



8-10 New Mclean Street, Edgecliff

Transport Assessment

Prepared for:

Mount St 4 Pty Ltd

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PROJECT INFORMATION

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1 Introduction

1.1 Background

This transport impact assessment has been prepared by JMT Consulting to support an application to Woollahra Council ('Council') for a Planning Proposal for the site at 8-10 New McLean Street, Edgecliff ('the site'). The document provides an overview of existing transport conditions in the area as well as describing the potential implications of future development as envisaged under the Planning Proposal. The transport assessment considers the cumulative impacts of future development within the Edgecliff Commercial Centre with consideration of Woollahra Council's previous traffic analysis.

1.2 Site location

The existing site (shown in Figure 1) has an area of approximately 7,226m² and is zoned R3 Medium Density Residential. It currently contains approximately 106 residential apartments distributed over two separate buildings. Vehicle access is obtained via one of two driveways on New McLean Street, with on-site parking provided for residents and visitors. Edgecliff transport interchange is located immediately opposite the site, with direct access provided via New McLean Street.



Figure 1 Site location

2 Existing Transport Conditions

2.1 Road network

To manage the extensive network of roads for which councils are responsible under the Roads Act 1993, Transport for NSW (TfNSW) in partnership with local government established an administrative framework of *State*, *Regional*, and *Local Road* categories. State Roads are managed and financed by TfNSW and Regional and Local Roads are managed and financed by councils.

Regional Roads perform an intermediate function between the main arterial network of State Roads and council controlled Local Roads. Due to their network significance TfNSW provides financial assistance to councils for the management of their Regional Roads. Key State and Regional roads which provide access to the site are illustrated in Figure 2 which demonstrates the site is very well connected to the surrounding road network.

New South Head Road functions as an arterial road under the control of TfNSW and typically provides three lanes in each direction. Ocean Street to the south of New South Head Road functions as a sub-arterial road as is a Regional Road. New McLean Street is a local road under the control of Council.

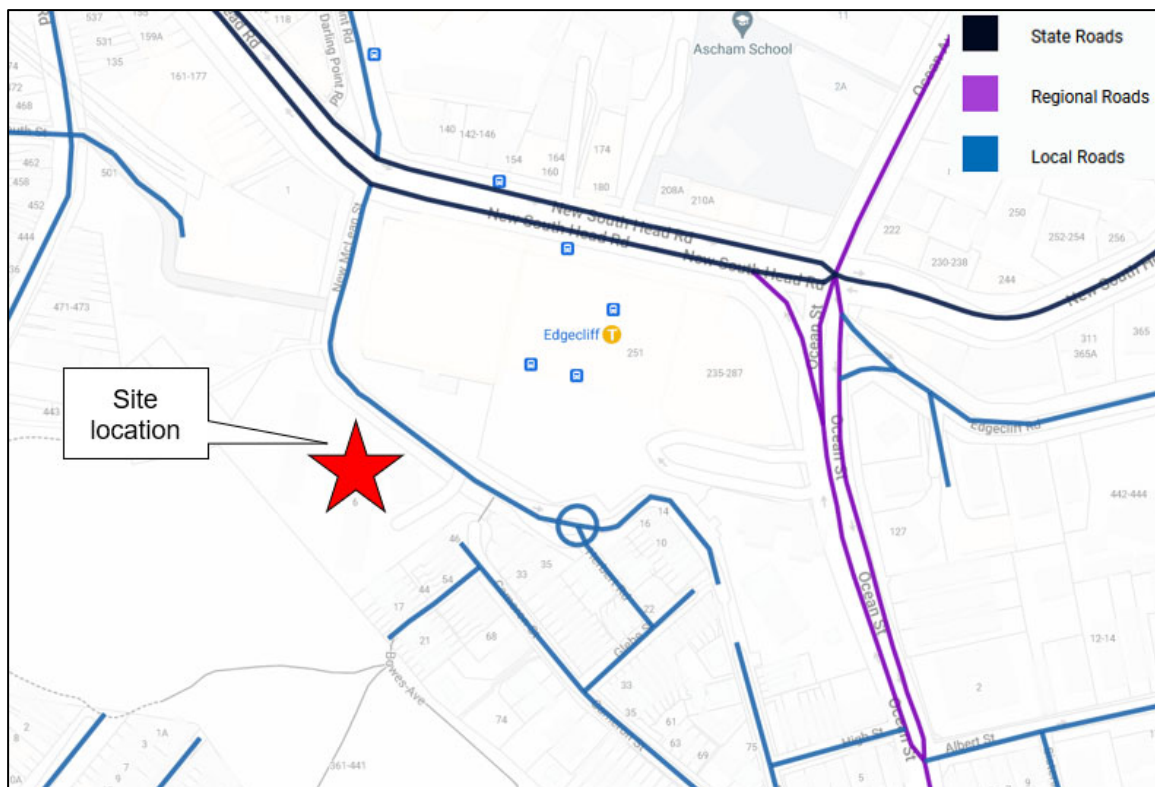


Figure 2 Surrounding road network

2.2 Site access

Vehicle access to the site is currently provided via one of two driveways on New McLean Street as indicated in Figure 3. The driveways are closely spaced to one another and adjacent to the zebra crossing which provides access to the transport interchange which results in a poor public realm outcome. Through these driveways vehicles can access above and below ground parking areas which are available for residents and visitors.

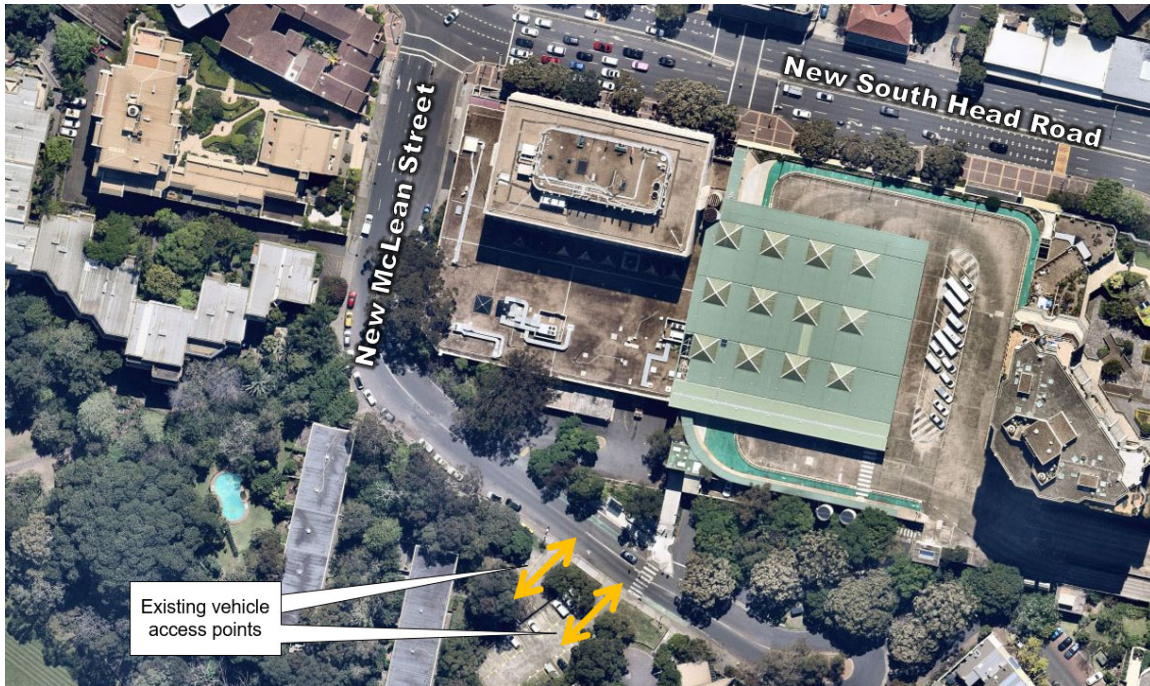


Figure 3 Existing vehicle site access

2.3 Public transport services

The site benefits from being located immediately opposite Edgecliff transport interchange, with a zebra crossing on New McLean Street providing safe access to and from the site.

Edgecliff train station is located on the T4 Eastern Suburbs and Illawarra Line and on the South Coast Line. These train lines provide direct access to Bondi Junction, Sydney CBD, Sutherland and Wollongong, whilst also connecting to the wider Sydney Train network. It is an underground station which can be accessed via New McLean Street directly opposite the site. Train services arrive and depart approximately every three minutes during peak hours – offering a high level of public transport access.

Eleven bus routes currently stop in proximity of the site which provide links to key centres including the Sydney CBD, Bondi Junction, North Sydney, Chatswood and Macquarie Park.

The location of the site immediately adjacent to a high quality transport interchange makes it suitable to support increased densities, with the majority of additional trips generated likely to be taken by public transport modes.



Figure 4 Edgecliff station entrance on New McLean Street

2.4 Public transport catchment

An indicator of the level of public transport accessibility a site contains is the number of locations accessible within a 30 minute public transport catchment. A key objective of the Greater Sydney Commission's Greater Sydney Region Plan is to deliver a 30-minute city where jobs, services and quality public transport spaces are in easy reach of residences.

As illustrated in Figure 5 a number of key employment centres across Sydney can be reached within 30 minutes public transport travel time of the site, including St Leonards, North Sydney, Sydney CBD, Redfern, Bondi Junction and Mascot. The highly accessible nature of the site will support access via public transport and reduce the impacts of vehicle based travel.

