



11 – 23 Rangers Avenue, Mosman

Transport Impact Assessment

Prepared for: **Grand Noble Project 1 Pty Ltd**

19 November 2025



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1 Introduction

1.1 Background

This transport impact assessment report has been prepared by JMT Consulting for a State Significant Development Application (SSD- 96272465) for the residential development at 11 -23 Rangers Avenue, Mosman.

1.2 Site location

The site is located at 11 -23 Rangers Avenue, Mosman, within the Mosman local government area (LGA). The site has a frontage of approximately 80m to Rangers Avenue and approximately 78m to Bloxsome Lane. The side boundary to the east is approximately 28m and 64m to the west. The site has a total area of 3,594m².



Figure 1 Site context

1.3 Proposal description

The application seeks development consent for demolition of existing buildings and the construction of a part 6, part 7 storey residential flat building plus two levels of carparking at 11 -23 Rangers Avenue, Mosman. Specifically, the SSDA seeks development consent for:

- Demolition of the existing structures on the sites at 11 -23 Rangers Avenue, Mosman.
- Construction of a residential flat building comprising:
- 44 Residential apartments including 10 affordable housing apartments (equivalent to 15% of the proposed residential GFA).
- Communal open space and amenities.
- 2.5 basement levels for car parking, bicycle parking, waste and plant.
- Vehicular access from Rangers Avenue, in the location of the current access (current vehicle access from Bloxsome Lane will be removed)
- Associated site landscaping.

As the development has a Capital Investment Value (**CIV**) of \$75 million or greater and is for infill affordable housing, the application triggers State Significant Development.

1.4 Report purpose

This report has been prepared in response to the Secretary's Environmental Assessment Requirements (SEARs) for SSD- 96272465 relevant to traffic and transport as summarised in Table 1.

Table 1 SEARs requirements

SEARs Item	Description of Requirement - SSD- 96272465	Response
<i>Item 9. Transport</i>	• Provide a Transport Impact Assessment (TIA) in accordance with the processes and methodology recommended in the Guide to Transport Impact Assessment (GITA) published by TfNSW.	As per the recently released GTIA the subject development is considered to have a 'low' impact level given the proposal does not meet the criteria for either Columns 2 or 3 of Schedule 3 in the State Environmental Planning Policy (Transport and Infrastructure) 2021. The GTIA recommends the development of a 'Transport Impact Statement' for this scale of development, covering the following items: • site location and context • development scale and access arrangements • trip generation and distribution The above items have been addressed in this report.

SEARs Item	Description of Requirement - SSD-96272465	Response
	If the construction of the development would cause interruptions to regular pedestrian and transport routes (including public transport, active transport or general traffic), a preliminary Construction Traffic (or Transport) Management Plan (CTMP) should be prepared as part of the TIA to mitigate any such impacts.	The site is not located on a major on-road (bus) public transport corridor nor is it adjacent to a major road. Therefore future construction of the development is not forecast to cause significant disruptions to public transport, pedestrians, cyclists or general road users. A detailed CTMP will be prepared prior to any works commencing on site, this requirement can be reinforced via a suitably worded consent condition. Notwithstanding the above a preliminary CTMP has been prepared and outlined in Section 4 of this document.

1.5 State Environmental Planning Policy (Transport & Infrastructure) 2021

With regards to the State Environmental Planning Policy (Transport & Infrastructure – T&I SEPP) 2021 the following is noted:

- The site does not have a direct frontage to a classified road, therefore not triggering the assessment requirements of clause 2.119 of the SEPP.
- The site does not adjoin a road with an annual average daily traffic volume of more than 20,000 vehicles, therefore not triggering the assessment requirements of Clause 2.120 of the T&I SEPP; and
- The proposal will provide for fewer than 300 dwellings and 200 parking spaces and is not expected to impact the operation of the local road network and is therefore not considered to be ‘traffic generating development’ as defined under Schedule 3 of the T&I SEPP.

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. Both Rangers Road and Bloxsome Lane fronting the site are local roads under the control of Mosman Council. Military Road to the north of the site and Spofforth Street to the east of the site are the main State and Regional roads respectively serving the area.

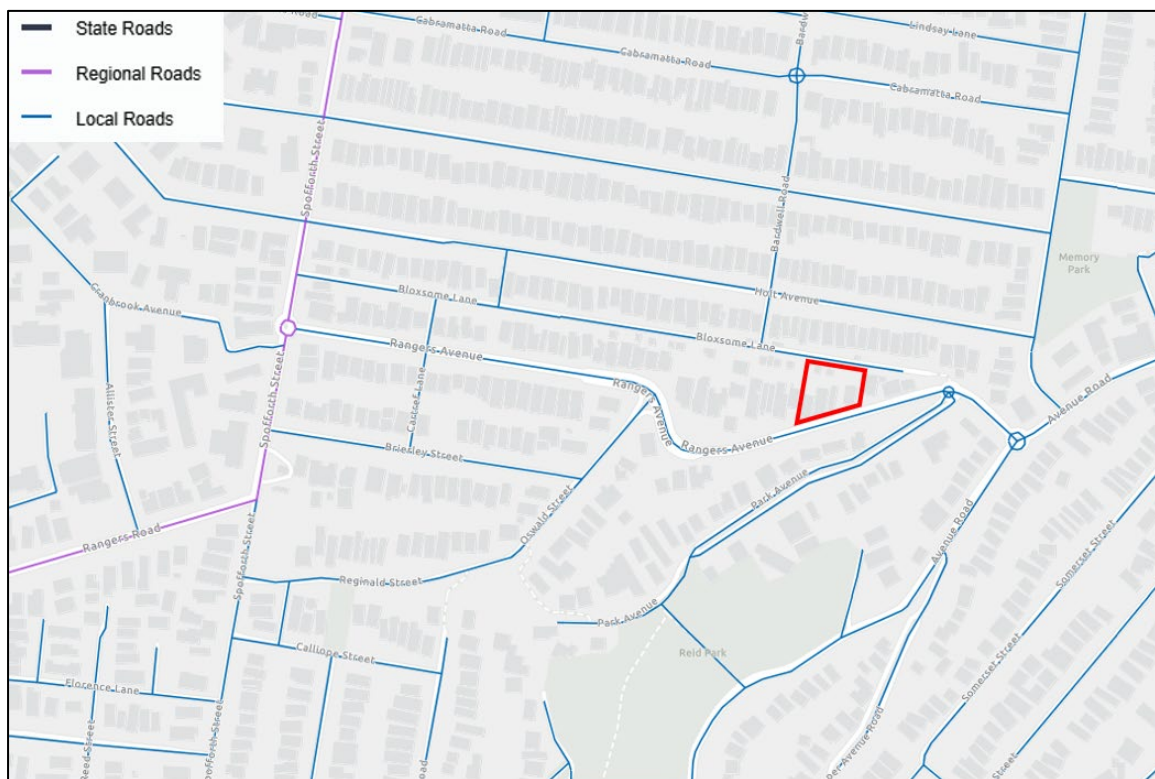


Figure 2 Existing road network

2.2 Public transport

The public transport in the area consists of high frequency bus services as well as ferry services. Keolis Downer operates the Northern Beaches contract region including the B-Line double decker services which runs along the state road corridor (Spit Road/Military Road) along with several other regional buses. These high frequency bus services along Military Road are within a 10 minute walk of the site and provide access to key destinations such as North Sydney, Manly, St Leonards and the Sydney CBD.

The 225 bus services runs along Spofforth Street in close proximity to the site and provides connectivity through to Cremorne Wharf. The 230 bus service runs along Avenue Road with the closest bus stop being approximately 235m from the site boundary.

The closest ferry wharf to the site is Mosman Bay ferry wharf which is approximately 1km walk away.

An overview of the public transport servicing the site is provided in Figure 3 below.

