



Five Ways Triangle Site – Crows Nest Preliminary Loading Dock Management Plan

Prepared for:

Deicorp Projects (Crows Nest) Pty Ltd

8 March 2024



PROJECT INFORMATION

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Client:	Deicorp Projects (Crows Nest) Pty Ltd
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Prepared By:	JMT Consulting

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Five Ways Triangle Site – Loading Dock Management Plan	Issue	08.03.24	JM

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1 Introduction

1.1 Background

JMT Consulting has prepared this loading dock management plan on behalf of Deicorp Projects (Crows Nest) Pty Ltd to support a State Significant Development Application (SSDA 66826207) for the site known as the 'Five Ways Triangle Site' located at 391-423 Pacific Highway, 3-15 Falcon Street and 8 Alexander Street, Crows Nest. The SSDA seeks to provide for a residential tower building with complementary retail and commercial uses.

1.2 Site location

The subject site is bound by Falcon Street to the north, Alexander Street to the east, and the Pacific Highway to the south-west. The site is 3,200.6sqm in area. It is triangular in shape with a frontage of approximately 70m to Falcon Street, 85m to Alexander Street and 110m to the Pacific Highway. The site contains a number of buildings ranging from 1-4 storeys in height in a variety of building styles and sizes. St Leonards Railway Station is located approx. 800m walk to the north-west, which provides regular services to the south to Sydney City CBD, and to the north to Chatswood, Macquarie Park and Hornsby. The future Crows Nest Metro Station is located approx. 250m to the north-west of the site.



Figure 1 Site location

1.3 Report purpose

This preliminary loading dock management plan report has been prepared to summarise the proposed loading dock design and principles around dock management – confirming the suitability of the proposed layout and ability to accommodate likely traffic movements to the on-site service areas.

1.4 Relevant standards and guidelines

The following Australian Standards documents have been considered as part of the design process for the proposal:

- AS2890.1:2004 for car parking areas.
- AS2890.2:2018 for commercial vehicle loading areas.

In addition the relevant Transport for NSW document considered includes the 'Last Mile Freight Toolkit: A guide to planning the urban freight task'

2 Loading Dock Access and Design

2.1 Vehicle site access arrangements

Access for all service vehicles will be shared with general passenger vehicles through a driveway on Alexander Street - consistent with that envisaged as part of the Planning Proposal for the site. Access of Alexander Street is appropriate given both Falcon Street and the Pacific Highway are State Classified roads.

A 5% gradient for the first 6m of the driveway is provided in accordance with the requirements of AS2890.1:2004 and AS2890.2:2018 so that vehicles have suitable lines of sight to oncoming pedestrians on Alexander Street.

