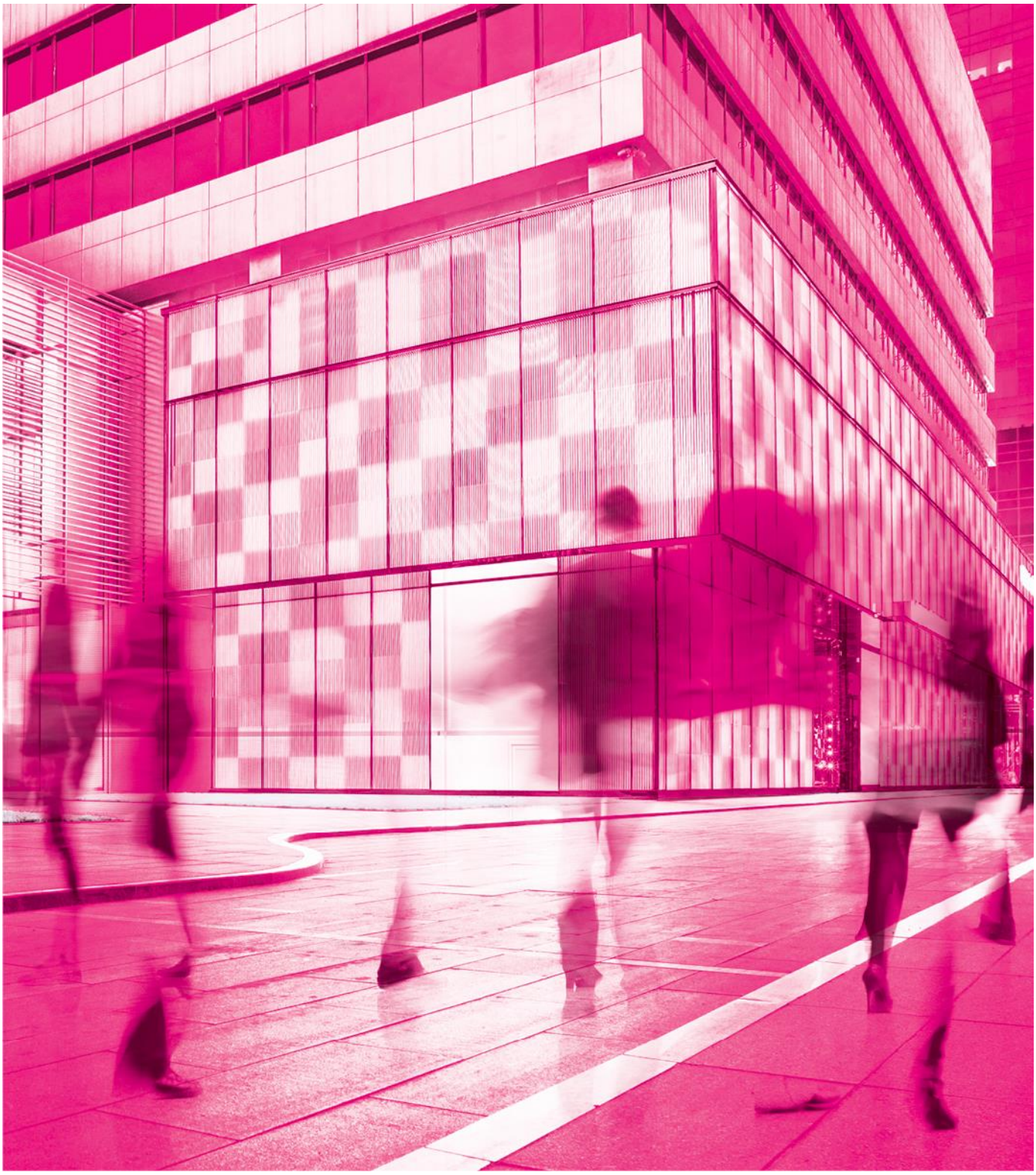

Report;

Edgecliff Centre Transport & Accessibility Impact Assessment

For Longhurst

11 March 2024

parking;
traffic;
civil design;
wayfinding;

ptc.

Document Control

Edgecliff Centre Transport & Accessibility Impact Assessment.

Issue	Date	Issue Details	Author	Reviewed	For the attention of
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2	07/08/20	Final Issue	PS	KB/AM	Longhurst
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5	13/10/23	Revision 2 WIP2	SM	AM	Longhurst
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Contents

1. Executive Summary

This report presents an assessment of the traffic and parking considerations associated with the proposal to redevelop the Edgecliff Centre in Edgecliff, which forms part of the broader Edgecliff precinct.

By way of context, the overall Edgecliff precinct is located along the southern side of New South Head Road, between Ocean Street and New McLean Street, and was developed in conjunction with the Edgecliff Railway Station. The precinct includes the station, a bus terminal, retail malls, a commercial office tower and residential towers.

It is important to note that the subject development site comprises only the western building (the Edgecliff Centre), which accommodates a retail mall and the commercial office tower. Car parking is also provided in two separate car parks for the retail component and office tenants, while an external loading dock is provided along the southern side of the building.

The retail mall provides an internal connection with the neighbouring building (Eastpoint), which accommodates the railway station, bus terminal and retail mall areas. In many ways, the precinct acts as one destination/facility for the public, however the distinction of the separate buildings is important for the purposes of this assessment.

The proposed development comprises the demolition of the existing building to make way for a building accommodating an improved retail area, a commercial office area and residential apartments.

The building currently accommodates 254 parking spaces for the retail and commercial components, which generate traffic commensurate with these uses. The planning and design of the proposed development has been established with the aim of limiting the traffic activity so that it does not exceed the current number of traffic movements during the weekday morning, afternoon and Saturday peak periods. This has been achieved through a reduction in the commercial area car parking spaces, and the addition of residential apartments, which are a lower traffic generator.

The proposed parking provision satisfies the requirements of the planning controls and the demand for parking (based on data collected from the existing building), while providing a cap on the traffic activity. This approach is consistent with the design principles of a Transport Orientated Development (TOD) and focuses travel to/from the site on the existing transport infrastructure (railway station and bus terminal) located within the adjacent building. It is noted that the proposed building design includes improvements in the pedestrian connection with the station and the adjoining building as well as improved inter-modal connections and enhanced station entry legibility of the interchange.

The design of the car park involves a single entry/exit within the southern boundary, which removes the existing driveway in close proximity to the New South Head Road intersection and existing multiple vehicle crossovers on the south boundary. The proposal will reduce the impact of vehicles slowing to manoeuvre into the carpark, which is currently occurring at the site.

It is in this context that the proposed development will maintain or reduce the traffic generation during various peak hours, while the change in land-uses improves the distribution of arrivals and departures and the removal of the existing western driveway removes a point of friction in close proximity to New South Head Road. The accumulation of these factors provides an improvement of the proposed redevelopment to the current traffic situation.

2. Introduction

2.1 Project Summary

ptc. has been engaged by Longhurst Investments No.1 Pty Ltd to prepare a Transport & Accessibility Impact Assessment to accompany a Planning Proposal for the future redevelopment of the Edgecliff Centre at 203-233 New South Head Road and part of the adjoining Council-owned road reserve fronting New McLean Street in Edgecliff.

It seeks the following amendments to the Woollahra Local Environmental Plan 2014 (WLEP 2014) to support the mixed-use redevelopment of the site:

- Increasing the maximum permitted Height of Buildings from part 0m, part 6m and 26m to part 13 and part 35 storeys plus plant.
- Increase the maximum permitted GFA on the Edgecliff Centre portion of the site to 44,190 sqm;
- Increase the maximum permitted GFA on the Council-owned road reserve to 3,300 sqm; and
- Introduce a site-specific provision to retain a minimum 2:1 FSR for non-residential purposes.

The Planning Proposal will also incorporate a portion of residual land which forms part of the New MacLean Street road-reserve, abutting the southern boundary of the Site, and the FSR and Height of Buildings development standard proposed for the Site are proposed to extend to this portion of land.

The location of the Edgecliff Centre is illustrated in Figure 1.

Figure 1 – Site Location (Source: Google Maps)

2.2 Purpose of this Report

This report presents the following considerations in relation to the Transport & Accessibility Assessment of the Proposal:

Section 2	Introduction;
Section 3	A description of the project proposal;
Section 4	A description of the road network serving the development property, and existing transport facilities;
Section 5	Transport and Accessibility Assessment;
Section 6	Assessment of the proposed parking provision in the context of the relevant planning control requirements;
Section 7	Determination of the existing traffic volumes at the key local intersections, traffic activity associated with the planning proposal, and the adequacy of the surrounding road network;
Section 8	Assessment of the proposed car park layout, vehicular access and internal circulation arrangements in relation to compliance with the relevant standards, and Council policies; and
Section 9	Conclusion.

3. Proposal

3.1 Project Site

The Edgecliff Centre is located within the core of Edgecliff local centre which is predominantly zoned B2 Local Centre zone. The surrounds are predominantly B4 (Mixed Use), while R2 (Low Density Residential) and R3 (Medium Density Residential) zones lie within the close proximity. There is a larger B2 zone to the east, and a few RE1 (Public Recreation) zones within the vicinity. This is presented in Figure 2.

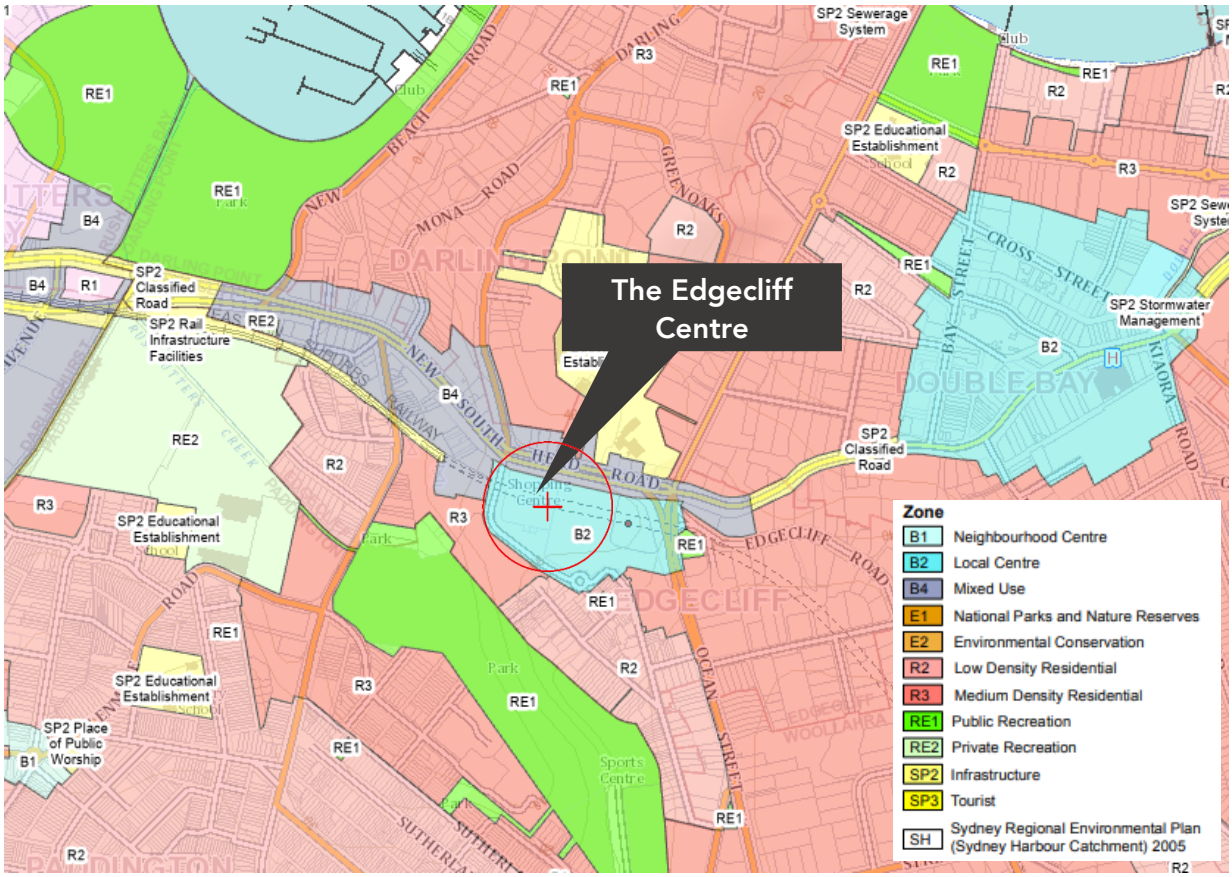


Figure 2 – Land Zoning (Source: NSW Planning Viewer)

The Edgecliff Centre is identified as Lot 203 in Deposited Plan 1113922 and has an approximate site area of 4,910m^2 with frontages along New South Head Road and New McLean Street. These are presented below in Figure 3 and Figure 4, respectively. An aerial view of the site is provided in Figure 5.

Figure 3 – New South Head Road frontage (Source: Google Maps)

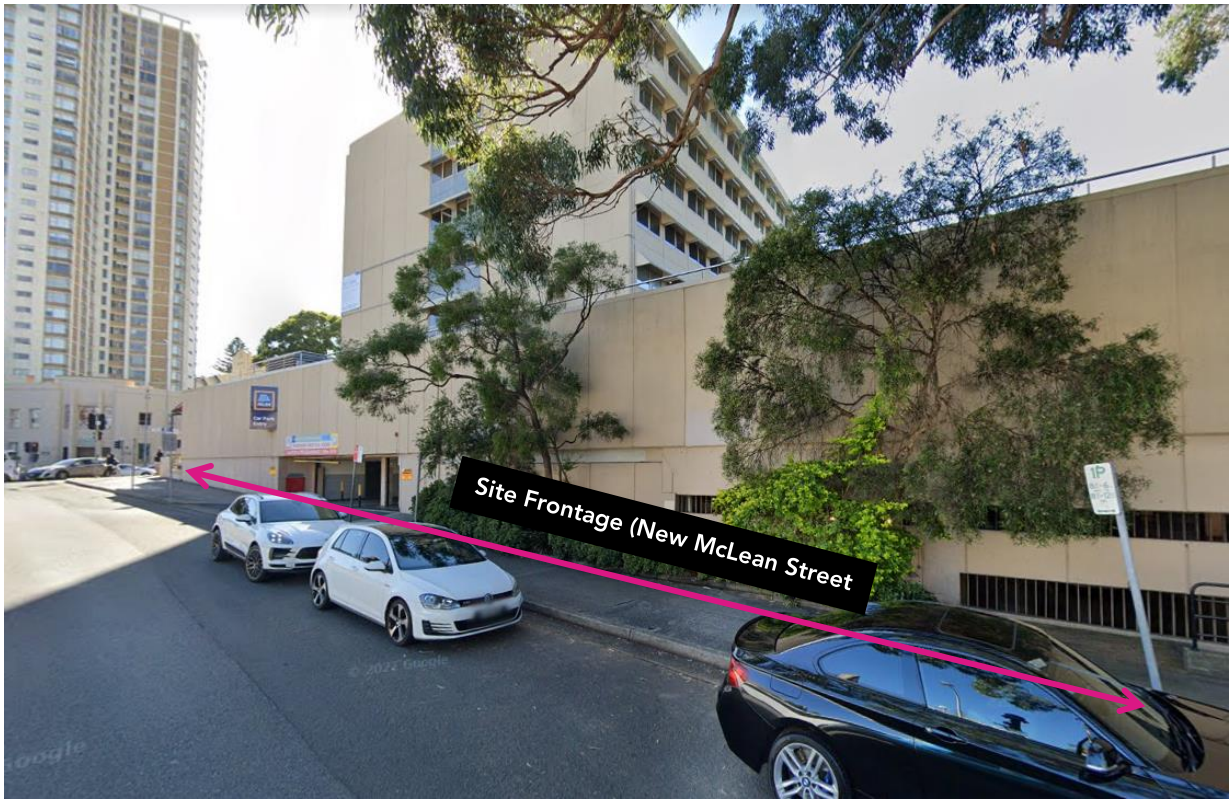


Figure 4 – New McLean Street frontage (Source: Google Maps)

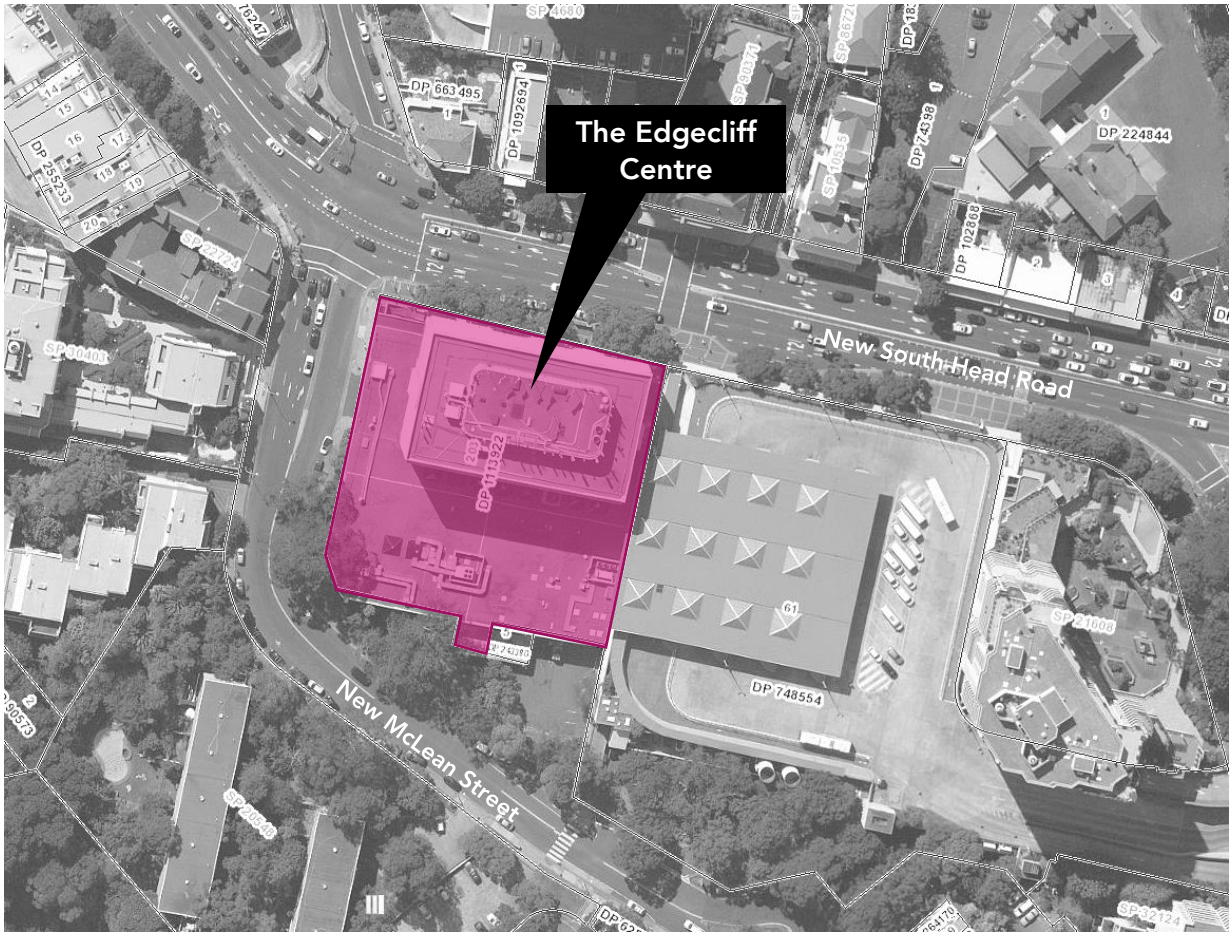


Figure 5 – Aerial View of Subject Site (Source: SIX Maps)

3.2 Planning Proposal

The existing Edgecliff Centre currently includes retail component (a shopping centre), commercial component and medical consulting services with a provision of 254 car spaces (141 car spaces for commercial / offices tenant use and 113 car spaces for retail / medical customer use) within two (2) basement levels.

The Planning Proposal is supported by an indicative development concept to demonstrate the anticipated built form outcome envisioned for the site under the proposed amendments to the WLEP 2014. The concept is centred around revitalising the site for a vibrant mixed-use development that can simultaneously give back to the community through a combination of community uses and public open spaces, the provision of essential medical services whilst increasing employment generating floor space and housing close to transport. Specifically, the concept includes:

- A combination of commercial (including office and retail), residential, and medical land uses with a total Gross Floor Area of circa 44,190 sqm;
- The distribution of form comprising:
    - A mixed-use podium between two and three storeys with retail, office, medical, community uses and public open space;
    - Two individual tower components for commercial and residential uses up to a height of part 13 storeys and part 35 storeys plus plant;

- Basement with capacity for End of Trip facilities along with circa 333 car parking spaces, 429 bicycle spaces and 34 motorcycle spaces;
- Activated and landscaped frontages to New McLean and New South Head Road within an integrated civic ground floor retail precinct;
- Delivery of a town square plaza, open green space and forecourt visibly prominent and publicly accessible, and
- Introduction of a network of pedestrian laneways, through site links and colonnade.

One of key constraints of the site involves the surrounding road network and access by car. A scenario analysis of the proposed yields in the context of parking and traffic has been undertaken to determine the scale of redevelopment which can be accommodated within the local road network. This has been achieved through the balancing of the proposed land-uses having regard for the differing peak periods of activity. It is also relevant that the site is located above Edgecliff Station, therefore comprising a Transit Oriented Development[2] (TOD).

3.2.1 Proposed access arrangement

The proposed access arrangement consists of a separate entry and exit driveway off New McLean Street, which is the same as the existing arrangement at the rear side of the site. A figure showing the proposed access arrangements is as below:

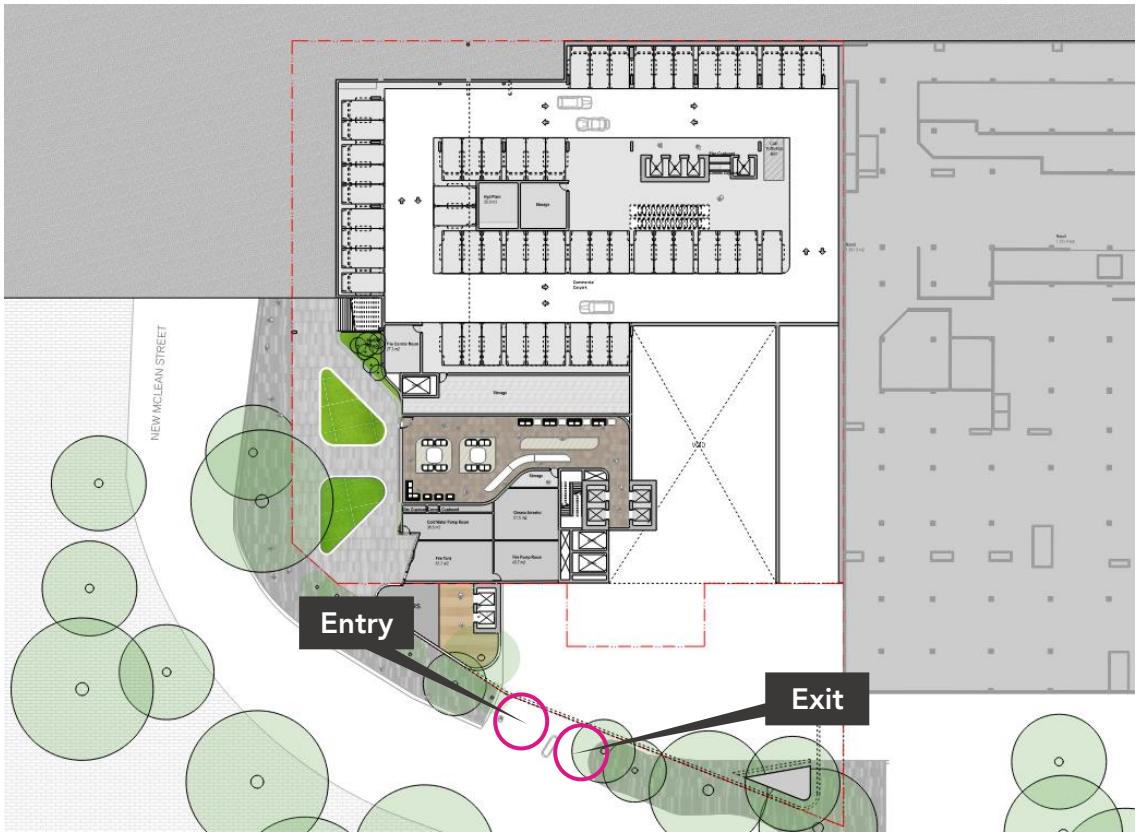


Figure 6 – Proposed Vehicular Access Arrangement (Source: FJC Studio)

[2] The Property Council of Australia describes TODs as "*high-density, mixed-use projects that are adjacent to, or integrated with, public transport. They are typically master-planned to create interfaces with transport infrastructure and can help to revitalise under-utilised precincts while bringing economic and social benefits to the wider community.*"

4. Existing Transport Facilities

4.1 Road Hierarchy

The Edgecliff Centre is located in the suburb of Edgecliff and is primary serviced by New South Head Road (a State Road) to the north and Ocean Street (a Regional Road) to the east. New McLean Street is a local road which runs along the western boundary of the site.

A summary of the key roads serving the Edgecliff Centre is presented in Figure 7 and the following tables.