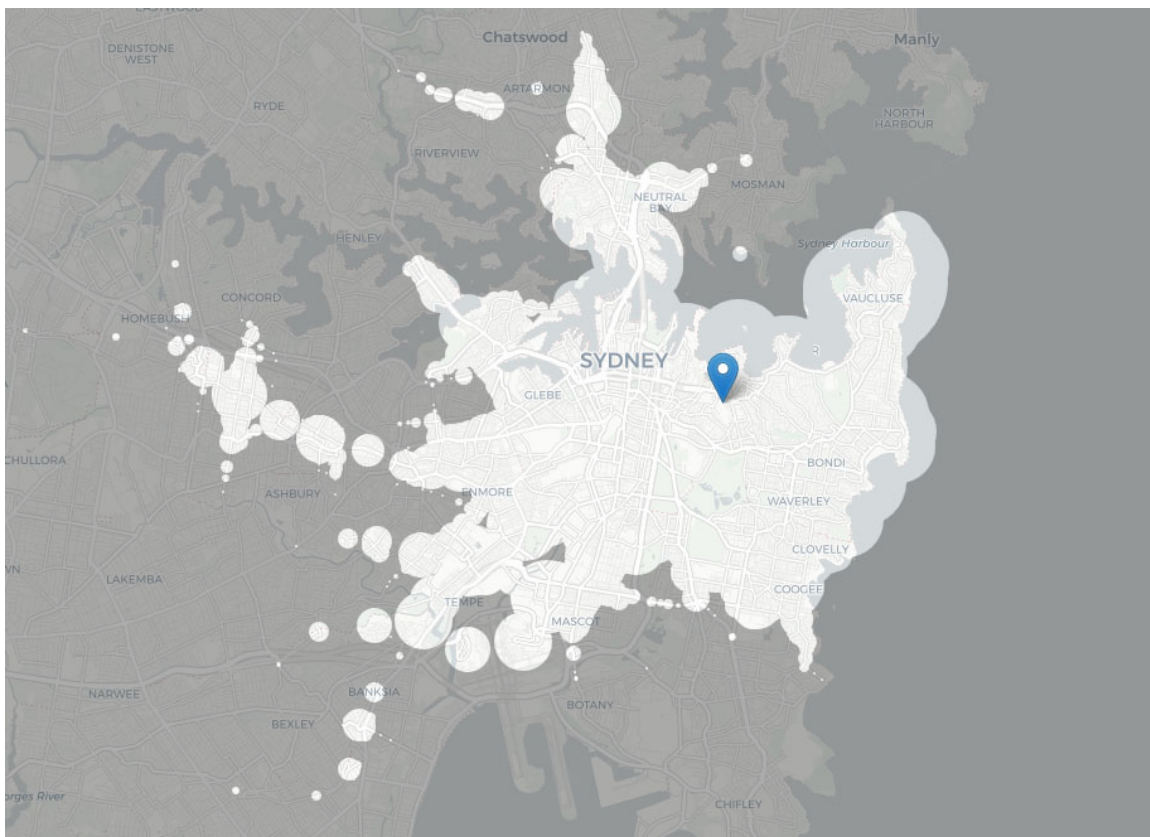


Figure 5 30 minute public transport catchment

Source: <https://www.mapnificent.net/sydney>

2.5 Traffic volumes

In accordance with the recommendations of Woollahra Council contemporary traffic data was collected at the New South Head Road / New Maclean Street intersection which is in close proximity to the site. Counts were undertaken in June 2022 outside of school (including private school) public holiday periods. The weekday survey was undertaken on a Thursday and a Saturday which coincides with the same days of the week used for the traffic modelling in support of Council's Edgecliff Commercial Centre traffic study. A summary of the counts is provided in the figures below.

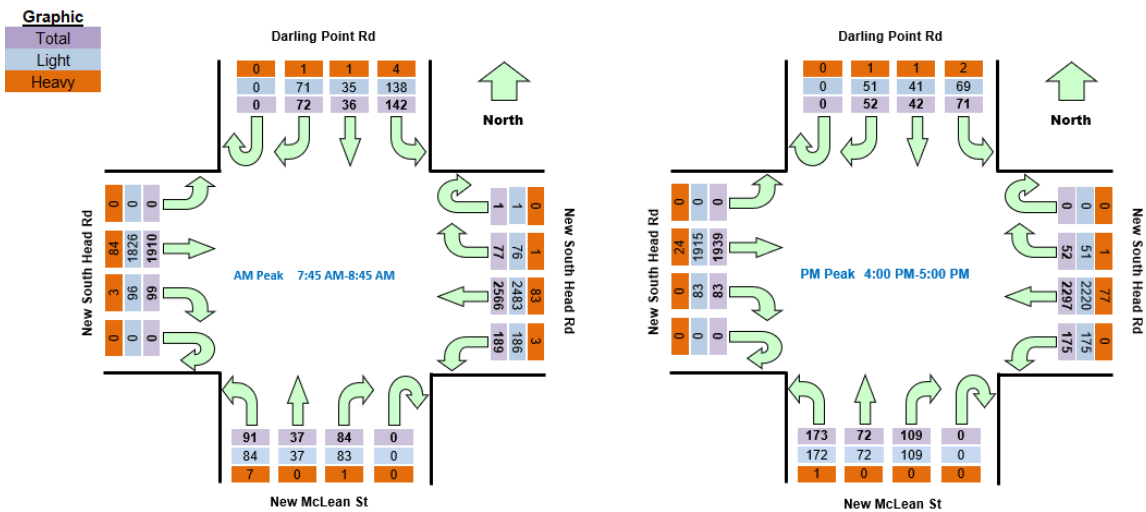


Figure 6 Traffic count summary (Thursday)

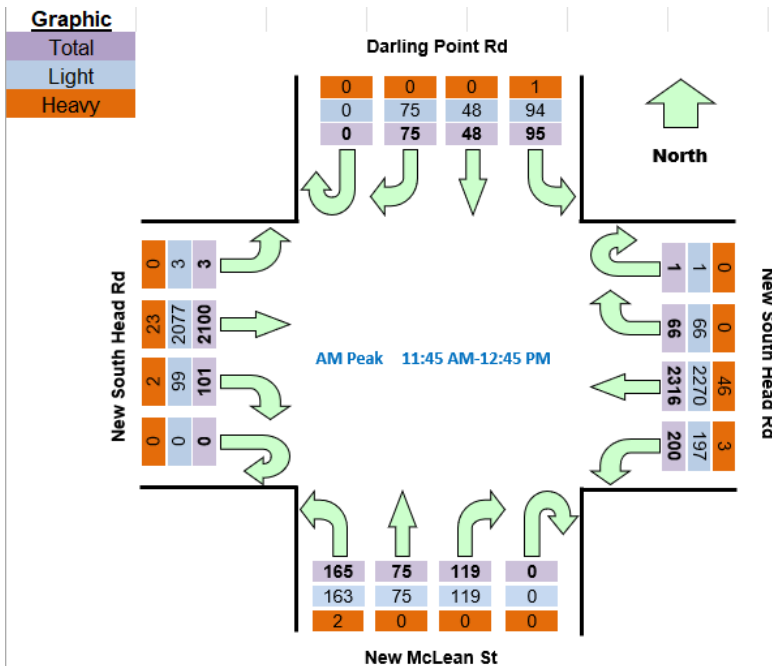


Figure 7 Traffic count summary (Saturday)

2.6 Site traffic generation

To complement the intersection surveys a study was undertaken to understand the level of traffic movements generated by the existing site which currently contains 106 apartments. The surveys recorded the number of vehicle entries and exits at the two site access points as previously shown in Section 2.2 of this study. The survey recorded the following volumes of traffic accessing the site:

- AM peak hour: 16 vehicles
- PM peak hour: 9 vehicles
- Saturday peak hour: 21 vehicles

Based on the existing 106 apartments the following traffic generation rates can be deduced from these surveys:

- AM peak hour: 0.15 vehicles / apartment
- PM peak hour: 0.08 vehicles / apartment
- Saturday peak hour: 0.20 vehicles / apartment

3 Transport Strategy

3.1 Vehicle and pedestrian access

The preliminary site ground floor plan is presented in Figure 8 which indicates the key elements of the future site development envisaged under the Planning Proposal. Key features from a traffic and transport perspective include:

- Consolidation of the two existing driveway crossovers on New McLean Street to a single point of access, offset from the existing zebra crossing. This will result in an improved public realm and safety outcome for pedestrians in the area;
- Location of the access driveway towards the eastern end of McLean Street where sight distances to oncoming vehicles and pedestrians are strong; and
- Provision of a through site link for pedestrians travelling between New McLean Street and the Trumper Park walking trail – improving site permeability and access to nearby open space.



Figure 8 Ground floor plan

Source: FJMT Architecture

3.2 Loading and servicing

The reference scheme includes an on-site loading dock which can accommodate two Medium Rigid Vehicles (MRV) equivalent to a Council garbage truck or a typical removalist vehicle. This loading provision is considered suitable to accommodate the needs of the site based on the development yields associated with the reference scheme. Refer to Figure 9 which presents a swept path of an MRV entering the loading area.

The loading dock is located in the basement of the building, with a single point of access provided for both cars and service vehicles. All vehicles will have the ability to enter and exit New McLean Street in a forwards direction. All loading / unloading activities is to occur on-site and not in public streets.

The detailed design of the loading dock will be carried out at the Development Application stage of the project to ensure that it complies with the relevant requirements of Australian Standard (AS2890.2, 2018).

