



**166-178, 186-192 & 198-214 Military
Road, Neutral Bay
Transport Assessment**

Prepared for: **Arkadia**

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PROJECT INFORMATION

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1 Introduction

1.1 Background

JMT Consulting was engaged by Arkadia to undertake a transport assessment to support a Planning Proposal for the site at 166-178, 186-192 & 198-214 Military Road, Neutral Bay.

1.2 Site location

The extent of the site is shown in Figure 1 below which comprises 12 individual lots. Located within the North Sydney LGA, the site is zoned B4 (mixed use) and has a combined site area of approximately 4,475m². It is adjacent to the key Military Road transport corridor and bounded by the Grosvenor Lane car park to the north.



Figure 1 Site location

1.3 Report purpose

This report has been prepared to summarise the traffic and transport implications of the Planning Proposal. Specifically the assessment considers the following items:

- Existing transport conditions, including:
 - Surrounding road network
 - Vehicle site access
 - Car parking
 - Loading and servicing arrangements
 - Public transport provision
 - Pedestrian and cycling network
- Proposed site access arrangements
- Proposed vehicle loading and servicing arrangements
- Proposed parking rates to be adopted as part of a future development application for the site, including indicative parking numbers based on the reference scheme prepared by Ethos Urban
- Additional traffic movements resulting from the Planning Proposal and impacts to the adjacent road network
- Public transport, walking and cycling measures

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 below, which demonstrates the site is very well connected to the surrounding road network.

The site is primarily serviced by Military Road which is classified as a State Road. Regional Roads in the vicinity of the site include Spofforth Street, Belgrave Street, Ernest Street and Rangers Road to the south-east of the site. The site is also serviced by local roads managed by Council including direct frontage to Grosvenor Lane.