Figure 7 – Surrounding Road Network (Source: RMS Road Hierarchy)

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy as follows:

State Roads - Freeways and Primary Arterials (RMS managed)

Regional Roads - Secondary or Sub Arterials (Council managed, partly funded by the State)

Local Roads - Collector and Local Access Roads (Council managed)

Table 1 – New South Head Road

New South Head Road	
Road Classification	State Road
Alignment	East - West
Number of Lanes	Varies, typically 3 lanes in each direction, including a T2 Transit lane on either side of the carriageway
Carriageway Type	Divided
Carriageway Width	18m
Speed Limit	60km/h
School Zone	Yes
Parking Controls	Eastbound kerbside lane: Clearway 6am-7pm (Mon-Fri), Clearway 9am-6pm (Sat-Sun), Bus Zones & Taxi Zone
Forms Site Frontage	Yes

Figure 8 – New South Head Road

Table 2 – Ocean Street

Ocean Street	
Road Classification	Regional Road
Alignment	North - South
Number of Lanes	Varies, typically 1 lane in each direction, parking lanes on both sides. Road widens to three lanes within the vicinity of the site
Carriageway Type	Divided
Carriageway Width	Varies, 12m in section with 1 lane in each direction plus parking lanes. Approximately 21m in widest section near the site
Speed Limit	50km/h
School Zone	No
Parking Controls	No parking in the close proximity of the site, Generally 2P 8:00am – 6pm (Mon-Fri) where parking available
Forms Site Frontage	No

Figure 9 – Ocean Street

Table 3 – New McLean Street

New McLean Street	
Road Classification	Local Road
Alignment	North – South
Number of Lanes	1 lane in each direction, parking lanes on both sides
Carriageway Type	Divided
Carriageway Width	15m
Speed Limit	50km/h
School Zone	No
Parking Controls	1P 8:30am – 6pm (Mon-Fri), 8:30am – 12:30pm (Sat)
Forms Site Frontage	Yes

Figure 10 – New McLean Street

4.2 Key Intersections

The key intersections within the vicinity of the site are identified as follows:

- New South Head Road / Mona Road – 3 arm signalised intersection
- New South Head Road Signalised Pedestrian Crossing
- New South Head Road / Darling Point Road / New McLean Street – 4 arm signalised intersection
- New South Head Road / Ocean Street / Ocean Avenue– 4 arm signalised intersection

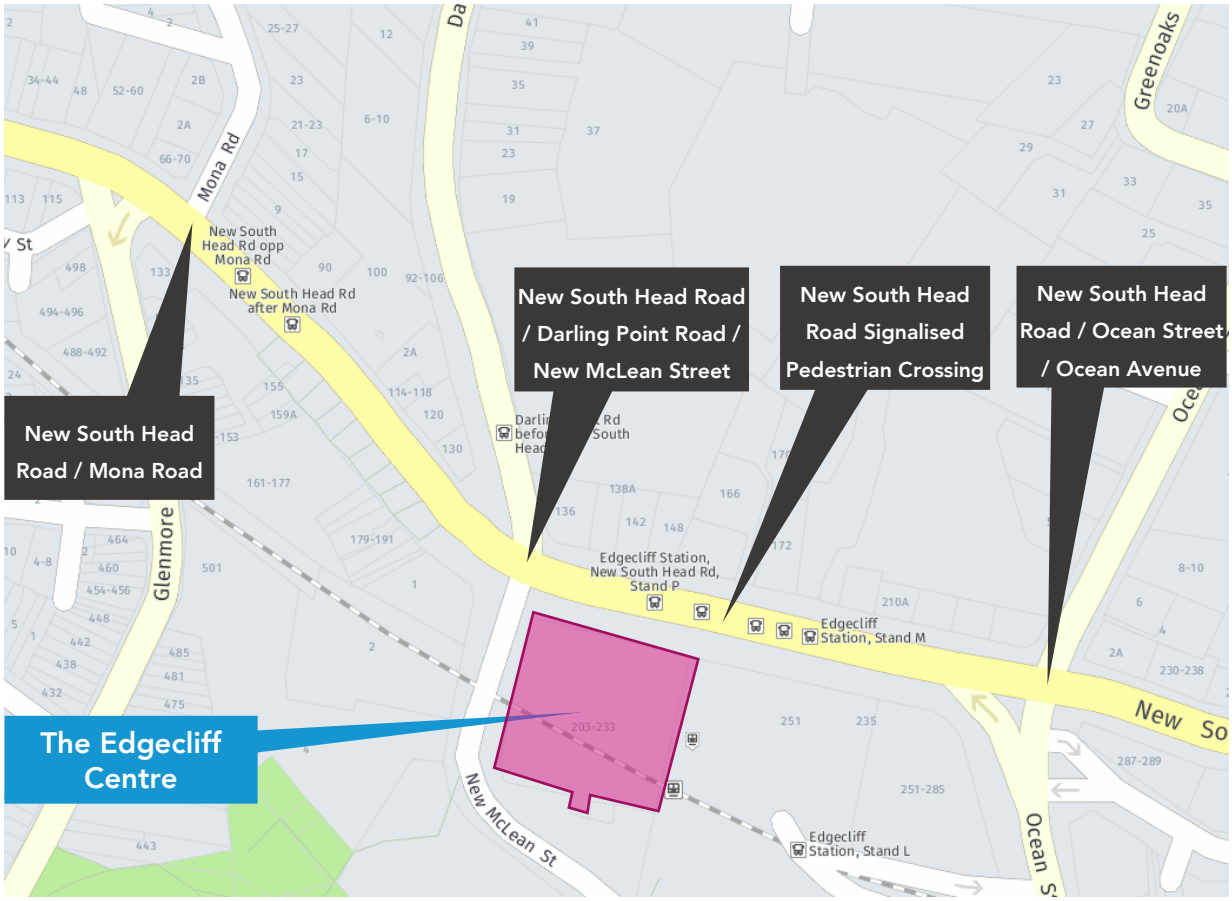


Figure 11 – Key Intersections

4.3 Public Transport

The locality has been assessed in the context of available forms of public transport that may be utilised by prospective tenants, staff, customers and visitors. When defining accessibility, the *NSW Planning Guidelines for Walking & Cycling (2004)* suggests that 400m-800m is a comfortable walking distance.

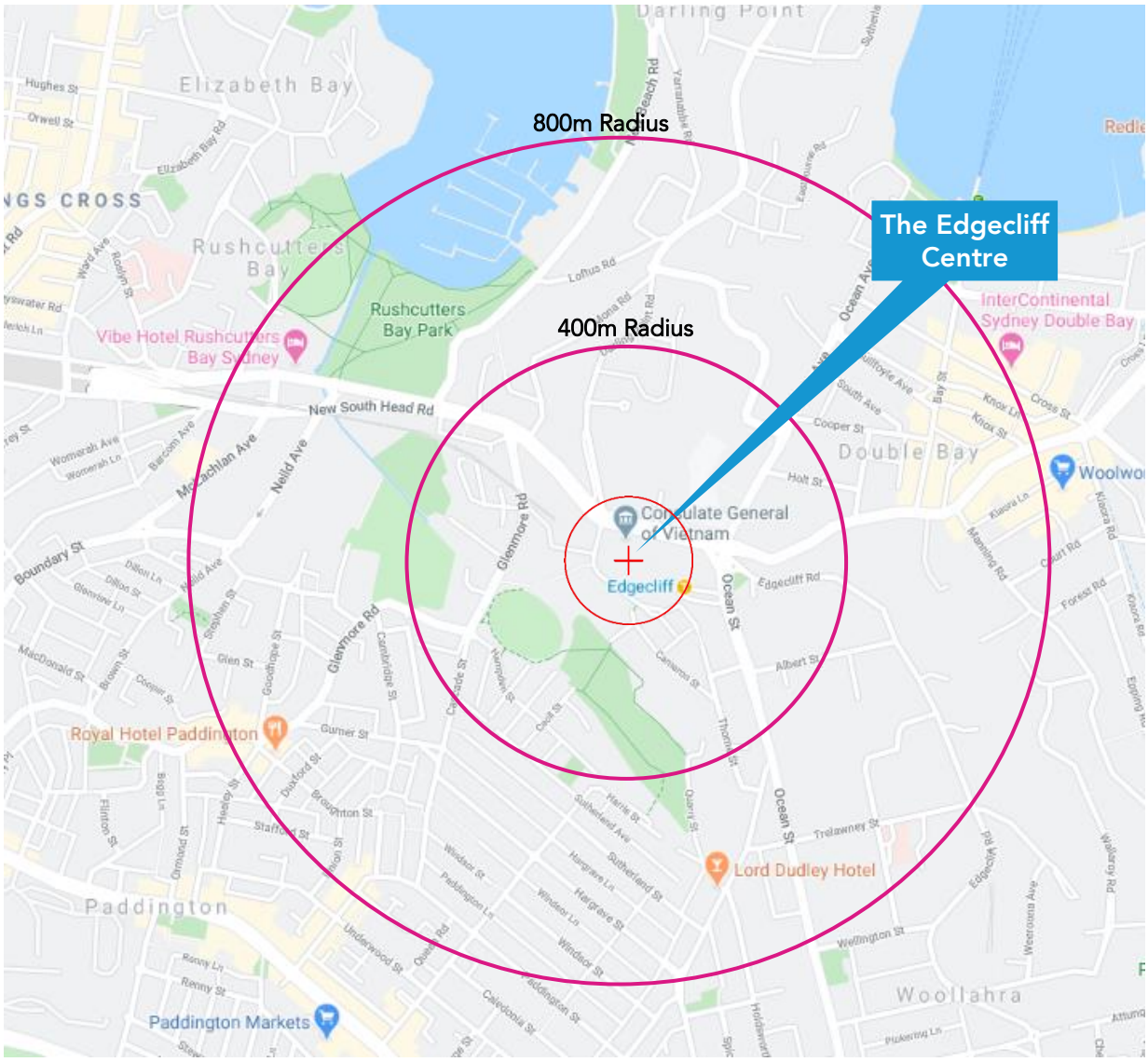


Figure 12 – 400m and 800m radius of the subject site

4.3.1 Train Services

Edgecliff Station is located beneath the Edgecliff Centre; the close proximity to the station makes travel by train a convenient transport option. Edgecliff Station is served by the T4 Eastern Suburbs & Illawarra Line with services operating approximately every 3-5 minutes during the weekdays and every 5-10 minutes during the weekends.

It is noted that Edgecliff Station is three stops away (approximately 8-minute train ride) from Town Hall Station which is served by the T1 North Shore & Western Line, T2 Inner West & Leppington Line, T3 Bankstown Line, T4 Eastern Suburbs & Illawarra Line, and the T8 Airport & South Line. As such, Edgecliff Station provides a

convenient connection to the wider Sydney Trains Network, thus providing visitors and staff with a very high level of accessibility to and from the site.

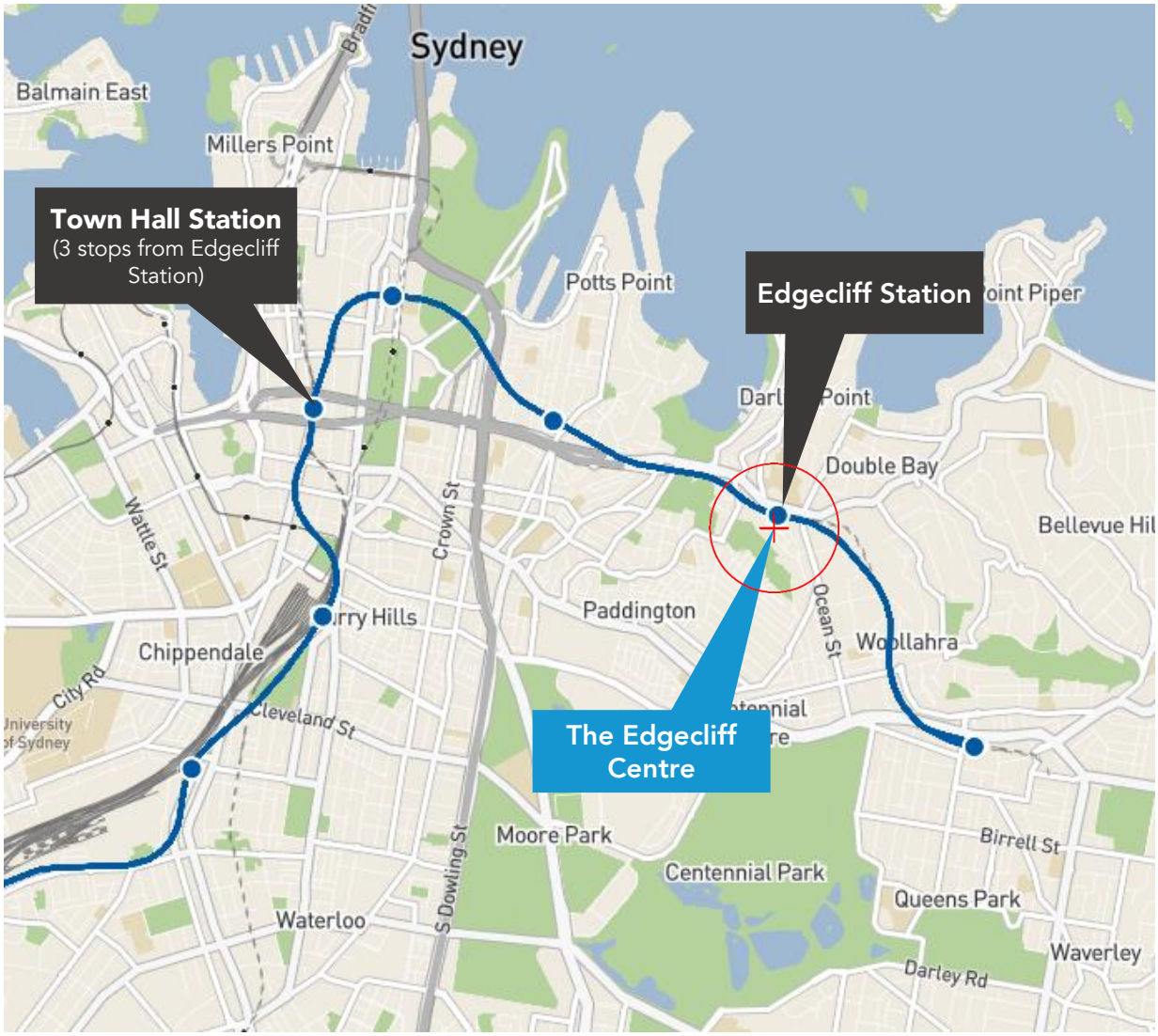


Figure 13 – T4 Eastern Suburbs & Illawarra Line Station Map

4.3.2 Sydney Metro West

The Sydney Metro West is proposed as a future metro line in Sydney, connecting Sydney CBD and Westmead. This metro line is proposed to run parallel to existing main Western Line railways. This is a future connection which will set up more network connectivity to the west from the site.

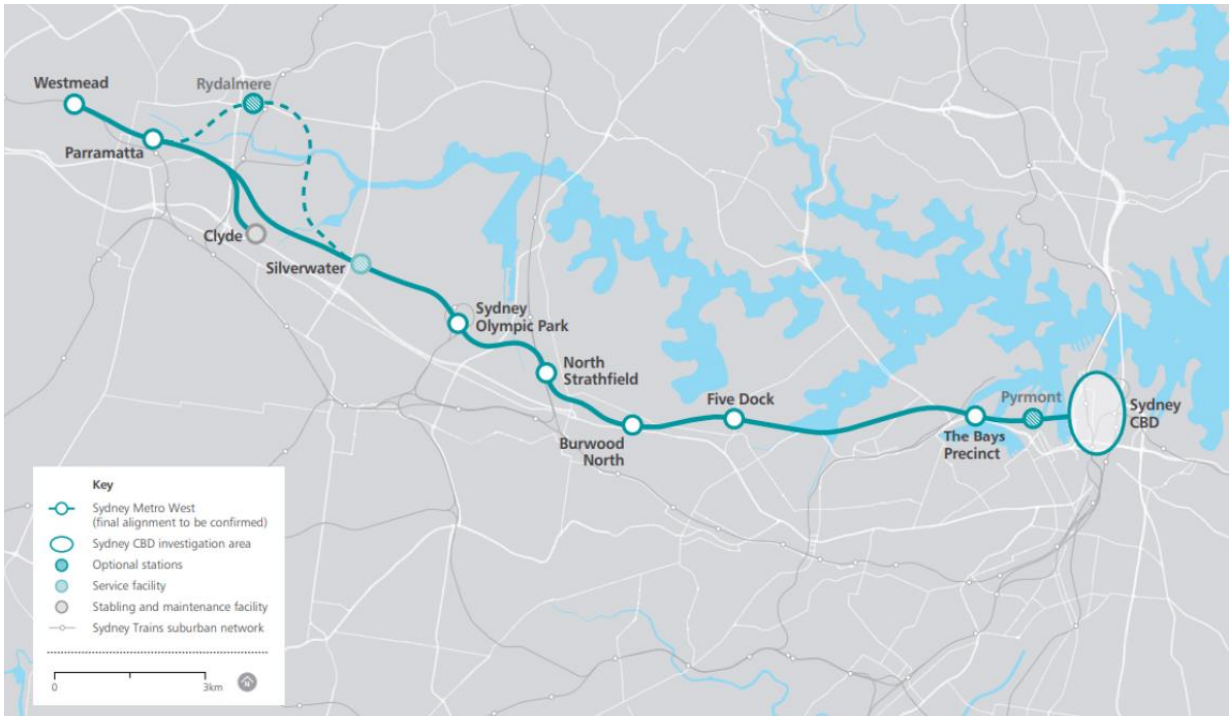


Figure 14 – Futture Sydeney West Metro Line Station Map

4.3.3 Bus Services

The Edgecliff Centre is also well serviced by numerous bus services within the bus interchange located above Edgecliff Station as well as on New South Head Road near the Edgecliff Station entry. A summary of the nearby bus routes and their coverage is presented in Table 4 and the bus routes servicing the site are illustrated in Figure 15.

Table 4 – Bus Routes servicing the area

Route	Coverage	Frequency (approximate)
200	Chatswood to Bondi Junction	Mon-Fri: Every 20-30 minutes Sat-Sun: No services operating
323	North Bondi to Edgecliff via New South Head Rd	Mon-Fri: Every 20 minutes (PM peak only) Sat-Sun: No services operating
324	Walsh Bay to Watsons Bay via Old South Head Rd	Mon-Fri: Every 10-15 minutes (peak), every 30 minutes (off-peak) Sat-Sun: Every 20 minutes
325	Walsh Bay to Watsons Bay via Vaucluse Rd	Mon-Fri: Every 30 minutes Sat-Sun: Every 30 minutes
326	Edgecliff to Bondi Junction via Bellevue Hill	Mon-Fri: Every 30 minutes (peak), every 60 minutes (off-peak) Sat-Sun: Every 60 minutes
327	Edgecliff to Bondi Junction via Manning Rd & Bellevue Rd	Mon-Fri: Every 30 minutes (peak), every 60 minutes (off-peak) Sat-Sun: Every 60 minutes
328	Bondi Junction to Darling Point via Edgecliff (Loop Service)	Mon-Fri: Every 60 minutes (afternoon and evening only) Sat-Sun: Every 60 minutes
L24	Vaucluse to City Wynyard (Limited Stops)	Mon-Fri: 2 services only in the morning
N91	Bondi Junction to Macquarie Park via City Town Hall	Mon-Thurs: 1 service only in the afternoon Friday: 3 services only in the afternoon Sat: 3 services only in the afternoon Sun: 4 services only in the afternoon

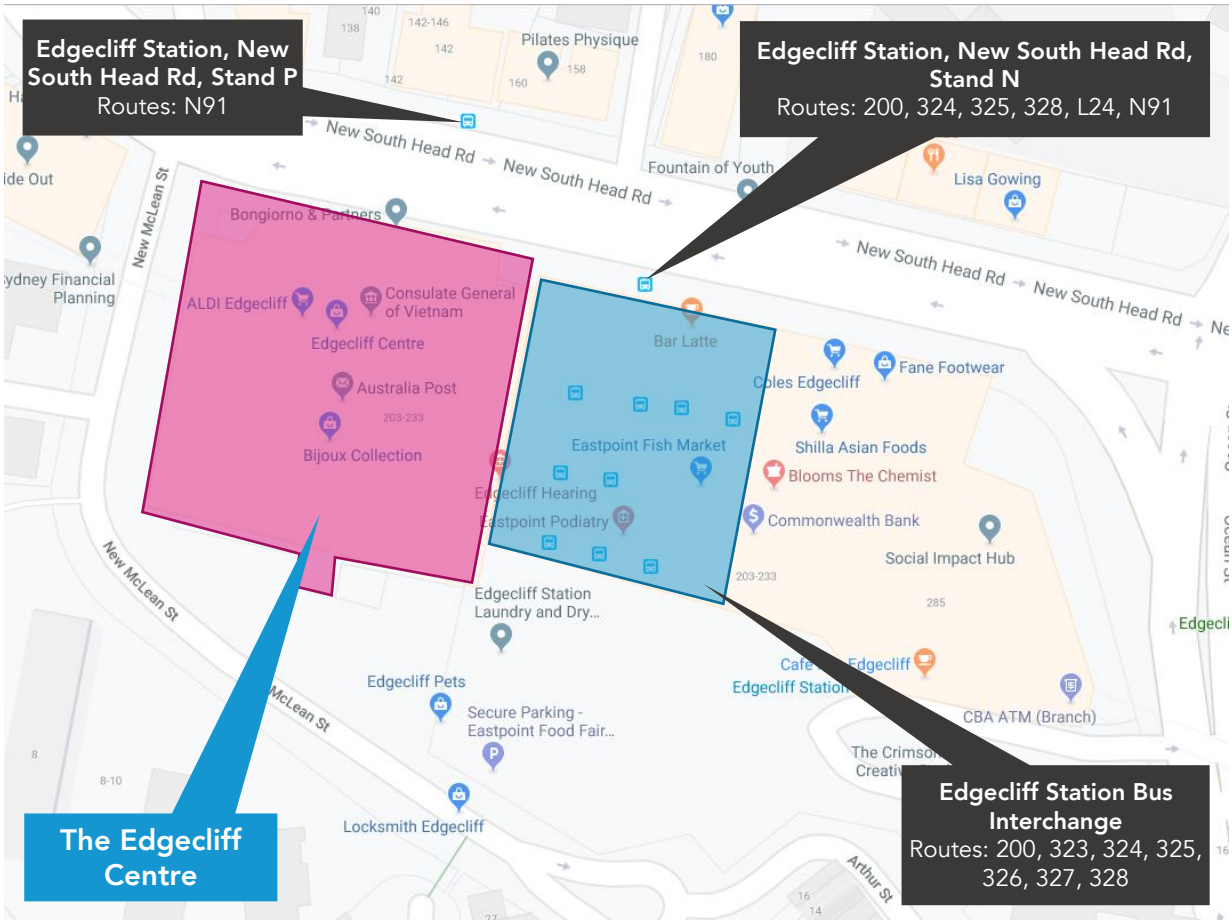


Figure 15 – Nearby Bus Routes (Source: TfNSW, 2019)

4.4 Active Transport

The locality was reviewed for features that would attract active transport trips (walking and cycling), with reference to the NSW Guidelines for Walking and Cycling (2004).

4.4.1 Cycling Infrastructure

A review of the local cycling infrastructure has been undertaken to determine the overall accessibility of the Edgecliff Centre by active transport. Figure 16 presents the existing bicycle routes within the surrounding area. The site is well serviced by both the main bicycle routes and the local bicycle routes, providing access to the city and the surrounding eastern suburbs.

With reference to Woollahra Active Transport Plan, a few priority cycling projects are identified by Woollahra Council which will further improve the cycling infrastructure in the locality. The cycling priority projects include the following:

- Rushcutters Bay to Edgecliff Station Interchange via New South Head Road
- Edgecliff Station Interchange to Double Bay via Ocean Avenue and William Street
- Edgecliff Road (Edgecliff to Queen Street)

Based on the review of the cycling infrastructure, the site is considered to be well served by the nearby cycleways.

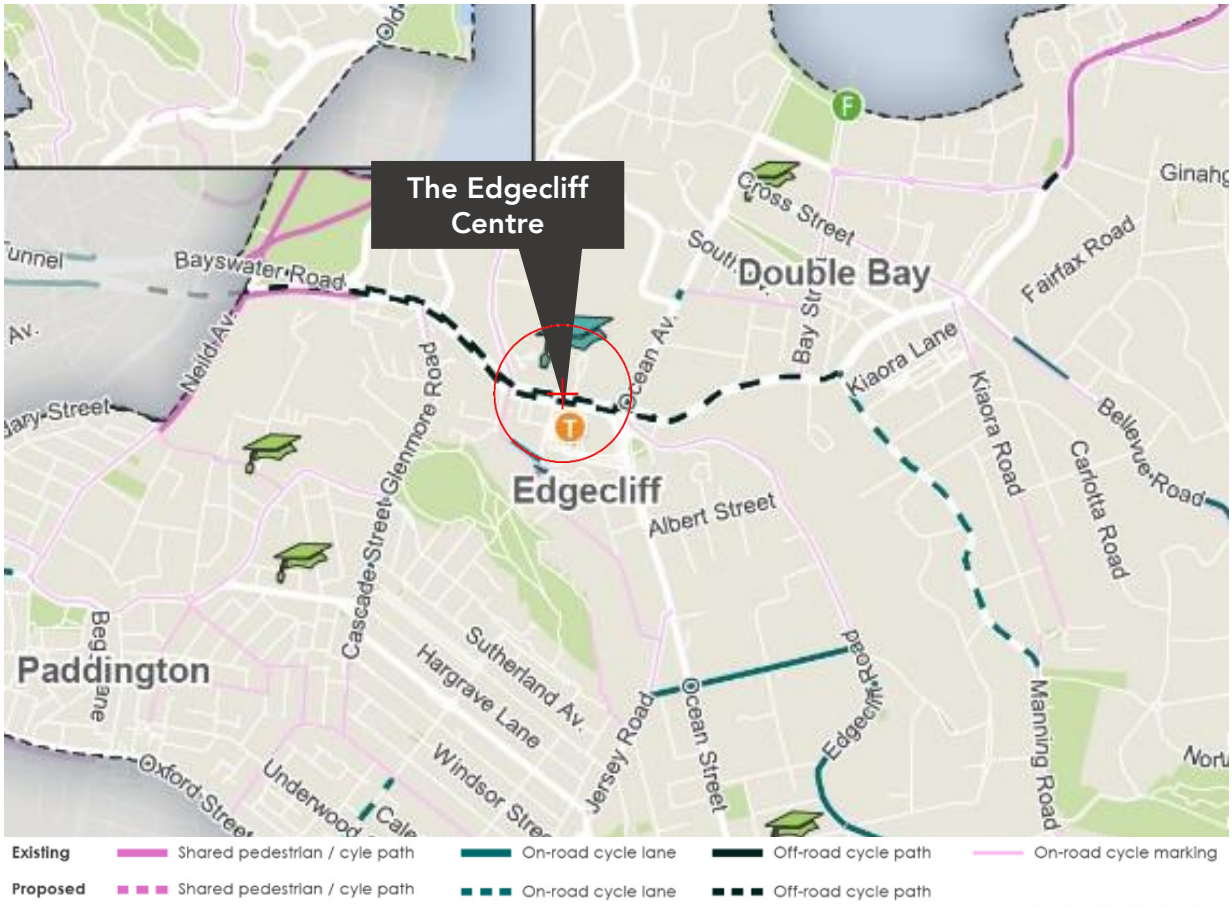


Figure 16 – Local Existing Cycling Network (Source: Woollahra Active Transport Plan)

4.4.2 Pedestrian Facilities

In terms of pedestrian infrastructure, footpaths are generally provided on both sides on all nearby streets. Signalised pedestrian crossings are provided at the major intersections of New South Head Road / New McLean Street and New South Head Road / Ocean Street.