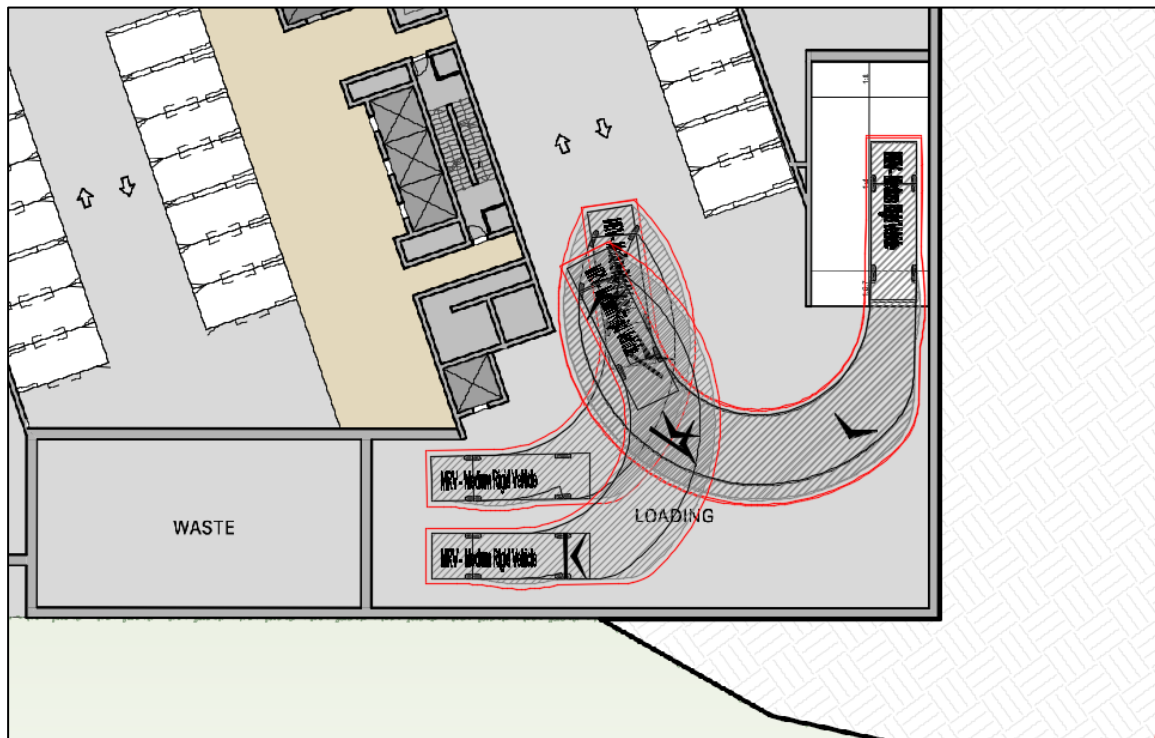


Figure 9 Loading area

3.3 Car parking

The proposal will involve on-site car parking, with rates to be utilised consistent with those noted in the Woollahra Council DCP as outlined in Table 1 below.

Table 1 Car parking rates to be adopted

Land Use	DCP Parking Rate*	Quantum**	Car Parking Numbers
1 bed apartment	0.5 / dwelling	61 units	31
2 bed apartment	1.0 / dwelling	124 units	124
3 bed apartment	1.5 / dwelling	71 units	107
Visitor parking (residential)	0.2 / dwelling	256 units (total)	51
Commercial	2.5 / 100m ² GFA	1000m ²	25
Retail	3.3 / 100m ² GFA	1,000m ²	33

* As per the Woollahra Council DCP maximum rates are in force for residential uses and minimum rates apply to retail & commercial uses

** Based on reference scheme developed for the Planning Proposal

It should be noted that the reference scheme developed for this project is conceptual in nature and further investigations will need to be undertaken at subsequent stages to confirm the final parking number and layout. The final car parking requirements and provision for the site will be confirmed at the Development Application (DA) stage of the project.

3.4 Car park access and design

As part of the reference scheme developed for the Planning Proposal a basement car park has been designed to facilitate the future development. The car park and associated elements such as car parking space dimensions, circulation aisles and ramp would be designed in accordance with the relevant Australian Standard for car parking facilities, namely AS2890.1: 2004 and AS2890.6:2009.

Car parking spaces have been designed to comply with a Class 1 car park facility for the residential uses as specified in the Australian Standard (generally low turnover long term parking) with 2.4m wide spaces and aisle widths of 5.8m. Wider spaces are to be provided for the retail and commercial car parking areas in accordance with the requirements of Class 2 and 3 car parks.

The final design of the car park will be carried out at the Development Application stage of the project. The initial car park design prepared for the reference scheme (see example shown in Figure 10) can readily comply with relevant standards and guidelines subject to further refinements to be undertaken at the DA stage of the project.

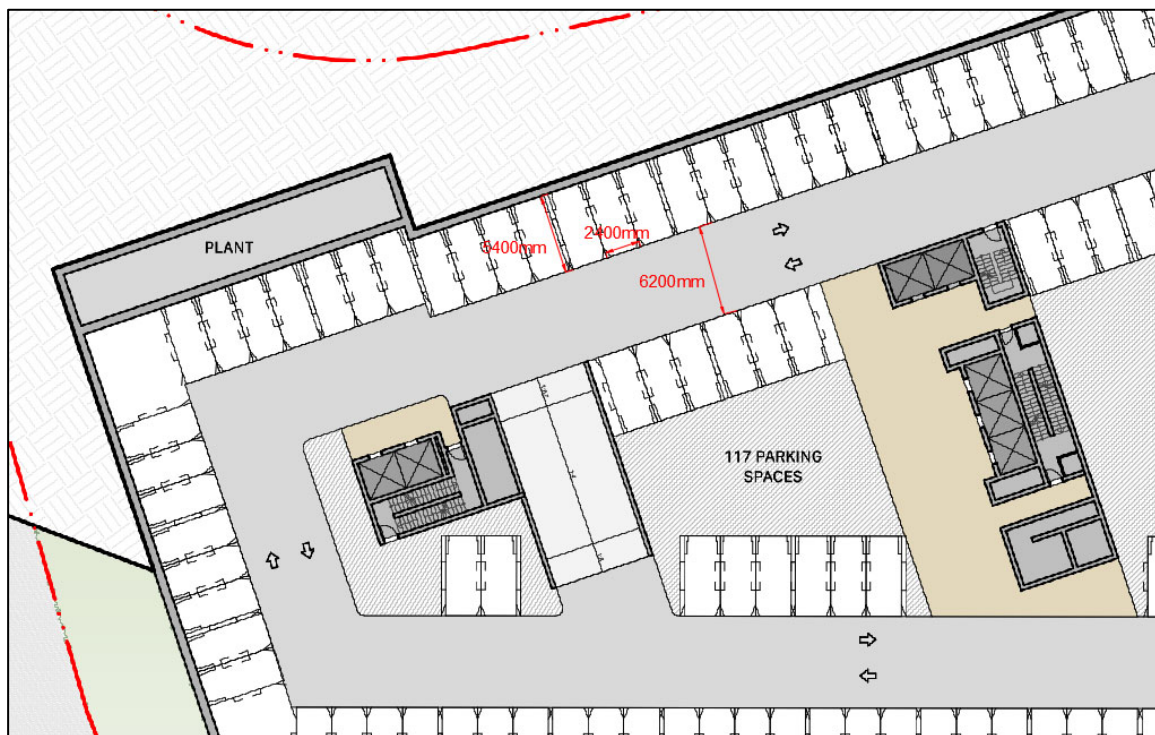


Figure 10 Basement car park layout

3.5 Bicycle parking

Bicycle parking will be provided as part of the proposal with rates to be utilised consistent with those noted in the Woollahra Council DCP as outlined in Table 1 below.

Table 2 Bicycle parking rates to be adopted

Land Use	User Type	Quantum*	Bicycle parking rate	Number of bicycle spaces
Residential	Residents	256 units	1 per unit	256
	Visitors		1 per 10 units	26
Commercial	Staff	1000m ²	1 per 150m ²	7
	Visitors		1 per 400m ²	2
Retail	Staff	1000m ²	1 per 250m ²	4
	Visitors		2 + 1 per 100m ² over 100m ² GFA	11

* Based on reference scheme developed for the Planning Proposal

For residents and staff bicycle parking will be located in a secure location only accessible via key or swipe card. This will either be in individual storage units (Class 1 facility) or a large secure bicycle parking room within the site boundary (Class 2 facility). For retail and residential visitors class 3 bike parking (i.e. bike rails) will be provided in a publicly accessible location with good passive surveillance.

The final bicycle parking requirements and provision for the site will be confirmed at the Development Application (DA) stage of the project.

3.6 Integration with Woollahra Active Transport Plan

The Woollahra Active Transport Plan was released in November 2022 and outlines the vision to make walking and cycling the most convenient, comfortable and safe choice for short trips in Woollahra. Of relevance to the subject site is the following actions:

- Edgecliff public domain improvements: Measures to enhance the character of New South Head Road as a green corridor and provide better connections to green spaces.
- Cycling Priority Project - Rushcutters Bay to Edgecliff Station Interchange: This project (refer Figure 11) seeks to provide a cycleway connection along New South Head Road in the vicinity of the subject site.

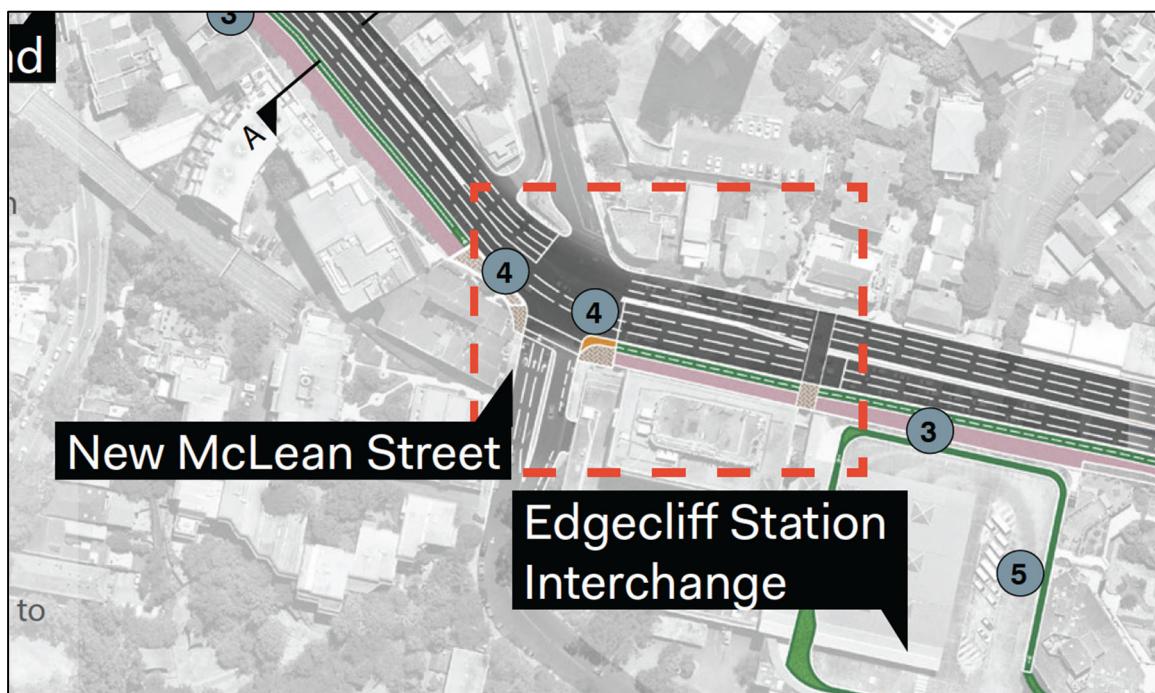


Figure 11 Rushcutters Bay to Edgecliff cycling project

Source: Woollahra Active Transport Plan

The Planning Proposal does not impact the ability of Council to deliver these future enhancements. The cycleway proposal and public domain upgrades can potentially be incorporated as part of the upgrade of the New South Head Road / New McLean Street intersection (refer Section 4), which this project is proposing to make a financial contribution towards. Therefore the Planning Proposal can make a positive contribution to the delivery of the projects identified in the Woollahra Active Transport Plan.