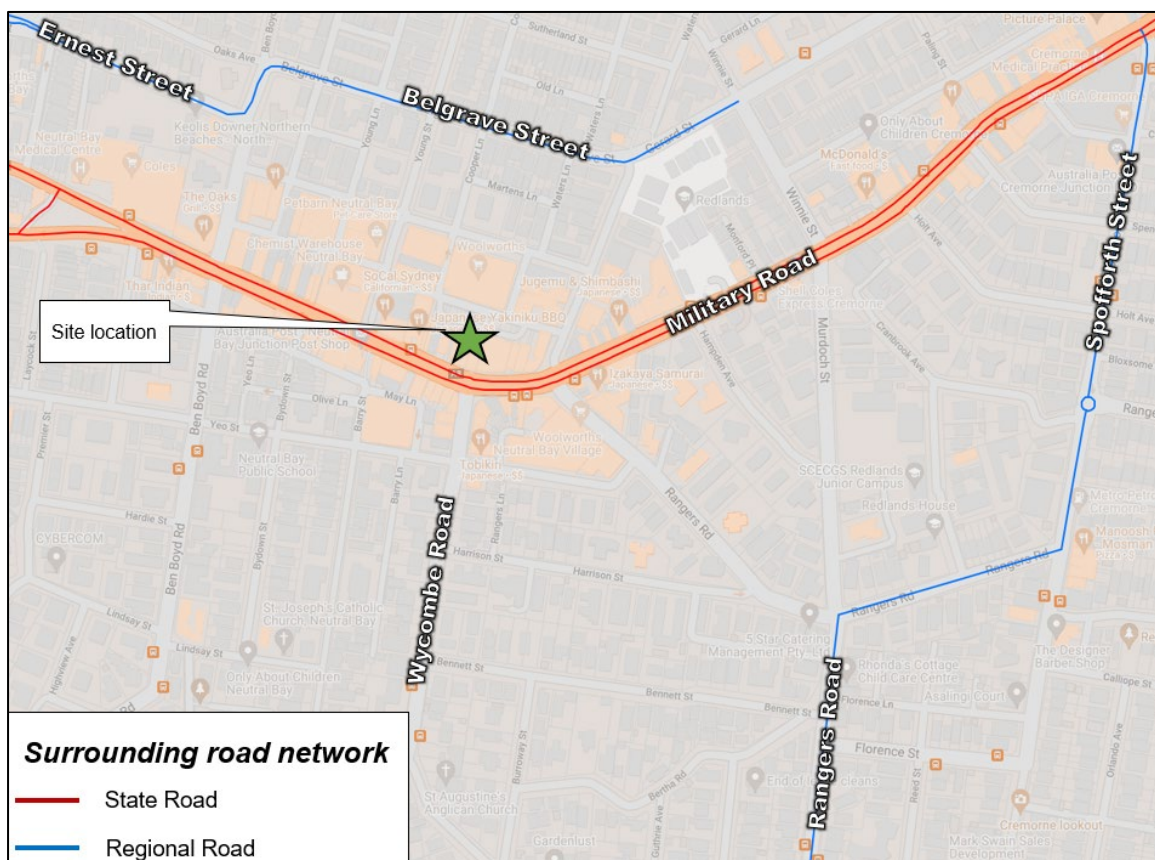


Figure 2 Existing road network

2.2 Existing site uses and site access

166-188 and 198-214 Military Road is occupied by various shops and a council owned community centre. The site is part of the town centre in Neutral Bay. The site has a wide variety of shops that provide residents with their daily needs. No formal car parking is provided within the site boundary, with all customer car parking and loading for tenancies taking place within the Grosvenor Lane car park at the rear of the site (see Figure 3 below).



Figure 3 Existing site servicing via Grosvenor Lane car park

2.3 Public transport services

The site is located adjacent to the Military Road corridor which is one of Sydney's busiest and most important bus corridors - served by an established bus network that caters for a wide range of trips. The current bus network contains a variety of all-stops, limited stops and express services, joining and leaving the corridor at several locations. A number of bus stops are located directly opposite the site on Military Road as well as Wycombe Road as illustrated in Figure 4.