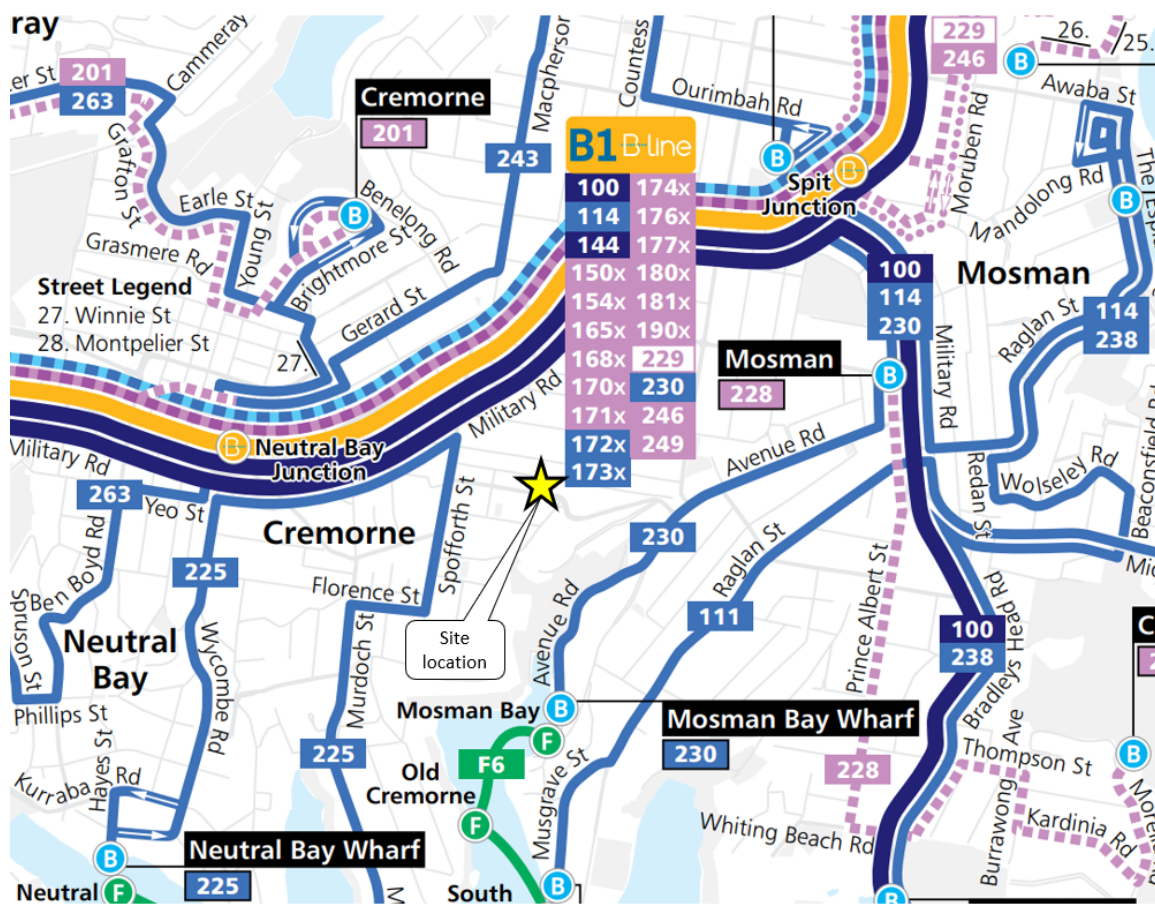


Figure 3 Public transport services

2.3 Vehicle site access

The existing site is serviced by multiple individual driveways fronting both Rangers Avenue and Bloxsome Lane. This includes one crossover on Rangers Avenue and four crossovers on Bloxsome Lane.

2.4 Existing traffic volumes and road network performance

2.4.1 Intersection performance

Traffic counts were undertaken at the key intersection of Rangers Avenue and Park Avenue near the site during the morning and afternoon peak periods in September 2025 – with this existing traffic data indicated in the following figures. 24 hour traffic data was also collected on Rangers Avenue fronting the site. This traffic data has formed the basis for the road network analysis undertaken in later sections of this document.

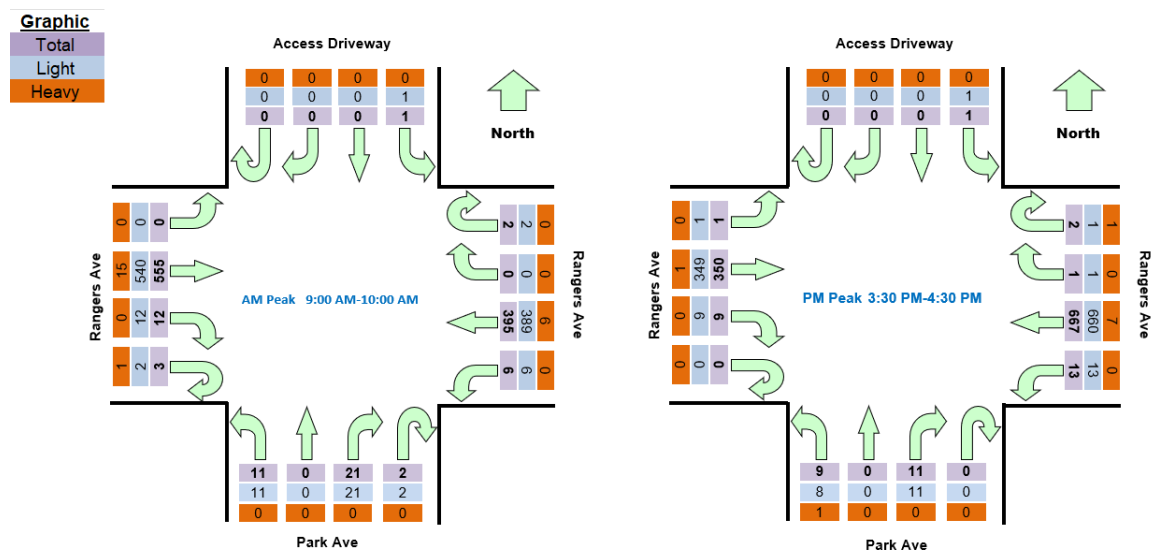


Figure 4 Existing traffic flows – Rangers Avenue / Park Avenue

Traffic modelling has been undertaken using the TfNSW approved ‘SIDRA’ software to understand the existing operational performance of the adjacent Rangers Avenue / Park Avenue intersection.

The traffic modelling metric used to analyse the performance of the intersections is intersection 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 2. 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 2 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

The modelling indicates that the adjacent intersection at Rangers Avenue / Park Avenue currently operates at a very strong level of service in both the morning and afternoon peak hours with spare levels of capacity. These traffic modelling outputs are summarised in Table 3 below.

Table 3 Existing intersection performance

Time Period	Intersection Performance		
	Level of Service	Degree of Saturation	Average Delay (s)
AM Peak Hour	A	0.38	4
PM Peak Hour	A	0.43	4

2.4.2 Mid-block traffic performance

The 24 hour data indicates that Rangers Avenue carries approximately 13,000 vehicles on a typical weekday - reflecting it's status as a collector road through the area.

Austrroads Guide to Traffic Management (Part 3) provides guidance in relation to typical traffic lane capacities – i.e. how many vehicles per hour a traffic lane can accommodate in different environments. For 'Urban Arterial Roads with Interrupted Flow' Austrroads notes that a traffic lane has the capacity for up to 1,000 vehicles per hour, with a kerbside traffic lane having capacity of 900 vehicles per hour.

Rangers Road currently comprises of one traffic lane in each direction plus one full time parking lane – therefore having the capacity to carry 1,000 vehicles per hour in each direction.

As shown in Figure 5 Rangers Road currently operates well below its theoretical capacity at all times of the day.