3.7 Green travel plan

3.7.1 Background

A Green Travel Plan (GTP) is a package of measures put in place by the development occupants to try and encourage more sustainable travel. It is a means for a development to demonstrate a commitment and take a pro-active step towards improving the environmental sustainability of its activities.

More generally, the principles of a GTP are applied to all people travelling to and from a site. Government authorities are placing increasing emphasis on the need to reduce the number and lengths of motorised journeys and in doing so encourage greater use of alternative means of travel with less negative environmental impacts than the car.

3.7.2 Objectives

The main objectives of the GTP are to reduce the need to travel and promotion of sustainable means of transport. The more specific objectives include:

- High mode share for public transport, cycling and walking to work journeys;
- Ensuring adequate facilities are provided at the site to enable the tenants and visitors of the development to commute by sustainable transport modes;
- Reduce the number of car journeys associated with business travel;
- Facilitate the sustainable and safe travel of occupants; and
- Raise awareness of sustainable transport amongst tenants of the development.

3.7.3 Potential measures

A suite of potential measures is described below to be implemented as part of the GTP, which can be developed further as the Planning Proposal progresses.

Table 3 List of potential GTP measures

Action	Responsibility
Cycling	
Provide sufficient cycle parking to meet needs, which is easily accessible and secure	Developer
Provide adequate cycle parking facilities for staff, residents and visitors (final number to be confirmed during the DA stage of the project)	Developer
Public E-Bike charging station provided as a concept in the indicative reference scheme as a public benefit	Developer
Ensure cycle parking is clearly visible or provide signage to direct people to cycle bays	Building manager
Produce a map showing cycle routes and bike stands in the area	Building manager

Action	Responsibility
Supply a communal toolkit for staff consisting of puncture repair equipment, a bike pump, a spare lock and lights.	Building manager
Promote the participation in annual events such as 'Ride to Work Day'	Tenants
Walking	
Identify tenants living near work that may be interested in walking to work	Building manager
Identify through the travel survey what incentives might need to be put in place for non-walkers to consider a mode shift	Building manager
Public Transport	
Develop a map showing public transport routes in the area	Building manager
Put up a noticeboard with leaflets and maps showing the main public transport routes to and from the site	Building manager
Carshare / Carpooling	
Establish a car pooling program to help people find someone to share in their daily commute.	Building manager and tenants
Develop a map showing car-share spots in the area to encourage staff and visitors to use a shared car (e.g. GoGet) if they are required to drive	Building manager and tenants
General actions	
Promotion including: <ul style="list-style-type: none"> • Allow staff the flexibility to commute outside peak periods to reduce overall congestion and travel time. • Identify a tenant/champion to complete travel coordinator duties • Provide a welcome pack upon initial occupation of each tenant which includes details around sustainable travel options 	Tenants

3.7.4 Monitoring and review

In order for the GTP to be effective, it must be reviewed on a regular basis. It is important to ensure that the GTP is meeting its objectives and having the intended impact on car use and transport choices. The GTP should be reviewed on a yearly basis by undertaking travel surveys. It is recommended that the mode shares are first reviewed at least 18 months after occupation, to allow activity levels to settle at the site.

4 Traffic Impact Assessment

4.1 Previous traffic analysis by Council

Extensive traffic and transport analysis, including detailed traffic modelling, has previously been undertaken by SCT Consulting on behalf of Woollahra Council in support of new planning controls for the Edgecliff Commercial Centre – documented in the ‘Edgecliff Commercial Centre Transport Study’ dated August 2019. This traffic modelling contemplated an additional 6,400sqm commercial, 5,450 sqm of retail and 440-545 dwellings in the centre – equivalent to a further 200 vehicles in the AM peak hour. The forecast future traffic volumes generated by anticipated development within the Edgecliff Commercial Centre has been considered in this assessment of the Planning Proposal.

4.2 Forecast traffic generation

The forecast change in traffic movements resulting from the Planning Proposal is summarised in Table 4 below.

Table 4 Forecast increase in traffic movements arising from the Planning Proposal

Scenario	Land Use	Number of Units / GFA	Traffic Generation Rate*			Forecast Traffic Generation		
			AM Peak Hour	PM Peak Hour	Sat Peak Hour	AM Peak Hour	PM Peak Hour	Sat Peak Hour
Existing Site	Residential	106 units	0.14 / unit	0.095 / unit	0.26 / unit	15	10	28
	Residential	256 units				36	24	67
Future Site	Retail	1,000m ² GFA	1.16 / 100m ² GFA	1.16 / 100m ² GFA	1.16 / 100m ² GFA	12	12	12
	Commercial	1,000m ² GFA	0.99 / 100m ² GFA	0.86 / 100m ² GFA	0	10	8	0
Net Change						+43	+34	+51

* Consistent with rates adopted in the Edgecliff Commercial Centre Transport Study (SCT Consulting, August 2019)

This assessment has utilised traffic generation rates consistent with those adopted by Council for the Edgecliff Commercial Centre Transport Study. This is considered appropriate given:

- The assessment considers cumulative impacts from future development in the surrounding area, based on traffic generation assumptions developed by Council.
- Surveys of the existing site indicate levels of traffic generation very similar to (or generally less than) those adopted by Council in their analysis. This takes into consideration feedback from Council provided at the pre-lodgement stage of the Planning Proposal requesting that traffic analysis should be undertaken on a site by site manner.
- Parking for non-residential uses (retail and commercial) will be constrained and these uses are unlikely to generate significant levels of traffic given their ancillary function to the development.
- Council's transport study assumed a rate of 1.16 trips / 100m² GFA for retail uses, which has been adopted for the purpose of this assessment. It should be noted however, which is also acknowledged in Council's transport study, that cafes and specialty shops are ancillary in nature and often form part of the customer journey rather than being a sole purpose.

No traffic is assumed to be generated by the community uses given it will service for a local, walk up catchment. Council's transport assessment did not consider any additional trip generation from community uses as part of the Edgecliff Commercial Centre study.

The analysis indicates there may be an increase of between 34 and 51 vehicle movements in the peak hours of the day. This volume of additional traffic, in the context of existing movements through the New South Head Road / New McLean Street intersection of more than 5,000 vehicles per hour, is considered minor and unlikely to impact the operation of the road network. The additional vehicle movements are equivalent to less than one vehicle every minute during the busiest hours of the day.

4.3 Traffic distribution

The additional traffic movements from the subject site have been distributed on the broader road network as shown in Figure 12 below. These traffic distribution assumptions are consistent with those utilised in the Edgecliff Commercial Centre Transport Study prepared for (and approved by) Council.

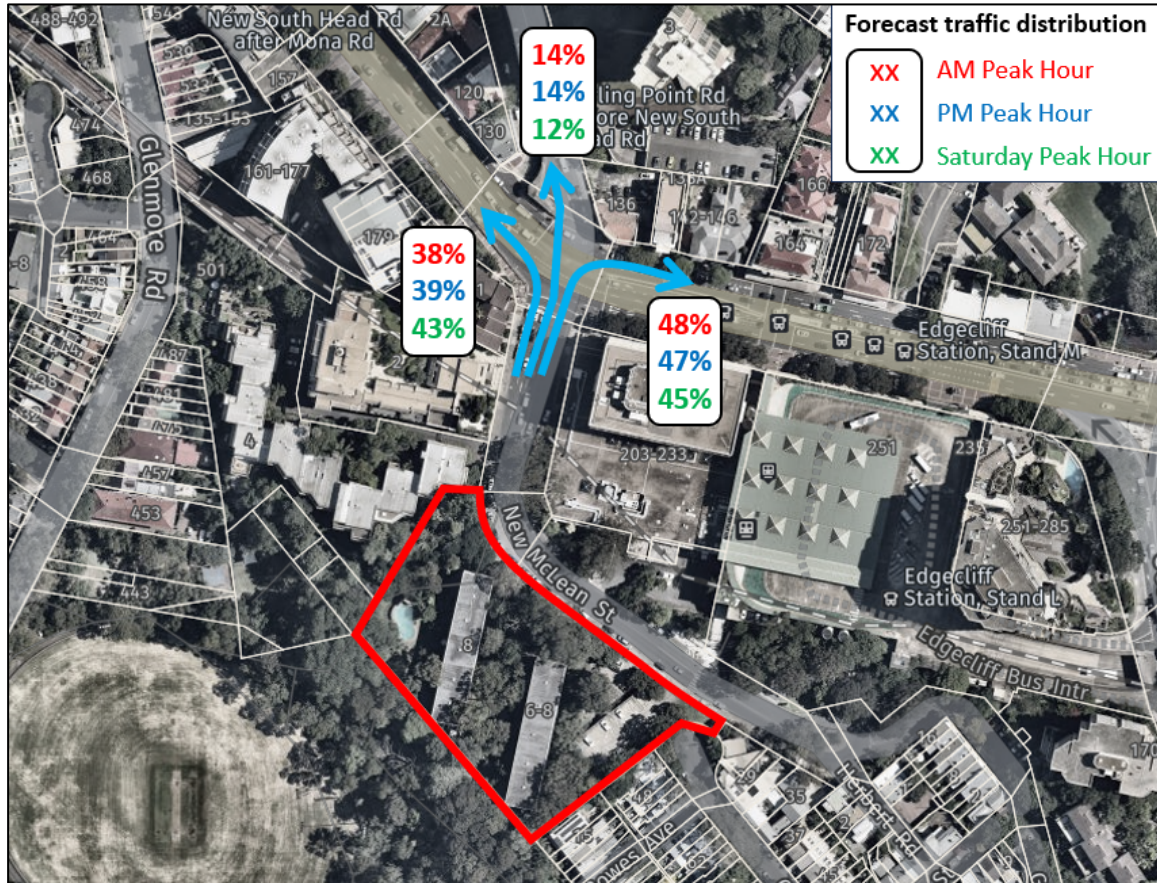


Figure 12 Forecast traffic distribution

4.4 Traffic model calibration

The SIDRA traffic model was calibrated via the use of video footage of the intersection – with this video footage corresponding to the date of the original traffic surveys. The video footage was used to calibrate the model in the following ways:

- Traffic light phasing arrangements.
- Typical phase and cycle times of the traffic lights.
- Impact of pedestrian crossing movements to delays for left and right turning vehicles from New South Head Road.
- Extent of typical queues and delays for vehicles on Darling Point Road.
- Number of cars able to turn right from New McLean Street onto New South Head Road in a typical signal cycle.