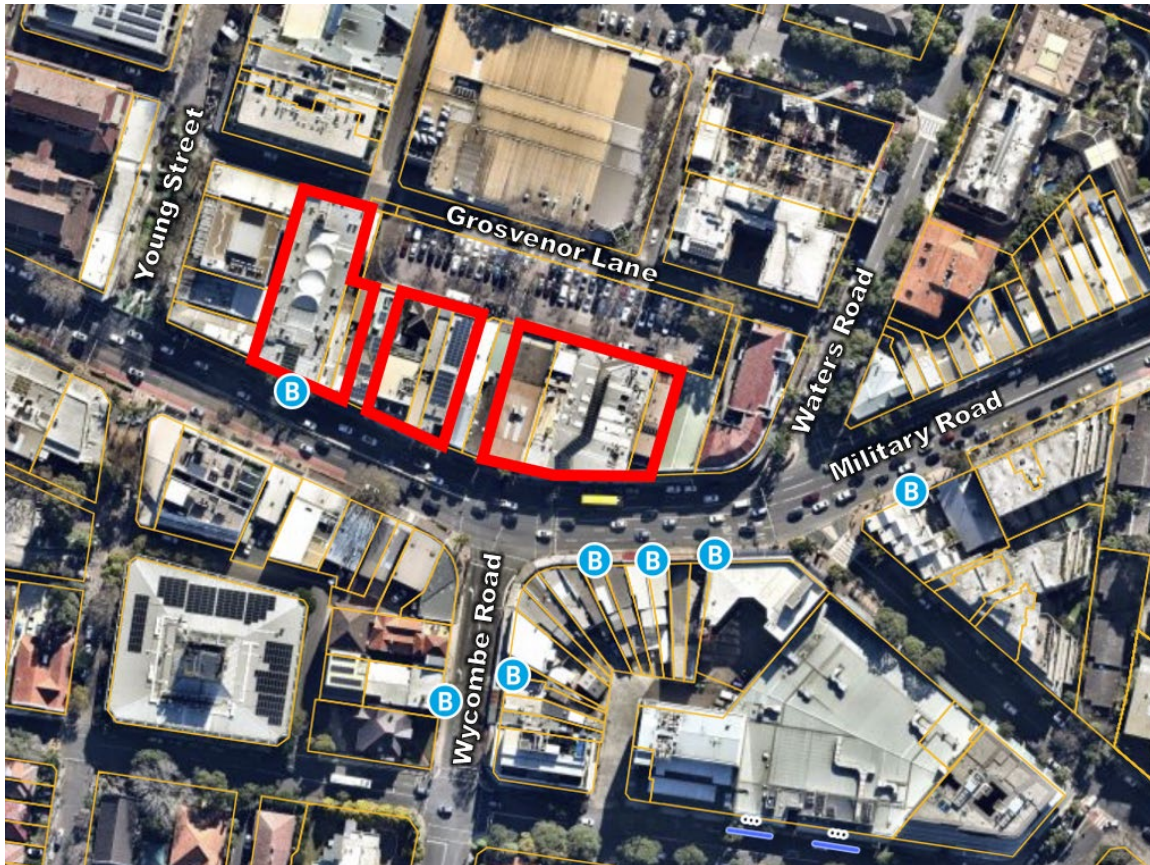


Figure 4 Existing bus stops servicing the site

A full list of the extensive bus network servicing the Military Road corridor is provided in Table 1.

Table 1 Military Road bus services

Route No.	Route (To / From)	Typical Frequency
143	Manly to Chatswood	Weekdays: 15-30 minutes peak only Weekends: No services
144	Manly to Chatswood	Weekdays: 10-15 minutes peak / 15 minutes off peak Weekends: 15 minutes

Route No.	Route (To / From)	Typical Frequency
151	Mona Vale to City Queen Victoria Building (QVB)	Weekdays: Late night – early morning service Weekends: Late night – early morning service
168	North Balgowlah to Milsons Point	Weekdays: 40-60 minutes Weekends: No services
169	Manly to City Wynyard	Weekdays: 30 minutes peak / 1 hour off peak Weekends: 60 minutes
173	Narraweena to Milsons Point	Weekdays: 4 AM peak services only Weekends: No services
178	Comer Heights to City Wynyard	Weekdays: No peak service / 30 minutes off peak Weekends: 15-30 minutes
180	Collaroy Plateau to City Wynyard	Weekdays: No peak service / 30 minutes off peak Weekends: 30 minutes
188	Mona Vale to City Wynyard	Weekdays: 3 morning services only Weekends: 2 morning services only
225	Cremorne Point Wharf to Neutral Bay	Weekdays: 13-15 minutes peak / 30 minutes off peak Weekends: 30 minutes
228	Clifton Gardens to Milsons Point	Weekdays: 35-40 minutes peak / 1 hour off peak Weekends: No services
229	Beauty Point to Milsons Point	Weekdays: 1 hour all day Weekends: No services
230	Mosman Wharf to Milsons Point	Weekdays: 15-20 minutes peak / 30 minutes off peak Weekends: 30 minutes
243	Spit Junction to City Wynyard	Weekdays: 20 minutes peak / 1 hour off peak Weekends: 30 minutes
244	Chowder Bay Mosman to City Wynyard	Weekdays: 20 minutes peak / 30 minutes off peak Weekends: 1 hour
245	Balmoral to City Wynyard	Weekdays: 15 minutes peak / 1 hour off peak Weekends: 1 hour
246	Balmoral Heights to City Wynyard	Weekdays: 2-10 minutes peak only Weekends: No services
247	Taronga Zoo to City Wynyard	Weekdays: 30 minutes Weekends: 30 minutes

Route No.	Route (To / From)	Typical Frequency
248	Seaforth to City Wynyard	Weekdays: 20 minutes morning peak only Weekends No services
249	Beauty Point to City Wynyard	Weekdays: 3 morning peak services only Weekends: No services
257	Chatswood to Balmoral	Weekdays: 15-30 minutes peak / 15-30 minutes off peak Weekends: 30 minutes Saturdays & 30 minutes Sundays
263	Crows Nest to City Bridge St	Weekdays: 10-15 minutes peak / 40 minutes off peak Weekends: 1 hour 10 minutes
B1	Mona Vale to City Wynyard	Weekdays: 2-7minutes peak / 8-12 minutes off peak Weekends: 8-15 minutes
E54	Mona Vale to Milsons Point	Weekdays: 5-10 minutes peak / 30 minutes off peak Weekends: No services
E50	Manly to Milsons Point (Express)	Weekdays: 10 minutes morning peak only Weekends: No services
E65	South Curl Curl to City Wynyard	Weekdays: 5 minutes morning peak only Weekends: No services
E66	Allambie to City Wynyard	Weekdays: 13 minutes morning peak only Weekends: No services
E68	Brookvale to City Wynyard	Weekdays: 15 minutes morning peak only Weekends: No services
E69	Manly to City Wynyard	Weekdays: 6 minutes morning peak only Weekends: No services
E71	Manly to City Wynyard (Express)	Weekdays: minutes peak only Weekends: No services