It is acknowledged that the New South Head Road / New McLean Street intersection only has pedestrian crossings connecting the east and western sides of New McLean Street. Pedestrians wishing to cross New South Head Road are able to do so by using the mid-block crossing in front of the Edgecliff Centre (see Figure 17). Alternatively, pedestrians may cross at the New South Head Road / Ocean Street intersection which has pedestrian crossings on all four approach arms.

It is also noted that, the proposal involves the introduction of an east-west through site link, this will complement the existing north-south midblock pedestrian crossing and provide improved pedestrian connectivity in the area.

Figure 17 – Mid-block Pedestrian Crossing on New South Head Road in front of the Edgecliff Centre (Source: Google Maps)

5. Transport and Accessibility Assessment

5.1 Transit Orientated Development (TOD)

A Transit Oriented Development is a type of development that includes mixes of residential, commercial, retail, leisure and civic uses within close proximity. The prominent feature of TODs is access to public transport facilities within a walkable distance, highest priority for walkable design and pedestrian infrastructure along with reduced and managed parking.

The Edgecliff Centre provides a mix of uses and is within close proximity of train and bus services which can be easily accessed by walking (internally). Design priority of the indicative scheme has been given to walking / pedestrian experience with the introduction of significant improvements to the expansion of the public domain and connection of the building and transport node to the local site network. This makes the centre both transit-oriented (people transit through the centre to connect with public transport) and a destination that can be accessed by public transport, meaning that the dependence on private vehicle is greatly reduced.

5.2 Planning Policies and Benchmarking

Development Control Plans have historically been set up to respond to parking demands generated by private developments. However, it could be argued that this approach to parking is not applicable for town centres with constrained parking, heavy traffic conditions and direct access to a wide range of public transport. It appears that the Woollahra Council DCP does not take into consideration such circumstances. In comparison, many other DCPs and planning strategies do provide restrictions over the parking provision and the setting of maximum parking provisions is now common within inner city areas. Therefore, a site-specific control could be developed which would be more appropriate for the site rather than applying to the existing DCP.

Woollahra Council's Environmental Sustainability Action Plan 2013-2025 sets out a number of actions on enabling sustainable transport options including the use of public transport. As described in Section 4.3, the site is collocated as part of a public transport hub and in an area supported by social infrastructure. This provides employment and services, which reduces pressure on the road network and makes the living environment more attractive, in line with the Plan's directives.

Reference is made to the Environmental Planning Committee dated 28th October 2019, during which Council presented the Draft Woollahra Integrated Transport Strategy (ITS). Council states that one of the targets is to reduce the car usage by 10% by 2026 and instead increase the use of public and active transport modes. The draft ITS *"outlines how Council's vision will be delivered through four (4) key transport themes: Access and Mobility; Public Transport; Active Transport; Roads, Parking and Delivery, in which Council is planning to develop a Parking Action Plan."* A short term goal for the Parking Action Plan is to *"Put a cap on the number of car parking spaces per dwelling and for other land uses (rather than having a minimum number required)."*

It is noted that the current parking provision rates applicable to the non-residential components of the development are reasonably high and represent a minimum requirement, which follows the policy applied to off-centre/out-of-town development and is not representative of a TOD scenario.

In terms of transport characteristics, the Edgecliff Centre is comparable to the Greenwood Plaza in North Sydney, both being well serviced by bus and train stations and located within the close proximity to those public transport options. However, the maximum car parking rates for commercial, retail and medical uses

within North Sydney is 1 space per 400m^2. This compares to the Edgecliff centre car parking rates (refer to Section 6.2.2) which range from 1 space per 66m^2 to 33m^2 (up to 12 times the North Sydney rate). In addition, the North Sydney Council DCP stipulates the car parking rates for supermarkets and medical centres within Milson Point and St Leonards, as 1 space per 400m^2, which is much lower than the Woollahra Council rate for Edgecliff Centre. In this regard, the Planning Proposal seeks a reduced parking provision on the basis of the TOD characteristics of the site. This is described fully in Section 6.

5.3 Traffic Generation and Parking Provision

Traffic activity has a direct connection to the parking provision within (and in the vicinity of) a development site. The site is located adjacent to an arterial road, which carries a large traffic volume during the peak commuter periods, and is therefore subject to congested conditions during these periods. Given the sensitivity of the road network, it has been an important element of the proposal that the traffic generation outcomes should retain the current traffic activity associated with the site, or in other words, in no way worsen the performance of the surrounding intersections. In this regard, the development yields and the proposed parking provision (which will be defined in the subsequent Development Application) have been determined to retain the current peak hour traffic generation, albeit the distribution of entry and exit movements is subject to change in line with the new residential component proposed within the development (i.e., the residential component has more outbound trips in the morning, whereas the commercial component has more inbound trips in the morning, and vice versa for the evening trips).

5.3.1 On-street Parking Provision

A high-level review of the existing on-street parking restrictions within the 200 metres of the Edgecliff centre shows that most of the parking spaces available near the site are restricted to 2 hours.

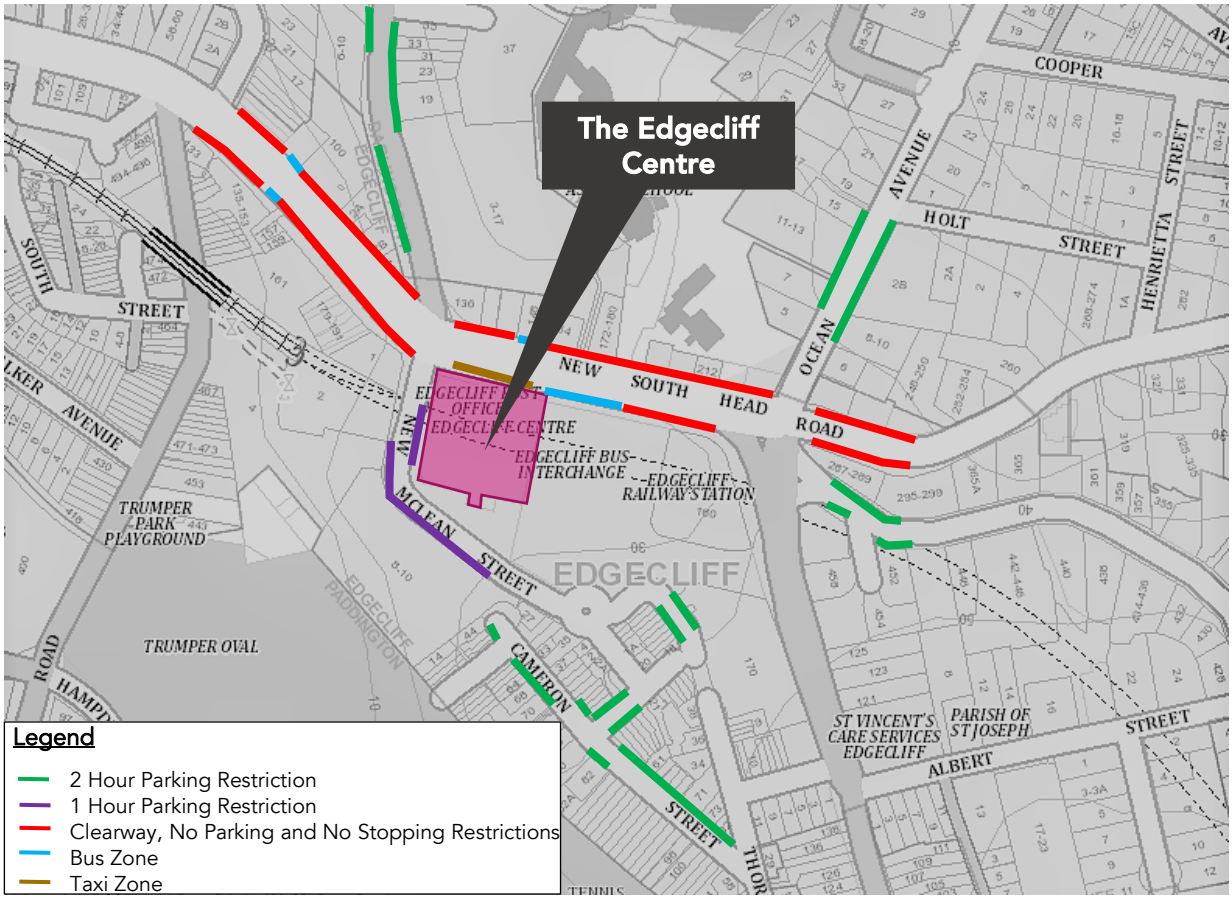


Figure 18 – Traffic Volume during Saturday Peak Hour – Existing Situation

New South Head Road is restricted by a combination of clearway (6am – 7pm Mon-Fri, 9am – 6pm Sat-Sun), no stopping and no parking controls. The parking along Mc Lean Street is restricted to 1 hour. This shows that there is only limited on-street parking available in the close proximity of the site and it is therefore unlikely that additional traffic beyond the on-site parking availability will be generated. The parking provisions are shown in Figure 18.

5.4 Public Transport

As discussed in Section 4.3 of this report, The NSW Planning Guidelines for Walking and Cycling (2004) suggests a distance of 800m is a walkable catchment to public transport links. As shown, the site is well serviced by buses and trains that operate within less than 100m walking distance of the site, providing public transport links to the greater Sydney area.

The provision of access to public transport, that the site provides, should encourage users of the site to minimise their reliance on private car usage.

5.5 Active Transport

The major intention behind the regeneration of the Edgecliff Centre is to improve the interface between rail and bus, whilst, creating a sustainable and connected precinct for wider community. This is possible with the provision of the public accessible green space, generous public plaza, and improved through-site links unlocking the restrictions around inter-modal connection. The public accessible open green space is proposed to be an extension of the existing public domain adjacent to the bus terminal with key connections for pedestrians from the bus terminal with key connections for pedestrians from the bus

terminal to the rail concourse. It will provide connectivity synergies with all transport uses on the site. The proposed through-site links between intermodal connection points will help pedestrians to identify the transport options as well as provide key connections from the local street network into the Edgecliff Station and Bus Terminal. The proposal of incorporating escalators within the plaza will provide this Vertical Inter-modal Transport Link between rail and bus further ingraining the transport links for the community and provide a significantly improved user experience from the current condition. The proposed enhanced infrastructure along with the well facilitated existing pedestrian footpaths and pedestrian crossings (as discussed in Section 4.4), increases the possibility of accessing the site by walking.

As set out in Section 4.4.1 of this report, the site is serviced by strategic on road cycle links, which provides access to the cycle network within Edgecliff, Bondi Junction, Kings Cross and the greater Sydney area.

5.6 Carpooling and Car Share

With the recent trend on increased use of car share such as GoGet and Uber, and carpooling, it is seen that the reliance on private vehicles has been decreasing.

The Woollahra Council DCP states that *'Each car share space has a potential to replace a maximum of 4 regular car parking spaces.'*

Similarly, GoGet mentions that *'The study for car share in Australia found for each car used by 20 members, 10 private cars were removed.'*

Carpooling is another way of reducing the number of private vehicle / trips. With a proper management, the staff working within a same organisation, can be encouraged to carpool.

5.7 Summary

Based on the surrounding road network and site constraints, in addition to the proposed improvements to the intermodal transport connection, it is more likely that the employees / staff and customers / visitors will rely on buses and trains to travel to Edgecliff Centre.

6. Car Parking Assessment

6.1 Planning Policy

The potential development is subject to the parking provision rates stipulated in the following planning documents:

- Woollahra Development Control Plan 2015 (DCP)
- Road and Maritime Services (RMS) Guide to Trip Generating Developments 2002 (RMS Guide)
- Disability Standards 2010

6.2 Car Parking

As outlined in Section 3.2, an indicative scheme has been prepared as part of the planning proposal which outlines an apartment range. This report utilises the following floor areas and number of units for assessing the car parking provision, being:

- 7,933 m^2 of commercial GFA;
- 6,737 m^2 of retail GFA;
- 29,460 m^2 of residential GFA which includes the following indicative breakdown:
    - 76 one-bedroom units
    - 110 two-bedroom units
    - 89 three-bedroom units

The details of the car parking requirements are discussed in the following sections.

6.2.1 Residential Car Parking

Applying the relevant rates from the DCP to the potential development results in the following requirements as summarised in Table 5 for residential use.

Table 5 – Car Parking Requirement and Provision for Residential Use

Use	No. of units	DCP Parking Rate (max)	Max Allowable Parking[3]	Indicative Parking Provision
1 - bedroom	76 units	0.5 space per unit	38	
2 - bedroom	110 units	1 space per unit	110	
3 - bedroom	89 units	1.5 space per unit	134	
Visitor	268 units	0.2 space per unit	54	
		Total (Residential)	**336**	**216**

The DCP sets a maximum allowance of 336 car spaces. The indicative scheme proposes 216 car spaces, which is less than the maximum allowance and is therefore compliant with the DCP requirement.

[3] The parking numbers rounded up to the nearest whole number according to the DCP

6.2.2 Non-residential Car Parking

Applying the relevant rates from the Council's DCP to the potential development results in the following requirements as summarised in Table 6 for non-residential use.

Table 6 – Car Parking Requirement and Provision for Non-Residential Use

Use	GFA	DCP Parking Rate (min)	Parking Multiplier[4]	Minimum Parking Provision Requirement[5]	Indicative Parking Provision
Commercial (Offices)	7,933 m^2	2.5 spaces per 100m^2 GFA	0.6	118	
Retail (Shopping Centre)	6,737 m^2	3.3 spaces per 100m^2 GFA	0.6	133	117
		TOTAL (Non-Residential)		**251**	**117**

It is evident that the existing DCP requires a minimum of 251 parking spaces for the non-residential component of the potential development, however as noted in Section 5.2, a site-specific control could be developed which would be more appropriate for the site that has convenient access to public transport. The indicative scheme includes a provision for 117 car parking spaces, which is nominally deficient by 134 car spaces.

During the planning of the development, the parking provision has been defined by four primary characteristics of the site:

- The relationship to the transport hub and ability to travel to and from the site without a car;
- The physical constraints associated with the alignment and depth of the rail tunnel;
- The goal of not increasing the current traffic activity associated with the existing building; and
- To be a sustainable development that aims to reduce car ownership and therefore traffic congestion.

It is noted that, the DCP required car parking quantum is greater than the existing car parking spaces in totality. With consideration to the advantages of being a transport orientated development and the convenient accessibility to the transport interchange, the greater car parking quantum required by the DCP may seem to be excessive in the locality and result in a worst outcome for the wider road network, which is a great concern of the Woollahra Council and community.

Based on the above, it is considered that there is a net benefit to limiting the non-residential parking provision and, in this regard, this Planning Proposal seeks to provide a parking provision which is adequate provision relative to the indicative design concept and site context. In addition, as discussed in Section 5, the reduction in parking spaces does not have a significant effect on TOD's.

[4] In accordance with Chapter E1 of the Council's DCP, parking multipliers are used to discount the base parking generation rate for non-residential uses within Edgecliff Commercial Core B2 Zone

[5] The parking numbers rounded up to the nearest whole number according to the DCP

6.3 Accessible Car Parking

The Council's DCP states that accessible car parking spaces to be provided in accordance to Part D3.5 of Building Code of Australia (BCA) which are as follows:

Table 7 – Accessible Car Parking Requirement and Provision

Use	No. of units / car spaces	BCA Parking Rate (min)	Parking Provision Requirement (min)
RESIDENTIAL			
Residential (Adaptable Units)[6]	28 units -TBC	1 per each adaptable unit	28
Sub-total (Residential)			**28**
NON-RESIDENTIAL			
Commercial (Offices)[7]	Total 117 car spaces for Non-residential use	1 per 100 car spaces or part thereof	1
Retail (Shopping Centre)[8]		1 per 50 car spaces + 1 per additional 100 space	2
Community facility[9]		1 per 50 car spaces or part thereof	1
Sub-total (Non-Residential)			**4**
TOTAL			**32**

According to the planning controls, a total of 31 accessible car spaces is required including 28 car spaces for residential use and 4 car spaces for non-residential use. The project is currently at the planning proposal stage, the provision of the accessible spaces will be subject to a separate development application, it is envisaged that the development will provide the required number of accessible parking spaces.

[6] BCA does not provide accessible car parking rates for Class 2 building (a building containing 2 or more sole-occupancy units, each being a separate dwelling) and hence reference is made to Chapter E8 of the Council's DCP which stipulates that the residential flat building with 10 or more dwellings to construct at least 10% of the dwellings to Class A certification under AS 4299 – Adaptable housing. Therefore, a building of 275 units will require to construct at least 28 adaptable dwellings and subsequently 1 accessible car parking spaces is recommended for each adaptable unit.

[7] In accordance with the BCA for Class 5 building (an office building used for professional or commercial purposes)

[8] In accordance with the BCA for Class 6 building (a shop or other building for sale of goods by retail or the supply of services direct to the public) with up to 1000 car parking spaces

[9] In accordance with the BCA for Class 9b (an assembly building including a trade workshop or laboratory in a primary or secondary school)

6.4 Bicycle Parking

The bicycle parking requirements have been calculated in accordance with Chapter E1 of the Council's DCP which are as follows:

Table 8 – Bicycle Parking Requirement

Use		No. of units / GFA	DCP Parking Rate (min)	Parking Provision Requirement (min)[10]
RESIDENTIAL				
Residential accommodation	Residents	275 units	1 per dwelling	275
	Visitors		1 per 10 dwellings	28
Sub-total (Residential)				303
NON-RESIDENTIAL				
Commercial (Offices)	Employees	7,933 m^2 GFA	1 per 150m^2 GFA	53
	Customers / Visitors		1 per 400m^2 GFA	20
Retail (Shopping Centre)	Employees	6,737 m^2	1 per 200m^2 GFA	34
	Customers / Visitors		1 per 1,000m^2 GFA	7
Community Facility	Employees	Number TBC under separate application	1 per 10 staff	TBC
	Customers / Visitors	2,040m^2 GFA	2 + 1 per 200m^2 GFA	12
Sub-total (Non-Residential)				126+(TBC)
TOTAL				429+TBC

According to the DCP, the planning proposal would be required to provide at least 429 bicycle spaces. The project is currently at the planning proposal stage, the provision of the accessible spaces will be subject to a separate development application, it is envisaged that the development will provide the required number of accessible parking spaces.

[10] The parking numbers rounded up to the nearest whole number according to the DCP

6.5 Motorcycle Parking

The motorcycle parking requirements have been calculated in accordance with Chapter E1 of the Council's DCP which are as follows:

Table 9 – Motorcycle Parking Requirement

Use	No. of car spaces	Parking Rate (min)	Parking Provision Requirement (min)[11]
Residential[12]	216 spaces	1 per 10 car spaces	22
Non-residential[13]	117 spaces	1 per 10 car spaces	12
TOTAL			**34**

The provision of 184 car spaces for residential uses results in a minimum requirement of 19 motorcycle spaces, and the provision of 117 car spaces for non-residential uses results in a minimum requirement of 12 motorcycle spaces. The project is currently at the planning proposal stage, the provision of the accessible spaces will be subject to a separate development application, it is envisaged that the development will provide the required number of accessible parking spaces.

6.6 Service Bay Provision

The service vehicle parking requirements have been calculated in accordance with the Council's DCP. The requirements are summarised in Table 10.

Table 10 – Service Vehicle Parking Requirement and Provision

Use	No. of units/ spaces	Parking Rate (min)	Parking Provision Requirement (min)	Proposed Parking Provision
Residential	-	DCP does not specify service vehicle parking requirements for these land uses. DCP states that loading arrangements may need to be provided where regular deliveries of goods are made to or from the site.		Capable to accommodate 2 Medium Rigid Vehicle (MRV) Bays and 2 Heavy Rigid Vehicle (HRV) Bays
Commercial (Offices)	-			
Community facility	-			
Retail Premises[14]	1	1 space per development	1	
TOTAL			**1**	**4**

In summary, the indicative scheme is capable to provide four service bays in the form of 2× MRV bays and 2× HRV bays which is considered to be sufficient to adequately service the needs of the development. It is noted that one MRV bay will be shared between residential and commercial uses.

[11] The parking numbers rounded up to the nearest whole number according to the DCP

[12] In accordance with Chapter E1 of the Council's DCP which outlines the requirement of minimum 1 motorcycle space per 10 car spaces for all types of development.

[13] In accordance with Chapter E1 of the Council's DCP which outlines the requirement of minimum 1 motorcycle space per 10 car spaces for all types of development.

[14] In accordance with Chapter E1 of the Council's DCP which outlines the requirement of minimum 1 loading bay for retail premises such as a supermarket

When considering the waste collection requirement, Attachment 1 of the DCP specifies the dimension of the Council's garbage truck for domestic waste collection which is 8 metres long, 2.5 metres wide and 4.3 metres high. The Council's garbage truck is smaller than an MRV (8.8 × 2.5 × 4.5 metres), and therefore can be easily accommodated in the MRV bay provided for residential and commercial uses. The waste collection for commercial, retail and medical premises are to be undertaken either by Council trucks or by private contractors which is to be accommodated within the proposed HRV or MRV bays. It is assumed that the waste collection is typically conducted outside of peak periods (i.e., early in the morning) and occurs once or twice a week, thus the impact this will have on the servicing of the site is anticipated to be minor. As such the shared use of the service bays is considered to be appropriate.

A turntable is provided in the loading dock to ensure that all service vehicles can enter and exit the site in a forward direction. The vehicles exiting the site into McLean Street meet the minimum sight distance requirement of 45 metres (for frontage road speed of 50km/h, minimum sight distance requirement is 45 metres) in accordance with AS 2890.1. In addition, there is a bend on western side of the driveway on McLean Street, because of which, it is more likely that the speed of vehicles approaching towards the driveway is reduced to less than 50km/h. Therefore, the minimum sight distance requirement for vehicles entering the frontage road (McLean Street) is met.

7. Traffic Impact Assessment

7.1 Existing Traffic Volumes

In order to assess the traffic conditions of the nearby road network, traffic surveys were undertaken on Thursday, 16th March 2023, between 7am – 10am and 3:30pm – 6:30pm as well as on Saturday 18th March 2023, between 10am to 1pm, at the key intersections described in Section 4.2. The analysis and the results of these surveys are described in the following sections.

7.1.1 Existing Peak Hour Volumes

The following peak hours have been determined for each of the four individual intersections:

Table 11 – Peak Hour Traffic Volumes

Road Intersection	Weekday Peak Period		Saturday Peak Period
New South Head Road / Mona Road	AM Peak	7:30am – 8:30am	10:45am – 11:45pm
	PM Peak	4:15pm – 5:15pm	
New South Head Road / Darling Point Road / New McLean Street	AM Peak	7:30am – 8:30am	10:45am – 11:45pm
	PM Peak	4:15pm – 5:15pm	
New South Head Road Pedestrian Crossing	AM Peak	7:00am – 8:00am	10:45am – 11:45pm
	PM Peak	4:15pm – 5:15pm	
New South Head Road / Ocean Street / Ocean Avenue	AM Peak	7:45am – 8:45am	11:00am – 12:00pm
	PM Peak	4:15pm – 5:15pm	

For a more adequate analysis, the four sites were modelled as a network, for which the network peak hours were adopted as follows:

- 7:30am – 8:30am and 4:15pm – 5:15pm during the weekday
- 10:45am – 11:45pm during the Saturday

Figure 19, Figure 20 and Figure 21 illustrate the existing traffic volumes during the weekday morning peak hour (7:30am – 8:30am), weekday evening peak hour (4:15pm – 5:15pm), and Saturday peak hour (10:45am – 11:45pm) respectively.

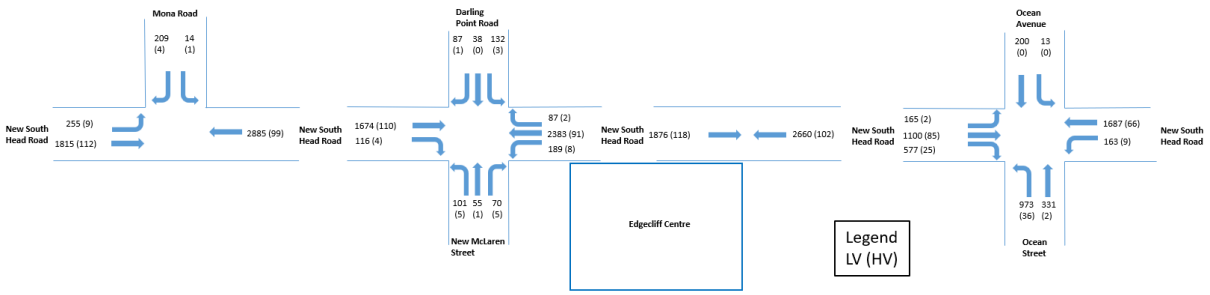


Figure 19 – Traffic Volume during Weekday Morning Peak Hour Volumes – Existing Situation

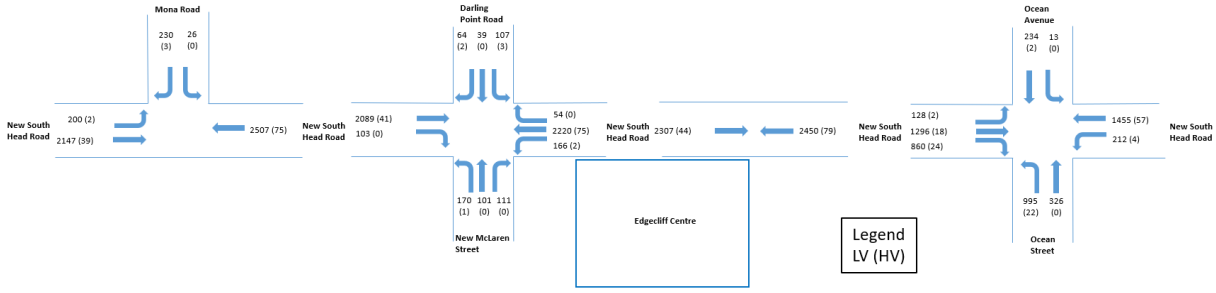


Figure 20 – Traffic Volume during Weekday Afternoon Peak Hour – Existing Situation

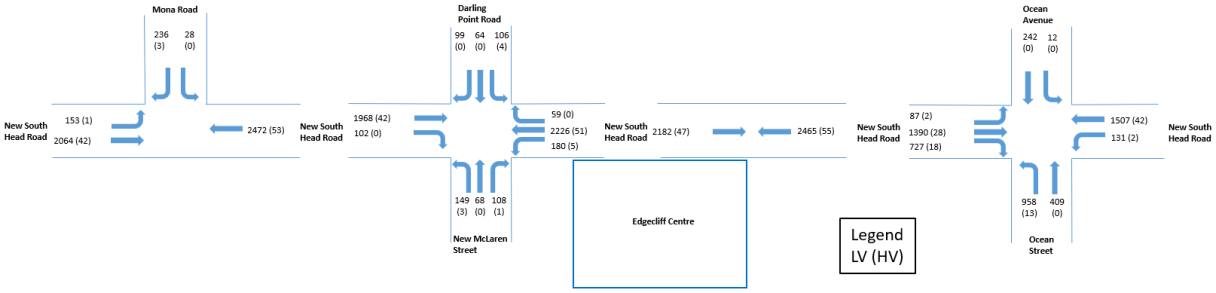


Figure 21 – Traffic Volume during Saturday Peak Hour – Existing Situation

7.2 Traffic Generation

The traffic activity associated with a particular land use can be determined through a number of approaches. In situations where parking spaces do not account for TODs, the building floor areas provide a basis for trip generation. However this does not apply where parking rates have been strategically adopted based on the indicative scheme on top of the highly accessible attributes of the site.