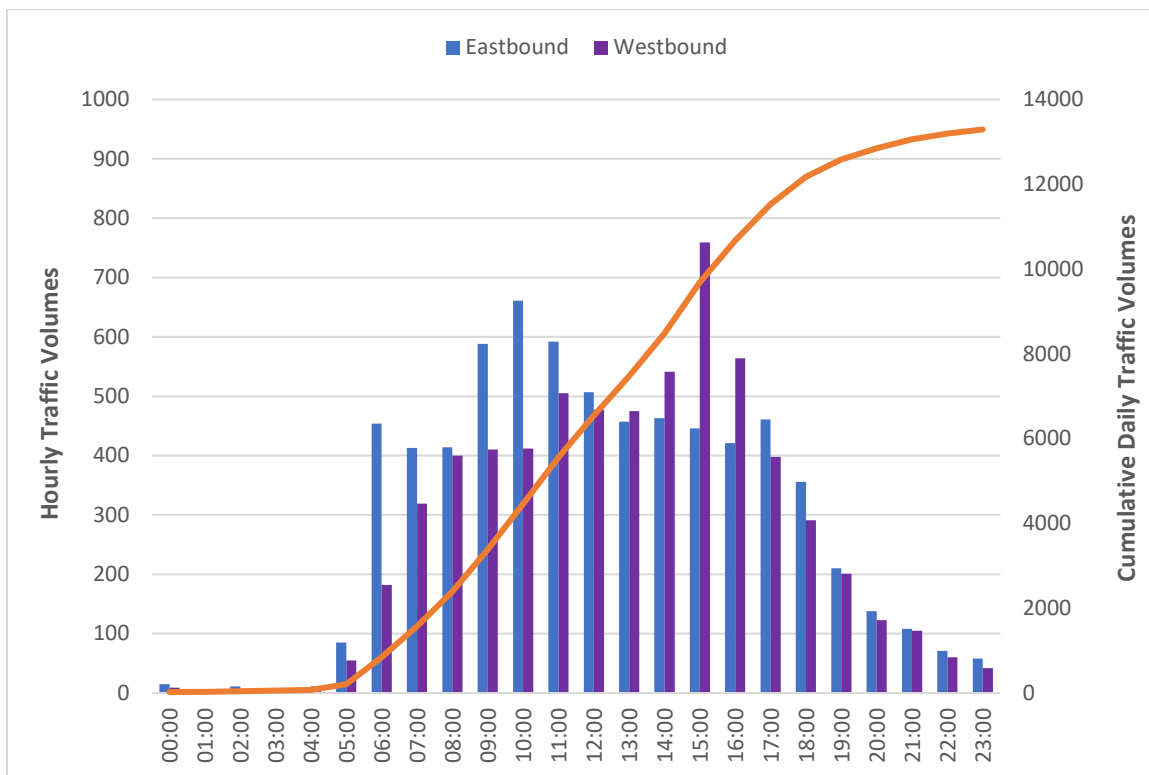


Figure 5 Existing traffic flows – Rangers Avenue

Traffic surveys were also undertaken on Bloxsome Lane near Bardwell Lane to understand current traffic flows. As shown in Figure 6 the existing level of traffic movements on Bloxsome Lane is very low, at most three vehicles per hour in each direction. Daily traffic movements were found to be less than 50 vehicles per day. Average vehicle speeds on Bloxsome Lane throughout the day were recorded at approximately 12km/h.

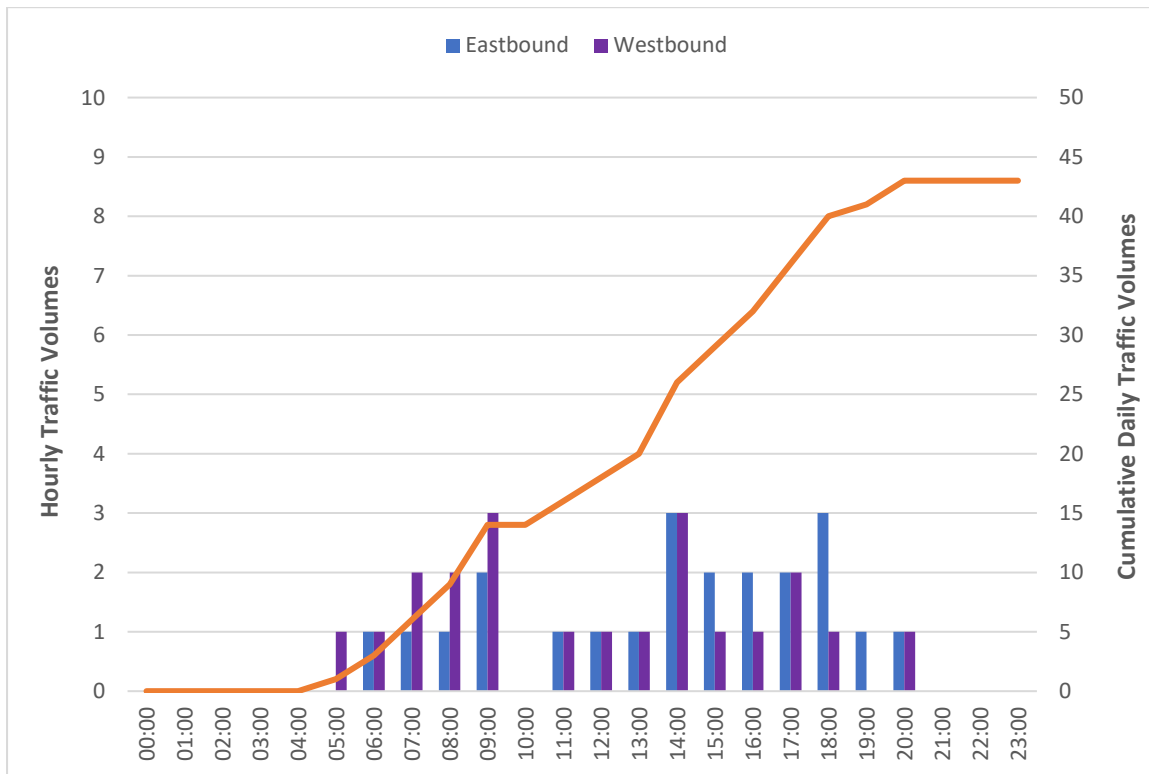


Figure 6 Existing traffic flows – Bloxsome Lane

2.5 Walking and cycling

The site benefits from a well-connected pedestrian network, with continuous footpaths provided on both sides of all surrounding streets. Cycling routes are generally in the form of on-road facilities, with key routes indicated in Figure 7 below. This includes Rangers Avenue fronting the subject site.

