

TRANSPORT FOR NSW

# Roseville Station - Transport Access Program

Traffic, Transport and Access Impact Assessment

MAY 2020



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## Roseville Station - Transport Access Program Traffic, Transport and Access Impact Assessment

Transport for NSW

WSP  
Level 27, 680 George Street  
Sydney NSW 2000  
GPO Box 5394  
Sydney NSW 2001

Tel: +61 2 9272 5100  
Fax: +61 2 9272 5101  
wsp.com

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	NAME	DATE	SIGNATURE
Prepared by:	Sam McCormick	29/05/2020	
Reviewed by:	Chris Chun	29/05/2020	
Approved by:	Jarryd Barton	29/05/2020	

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# 1 INTRODUCTION

Transport for NSW (TfNSW) proposes to provide accessibility upgrades at Roseville Station (the Proposal). WSP has been engaged to undertake a Traffic, Transport and Access Impact Assessment to support the Review of Environment Factors (REF) for the Proposal.

This Traffic, Transport and Access Impact Assessment report (the Report) has been prepared for TfNSW to assess the potential impacts to road and rail users and the wider community during the construction and operation stages of the Proposal and suggest measures where feasible to ameliorate or mitigate any impacts.

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## 1.1 BACKGROUND

The NSW Government is committed to facilitating and encouraging use of public transport, such as trains, by upgrading stations to make them more accessible and improving interchanges around stations with other modes of transport such as buses, bicycles and cars.

The Transport Access Program (TAP) is a NSW Government initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure.

Roseville Station has been identified for an accessibility upgrade as it does not currently meet key requirements of the *Commonwealth Disability Discrimination Act 1992 (DDA)* and associated requirements of the *Disability Standards for Accessible Public Transport 2002 (DSAPT)*.

Non-DSAPT compliant access points and paths to Roseville Station platforms do not facilitate equal access for people with reduced mobility, a disability, parents/carers with prams, or customers with luggage. There are currently no lift facilities and inadequate tactile ground surface indicators (TGSI's) to stairs and platforms.

The Proposal would provide safe and equitable access to the platforms and to the pedestrian network surrounding the station. Customer facilities and amenities would also be improved. The upgrades would provide an improved customer experience for existing and future users of the station.

Potential future increases in patronage have been taken into consideration during the design development.

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## 1.2 KEY ELEMENTS OF THE PROPOSAL

The Proposal involves an upgrade of Roseville Station as part of the TAP which would improve accessibility and amenity for customers. The Proposal includes the following key elements:

- two new lifts connecting the existing footbridge to the Hill Street station entrance and the station platforms
- a new canopy on Hill Street station entrance
- a regraded entry footpath and ramp between the existing bus stop, Pacific Highway, and the station entry
- regrading of the existing pedestrian footpaths along Pacific Highway and Hill Street
- upgrade works to the existing footbridge and stairs including anti-throw screens, hand rails and balustrades
- a new platform canopy at the boarding assistance zone
- modification of the station building to include:
  - one new family accessible toilet
  - upgrade to the existing toilets to provide one female ambulant toilet and one male ambulant toilet
  - upgrade of existing store room to a station services equipment room (SSER)

- the provision of additional accessibility features including:
  - two accessible parking spaces
  - an accessible kiss and ride bay
  - new covered bus shelter with seating
  - five bicycle racks (undercover).

Subject to planning approval, construction is expected to commence in Q3 2020 and take around 18 months to complete.

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## 1.3 STUDY SCOPE

This Report assesses the likely traffic, transport and access impacts during the construction and operation of the Proposal and identifies where feasible mitigation measures to reduce the likely impacts of the project. More specifically, the following issues have been covered in this Report:

- A review of the existing traffic, public transport, parking, pedestrian and cyclist conditions within the study area
- Station access issues relating to the Proposal during construction
- Suggested improvements and mitigation measures that might be implemented to minimise the traffic and road safety-related impacts created by the Proposal.

WSP staff completed a site inspection on Wednesday 25 March 2020 to understand the existing operation at Roseville Station as well as its surrounding condition, facilities and access. This site visit was completed during the government-imposed COVID-19 travel restrictions where far less activity was observed at the station. The WSP team followed social distancing protocol and ensured all other precautions were taken regarding COVID-19. The low activity observed has been ignored due to the likely underrepresentation of traffic and parking in the area.

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## 1.4 REFERENCES

In preparing this Report, reference has been made to the following:

- *Ku-Ring-Gai Council Local Environmental Plan (LEP) 2015*
  - Australian Standard, *Parking Facilities, Part 1: Off-street car parking AS 2890.1:2004*
  - Australian Standard, *Parking Facilities, Part 6: Off-street car parking for people with disabilities AS 2890.6:2009.*
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## 1.5 REPORT STRUCTURE

This Report has the following structure:

- Chapter 1 Introduction. Describes the purpose of the Proposal and the study scope of this Report
- Chapter 2 Existing Conditions. Describes the existing road network, traffic conditions, public transport and active transport networks in the study area
- Chapter 3 Proposed Station upgrades. Describes the key features of the Proposal and construction activities
- Chapter 4 Construction impacts. Describes the impacts to all users during construction
- Chapter 5 Operational impacts. Presents the impacts of the proposed changes on all users
- Chapter 6 Suggested improvements and mitigation measures. Identifies potential improvements and amelioration measures to minimise any identified Proposal related impacts.