The Edgecliff Centre is considered to a be a TOD, meaning that it is located over a rail station and adjacent to a bus terminal and in this regard, the parking provision for the commercial and retail uses are constrained (refer Section 5). For the purpose of this assessment, the traffic generation has been determined based on the number of parking spaces provided, this is because the indicative scheme is proposing reduced number of car spaces for non-residential uses (details mentioned in Section 6.2) and attracting less traffic otherwise. The reference has been made to the following:

- RMS Technical Direction 2013/04a (TDT), which serves as an update to the Traffic Generating Developments 2002 (Guide) and presents the traffic generation rates for a number of land uses based on recent surveys results; and
- Trip Generation based on First Principles depending upon the number of car parking spaces and existing boom gate data for forecasting the future trips.

7.2.1 Existing Traffic Generation

As described in Section 3.2, the existing site is comprised of retail, medical consulting services and commercial land uses. In May 2019, a traffic survey was carried out for the existing site and site boom gate entry & exit data was also obtained. The existing trip generation rates for retail, medical consulting services and commercial land uses are calculated based on the actual trips recorded by boom gate during the network peak hours versus existing parking spaces. It is noted that the Thursday evening traffic is higher than other weekdays.

The existing site consists of two car parks. The tenant (commercial / offices) car park accommodates 141 parking spaces and the customer (retail and medical consulting services visitors) car park accommodates 113 parking spaces. The existing trips and the trip generation rate based on the car park utilisation is shown in Table 12 below.

Table 12 – Existing Traffic Generation

Component	Peak Period	Existing Peak Hour Trips from Boom Gate Data	Existing Inbound Trips	Existing Outbound Trips	Existing Car Spaces	Trip Generation Rate per Car Space
Retail and Medical Consulting Services (Customer Car Park)	Weekday AM Peak	41	30	-	113	0.27 inbound trips/car space
			-	11		0.10 outbound trips/car space
	Weekday PM Peak	179	81	-		0.72 inbound trips/car space
			-	98		0.87 outbound trips/car space
Commercial (Tenant Car Park)	Weekday AM Peak	18	17	-	141	0.12 inbound trips/car space
			-	1		0.01 outbound trips/car space
	Weekday PM Peak	25	3	-		0.02 inbound trips/car space
			-	22		0.16 outbound trips/car space
Retail and Medical Consulting Services (Customer Car Park)	Saturday Midday Peak	232	117	-	113	1.04 inbound trips/car space
			-	115		1.02 outbound trips/car space
Commercial (Tenant Car Park)	Saturday Midday Peak	7	2	-	141	0.01 inbound trips/car space
			-	5		0.04 outbound trips/car space

It is noted that the traffic generation rate per parking rate is low due to vacancies of the commercial areas, which have a direct relation to the occupancy of the car park. On Thursday 23rd May 2019, the boom gate data recorded 73 inbound trips into the commercial car park despite its 141 space capacity. Therefore, it is fair to say that the building has a much higher potential traffic generation rate, which is discussed in the next section.

7.2.2 Potential Existing Traffic Generation

From the boom gate data for 2019 it is noted that the existing tenant car park was not fully utilised on this day, i.e. only 73 inbound trips were recorded, meaning that the car park needs to accommodate at least this amount of vehicles. Taking into consideration a default vacancy in a commercial car park, it is assumed for the purpose of this report that the potential parking provision is 80 instead of 141 spaces, which in turn leads to an increased traffic generation rate per space. The potential existing trip generation rate is summarised in Table 13.

Table 13 – Potential Existing Traffic Generation Rates

Component	Peak Period	Existing Peak Hour Trips from Boom Gate Data	Existing Inbound Trips	Existing Outbound Trips	Existing Car Spaces	Trip Generation Rate per Car Space
Retail and Medical Consulting Services (Customer Car Park)	Weekday AM Peak	41	30	-	113	0.27 inbound trips/car space
			-	11		0.10 outbound trips/car space
	Weekday PM Peak	179	81	-		0.72 inbound trips/car space
			-	98		0.87 outbound trips/car space
Commercial (Tenant Car Park)	Weekday AM Peak	18	17	-	80 (demand)	0.21 inbound trips/car space
			-	1		0.01 outbound trips/car space
	Weekday PM Peak	25	3	-		0.04 inbound trips/car space
			-	22		0.28 outbound trips/car space
Retail and Medical Consulting Services (Customer Car Park)	Saturday Midday Peak	232	117	-	113	1.04 inbound trips/car space
			-	115		1.02 outbound trips/car space
Commercial (Tenant Car Park)	Saturday Midday Peak	7	2	-	80 (demand)	0.03 inbound trips/car space
			-	5		0.06 outbound trips/car space

Based on the potential trip generation rate, the potential existing number of trips per 141 parking spaces can be calculated, which is as shown in Table 14. These numbers represent the number of trips that would be generated if the car park was fully occupied, whilst the number of trips for customer car park are the actual trips derived from the days of surveys.

Table 14 – Potential Existing Traffic Generation

Component	Period	Trip Generation Rate	Existing Car Spaces	Potential Existing Inbound Trips	Potential Existing Outbound Trips	Total Potential Existing Peak Hour Trips
Retail and Medical Consulting Services (Customer Car Park)	Weekday AM Peak	0.27 inbound trips/car space	113	30	-	41
		0.10 outbound trips/car space		-	11	
	Weekday PM Peak	0.72 inbound trips/car space		81	-	179
		0.87 outbound trips/car space		-	98	
Commercial (Tenant Car Park)	Weekday AM Peak	0.21 inbound trips/car space	141	30	-	31
		0.01 outbound trips/car space		-	1	
	Weekday PM Peak	0.04 inbound trips/car space		6	-	45
		0.28 outbound trips/car space		-	39	
Retail and Medical Consulting Services (Customer Car Park)	Saturday Midday Peak	1.04 inbound trips/car space	113	117	-	232
		1.02 outbound trips/car space		-	115	
Commercial (Tenant Car Park)	Saturday Midday Peak	0.03 inbound trips/car space	141	4	-	12
		0.06 outbound trips/car space		-	8	

7.2.3 Future Traffic Generation

The indicative scheme proposes to provide a total of 216 parking spaces for the residential component and 117 spaces for retail and commercial component. The future trips for the residential and non-residential components are estimated based on these parking provisions and are discussed in the following sections.

7.2.4 Future Traffic Generation for Residential Component

The rates from the RMS TDT are adopted to estimate the potential future traffic generated by the residential component of the indicative scheme. It is noted that the RMS Guide or TDT does not stipulate traffic generation rates for Saturdays, because traffic generated by residential units on weekends is not high enough to have a significant impact on the surrounding road network. As shown in Table 15 the traffic generated by residential component during the weekday AM peak is 28, so even if the Saturday traffic was considered, it would be likely lower than the weekday AM peak. Therefore, the Saturday traffic for residential component is not accounted for. The traffic generation rates for the weekday peak hours have been summarised below:

- High Density Residential[15]:
    - 0.15 trips per car space in the AM peak
    - 0.12 trips per car space in the PM peak

Applying these to the proposed residential component of the indicative scheme and applying an 80:20 distribution for the inbound and outbound vehicles results in the traffic activity as outlined in Table 15.

Table 15 – Future Traffic Generation for the Residential Component

Component	Period	Trip Generation Rate	Car Spaces	Inbound Trips	Outbound Trips	Total Peak Hour Trips
Residential	Weekday AM Peak	0.15 trips/car space	216	6	26	32
	Weekday PM Peak	0.12 trips/car space		21	5	26

7.2.5 Future Traffic Generation for Non-Residential Component

As discussed earlier, the indicative 117 non-residential car spaces will be allocated for retail, medical / wellness and commercial component. As shown in Table 12, the retail component generate more trips than the commercial component, although it is acknowledged that the in and outbound ratio varies between these uses.

Since the number of car spaces for individual non-residential component has not been allocated at this stage, the trip generation rate for retail and medical use (higher trip generation rate) has been used to undertake a conservative assessment. Applying the trip rates forecasted for retail and medical /wellness components from Table 13 estimates the following maximum trips for the indicative scheme.

[15] A building containing 20 or more dwellings

Table 16 – Future Traffic Generation for Non-Residential Component

Component	Period	Trip Generation Rate	Parking Spaces	Future Inbound Trips	Future Outbound Trips	Total Future Peak Hour Trips
Retail	Weekday AM Peak	0.27 inbound trips/car space	97	26	-	44
		0.10 outbound trips/car space		-	9	
	Weekday PM Peak	0.72 inbound trips/car space		70	-	186
		0.87 outbound trips/car space		-	84	
Commercial	Weekday AM Peak	0.21 inbound trips/car space	20	4	-	-
		0.01 outbound trips/car space		-	0	
	Weekday PM Peak	0.04 inbound trips/car space		1	-	-
		0.28 outbound trips/car space		-	6	
Retail	Saturday Midday Peak	1.04 inbound trips/car space	97	100	-	241
		1.02 outbound trips/car space		-	99	
Commercial	Saturday Midday Peak	0.03 inbound trips/car space	20	1	-	-
		0.06 outbound trips/car space		-	2	

7.2.6 Net Trip Generation

In order to establish the additional traffic that will be generated after completion of the development, the Net Trip Generation needs to be determined. This figure is calculated by subtracting the potential existing traffic generation from the future traffic generation. The net trip generation is summarised in Table 17 below.

Table 17 – Net Trip Generation

Peak Period	Future Trip Generation	Potential Existing Trip Generation	Net Trip Generation
Weekday AM	72 (36 Inbound, 36 Outbound)	72 (60 Inbound, 12 Outbound)	0 (-24 Inbound, +24 Outbound)
Weekday PM	186 (91 Inbound, 95 Outbound)	224 (87 Inbound, 137 Outbound)	-38 (+4 Inbound, -42 Outbound)
Saturday Midday	202 (101 Inbound, 101 Outbound)	244 (121 Inbound, 123 Outbound)	-42 (-20 Inbound, -22 Outbound)

In summary, the indicative scheme will result in no change in the overall number of trips in the morning peak hour. The overall trips for the weekday evening peak hour and Saturday peak hour are expected to be reduced, by 38 and 42 respectively. This equates to approximately 1 reduced trip every 1.5 minutes for weekday evening peak hour and therefore, it is expected that the intersections performance may improve marginally during the weekday evening peak hour.

7.3 SIDRA Analysis

In order to determine the performance of the identified key intersections, an assessment has been undertaken using the SIDRA modelling software, a micro-analytical tool for individual intersections and whole-network modelling. Typically, there are three performance indicators used to summarise the performance of an intersection, being:

- Degree of Saturation (DoS) – The total usage of the intersection expressed as a factor of 1, with 1 representing 100% vehicles/capacity (v/c). (e.g. 0.8 = 80% saturation)
- Average Delay – The average delay encountered by all vehicles passing through the intersection. It is often important to review the average delay of each approach as a side road could have a long delay time, while the large free flowing major traffic will provide an overall low average delay.
- 95% Queue Lengths (Q95) – is defined to be the queue length in metres that has only a 5-percent probability of being exceeded during the analysis time period. It transforms the average delay into measurable distance units.
- Level of Service (LoS) – This is a categorization of average delay, intended for simple reference. The RMS adopts the following bands:

Table 18 – Level of Service (LoS) Definitions by RMS

LoS	Average Delay (secs/vehicle)	Traffic Signals & Roundabouts	Give Way & Stop Signs
A	<14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity. At signals, incidents will cause excessive delays. Roundabouts require other control mode	At capacity, requires other control mode
F	>70	Unsatisfactory with excessive queuing. Requires additional capacity	Unsatisfactory with excessive queuing; requires other control mode

The layout of the modelled network is shown in Figure 22.

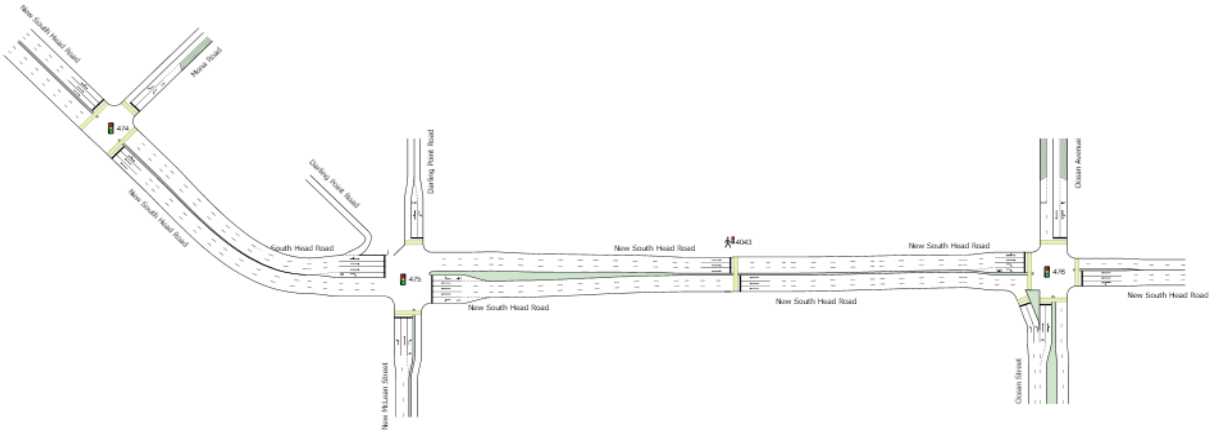


Figure 22 – Layout of Intersection Network

7.3.1 SIDRA Analysis Results

A summary of the SIDRA analysis results for the existing, potential existing and future development scenarios are provided in Table 19. The full SIDRA results are presented in Attachment 2.

Table 19 – Summary of Traffic Modelling Results

Intersection	Peak Hour	Scenarios	Average LoS	Average Delay (s)		Highest DoS (v/s)		Highest Q95 (m)	
New South Head Road / Mona Road	AM	Existing	A	4.5	+1.7	0.709	+0.080	87.3	+63.9
		Potential Existing	A	4.6		0.685		89.6	
		Future	A	6.3		0.765		153.5	
	PM	Existing	B	24.8	-9.2	0.981	-0.037	378.3	-259.3
		Potential Existing	C	29.3		0.997		533.5	
		Future	B	20.1		0.960		274.2	
	Saturday	Existing	A	5.3	-0.5	0.789	-0.059	101.7	-4.6
		Potential Existing	A	6.0		0.812		103.5	
		Future	A	5.5		0.753		98.9	
New South Head Road / Darling Point Road / New McLean Street	AM	Existing	B	28.1	+0.2	0.730	-0.011	209.0	+0.9
		Potential Existing	B	28.3		0.776		188.4	
		Future	C	28.5		0.765		189.3	
	PM	Existing	C	35.4	+1.3	0.888	+0.018	287.2	0
		Potential Existing	C	41.6		0.919		287.2	
		Future	D	42.9		0.937		287.2	
	Saturday	Existing	C	30.8	+32.2	0.781	+0.242	240.6	+28.8
		Potential Existing	C	33.7		0.813		258.4	
		Future	E	65.9		1.055		287.2	
New South Head Road Pedestrian Crossing	AM	Existing	C	34.6	+0.7	0.993	+0.003	215.4	0
		Potential Existing	B	25.5		0.961		215.4	
		Future	B	26.2		0.964		215.4	
	PM	Existing	D	44.1	+14.8	1.033	+0.041	215.4	0
		Potential Existing	D	43.4		1.031		215.4	
		Future	E	58.2		1.072		215.4	
	Saturday	Existing	D	53.5	-14.6	1.070	-0.036	215.4	0
		Potential Existing	F	82.9		1.130		215.4	
		Future	E	68.3		1.094		215.4	
New South Head Road /	AM	Existing	F	240.3	-9.1	1.642	-0.025	915.0	+30.4
		Potential Existing	F	263.5		1.554		1000.6	

Ocean Street / Ocean Avenue		Future	F	254.4		1.529		1031.0	
	PM	Existing	F	203.0	+17.6	1.506	-0.186	811.9	-135.4
		Potential Existing	F	203.0		1.507		813.0	
		Future	F	220.6		1.321		677.6	
	Saturday	Existing	F	185.3	-2.2	1.489	-0.004	757.3	-5.7
		Potential Existing	F	171.5		1.279		609.8	
		Future	F	169.3		1.275		604.1	

New South Head Road / Mona Road Intersection

The overall existing and potential existing LoS of this intersection are mostly between A and B for the Weekday AM, Weekday PM and Saturday peak hours, thus intersection is currently operating at a good level. The future trip generation and distribution do not have significance in the Weekday AM peak whilst result in minor improvements during Weekday PM and Saturday peak hours.

New South Head Road / Darling Point Road / New McLean Street Intersection

The overall existing and potential existing LoS of this intersection are mostly between B and C for the Weekday AM and Weekday PM, and E for Saturday peak hours, therefore the intersection is currently operating at a good level in general. The existing right turn movements from each arm are either E or F, this is largely due to the signal coordination favours the through movements along New South Head Road. The future trip generation and distribution do not have significance in the Weekday AM and PM peak hours and may result in minor increase in performance indicators during Saturday peak hour.

New South Head Road Pedestrian Crossing

The overall existing and potential existing LoS of the New South Head Road Pedestrian Crossing are mostly between B and D for the Weekday AM and PM peak hours and D to F for Saturday peak hour, this suggests the site is currently operating at good or satisfactory level during the Weekday peak hours and near or at capacity during Saturday peak hour. The future trip generation and distribution do not have significance in the Weekday AM, Weekday PM hours whilst result in minor improvements during Weekday PM and Saturday peak hours.

New South Head Road / Ocean Street /Ocean Avenue

The overall existing and potential existing LoS of this intersection is F for Weekday AM, Weekday PM and Saturday peak hours, thus the intersection is currently operating with no spare capacity during these periods. The proposed development future trip generation and distribution would result in a shift in the inbound and outbound movement proportions, it is not expected to increase the total peak hour trips, minor fluctuations in intersection performance indicators are resulted for the future scenario, the results suggest that it will unlikely have an adverse impact to the existing intersection operation.

7.3.2 SIDRA Analysis Summary

The SIDRA modelling shows that the proposal will not have any detrimental impact on the performance of the surrounding intersections. This is primarily related to the key aim of retaining the current traffic activity associated with the existing Edgecliff Centre, albeit the entry / exit distribution is changed slightly by the introduction of a residential component and the evening peak traffic activity is reduced due to the reduction in the retail / commercial component and associated parking.

8. Design Assessment

The following section presents a high-level review of the indicative scheme with reference to the requirements of AS2890 Parking Facilities and industry best practice. This section is to be read in conjunction with the architectural plans provided by FJMT Architects shown in Attachment 1.

8.1 Vehicular Access

The vehicular access arrangements to comply with the requirements of AS2890.1 for Class 1A (resident / employee facilities) and 3A (short-term shopping centre parking).

- The concept design for 216 Class 1A car spaces with access to New McLean Street (local access road) will require a Category 2 driveway being a combined entry and exit width of 6 to 9 metres.
- The concept design for 117 Class 3A car spaces with access to New McLean Street will require a Category 3 driveway being a separate entry width of 6 metres and exit width of 4 to 6 metres.

The review of the vehicular access arrangements has found the indicative scheme is compliant with AS2890.

8.2 Sight Distance and Pedestrian Sight Lines

The sight distance and pedestrian sight line requirements are outlined in Section 3.2 of AS2890.1 and are prescribed on the basis of the posted speed limit or 85th percentile vehicle speeds along the frontage road.

The proposed vehicular access driveway is located off New McLean Street and remains at the existing rear driveway location. New McLean Street has a speed limit of 50km/h which requires a desirable visibility distance of 69 metres and a minimum stopping sight distance of 45 metres. As shown in Figure 23, the review has found that the minimum stopping sight distance of 45 metres have been satisfied.

Minimum sight lines for pedestrian safety as stipulated in AS2890.1 requires triangular pedestrian sight splays (2.0m x 2.5m) to be provided at the property boundary. The vehicular access shown in the indicative scheme doesn't involve any changes to the current New McLean Street driveway arrangement, where adequate pedestrian sight lines are provided.

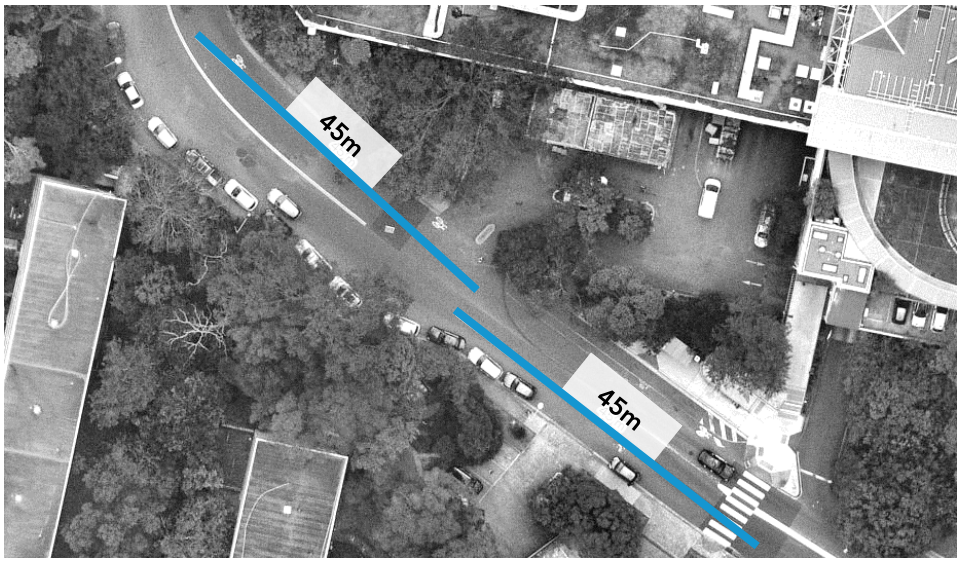


Figure 23 - Proposed Vehicular Access Sight Distance

8.3 Car Park Arrangement

As the development proposal is currently at the planning proposal stage and its associated car parking is a high-level indicative provision, the detailed car park provision and design will be subject to a separate application, thus its design compliance is not reviewed as part of this report. During the future stage of the development application, the car park will need to be designed in accordance with the AS2890 requirements, however the design indicates that 333 parking spaces can be accommodated within the basement envelope.

9. Conclusion

This technical report has been prepared for assessing the planning proposal of the Edgecliff Centre in terms of parking provisions and traffic impacts on the surrounding road network.

The following findings have been identified through the assessment:

- The planning proposal involves the introduction of a network of pedestrian laneways, through site links and colonnade which will unlock opportunities to rely more on active transport;
- The Centre is highly accessible by public transport providing public transport links to the greater Sydney area;
- The indicative concept plan shows the site is capable of accommodating a total of 333 car parking spaces within the basement levels, which includes, 216 spaces for residential use in accordance to the DCP, and 117 spaces for non-residential use. The limited non-residential parking provision is considered appropriate based on the good accessibility of the site to public transport, already congested road network, site constraints and indicative concept strategies to improve connectivity between exiting public transport opportunities and encourage sustainable use of transport;
- In context of accessible car spaces, and bicycle and motorcycle parking, the intention is to provide the total number of required spaces and will subject to a further approval process;
- Waste collection is proposed to be conducted on-site, within the loading area which can accommodate two (2) MRV and two (2) HRV's. Final configuration and allocations will be subject to further approval process;
- With reference to most recent RMS survey data and first principle analysis, a review of the potential traffic generation of the site has revealed that the development will result in no change in the overall number of trips in the morning peak hour. The overall trips for the weekday evening peak hour and Saturday peak hour are expected to be reduced, by 38 and 42 respectively. This equates to approximately 1 reduced trip every 1.5 minutes for weekday evening peak hour and therefore, it is expected that the intersections performance may improve marginally during the weekday evening peak hour;
- As the development proposal is currently at the planning proposal stage and its associated parking is a high-level indicative provision, the detailed parking provision and design will be subject to a separate application. A high-level review has found the proposed vehicular access has adequate sight distance, the future parking facilities shall be designed in accordance with the AS2890 requirements..

In summary, the proposed development will result in no change in the morning peak hour trip generation and a reduction in the weekday evening and Saturday peak hours. Adequate number of parking spaces are proposed for the various users. The proposed development is not expected to adversely impact the local transport operations and is endorsed in the context of parking and traffic.