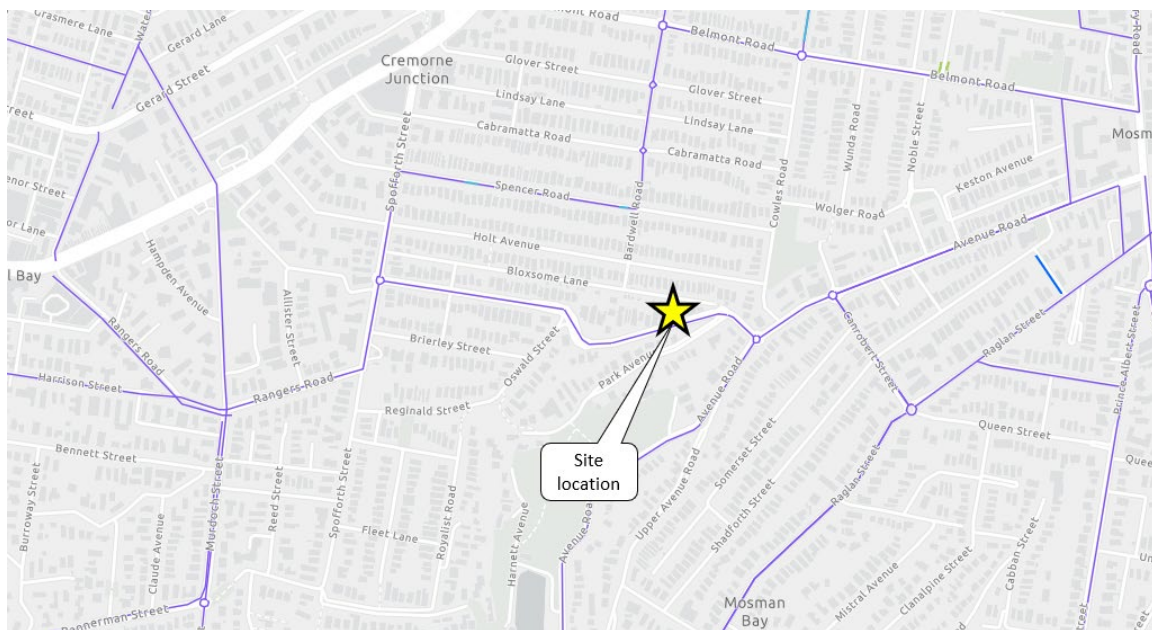


Figure 7 Existing bicycle routes

Source: Transport for NSW

Pedestrian counts were undertaken on Bloxsome Lane between 8am and 6pm on a weekday with the outcomes shown in Figure 8. This indicates pedestrian movements amount to over 10 per hour or 50 per day – exceeding traffic movements as previously indicated in Figure 6.

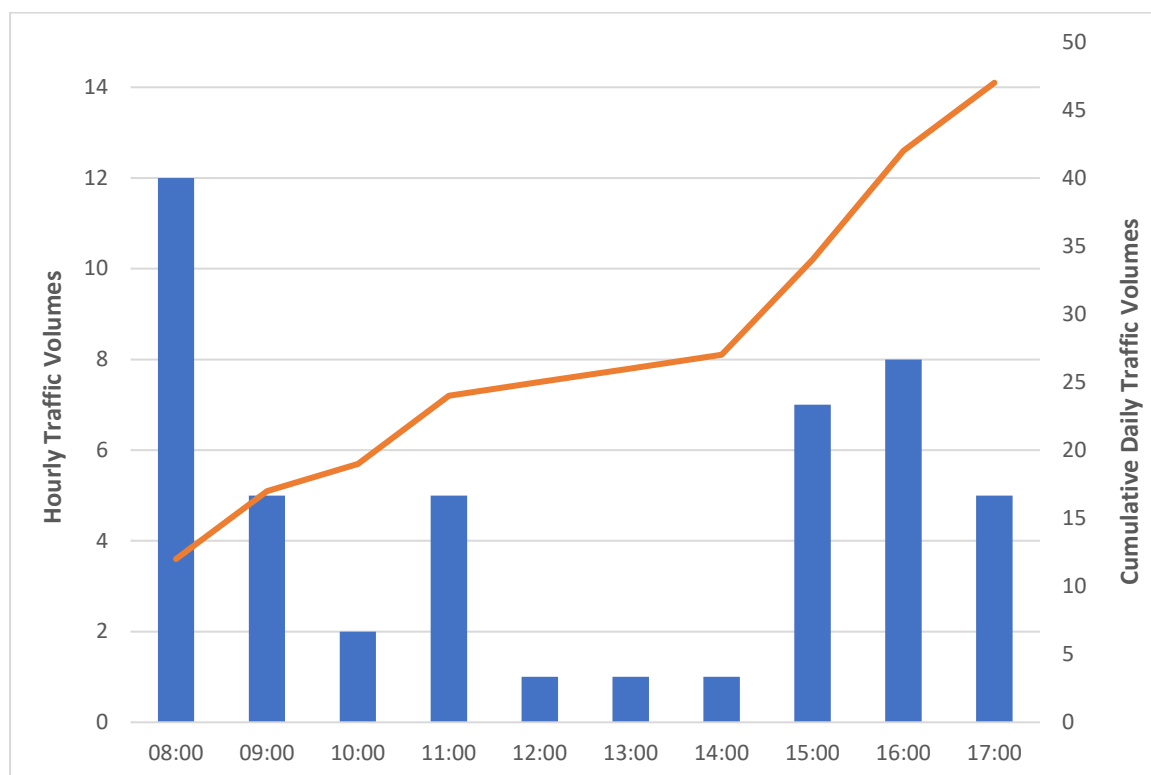


Figure 8 Existing pedestrian flows – Bloxsome Lane

2.6 Crash history

A review of crash data published by Transport for NSW for the most recent five year period has been review and is shown in Figure 9. This indicates no recorded crash history at the existing site access driveways on either Rangers Avenue or Bloxsome Lane fronting the subject site.

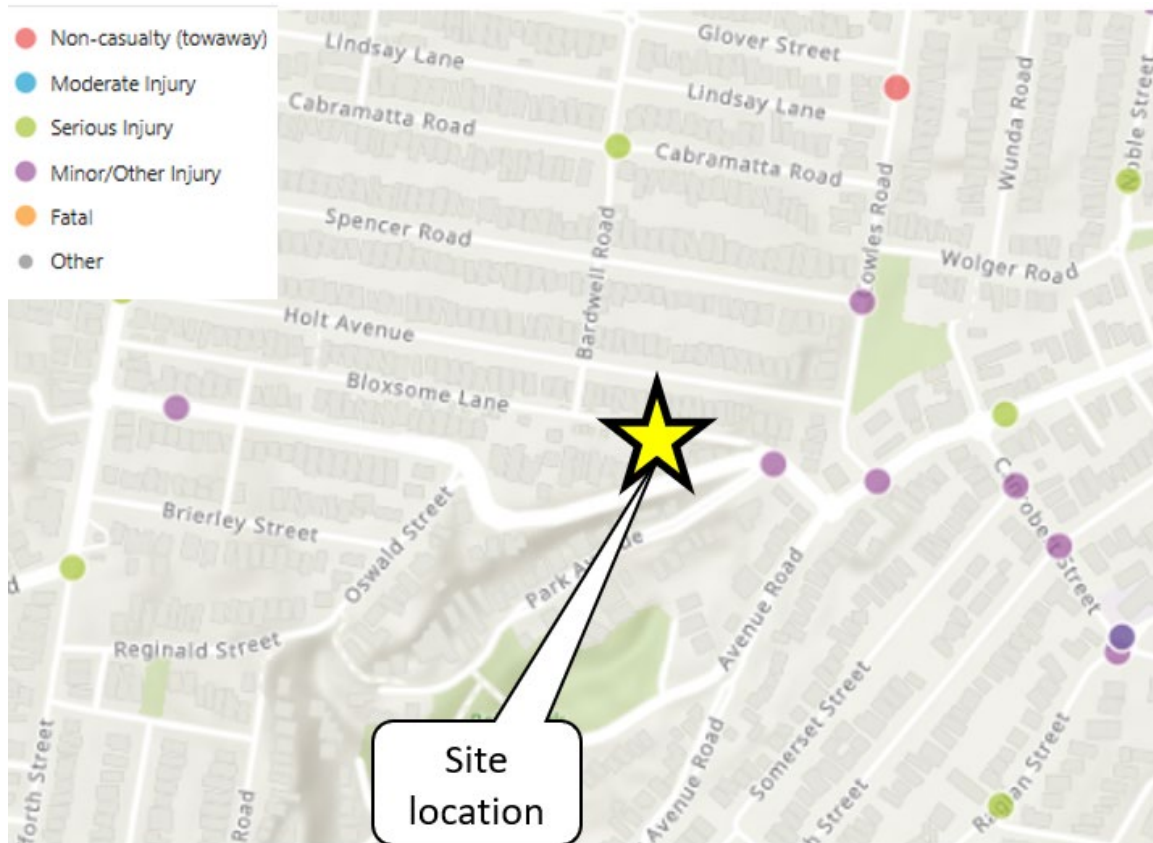


Figure 9 Crash data

Source: NSW Centre for Road Safety

3 Transport Assessment

3.1 Proposed vehicle site access

Vehicle site access would be retained along the eastern frontage of the site on Rangers Avenue as shown in Figure 10, generally in line with the location of the existing driveway serving 13 Rangers Avenue. The driveway is approximately 6m wide and therefore complies with the requirements of a 'Category 1' driveway as noted in AS2890.1. Locating the driveway on Rangers Avenue is considered appropriate, noting this provides sufficient width to accommodate two way traffic movements (unlike Bloxsome Lane) and that there has been no recorded history of crashes at this location as previously noted in Section 2.6. The proposal would remove four existing driveway crossovers on Bloxsome Lane.