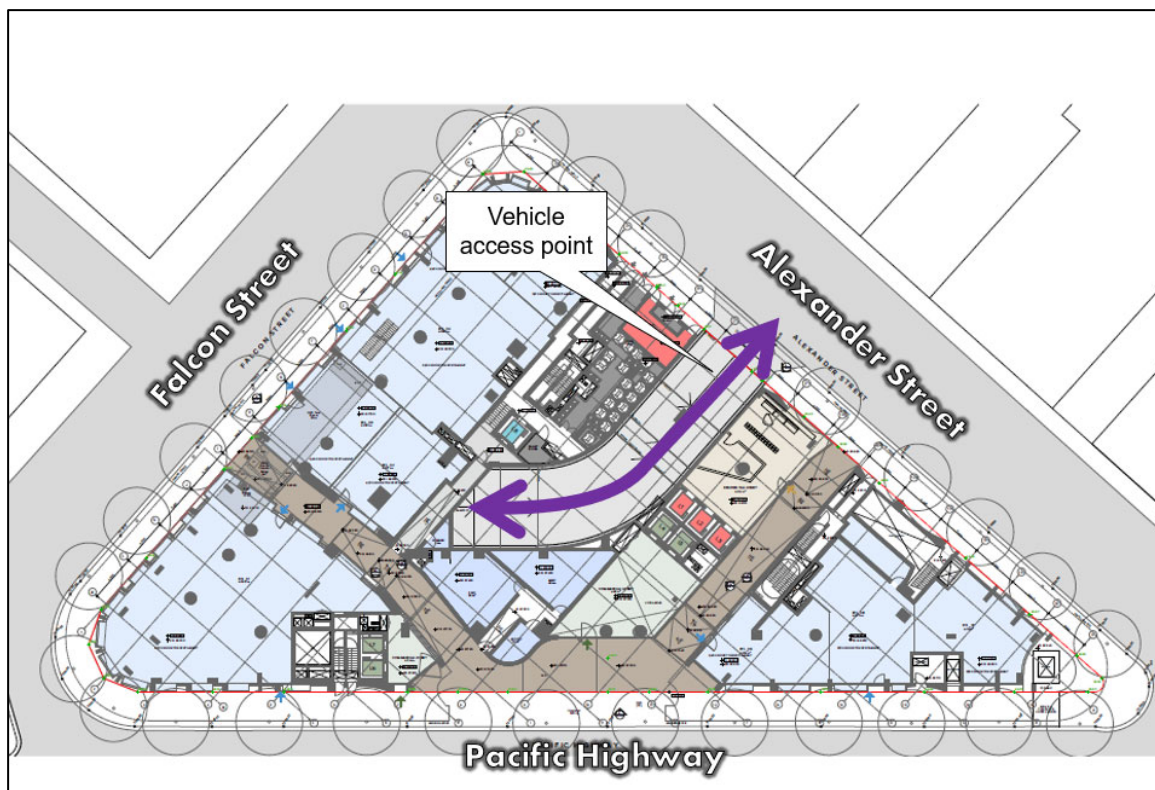


Figure 2 Proposed vehicle site access

2.2 Vehicle clearance heights

The following vehicle clearance heights will be provided in the basement to accommodate the safe movement of vehicles:

- 4.5m clearance height along the main entry ramp through to the loading dock on basement level 1 to accommodate large delivery vehicles used for residential move ins / outs.
- 2.2m clearance height within the remainder of the basement, as per the requirements of AS2890.1. This will be sufficient for use by vans and utes, equivalent to the 'B99 vehicle' as defined in AS2890.1. These vans and utes will access the site to undertake general maintenance and/or undertake smaller deliveries to the various site users.

2.3 Loading provision

A loading dock at basement level is provided containing two truck parking spaces comprising of the following vehicle types:

- 1 * 8.8m long space for a Medium Rigid Vehicle (MRV)
- 1 * 6.4m long space for a Small Rigid Vehicle (SRV)

In addition to the two truck spaces in the loading dock four service vehicle parking spaces will be provided in the basement of the building. These spaces can be used by vans/utes for the purposes of building servicing, resident deliveries or deliveries to the retail tenants of the building.

As per current North Sydney Council waste collection policy, all residential waste will be collected via Alexander Street. Commercial and retail waste will be undertaken via a private contractor service within the basement of the building.

The North Sydney DCP provides guidance in relation to service vehicle parking in new developments. The DCP rates are however based on standalone uses rather than a mix of uses within a single development like our site. Given the proposal provides for a range of uses there is the opportunity for the sharing of service vehicle spaces. The *Transport for NSW Urban Freight Forecasting Model* can be used as a reference to understand the potential servicing requirements in this instance.

The model, based on the proposed number of service vehicle parking spaces, forecasts an average efficacy of approximately **98.93%**. This exceeds the minimum efficacy level of 80% (subject to management measures) demonstrating a suitable level of on-site vehicle servicing provision.