Attachment 1 - Architectural Plans

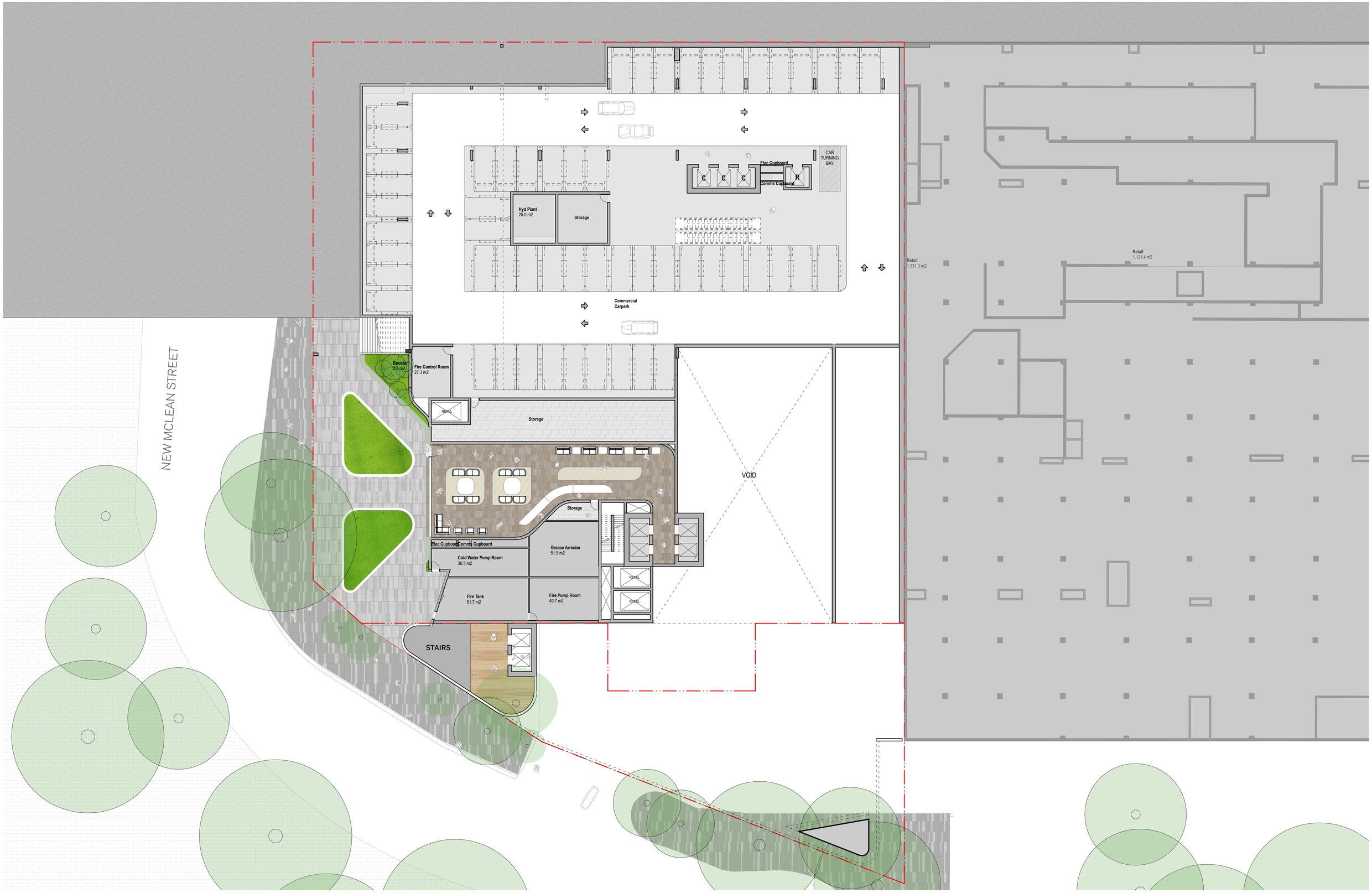
8/3/2024

2000 — Ground Floor Plan
<Longhurst Property> — Edgecliff Centre

Scale
1:200 @ A1

0 2 5 10m

fjcstudio
formerly fjmtstudio



8/3/2024

20B1 — Basement 1 Plan
<Longhurst Property> — Edgecliff Centre

Scale
1:200 @ A1

0 2 5 10m

fjcstudio
formerly fjmtstudio

RAIL EASEMENT BELOW TO RL27.455

RAIL EASEMENT BELOW

Commercial Carpark

C C C

Elec Cupboard

Comms Cupboard

R

M M M M M M M M M M M M M M M M

Chamber Substation

RISER

1:14

1:14

1:14

Main Comms Room

Central Waste Room

EOT

Commercial Loading Dock

TURNTABLE

HYD Plant

1:6.7

1:5

1:8

RESIDENTIAL PARKING ENTRY

RISER

RISER

LOADING DOCK ENTRY

COMMERCIAL PARKING ENTRY

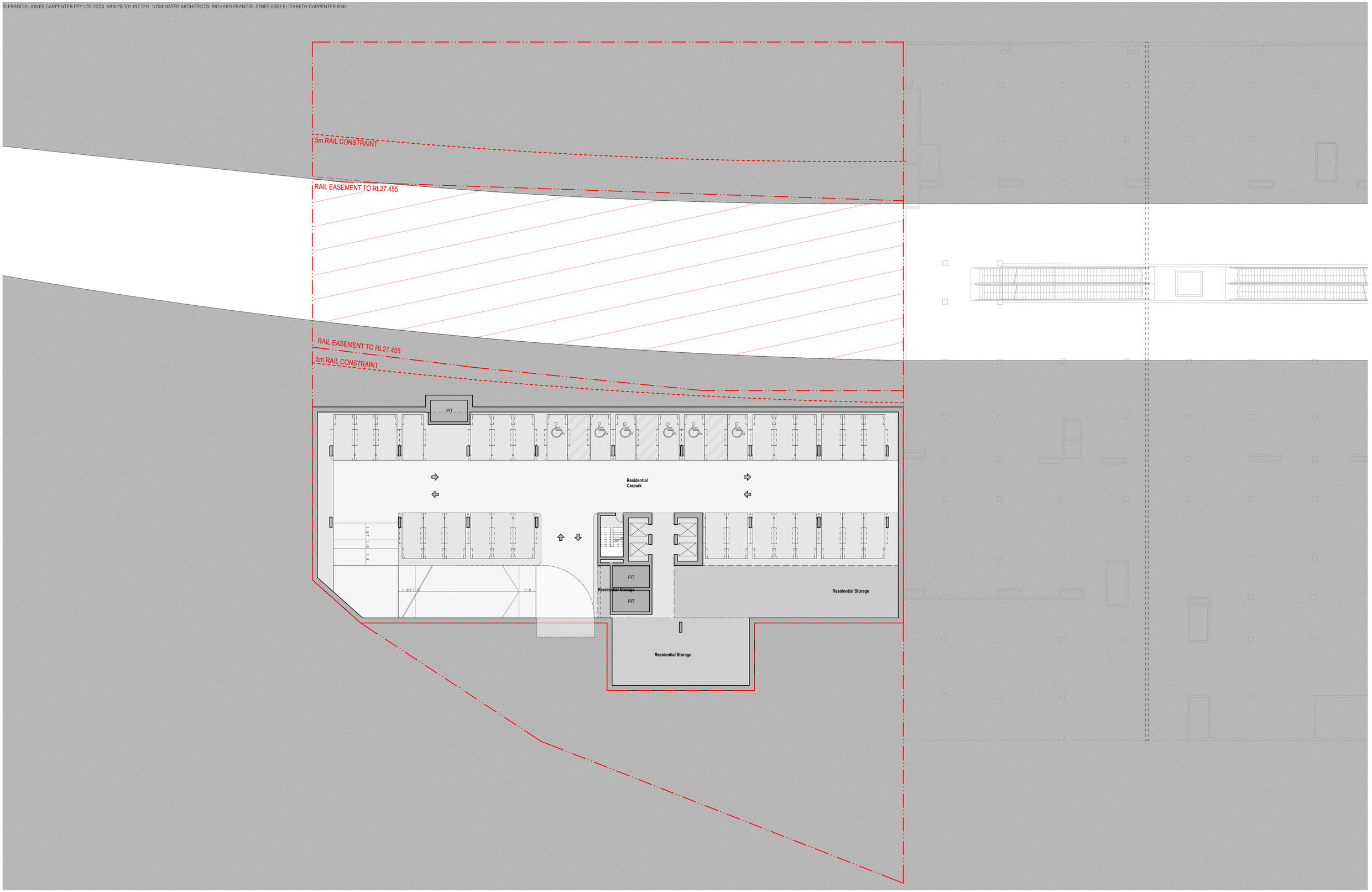
8/3/2024

20B2 — Basement 2 Plan
<Longhurst Property> — Edgecliff Centre

Scale
1:100 @ A1

0 1 2 5m

fjcstudio
formerly fjmtstudio



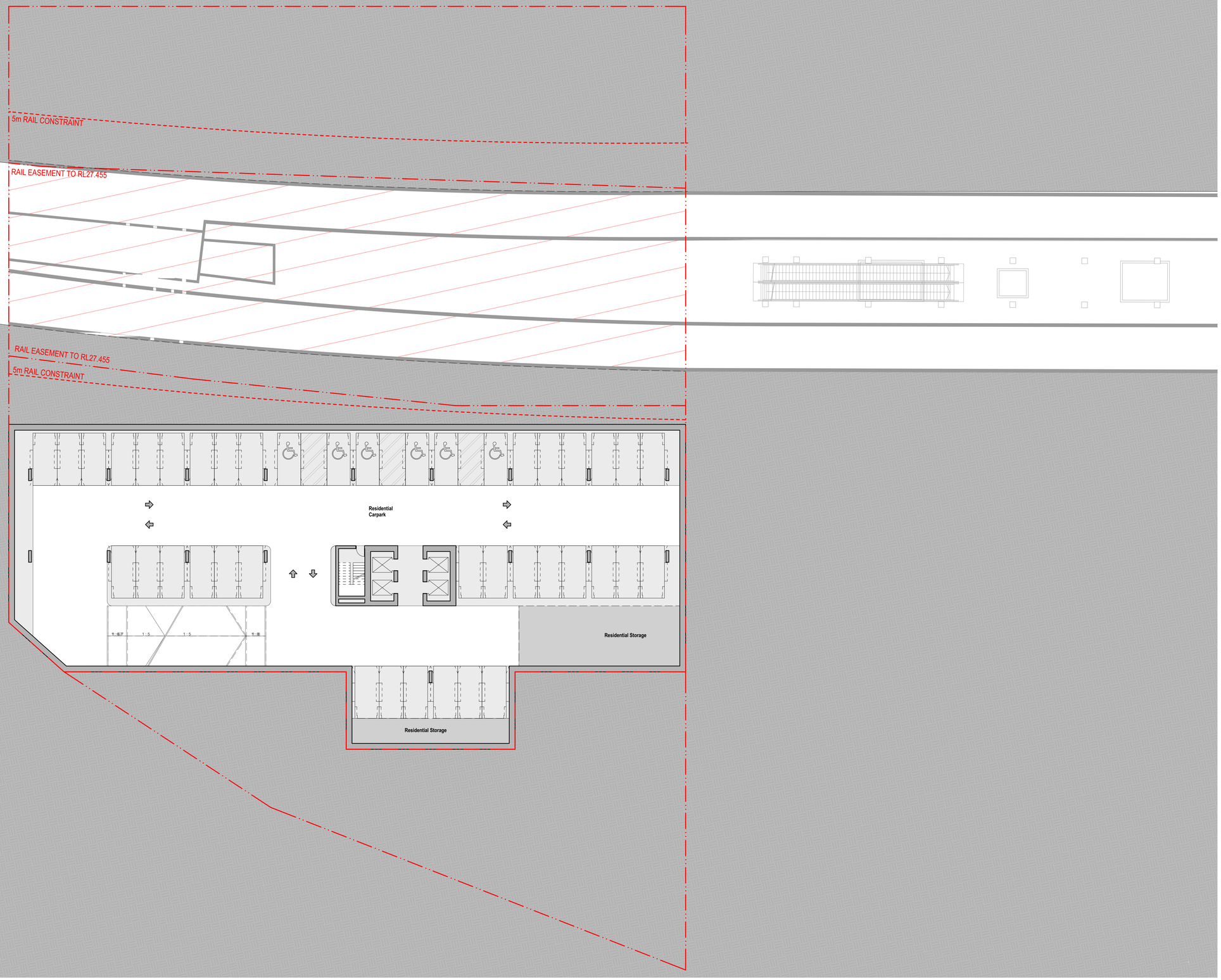
8/3/2024

20B3 — Basement 3 Plan / Railway Platform Level
<Longhurst Property> — Edgecliff Centre

Scale
1:200 @ A1

0 2 5 10m

fjcstudio
formerly fjmtstudio



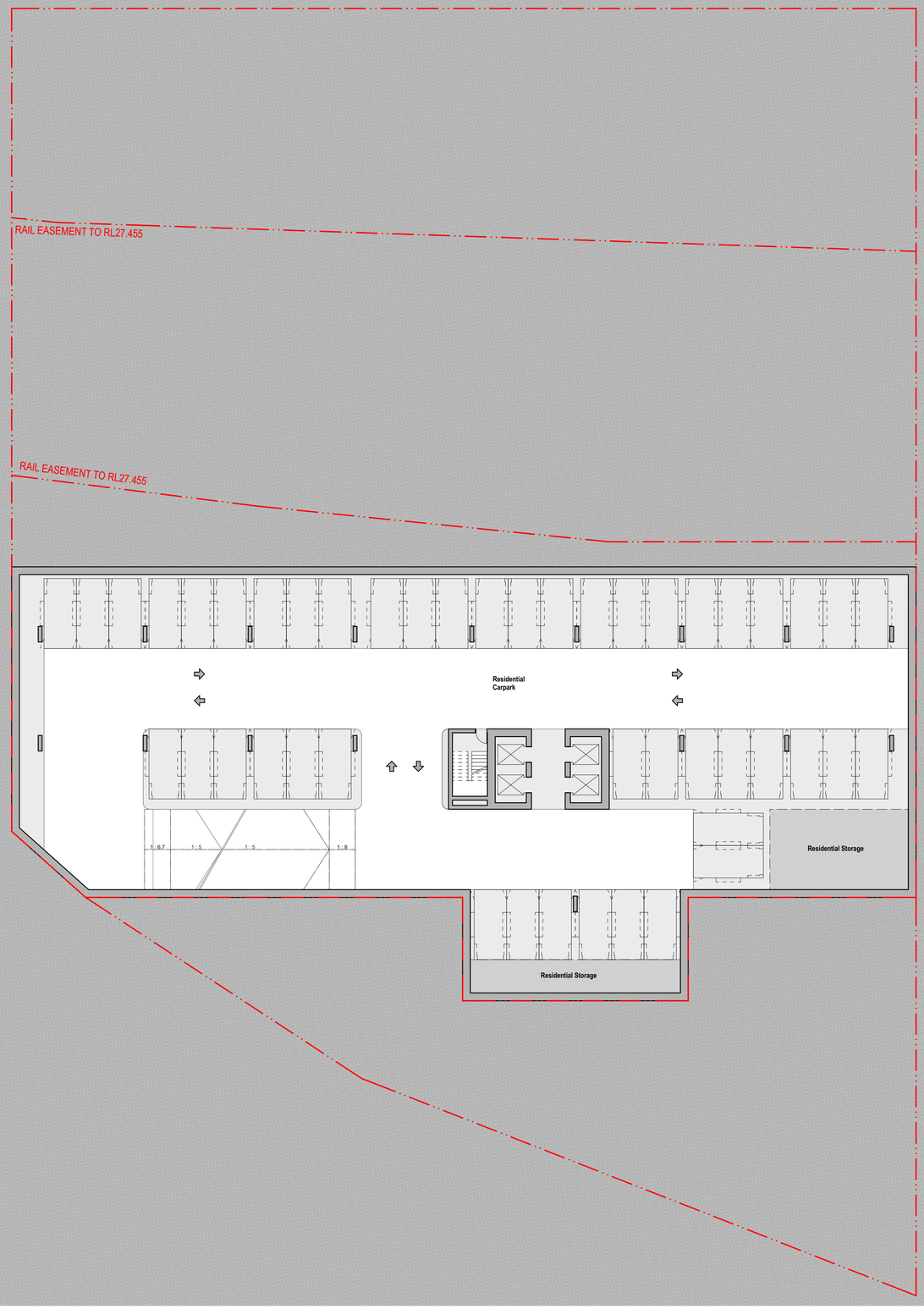
8/3/2024

20B4 — Basement 4 Railway Platform (Level 4-7 Similar)
<Longhurst Property> — Edgecliff Centre

Scale
1:200 @ A1

0 2 5 10m

fjcstudio
formerly fjmtstudio



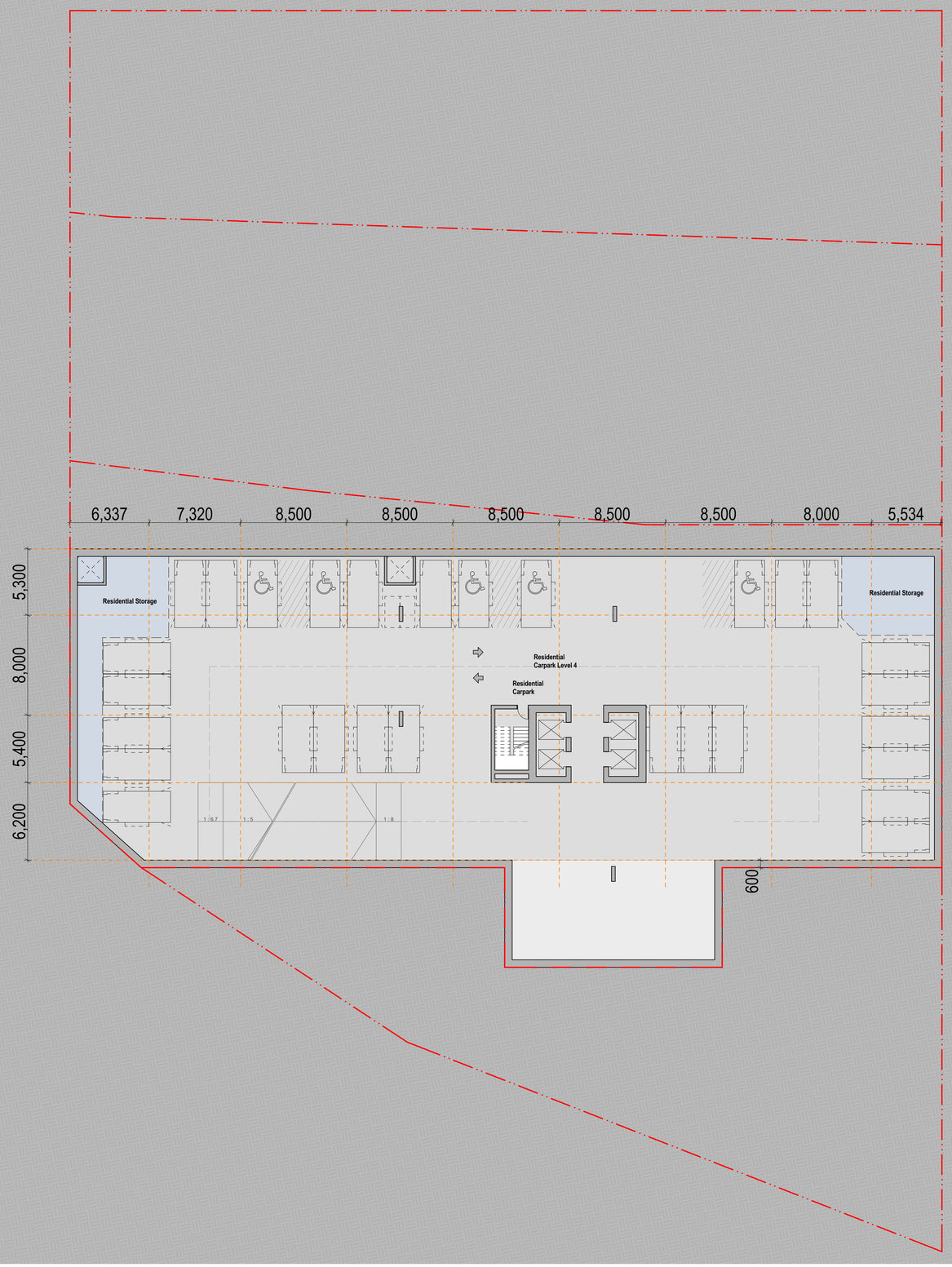
8/3/2024

20B5 — Basement 5 - 7 Plan Typical
<Longhurst Property> — Edgecliff Centre

Scale
1:200 @ A1

0 2 5 10m

fjcstudio
formerly fjmtstudio



8/3/2024

20B8 — Basement 8 Plan
<Longhurst Property> — Edgecliff Centre

Scale
1:200 @ A1

0 2 5 10m

fjcstudio
formerly fjmtstudio

Attachment 2 - SIDRA Outputs

MOVEMENT SUMMARY

Site: 474 [a. New South Head Rd / Mona Rd - Existing AM Peak (Site Folder: Existing AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [1. Existing AM Peak (Network Folder: Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: New South Head Road															
22	T1	All MCs	2684	3.7	2200	3.7	0.559	0.5	LOS A	3.5	24.9	0.06	0.06	0.06	58.5
23	R2	All MCs	1	100.0	1	100.0	0.559	8.9	LOS A	1.8	13.2	0.05	0.04	0.05	46.5
Approach			2685	3.7	2201	3.7	0.559	0.5	LOS A	3.5	24.9	0.06	0.06	0.06	58.5
NorthEast: Mona Road															
24	L2	All MCs	15	6.7	15	6.7	0.070	49.1	LOS D	0.7	5.5	0.86	0.69	0.86	19.3
26	R2	All MCs	213	1.9	213	1.9	0.708	57.7	LOS E	12.3	87.3	1.00	0.85	1.05	20.7
Approach			228	2.2	228	2.2	0.708	57.2	LOS E	12.3	87.3	0.99	0.84	1.04	20.6
NorthWest: New South Head Road															
27	L2	All MCs	264	3.4	264	3.4	* 0.709	6.2	LOS A	11.8	86.0	0.34	0.48	0.34	42.8
28	T1	All MCs	1927	5.8	1927	5.8	* 0.709	2.6	LOS A	11.8	86.0	0.22	0.23	0.22	47.6
Approach			2191	5.5	2191	5.5	0.709	3.0	LOS A	11.8	86.0	0.23	0.26	0.23	45.9
All Vehicles			5104	4.4	4620	4.9	0.709	4.5	LOS A	12.3	87.3	0.19	0.19	0.19	45.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: New South Head Road											
P5	Full	13	54.2	LOS E	0.0	0.0	0.95	0.95	69.6	20.0	0.29
NorthEast: Mona Road											
P6	Full	69	54.3	LOS E	0.2	0.2	0.95	0.95	69.7	20.0	0.29
NorthWest: New South Head Road											
P7	Full	45	54.3	LOS E	0.1	0.1	0.95	0.95	69.6	20.0	0.29
All Pedestrians		127	54.3	LOS E	0.2	0.2	0.95	0.95	69.7	20.0	0.29

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: 475 [b. New South Head Rd / Darling Point Rd / New McLean St - Existing AM Peak (Site Folder: Existing AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [1. Existing AM Peak (Network Folder: Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: New McLean Street															
1	L2	All MCs	106	4.7	106	4.7	0.152	30.4	LOS C	4.0	29.2	0.69	0.72	0.69	18.2
2	T1	All MCs	56	1.8	56	1.8	0.208	49.8	LOS D	2.9	20.9	0.92	0.70	0.92	25.8
3	R2	All MCs	75	6.7	75	6.7	0.536	63.8	LOS E	4.4	32.8	1.00	0.77	1.00	11.0
Approach			237	4.6	237	4.6	0.536	45.5	LOS D	4.4	32.8	0.84	0.73	0.84	18.2
East: New South Head Road															
4	L2	All MCs	197	4.1	154	4.1	0.181	27.0	LOS B	3.3	23.7	0.39	0.67	0.39	28.4
5	T1	All MCs	2474	3.7	1940	3.7	* 0.721	17.5	LOS B	16.0	115.9	0.59	0.53	0.59	18.7
6	R2	All MCs	89	2.2	70	2.3	0.203	66.2	LOS E	4.1	28.9	1.00	0.80	1.00	20.5
Approach			2760	3.7	2164	3.7	0.721	19.8	LOS B	16.0	115.9	0.59	0.55	0.59	15.6
North: Darling Point Road															
7	L2	All MCs	135	2.2	135	2.2	0.196	30.9	LOS C	5.2	37.2	0.70	0.73	0.70	26.9
8	T1	All MCs	38	0.0	38	0.0	0.726	56.8	LOS E	7.7	54.1	1.00	0.89	1.13	22.7
9	R2	All MCs	88	1.1	88	1.1	* 0.726	65.7	LOS E	7.7	54.1	1.00	0.89	1.13	18.3
Approach			261	1.5	261	1.5	0.726	46.4	LOS D	7.7	54.1	0.85	0.81	0.91	22.7
West: New South Head Road															
10b	L3	All MCs	1	0.0	1	0.0	0.676	6.8	LOS A	27.8	204.8	0.82	0.74	0.82	36.9
11	T1	All MCs	1784	6.2	1784	6.2	0.676	30.0	LOS C	28.4	209.0	0.84	0.74	0.84	19.1
12	R2	All MCs	120	3.3	120	3.3	* 0.730	74.4	LOS F	6.9	49.3	0.97	0.85	1.09	17.9
Approach			1905	6.0	1905	6.0	0.730	32.8	LOS C	28.4	209.0	0.85	0.75	0.85	16.5
All Vehicles			5163	4.5	4567	5.0	0.730	28.1	LOS B	28.4	209.0	0.72	0.66	0.73	17.1

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: New McLean Street											
P1	Full	194	54.6	LOS E	0.6	0.6	0.96	0.96	70.0	20.0	0.29

North: Darling Point Road										
P3 Full	89	54.4	LOS E	0.3	0.3	0.95	0.95	69.7	20.0	0.29
All Pedestrians	283	54.5	LOS E	0.6	0.6	0.96	0.96	69.9	20.0	0.29

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: 4043 [c. New South Head Rd / Mid-Block Crossing AM - Existing AM Peak (Site Folder: Existing AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [1. Existing AM Peak (Network Folder: Existing)]

NA
Site Category: Existing Design
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New South Head Road															
2	T1	All MCs	2762	3.7	2125	3.7	* 0.993	66.5	LOS E	29.8	215.4	0.93	1.25	1.38	6.5
Approach			2762	3.7	2125	3.7	0.993	66.5	LOS E	29.8	215.4	0.93	1.25	1.38	6.5
West: New South Head Road															
8	T1	All MCs	1994	5.9	1994	5.9	0.516	0.5	LOS A	3.3	24.4	0.07	0.07	0.07	36.3
Approach			1994	5.9	1994	5.9	0.516	0.5	LOS A	3.3	24.4	0.07	0.07	0.07	36.3
All Vehicles			4756	4.6	4119	5.3	0.993	34.6	LOS C	29.8	215.4	0.52	0.68	0.74	8.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: New South Head Road											
P1	Full	753	55.9	LOS E	2.5	2.5	0.98	0.98	71.3	20.0	0.28
All Pedestrians		753	55.9	LOS E	2.5	2.5	0.98	0.98	71.3	20.0	0.28