Figure 10 Proposed vehicle access arrangements

Sight distance from the driveway to the nearest intersection is approximately 70m which complies with the minimum requirements noted in AS2890.1. The driveway width enables the simultaneous passing of vehicles into and out of the site as shown in Figure 11 on the following page. Access into the car park could be provided via either left or right hand turns from Rangers Avenue.

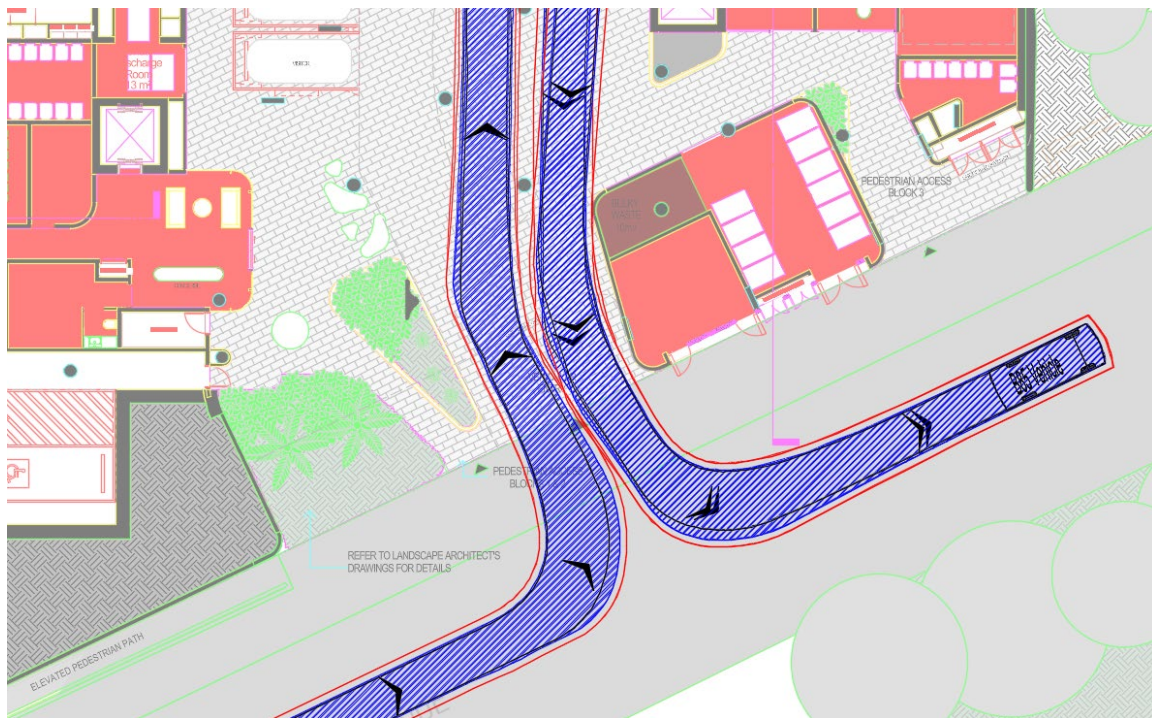


Figure 11 Swept path analysis – access for passenger vehicles

3.2 Car park design

The on-site car park has been designed in accordance with AS2890.1 with respect to ramp gradients, circulation aisle widths and car space dimensions. A review of the plans has found that the car park layout complies with the requirements of AS2890.1-2004 for Class 1 parking areas (aisles minimum 5.8 metres wide with parking spaces 2.4 metres wide by 5.4 metres long and 2.4 metre wide shared zones for accessible). Accessible parking spaces (including adjacent shared areas) provided in the car park have been designed in accordance with AS2890.6.

The driveway includes a gradient of no more than 1 in 20 for the first 6 metres into the site to ensure drivers are provided with appropriate sight lines to oncoming pedestrians and traffic.

The car park design will allow for all vehicles to enter and exit the site in a forwards direction. Appropriate space for manoeuvring is provided internally to allow vehicle passing on circulation ramps and aisles as indicated in the swept paths provided on the following page.

