street, North Sydney, NSW 2060

Legend

Revision

REV	DESCRIPTION	DATE	INT.
A	ISSUED FOR INFORMATION	30.06.22	EC

Project
SDMH Shoalhaven District Memorial Hospital
Scenic Dr, Nowra NSW 2541

Client
NSW Government Health Illawarra Shoalhaven Local Health District

Project Manager / Contract Administrator
JOHNSTAFF

Managing Contractor
NSW Government Health Infrastructure

Building
ASB

Drawing
SWEPT PLAN
LEVEL 1 - AMBULANCE
AMBULANCE (SRV - STANDARD)

A1 Scale 1:200
Project No. 201815
Issue A
Drawing No. SK27

PRELIMINARY

Details

SCALE 1:1000
Scale at A1

Appendix F

Parking Demand Calculations

Clinical Staff	Parameters	Existing (2022)	Proposed (2026)	Notes / References:
Staff (FTE)		**717**	**801**	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
No of staff (based on current ration of 1.3 staff per FTE)	1.3	932	1041	
% present on weekdays	79%	79%	79%	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
% present on morning shift		50%	45%	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
# present on morning shift		**368**	**370**	
% driving to work		97.0%	88.3%	Targets derived from PTC travel mode survey
Average staff per car		1.04	1.17	Shoalhaven Hospital Demand Estimates with Travel Mode Change 090622 (PTC, received 15/06/2022)
Shift changeover allowance		265	259	90% of FTE afternoon staff - SDMH Hospital Questionnaire Updated (received on 26/05/2022)
Subtotal clinical staff mid-shift demand		**344**	**280**	
Subtotal clinical staff shift changeover demand		**592**	**475**	
Admin Staff				
Total admin staff		**203**	**231**	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
# staff on weekdays		173	198	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
% staff working on-site (i.e. not remotely)		N/A	70%	
# staff working on-site (i.e. not remotely) on a typical weekday		N/A	139	Assume that half of all eligible staff attend 2 days per week, and the remainder
% present on day shift	**90%**	90%	90%	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
% staff driving to work		97.0%	88.3%	Targets derived from PTC travel mode survey
Average staff per car		1.04	1.17	Shoalhaven Hospital Demand Estimates with Travel Mode Change 090622 (PTC, received 15/06/2022)
Subtotal admin staff demand		**146**	**95**	
Retail Staff				
Total retail staff on weekdays		**5**	**5**	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
% staff driving to work		97.0%	88.3%	Targets derived from PTC travel mode survey
Average staff per car		1.04	1.17	Shoalhaven Hospital Demand Estimates with Travel Mode Change 090622 (PTC, received 15/06/2022)
Subtotal retail staff demand		**5**	**4**	
VMOs				
Number of VMOs		**25**	**28**	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
# present on weekdays		18	20	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
% present on day shift	**50%**	50%	50%	Assumption based on % clinical staff present on morning shift
% driving to work		97.0%	88.3%	Targets derived from PTC travel mode survey
Average VMO per car	**1.0**	1	1	
Space turnover factor	**3.0**	3	3	
Subtotal VMO demand		**3**	**3**	
Total staff mid-shift demand (inc. VMO)		**498**	**382**	
Total staff shift changeover demand (inc. VMO)		**746**	**577**	
Outpatients				
Non admitted outpatient and sub-acute activity (service events) p.a.		**46877**	**77742**	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
Weekdays per annum	**252**	252	252	
% outpatient driving		92.5%	90.1%	Targets derived from PTC travel mode survey
Space turnover factor (day time)	**2.74**	2.74	2.74	
Total outpatients demand		**63**	**102**	
Emergency				
ED presentations p.a.		**42442**	**49316**	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
Days per annum	**365**	365	365	
Sent/followed by a related party who drives		92.5%	90.1%	Targets derived from PTC travel mode survey
Space turnover factor (day time)	**2.74**	2.74	2.74	
% of visitors in day time	**61%**	61%	61%	
Total visitors to ED demand		**24**	**28**	
Visitors to inpatient				
Number of inpatient beds		**214**	**303**	
Bed occupancy (weekdays)		79%	85%	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
Number of visitors per bed	**2**	2	2	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
Visitors per car		1.47	1.50	
% visitors driving to campus		98.6%	94.8%	Targets derived from PTC travel mode survey
Space turnover factor (day time)	**2.74**	2.74	2.74	
% of visitors in day time	**50%**	50%	50%	
Total visitors to inpatient demand		**42**	**60**	
Public demand		**129**	**190**	