# 2 EXISTING CONDITIONS

## 2.1 STUDY AREA

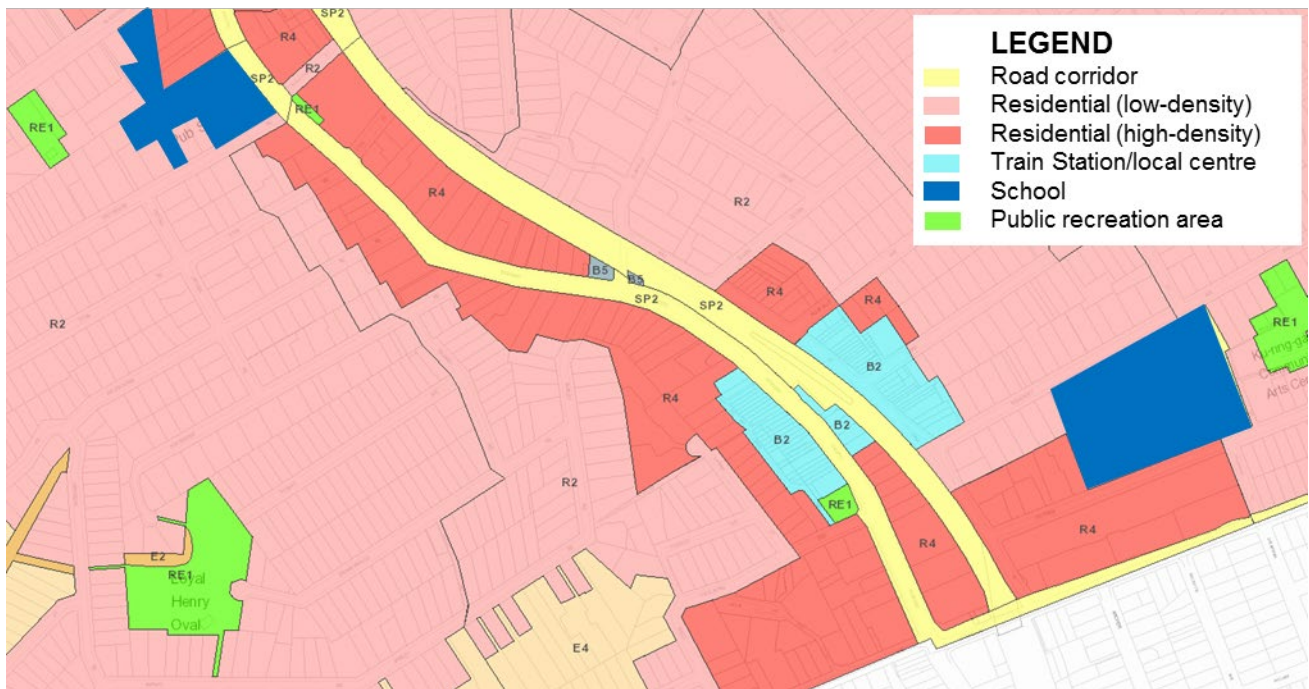
Roseville Station is located in the suburb of Roseville in the Ku-Ring-Gai Council local government area (LGA) located approximately 13 kilometres north from Central Station.

The Proposal is generally located within the boundaries of the existing station and includes the existing path between the bus stop on Pacific Highway to the western footbridge and along Hill Street to the proposed bus stop. The Proposal boundaries also include a kiss and ride bay on Hill Street and the construction compound located within the commuter and staff car parks along Hill Street. The station study area extent is shown in Figure 2.1 in red outline.



Figure 2.1 Proposal study area at Roseville Station

Land uses surrounding the Proposal are generally within a commercial and low-density residential neighbourhood and bounded by local roads, including Hill Street on the northeast and Pacific Highway on the south-west side, as indicated in Figure 2.2.



Source: Ku-ring-gai Local Environmental Plan Viewer accessed 27 March 2020

Figure 2.2 Ku-ring-gai Council Local Environmental Plan (LEP) Land Zoning

## 2.2 SURROUNDING ROAD NETWORK

Roseville Station is located between the Pacific Highway and Hill Street with the surrounding road network made up of mainly local/residential streets. Table 2.1 provides a summary of the key roads surrounding the station and their features with street map provided in Figure 2.3.

Table 2.1 Surrounding road network

Road	Classification	Posted speed limit	Configuration
Pacific Highway (A1)	Main road (State)	60 km/h	Three lanes in each direction.
Hill Street	Local road	50 km/h	One lane in each direction except at the Bancroft Avenue intersection where the road is divided into one lane each way alongside the railway and one lane southbound grade separated adjacent residential properties.
Clanville Road	Local road	50 km/h	One lane in each direction.
Oliver Road	Local road	50 km/h	One lane in each direction. Kerb extensions near to the intersection with Hill Street reduce Oliver Road to one lane (bidirectional).
Roseville Avenue	Local road	50 km/h	One lane in each direction.
Lord Street	Local road	50 km/h	One lane in each direction.
Bancroft Avenue	Local road	50 km/h	One lane in each direction. Kerb extensions near to the intersection with Hill Street reduces Bancroft Avenue to one lane (bidirectional).



Road	Classification	Posted speed limit	Configuration
Victoria Street	Local road	50 km/h	One lane in each direction. Kerb extensions near to the intersection with Hill Street reduces Victoria Street to one lane (bidirectional).
Boundary Street	Main road (State)	60 km/h	Two lanes in each direction with turning lanes at signalised intersections.



Figure 2.3 Study area

## 2.3 PARKING

Roseville Station has a dedicated commuter car park located approximately 150 metres away from the station which can be accessed via Hill Street providing 31 unrestricted car parking spaces. There are separate entry and exit locations at the south and north ends respectively for this car park as it operates as a one-way road arrangement.

There is on-street, unrestricted parking available on both sides of Hill Street adjacent to the commuter parking. The surrounding roads including Hill Street, Oliver Road, Roseville Avenue, Lord Street, Bancroft Avenue and Victoria Street have a mix of half, one, two and four-hour restricted parking generally between 8.30 am and 6.00 pm on weekdays and 8.30 am and 12.30 pm on weekends with some areas between 10.00 am and 6.00 pm on weekdays. There is also a two-hour restricted off-street council car park with capacity for approximately 60 vehicles which can be accessed via Load Street for shoppers who want to access the small retail area on Hill Street.

On the western side of the station, kerbsides of the Pacific Highway have a mix of clearway, no parking, half-hour and one-hour restrictions. Clearways operate along the Pacific Highway on weekdays between 6.00 am and 10.00 am for southbound direction and 3.00 pm and 7.00 pm for northbound direction, respectively. Kerbside restrictions around the station are depicted in Figure 2.4.

Figure 2.5 through to Figure 2.7 show the existing commuter car park and Figure 2.8 shows the station kerbside on the Pacific Highway.





Figure 2.4 Existing on-street parking restrictions adjacent Roseville Station



Figure 2.5 Commuter car park southern entrance on Hill Street



Figure 2.6 Commuter car park on Hill Street





Figure 2.7 Commuter car park northern exit on Hill Street



Figure 2.8 Station kerb side on the Pacific Highway



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## 2.4 PUBLIC TRANSPORT FACILITIES

### 2.4.1 RAIL SERVICES

Roseville Station is serviced by the T1 North Shore and the T9 Northern Lines. Platform 1 is utilised for train services travelling southbound towards Central Station. Platform 2 is utilised for train services travelling northbound to Gordon, Hornsby and the Greater Central Coast and Newcastle regions, with trains operating between approximately 4.00 am and 2.00 am on weekdays. Journey times between Roseville and Central are approximately 30 minutes. Table 2.2 summarises the existing train services and their peak frequencies at Roseville Station.