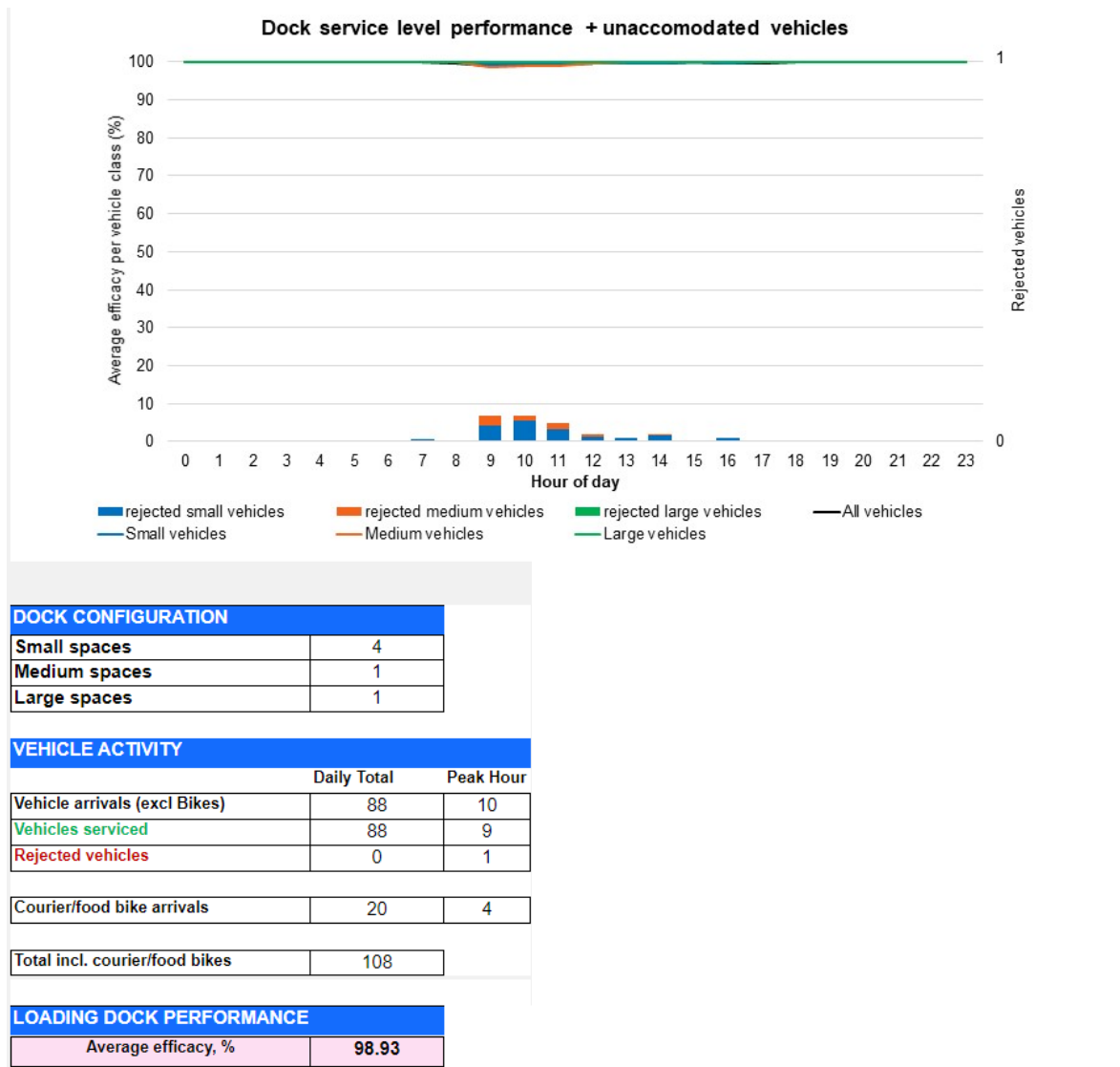


Figure 3 Outputs from TfNSW urban freight forecasting model

2.4 Internal vehicle circulation

The proposed internal vehicle circulation arrangements are indicated in Figure 4 below and include:

- All vehicles to enter and exit the site in a forwards direction from Alexander Street
- Large trucks to access a turntable located on the ground floor and position themselves in the south-west corner of the building from where loading/unloading will occur. An 11m diameter turntable is provided to facilitate the movement of trucks in a forwards direction.

The loading dock design is also consistent with the requirements of AS2890.2 in that it separates truck manoeuvring from the main passenger vehicle access aisle.