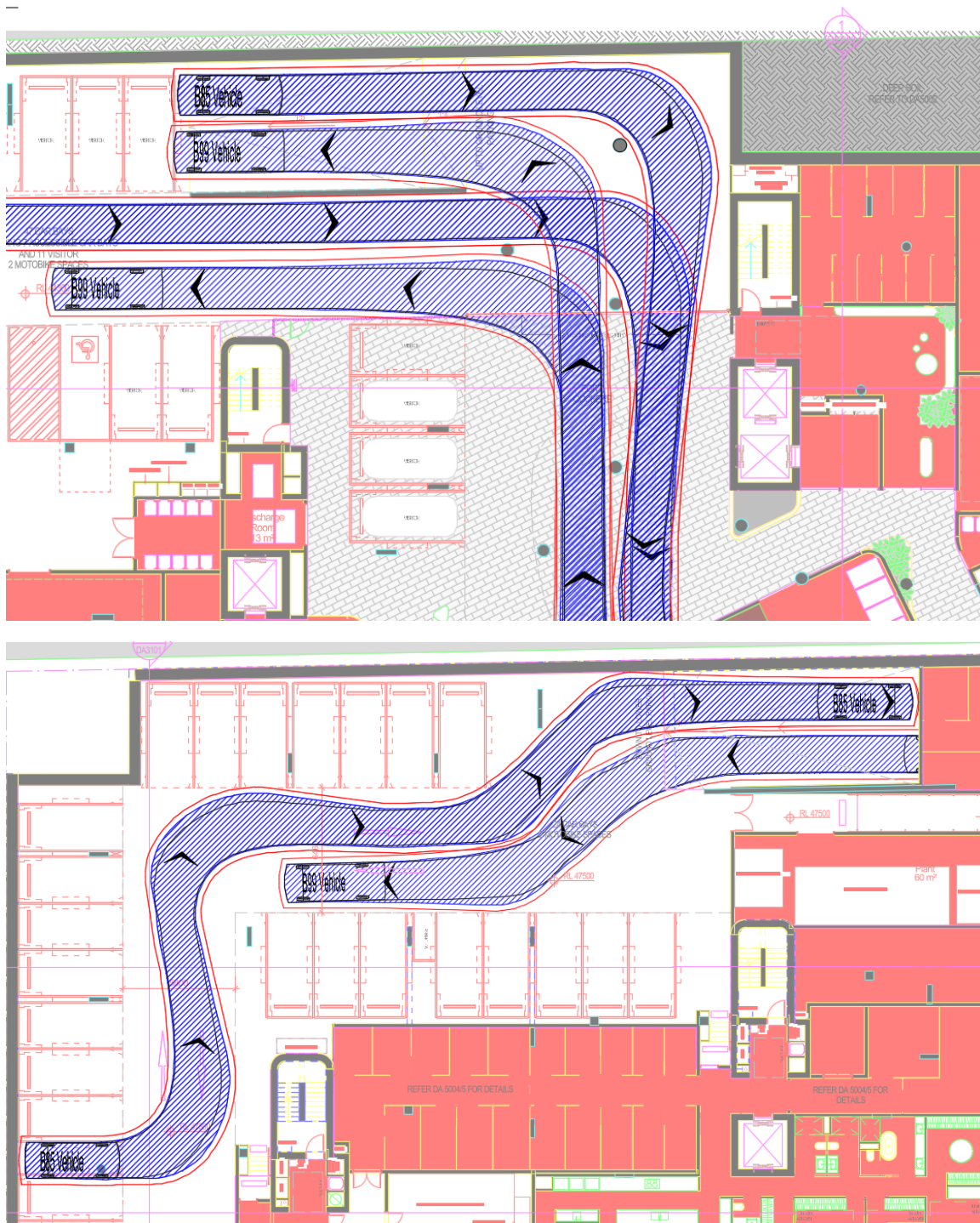


Figure 12 Swept path analysis – internal vehicle circulation

3.3 Loading and servicing

All loading including waste collection will occur along the site frontage on Rangers Avenue. This arrangement is consistent with current site conditions for the existing residential dwellings on the site. Waste trucks have the ability to utilise the kerbside parking lane on Rangers Avenue to temporarily stop and collect the bins for the on-site holding area. This enables vehicles travelling on Rangers Avenue to safely pass a stopped waste truck. In the event parking is not available then traffic would not be significantly impacted given the waste truck would not be present for a significant period of time.

The Mosman DCP does not provide for specific rates in relation to loading for residential uses. The basement has only been designed for light vehicles and contractors/couriers can use visitor parking if required. In terms of residential move in – move outs this will occur very infrequently. Further no retail or commercial floor space is proposed as part of the development which typically have a greater servicing requirement in comparison to residential uses.

Delivery and courier vehicles servicing the site may utilise either the existing on-street parking or the designated visitor parking spaces within the site. These types of deliveries are generally infrequent for residential developments and typically occur outside peak residential visitor times, which are most common after 6pm on Friday and Saturday evenings. A standard courier vehicle (classified as a 99th percentile passenger vehicle or B99 design vehicle) is capable of comfortably accessing and parking within both the on-street kerbside spaces and the on-site visitor bays.

3.4 Car parking provision

Based guidance for in-fill affordable housing noted in Part 2, Division 1 of the Housing SEPP 2021, a consent authority may not refuse an in-fill affordable housing development, if the following **minimum** parking requirements met:

- For dwellings used for affordable housing
 - For each dwelling containing 1 bedroom – at least 0.4 parking spaces
 - For each dwelling containing 2 bedrooms – at least 0.5 parking spaces
 - For each dwelling containing at least 3 bedrooms – at least 1 parking space
- For dwellings not used for affordable housing
 - For each dwelling containing 1 bedroom – at least 0.5 parking spaces
 - For each dwelling containing 2 bedrooms – at least 1 parking spaces
 - For each dwelling containing at least 3 bedrooms – at least 1.5 parking spaces.

The minimum car parking requirements are prescribed as a non-discretionary development standard under Section 19(2)(e) and (f) of the Housing SEPP, which if complied with, prevents the consent authority from requiring more onerous standards. Specifically, Section 4.15(2) of the EP&A Act states that if a DA complies with the non-discretionary development standards in an EPI, the consent authority:

- (a) is not entitled to take those standards into further consideration in determining the development application, and*
- (b) must not refuse the application on the ground that the development does not comply with those standards, and*
- (c) must not impose a condition of consent that has the same, or substantially the same, effect as those standards but is more onerous than those standards, and the discretion of the consent authority under this section and section 4.16 is limited accordingly.*

Given the parking standard provides a minimum rate, any proposed car parking provision beyond the minimum rates still meets the controls in Section 19(e) and (f) of the Housing SEPP. Further, adequate car parking provision is required to cater to the travel needs of downsizers, aging owner-occupiers and young families as public transport does not meet all the travel needs of these residents, especially for destinations not well-served by public transport.

11 parking spaces for visitors has been provided in accordance with the parking rates outlined in the Mosman DCP.

A summary of the proposed car parking is provided in Table 4.

Table 4 Car parking summary

Land Use	Type		No. of units	Minimum Parking Rate	Min. No. of Spaces	Parking provided
Residents	Non-Affordable Housing	1 bed	0	0.5 / unit	0	80
		2 bed	6	1.0 / unit	6	
		3/4 bed	28	1.5 / unit	42	
	Affordable Housing	1 bed	0	0.4 / unit	0	
		2 bed	10	0.5 / unit	5	
		3/4 bed	0	1.0 / unit	0	
Visitors			44	0.25 / unit	11	11
Total			44	-	64	91

3.5 Walking distance assessment

This section provides an assessment of the walking distance between the site and the Cremorne town centre. Schedule 10 of the Housing SEPP 2021 defines walking distance as follows: “*walking distance means the shortest distance between 2 points measured along a route that may be safely walked by a pedestrian using, as far as reasonably practicable, public footpaths and pedestrian crossings*”

The two available walking routes between the site and the Cremorne town centre are illustrated in Figure 13, which comprise of:

- Route 1: Via Bloxsome Lane, Bardwell Lane, Holt Avenue and Spofforth Street
- Route 2: Via Rangers Avenue and Spofforth Street

Both routes are considered to meet the definition of ‘walking distance’ as noted in Schedule 10 of the Housing SEPP 2021 is satisfied given:

- The walking routes represents the shortest distance between two points;
- The walking route have the ability to be safely walked by a pedestrian; and
- The walking routes utilise, as far as practicably possible, public footpaths and pedestrian crossings



Figure 13 Walking route to Cremorne town centre

Source: LTS Lockley

While it is acknowledged that walking route 1 utilises Bloxsome Lane and Bardwell Lane which do not provide any formal footpaths, these are considered to still satisfy the walking distance criteria under the Housing SEPP. Both Bloxsome Lane and Bardwell Lane carry very little traffic throughout the day and pedestrians have the ability to safely walk along these streets.

As previously indicated in Figure 6 Bloxsome Lane carries very little traffic at less than 50 vehicles per day, which is expected to reduce in future following the removal of four existing driveways serving the subject site. The traffic surveys recorded an average vehicle speed of 12km/h on Bloxsome Lane – similar to a formal 10km/h speed zone in place for a ‘shared zone’ where pedestrians and cars have equal priority. For shared zones TfNSW guidance is that vehicle flows of up to 100 vehicles per hour can be accepted, whereas the traffic flow on Bloxsome Lane is significantly less than this at no more than 6 vehicles per hour.

Pedestrian surveys have indicated that approximately 50 pedestrians per day utilise Bloxsome Lane which outnumbers vehicle movements.

Crash data as previously presented in Section Figure 9 of this document shows no recorded history of crashes involving pedestrians along either of these laneways. It is also important to note that Mosman Council provides for dedicated pedestrian pathways to Bloxsome Lane at two locations, those being a publicly available set of stairs at the eastern end of Rangers Avenue (refer Figure 14) and a pedestrian only walkway known as ‘Stuart Walk’ (refer Figure 15) connecting Holt Avenue with Bloxsome Lane.



Figure 14 Existing public stairs and path to Bloxsome Lane at Rangers Avenue

Source: Google Street View



Figure 15 Stuart Walk connecting Bloxsome Lane with Holt Avenue

Source: Google Street View

3.6 Bicycle parking

Mosman Council's DCP requires one bicycle space per 4 dwellings for residential developments. The site therefore requires the minimum provision of 11 bicycle parking spaces for residents. A bike parking room is provided on the ground level of building which contains 12 bicycle parking spaces – therefore Council's requirements are exceeded.