Table 2.2 Train services at Roseville Station

Rail line	Services	Frequency of weekday services	
		AM peak (7.00–9.00 am)	PM peak (4.00–6.00 pm)
T1	North Shore Line: City to Berowra via Gordon (and reversed)	Every 3–9 minutes	Every 3–9 minutes
T9	Northern Line: Hornsby to North Shore via City (and reversed)	Every 15 minutes	Every 15 minutes

Source: North Shore and Northern Line timetable <https://transportnsw.info/>

### 2.4.2 BUS SERVICES

Buses service Roseville Station on both the Pacific Highway and Hill Street with stops at the station's entrances and across the road from the station. These include:

- Route 558 Chatswood to Lindfield:
  - Stop (Roseville Station, Hill Street) station side, northern side of the station
- Route 565 Chatswood to Macquarie University and Route N90 Hornsby to City Town Hall via Chatswood:
  - Stop (Pacific Highway opposite Roseville Station) opposite station on the southern side of the station
  - Stop (Roseville Station, Pacific Highway) on the station side, southern side of the station.

## 2.5 TAXI AND KISS-AND-RIDE FACILITIES

There is dedicated space allocated to both taxis and kiss-and-ride (pick up and set down) with space for one vehicle each immediately adjacent to the western access of the station on Hill Street. These are seen in Figure 2.9 and Figure 2.10, respectively.



Figure 2.9 Existing taxi rank on Hill Street



Figure 2.10 Hill Street kiss-and-ride location



## 2.6 PEDESTRIAN ACCESS AND FACILITIES

Pedestrian access to and from Roseville Station is via footpaths connecting to Hill Street and Pacific Highway with stair access to platforms. The grades leading into each access point are noticeable and could impact the safety of mobility-impaired customers (i.e. parents with prams and the elderly). The station is currently limited in its accessibility with only stairs for access to the platforms. Figure 2.11 details access and Figure 2.12 through to Figure 2.16 depict some of the pedestrian conditions adjacent the station.

A list of facilities includes:

- Pedestrian overpass
- Zebra crossing at the Hill Street entrance (A1)
- Stairs to the station on the Hill Street side (A1)
- Signalised crossing at the Pacific Highway entrance (A2)
- A ramp to the station on the Pacific Highway side (A2)
- Stair access to the platforms (no wheelchair accessibility) available from both entrances.



Figure 2.11 Station access and facilities at Roseville Station

Pedestrian facilities are shown in Figure 2.12 through to Figure 2.16.





Figure 2.12 Hill Street pedestrian crossing (P1)



Figure 2.13 Graded access to station on Hill Street (P2)

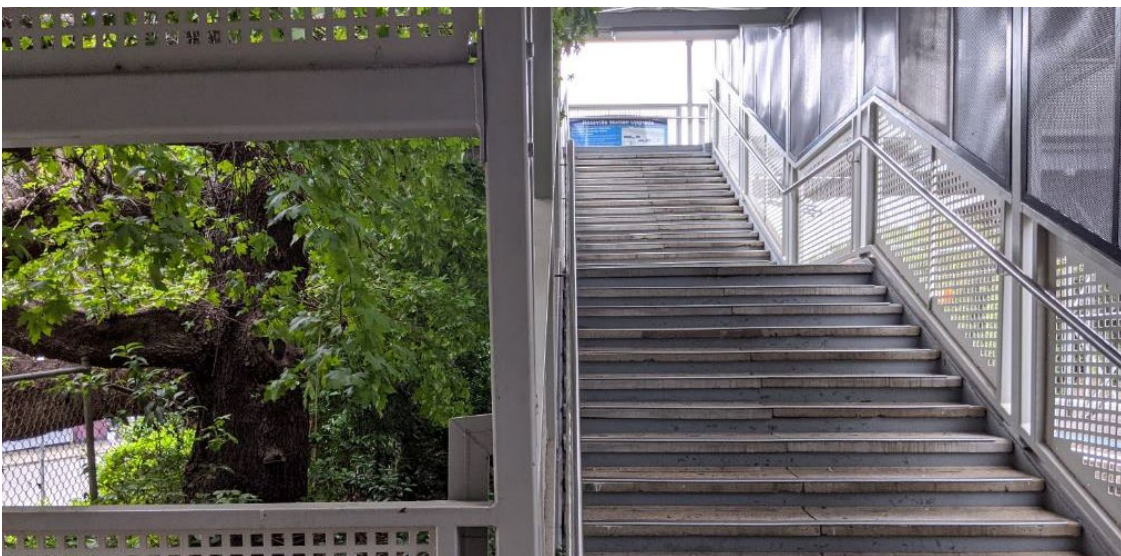


Figure 2.14 Staircase to overpass from Hill Street (P3)





Figure 2.15 Pacific Highway signalised crossing (P4)

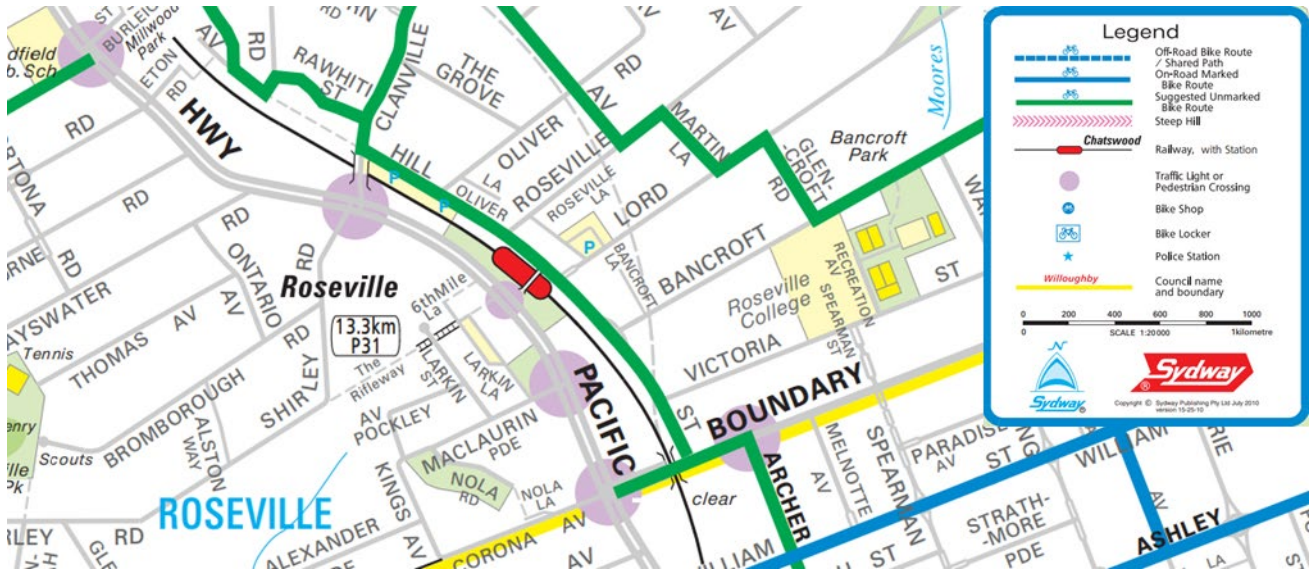


Figure 2.16 Graded access to overpass from Pacific Highway (P5)



## 2.7 ACTIVE TRANSPORT

No formal cycle routes connect to Roseville Station directly as identified by the Ku-Ring-Gai Council or Willoughby Council although on-road, unmarked and informal routes are suggested. These identified are parallel to the Pacific Highway between Chatswood and Gordon, including Hill Street, that cyclists can use to connect and are depicted in Figure 2.17.