Fleet				
# fleet vehicles on weekdays		**39**	**39**	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
Fleet vehicle demand for car parking		**39**	**39**	
Volunteers				
# volunteers per weekday		**0**	**6**	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
% volunteers driving		97.0%	88.3%	Targets derived from PTC travel mode survey
Average # volunteers per car		1.04	1.17	Shoalhaven Hospital Demand Estimates with Travel Mode Change 090622 (PTC, received 15/06/2022)
Volunteer demand for car parking		**0**	**5**	
Training				
# training people per weekday		**7**	**7**	SDMH Hospital Questionnaire Updated (received on 26/05/2022)
% training people driving		97.0%	88.3%	Targets derived from PTC travel mode survey
Average # training people per car		1.04	1.17	Shoalhaven Hospital Demand Estimates with Travel Mode Change 090622 (PTC, received 15/06/2022)
Training people demand for car parking		**7**	**6**	
Uni Students				
# students per weekday		**35**	**50**	Likely to have up to 65 students at any time
% students driving		97.0%	88.3%	Targets derived from PTC travel mode survey
Average # students per car		1.04	1.17	Shoalhaven Hospital Demand Estimates with Travel Mode Change 090622 (PTC, received 15/06/2022)
Student demand for car parking		**33**	**38**	
Other user demand		**79**	**88**	
Summary Car Park Users		**Existing (2022)**	**Proposed (2026)**	
Staff (mid-shift)		498	382	
Staff (shift changeover)		746	577	
Public (hospital users)		129	190	
Other campus users		79	88	
Total mid-shift demand		706	660	
Total shift changeover demand		954	855	
Parking capacity				
On-site parking capacity		**693**	**665**	
On-street parking capacity within 400m available to hospital users (70%)		*265*	*265*	70% of on-street parking within 400m of site is available for hospital users. Source: Shoalhaven Hospital Demand Estimates with Travel Mode Change 090622 (ptc survey + targets, received 15/06/2022)
On-street parking capacity within 400m		*379*	*379*	Total on-street parking supply within 400m. Source: Shoalhaven Hospital Demand Estimates with Travel Mode Change 090622 (PTC, received 15/06/2022)
On-site parking demand				
On-site parking surplus (+) or shortfall (-) for mid-shift		-13	5	
On-site parking surplus (+) or shortfall (-) for shift changeover		-261	-190	
# cars parking on-site for mid-shift		693	660	
# cars parking on-site for shift changeover		693	665	
% of on-site parking used (mid-shift)		*102%*	*99%*	Note: > 100% indicates that all on-site parking is occupied and overflow demand will be accommodated on-street
% of on-site parking used (shift changeover)		*138%*	*129%*	Note: > 100% indicates that all on-site parking is occupied and overflow demand will be accommodated on-street
On-street parking demand for spaces available to hospital users (70% capacity)				
On-street surplus (+) or shortfall (-) for spaces available to hospital users (mid-shift)		252	270	
On-street surplus (+) or shortfall (-) for spaces available to hospital users (shift changeover)		4	75	
# cars parking on-street for mid-shift		13	0	
# cars parking on-street for shift changeover		261	190	
% of on-street parking used available to hospital users (mid-shift)		*5%*	*0%*	
% of on-street parking used available to hospital users (shift changover)		*98%*	*72%*	
On-street parking demand (total capacity)				
On-street surplus (+) or shortfall (-) for total on-street capacity (mid-shift)		366	384	
On-street surplus (+) or shortfall (-) for total on-street capacity (shift changeover)		118	189	
% of total on-street parking used (mid-shift)		*3%*	*0%*	
% of total on-street parking used (shift changeover)		*69%*	*50%*	