2.4 Public transport accessibility

A key 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 Central / Redfern, Sydney CBD, North Sydney CBD, St Leonards, Chatswood and Manly. The highly accessible nature of the site will facilitate the use of public transport, particularly the Military Road bus corridor.

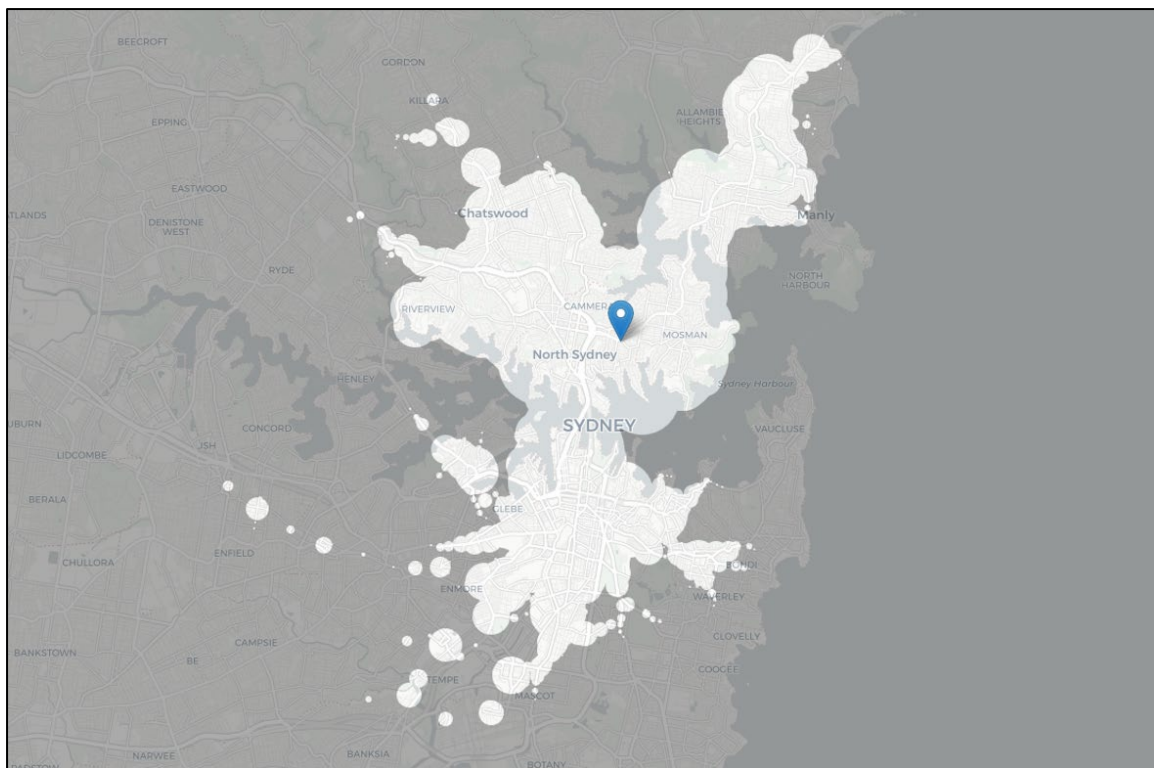


Figure 5 30 minute public transport catchment from site

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

2.5 Walking and cycling

Good quality footpaths are provided along all streets in the vicinity of the site. This includes signalised pedestrian crossings on all legs of the signalised intersections at Military Road / Wycombe Road and Wycombe Road / Yeo Street. A zebra crossing is also provided adjacent to the site across Yeo Street near the intersection with Rangers Road.