Source: North Sydney cycling map

Figure 2.17 North Sydney cycling map – Roseville

Roseville Station has two formal and moveable (currently secured to the path but can be moved) cycle racks with storage for up to 24 bikes (12 per rack) for those who do ride, seen in Figure 2.18 and Figure 2.19. These racks were not heavily utilised based on-site observations, although the site visit was undertaken during the period of COVID-19 travel restrictions so this could underrepresent their utilisation.



Figure 2.18 Cycle rack Pacific Highway side



Figure 2.19 Cycle Rack Hill Street Side



## 2.8 ROAD SAFETY

The area surrounding Roseville Station had no fatal incidents within the five-year period between January 2014 and December 2018. Reviewing the crash data adjacent to Roseville Station indicated 40 incidents occurred on Pacific Highway, the main area for crashes in this area. Regarding the incidents, there were no fatalities, 11 serious injuries and eight involving pedestrians. Figure 2.20 shows the distribution of crashes in the area including serious injury, moderate injury, minor/other injury and non-casualty (tow-away) crashes.



Source: Crash and casualty statistics – interactive map TfNSW, Centre for Road Safety

Figure 2.20 Roseville Station and surrounds crash map

# 3 PROPOSED STATION UPGRADE

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## 3.1 SCOPE OF WORKS

The following station upgrades are proposed at the Proposal to improve accessibility to public transport for all users. The scope of works identified include:

- Station access:
  - construction of a new lift connecting the Hill Street entry to the existing footbridge
  - construction of a new lift connecting the existing footbridge to the station platforms
  - modification to the existing footbridge including the following:
    - addition of extensions to create lift landings
    - regrading of the existing ramp entrances to provide accessible access
    - provision of anti-throw screens to the footbridge and existing stairs
  - installation of a weather protection canopy at the Hill Street station entrance connecting the footpath, the lift entry and the existing footbridge and stairs at this location
  - installation of steps from the existing heritage building and access ramp from the Pacific Highway to the existing footbridge
  - additional works including provision of DSAPT compliant handrails, nosing and tactile surfaces on stairs and ramps.
- Platform Works:
  - the installation of weather protection canopies at the following locations:
    - along either side of the platforms near the new lifts
    - between the stairs and existing station building
    - over the existing boarding assistant zone on the northern end of the platform
  - line marking of the boarding assistant zones on each platform
  - regrading and resurfacing of the platforms connecting the new lifts, boarding assistance zones and existing station building
  - removal and replacement of the existing tactile ground surface indicators (TGSI) throughout the station.
- Station building works:
  - reconfiguration of the existing toilets to include a new family accessible toilet and modification of the existing station building to accommodate one female ambulant toilet and one male ambulant toilet
  - minor modification to the existing store room to provide the SSER room, including relocation of communication racks and new electrical racks and equipment.
- Intermodal work including:
  - provision of two new accessible parking spaces and an accessible kiss and ride bay with a waiting shelter along Hill Street

- relocation of the existing bus stop along Hill Street about 500 metres north of Roseville Station including a shelter, seats and an upgrade to achieve DSAPT compliance
- provision of new sheltered seating along the south side of Hill Street near the kiss and ride bay, and taxi zone
- upgrade of existing bus shelter seating along the Pacific Highway station entrance to be DSAPT compliant
- regrading of the footpath along Hill Street to be accessible for the new entry point connecting the proposed Hill Street lift, accessible parking spaces, accessible kiss and ride bay, bus stop and pedestrian crossing
- regrading of the footpath along the Pacific Highway providing accessibility from the bus stop to the station entry ramp
- installation of steps from the existing heritage building and the accessible entry path and ramp near the Pacific Highway station entry toward the existing footbridge
- the provision of five undercover bicycle rack spaces near the Hill Street entrance at the location of the existing the bus shelter and retaining the three bicycle hoops near the Pacific Highway entrance.
- Ancillary works including:
  - relocation and suitable reinstatement of existing infrastructure (e.g. seats, signage, fencing and rubbish bins) which may be required to be temporarily removed to construct the Proposal
  - provision of anti-graffiti coating to all new and modified hard surfaces
  - provision of upgraded lighting along new accessible areas including footpath, parking, kiss and ride bay, station entries and bus stop
  - improvements to existing station systems (including installing new CCTV cameras as required, installing new LED lighting, installing new Public Address speakers as required)
  - provision of new passenger information displays as required
  - provision of, or relocating existing help points, water fountains, pay phones and an Opal top up machine
  - temporary site compounds for storage of material and equipment utilising the existing commuter car park
  - temporary work (where required) during construction to maintain access to the station
  - relocation or protection of any identified services, utilities and electrical works
  - provision of new kerbs, guttering, drainage adjustments, footpath modifications, line-marking, signage and landscaping adjacent to Hill Street and the Pacific Highway.



## 3.2 CONSTRUCTION ACTIVITIES

Subject to approval, construction is expected to commence in Quarter 3 2020 and take around 18 months to complete. The construction methodology would be further developed by the nominated Contractor during the detailed design of the Proposal in consultation with TfNSW.

The proposed construction activities are identified in Table 3.1. This staging is indicative only and is based on the current concept design and may change once the detailed design methodology is finalised.