An example screenshot of the video footage from the PM peak hour survey period is provided in Figure 13.

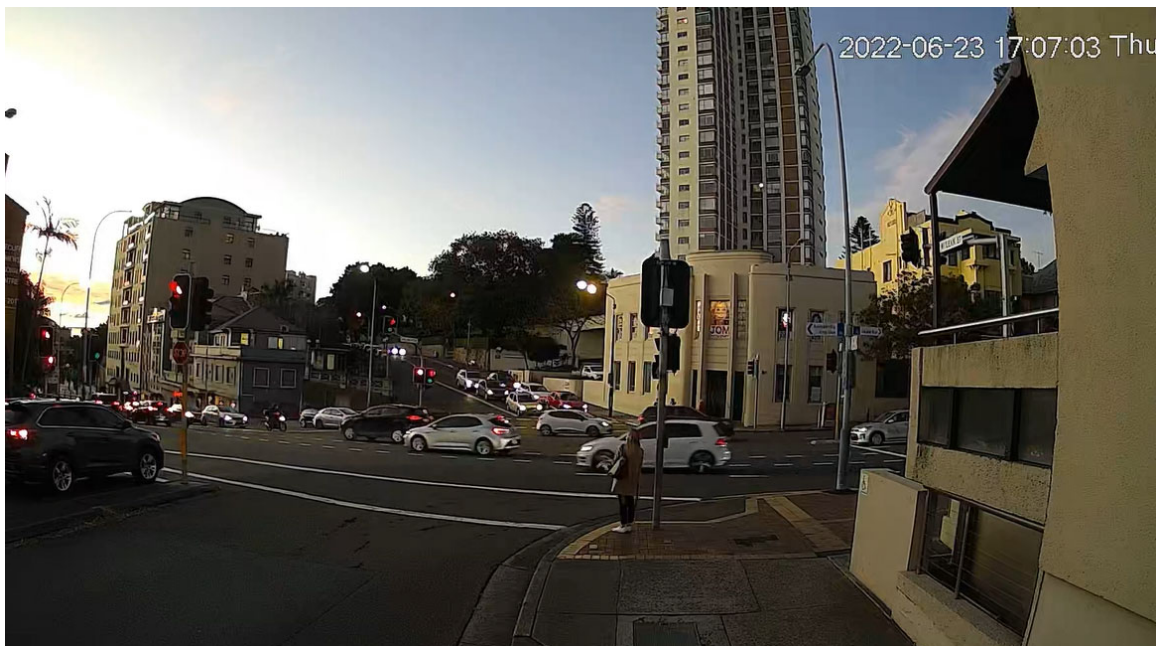


Figure 13 New South Head Road / New McLean Street – PM peak hour

4.5 Road network impacts

4.5.1 Overview

Traffic modelling has been undertaken using the TfNSW approved SIDRA modelling software package to consider the impacts of a potential redevelopment of the site as contemplated under the Planning Proposal at the intersection of New South Head Road and New McLean Street.

The traffic modelling metric used to analyse the performance of the road network is Level of Service (LOS). Level of Service is a measure that uses the average delay experienced by vehicles to categorically assign each approach and movement with a qualitative ordinal grade (A through F, with A being the best and F being the worst). RMS Traffic Modelling Guidelines indicate the average delay relating to each grade, this is outlined in Table 5. In typical urban environments it is typical for intersections to operate at Level of Service D or E and still remain within acceptable performance levels.

Table 5 Level of service grades / description

Level of service grade	Average delay (seconds)	Description
A	Less than 14	Good operation
B	15 to 28	Good with acceptable delays and spare capacity
C	29 to 42	Satisfactory
D	43 to 56	Operating near capacity
E	57 to 70	At capacity. At signals, incidents will cause excessive delays. Roundabouts require other control mode
F	Greater than 71	Unsatisfactory with excessive queuing

Another common measure of intersection performance is the degree of saturation (DOS), which provides an overall measure of the capability of the intersection to accommodate additional traffic. A DOS of 1.0 indicates that an intersection is operating at capacity.

4.5.2 Scenarios considered

The traffic modelling has considered the following two scenarios:

- (i) Existing conditions (known as the ‘base’ model)– Based on traffic counts undertaken in June 2022.
- (ii) Existing conditions + surrounding development (known as the ‘Future Base’ model): Includes existing traffic plus additional movements expected to arise from the development with the Edgecliff Commercial Centre, as per the assumptions contained in the Edgecliff Commercial Centre Transport Study
- (iii) Existing conditions + background growth + proposal (known as the ‘Future Base + PP’ model): As per scenario (ii) above with the additional traffic volumes from the Planning Proposal included.

4.5.3 Traffic modelling results

The forecast performance of the New South Head Road and New McLean Street intersection for the various peak hours assessed is summarised in Table 6 below, with detailed traffic modelling outputs provided as Appendix A of this document.

Table 6 Road network performance – AM Peak Hour (8am – 9am)

Peak Hour	Existing Conditions (Base)		Existing + surrounding development (‘Future Base’)		Existing + surrounding development + PP (‘Future Base + PP’)	
	Degree of Saturation	Level of Service	Degree of Saturation	Level of Service	Degree of Saturation	Level of Service
Weekday AM Peak Hour	0.86	C	0.99	E	0.99	E
Weekday PM Peak Hour	0.79	C	0.91	D	0.97	D
Saturday Peak Hour	0.87	C	0.94	E	0.97	E

The traffic modelling demonstrates that the relatively small increase in traffic flows associated with a potential redevelopment of the site will not result in adverse impacts on the surrounding road network. The key intersection of New South Head Road and New McLean Street retains it’s Level of Service when compared to a ‘future base’ scenario, with the intersection Degree of Saturation remaining below 1.0. This demonstrates that the proposal will not unacceptably impact the operation of the surrounding road network.

4.6 Potential road network upgrade

A number of recommended transport upgrades were presented as part of Council's transport study supporting the Edgecliff Commercial Centre which aim to provide for more efficient and safe movement of pedestrians and vehicles. The key intersection for the subject site, that being at New South Head Road / Darling Point Road / New McLean Street, was forecast to operate at a strong 'Level of Service B' in future years subject to the implementation of the identified improvement works.

The specific works identified for the New South Head Road / Darling Point Road / New McLean Street intersection were as follows:

"Widen the southern side of the New South Head Road to allow 50m right turn bay from New South Head Road into New McLean Street via repurposing underutilised open space / modified urban design"

This potential upgrade is indicated in Figure 14 below.

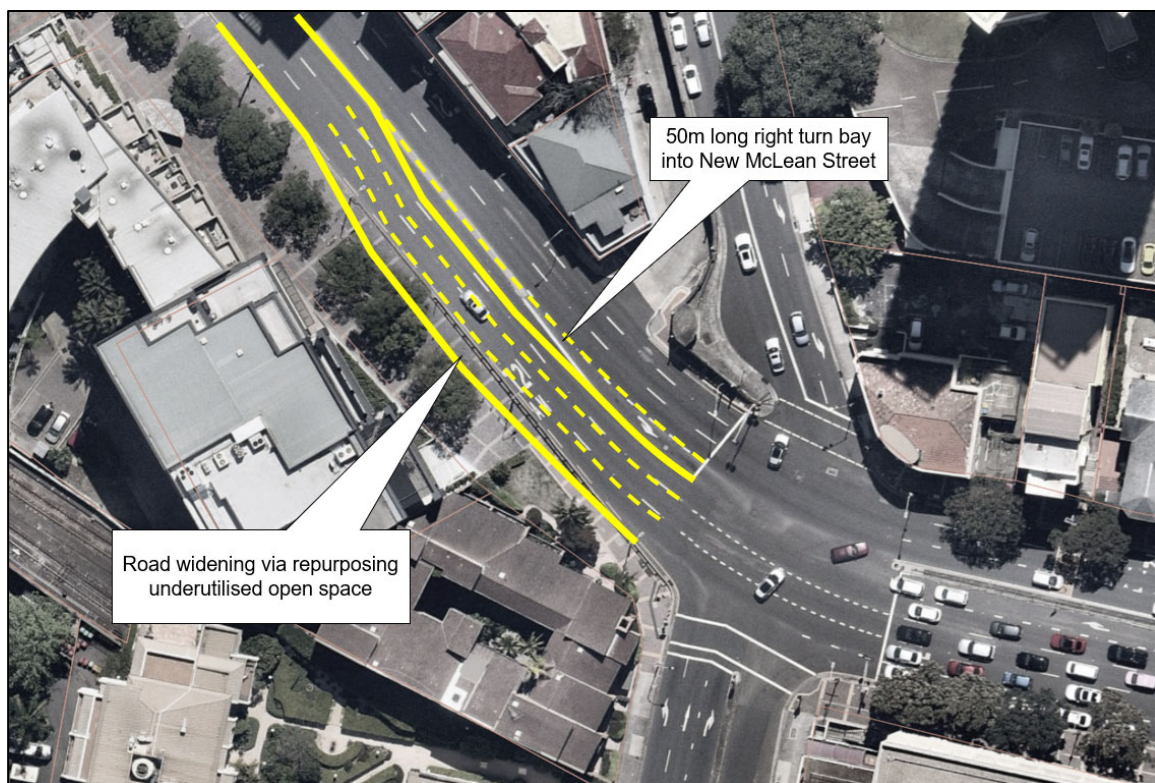


Figure 14 Potential upgrade of New South Head Road / New McLean Street

As assessment of the relative contribution to additional traffic growth the subject site makes, in comparison to the growth anticipated as a result of the broader development of the Edgecliff Commercial Centre, is presented in Table 7. This indicates that development of the subject site, as contemplated under the Planning Proposal, may contribute approximately 25% of total traffic growth through the New South Head Road / New McLean Street. Therefore should Council elect to proceed with this road upgrade it would be reasonable that as part of this Planning Proposal a 25% contribution to the cost of the intersection upgrade works be made.