There is a developing cycleway network in the vicinity of the site as illustrated in Figure 6 below. The site is located on the 'Route 5' cycleway as identified in the North Sydney Integrated Cycling Strategy, which will ultimately provide a connection between the North Sydney CBD and Mosman via Neutral Bay.

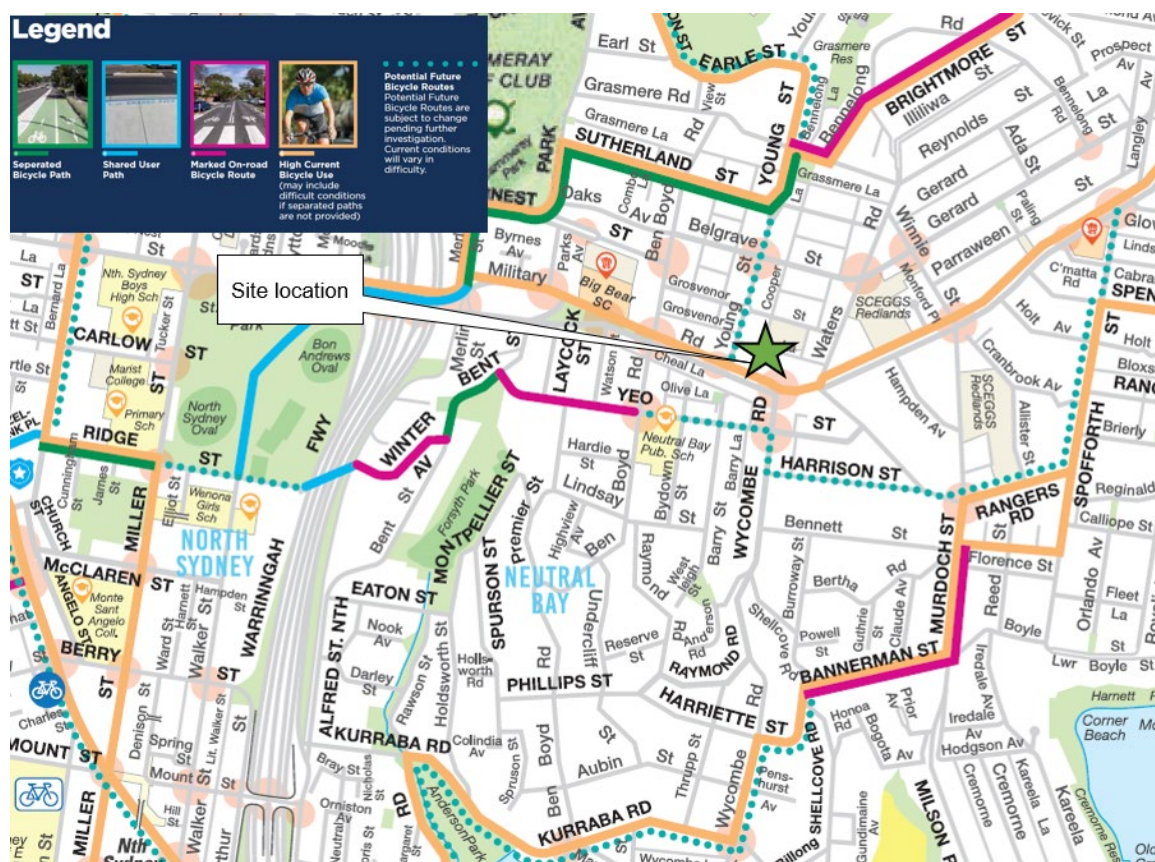


Figure 6 North Sydney cycling network

Source: North Sydney Council

3 Transport Impact Assessment

3.1 Site access arrangements

Under the reference scheme prepared by Ethos Urban, all vehicle access (including B99s and service vehicles) would be obtained via the rear of the site as indicated in Figure 7. It should be noted that these vehicular access arrangements are indicative only and are subject to further investigation and coordination with Council with respect to the design of the future plaza. These access arrangements are similar to current conditions with the significant improvement of all vehicle parking and servicing taking place within the site boundaries. Given Military Road is a State Classified road no direct vehicle access is proposed from this roadway.