Table 3.1 Indicative construction staging for key activities

Stage	Activities	Timing (indicative)
Activity 1: Establishment, enabling works and site compound	<ul style="list-style-type: none"> <li>— Establish site compounds (i.e. erecting fencing, tree protection zones, site offices, amenities and plant/material storage areas).</li> <li>— Establish temporary facilities as required (e.g. temporary access stairs, temporary toilets, temporary construction lights etc.).</li> <li>— Erect site hoarding/fencing as required.</li> <li>— Service location and relocation.</li> </ul>	Standard work hours 2 months
Activity 2: Lift works	<ul style="list-style-type: none"> <li>— Excavate and rock breaking for lift pits/foundations.</li> <li>— Waterproof (as required), install reinforcement, formwork and concrete to form the lift pit.</li> <li>— Erect glass and steel shaft structure.</li> <li>— Lift installation and commissioning.</li> <li>— Implement architectural fit-out around lift shaft including new awning over the lift.</li> </ul>	Standard work hours, night-works and rail possession period 12 months
Activity 3: Ramp upgrade	<ul style="list-style-type: none"> <li>— Upgrade along Pacific Highway entrance including:               <ul style="list-style-type: none"> <li>— Perform earthworks for new ramp grading</li> <li>— Install ramp formwork and structure</li> <li>— Install ramp fitout of new hand rails, seating and TGSI's</li> <li>— Regrading of existing footpath.</li> </ul> </li> <li>— Upgrade along Hill Street and station entrance:               <ul style="list-style-type: none"> <li>— Regrading of existing footpath</li> <li>— Adjust existing stair for new access and entrance canopy area with new canopy</li> <li>— Removal of existing canopy</li> <li>— Build retaining wall to support existing stairs</li> <li>— Install paving and finishes.</li> </ul> </li> </ul>	Standard work hours 6 months
Activity 4: Kiss-and-ride and accessible car parking space	<ul style="list-style-type: none"> <li>— Reconfigure the existing roadway on Hill Street (kerb, line marking, etc.) to accommodate the upgraded accessible parking and kiss-and-ride.</li> </ul>	Standard work hours, night works and rail possession period 4 months

Stage	Activities	Timing (indicative)
Activity 5: Station building and platform works	<ul style="list-style-type: none"> <li>— Install canopy connecting from new lift to boarding zones.</li> <li>— Provide boarding assistance zones and markings on platforms.</li> <li>— Provision of new family accessible toilet and two new unisex ambulant toilets.</li> <li>— Modification of station staff office and storage.</li> <li>— Upgrade of waiting rooms to be DSAPT compliant.</li> </ul>	Standard work hours, night works and rail possession period 18 months
Activity 6: Demobilisation	<ul style="list-style-type: none"> <li>— Install other ancillary features and landscaping.</li> <li>— Remove hoardings.</li> <li>— Clear site.</li> <li>— Remove environmental, safety and traffic controls.</li> </ul>	Standard work hours 2 months
Activity 7: Existing bridge refurbishment	<ul style="list-style-type: none"> <li>— Set up access protection to existing bridge.</li> <li>— Modify existing footbridge with improved accessibility at station.</li> <li>— Entrances along Pacific Highway and Hill Street.</li> <li>— Install anti-throw screens.</li> </ul>	Standard hours, night works and rail possession period, 12 months
Activity 8: HV realignment	<ul style="list-style-type: none"> <li>— Upgrade electrical supply including metering board, cabling and any distribution boards as needed.</li> </ul>	Standard hours, night works and rail possession period, 6 months

### 3.3 SITE COMPOUND

Temporary construction compounds would be required to accommodate construction activities associated with the Proposal including a site office, amenities, laydown and storage area for materials, parking for workforce and storage of construction plant and equipment.

The main compound site would be established at the existing commuter car park, located between the railway line and Hill Street. Access to this site would be provided via the existing entry and exit points along Hill Street. The southbound kerbside lane of the Pacific Highway would be used for short-term laydown and delivery purposes during off-peak traffic periods as suggested by Council. The proposed construction main compound and temporary laydown areas are shown in Figure 3.1.



Figure 3.1 Proposed site compound and laydown locations adjacent to Roseville Station

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## 3.4 WORKING HOURS

Most of the works required for the Proposal would be undertaken during recommended standard (NSW) Environment Protection Authority (EPA) construction hours, which are as follows:

- 7.00 am to 6.00 pm Monday to Friday
- 8.00 am to 1.00 pm Saturdays
- no work on Sundays or public holidays.

Certain works may need to occur outside recommended standard hours and would include night works and works during routine rail shutdowns, which are scheduled closures that would occur regardless of the Proposal when part of the rail network is temporarily closed for maintenance and trains are not operating.

Out of hours works are required in some cases to minimise disruptions to customers, pedestrians, motorists and nearby sensitive receivers; and to ensure the safety of railway workers and operational assets. It is estimated that approximately six rail shutdowns would be utilised to facilitate the following activities:

- Site survey and services location investigations within and around the rail corridor
- Piling, excavation of pits and installation of lift shafts
- Stabilisation and grading of platforms
- Installation of electrical containment
- Services relocation.

At the time of this assessment, working hours did not consider the 25 March 2020 published Environmental Planning and Assessment (COVID-19 Development – Construction Work Days) Order 2020. Consideration and application of this order would be determined after Public Exhibition. Special COVID-19 working hours may be available and would include 7.00 am to 6.00 pm Monday to Sunday.

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## 3.5 WORKFORCE

The peak number of construction vehicles and workforce for the Proposal is expected as follows:

- Construction vehicles:
  - Up to 15 light vehicles and two heavy vehicles per day during the typical construction period
  - Up to 60 light vehicles and 15 heavy vehicles per day during the weekend possession periods
- Workforce:
  - Up to 15 per day during the typical construction period.
  - Up to 40 per day the weekend possession periods.



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## 3.6 PLANT AND EQUIPMENT

An indicative list of plant and equipment that would be required is provided below. Additional equipment that would likely to be used would be identified during detailed design by the Contractor.

- |                        |                   |                           |
|------------------------|-------------------|---------------------------|
| — Chainsaw             | — Forklift        | — Pavement laying machine |
| — Concrete pump        | — Franna crane    | — Piling (bored)          |
| — Concrete saw         | — Generator       | — Sand blasting plant     |
| — Concrete truck       | — Grinders        | — Sucker truck            |
| — Coring machine       | — Hand tools      | — Trucks (medium rigid)   |
| — Crane                | — Hi-rail truck   | — Vibrating roller        |
| — EWP                  | — Impact wrenches | — Vibrators               |
| — Excavator (10 tonne) | — Jack hammers    | — Water truck             |
| — FEL                  | — Lighting tower  | — Welding plant           |

# 4 CONSTRUCTION IMPACTS

## 4.1 HAULAGE ROUTES

The wider road network accommodates for heavy vehicles to travel to Roseville Station as Pacific Highway is an approved 19 metre B-double Route which would cover all vehicles required for the Proposal. Currently, a three-tonne Gross Vehicle Mass (GVM) load limit is applied on Hill Road between its intersection with Clanville Road to the north and Boundary Road to the south as shown in Figure 4.1. Since the main compound site and the northern section of the Proposal can be only accessed via Hill Road, a temporary access permit should be arranged by the contractor prior to construction commencement.



Figure 4.1 Hill Street weight limits and overbridge

With no definitive haulage route identified at this stage, Figure 4.2 outlines the potential routes that can cater for heavy vehicle access to and from the compound site. Most heavy items will be delivered and craned directly into position during a possession as there would be little storage available for heavy items at the main compound site. The final construction haulage route would be determined by the nominated construction contractor during the detailed design of the Proposal. It should also be noted that there is limited clearance of 4.7 metres under the rail bridge along Boundary Street as identified in Figure 4.1, so all construction vehicles would need to satisfy this requirement.