Table 7 Relative increase in traffic growth

Scenario	Source of Additional Traffic Movements		
	Surrounding Developments	Subject Site	Total
AM Peak Hour	146	43	189
PM Peak Hour	117	34	151
Sat Peak Hour	111	51	162
Total	374	128	502
Contribution	75%	25%	100%

It is important to note however that the Planning Proposal is not predicated on the delivery of this road network upgrade, with traffic modelling demonstrating the operation of the key intersection in the vicinity of the site remaining largely unchanged as a result of the proposal. The intent of the analysis above is to simply provide an assessment of a reasonable contribution should Council decide to proceed with the upgrade of the intersection.

5 Summary

This document provides a transport assessment for the Planning Proposal for the site at 8-10 New McLean Street, Edgecliff. The document provides an overview of existing transport conditions in the area as well as describing the potential implications of future development as envisaged under the Planning Proposal and the broader development of the Edgecliff Commercial Centre.

The preliminary ground floor plan developed for the site indicates that vehicular site access will be retained via New McLean Street, with the two existing driveway crossovers consolidated to an improved single point of access. A through site link for pedestrians travelling between New McLean Street and the Trumper Park walking trail would be provided – improving site permeability and access to nearby open space and the residential area of Paddington and beyond.

The site benefits from being located immediately opposite Edgecliff transport interchange (a distance of 30m from the subject site), with a zebra crossing on New McLean Street providing safe access to and from the site. Edgecliff interchange provides for high quality public transport services, allowing residents to access key employment centres such as St Leonards, North Sydney, Bondi Junction and the Sydney CBD within 5 to 30 minutes travel time. The location of the site immediately adjacent to a high quality transport interchange makes it highly suited to support increased densities, with the majority of additional trips generated likely to be taken by public transport modes.

The Planning Proposal is forecast to result in a relatively minor increase in traffic movements during peak hours of between 34 and 51 vehicle movements in the peak hours of the day – less than one vehicle every minute in the busiest hours of the day. Notwithstanding these minor traffic flows modelling was undertaken to understand the impacts of the proposal in consideration of the yields achievable under the Planning Proposal. The modelling demonstrates that the relatively small increase in traffic flows associated with a potential redevelopment of the site will not unacceptably impact the operation of the surrounding road network. The key intersection of New South Head Road and New McLean Street retains its Level of Service when compared to a 'future base' scenario – i.e. in when considering additional traffic movements associated with the development within the Edgecliff Commercial Centre.

In the above context the traffic and transport impacts of the Planning Proposal are considered acceptable.

Appendix A: Traffic Modelling Outputs

MOVEMENT SUMMARY

Site: 101 [AM Existing (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 128 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. Dist]				km/h
			veh/h		veh/h					veh	m			
South: New McLean Street														
1	L2	All MCs	91	7.7	91	7.7	0.154	37.3	LOS C	3.9	29.4	0.74	0.74	36.1
2	T1	All MCs	37	0.0	37	0.0	0.152	54.5	LOS D	2.1	14.6	0.93	0.69	31.9
3	R2	All MCs	84	1.2	84	1.2	*0.811	78.0	LOS F	5.8	40.9	1.00	0.92	26.1
Approach			212	3.8	212	3.8	0.811	56.4	LOS D	5.8	40.9	0.87	0.80	30.7
East: New South Head Road (E)														
4	L2	All MCs	189	1.6	189	1.6	0.323	40.8	LOS C	6.1	43.1	0.56	0.73	43.3
5	T1	All MCs	2566	3.2	2566	3.2	*0.857	40.1	LOS C	50.2	361.3	0.91	0.87	41.1
6	R2	All MCs	77	1.3	77	1.3	0.765	94.6	LOS F	5.2	36.9	1.00	0.88	26.2
Approach			2832	3.1	2832	3.1	0.857	41.7	LOS C	50.2	361.3	0.89	0.86	40.6
North: Darling Point Road														
7	L2	All MCs	142	2.8	142	2.8	0.344	53.9	LOS D	7.5	53.6	0.88	0.79	32.0
8	T1	All MCs	36	2.8	36	2.8	0.693	61.4	LOS E	7.0	49.6	1.00	0.85	28.5
9	R2	All MCs	72	1.4	72	1.4	0.693	71.2	LOS F	7.0	49.6	1.00	0.85	28.0
Approach			250	2.4	250	2.4	0.693	60.0	LOS E	7.5	53.6	0.93	0.82	30.2
West: New South Head Road (W)														
11	T1	All MCs	1910	4.4	1910	4.4	0.756	24.4	LOS B	35.7	259.0	0.68	0.62	49.1
12	R2	All MCs	99	3.0	99	3.0	*0.852	87.8	LOS F	7.0	50.1	1.00	1.00	26.3
Approach			2009	4.3	2009	4.3	0.852	27.5	LOS B	35.7	259.0	0.70	0.64	47.1
All Vehicles			5303	3.5	5303	3.5	0.857	37.7	LOS C	50.2	361.3	0.82	0.77	41.6

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

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

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

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

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

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped	Dist]			sec	m	m/sec
						ped	m					
South: New McLean Street												
P1	Full	47	47	58.3	LOS E	0.2	0.2	0.95	0.95	212.1	200.0	0.94
North: Darling Point Road												
P3	Full	22	22	58.2	LOS E	0.1	0.1	0.95	0.95	212.0	200.0	0.94

MOVEMENT SUMMARY

Site: 101 [AM Future Base (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	[Dist]				km/h
			veh/h		veh/h					veh	m				
South: New McLean Street															
1	L2	All MCs	112	6.3	112	6.3	0.184	35.2	LOS C	4.6	33.7	0.74	0.75	0.74	36.9
2	T1	All MCs	46	0.0	46	0.0	0.189	51.6	LOS D	2.5	17.2	0.93	0.70	0.93	32.7
3	R2	All MCs	100	1.0	100	1.0	* 0.871	77.0	LOS F	6.7	47.5	1.00	1.01	1.48	26.2
Approach			258	3.1	258	3.1	0.871	54.4	LOS D	6.7	47.5	0.88	0.84	1.06	31.2
East: New South Head Road (E)															
4	L2	All MCs	236	1.3	236	1.3	0.522	42.8	LOS D	8.4	59.8	0.66	0.76	0.66	42.2
5	T1	All MCs	2568	3.2	2568	3.2	0.890	46.3	LOS D	54.3	390.8	0.95	0.96	1.06	38.3
6	R2	All MCs	80	1.3	80	1.3	0.261	71.1	LOS F	4.1	29.3	0.91	0.76	0.91	31.4
Approach			2884	3.0	2884	3.0	0.890	46.7	LOS D	54.3	390.8	0.93	0.94	1.02	38.4
North: Darling Point Road															
7	L2	All MCs	145	2.8	145	2.8	0.233	39.2	LOS C	6.0	43.2	0.76	0.76	0.76	36.8
8	T1	All MCs	53	1.9	53	1.9	0.857	65.2	LOS E	8.5	60.5	1.00	1.01	1.38	27.7
9	R2	All MCs	76	1.3	76	1.3	0.857	76.1	LOS F	8.5	60.5	1.00	1.01	1.38	27.2
Approach			274	2.2	274	2.2	0.857	54.5	LOS D	8.5	60.5	0.87	0.88	1.05	31.7
West: New South Head Road (W)															
11	T1	All MCs	1924	4.4	1924	4.4	* 0.938	68.2	LOS E	63.2	459.0	0.95	1.05	1.17	33.8
12	R2	All MCs	109	2.8	109	2.8	* 0.993	155.0	LOS F	10.5	75.1	1.00	1.31	2.18	18.7
Approach			2033	4.3	2033	4.3	0.993	72.9	LOS F	63.2	459.0	0.95	1.06	1.22	32.4
All Vehicles			5449	3.5	5449	3.5	0.993	57.2	LOS E	63.2	459.0	0.93	0.97	1.10	35.2

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

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

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

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

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

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Input Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed	
	ped/h	ped/h	sec		[Ped]	[Dist]			sec	m	m/sec	
					ped	m						
South: New McLean Street												
P1	Full	47	47	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
North: Darling Point Road												