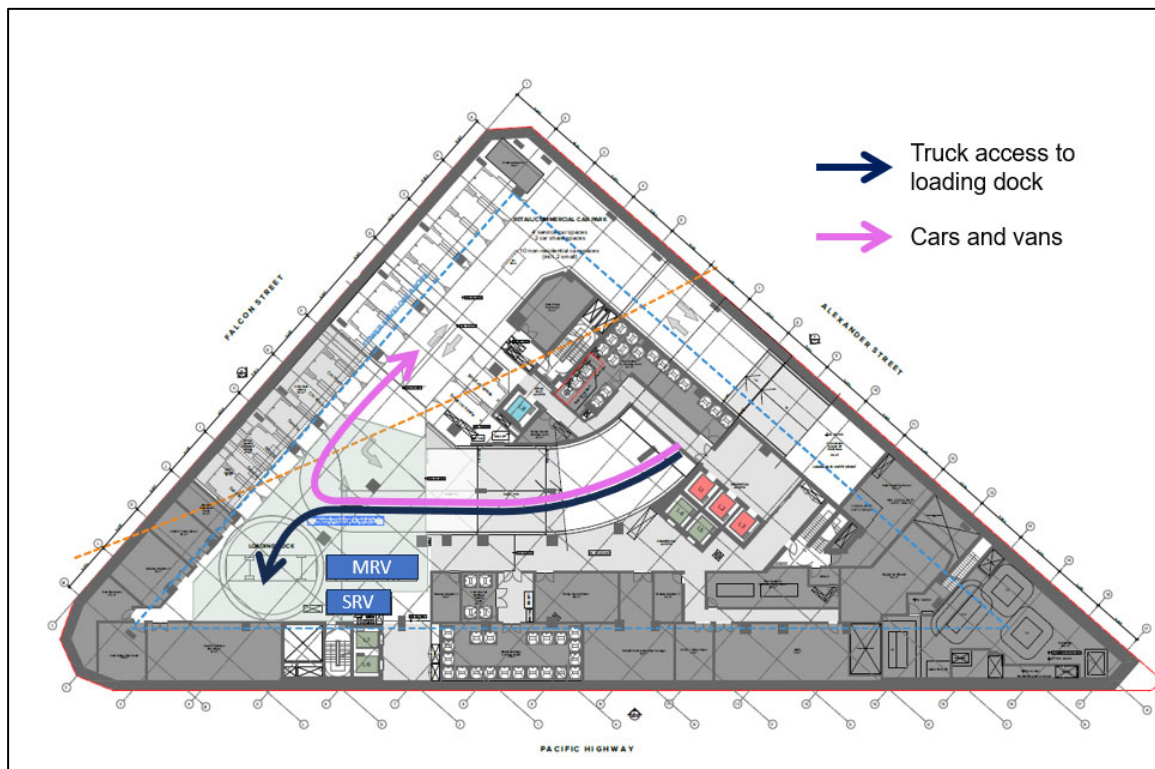


Figure 4 Internal vehicle movements

As shown in the swept paths in Figure 5 the design makes provision for two Medium Rigid Vehicles to pass one another as they enter and exit the site. Suitable manoeuvring area is provided within the loading dock to allow the trucks to enter and exit the designated parking spaces.

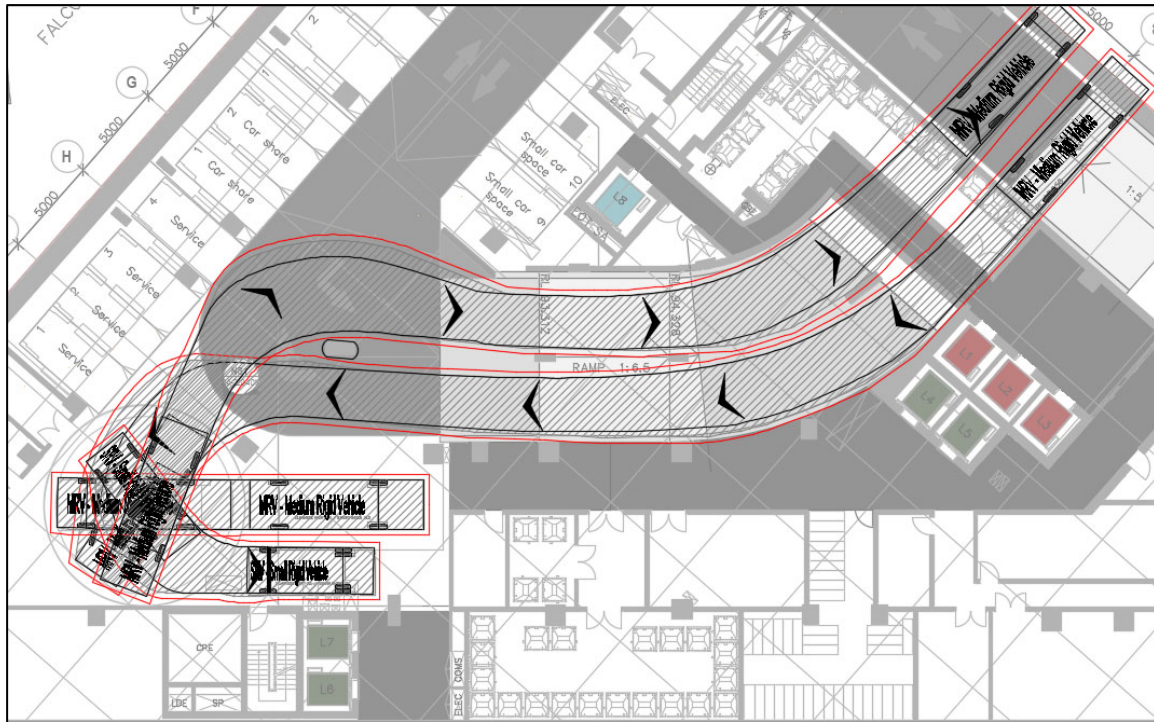


Figure 5 Vehicle swept paths – loading dock

2.5 Service corridor

A wide service corridor will be available for goods to be trolleyed between the trucks parked in the loading dock to the adjacent goods lift as indicated in Figure 6.