This route is proposed due to the one-way arrangement of the car park and tight turns required to enter it from Hill Street. Access via Clanville Road is not recommended due to a very tight right turn across Hill Street to access the existing entrance. If the one-way arrangement were reversed, entry through the existing exit would be impractical due to the tight and severely graded entry (existing exit) potentially causing vehicles to overturn.

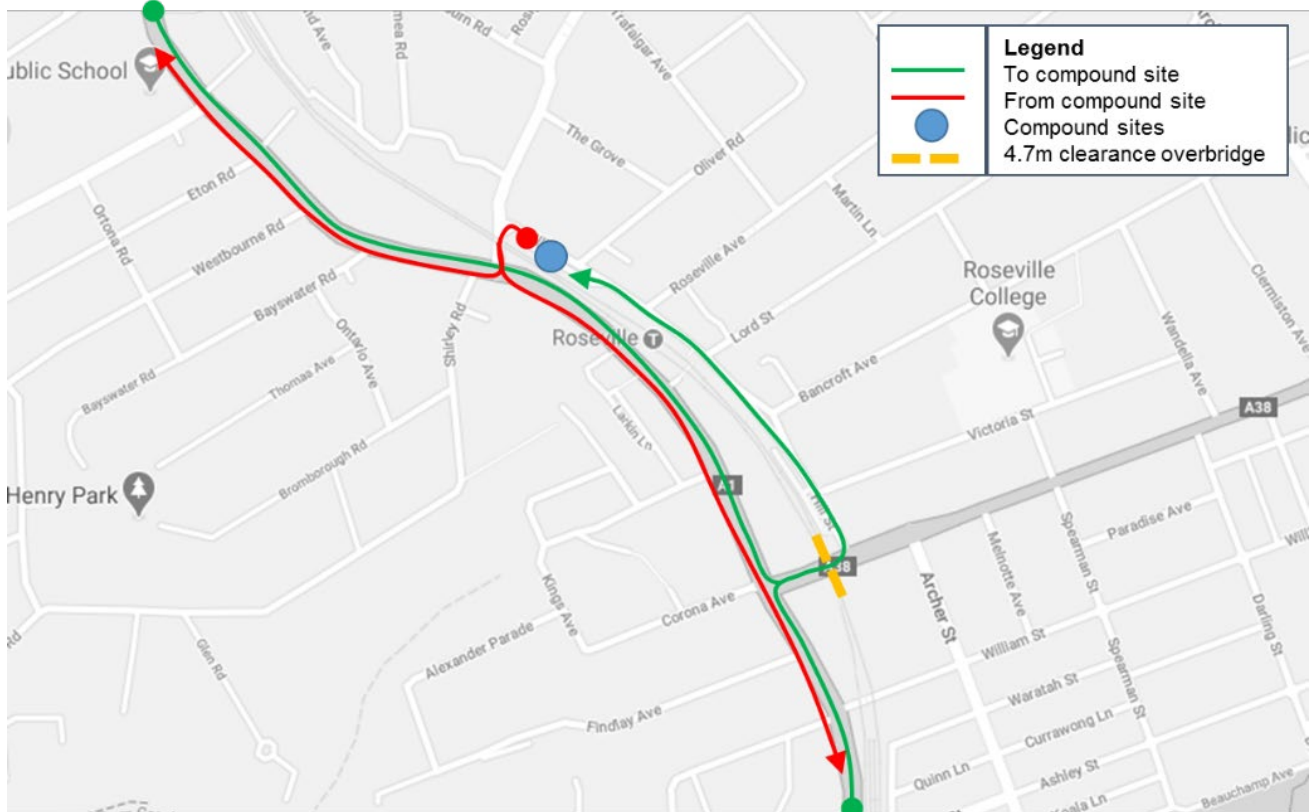


Figure 4.2 Potential haulage routes to and from Roseville Station compound site

## 4.2 TRAFFIC IMPACTS

Vehicles generated by the Proposal are expected to be mostly light vehicles (including utility vans) from construction workers. Trips generated by heavy vehicles are expected to be minimal and infrequent and associated with the delivery and removal of materials, plants, and equipment as required. As stated in Chapter 3, the traffic generated as a part of the construction works is not expected to exceed around 15 light vehicles and two heavy vehicles on average per day during the typical construction period. During rail possessions, these numbers would increase to around 60 light vehicles and 15 heavy vehicles per day. However, the majority of the construction light vehicle inbound trips would occur before the morning road network peak and likewise, outbound trips would generally occur before the evening peak.

Given the minimal traffic generated during construction, including both staff light vehicle trips and construction heavy vehicle trips, the surrounding road network and intersections would comfortably accommodate the project related vehicle trips and continue to perform within capacity. Construction works are predominately going to be undertaken outside of the road reserve, with minimal works expected to be undertaken that would impact the traffic on the external road network.

Access along the Pacific Highway and Hill Street would mostly be maintained throughout construction. However, a temporary lane/road closure would be required for the following sections which would be the main traffic impact around the Proposal area:

- The existing southbound, kerbside lane may be used for deliveries and drop offs during the off-peak periods including 10.00 am to 2.00 pm. This will not result in any significant impacts on southbound traffic as the kerbside lane is used for parking during this peak. The other two existing southbound lanes will remain open maintaining traffic flow.



- Hill Street may be fully closed in both directions between Roseville Avenue and Lord Street during weekend possession for crane set up and operation. Given the number of cross streets in the area, this will only be a minor impact and inconvenience.
- Any other additional closures would normally be during possessions only.

A site inspection was undertaken on 25 March 2020 during the afternoon peak period at Roseville Station indicating minimal traffic and congestion under current operation. This was during the then government recommended movement and travel restrictions due to coronavirus as of 25 March 2020, which may account for reduced traffic although the area historically has low traffic, operation and congestion issues based also on anecdotal evidence. This consideration has been taken through for assessment. Where possible, lane or road closures would be utilised at night to minimise traffic impacts at busier times. Based on this, we envisage no significant queueing during periods of the Hill Street lane closure, on the proviso that appropriate traffic management controls, such as traffic controllers directing traffic and closure warning signage, are in place.

There is a proposal to increase the construction working hour to 11 hours per day, between 7.00 am to 6.00 pm Monday to Sunday. In saying this, it is expected that travel time and congestion on Hill Street and Pacific Highway would be increased for an extended period if there is any temporary road/lane closure during work hours on weekends. However, no significant impacts would be expected to be introduced by the increased working hours as the total construction vehicle volumes and workforce remain consistent.