MOVEMENT SUMMARY

Site: 101 [AM Future Base + PP (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	[Dist]				km/h
			veh/h		veh/h					veh	m				
South: New McLean Street															
1	L2	All MCs	121	5.8	121	5.8	0.196	32.7	LOS C	4.5	33.3	0.74	0.75	0.74	37.9
2	T1	All MCs	49	0.0	49	0.0	0.197	47.3	LOS D	2.4	16.9	0.93	0.70	0.93	34.0
3	R2	All MCs	112	0.9	112	0.9	*0.925	78.4	LOS F	7.4	51.9	1.00	1.10	1.71	26.0
Approach			282	2.8	282	2.8	0.925	53.4	LOS D	7.4	51.9	0.88	0.88	1.16	31.5
East: New South Head Road (E)															
4	L2	All MCs	246	1.2	246	1.2	0.535	41.6	LOS C	8.3	59.0	0.68	0.77	0.68	42.4
5	T1	All MCs	2568	3.2	2568	3.2	0.913	51.6	LOS D	56.0	402.7	0.98	1.05	1.16	36.2
6	R2	All MCs	80	1.3	80	1.3	0.266	66.9	LOS E	3.8	27.1	0.92	0.76	0.92	32.4
Approach			2894	3.0	2894	3.0	0.913	51.1	LOS D	56.0	402.7	0.95	1.01	1.12	36.5
North: Darling Point Road															
7	L2	All MCs	145	2.8	145	2.8	0.230	36.5	LOS C	5.5	39.5	0.75	0.76	0.75	37.8
8	T1	All MCs	55	1.8	55	1.8	0.861	60.5	LOS E	8.0	56.9	1.00	1.02	1.42	28.8
9	R2	All MCs	76	1.3	76	1.3	0.861	71.5	LOS F	8.0	56.9	1.00	1.02	1.42	28.2
Approach			276	2.2	276	2.2	0.861	50.9	LOS D	8.0	56.9	0.87	0.88	1.07	32.7
West: New South Head Road (W)															
11	T1	All MCs	1924	4.4	1924	4.4	*0.961	78.3	LOS F	66.7	484.3	0.95	1.17	1.30	30.7
12	R2	All MCs	115	2.6	115	2.6	*0.909	99.5	LOS F	7.8	55.6	1.00	1.11	1.70	25.9
Approach			2039	4.3	2039	4.3	0.961	79.5	LOS F	66.7	484.3	0.95	1.17	1.32	30.4
All Vehicles			5491	3.4	5491	3.4	0.961	61.8	LOS E	66.7	484.3	0.95	1.06	1.19	33.5

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

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

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

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

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

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Input Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed	
	ped/h	ped/h	sec		[Ped]	[Dist]			sec	m	m/sec	
					ped	m						
South: New McLean Street												
P1	Full	47	47	49.3	LOS E	0.1	0.1	0.95	0.95	203.1	200.0	0.98
North: Darling Point Road												

MOVEMENT SUMMARY

Site: 101 [PM Existing (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 123 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. Dist]				km/h	
			veh/h		veh/h					veh	m				
South: New McLean Street															
1	L2	All MCs	173	0.6	173	0.6	0.350	47.3	LOS D	8.3	58.5	0.85	0.79	0.85	34.0
2	T1	All MCs	72	0.0	72	0.0	0.227	52.1	LOS D	3.8	26.6	0.91	0.70	0.91	33.6
3	R2	All MCs	109	0.0	109	0.0	*0.781	71.5	LOS F	7.1	49.4	1.00	0.92	1.23	27.3
Approach			354	0.3	354	0.3	0.781	55.7	LOS D	8.3	58.5	0.91	0.81	0.98	31.5
East: New South Head Road (E)															
4	L2	All MCs	175	0.0	175	0.0	0.151	27.7	LOS B	4.2	29.6	0.44	0.69	0.44	46.2
5	T1	All MCs	2297	3.4	2297	3.4	0.692	23.2	LOS B	32.2	231.9	0.72	0.66	0.72	47.5
6	R2	All MCs	52	1.9	52	1.9	*0.582	82.6	LOS F	3.3	23.5	1.00	0.78	1.06	27.0
Approach			2524	3.1	2524	3.1	0.692	24.7	LOS B	32.2	231.9	0.70	0.66	0.70	46.7
North: Darling Point Road															
7	L2	All MCs	71	2.8	71	2.8	0.150	46.0	LOS D	3.3	23.4	0.81	0.74	0.81	34.2
8	T1	All MCs	42	2.4	42	2.4	0.597	54.3	LOS D	5.7	40.5	1.00	0.80	1.03	29.7
9	R2	All MCs	52	1.9	52	1.9	0.597	69.6	LOS E	5.7	40.5	1.00	0.80	1.03	29.1
Approach			165	2.4	165	2.4	0.597	55.6	LOS D	5.7	40.5	0.92	0.78	0.93	31.3
West: New South Head Road (W)															
11	T1	All MCs	1939	1.2	1939	1.2	*0.791	29.0	LOS C	38.8	274.7	0.75	0.69	0.75	47.5
12	R2	All MCs	83	0.0	83	0.0	0.687	84.9	LOS F	5.3	36.8	1.00	0.84	1.13	27.3
Approach			2022	1.2	2022	1.2	0.791	31.3	LOS C	38.8	274.7	0.76	0.69	0.77	46.1
All Vehicles			5065	2.1	5065	2.1	0.791	30.5	LOS C	38.8	274.7	0.75	0.69	0.76	44.3

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

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

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

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

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

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped Dist]				sec	m	m/sec
						ped	m					
South: New McLean Street												
P1	Full	38	38	55.7	LOS E	0.1	0.1	0.95	0.95	209.6	200.0	0.95
North: Darling Point Road												
P3	Full	29	29	55.7	LOS E	0.1	0.1	0.95	0.95	209.6	200.0	0.95

MOVEMENT SUMMARY

Site: 101 [PM Future Base (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 115 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance																
Mov ID	Turn	Mov Class	Demand Flows [Total HV]		Arrival Flows [Total HV]		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [Veh. Dist]		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			veh/h	%	veh/h	%	v/c	sec			veh	m				km/h
South: New McLean Street																
1	L2	All MCs	197	0.5	197	0.5	0.333	39.4	LOS C	8.3	58.3	0.80	0.78	0.80	36.5	
2	T1	All MCs	83	0.0	83	0.0	0.245	47.4	LOS D	4.1	28.4	0.90	0.71	0.90	34.9	
3	R2	All MCs	134	0.0	134	0.0	*0.907	77.6	LOS F	9.0	63.0	1.00	1.09	1.57	26.1	
Approach			414	0.2	414	0.2	0.907	53.3	LOS D	9.0	63.0	0.88	0.87	1.07	32.1	
East: New South Head Road (E)																
4	L2	All MCs	183	0.0	183	0.0	0.174	34.1	LOS C	4.9	34.0	0.51	0.71	0.51	44.7	
5	T1	All MCs	2302	3.3	2302	3.3	0.774	29.8	LOS C	35.8	257.4	0.84	0.77	0.84	44.9	
6	R2	All MCs	62	1.6	62	1.6	0.324	72.4	LOS F	3.3	23.7	0.97	0.75	0.97	30.0	
Approach			2547	3.1	2547	3.1	0.774	31.1	LOS C	35.8	257.4	0.82	0.76	0.82	44.4	
North: Darling Point Road																
7	L2	All MCs	74	2.7	74	2.7	0.123	37.2	LOS C	2.9	20.6	0.73	0.73	0.73	37.3	
8	T1	All MCs	46	2.2	46	2.2	0.650	50.7	LOS D	6.1	43.6	1.00	0.83	1.07	30.5	
9	R2	All MCs	61	1.6	61	1.6	0.650	66.0	LOS E	6.1	43.6	1.00	0.83	1.07	29.9	
Approach			181	2.2	181	2.2	0.650	50.3	LOS D	6.1	43.6	0.89	0.79	0.93	32.7	
West: New South Head Road (W)																
11	T1	All MCs	1940	1.2	1940	1.2	*0.909	54.7	LOS D	54.6	386.6	0.92	0.96	1.06	37.7	
12	R2	All MCs	100	0.0	100	0.0	*0.913	100.2	LOS F	6.8	47.8	1.00	1.09	1.70	25.5	
Approach			2040	1.2	2040	1.2	0.913	56.9	LOS E	54.6	386.6	0.93	0.96	1.10	36.8	
All Vehicles			5182	2.1	5182	2.1	0.913	43.7	LOS D	54.6	386.6	0.87	0.85	0.95	39.5	

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

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

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

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

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

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Input Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped Dist]		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed	
	ped/h	ped/h	sec		ped	m			sec	m	m/sec	
South: New McLean Street												
P1	Full	38	38	51.7	LOS E	0.1	0.1	0.95	0.95	205.6	200.0	0.97
North: Darling Point Road												

MOVEMENT SUMMARY

Site: 101 [PM Future Base + PP (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	[Dist]				km/h
			veh/h		veh/h					veh	m				
South: New McLean Street															
1	L2	All MCs	203	0.5	203	0.5	0.325	35.7	LOS C	8.0	56.3	0.78	0.78	0.78	37.5
2	T1	All MCs	85	0.0	85	0.0	0.252	44.6	LOS D	4.0	28.0	0.91	0.71	0.91	35.4
3	R2	All MCs	141	0.0	141	0.0	*0.975	98.3	LOS F	10.8	75.3	1.00	1.26	1.97	22.8
Approach			429	0.2	429	0.2	0.975	58.1	LOS E	10.8	75.3	0.88	0.92	1.20	30.6
East: New South Head Road (E)															
4	L2	All MCs	193	0.0	193	0.0	0.237	35.9	LOS C	5.3	37.2	0.55	0.72	0.55	44.1
5	T1	All MCs	2302	3.3	2302	3.3	0.805	32.3	LOS C	36.3	261.4	0.88	0.81	0.89	43.8
6	R2	All MCs	62	1.6	62	1.6	0.286	69.0	LOS E	3.1	22.2	0.95	0.75	0.95	31.0
Approach			2557	3.1	2557	3.1	0.805	33.5	LOS C	36.3	261.4	0.85	0.81	0.87	43.4
North: Darling Point Road															
7	L2	All MCs	74	2.7	74	2.7	0.118	34.7	LOS C	2.7	19.2	0.72	0.73	0.72	38.3
8	T1	All MCs	48	2.1	48	2.1	0.664	49.1	LOS D	6.0	42.9	1.00	0.84	1.09	31.0
9	R2	All MCs	61	1.6	61	1.6	0.664	64.5	LOS E	6.0	42.9	1.00	0.84	1.09	30.3
Approach			183	2.2	183	2.2	0.664	48.4	LOS D	6.0	42.9	0.89	0.80	0.94	33.3
West: New South Head Road (W)															
11	T1	All MCs	1940	1.2	1940	1.2	*0.945	68.7	LOS E	62.0	438.7	0.95	1.10	1.22	33.2
12	R2	All MCs	106	0.0	106	0.0	*0.840	87.3	LOS F	6.3	44.4	1.00	0.98	1.42	28.2
Approach			2046	1.2	2046	1.2	0.945	69.7	LOS E	62.0	438.7	0.95	1.09	1.23	32.9
All Vehicles			5215	2.1	5215	2.1	0.975	50.2	LOS D	62.0	438.7	0.90	0.93	1.04	37.1