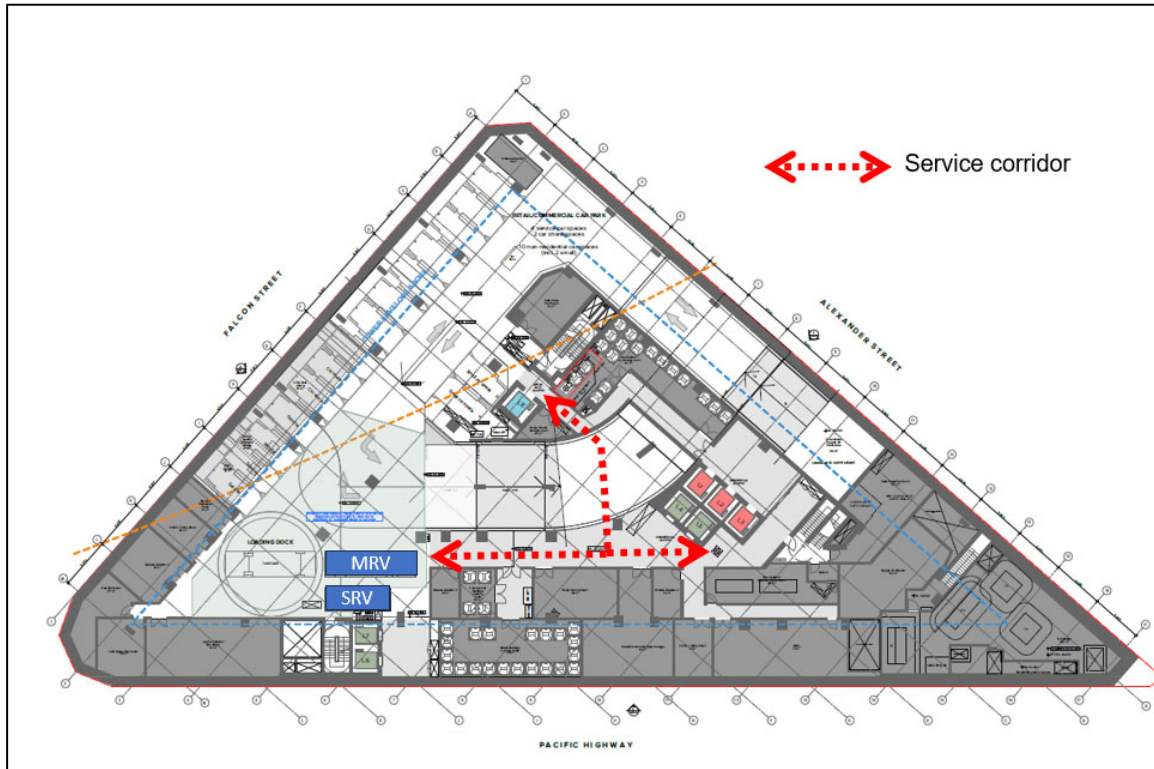


Figure 6 Service corridor from loading bay to goods lift

3 Loading Dock Operations

3.1 Delivery types

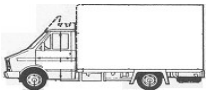
The loading dock is estimated to be receive the following services via those bays, but not limited to:

- Grocery deliveries (regularly);
- Goods deliveries for retail (weekly);
- Furniture delivery (prior to opening and approximately once per week after opening);
- Waste and recycling collection (two times per week for residential uses, three times per week for retail/commercial uses);
- Cleaning and maintenance service (regularly);
- Building maintenance service (occasionally); and

3.2 Vehicle types

An overview of vehicle types expected to service the building is shown in Table 1. The largest vehicle expected to service the building is an 8.8m long Medium Rigid Vehicle (MRV). Typical dwell (turnaround) times for these vehicle types within the loading dock are also indicated in this table.

Table 1 Vehicle types and typical dwell times

Vehicle Type	Vehicle	Characteristics	Turnaround Time (minutes)
Bicycle		Bicycle couriers	5-10
Motorcycle		Motorcycle couriers.	5-10
Service vehicle typically a Van or Car (B99 vehicle)		Typically, 5.2m length, load capacity does not exceed SRV.	10-15
Small Rigid Vehicle (SRV)		Typically, 6.4m length, 2.33m width, 4-tonne load capacity, single rear axle and either single or dual tyres.	10 – 15
Medium Rigid Vehicle (MRV)		Typically, 8.8m length, 2.5m width, 8-tonne load capacity, single rear axle and dual tyres.	15-30

3.3 Hours of operation

It is expected that the loading dock will be available for up to 12 hours per day, seven days per week. Subject to prior discussions and approval from the building manager, the loading dock may also be available for exceptional out-of-hours deliveries.

3.4 Operations management

When in operation the loading dock will have a building manager on-site to coordinate the safe movement of goods, vehicles and personnel within the loading dock area. The building manager will ensure the loading dock (including designated safe walking routes) are kept clear of goods at all times and ensure delivery vehicles strictly adhere to their allotted booking slot. Any vehicles overstaying their booking will be moved on to ensure later bookings are not affected.