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: 476 [d. New South Head Rd / Ocean St AM - Existing AM Peak (Site Folder: Existing AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [1. Existing AM Peak (Network Folder: Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Ocean Street															
1	L2	All MCs	1009	3.6	1009	3.6	* 1.642	625.4	LOS F	101.0	728.5	1.00	2.34	3.99	0.7
2	T1	All MCs	333	0.6	333	0.6	0.809	71.3	LOS F	13.6	96.0	0.98	0.88	1.09	14.3
3	R2	All MCs	1	100.0	1	100.0	0.809	84.0	LOS F	13.6	96.0	1.00	0.94	1.17	22.0
Approach			1343	2.9	1343	2.9	1.642	487.6	LOS F	101.0	728.5	0.99	1.98	3.27	1.3
East: New South Head Road															
4	L2	All MCs	172	5.2	172	5.2	0.971	72.5	LOS F	40.4	293.0	1.00	1.20	1.39	21.0
5	T1	All MCs	1753	3.8	1753	3.8	* 1.388	320.6	LOS F	126.6	915.0	1.00	2.37	2.82	5.3
Approach			1925	3.9	1925	3.9	1.388	298.5	LOS F	126.6	915.0	1.00	2.27	2.70	5.8
North: Ocean Avenue															
7	L2	All MCs	13	0.0	13	0.0	0.357	54.6	LOS D	5.5	38.8	0.93	0.74	0.93	25.7
8	T1	All MCs	200	0.0	200	0.0	0.357	48.4	LOS D	5.7	39.9	0.93	0.74	0.93	15.6
Approach			213	0.0	213	0.0	0.357	48.8	LOS D	5.7	39.9	0.93	0.74	0.93	16.4
West: New South Head Road															
10	L2	All MCs	167	1.2	167	1.2	0.516	13.8	LOS A	16.1	118.1	0.45	0.50	0.45	35.6
11	T1	All MCs	1185	7.2	1185	7.2	0.516	6.6	LOS A	16.2	120.5	0.45	0.45	0.45	50.7
12	R2	All MCs	602	4.2	602	4.2	0.999	93.3	LOS F	24.1	174.7	1.00	1.14	1.53	8.7
Approach			1954	5.7	1954	5.7	0.999	34.0	LOS C	24.1	174.7	0.62	0.67	0.78	28.3
All Vehicles			5435	4.2	5435	4.2	1.642	240.3	LOS F	126.6	915.0	0.86	1.56	2.08	5.8

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Ocean Street											
P1	Full	334	54.9	LOS E	1.1	1.1	0.96	0.96	70.3	20.0	0.28
P1B	Slip/	334	54.9	LOS E	1.1	1.1	0.96	0.96	70.3	20.0	0.28

Bypass										
East: New South Head Road										
P2	Full	86	54.3	LOS E	0.3	0.3	0.95	0.95	69.7	20.0	0.29
North: Ocean Avenue										
P3	Full	75	54.3	LOS E	0.2	0.2	0.95	0.95	69.7	20.0	0.29
West: New South Head Road										
P4	Full	164	54.5	LOS E	0.5	0.5	0.96	0.96	69.9	20.0	0.29
All Pedestrians		993	54.8	LOS E	1.1	1.1	0.96	0.96	70.1	20.0	0.29

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: 474 [a. New South Head Rd / Mona Rd PM - Existing PM Peak (Site Folder: Existing PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [2. Existing PM Peak (Network Folder: Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 119 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: New South Head Road															
22	T1	All MCs	2582	2.9	2393	2.8	0.584	0.6	LOS A	5.2	37.2	0.08	0.07	0.08	58.2
23	R2	All MCs	1	100.0	1	100.0	0.584	11.8	LOS A	2.8	20.2	0.07	0.06	0.07	46.4
Approach			2583	2.9	2394	2.9	0.584	0.6	LOS A	5.2	37.2	0.08	0.07	0.08	58.2
NorthEast: Mona Road															
24	L2	All MCs	26	0.0	26	0.0	0.184	67.5	LOS E	1.4	9.7	0.91	0.73	0.91	18.1
26	R2	All MCs	233	1.3	233	1.3	0.900	85.2	LOS F	15.6	110.4	1.00	1.02	1.33	18.1
Approach			259	1.2	259	1.2	0.900	83.4	LOS F	15.6	110.4	0.99	0.99	1.29	16.2
NorthWest: New South Head Road															
27	L2	All MCs	202	1.0	202	1.0	* 0.981	49.7	LOS D	46.5	329.8	0.70	0.95	1.05	22.7
28	T1	All MCs	2186	1.8	2186	1.8	* 0.981	42.1	LOS C	53.2	378.3	0.64	0.86	0.96	11.1
Approach			2388	1.7	2388	1.7	0.981	42.8	LOS D	53.2	378.3	0.65	0.87	0.97	12.8
All Vehicles			5230	2.3	5041	2.4	0.981	24.8	LOS B	53.2	378.3	0.40	0.50	0.56	23.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: New South Head Road											
P5	Full	26	53.7	LOS E	0.1	0.1	0.95	0.95	69.1	20.0	0.29
NorthEast: Mona Road											
P6	Full	112	53.9	LOS E	0.4	0.4	0.95	0.95	69.3	20.0	0.29
NorthWest: New South Head Road											
P7	Full	36	53.7	LOS E	0.1	0.1	0.95	0.95	69.1	20.0	0.29
All Pedestrians		174	53.8	LOS E	0.4	0.4	0.95	0.95	69.2	20.0	0.29

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: 475 [b. New South Head Rd / Darling Point Rd / New McLean St - Existing PM Peak (Site Folder: Existing PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [2. Existing PM Peak (Network Folder: Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 119 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: New McLean Street															
1	L2	All MCs	171	0.6	171	0.6	0.242	32.5	LOS C	6.7	47.3	0.73	0.76	0.73	18.5
2	T1	All MCs	101	0.0	101	0.0	0.250	42.4	LOS C	4.9	34.4	0.88	0.70	0.88	29.5
3	R2	All MCs	111	0.0	111	0.0	* 0.888	79.2	LOS F	7.9	55.3	1.00	1.04	1.46	9.6
Approach			383	0.3	383	0.3	0.888	48.6	LOS D	7.9	55.3	0.84	0.83	0.98	18.7
East: New South Head Road															
4	L2	All MCs	168	1.2	150	1.2	0.171	32.9	LOS C	3.7	26.5	0.46	0.69	0.46	26.9
5	T1	All MCs	2295	3.3	2053	3.2	0.751	21.6	LOS B	16.1	115.9	0.67	0.61	0.67	16.6
6	R2	All MCs	54	0.0	48	0.0	0.226	73.3	LOS F	2.8	19.8	1.00	0.77	1.00	19.6
Approach			2517	3.1	2251	3.0	0.751	23.5	LOS B	16.1	115.9	0.66	0.62	0.66	13.3
North: Darling Point Road															
7	L2	All MCs	110	2.7	110	2.7	0.162	30.7	LOS C	4.2	30.0	0.70	0.72	0.70	27.0
8	T1	All MCs	39	0.0	39	0.0	0.462	45.3	LOS D	5.7	40.5	0.95	0.78	0.95	25.0
9	R2	All MCs	66	3.0	66	3.0	0.462	56.9	LOS E	5.7	40.5	0.95	0.78	0.95	20.4
Approach			215	2.3	215	2.3	0.462	41.4	LOS C	5.7	40.5	0.82	0.75	0.82	24.3
West: New South Head Road															
10b	L3	All MCs	1	0.0	1	0.0	0.878	13.8	LOS A	34.4	244.8	0.97	0.94	1.05	20.3
11	T1	All MCs	2130	1.9	2130	1.9	* 0.878	42.8	LOS D	40.4	287.2	0.99	0.96	1.09	13.6
12	R2	All MCs	103	0.0	103	0.0	* 0.821	82.2	LOS F	6.3	44.1	1.00	0.90	1.25	15.9
Approach			2234	1.8	2234	1.8	0.878	44.6	LOS D	40.4	287.2	0.99	0.96	1.10	12.9
All Vehicles			5349	2.3	5083	2.4	0.888	35.4	LOS C	40.4	287.2	0.82	0.79	0.88	14.5

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: New McLean Street											
P1	Full	205	54.1	LOS E	0.7	0.7	0.96	0.96	69.5	20.0	0.29

North: Darling Point Road										
P3 Full	168	54.0	LOS E	0.5	0.5	0.96	0.96	69.4	20.0	0.29
All Pedestrians	374	54.1	LOS E	0.7	0.7	0.96	0.96	69.5	20.0	0.29

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: 4043 [c. New South Head Rd / Mid-Block Crossing PM - Existing PM Peak (Site Folder: Existing PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [2. Existing PM Peak (Network Folder: Existing)]

NA
Site Category: Existing Design
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 119 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New South Head Road															
2	T1	All MCs	2529	3.1	2215	3.0	* 1.033	89.6	LOS F	30.0	215.4	1.00	1.48	1.61	5.2
Approach			2529	3.1	2215	3.0	1.033	89.6	LOS F	30.0	215.4	1.00	1.48	1.61	5.2
West: New South Head Road															
8	T1	All MCs	2351	1.9	2351	1.9	0.629	1.2	LOS A	10.3	73.2	0.13	0.12	0.13	45.4
Approach			2351	1.9	2351	1.9	0.629	1.2	LOS A	10.3	73.2	0.13	0.12	0.13	45.4
All Vehicles			4880	2.5	4566	2.7	1.033	44.1	LOS D	30.0	215.4	0.55	0.78	0.85	7.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: New South Head Road											
P1	Full	456	54.7	LOS E	1.5	1.5	0.97	0.97	70.1	20.0	0.29
All Pedestrians		456	54.7	LOS E	1.5	1.5	0.97	0.97	70.1	20.0	0.29

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: 476 [d. New South Head Rd / Ocean St PM - Existing PM Peak (Site Folder: Existing PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [2. Existing PM Peak (Network Folder: Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 119 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Ocean Street															
1	L2	All MCs	1017	2.2	1017	2.2	*1.159	194.1	LOS F	60.6	432.1	1.00	1.55	2.22	2.2
2	T1	All MCs	326	0.0	326	0.0	0.776	65.4	LOS E	12.9	90.9	0.98	0.85	1.06	16.4
3	R2	All MCs	1	100.0	1	100.0	0.776	81.2	LOS F	12.9	90.9	1.00	0.91	1.12	23.3
Approach			1344	1.7	1344	1.7	1.159	162.8	LOS F	60.6	432.1	0.99	1.38	1.94	3.6
East: New South Head Road															
4	L2	All MCs	216	1.9	216	1.9	1.506	507.9	LOS F	113.0	811.9	1.00	2.70	3.60	4.1
5	T1	All MCs	1512	3.8	1512	3.8	*1.506	495.8	LOS F	113.0	811.9	1.00	2.70	3.60	3.6
Approach			1728	3.5	1728	3.5	1.506	497.3	LOS F	113.0	811.9	1.00	2.70	3.60	3.6
North: Ocean Avenue															
7	L2	All MCs	13	0.0	13	0.0	0.416	55.8	LOS D	6.5	45.9	0.94	0.76	0.94	26.8
8	T1	All MCs	236	0.8	236	0.8	0.416	48.4	LOS D	6.7	47.0	0.94	0.76	0.94	16.6
Approach			249	0.8	249	0.8	0.416	48.8	LOS D	6.7	47.0	0.94	0.76	0.94	17.3
West: New South Head Road															
10	L2	All MCs	130	1.5	130	1.5	0.540	11.7	LOS A	14.0	99.3	0.37	0.41	0.37	41.3
11	T1	All MCs	1314	1.4	1314	1.4	0.540	4.3	LOS A	14.0	99.3	0.35	0.35	0.35	53.5
12	R2	All MCs	884	2.7	884	2.7	0.945	55.8	LOS D	29.0	207.9	1.00	1.00	1.22	13.2
Approach			2328	1.9	2328	1.9	0.945	24.3	LOS B	29.0	207.9	0.60	0.60	0.68	32.6
All Vehicles			5649	2.3	5649	2.3	1.506	203.0	LOS F	113.0	811.9	0.83	1.44	1.89	6.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Ocean Street											
P1	Full	249	54.2	LOS E	0.8	0.8	0.96	0.96	69.6	20.0	0.29
P1B	Slip/	249	54.2	LOS E	0.8	0.8	0.96	0.96	69.6	20.0	0.29

	Bypass										
East: New South Head Road											
P2	Full	61	53.8	LOS E	0.2	0.2	0.95	0.95	69.2	20.0	0.29
North: Ocean Avenue											
P3	Full	60	53.8	LOS E	0.2	0.2	0.95	0.95	69.2	20.0	0.29
West: New South Head Road											
P4	Full	105	53.9	LOS E	0.3	0.3	0.95	0.95	69.3	20.0	0.29
All Pedestrians		725	54.1	LOS E	0.8	0.8	0.96	0.96	69.5	20.0	0.29

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: 474 [a. New South Head Rd / Mona Rd - Existing Sat (Site Folder: Existing Saturday)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [3. Existing Saturday Midday Peak (Network Folder: Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: New South Head Road															
22	T1	All MCs	2525	2.1	2484	2.1	0.621	0.6	LOS A	5.3	38.0	0.08	0.08	0.08	58.1
23	R2	All MCs	1	100.0	1	100.0	0.621	9.3	LOS A	3.2	22.8	0.07	0.07	0.07	46.4
Approach			2526	2.1	2485	2.1	0.621	0.6	LOS A	5.3	38.0	0.08	0.08	0.08	58.1
NorthEast: Mona Road															
24	L2	All MCs	28	0.0	28	0.0	0.126	63.4	LOS E	1.4	9.9	0.88	0.72	0.88	19.0
26	R2	All MCs	239	1.3	239	1.3	0.789	73.1	LOS F	14.4	101.7	1.00	0.91	1.13	20.2
Approach			267	1.1	267	1.1	0.789	72.1	LOS F	14.4	101.7	0.99	0.89	1.10	17.8
NorthWest: New South Head Road															
27	L2	All MCs	154	0.6	154	0.6	* 0.776	6.1	LOS A	12.4	88.1	0.32	0.39	0.32	44.7
28	T1	All MCs	2106	2.0	2106	2.0	0.776	2.3	LOS A	12.4	88.1	0.25	0.26	0.25	48.1
Approach			2260	1.9	2260	1.9	0.776	2.6	LOS A	12.4	88.1	0.26	0.27	0.26	47.3
All Vehicles			5053	2.0	5012	2.0	0.789	5.3	LOS A	14.4	101.7	0.21	0.21	0.22	44.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: New South Head Road											
P5	Full	31	54.2	LOS E	0.1	0.1	0.95	0.95	69.6	20.0	0.29
NorthEast: Mona Road											
P6	Full	123	54.4	LOS E	0.4	0.4	0.95	0.95	69.8	20.0	0.29
NorthWest: New South Head Road											
P7	Full	35	54.2	LOS E	0.1	0.1	0.95	0.95	69.6	20.0	0.29
All Pedestrians		188	54.4	LOS E	0.4	0.4	0.95	0.95	69.7	20.0	0.29

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: 475 [b. New South Head Rd / Darling Point Rd / New McLean St - Existing Sat (Site Folder: Existing Saturday)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [3. Existing Saturday Midday Peak (Network Folder: Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: New McLean Street															
1	L2	All MCs	152	2.0	152	2.0	0.224	32.5	LOS C	6.1	43.3	0.73	0.74	0.73	17.4
2	T1	All MCs	68	0.0	68	0.0	0.193	45.0	LOS D	3.4	23.8	0.89	0.69	0.89	27.1
3	R2	All MCs	109	0.9	109	0.9	0.730	64.8	LOS E	6.7	47.5	1.00	0.90	1.15	10.9
Approach			329	1.2	329	1.2	0.730	45.8	LOS D	6.7	47.5	0.85	0.78	0.90	17.7
East: New South Head Road															
4	L2	All MCs	185	2.7	175	2.7	0.425	35.5	LOS C	4.6	33.0	0.48	0.70	0.48	26.9
5	T1	All MCs	2277	2.2	2158	2.2	* 0.781	23.7	LOS B	16.2	115.9	0.70	0.64	0.70	16.0
6	R2	All MCs	59	0.0	56	0.0	0.231	74.9	LOS F	3.3	23.0	1.00	0.78	1.00	19.7
Approach			2521	2.2	2389	2.2	0.781	25.8	LOS B	16.2	115.9	0.69	0.65	0.69	12.6
North: Darling Point Road															
7	L2	All MCs	110	3.6	110	3.6	0.168	32.0	LOS C	4.3	31.0	0.71	0.73	0.71	26.5
8	T1	All MCs	64	0.0	64	0.0	0.773	54.7	LOS D	10.0	70.1	1.00	0.93	1.16	23.1
9	R2	All MCs	99	0.0	99	0.0	* 0.773	65.7	LOS E	10.0	70.1	1.00	0.93	1.16	18.6
Approach			273	1.5	273	1.5	0.773	49.5	LOS D	10.0	70.1	0.88	0.85	0.98	22.3
West: New South Head Road															
10b	L3	All MCs	1	0.0	1	0.0	0.740	6.8	LOS A	33.2	236.3	0.85	0.77	0.85	25.5
11	T1	All MCs	2010	2.1	2010	2.1	0.740	29.3	LOS C	33.8	240.6	0.86	0.77	0.86	19.2
12	R2	All MCs	102	0.0	102	0.0	* 0.725	80.0	LOS F	6.1	42.8	1.00	0.87	1.16	16.3
Approach			2113	2.0	2113	2.0	0.740	31.7	LOS C	33.8	240.6	0.87	0.77	0.88	16.7
All Vehicles			5236	2.0	5104	2.1	0.781	30.8	LOS C	33.8	240.6	0.79	0.72	0.80	15.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: New McLean Street											
P1	Full	156	54.5	LOS E	0.5	0.5	0.96	0.96	69.9	20.0	0.29

North: Darling Point Road										
P3	Full	127	54.4	LOS E	0.4	0.4	0.96	0.96	69.8	20.0	0.29
All Pedestrians		283	54.5	LOS E	0.5	0.5	0.96	0.96	69.9	20.0	0.29

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: 4043 [c. New South Head Rd / Mid-Block Crossing - Existing Sat (Site Folder: Existing Saturday)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [3. Existing Saturday Midday Peak (Network Folder: Existing)]

NA
Site Category: Existing Design
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New South Head Road															
2	T1	All MCs	2520	2.2	2313	2.1	* 1.070	104.1	LOS F	30.2	215.4	1.00	1.57	1.72	4.5
Approach			2520	2.2	2313	2.1	1.070	104.1	LOS F	30.2	215.4	1.00	1.57	1.72	4.5
West: New South Head Road															
8	T1	All MCs	2229	2.1	2229	2.1	0.526	0.9	LOS A	7.7	55.1	0.10	0.10	0.10	48.1
Approach			2229	2.1	2229	2.1	0.526	0.9	LOS A	7.7	55.1	0.10	0.10	0.10	48.1
All Vehicles			4749	2.1	4542	2.2	1.070	53.5	LOS D	30.2	215.4	0.56	0.85	0.93	6.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: New South Head Road											
P1	Full	412	55.1	LOS E	1.4	1.4	0.97	0.97	70.5	20.0	0.28
All Pedestrians		412	55.1	LOS E	1.4	1.4	0.97	0.97	70.5	20.0	0.28

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: 476 [d. New South Head Rd / Ocean St - Existing Sat (Site Folder: Existing Saturday)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [3. Existing Saturday Midday Peak (Network Folder: Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Ocean Street															
1	L2	All MCs	971	1.3	971	1.3	* 1.072	126.3	LOS F	49.4	349.6	1.00	1.36	1.80	3.3
2	T1	All MCs	409	0.0	409	0.0	1.030	113.7	LOS F	23.5	164.9	0.98	1.13	1.47	10.6
3	R2	All MCs	1	100.0	1	100.0	1.030	150.5	LOS F	23.5	164.9	1.00	1.33	1.74	14.3
Approach			1381	1.0	1381	1.0	1.072	122.6	LOS F	49.4	349.6	0.99	1.29	1.70	5.0
East: New South Head Road															
4	L2	All MCs	133	1.5	133	1.5	1.489	492.0	LOS F	106.0	757.3	1.00	2.71	3.53	4.3
5	T1	All MCs	1549	2.7	1549	2.7	* 1.489	481.6	LOS F	106.0	757.3	1.00	2.67	3.53	3.7
Approach			1682	2.6	1682	2.6	1.489	482.4	LOS F	106.0	757.3	1.00	2.67	3.53	3.7
North: Ocean Avenue															
7	L2	All MCs	12	0.0	12	0.0	0.425	56.5	LOS D	6.7	47.1	0.94	0.76	0.94	26.6
8	T1	All MCs	242	0.0	242	0.0	0.425	49.1	LOS D	6.9	48.1	0.94	0.76	0.94	16.5
Approach			254	0.0	254	0.0	0.425	49.4	LOS D	6.9	48.1	0.94	0.76	0.94	17.1
West: New South Head Road															
10	L2	All MCs	89	2.2	89	2.2	0.556	11.4	LOS A	14.3	101.8	0.36	0.38	0.36	42.3
11	T1	All MCs	1418	2.0	1418	2.0	0.556	4.2	LOS A	14.3	101.8	0.35	0.34	0.35	53.9
12	R2	All MCs	745	2.4	745	2.4	0.755	42.3	LOS C	19.3	138.2	0.92	0.86	0.95	16.1
Approach			2252	2.1	2252	2.1	0.755	17.1	LOS B	19.3	138.2	0.54	0.51	0.55	38.3
All Vehicles			5569	1.9	5569	1.9	1.489	185.3	LOS F	106.0	757.3	0.81	1.37	1.75	7.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Ocean Street											
P1	Full	156	54.5	LOS E	0.5	0.5	0.96	0.96	69.9	20.0	0.29
P1B	Slip/	156	54.5	LOS E	0.5	0.5	0.96	0.96	69.9	20.0	0.29

	Bypass										
East: New South Head Road											
P2	Full	61	54.3	LOS E	0.2	0.2	0.95	0.95	69.7	20.0	0.29
North: Ocean Avenue											
P3	Full	92	54.4	LOS E	0.3	0.3	0.95	0.95	69.7	20.0	0.29
West: New South Head Road											
P4	Full	85	54.3	LOS E	0.3	0.3	0.95	0.95	69.7	20.0	0.29
All Pedestrians		549	54.4	LOS E	0.5	0.5	0.95	0.95	69.8	20.0	0.29

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: 474 [a. New South Head Rd / Mona Rd - Potential Existing AM Peak (Site Folder: Potential Existing AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [4. Potential Existing AM Peak (Network Folder: Potential Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: New South Head Road															
22	T1	All MCs	2684	3.7	2134	3.7	0.549	0.6	LOS A	3.6	26.1	0.06	0.06	0.06	58.4
23	R2	All MCs	1	100.0	1	100.0	0.549	8.9	LOS A	1.7	12.5	0.05	0.04	0.05	46.5
Approach			2685	3.7	2135	3.7	0.549	0.6	LOS A	3.6	26.1	0.06	0.06	0.06	58.4
NorthEast: Mona Road															
24	L2	All MCs	15	6.7	15	6.7	0.059	47.8	LOS D	0.7	5.4	0.85	0.69	0.85	19.6
26	R2	All MCs	213	1.9	213	1.9	0.675	56.0	LOS D	12.0	85.4	0.99	0.84	1.01	21.1
Approach			228	2.2	228	2.2	0.675	55.4	LOS D	12.0	85.4	0.98	0.83	1.00	21.0
NorthWest: New South Head Road															
27	L2	All MCs	264	3.4	264	3.4	* 0.685	6.2	LOS A	12.3	89.6	0.34	0.47	0.34	42.8
28	T1	All MCs	1931	5.8	1931	5.8	* 0.685	2.9	LOS A	12.3	89.6	0.23	0.25	0.23	46.4
Approach			2195	5.5	2195	5.5	0.685	3.3	LOS A	12.3	89.6	0.25	0.28	0.25	45.1
All Vehicles			5108	4.4	4559	5.0	0.685	4.6	LOS A	12.3	89.6	0.20	0.20	0.20	45.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: New South Head Road											
P5	Full	13	54.2	LOS E	0.0	0.0	0.95	0.95	69.6	20.0	0.29
NorthEast: Mona Road											
P6	Full	69	54.3	LOS E	0.2	0.2	0.95	0.95	69.7	20.0	0.29
NorthWest: New South Head Road											
P7	Full	45	54.3	LOS E	0.1	0.1	0.95	0.95	69.6	20.0	0.29
All Pedestrians		127	54.3	LOS E	0.2	0.2	0.95	0.95	69.7	20.0	0.29

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: 475 [b. New South Head Rd / Darling Point Rd / New McLean St - Potential Existing AM Peak (Site Folder: Potential Existing AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [4. Potential Existing AM Peak (Network Folder: Potential Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: New McLean Street															
1	L2	All MCs	106	4.7	106	4.7	0.137	26.9	LOS B	3.7	27.2	0.64	0.71	0.64	19.6
2	T1	All MCs	56	1.8	56	1.8	0.221	50.9	LOS D	3.0	21.2	0.93	0.71	0.93	25.5
3	R2	All MCs	75	6.7	75	6.7	0.559	64.2	LOS E	4.5	33.0	1.00	0.78	1.01	11.0
Approach			237	4.6	237	4.6	0.559	44.4	LOS D	4.5	33.0	0.82	0.73	0.83	18.5
East: New South Head Road															
4	L2	All MCs	204	3.9	155	3.9	0.199	33.0	LOS C	3.7	26.9	0.44	0.68	0.44	26.7
5	T1	All MCs	2474	3.7	1876	3.7	* 0.763	22.8	LOS B	16.0	115.9	0.67	0.61	0.67	15.9
6	R2	All MCs	89	2.2	67	2.2	0.156	65.8	LOS E	3.9	27.7	1.00	0.79	1.00	21.4
Approach			2767	3.6	2099	3.7	0.763	24.9	LOS B	16.0	115.9	0.67	0.62	0.67	13.2
North: Darling Point Road															
7	L2	All MCs	135	2.2	135	2.2	0.177	27.4	LOS B	4.8	34.6	0.66	0.72	0.66	28.4
8	T1	All MCs	39	0.0	39	0.0	0.769	59.0	LOS E	7.9	55.8	1.00	0.92	1.18	22.3
9	R2	All MCs	88	1.1	88	1.1	* 0.769	68.0	LOS E	7.9	55.8	1.00	0.92	1.18	17.9
Approach			262	1.5	262	1.5	0.769	45.7	LOS D	7.9	55.8	0.82	0.82	0.91	22.9
West: New South Head Road															
10b	L3	All MCs	1	0.0	1	0.0	0.735	6.8	LOS A	25.6	188.4	0.76	0.68	0.76	40.0
11	T1	All MCs	1784	6.2	1784	6.2	0.735	23.7	LOS B	25.6	188.4	0.74	0.67	0.74	23.2
12	R2	All MCs	123	3.2	123	3.2	* 0.776	86.5	LOS F	8.5	61.3	1.00	0.99	1.12	15.7
Approach			1908	6.0	1908	6.0	0.776	27.7	LOS B	25.6	188.4	0.76	0.69	0.76	18.6
All Vehicles			5175	4.4	4506	5.1	0.776	28.3	LOS B	25.6	188.4	0.72	0.67	0.73	17.1

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: New McLean Street											
P1	Full	194	54.6	LOS E	0.6	0.6	0.96	0.96	70.0	20.0	0.29

North: Darling Point Road										
P3 Full	89	54.4	LOS E	0.3	0.3	0.95	0.95	69.7	20.0	0.29
All Pedestrians	283	54.5	LOS E	0.6	0.6	0.96	0.96	69.9	20.0	0.29