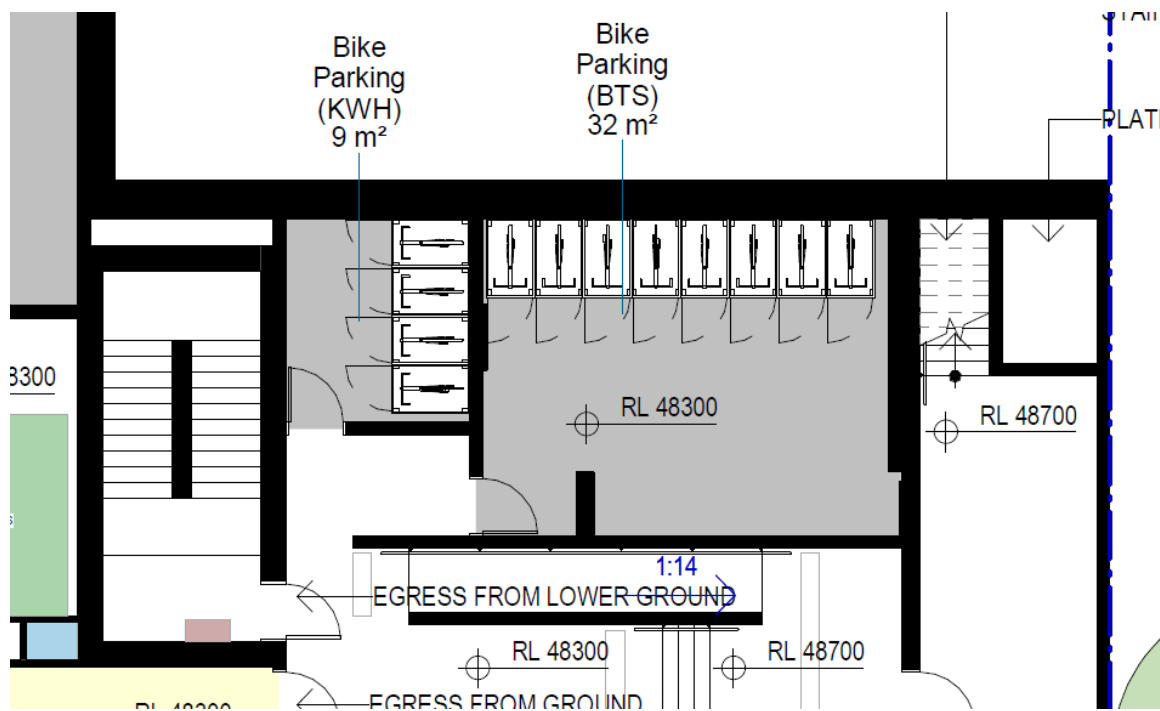


Figure 16 Ground floor bike parking room

3.7 Motorcycle parking

Mosman Council's DCP requires one motorcycle space per 25 car parking spaces. The site therefore requires 4 motorcycle parking spaces based on the proposed parking provision, which are provided in the basement and lower ground levels to comply with Council's requirement.

3.8 Accessible parking

The Mosman DCP requires the provision of one accessible car parking space for every 50 dwellings. The proposal provides for 9 accessible car parking spaces designed in compliance with AS2890.6 – exceeding Council's minimum requirements.

3.9 Forecast traffic generation

The Transport for NSW Guide to Transport Impact Assessment (GTIA) document published in 2024 outlines recommended vehicular trip rates for high density residential developments, those being:

- AM Peak hour: 0.19 trips per apartment
- PM Peak hour: 0.15 trips per apartment

Based on the proposed development yield under the proposal, and considering the traffic generation potential of the existing detached dwellings on the site, the following **additional** peak hour traffic generation could be expected:

- AM Peak hour: 4 vehicle trips
- PM Peak hour: 3 vehicle trips

3.10 Road network impacts

As previously demonstrated the proposal is forecast to generate between 3 to 4 traffic movements during peak hour periods - equivalent to one vehicle every 15 minutes or less.

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.

As indicated in Section 2.4 of this document the existing road network in the vicinity of the site currently operates very well with spare levels of capacity. The very minor increase in traffic generation associated with the proposed development will not impacts this existing strong level of service. With respect to Bloxsome Lane there would be an improvement in traffic performance due to the removal of four existing vehicle driveways facilitated by the project.

4 Preliminary Construction Traffic Management Plan

4.1 Overview

For the purposes of the SSDA a preliminary Construction Pedestrian Traffic Management Plan (CTPMP) has been prepared. This preliminary CPTMP outlines the key principles for how construction may be carried out on the site, subject to further planning to be undertaken during subsequent stages of the project. As the project is early in the design phase details around construction timeframes, methodology and processes are not yet confirmed.

Prior to the commencement of construction for the site, a detailed CPTMP will be prepared. This will be reinforced through an appropriately worded condition of consent, with the purpose of the CTPMP to assess the proposed access and operation of construction traffic associated with the proposed development with respect to safety and capacity. The Contractor will be responsible for preparing the CTPMP, ensuring the following are addressed:

- Proposed construction vehicle routes;
- Indicative construction programme;
- Expected construction vehicle types and volumes;
- Car parking arrangements and site access during construction;
- Safety measures to minimise impacts to pedestrians and cyclists; and

The Contractor will also be responsible for monitoring and coordinating all vehicles entering and exiting the site.

4.2 Construction traffic routes

The construction vehicles routes to be utilised for the construction of the subject site would be selected in order to:

- Maximise vehicle use to the State and Regional road network and limit the extent of travel on residential streets;
- Avoid impacting concurrent construction projects in the vicinity of the site; and
- Minimise impacts to the public transport network

The site will be accessed by construction vehicles travelling along the State and Regional road network. Key traffic routes would be via the Warringah Freeway and Military Road as illustrated in Figure 17.

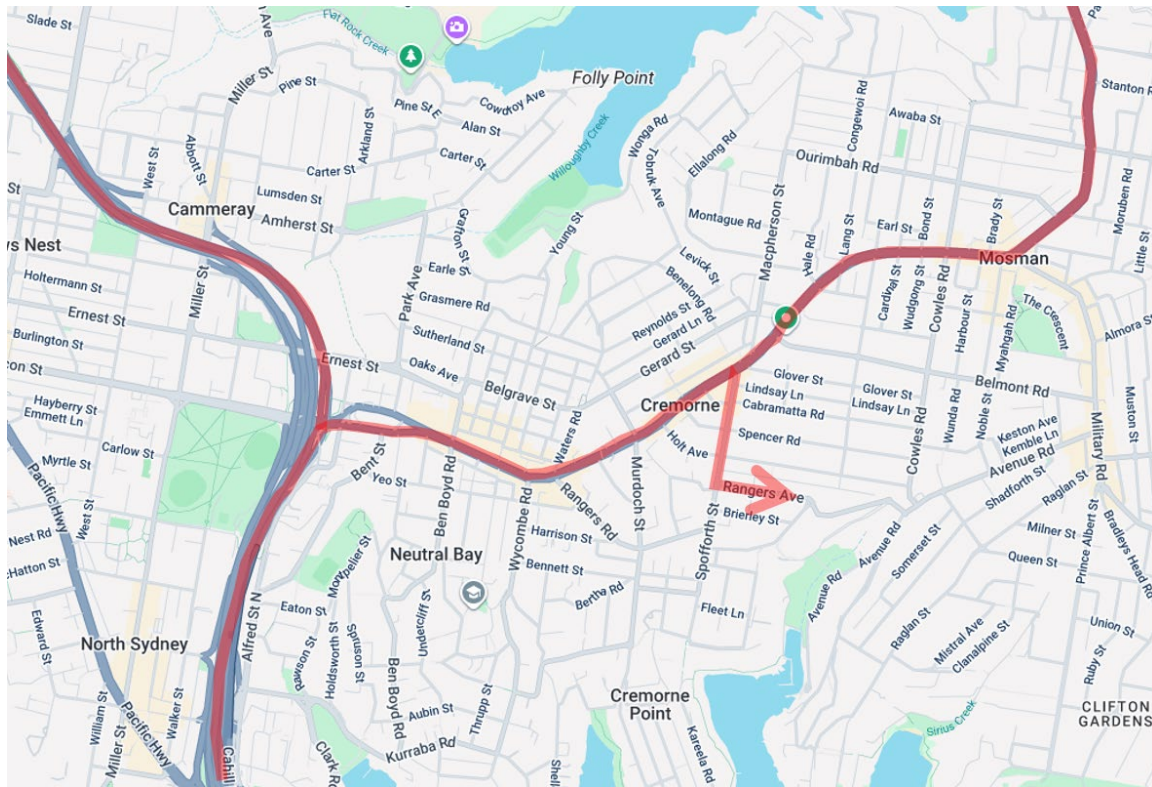


Figure 17 Potential construction vehicle routes

These construction routes will be confirmed during the preparation of the detailed CPTMP developed prior to the commencement of construction.