Additional signage such as “No Pedestrian Access” will be placed in a visible location at the entrance of the loading dock, along with ground marking stating “No Pedestrian Entry, Loading Dock”, ensuring that pedestrians do not enter the area.

The loading dock rules will be sign posted at the entrance of the loading dock to clearly explain the requirements within this zone.

An informal speed limit of 10km/hr will be put in place on the ramp prior to the loading dock, to clearly notify drivers of the speed within the area.

As the driveway entrance is shared by both light vehicles and trucks, drivers will be made aware to enter and leave the loading dock with caution to ensure the safety of other users. Additional warning signage should be installed near the proposed loading dock to warn motorists of reversing trucks to minimise any perceived safety issues in the vicinity of the loading dock.

3.5 Booking system and driver communications

A loading dock booking system will be employed to control access to dock and spread the demand profile over the day. Deliveries will be required to be pre-booked to an allocated time slot of 30 minutes maximum dwell time.

Drivers will be required to phone the building manager in advance of their arrival to the site so that the building manager will be present to operate the turntable as soon as the truck arrives.

Trucks intending to use the docks will not be permitted to come to site without making a booking beforehand. The major benefit of the implementation of such a system is the ability to moderate demand throughout the day. The allocation of deliveries to timeslots (with strict length of stay limits) reduces the risk the loading dock reaching capacity and manages traffic flow into the site during

peaks. The booking system also largely mitigates the risk of vehicle queues forming to enter the site and improving the flow of traffic on adjacent streets.

If a supplier arrives without a valid booking or outside of their booked time, the building manager may decline their entry to the dock and request that they book an alternate time.

3.6 Forecast loading dock activity

Typically 20% of units within residential apartment buildings turn over every year. Based on 191 residential apartments and this typical turnover rate of 20% it could be expected that between 1 and 2 move ins/outs each week will take place. The building manager will ensure all move ins/outs are scheduled in advance so that space within the loading dock can be allocated appropriately. During the initial move in phase for each building new, special arrangements will be made at basement level through allocation of space and scheduling of bookings.

There will be a range of service vehicles visiting the site for durations of up to 2 hours to provide maintenance and repair services to residential properties. These vehicles will typically be vans and utes which can use the dedicated service vehicle spaces in the basement car park.

Given the land uses and densities proposed within the development, deliveries to the site are manageable given the proposed loading layout – including the four van/ute spaces in the basement of the building. A typical daily delivery profile would include:

- 4-5 deliveries by MRV or SRV trucks.
- 1 garbage / 1 recycle pick-up.
- 15 deliveries by vans / cars.
- 3-4 service vehicles parked for 2-3 hours.

A delivery schedule will be organised by management to stagger and control arrival of deliveries.

For the purpose of this plan, based on experience from similar developments and the expected demand as detailed above, a potential weekly profile for the use of the MRV loading bay on ground level has been developed and is presented in Table 2 on the following page.

Table 2 Potential daily use of medium rigid vehicle parking bay

From	To	Potential Use of Medium Rigid Vehicle Bay						
		MON	TUES	WED	THUR	FRI	SAT	SUN
6:00	6:30		Garbage / Recycling – Commercial & Retail		Garbage / Recycling – Commercial & Retail		Garbage / Recycling – Commercial & Retail	
6:30	7:00	Delivery				Delivery		
7:00	7:30	Delivery						
7:30	8:00			Delivery				
8:00	8:30				Delivery		Delivery	Delivery
8:30	9:00	Delivery						
9:00	9:30		Delivery			Delivery	Apartment move in / out	Apartment move in / out
9:30	10:00	Delivery		Delivery	Delivery			
10:00	10:30				Delivery			
10:30	11:00	Delivery	Delivery	Delivery		Delivery		
11:00	11:30		Delivery		Delivery			
11:30	12:00			Delivery				
12:00	12:30	Delivery						
12:30	13:00		Delivery		Delivery	Delivery		
13:00	13:30			Delivery			Delivery	
13:30	14:00					Delivery		Delivery
14:00	14:30	Delivery			Delivery			
14:30	15:00						Delivery	
15:00	15:30			Delivery		Delivery		
15:30	16:00							
16:00	16:30		2 hour furniture delivery		2 hour furniture delivery			
16:30	17:00							
17:00	17:30							
17:30	18:00							

3.7 Workplace health and safety

Safety requirements for the loading docks include the following:

- In the event of an incident occurring in the loading dock, the Building Manager is to be notified immediately
- In the event of an emergency, the Building Manager will work with the tenant to ensure that an adequate response occurs
- All persons must wear high-visibility vests/clothing and enclosed footwear (no thongs, sandals or open-toed shoes)
- No person is to work while under the influence of drugs or alcohol
- No unauthorised riding of bicycles or skateboards on the loading dock
- If gas bottles are unloaded, they are to be labelled with a company name and stored correctly
- All drivers must drive at a speed no greater than 10km per hour.