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: 4043 [c. New South Head Rd / Mid-Block Crossing AM - Potential Existing AM Peak (Site Folder: Potential Existing AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [4. Potential Existing AM Peak (Network Folder: Potential Existing)]

NA
Site Category: Existing Design
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New South Head Road															
2	T1	All MCs	2769	3.7	2057	3.7	* 0.961	49.7	LOS D	29.8	215.4	0.76	0.97	1.09	8.2
Approach			2769	3.7	2057	3.7	0.961	49.7	LOS D	29.8	215.4	0.76	0.97	1.09	8.2
West: New South Head Road															
8	T1	All MCs	1994	5.9	1994	5.9	0.527	0.6	LOS A	3.4	24.9	0.08	0.07	0.08	36.0
Approach			1994	5.9	1994	5.9	0.527	0.6	LOS A	3.4	24.9	0.08	0.07	0.08	36.0
All Vehicles			4763	4.6	4051	5.4	0.961	25.5	LOS B	29.8	215.4	0.42	0.53	0.59	10.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: New South Head Road											
P1	Full	753	55.9	LOS E	2.5	2.5	0.98	0.98	71.3	20.0	0.28
All Pedestrians		753	55.9	LOS E	2.5	2.5	0.98	0.98	71.3	20.0	0.28

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: 476 [d. New South Head Rd / Ocean St AM - Potential Existing AM Peak (Site Folder: Potential Existing AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [4. Potential Existing AM Peak (Network Folder: Potential Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Ocean Street															
1	L2	All MCs	1012	3.6	1012	3.6	*1.554	544.9	LOS F	95.5	689.1	1.00	2.23	3.74	0.8
2	T1	All MCs	333	0.6	333	0.6	0.732	65.9	LOS E	12.8	90.7	0.97	0.83	1.02	15.1
3	R2	All MCs	1	100.0	1	100.0	0.732	77.4	LOS F	12.8	90.7	1.00	0.87	1.07	23.2
Approach			1346	2.9	1346	2.9	1.554	426.0	LOS F	95.5	689.1	0.99	1.89	3.06	1.4
East: New South Head Road															
4	L2	All MCs	172	5.2	172	5.2	1.079	140.2	LOS F	53.7	389.6	1.00	1.55	1.84	12.9
5	T1	All MCs	1757	3.8	1757	3.8	*1.542	443.3	LOS F	138.5	1000.6	1.00	2.67	3.32	4.0
Approach			1929	3.9	1929	3.9	1.542	416.3	LOS F	138.5	1000.6	1.00	2.57	3.19	4.3
North: Ocean Avenue															
7	L2	All MCs	13	0.0	13	0.0	0.325	52.4	LOS D	5.4	37.9	0.91	0.73	0.91	26.2
8	T1	All MCs	200	0.0	200	0.0	0.325	46.3	LOS D	5.6	38.9	0.91	0.73	0.91	16.1
Approach			213	0.0	213	0.0	0.325	46.6	LOS D	5.6	38.9	0.91	0.73	0.91	16.9
West: New South Head Road															
10	L2	All MCs	167	1.2	167	1.2	0.534	18.6	LOS B	22.1	162.0	0.62	0.52	0.62	32.0
11	T1	All MCs	1185	7.2	1185	7.2	0.534	10.0	LOS A	22.1	162.0	0.58	0.48	0.58	47.3
12	R2	All MCs	602	4.2	602	4.2	0.954	54.2	LOS D	19.2	139.3	1.00	0.96	1.18	13.4
Approach			1954	5.7	1954	5.7	0.954	24.3	LOS B	22.1	162.0	0.71	0.63	0.77	33.0
All Vehicles			5442	4.2	5442	4.2	1.554	263.5	LOS F	138.5	1000.6	0.89	1.63	2.20	5.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Ocean Street											
P1	Full	334	54.9	LOS E	1.1	1.1	0.96	0.96	70.3	20.0	0.28
P1B	Slip/ Bypass	334	54.9	LOS E	1.1	1.1	0.96	0.96	70.3	20.0	0.28

East: New South Head Road										
P2	Full	86	54.3	LOS E	0.3	0.3	0.95	0.95	69.7	20.0	0.29
North: Ocean Avenue										
P3	Full	75	54.3	LOS E	0.2	0.2	0.95	0.95	69.7	20.0	0.29
West: New South Head Road										
P4	Full	164	54.5	LOS E	0.5	0.5	0.96	0.96	69.9	20.0	0.29
All Pedestrians		993	54.8	LOS E	1.1	1.1	0.96	0.96	70.1	20.0	0.29

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: 474 [a. New South Head Rd / Mona Rd PM - Potential Existing PM Peak (Site Folder: Potential Existing PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [5. Potential Existing PM Peak (Network Folder: Potential Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 119 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: New South Head Road															
22	T1	All MCs	2589	2.9	2392	2.8	0.585	0.8	LOS A	5.4	38.5	0.10	0.09	0.10	57.7
23	R2	All MCs	1	100.0	1	100.0	0.585	19.2	LOS B	4.6	33.0	0.11	0.10	0.11	46.0
Approach			2590	2.9	2393	2.9	0.585	0.8	LOS A	5.4	38.5	0.10	0.09	0.10	57.7
NorthEast: Mona Road															
24	L2	All MCs	26	0.0	26	0.0	0.184	67.5	LOS E	1.4	9.7	0.91	0.73	0.91	18.1
26	R2	All MCs	233	1.3	233	1.3	0.900	85.2	LOS F	15.6	110.4	1.00	1.02	1.33	18.1
Approach			259	1.2	259	1.2	0.900	83.4	LOS F	15.6	110.4	0.99	0.99	1.29	16.2
NorthWest: New South Head Road															
27	L2	All MCs	202	1.0	202	1.0	* 0.997	58.2	LOS E	60.3	428.1	0.96	1.20	1.37	20.7
28	T1	All MCs	2187	1.8	2187	1.8	* 0.997	51.5	LOS D	75.1	533.5	0.99	1.23	1.37	9.4
Approach			2389	1.7	2389	1.7	0.997	52.0	LOS D	75.1	533.5	0.98	1.22	1.37	10.9
All Vehicles			5238	2.3	5041	2.4	0.997	29.3	LOS C	75.1	533.5	0.56	0.67	0.76	21.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: New South Head Road											
P5	Full	26	53.7	LOS E	0.1	0.1	0.95	0.95	69.1	20.0	0.29
NorthEast: Mona Road											
P6	Full	112	53.9	LOS E	0.4	0.4	0.95	0.95	69.3	20.0	0.29
NorthWest: New South Head Road											
P7	Full	36	53.7	LOS E	0.1	0.1	0.95	0.95	69.1	20.0	0.29
All Pedestrians		174	53.8	LOS E	0.4	0.4	0.95	0.95	69.2	20.0	0.29

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: 475 [b. New South Head Rd / Darling Point Rd / New McLean St - Potential Existing PM Peak (Site Folder: Potential Existing PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [5. Potential Existing PM Peak (Network Folder: Potential Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 119 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: New McLean Street															
1	L2	All MCs	178	0.6	178	0.6	0.242	31.2	LOS C	6.8	48.2	0.71	0.76	0.71	19.1
2	T1	All MCs	106	0.0	106	0.0	0.244	40.6	LOS C	5.1	35.4	0.86	0.69	0.86	30.2
3	R2	All MCs	117	0.0	117	0.0	* 0.916	85.0	LOS F	8.8	61.5	1.00	1.09	1.54	9.0
Approach			402	0.2	402	0.2	0.916	49.4	LOS D	8.8	61.5	0.83	0.84	0.99	18.6
East: New South Head Road															
4	L2	All MCs	170	1.2	152	1.1	0.179	36.0	LOS C	4.0	28.3	0.49	0.69	0.49	26.1
5	T1	All MCs	2295	3.3	2045	3.2	0.775	24.6	LOS B	16.1	115.9	0.72	0.65	0.72	15.2
6	R2	All MCs	54	0.0	48	0.0	0.225	75.4	LOS F	2.8	19.8	1.00	0.77	1.00	19.6
Approach			2519	3.1	2245	3.0	0.775	26.4	LOS B	16.1	115.9	0.71	0.66	0.71	12.1
North: Darling Point Road															
7	L2	All MCs	110	2.7	110	2.7	0.155	29.3	LOS C	4.1	29.1	0.68	0.72	0.68	27.5
8	T1	All MCs	39	0.0	39	0.0	0.427	43.3	LOS D	5.6	39.5	0.93	0.77	0.93	25.5
9	R2	All MCs	66	3.0	66	3.0	0.427	54.7	LOS D	5.6	39.5	0.93	0.77	0.93	20.9
Approach			215	2.3	215	2.3	0.427	39.6	LOS C	5.6	39.5	0.80	0.75	0.80	24.8
West: New South Head Road															
10b	L3	All MCs	1	0.0	1	0.0	0.919	21.5	LOS B	34.4	244.8	1.00	1.04	1.15	17.1
11	T1	All MCs	2130	1.9	2130	1.9	* 0.919	54.0	LOS D	40.4	287.2	1.00	1.06	1.18	11.2
12	R2	All MCs	104	0.0	104	0.0	* 0.887	88.7	LOS F	6.7	47.0	1.00	0.96	1.38	15.0
Approach			2235	1.8	2235	1.8	0.919	55.6	LOS D	40.4	287.2	1.00	1.06	1.19	10.8
All Vehicles			5371	2.3	5097	2.4	0.919	41.6	LOS C	40.4	287.2	0.85	0.85	0.95	12.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: New McLean Street											
P1	Full	205	54.1	LOS E	0.7	0.7	0.96	0.96	69.5	20.0	0.29

North: Darling Point Road										
P3 Full	168	54.0	LOS E	0.5	0.5	0.96	0.96	69.4	20.0	0.29
All Pedestrians	374	54.1	LOS E	0.7	0.7	0.96	0.96	69.5	20.0	0.29

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: 4043 [c. New South Head Rd / Mid-Block Crossing PM - Potential Existing PM Peak (Site Folder: Potential Existing PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [5. Potential Existing PM Peak (Network Folder: Potential Existing)]

NA
Site Category: Existing Design
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 119 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New South Head Road															
2	T1	All MCs	2531	3.1	2210	3.0	* 1.031	88.3	LOS F	30.0	215.4	1.00	1.48	1.60	5.3
Approach			2531	3.1	2210	3.0	1.031	88.3	LOS F	30.0	215.4	1.00	1.48	1.60	5.3
West: New South Head Road															
8	T1	All MCs	2357	1.9	2357	1.9	0.632	1.2	LOS A	10.7	76.3	0.14	0.13	0.14	44.9
Approach			2357	1.9	2357	1.9	0.632	1.2	LOS A	10.7	76.3	0.14	0.13	0.14	44.9
All Vehicles			4888	2.5	4567	2.7	1.031	43.4	LOS D	30.0	215.4	0.55	0.78	0.84	7.3

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: New South Head Road											
P1	Full	456	54.7	LOS E	1.5	1.5	0.97	0.97	70.1	20.0	0.29
All Pedestrians		456	54.7	LOS E	1.5	1.5	0.97	0.97	70.1	20.0	0.29

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: 476 [d. New South Head Rd / Ocean St PM - Potential Existing PM Peak (Site Folder: Potential Existing PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [5. Potential Existing PM Peak (Network Folder: Potential Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 119 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Ocean Street															
1	L2	All MCs	1018	2.2	1018	2.2	*1.160	195.1	LOS F	60.8	433.4	1.00	1.55	2.23	2.2
2	T1	All MCs	326	0.0	326	0.0	0.776	65.4	LOS E	12.9	90.9	0.98	0.85	1.06	16.4
3	R2	All MCs	1	100.0	1	100.0	0.776	81.2	LOS F	12.9	90.9	1.00	0.91	1.12	23.3
Approach			1345	1.7	1345	1.7	1.160	163.5	LOS F	60.8	433.4	0.99	1.38	1.94	3.6
East: New South Head Road															
4	L2	All MCs	216	1.9	216	1.9	1.507	508.7	LOS F	113.1	813.0	1.00	2.71	3.61	4.1
5	T1	All MCs	1513	3.8	1513	3.8	*1.507	496.6	LOS F	113.1	813.0	1.00	2.70	3.61	3.6
Approach			1729	3.5	1729	3.5	1.507	498.1	LOS F	113.1	813.0	1.00	2.70	3.61	3.6
North: Ocean Avenue															
7	L2	All MCs	13	0.0	13	0.0	0.416	55.8	LOS D	6.5	45.9	0.94	0.76	0.94	26.8
8	T1	All MCs	236	0.8	236	0.8	0.416	48.4	LOS D	6.7	47.0	0.94	0.76	0.94	16.6
Approach			249	0.8	249	0.8	0.416	48.8	LOS D	6.7	47.0	0.94	0.76	0.94	17.3
West: New South Head Road															
10	L2	All MCs	130	1.5	130	1.5	0.542	11.1	LOS A	13.1	92.5	0.35	0.39	0.35	42.0
11	T1	All MCs	1318	1.4	1318	1.4	0.542	3.6	LOS A	13.1	92.5	0.31	0.31	0.31	54.4
12	R2	All MCs	886	2.7	886	2.7	0.948	55.1	LOS D	29.2	209.0	1.00	1.00	1.23	13.3
Approach			2334	1.9	2334	1.9	0.948	23.6	LOS B	29.2	209.0	0.57	0.58	0.66	33.0
All Vehicles			5657	2.3	5657	2.3	1.507	203.0	LOS F	113.1	813.0	0.82	1.43	1.88	6.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Ocean Street											
P1	Full	249	54.2	LOS E	0.8	0.8	0.96	0.96	69.6	20.0	0.29
P1B	Slip/	249	54.2	LOS E	0.8	0.8	0.96	0.96	69.6	20.0	0.29

	Bypass										
East: New South Head Road											
P2	Full	61	53.8	LOS E	0.2	0.2	0.95	0.95	69.2	20.0	0.29
North: Ocean Avenue											
P3	Full	60	53.8	LOS E	0.2	0.2	0.95	0.95	69.2	20.0	0.29
West: New South Head Road											
P4	Full	105	53.9	LOS E	0.3	0.3	0.95	0.95	69.3	20.0	0.29
All Pedestrians		725	54.1	LOS E	0.8	0.8	0.96	0.96	69.5	20.0	0.29

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: 474 [a. New South Head Rd / Mona Rd - Potential Existing Sat (Site Folder: Potential Existing Saturday)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [6. Potential Existing Saturday Midday Peak (Network Folder: Potential Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: New South Head Road															
22	T1	All MCs	2532	2.1	2483	2.1	0.620	0.7	LOS A	5.6	39.6	0.09	0.08	0.09	58.1
23	R2	All MCs	1	100.0	1	100.0	0.620	9.5	LOS A	3.2	22.7	0.07	0.07	0.07	46.4
Approach			2533	2.1	2484	2.1	0.620	0.7	LOS A	5.6	39.6	0.09	0.08	0.09	58.1
NorthEast: Mona Road															
24	L2	All MCs	28	0.0	28	0.0	0.138	63.7	LOS E	1.4	10.0	0.88	0.72	0.88	18.9
26	R2	All MCs	239	1.3	239	1.3	0.792	73.3	LOS F	14.4	101.9	1.00	0.91	1.13	20.2
Approach			267	1.1	267	1.1	0.792	72.3	LOS F	14.4	101.9	0.99	0.89	1.10	17.8
NorthWest: New South Head Road															
27	L2	All MCs	154	0.6	154	0.6	* 0.812	7.9	LOS A	14.6	103.5	0.36	0.44	0.38	42.7
28	T1	All MCs	2107	2.0	2107	2.0	0.812	3.8	LOS A	14.6	103.5	0.29	0.30	0.30	42.9
Approach			2261	1.9	2261	1.9	0.812	4.0	LOS A	14.6	103.5	0.29	0.31	0.31	42.9
All Vehicles			5061	2.0	5012	2.0	0.812	6.0	LOS A	14.6	103.5	0.23	0.23	0.24	43.1

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: New South Head Road											
P5	Full	31	54.2	LOS E	0.1	0.1	0.95	0.95	69.6	20.0	0.29
NorthEast: Mona Road											
P6	Full	123	54.4	LOS E	0.4	0.4	0.95	0.95	69.8	20.0	0.29
NorthWest: New South Head Road											
P7	Full	35	54.2	LOS E	0.1	0.1	0.95	0.95	69.6	20.0	0.29
All Pedestrians		188	54.4	LOS E	0.4	0.4	0.95	0.95	69.7	20.0	0.29

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: 475 [b. New South Head Rd / Darling Point Rd / New McLean St - Potential Existing Sat (Site Folder: Potential Existing Saturday)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [6. Potential Existing Saturday Midday Peak (Network Folder: Potential Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: New McLean Street															
1	L2	All MCs	153	2.0	153	2.0	0.216	31.1	LOS C	6.0	42.4	0.71	0.74	0.71	18.0
2	T1	All MCs	69	0.0	69	0.0	0.188	44.0	LOS D	3.4	23.9	0.88	0.68	0.88	27.4
3	R2	All MCs	110	0.9	110	0.9	*0.775	66.6	LOS E	7.0	49.3	1.00	0.94	1.22	10.6
Approach			332	1.2	332	1.2	0.775	45.5	LOS D	7.0	49.3	0.84	0.79	0.91	17.8
East: New South Head Road															
4	L2	All MCs	186	2.7	177	2.7	0.494	39.6	LOS C	5.1	36.8	0.53	0.71	0.53	25.8
5	T1	All MCs	2277	2.2	2172	2.2	*0.813	28.1	LOS B	16.2	115.9	0.76	0.70	0.77	14.0
6	R2	All MCs	59	0.0	56	0.0	0.219	76.5	LOS F	3.3	23.1	1.00	0.78	1.00	19.9
Approach			2522	2.2	2406	2.2	0.813	30.0	LOS C	16.2	115.9	0.75	0.70	0.76	11.1
North: Darling Point Road															
7	L2	All MCs	110	3.6	110	3.6	0.161	30.5	LOS C	4.2	30.2	0.69	0.72	0.69	27.0
8	T1	All MCs	64	0.0	64	0.0	0.731	52.1	LOS D	9.7	68.2	1.00	0.89	1.11	23.6
9	R2	All MCs	99	0.0	99	0.0	0.731	63.1	LOS E	9.7	68.2	1.00	0.89	1.11	19.1
Approach			273	1.5	273	1.5	0.731	47.4	LOS D	9.7	68.2	0.88	0.82	0.94	22.9
West: New South Head Road															
10b	L3	All MCs	1	0.0	1	0.0	0.785	6.8	LOS A	36.0	256.2	0.90	0.81	0.90	24.2
11	T1	All MCs	2010	2.1	2010	2.1	0.785	31.8	LOS C	36.3	258.4	0.90	0.82	0.91	17.8
12	R2	All MCs	103	0.0	103	0.0	*0.735	80.7	LOS F	6.2	43.6	1.00	0.88	1.17	16.3
Approach			2114	2.0	2114	2.0	0.785	34.2	LOS C	36.3	258.4	0.91	0.82	0.92	15.8
All Vehicles			5241	2.0	5125	2.1	0.813	33.7	LOS C	36.3	258.4	0.83	0.76	0.85	14.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: New McLean Street											
P1	Full	156	54.5	LOS E	0.5	0.5	0.96	0.96	69.9	20.0	0.29

North: Darling Point Road										
P3 Full	127	54.4	LOS E	0.4	0.4	0.96	0.96	69.8	20.0	0.29
All Pedestrians	283	54.5	LOS E	0.5	0.5	0.96	0.96	69.9	20.0	0.29

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: 4043 [c. New South Head Rd / Mid-Block Crossing - Potential Existing Sat (Site Folder: Potential Existing Saturday)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [6. Potential Existing Saturday Midday Peak (Network Folder: Potential Existing)]

NA
Site Category: Existing Design
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New South Head Road															
2	T1	All MCs	2521	2.2	2442	2.2	* 1.130	157.7	LOS F	30.2	215.4	1.00	1.84	2.06	3.1
Approach			2521	2.2	2442	2.2	1.130	157.7	LOS F	30.2	215.4	1.00	1.84	2.06	3.1
West: New South Head Road															
8	T1	All MCs	2230	2.1	2230	2.1	0.614	0.9	LOS A	7.4	53.1	0.11	0.11	0.11	47.8
Approach			2230	2.1	2230	2.1	0.614	0.9	LOS A	7.4	53.1	0.11	0.11	0.11	47.8
All Vehicles			4751	2.1	4672	2.2	1.130	82.9	LOS F	30.2	215.4	0.58	1.01	1.13	4.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: New South Head Road											
P1	Full	412	55.1	LOS E	1.4	1.4	0.97	0.97	70.5	20.0	0.28
All Pedestrians		412	55.1	LOS E	1.4	1.4	0.97	0.97	70.5	20.0	0.28

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: 476 [d. New South Head Rd / Ocean St - Potential Existing Sat (Site Folder: Potential Existing Saturday)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [6. Potential Existing Saturday Midday Peak (Network Folder: Potential Existing)]

NA
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Ocean Street															
1	L2	All MCs	971	1.3	971	1.3	* 1.262	285.6	LOS F	68.0	481.7	1.00	1.75	2.68	1.5
2	T1	All MCs	409	0.0	409	0.0	0.939	85.0	LOS F	19.2	135.1	0.98	1.00	1.25	14.0
3	R2	All MCs	1	100.0	1	100.0	0.939	108.2	LOS F	19.2	135.1	1.00	1.13	1.42	19.4
Approach			1381	1.0	1381	1.0	1.262	226.1	LOS F	68.0	481.7	0.99	1.53	2.25	2.8
East: New South Head Road															
4	L2	All MCs	133	1.5	133	1.5	1.279	302.5	LOS F	85.3	609.8	1.00	2.23	2.75	6.7
5	T1	All MCs	1550	2.7	1550	2.7	* 1.279	292.1	LOS F	85.3	609.8	1.00	2.22	2.75	5.8
Approach			1683	2.6	1683	2.6	1.279	292.9	LOS F	85.3	609.8	1.00	2.22	2.75	5.9
North: Ocean Avenue															
7	L2	All MCs	12	0.0	12	0.0	0.386	54.3	LOS D	6.6	46.0	0.92	0.75	0.92	27.2
8	T1	All MCs	242	0.0	242	0.0	0.386	46.9	LOS D	6.7	46.9	0.92	0.75	0.92	17.0
Approach			254	0.0	254	0.0	0.386	47.3	LOS D	6.7	46.9	0.92	0.75	0.92	17.6
West: New South Head Road															
10	L2	All MCs	89	2.2	89	2.2	0.576	12.8	LOS A	16.4	116.9	0.41	0.42	0.41	40.7
11	T1	All MCs	1419	2.0	1419	2.0	0.576	5.6	LOS A	16.4	116.9	0.41	0.40	0.41	52.2
12	R2	All MCs	745	2.4	745	2.4	1.116	173.5	LOS F	34.3	244.8	1.00	1.38	2.01	5.1
Approach			2253	2.1	2253	2.1	1.116	61.4	LOS E	34.3	244.8	0.60	0.72	0.94	20.2
All Vehicles			5571	1.9	5571	1.9	1.279	171.5	LOS F	85.3	609.8	0.84	1.38	1.81	7.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Ocean Street											
P1	Full	156	54.5	LOS E	0.5	0.5	0.96	0.96	69.9	20.0	0.29
P1B	Slip/	156	54.5	LOS E	0.5	0.5	0.96	0.96	69.9	20.0	0.29

	Bypass										
East: New South Head Road											
P2	Full	61	54.3	LOS E	0.2	0.2	0.95	0.95	69.7	20.0	0.29
North: Ocean Avenue											
P3	Full	92	54.4	LOS E	0.3	0.3	0.95	0.95	69.7	20.0	0.29
West: New South Head Road											
P4	Full	85	54.3	LOS E	0.3	0.3	0.95	0.95	69.7	20.0	0.29
All Pedestrians		549	54.4	LOS E	0.5	0.5	0.95	0.95	69.8	20.0	0.29

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: 474 [a. New South Head Rd / Mona Rd - Future AM Peak (Site Folder: Future AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [7. Future AM Peak (Network Folder: Future)]

NA
Site Category: Future Conditions 1
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: New South Head Road															
22	T1	All MCs	2696	3.7	2155	3.7	0.602	1.1	LOS A	5.7	41.1	0.11	0.10	0.11	56.8
23	R2	All MCs	1	100.0	1	100.0	0.602	12.5	LOS A	5.7	41.1	0.15	0.14	0.15	45.3
Approach			2697	3.7	2156	3.7	0.602	1.2	LOS A	5.7	41.1	0.11	0.10	0.11	56.7
NorthEast: Mona Road															
24	L2	All MCs	15	6.7	15	6.7	0.048	41.6	LOS C	0.7	5.0	0.79	0.68	0.79	21.3
26	R2	All MCs	213	1.9	213	1.9	0.506	48.0	LOS D	10.9	77.8	0.92	0.81	0.92	22.9
Approach			228	2.2	228	2.2	0.506	47.6	LOS D	10.9	77.8	0.91	0.80	0.91	22.8
NorthWest: New South Head Road															
27	L2	All MCs	264	3.4	264	3.4	* 0.765	6.4	LOS A	19.9	145.0	0.56	0.62	0.56	39.5
28	T1	All MCs	1924	5.8	1924	5.8	* 0.765	7.1	LOS A	20.9	153.5	0.48	0.46	0.48	35.9
Approach			2188	5.5	2188	5.5	0.765	7.0	LOS A	20.9	153.5	0.49	0.48	0.49	37.0
All Vehicles			5113	4.4	4572	4.9	0.765	6.3	LOS A	20.9	153.5	0.33	0.32	0.33	42.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: New South Head Road											
P5	Full	13	54.2	LOS E	0.0	0.0	0.95	0.95	69.6	20.0	0.29
NorthEast: Mona Road											
P6	Full	69	54.3	LOS E	0.2	0.2	0.95	0.95	69.7	20.0	0.29
NorthWest: New South Head Road											
P7	Full	45	54.3	LOS E	0.1	0.1	0.95	0.95	69.6	20.0	0.29
All Pedestrians		127	54.3	LOS E	0.2	0.2	0.95	0.95	69.7	20.0	0.29

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: 475 [b. New South Head Rd / Darling Point Rd / New McLean St - Future AM Peak (Site Folder: Future AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [7. Future AM Peak (Network Folder: Future)]