4.3 Construction vehicle volumes

The number of construction vehicles accessing the site on a typical day may be in the order of 10-20 vehicles. This figure will be confirmed following the appointment of a contractor and will form part of the detailed CPTMP to be prepared prior to the commencement of construction. It should be noted however that the level of construction vehicle traffic will be less than that generated during the operational phase of the project.

4.4 Works zones

To facilitate the construction project, a work zone may potentially be established on the northern side of Rangers Avenue adjacent to the site. The work zone would require the temporary removal of approximately 4 existing on-street parking spaces. The work zone would be approximately 25m in length and allow for large items to be lifted by cranes positioned within the site.

Should a works zone be installed on Rangers Avenue suitable traffic control measures will be in place to manage vehicular and pedestrian movements in the area.

The requirement for this works zone will be confirmed following the appointment of a contractor at the time of the preparation of the detailed CPTMP.

4.5 Road closures and road occupancy

It is not anticipated that the works will necessitate the need for any road closures or occupation of roadways during the project. Should this need arise the appointed contractor would liaise closely with Council and TfNSW and schedule these works well in advance to minimise impacts to road users.

4.6 Size and type of vehicles

The site will have various types of construction vehicles accessing the site, including:

- 12.5m Heavy Rigid Vehicles (HRVs)
- 8.8m Medium Rigid Vehicles (MRVs)
- 6.5m Small Rigid Vehicles (SRVs);
- Utes/vans

4.7 Impacts to pedestrians

Temporary fencing and hoardings will be installed along the site frontages on Rangers Avenue and Bloxsome Lane to maintain pedestrian movements and ensure the safety of pedestrians walking adjacent to the construction site. Footpaths will remain open at all times to pedestrians and therefore minimal impacts are anticipated.

Traffic controllers will be positioned at vehicle site access points to manage interactions between vehicles and pedestrians on the adjoining footpath. Traffic control plans for the site access points will be developed during the preparation of the detailed CPTMP (prior to the commencement of construction) which will further detail management arrangements to be in place to ensure the safety of pedestrians in the area.

4.8 Construction worker parking

Initially, there would be very little on-site parking, however, once the basement and parking levels are completed, contractors may be able use these facilities subject to availability. All other parking will be the responsibility of the individual construction worker. It is intended that the majority of contractors will be utilising the public transport services to travel to and from the site.

The potential car parking arrangements will be outlined within the detailed Construction Traffic Management Plan (CTMP) to be prepared prior to the

commencement of works on the site. This CTMP would outline how workers will travel to the site and measures to be in place to minimise impacts to the surrounding street network. These measures may include (but are not limited to):

- During site induction staff will be informed of the existing public transport network servicing the site
- Identification of suitable off-site parking areas from where workers can either walk or use public transport to access the site; and
- To support construction workers in utilising public transport, appropriate arrangements will be made for any equipment/ tool storage and drop-off requirements

4.9 Cumulative construction impacts

There may be other construction projects occurring at the same as the proposed works at the site. Ongoing review of cumulative heavy vehicle traffic generation and coordination of heavy vehicle routes used by these projects will be undertaken on a regular basis between the appointed contractor, Council and TfNSW to minimise impacts on the road network. As other CTMPs become available for adjacent projects, these will be reviewed by the contractor and discussions held with relevant stakeholders.

It is noted that the works at the site are anticipated to generate a relatively low level of construction vehicle activity of at most 3-5 vehicles per hour. This volume of vehicles would not impact the operation of the surrounding road network.

4.10 Emergency vehicle access

Emergency vehicle access will be maintained at all times, or if necessary site personnel will grant access to emergency vehicles entering the site itself.

The contractor will liaise with the NSW Police, Fire Brigade and emergency services agencies throughout construction and a 24-hour contact would be made available for 'out of hours' emergencies and access. The emergency services will be briefed

4.11 Mitigation measures – construction phase

Mitigation measures will be adopted during construction to ensure traffic movements have minimal impact on surrounding land uses and the community in general, and would include the following:

- Trucks to minimise the use of local streets for access to the construction site;
- Trucks to enter and exit the site in a forward direction;
- Pedestrians near the ingress/egress points will not be held unnecessarily.

- At construction vehicle access/egress points, priority is to be given to trucks accessing the site over trucks egressing the site so as to have no impact to traffic flow on surrounding roads (unless exceptional circumstances do not permit)
- Trucks to not circulate on the road network to wait to enter the site (unless exceptional circumstances do not permit)
- Restrict construction vehicle activity to designated routes which do not utilise any local roads;
- Truck drivers will be advised of the designated truck routes to/ from the site;
- Construction access from the external road network to mainly occur at signalised intersection;
- Pedestrian movements adjacent the construction site will be managed and controlled by site personnel where required;
- Pedestrian warning signs and construction safety signs/devices to be utilised in the vicinity of the site and to be provided in accordance with WorkCover requirements;
- Construction activity to be carried out in accordance with approved hours of work;
- Truck loads would be covered during transportation off-site;
- Establishment and enforcement of appropriate on-site vehicle speed limits which would be reviewed depending on weather conditions or safety requirements;
- Activities related to the construction works would not impede traffic flow along adjacent roads;
- Materials would be delivered and spoil removed during standard construction hours;
- Construction vehicles not to queue on adjacent streets;
- During site induction, workers will be informed of the existing bus, train and metro network servicing the site;
- To support construction workers in utilising public transport, appropriate arrangements will be made for any equipment/ tool storage and drop-off requirements; and
- Development and enforcement of driver charter.

The appointed contractor will include the following in all subcontract procurement packages as part of a driver code of conduct:

- a copy of the approved truck routes as previously detailed in this document.
- the approved maximum truck size
- any other entry restrictions, or site access restrictions as agreed to by the authorities.

All staff employed by head contractor (including sub-contractors) would be required to undergo a site induction. The induction would include permitted access routes to and from the construction site for site staff and delivery vehicles, parking arrangements, as well as standard environmental, workplace health and safety, driver protocols and emergency procedures. The approved work hours must be included as part of this induction.

5 Summary

This transport assessment has been prepared by JMT Consulting to accompany a State Significant Development Application (SSDA) for the residential development at 11 -23 Rangers Avenue, Mosman. Key findings of the assessment are as follows:

- The site has strong access to nearby public transport, particularly high frequency bus services along Military Road.
- A single vehicle driveway entry/exit to the site via Rangers Avenue is to be provided under the proposal which has the ability to provide for suitable access for cars accessing the on-site parking area.
- The proposal includes on-site parking for residents and visitors which is considered appropriate to accommodate future demands.
- The car park has been designed in accordance with relevant Australian Standards AS2890.1 and AS2890.6.
- The existing road network in the vicinity of the site currently operates very well with spare levels of capacity.
- The proposal is forecast to generate a very minor increase in traffic of between 3 and 4 vehicles during peak hour periods and therefore would not impact the operation of the surrounding road network.
- Bicycle parking is to be provided for residents and visitors in accordance with Council requirements.

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