3.8 Turntable redundancy

In the event that the turntable malfunctions there are the following typical safeguards that would be built in:

- Main and “battery backup” power supply
- Principal and “backup rotation motors
- Dual system for manual usage when there is a failure - the affected drive can be disengaged allowing the turntable to continue operation without loss of productivity.

Deicorp commit to implementing these safeguards as part of the development to ensure that vehicles can always enter and exit the site in a forwards direction.

3.9 Information to residents and building tenants

An information pack will be provided to all new residents and building tenants containing this Loading Dock Management Plan and other specific information. The Loading Dock Management Plan will be distributed to all tenants of the building annually and with any change of tenancy (both retail and commercial).

3.10 Management and monitoring

A maintenance check of the traffic management system on-site is to be scheduled yearly and will include a review of:

- the on-site turntable
- signage for placement and wear
- wear and visibility of ground line marking.

In the event that the system is not working, the building management is to be informed and emergency traffic management measures are to take place.

The contact details of building management is to be sign posted at all entrances and within the loading dock.

4 Summary

This loading dock management plan report has been prepared by JMT Consulting on behalf of Deicorp Projects (Crows Nest) Pty Ltd to support a State Significant Development Application (SSDA 66826207) for the site known as the 'Five Ways Triangle Site' located at 391-423 Pacific Highway, 3-15 Falcon Street and 8 Alexander Street, Crows Nest.

The report summarises the proposed loading dock design and principles around dock management – confirming the suitability of the proposed layout and ability to accommodate likely traffic movements to the on-site service areas.

The loading dock management plan has demonstrated that the loading dock has been designed in order to accommodate expected service vehicle movements to the site without relying on any on-street loading areas. The dock will be managed (employing a pre-booking system) to provide efficient operations and minimise the impacts on the surrounding transport network.

Appendix C: TfNSW Correspondence

Josh Milston

From: Shengxi Lin <Shengxi.Lin@transport.nsw.gov.au>
Sent: Thursday, 28 March 2024 11:47 AM
To: Josh Milston
Subject: RE: Five Ways, Crows Nest (SSD-66826207) - TfNSW Consultation

Hi Josh,

TfNSW has reviewed the submitted information and advises that if the additional vehicle trips generated by the proposal is about 60 vtpm in the peak hours, the requirement for network modelling, in this instance, could be waived.

Should you have any further enquiries, please refer to development.sydney@transport.nsw.gov.au.

Note: It is emphasised that the comments provided above are informal and of a pre-lodgement nature. They are not to be interpreted as binding upon TfNSW and may change following formal assessment of a submitted development application from the appropriate consent authority.

Regards,

Shengxi Lin

Development Assessment Officer
Planning and Programs
Greater Sydney
Transport for NSW

 E shengxi.lin@transport.nsw.gov.au

transport.nsw.gov.au



**Transport
for NSW**

OFFICIAL

From: Josh Milston <josh.milston@jmtconsulting.com.au>
Sent: Wednesday, March 20, 2024 7:45 AM
To: Shengxi Lin <Shengxi.Lin@transport.nsw.gov.au>
Subject: RE: Five Ways, Crows Nest (SSD-66826207) - TfNSW Consultation

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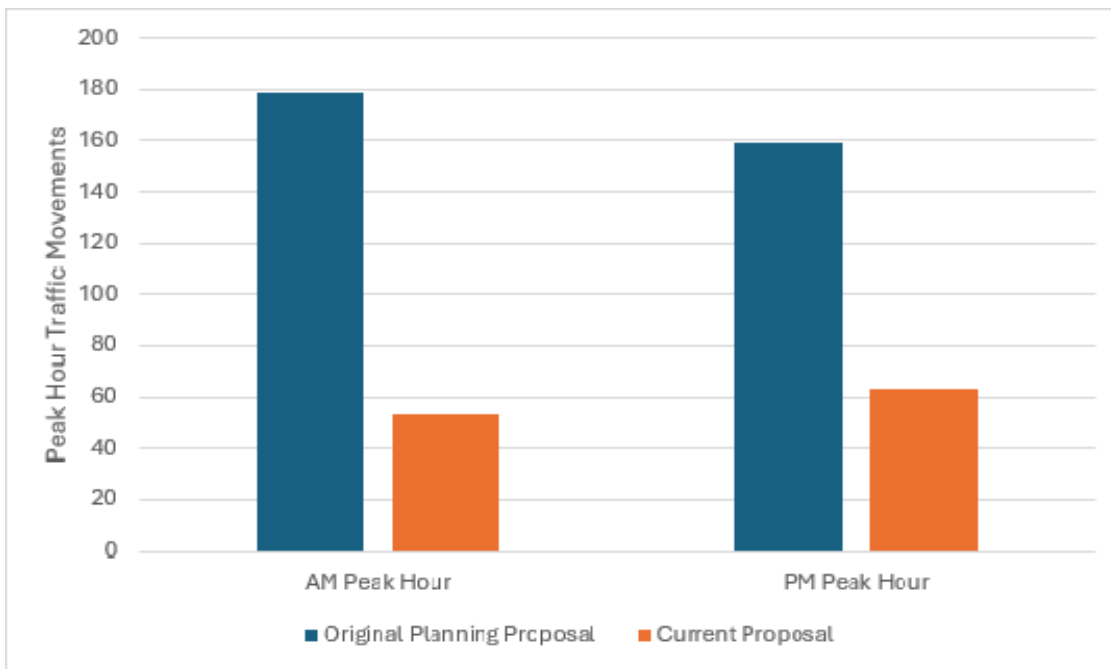
Hi Shengxi