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## 4.3 PARKING IMPACTS

The main construction impact caused by the Proposal would be the full closures of the commuter car park over the entire 18-month period resulting in commuters losing the existing 31 spaces at this location. During the site inspection, it was observed that only half of the car parking spaces in the commuter carpark were occupied although this can be attributed to government-imposed travel restrictions to work and other so people are not using public transport as often as usual. We have assumed that this car park is full under more normal circumstances and taken this forward in our assessment.

With the 31 unrestricted parking spaces presumed unavailable during construction, alternatives for commuter parking would become:

- Finding alternate on-street parking as identified in Figure 2.4 resulting in an extended walk to the station and overall longer travel time
- Catching public transport from another station, changing the travel time likely making it longer.

During the rail possession period, the estimated 40 staff would be able to travel to site and park within the main compound site as well as utilising nearby on-street parking spaces. However, it is expected that there will be ample on-street parking to accommodate any overflow of workers from the compound site during the weekend possession periods. Workers would be encouraged to carpool to limit the overall impact on parking.

Impacts on the Pacific Highway will be limited to southbound, kerbside lane closure which will be used only for short-term laydown and delivery purposes during off-peak traffic periods as suggested by Council. The off-peak parking impact will be a loss of up to 130 metres (up to 20 spaces) during this time which is considered a minor impact due to the other available parking in the area.

During the standard construction period, Hill Street's station side parking lane may be partially blocked while works occur. The parking impact will be minimal and the alternative parking available on the Hill Street side of the station will accommodate for any loss here.

## 4.4 PEDESTRIAN IMPACTS

The existing access points to Roseville Station would be maintained during the typical construction work period. There would only be impacts to pedestrians when the existing overbridge is closed to the public during the weekend rail possession periods. Access to the station would not be required during possession periods as there would be no train services. However, this would impact any pedestrians moving between the Pacific Highway and Hill Street that are likely to access retail or public transport. Alternative routes would need to be taken such as those shown in Figure 4.3 being via Boundary Street to the south or Clanville Street to the north and increased journey times are expected.

Outside of the rail possessions, access on and to the stations would be maintained during the typical construction period and any works to be undertaken within the Proposal area would be managed and controlled at all times to ensure that there is no impact to public safety.

During the standard construction period, Hill Street's station side parking lane and footpath may be partially blocked while works occur. Access will be maintained for pedestrians although they may be redirected around the work site.



Figure 4.3 Alternative pedestrian routes during closures of the overbridge at Roseville Station

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## 4.5 CYCLIST IMPACTS

Impacts to cyclist movement would be minimal due to the wide nature of all streets in this area and maintained two-way traffic flow along all roads during the entire construction period. Cyclists cannot currently access the platform, so this would not change. Both the Hill Street and Pacific Highway cycle racks are moveable and can be relocated during construction to more convenient areas while, as stated in the Proposal, the new concrete walkway/footpaths, retail and associated works are completed. At a minimum, the Pacific Highway cycle racks will be moved to a nearby location temporarily, during works.

Although the site inspection was conducted during the government-imposed COVID-19 travel restrictions, there was only one bicycle parked at the existing cycle racks. There would be no impacts to cycle routes following the Proposal of the site, which will remain as existing. Based on the above, there would be minimal impacts on cyclists during construction.

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## 4.6 PUBLIC TRANSPORT IMPACTS

Roseville Station and the nearby bus stop would remain operational during the typical day to day construction periods to ensure no impact on these services occurs.

During possession periods, it is expected that bus replacement services would be provided to service rail customers which would likely operate from Hill Street. Public bus operation would not be affected by the proposed station upgrade works and would continue to run from both Hill Street and Pacific Highway. No impacts are anticipated to existing bus or rail services operation during construction.

During the standard construction period, Hill Street's station side parking lane and bus stops may be partially blocked while works occur. Impacts will be minimal due to the available 30 metre area for buses to pull into. They will need to pull in earlier or later based on the work area, although operation will not be impacted. As with general pedestrians, passengers alighting the bus may need redirection around the worksite to access the train station.

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## 4.7 TAXI AND KISS-AND-RIDE IMPACTS

During construction, there may be disruptions to taxi and kiss-and-ride facility access adjacent the station. However, the potential impacts would be expected to be minimal and temporary with abundant short-term parking (1/2P, 1P, 2P, 4P) along Hill Street for taxis to use in the interim.

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## 4.8 EMERGENCY VEHICLE ACCESS

Access for emergency vehicles would be maintained at the construction sites in accordance with emergency vehicle requirements. Emergency services would be advised of all planned changes to traffic arrangements prior to applying the changes. Advice would include information about upcoming lane closure, traffic disruptions, anticipated delays to traffic, extended times of work and locations of any road possessions.



# 5 OPERATIONAL IMPACTS

## 5.1 TRAFFIC IMPACTS

Given that the Proposal would provide a higher level of station accessibility and usability at Roseville Station, the improved commuter experience is likely to attract greater commuter use. However, the proposed scope of works is not anticipated to have a direct increase in traffic generation during operation. Therefore, negligible traffic impacts are expected with the Proposal.

## 5.2 PARKING IMPACTS

The existing commuter car park would reopen at the completion of construction and the number of car parking spaces would be maintained. All other on-street parking is to return to normal operation post upgrades. The proposed two DDA car parking spaces and kiss-and-ride bay on Hill Street are anticipated to have a positive impact for customers. The proposed DDA parking spaces would occupy the existing taxi zone and up to one of the 1P parking spaces. Overall, this is a minor impact to the community and shops, although a benefit to disabled parking users.

Current car park demand at the commuter car park and surrounding local streets are high. However, the Proposal would result in minimal changes to the overall parking supply and thus have minimal impact to current users.

## 5.3 PEDESTRIAN AND CYCLIST IMPACTS

The proposed pedestrian facilities including the new lifts and ramps and upgraded stairs would present pedestrian benefits, particularly the user experience by providing improved facilities. Improved DDA compliant ramps would create better access between the Pacific Highway and Hill Street. Overall station accessibility would improve particularly for customers with disabilities, customers with less mobility, parents/carers with prams, and customers with luggage.

Additionally, cyclist benefits would improve access with better ramps and a sheltered bike parking area identified in Figure 5.1. The existing cycle racks are moveable so these can be relocated to convenient areas for cyclists.

Once the proposal is constructed, it is anticipated that the pedestrian access and flow would remain generally consistent as the proposal has been designed to maintain/improve pedestrian manoeuvrability throughout the station precinct. The proposal would also allow for accessible movement within the precinct across all transport modes, in particular to and from the train station platform and external road network and bus stops.