A loading dock would be provided within the site capable of accommodating a Medium Rigid Vehicle (MRV), with cars accessing a basement level car park.

The final set of vehicle access arrangements will be confirmed as part of a future Development Application for the site.

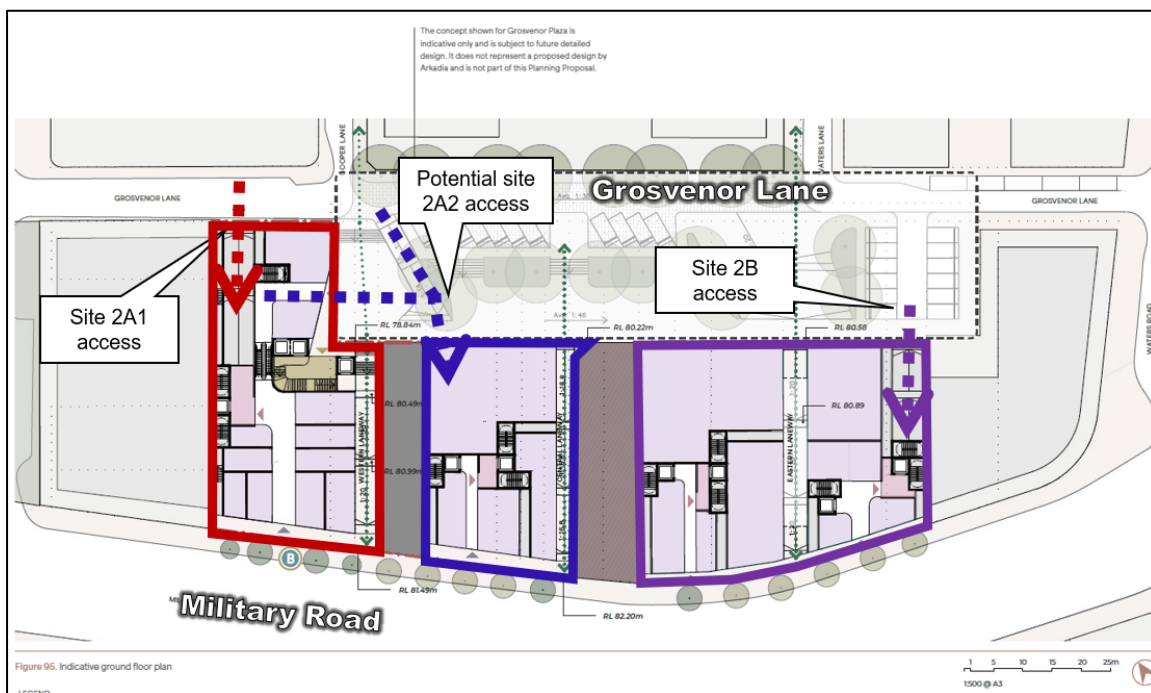


Figure 7 Proposed vehicle access arrangements

3.2 Car parking

The following sections of this document outline the car parking provision for the various uses within the site, based on the reference scheme prepared for the Planning Proposal. It should be noted that the reference scheme 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.

3.2.1 Residential car parking

An assessment of car parking requirements for the proposal against requirements set out in North Sydney DCP has been undertaken as detailed in Table 2 below. The total number of units and dwelling mix is approximate only and is subject to further design – to be confirmed as part of a subsequent Development Application. Analysis indicates that up to 134 residential car parking spaces could be provided under the yields envisaged in the reference scheme.

Table 2 Residential car parking provision

Type	No. of units	DCP parking rate (B4 zones)	Max. no. of spaces under DCP
1 bed	29	0.5 / unit	15
2 bed	67	1.0 / unit	67
3 bed	52	1.0 / unit	52
Total			134

3.2.2 Non-residential car parking

The North Sydney DCP notes a maximum parking rate of 1 space per 60m² GFA for non-residential land uses within the Neutral Bay centre. The reference scheme provides for approximately 5,400m² of non-residential uses including retail, office and community uses. Based on this quantum of floor space a maximum of 90 car parking spaces could be provided for these uses. The DCP controls do not set out any minimum requirements for parking for non-residential uses.