Thanks very much for providing this feedback, it is much appreciated. In response to your comments:

- As per your advice, the TIA will include a detailed assessment of the vehicle access arrangements from Alexander Street which will include traffic modelling. This traffic modelling will consider the potential queueing into the driveway and any associated impacts to the Alexander Street / Falcon Street signalised intersection

- Based on the latest development scheme the proposal is forecast to generate only 60 additional vehicles in the commuter peak hours, equivalent to just one vehicle every minute. Once this traffic is distributed over multiple arrival/departure routes the impacts will be further diluted. As indicated below the expected traffic generation arising from the current proposal is considerably less than that assumed at the time of the original Planning Proposal submission - in the order of 70% fewer trips in the AM peak hour and 60% fewer trips in the PM peak hour. In this context we do not believe there will be any need or benefit in undertaking traffic modelling of nearby signalised intersections. It would not register any difference in any traditional traffic modelling program in a 'with development' and 'without development' traffic scenarios, nor would it trigger any changes to these intersections. Lastly development of this nature has already been contemplated as part of planning for the broader St Leonards / Crows Nest precinct.
- I also note TfNSW's previous advice on the Planning Proposal, which considered higher volumes of traffic, specifically noted that the project had "*minimal traffic generation*"

In this context we respectfully request the requirement for network modelling to be reconsidered, noting that the TIA will undertake detailed modelling of the Alexander Street driveway as per the TfNSW advice. We would be more than happy to meet with you and your team to discuss this further if required.



Thanks in advance and look forward to hearing from you.

Josh Milston

Director | Transport Planner

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OFFICIAL

From: Shengxi Lin <Shengxi.Lin@transport.nsw.gov.au>

Sent: Tuesday, March 19, 2024 5:43 PM

To: Josh Milston <josh.milston@jmtconsulting.com.au>

Subject: RE: Five Ways, Crows Nest (SSD-66826207) - TfNSW Consultation

Hi Josh,

Thanks for your email seeking Transport for NSW (TfNSW) pre-lodgement advice in relation to the proposed development (SSD-66826207) at Five Ways, Crows Nest.

TfNSW has reviewed the submitted information and offers the following advice, in addition to the scope identified in the SEARs dated 23 January 2024 for 'Traffic, Transport and Accessibility':

- The Traffic Impact Assessment should include an assessment of the suitability of the vehicular access arrangement from Alexander Street and its associated impacts on the Falcon St / Alexander St signalised intersection. The TIA must demonstrate that there will be no queuing back onto the intersection if right turn movements into the site are permitted from Alexander Street. Otherwise, it is suggested that Left In/Left Out access arrangement should be considered to maintain network efficiency and road safety.
- The following intersections surrounding the development site should be modelled as a network model. The cycle times adopted for these intersections should be derived from site investigations/SCATS data (SCATS.Traffic.Signal.Data@transport.nsw.gov.au).
 - Pacific Hwy/Shirley Rd/Falcon St
 - Pacific Hwy/Alexander St
 - Falcon St/ Alexander St

TfNSW will provide further comments during the EIS exhibition stage when the Traffic Impact Assessment is available for review.

It is recommended that the developer to consult with Council (if this hasn't occurred already) in relation to any specific local road assessment requirements they would like to be included in the TIA scope for this development.

Note: It is emphasised that the comments provided above are informal and of a pre-lodgement nature. They are not to be interpreted as binding upon TfNSW and may change following formal assessment of a submitted development application from the appropriate consent authority.

Shengxi Lin

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