NA
Site Category: Future Conditions 1
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: New McLean Street															
1	L2	All MCs	118	4.3	118	4.3	0.152	27.1	LOS B	4.2	30.2	0.65	0.71	0.65	19.6
2	T1	All MCs	61	1.6	61	1.6	0.228	50.0	LOS D	3.2	23.0	0.93	0.71	0.93	25.8
3	R2	All MCs	83	6.0	83	6.0	0.578	63.4	LOS E	4.9	36.4	1.00	0.79	1.02	11.1
Approach			262	4.2	262	4.2	0.578	44.0	LOS D	4.9	36.4	0.83	0.74	0.83	18.6
East: New South Head Road															
4	L2	All MCs	193	4.1	147	4.2	0.189	33.3	LOS C	3.5	25.5	0.44	0.68	0.44	26.7
5	T1	All MCs	2474	3.7	1885	3.7	* 0.765	23.0	LOS B	16.0	115.9	0.68	0.61	0.68	15.8
6	R2	All MCs	89	2.2	68	2.3	0.162	66.5	LOS E	3.9	27.9	1.00	0.80	1.00	21.2
Approach			2756	3.7	2100	3.7	0.765	25.1	LOS B	16.0	115.9	0.67	0.62	0.67	13.1
North: Darling Point Road															
7	L2	All MCs	135	2.2	135	2.2	0.177	27.4	LOS B	4.8	34.6	0.66	0.72	0.66	28.4
8	T1	All MCs	37	0.0	37	0.0	0.733	57.1	LOS E	7.7	53.9	1.00	0.89	1.14	22.7
9	R2	All MCs	88	1.1	88	1.1	* 0.733	66.0	LOS E	7.7	53.9	1.00	0.89	1.14	18.2
Approach			260	1.5	260	1.5	0.733	44.7	LOS D	7.7	53.9	0.82	0.80	0.89	23.1
West: New South Head Road															
10b	L3	All MCs	1	0.0	1	0.0	0.734	6.8	LOS A	25.7	189.3	0.76	0.69	0.76	39.8
11	T1	All MCs	1784	6.2	1784	6.2	0.734	24.2	LOS B	25.7	189.3	0.75	0.67	0.75	22.9
12	R2	All MCs	117	3.4	117	3.4	* 0.749	85.6	LOS F	7.9	57.2	1.00	0.98	1.10	15.9
Approach			1902	6.0	1902	6.0	0.749	28.0	LOS B	25.7	189.3	0.76	0.69	0.77	18.4
All Vehicles			5180	4.4	4525	5.1	0.765	28.5	LOS C	25.7	189.3	0.73	0.67	0.73	17.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: New McLean Street											
P1	Full	194	54.6	LOS E	0.6	0.6	0.96	0.96	70.0	20.0	0.29
North: Darling Point Road											

P3 Full	89	54.4	LOS E	0.3	0.3	0.95	0.95	69.7	20.0	0.29
All Pedestrians	283	54.5	LOS E	0.6	0.6	0.96	0.96	69.9	20.0	0.29

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: 4043 [c. New South Head Rd / Mid-Block Crossing AM - Future AM Peak (Site Folder: Future AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [7. Future AM Peak (Network Folder: Future)]

NA
Site Category: Future Conditions 1
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Coordinated User-Given Cycle Time) Cycle Time = 120 seconds (Network

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New South Head Road															
2	T1	All MCs	2763	3.7	2063	3.7	* 0.964	50.9	LOS D	29.8	215.4	0.77	0.99	1.11	8.0
Approach			2763	3.7	2063	3.7	0.964	50.9	LOS D	29.8	215.4	0.77	0.99	1.11	8.0
West: New South Head Road															
8	T1	All MCs	2002	5.9	2002	5.9	0.555	0.7	LOS A	4.2	30.6	0.09	0.08	0.09	35.4
Approach			2002	5.9	2002	5.9	0.555	0.7	LOS A	4.2	30.6	0.09	0.08	0.09	35.4
All Vehicles			4765	4.6	4065	5.4	0.964	26.2	LOS B	29.8	215.4	0.44	0.54	0.61	10.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: New South Head Road											
P1	Full	753	55.9	LOS E	2.5	2.5	0.98	0.98	71.3	20.0	0.28
All Pedestrians		753	55.9	LOS E	2.5	2.5	0.98	0.98	71.3	20.0	0.28

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: 476 [d. New South Head Rd / Ocean St AM - Future AM Peak (Site Folder: Future AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [7. Future AM Peak (Network Folder: Future)]

NA
Site Category: Future Conditions 1
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Ocean Street															
1	L2	All MCs	979	3.1	979	3.1	* 1.529	522.8	LOS F	90.6	651.2	1.00	2.20	3.66	0.8
2	T1	All MCs	340	0.6	340	0.6	0.752	67.2	LOS E	13.2	93.4	0.97	0.85	1.03	15.0
3	R2	All MCs	1	100.0	1	100.0	0.752	78.9	LOS F	13.2	93.4	1.00	0.89	1.09	23.0
Approach			1320	2.5	1320	2.5	1.529	405.1	LOS F	90.6	651.2	0.99	1.85	2.98	1.5
East: New South Head Road															
4	L2	All MCs	176	4.0	176	4.0	1.061	126.3	LOS F	52.0	376.6	1.00	1.49	1.75	14.0
5	T1	All MCs	1792	4.0	1792	4.0	* 1.515	422.7	LOS F	142.4	1031.0	1.00	2.65	3.24	4.1
Approach			1968	4.0	1968	4.0	1.515	396.2	LOS F	142.4	1031.0	1.00	2.54	3.11	4.5
North: Ocean Avenue															
7	L2	All MCs	12	0.0	12	0.0	0.360	52.8	LOS D	6.1	42.6	0.92	0.74	0.92	26.2
8	T1	All MCs	225	0.0	225	0.0	0.360	46.7	LOS D	6.2	43.5	0.92	0.74	0.92	16.0
Approach			237	0.0	237	0.0	0.360	47.0	LOS D	6.2	43.5	0.92	0.74	0.92	16.7
West: New South Head Road															
10	L2	All MCs	181	3.3	181	3.3	0.523	18.4	LOS B	21.2	156.0	0.61	0.52	0.61	32.1
11	T1	All MCs	1142	6.8	1142	6.8	0.523	9.4	LOS A	21.2	156.0	0.55	0.48	0.55	47.9
12	R2	All MCs	615	4.1	615	4.1	1.020	81.4	LOS F	23.3	168.6	1.00	1.09	1.40	9.8
Approach			1938	5.6	1938	5.6	1.020	33.1	LOS C	23.3	168.6	0.70	0.68	0.83	28.4
All Vehicles			5464	4.0	5464	4.0	1.529	254.4	LOS F	142.4	1031.0	0.89	1.63	2.17	5.5

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Ocean Street											
P1	Full	334	54.9	LOS E	1.1	1.1	0.96	0.96	70.3	20.0	0.28
P1B	Slip/ Bypass	334	54.9	LOS E	1.1	1.1	0.96	0.96	70.3	20.0	0.28
East: New South Head Road											

P2	Full	86	54.3	LOS E	0.3	0.3	0.95	0.95	69.7	20.0	0.29
North: Ocean Avenue											
P3	Full	75	54.3	LOS E	0.2	0.2	0.95	0.95	69.7	20.0	0.29
West: New South Head Road											
P4	Full	164	54.5	LOS E	0.5	0.5	0.96	0.96	69.9	20.0	0.29
All Pedestrians		993	54.8	LOS E	1.1	1.1	0.96	0.96	70.1	20.0	0.29

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: 474 [a. New South Head Rd / Mona Rd PM - Future PM Peak (Site Folder: Future PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [8. Future PM Peak (Network Folder: Future)]

NA
Site Category: Future Conditions 1
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 119 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: New South Head Road															
22	T1	All MCs	2573	2.9	2442	2.9	0.596	0.6	LOS A	5.3	37.9	0.08	0.07	0.08	58.3
23	R2	All MCs	1	100.0	1	100.0	0.596	9.9	LOS A	2.2	15.7	0.05	0.05	0.05	46.5
Approach			2574	3.0	2443	2.9	0.596	0.6	LOS A	5.3	37.9	0.08	0.07	0.08	58.3
NorthEast: Mona Road															
24	L2	All MCs	26	0.0	26	0.0	0.184	67.5	LOS E	1.4	9.7	0.91	0.73	0.91	18.1
26	R2	All MCs	233	1.3	233	1.3	0.900	85.2	LOS F	15.6	110.4	1.00	1.02	1.33	18.1
Approach			259	1.2	259	1.2	0.900	83.4	LOS F	15.6	110.4	0.99	0.99	1.29	16.2
NorthWest: New South Head Road															
27	L2	All MCs	202	1.0	202	1.0	* 0.960	40.5	LOS C	37.0	262.6	0.56	0.79	0.84	25.2
28	T1	All MCs	2190	1.8	2190	1.8	* 0.960	32.4	LOS C	38.6	274.2	0.46	0.64	0.71	13.7
Approach			2392	1.7	2392	1.7	0.960	33.1	LOS C	38.6	274.2	0.47	0.65	0.72	15.5
All Vehicles			5225	2.3	5094	2.4	0.960	20.1	LOS B	38.6	274.2	0.31	0.39	0.44	26.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: New South Head Road											
P5	Full	26	53.7	LOS E	0.1	0.1	0.95	0.95	69.1	20.0	0.29
NorthEast: Mona Road											
P6	Full	112	53.9	LOS E	0.4	0.4	0.95	0.95	69.3	20.0	0.29
NorthWest: New South Head Road											
P7	Full	36	53.7	LOS E	0.1	0.1	0.95	0.95	69.1	20.0	0.29
All Pedestrians		174	53.8	LOS E	0.4	0.4	0.95	0.95	69.2	20.0	0.29

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: 475 [b. New South Head Rd / Darling Point Rd / New McLean St - Future PM Peak (Site Folder: Future PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [8. Future PM Peak (Network Folder: Future)]

NA
Site Category: Future Conditions 1
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 119 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: New McLean Street															
1	L2	All MCs	168	0.6	168	0.6	0.228	31.0	LOS C	6.4	45.1	0.70	0.76	0.70	19.1
2	T1	All MCs	99	0.0	99	0.0	0.236	41.4	LOS C	4.8	33.3	0.87	0.69	0.87	29.9
3	R2	All MCs	108	0.0	108	0.0	* 0.887	79.5	LOS F	7.7	54.2	1.00	1.05	1.47	9.5
Approach			375	0.3	375	0.3	0.887	47.7	LOS D	7.7	54.2	0.83	0.82	0.97	19.0
East: New South Head Road															
4	L2	All MCs	174	1.1	162	1.1	0.191	36.9	LOS C	4.3	30.1	0.49	0.70	0.49	26.2
5	T1	All MCs	2295	3.3	2130	3.2	0.810	28.0	LOS B	16.1	115.9	0.77	0.71	0.78	13.7
6	R2	All MCs	54	0.0	50	0.0	0.219	77.2	LOS F	2.9	20.5	1.00	0.77	1.00	19.8
Approach			2523	3.1	2342	3.0	0.810	29.7	LOS C	16.1	115.9	0.75	0.71	0.76	11.1
North: Darling Point Road															
7	L2	All MCs	110	2.7	110	2.7	0.155	29.3	LOS C	4.1	29.1	0.68	0.72	0.68	27.5
8	T1	All MCs	40	0.0	40	0.0	0.438	44.2	LOS D	5.7	40.3	0.94	0.78	0.94	25.3
9	R2	All MCs	66	3.0	66	3.0	0.438	55.7	LOS D	5.7	40.3	0.94	0.78	0.94	20.7
Approach			216	2.3	216	2.3	0.438	40.1	LOS C	5.7	40.3	0.81	0.75	0.81	24.7
West: New South Head Road															
10b	L3	All MCs	1	0.0	1	0.0	0.920	21.8	LOS B	34.4	244.8	1.00	1.05	1.16	17.1
11	T1	All MCs	2130	1.9	2130	1.9	* 0.920	54.1	LOS D	40.4	287.2	1.00	1.07	1.19	11.1
12	R2	All MCs	107	0.0	107	0.0	* 0.937	97.2	LOS F	7.4	51.8	1.00	1.01	1.51	13.9
Approach			2238	1.8	2238	1.8	0.937	56.2	LOS D	40.4	287.2	1.00	1.06	1.20	10.7
All Vehicles			5353	2.3	5171	2.4	0.937	42.9	LOS D	40.4	287.2	0.87	0.87	0.97	12.4

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: New McLean Street											
P1	Full	205	54.1	LOS E	0.7	0.7	0.96	0.96	69.5	20.0	0.29
North: Darling Point Road											

P3 Full	168	54.0	LOS E	0.5	0.5	0.96	0.96	69.4	20.0	0.29
All Pedestrians	374	54.1	LOS E	0.7	0.7	0.96	0.96	69.5	20.0	0.29

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: 4043 [c. New South Head Rd / Mid-Block Crossing PM - Future PM Peak (Site Folder: Future PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [8. Future PM Peak (Network Folder: Future)]

NA
Site Category: Future Conditions 1
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Coordinated User-Given Cycle Time) Cycle Time = 119 seconds (Network

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New South Head Road															
2	T1	All MCs	2535	3.1	2298	3.1	* 1.072	116.7	LOS F	30.0	215.4	1.00	1.63	1.79	4.1
Approach			2535	3.1	2298	3.1	1.072	116.7	LOS F	30.0	215.4	1.00	1.63	1.79	4.1
West: New South Head Road															
8	T1	All MCs	2348	1.9	2348	1.9	0.666	0.9	LOS A	11.5	81.6	0.12	0.11	0.12	48.3
Approach			2348	1.9	2348	1.9	0.666	0.9	LOS A	11.5	81.6	0.12	0.11	0.12	48.3
All Vehicles			4883	2.5	4646	2.6	1.072	58.2	LOS E	30.0	215.4	0.56	0.86	0.95	5.6

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: New South Head Road											
P1	Full	456	54.7	LOS E	1.5	1.5	0.97	0.97	70.1	20.0	0.29
All Pedestrians		456	54.7	LOS E	1.5	1.5	0.97	0.97	70.1	20.0	0.29

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: 476 [d. New South Head Rd / Ocean St PM - Future PM Peak (Site Folder: Future PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [8. Future PM Peak (Network Folder: Future)]

NA
Site Category: Future Conditions 1
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 119 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Ocean Street															
1	L2	All MCs	1019	2.2	1019	2.2	* 1.321	336.3	LOS F	76.9	548.1	1.00	1.87	2.94	1.3
2	T1	All MCs	326	0.0	326	0.0	0.702	60.6	LOS E	12.3	86.4	0.96	0.81	0.99	17.3
3	R2	All MCs	1	100.0	1	100.0	0.702	75.4	LOS F	12.3	86.4	0.99	0.85	1.04	24.5
Approach			1346	1.7	1346	1.7	1.321	269.3	LOS F	76.9	548.1	0.99	1.61	2.47	2.2
East: New South Head Road															
4	L2	All MCs	216	1.9	216	1.9	1.317	337.2	LOS F	94.3	677.6	1.00	2.26	2.92	6.0
5	T1	All MCs	1515	3.8	1515	3.8	* 1.317	325.0	LOS F	94.3	677.6	1.00	2.31	2.92	5.3
Approach			1731	3.5	1731	3.5	1.317	326.5	LOS F	94.3	677.6	1.00	2.30	2.92	5.4
North: Ocean Avenue															
7	L2	All MCs	13	0.0	13	0.0	0.378	53.6	LOS D	6.4	44.8	0.92	0.75	0.92	27.4
8	T1	All MCs	236	0.8	236	0.8	0.378	46.3	LOS D	6.5	45.8	0.92	0.74	0.92	17.1
Approach			249	0.8	249	0.8	0.378	46.7	LOS D	6.5	45.8	0.92	0.74	0.92	17.8
West: New South Head Road															
10	L2	All MCs	130	1.5	130	1.5	0.552	12.9	LOS A	15.8	111.6	0.42	0.45	0.42	40.0
11	T1	All MCs	1313	1.4	1313	1.4	0.552	5.2	LOS A	15.8	111.6	0.38	0.38	0.38	52.6
12	R2	All MCs	883	2.7	883	2.7	1.314	338.8	LOS F	34.2	244.8	1.00	1.78	2.88	2.7
Approach			2326	1.9	2326	1.9	1.314	132.3	LOS F	34.2	244.8	0.62	0.91	1.33	11.1
All Vehicles			5652	2.3	5652	2.3	1.321	220.6	LOS F	94.3	677.6	0.84	1.50	2.07	6.2

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Ocean Street											
P1	Full	249	54.2	LOS E	0.8	0.8	0.96	0.96	69.6	20.0	0.29
P1B	Slip/ Bypass	249	54.2	LOS E	0.8	0.8	0.96	0.96	69.6	20.0	0.29
East: New South Head Road											

P2	Full	61	53.8	LOS E	0.2	0.2	0.95	0.95	69.2	20.0	0.29
North: Ocean Avenue											
P3	Full	60	53.8	LOS E	0.2	0.2	0.95	0.95	69.2	20.0	0.29
West: New South Head Road											
P4	Full	105	53.9	LOS E	0.3	0.3	0.95	0.95	69.3	20.0	0.29
All Pedestrians		725	54.1	LOS E	0.8	0.8	0.96	0.96	69.5	20.0	0.29

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: 474 [a. New South Head Rd / Mona Rd - Future Sat (Site Folder: Future Saturday)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [9. Future Saturday Midday Peak (Network Folder: Future)]

NA
Site Category: Future Conditions 1
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: New South Head Road															
22	T1	All MCs	2518	2.1	2476	2.1	0.626	1.1	LOS A	8.6	61.0	0.12	0.11	0.12	57.0
23	R2	All MCs	1	100.0	1	100.0	0.626	12.5	LOS A	8.6	61.0	0.20	0.19	0.20	45.1
Approach			2519	2.1	2477	2.1	0.626	1.1	LOS A	8.6	61.0	0.12	0.11	0.12	57.0
NorthEast: Mona Road															
24	L2	All MCs	28	0.0	28	0.0	0.124	61.9	LOS E	1.4	9.8	0.87	0.72	0.87	19.2
26	R2	All MCs	239	1.3	239	1.3	0.753	70.0	LOS E	14.0	98.9	1.00	0.88	1.08	20.7
Approach			267	1.1	267	1.1	0.753	69.2	LOS E	14.0	98.9	0.99	0.86	1.06	18.3
NorthWest: New South Head Road															
27	L2	All MCs	154	0.6	154	0.6	* 0.750	6.1	LOS A	12.1	86.0	0.34	0.41	0.34	44.3
28	T1	All MCs	2101	2.0	2101	2.0	0.750	2.6	LOS A	12.2	86.5	0.27	0.27	0.27	46.9
Approach			2255	1.9	2255	1.9	0.750	2.9	LOS A	12.2	86.5	0.27	0.28	0.27	46.3
All Vehicles			5041	2.0	4999	2.0	0.753	5.5	LOS A	14.0	98.9	0.24	0.23	0.24	44.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: New South Head Road											
P5	Full	31	54.2	LOS E	0.1	0.1	0.95	0.95	69.6	20.0	0.29
NorthEast: Mona Road											
P6	Full	123	54.4	LOS E	0.4	0.4	0.95	0.95	69.8	20.0	0.29
NorthWest: New South Head Road											
P7	Full	35	54.2	LOS E	0.1	0.1	0.95	0.95	69.6	20.0	0.29
All Pedestrians		188	54.4	LOS E	0.4	0.4	0.95	0.95	69.7	20.0	0.29

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: 475 [b. New South Head Rd / Darling Point Rd / New McLean St - Future Sat (Site Folder: Future Saturday)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [9. Future Saturday Midday Peak (Network Folder: Future)]

NA
Site Category: Future Conditions 1
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: New McLean Street															
1	L2	All MCs	145	2.1	145	2.1	0.338	32.4	LOS C	6.0	42.8	0.74	0.76	0.74	17.5
2	T1	All MCs	64	0.0	64	0.0	0.129	36.5	LOS C	2.9	20.0	0.80	0.62	0.80	29.6
3	R2	All MCs	104	1.0	104	1.0	* 1.016	126.3	LOS F	9.6	68.1	1.00	1.27	1.90	6.2
Approach			313	1.3	313	1.3	1.016	64.5	LOS E	9.6	68.1	0.84	0.90	1.14	13.9
East: New South Head Road															
4	L2	All MCs	177	2.8	169	2.8	0.676	34.7	LOS C	5.9	42.5	0.61	0.75	0.66	23.3
5	T1	All MCs	2277	2.2	2180	2.2	* 1.055	105.2	LOS F	16.2	115.9	1.00	1.50	1.64	3.0
6	R2	All MCs	59	0.0	57	0.0	0.373	75.2	LOS F	3.4	23.9	1.00	0.78	1.00	18.9
Approach			2513	2.2	2406	2.2	1.055	99.6	LOS F	16.2	115.9	0.97	1.43	1.56	3.9
North: Darling Point Road															
7	L2	All MCs	110	3.6	110	3.6	0.158	29.8	LOS C	4.1	29.8	0.68	0.72	0.68	27.3
8	T1	All MCs	61	0.0	61	0.0	0.785	50.4	LOS D	10.0	69.8	1.00	0.95	1.18	23.2
9	R2	All MCs	99	0.0	99	0.0	0.785	66.8	LOS E	10.0	69.8	1.00	0.95	1.18	18.7
Approach			270	1.5	270	1.5	0.785	48.0	LOS D	10.0	69.8	0.87	0.86	0.98	22.7
West: New South Head Road															
10b	L3	All MCs	1	0.0	1	0.0	0.872	11.7	LOS A	40.3	287.2	0.86	0.84	0.92	26.1
11	T1	All MCs	2010	2.1	2010	2.1	0.872	25.0	LOS B	40.3	287.2	0.85	0.86	0.93	19.4
12	R2	All MCs	97	0.0	97	0.0	* 1.042	131.8	LOS F	8.2	57.1	1.00	1.22	1.76	9.7
Approach			2108	2.0	2108	2.0	1.042	29.9	LOS C	40.3	287.2	0.86	0.87	0.97	17.3
All Vehicles			5204	2.0	5097	2.1	1.055	65.9	LOS E	40.3	287.2	0.91	1.14	1.26	8.7

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: New McLean Street											
P1	Full	156	54.5	LOS E	0.5	0.5	0.96	0.96	69.9	20.0	0.29

North: Darling Point Road										
P3 Full	127	54.4	LOS E	0.4	0.4	0.96	0.96	69.8	20.0	0.29
All Pedestrians	283	54.5	LOS E	0.5	0.5	0.96	0.96	69.9	20.0	0.29

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: 4043 [c. New South Head Rd / Mid-Block Crossing - Future Sat (Site Folder: Future Saturday)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [9. Future Saturday Midday Peak (Network Folder: Future)]

NA
Site Category: Future Conditions 1
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: New South Head Road															
2	T1	All MCs	2512	2.2	2364	2.2	* 1.094	131.2	LOS F	30.2	215.4	1.00	1.70	1.88	3.7
Approach			2512	2.2	2364	2.2	1.094	131.2	LOS F	30.2	215.4	1.00	1.70	1.88	3.7
West: New South Head Road															
8	T1	All MCs	2224	2.1	2222	2.1	0.630	1.4	LOS A	10.2	73.0	0.14	0.13	0.14	43.3
Approach			2224	2.1	2222	2.1	0.630	1.4	LOS A	10.2	73.0	0.14	0.13	0.14	43.3
All Vehicles			4736	2.2	4586	2.2	1.094	68.3	LOS E	30.2	215.4	0.58	0.94	1.04	4.9

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: New South Head Road											
P1	Full	412	55.1	LOS E	1.4	1.4	0.97	0.97	70.5	20.0	0.28
All Pedestrians		412	55.1	LOS E	1.4	1.4	0.97	0.97	70.5	20.0	0.28

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: 476 [d. New South Head Rd / Ocean St - Future Sat (Site Folder: Future Saturday)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Network: N101 [9. Future Saturday Midday Peak (Network Folder: Future)]

NA
Site Category: Future Conditions 1
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Ocean Street															
1	L2	All MCs	968	1.3	968	1.3	* 1.258	282.3	LOS F	67.5	477.6	1.00	1.74	2.66	1.5
2	T1	All MCs	409	0.0	409	0.0	0.939	85.0	LOS F	19.2	135.1	0.98	1.00	1.25	14.0
3	R2	All MCs	1	100.0	1	100.0	0.939	108.2	LOS F	19.2	135.1	1.00	1.13	1.42	19.4
Approach			1378	1.0	1378	1.0	1.258	223.6	LOS F	67.5	477.6	0.99	1.52	2.24	2.8
East: New South Head Road															
4	L2	All MCs	133	1.5	133	1.5	1.275	298.5	LOS F	84.5	604.1	1.00	2.21	2.73	6.7
5	T1	All MCs	1544	2.7	1544	2.7	* 1.275	288.1	LOS F	84.5	604.1	1.00	2.21	2.73	5.9
Approach			1677	2.6	1677	2.6	1.275	288.9	LOS F	84.5	604.1	1.00	2.21	2.73	6.0
North: Ocean Avenue															
7	L2	All MCs	12	0.0	12	0.0	0.386	54.3	LOS D	6.6	46.0	0.92	0.75	0.92	27.2
8	T1	All MCs	242	0.0	242	0.0	0.386	46.9	LOS D	6.7	46.9	0.92	0.75	0.92	17.0
Approach			254	0.0	254	0.0	0.386	47.3	LOS D	6.7	46.9	0.92	0.75	0.92	17.6
West: New South Head Road															
10	L2	All MCs	89	2.2	89	2.2	0.574	13.4	LOS A	17.3	122.9	0.44	0.44	0.44	40.1
11	T1	All MCs	1416	2.0	1415	2.0	0.574	6.5	LOS A	18.3	130.2	0.45	0.43	0.45	51.2
12	R2	All MCs	743	2.4	742	2.4	1.112	168.8	LOS F	34.3	244.8	1.00	1.37	2.00	5.2
Approach			2248	2.1	2246	2.1	1.112	60.4	LOS E	34.3	244.8	0.63	0.74	0.96	20.4
All Vehicles			5557	1.9	5555	1.9	1.275	169.3	LOS F	84.5	604.1	0.85	1.38	1.81	8.0

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Ocean Street											
P1	Full	156	54.5	LOS E	0.5	0.5	0.96	0.96	69.9	20.0	0.29
P1B	Slip/ Bypass	156	54.5	LOS E	0.5	0.5	0.96	0.96	69.9	20.0	0.29

East: New South Head Road										
P2	Full	61	54.3	LOS E	0.2	0.2	0.95	0.95	69.7	20.0	0.29
North: Ocean Avenue										
P3	Full	92	54.4	LOS E	0.3	0.3	0.95	0.95	69.7	20.0	0.29
West: New South Head Road										
P4	Full	85	54.3	LOS E	0.3	0.3	0.95	0.95	69.7	20.0	0.29
All Pedestrians		549	54.4	LOS E	0.5	0.5	0.95	0.95	69.8	20.0	0.29

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.