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

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

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

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

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

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Input Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed	
	ped/h	ped/h	sec		[Ped]	[Dist]			sec	m	m/sec	
					ped	m						
South: New McLean Street												
P1	Full	38	38	49.2	LOS E	0.1	0.1	0.95	0.95	203.1	200.0	0.98
North: Darling Point Road												

MOVEMENT SUMMARY

Site: 101 [Sat Existing (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h	%	Arrival Flows [Total HV] veh/h	%	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. Dist] veh m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h	
South: New McLean Street															
1	L2	All MCs	165	1.2	165	1.2	0.250	34.5	LOS C	6.8	47.7	0.75	0.76	0.75	37.3
2	T1	All MCs	75	0.0	75	0.0	0.243	48.2	LOS D	3.9	27.2	0.92	0.71	0.92	33.7
3	R2	All MCs	119	0.0	119	0.0	*0.808	70.6	LOS F	7.6	53.4	1.00	0.95	1.28	27.5
Approach			359	0.6	359	0.6	0.808	49.3	LOS D	7.6	53.4	0.87	0.81	0.96	32.7
East: New South Head Road (E)															
4	L2	All MCs	200	1.5	200	1.5	0.369	40.9	LOS C	6.6	46.6	0.61	0.74	0.61	42.6
5	T1	All MCs	2316	2.0	2316	2.0	0.813	35.9	LOS C	40.1	285.8	0.89	0.82	0.90	42.7
6	R2	All MCs	66	0.0	66	0.0	*0.711	88.6	LOS F	4.2	29.2	1.00	0.84	1.19	27.1
Approach			2582	1.9	2582	1.9	0.813	37.6	LOS C	40.1	285.8	0.87	0.82	0.88	42.1
North: Darling Point Road															
7	L2	All MCs	95	1.1	95	1.1	0.200	46.6	LOS D	4.3	30.7	0.82	0.76	0.82	34.3
8	T1	All MCs	48	0.0	48	0.0	0.735	55.9	LOS D	7.5	52.8	1.00	0.89	1.15	29.5
9	R2	All MCs	75	0.0	75	0.0	0.735	68.9	LOS E	7.5	52.8	1.00	0.89	1.15	28.9
Approach			218	0.5	218	0.5	0.735	56.3	LOS D	7.5	52.8	0.92	0.83	1.01	31.2
West: New South Head Road (W)															
11	T1	All MCs	2100	1.1	2100	1.1	*0.865	35.8	LOS C	48.6	343.3	0.83	0.79	0.87	44.4
12	R2	All MCs	101	2.0	101	2.0	0.809	82.9	LOS F	6.4	45.4	1.00	0.95	1.34	28.0
Approach			2201	1.1	2201	1.1	0.865	38.0	LOS C	48.6	343.3	0.84	0.80	0.89	43.3
All Vehicles			5360	1.4	5360	1.4	0.865	39.3	LOS C	48.6	343.3	0.86	0.81	0.90	41.2

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

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

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

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

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

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped Dist] ped m		Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: New McLean Street												
P1	Full	45	45	54.3	LOS E	0.1	0.1	0.95	0.95	208.1	200.0	0.96
North: Darling Point Road												
P3	Full	41	41	54.2	LOS E	0.1	0.1	0.95	0.95	208.1	200.0	0.96

MOVEMENT SUMMARY

Site: 101 [Sat Future Base (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance																
Mov ID	Turn	Mov Class	Demand Flows [Total HV]		Arrival Flows [Total HV]		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [Veh. Dist]		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			veh/h	%	veh/h	%	v/c	sec			veh	m				km/h
South: New McLean Street																
1	L2	All MCs	174	1.1	174	1.1	0.222	28.8	LOS C	6.4	45.1	0.67	0.75	0.67	39.6	
2	T1	All MCs	80	0.0	80	0.0	0.259	48.3	LOS D	4.2	29.2	0.92	0.72	0.92	33.7	
3	R2	All MCs	127	0.0	127	0.0	* 0.892	78.2	LOS F	8.7	60.8	1.00	1.05	1.50	26.0	
Approach			381	0.5	381	0.5	0.892	49.4	LOS D	8.7	60.8	0.83	0.84	1.00	32.7	
East: New South Head Road (E)																
4	L2	All MCs	207	1.4	207	1.4	0.548	54.7	LOS D	8.5	60.0	0.75	0.78	0.75	39.4	
5	T1	All MCs	2324	2.0	2324	2.0	* 0.940	72.5	LOS F	61.3	436.6	1.00	1.15	1.27	31.0	
6	R2	All MCs	82	0.0	82	0.0	0.883	101.3	LOS F	5.5	38.6	1.00	0.99	1.54	25.8	
Approach			2613	1.9	2613	1.9	0.940	72.0	LOS F	61.3	436.6	0.98	1.12	1.24	31.3	
North: Darling Point Road																
7	L2	All MCs	99	1.0	99	1.0	0.208	46.9	LOS D	4.5	32.0	0.82	0.76	0.82	34.3	
8	T1	All MCs	54	0.0	54	0.0	0.822	59.9	LOS E	8.9	62.6	1.00	0.97	1.28	28.5	
9	R2	All MCs	85	0.0	85	0.0	0.822	73.0	LOS F	8.9	62.6	1.00	0.97	1.28	28.0	
Approach			238	0.4	238	0.4	0.822	59.2	LOS E	8.9	62.6	0.93	0.88	1.09	30.4	
West: New South Head Road (W)																
11	T1	All MCs	2121	1.1	2121	1.1	0.880	38.8	LOS C	51.7	365.3	0.85	0.82	0.91	43.1	
12	R2	All MCs	118	1.7	118	1.7	* 0.908	100.3	LOS F	8.9	62.9	1.00	1.11	1.66	24.8	
Approach			2239	1.1	2239	1.1	0.908	42.1	LOS C	51.7	365.3	0.85	0.84	0.95	41.5	
All Vehicles			5471	1.4	5471	1.4	0.940	57.6	LOS E	61.3	436.6	0.92	0.97	1.10	34.9	

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

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

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

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

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

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Input Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped Dist]		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed	
	ped/h	ped/h	sec		ped	m			sec	m	m/sec	
South: New McLean Street												
P1	Full	45	45	54.3	LOS E	0.1	0.1	0.95	0.95	208.1	200.0	0.96
North: Darling Point Road												

MOVEMENT SUMMARY

Site: 101 [Sat Future Base + PP (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance																
Mov ID	Turn	Mov Class	Demand Flows [Total HV]		Arrival Flows [Total HV]		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [Veh. Dist]		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed	
			veh/h	%	veh/h	%	v/c	sec			veh	m				km/h
South: New McLean Street																
1	L2	All MCs	185	1.1	185	1.1	0.235	26.9	LOS B	6.3	44.2	0.68	0.75	0.68	40.4	
2	T1	All MCs	83	0.0	83	0.0	0.260	43.9	LOS D	4.0	27.7	0.91	0.71	0.91	35.1	
3	R2	All MCs	138	0.0	138	0.0	*0.949	85.3	LOS F	9.6	67.5	1.00	1.18	1.80	24.8	
Approach			406	0.5	406	0.5	0.949	50.2	LOS D	9.6	67.5	0.83	0.89	1.11	32.4	
East: New South Head Road (E)																
4	L2	All MCs	221	1.4	221	1.4	0.579	52.6	LOS D	8.6	60.8	0.78	0.79	0.78	39.7	
5	T1	All MCs	2324	2.0	2324	2.0	*0.966	84.7	LOS F	65.3	464.9	1.00	1.31	1.44	27.9	
6	R2	All MCs	82	0.0	82	0.0	0.809	90.2	LOS F	4.9	34.2	1.00	0.92	1.35	27.7	
Approach			2627	1.9	2627	1.9	0.966	82.2	LOS F	65.3	464.9	0.98	1.25	1.38	28.6	
North: Darling Point Road																
7	L2	All MCs	99	1.0	99	1.0	0.197	42.5	LOS C	4.1	28.8	0.81	0.75	0.81	35.8	
8	T1	All MCs	57	0.0	57	0.0	0.815	54.6	LOS D	8.4	58.7	1.00	0.96	1.29	29.8	
9	R2	All MCs	85	0.0	85	0.0	0.815	67.7	LOS E	8.4	58.7	1.00	0.96	1.29	29.2	
Approach			241	0.4	241	0.4	0.815	54.2	LOS D	8.4	58.7	0.92	0.88	1.09	31.7	
West: New South Head Road (W)																
11	T1	All MCs	2121	1.1	2121	1.1	0.916	49.1	LOS D	57.5	406.5	0.90	0.95	1.06	38.7	
12	R2	All MCs	127	1.6	127	1.6	*0.954	115.7	LOS F	10.1	71.6	1.00	1.24	1.95	22.5	
Approach			2248	1.1	2248	1.1	0.954	52.8	LOS D	57.5	406.5	0.91	0.97	1.11	37.2	
All Vehicles			5522	1.4	5522	1.4	0.966	66.7	LOS E	65.3	464.9	0.94	1.09	1.24	32.0	

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

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

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

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

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

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

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

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

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Input Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped Dist]		Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed	
	ped/h	ped/h	sec		ped	m			sec	m	m/sec	
South: New McLean Street												
P1	Full	45	45	49.3	LOS E	0.1	0.1	0.95	0.95	203.1	200.0	0.98
North: Darling Point Road												