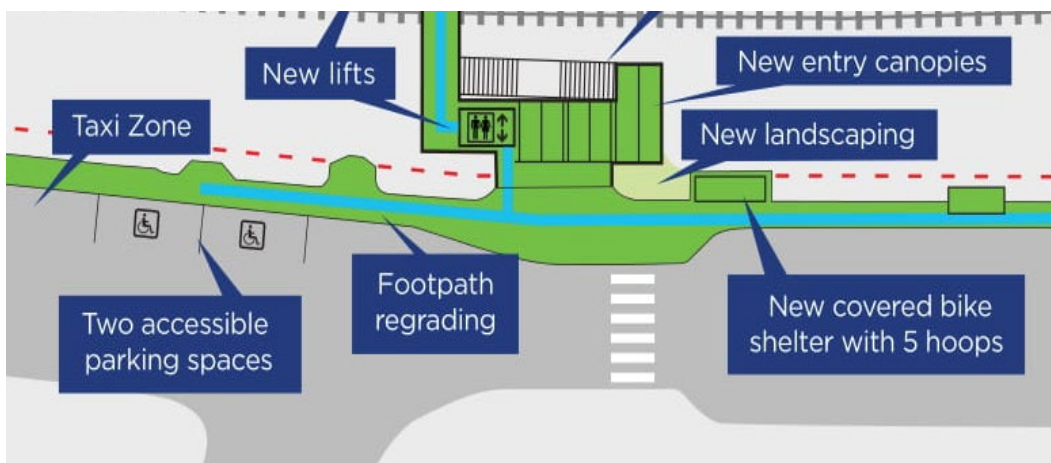


Figure 5.1 Proposed cycle racks and shelter

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## 5.4 PUBLIC TRANSPORT IMPACTS

The Proposal would not impact bus or rail operation.

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## 5.5 TAXI AND KISS-AND-RIDE IMPACTS

The existing taxi zone is to be replaced by two DDA compliant parking spaces, and relocated two metres north of its current location on Hill Street – reinstated during detailed design. Once construction is complete and normal operation continues, there will be no change to the taxi rank operation.

A formalised kiss-and-ride facility would be implemented north of the station on Hill Street with space for two vehicles. This would have a positive impact on customers and parking demand with the set down, pick up nature of kiss-and-ride used.

# 6 SUMMARY

This Report is being prepared to assess the impacts of the project for purposes of the REF. The following mitigation measures have been identified to minimise impacts during construction of the proposal and operation beyond this for the Roseville Station surrounds.

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## 6.1 GENERAL MITIGATION MEASURES

The following general mitigation measures can be implemented to minimise impacts during the construction of the proposal:

- Prior to the commencement of construction, a Construction Traffic Management Plan (CTMP) would be prepared as part of the Construction Environmental Management Plan and would include at a minimum:
  - Ensuring adequate regulatory road signage, line marking and all other traffic control devices necessary to inform motorists and pedestrians of the work site ahead to ensure that the risk of road accidents and disruption to surrounding land uses is minimised.
  - Maintaining a reasonable level of public access across the rail corridor and to public transport services.
  - Ensuring access to the railway station is always maintained outside of the scheduled track possession periods.
  - Ensuring access to stations, businesses, and residential properties (unless affected property owners have been consulted and appropriate alternative arrangements made).
  - Managing impacts and changes to on and off-street parking and requirements for any temporary replacement provision.
  - Parking locations for construction workers to be limited within the site compound and details of how this would be monitored for compliance.
  - Routes to be used by heavy construction-related vehicles to minimise impacts on sensitive land uses and businesses.
  - Consultation with the relevant roads authorities would be undertaken during preparation of the CTMP and obtaining necessary Road Occupancy Licences for temporary road closures. The performance of all project traffic arrangements must be monitored during construction.
  - For any temporary road/lane closure, consultation with the relevant road authorities (local council for Hill Street, Transport Management Centre (TMC) and TfNSW (old RMS) for the Pacific Highway) should be undertaken during preparation of the CTMP and obtaining road occupancy licences (ROs).
- Communication would be provided to the community and residents to inform them of changes to parking, pedestrian or cyclist access and/or traffic conditions including vehicle movements and anticipated effects on the local road network relating to site works.
- Suitable vehicle, pedestrian and cyclist paths would be maintained throughout the construction of the Proposal to ensure safe and easy access throughout the interchange outside of the scheduled track possession periods.
- Suitable pedestrian provisions would be made to ensure that pedestrian connectivity between bus stops is not impacted as a part of the works and that suitable and safe paths are provided.
- Qualified traffic controllers would be used during construction works to ensure safe and efficient movement of vehicle and pedestrian traffic on the external road as well as in and out of the construction site.
- Fencing and barriers would be installed between the construction site and outside construction zone to ensure safe and easy navigation of pedestrians and cyclists.



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## 6.2 SITE SPECIFIC MITIGATION MEASURES

The following proposed mitigation measures are to address and reduce the level of impact to station patrons using the existing facilities:

- A drive-through assessment or swept path analysis should be conducted to understand that sufficient manoeuvring space is provided for the largest design vehicle along the proposed haulage route as depicted in Figure 4.2.
- A Traffic Control Plan (TCP) to be developed for any construction works that requires lane closure Pacific Highway and/or Hill Street. TCP implementation would ensure adequate warning and guidance is provided to road users, thus minimising road related traffic impacts. TCP would be required to be submitted to Transport Management Centre (TMC), Transport for NSW, where needed. This would include provision for traffic controllers to monitor and manage traffic around lane closures including that on Hill Street and Pacific Highway.
- A Road Occupancy license and crane permits for operating the road are required. Crane operation on Hill Street as agreed with Council.
- A temporary access permit for overweight vehicles on Hill Street should be acquired as it is weight limited with a three tonne Gross Vehicle Mass (GVM) restriction.
- In parallel with lift installation where possible, existing stair access to Roseville Station platform level should be maintained. If any closure of the existing stair access would be required for the lift installation, the construction works should be programmed to undertake during a scheduled track possession period to minimise the impacts to pedestrians.
- Staging new DDA compliant ramps, lifts and stairs (including demolishing existing non-complaint path) is necessary to minimise the impacts to pedestrians and cyclists accessing the station from the Proposal.
- Suitable access must be maintained between Roseville Station and the surrounding road network during typical construction periods enabling safe passage through or bypass of the construction areas and construction vehicle movements.
- Alternative route information (i.e. detour route between the Pacific Highway and Hill Street) should be provided when the overbridge at Roseville Station is closed during the rail possession periods.
- Ensure priority building or relocation of new or existing cycle racks to limit impacts to cyclists by minimising time without parking facilities.

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## 6.3 OPERATION

The Proposal at Roseville Station is expected to improve the accessibility for all passengers and help integrate various transport modes within the area. The Proposal is anticipated to provide a safer passage for all users between destination and across transport modes.

No specific mitigation measures during operation of the Proposal have been identified.