3.3 Bicycle parking

The North Sydney Council DCP outlines minimum bicycle parking requirements for new developments. Table 3 below summarises the potential bicycle parking provision based on the reference design prepared for the Planning Proposal. This will be confirmed at the DA stage of the development.

Table 3 Potential bicycle parking requirements

Land Use	No. of units / GFA	User Type	Potential bicycle parking requirement	
			Rate	Number
Residential	148 units	Residents	1 per unit	148
		Visitors	1 per 10 units	15
Commercial	2,570m ²	Staff	1 per 150m ²	17
		Visitors	1 per 400m ²	6
Retail / Community	2,096m ²	Staff	1 per 200 m ²	10
		Visitors	1 per 300m ²	7
Total				203

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.

3.4 Green travel plan

3.4.1 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.

3.4.2 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.

3.4.3 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 4 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 visitors	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
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

Action	Responsibility
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	
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

3.4.4 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.

3.5 Forecast traffic generation

3.5.1 Non-residential traffic generation

When considering the net impacts of the development proposal it is important to consider the traffic movements associated with the existing site uses. The current site comprises of multiple retail and commercial tenancies with a total floor area of approximately 5,000m² – comprised largely of retail uses. These tenancies would generate traffic at all times of the day on the surrounding road network.

The existing quantum of non-residential floor space is effectively equivalent to that proposed as part of a future site development. In this context there would be no additional traffic generated from non-residential uses as part of a future development of the site as envisaged under the Planning Proposal when compared to current conditions.

3.5.2 Residential traffic generation

The forecast traffic generation for the residential uses has been determined based on the Sydney wide average traffic generation rates for high density residential uses as published by TfNSW which are as follows:

- AM peak hour: 0.15 vehicle trips per unit
- PM peak hour: 0.19 vehicle trips per unit

Based on the 148 residential apartments achievable under the reference scheme the proposal would generate the following levels of vehicle traffic:

- AM peak hour: 28 vehicle trips
- PM peak hour: 22 vehicle trips

When taking into consideration vehicles entering and exiting the site the resulting traffic movements through key intersections is minimal at no more than one vehicle every three to four minutes – see Figure 8.



Figure 8 Forecast traffic generation and distribution

The projected level of traffic generation arising from the proposal is considered to be negligible and would not be expected to result in any adverse impacts on the surrounding road network nor any operational or safety issues on surrounding key intersections. It would not register any difference in any traditional traffic modelling program in a ‘with development’ and ‘without development’ traffic scenarios.

Given the nature of the proposed development and its proximity to public transport services, a Green Travel Plan (GTP) with a complementary Transport Access Guide (TAG) would be suitable for this development to encourage sustainable travel and a mode shift away from car travel. The requirement to prepare and implement the GTP prior to the initial occupation of the building would be reinforced through a suitably worded condition of consent.

4 Study Findings

This transport assessment report has been undertaken by JMT Consulting to support a Planning Proposal for the site at 166-178, 186-192 & 198-214 Military Road, Neutral Bay. The proposal seeks to amend the North Sydney Local Environmental Plan to increase maximum height and density controls on the site, facilitating the future development of a mixed-use site including retail, commercial and residential floor space. Key findings of the transport assessment are as follows:

- The site benefits from being located adjacent to Military Road which provides for a strong level of public transport access.
- Vehicle access arrangements will be subject to a separate detailed DA however is envisaged to be similar to current conditions, with no reliance on direct vehicle access
- Bicycle parking on the site for all uses will be delivered in accordance with the parking rates outlined in the North Sydney DCP, with the final number of spaces to be determined at the Development Application stage of the project.
- The traffic generation potential under the Planning Proposal is anticipated to be less than 30 vehicles during peak hours or less than one vehicle every two minutes. This volume of traffic is considered to be negligible and would not be expected to result in any adverse impacts on the surrounding road network.
- Travel demand management measures have been suggested to improve the mode share of public transport and active transport. These items should be considered further at subsequent stages of the project.

In the above context, the traffic and transport impacts arising from the Planning Proposal are considered acceptable.