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Abbreviations

AHIMS	Aboriginal Heritage Information Management System
APS	Access to Premises (Disability Standards)
ASA	Assets Standards Authority (refer to Definitions)
BCA	Building Code of Australia
CCP	Commuter Car Park
CCTV	Closed Circuit Television
CEMP	Construction Environmental Management Plan
CTMP	Construction Traffic Management Plan
DDA	<i>Disability Discrimination Act 1992 (Commonwealth)</i>
DSFAPT	Disability Standards for Accessible Public Transport 2002 (under the <i>Disability Discrimination Act 1992</i>) (Commonwealth)
DSI	Detailed Site Investigation (Phase II Contamination Investigation)
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>

EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i>
ESD	Ecologically Sustainable Development (refer to Definitions)
ETS	Electronic Ticketing System
FAT	Family Accessible Toilet
FM Act	<i>Fisheries Management Act 1994</i>
Heritage Act	<i>Heritage Act 1977</i>
Infrastructure SEPP	<i>State Environmental Planning Policy (Infrastructure) 2007</i>
LEP	Local Environmental Plan
LGA	Local Government Area
LoS	Level of Service
NCC	National Construction Code
NES	National Environmental Significance
Noxious Weeds Act	<i>Noxious Weeds Act 1993</i>
OHWS	Overhead Wiring Structure
NPW Act	<i>National Parks and Wildlife Act 1974</i>
PA system	Public Address system
PID	Public Information Display
PME	TfNSW Principal Manager Environmental Management
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
OEH	Office of Environment and Heritage
RailCorp	Rail Corporation of NSW
RAP	Remediation Action Plan
RMS	Roads and Maritime Services (formerly Roads and Traffic Authority)
SEPP	State Environmental Planning Policy
SPI	Station Passenger Information
TPZ	Tree Protection Zone
TfNSW	Transport for NSW
TCP	Traffic Control Plan
TGSI	Tactile Ground Surface Indicators ('tactiles')
TSC Act	<i>Threatened Species Conservation Act 1995</i>
TVM	Ticket Vending Machine

Definitions

Assets Standards Authority	<p>The ASA is an independent body within TfNSW, responsible for engineering governance, assurance of design safety, and ensuring the integrity of transport and infrastructure assets.</p> <p>Design Authority functions currently performed by RailCorp are now exercised by ASA.</p>
Design and Construct Contract	<p>A method to deliver a project in which the design and construction services are contracted by a single entity known as the Contractor. The Contractor completes the project by refining the Reference Design presented in the REF (subject to TfNSW acceptance) to be suitable for construction. The Contractor is therefore responsible for all work on the project, both design and construction.</p>
Ecologically Sustainable Development	<p>As defined by clause 7(4) Schedule 2 of the EP&A Regulation</p>
Noise Sensitive Receiver	<p>In addition to residential dwellings, noise sensitive receivers include, but are not limited to, hotels, entertainment venues, pre-schools and day care facilities, educational institutions (e.g. schools, TAFE colleges), health care facilities (e.g. nursing homes, hospitals), recording studios and places of worship/religious facilities (e.g. churches).</p>
Opal card	<p>The integrated ticketing smartcard being introduced by TfNSW. The Opal card would provide smartcard access for travel on the public transport network in Sydney, the Blue Mountains, Central Coast, Hunter, Illawarra and Southern Highlands.</p> <p>The smartcard is similar in size to a credit card and would allow payment for travel on ferries, trains, buses and light rail, instead of buying a paper ticket.</p> <p>Customers using the Opal card would tap on at a card reader at the start of their trip and tap off at the end. The electronic ticketing system would automatically calculate the fare and deduct it from the value stored on the Opal card.</p>
Proponent	<p>A person or body proposing to carry out an activity under Part 5 of the EP&A Act - in this instance, TfNSW.</p>
Rail Possession	<p>Possession is the term used by railway building/maintenance contractors to indicate that they have taken possession of the track (usually a block of track) for a specified period, so that no trains operate for a specified time. This is necessary to ensure the safety of workers and rail users.</p>
Reference Design	<p>The Reference Design is the preliminary design presented in the REF, which would be refined by the Contractor (should the Proposal proceed) to a design suitable for construction (subject to TfNSW acceptance).</p> <p>TfNSW contracts a single entity (the Contractor) to further develop the Reference Design to a level suitable for construction. The Contractor therefore becomes responsible for all work on the project.</p>
Sydney Trains	<p>From 1 July 2013, Sydney Trains replaced RailCorp as a new rail operator created to service the different needs of Sydney and intercity customers.</p>
The Proposal	<p>The construction and operation of the Oatley Station Accessibility works.</p>

TVM	Ticket Vending Machine
Vegetation Offset Guide	<p>The TfNSW guide that applies where there is vegetation clearing proposed, and where the impact of the proposed clearing is not deemed 'significant' for the purposes of section 111 of the <i>EP&A Act 1979</i>.</p> <p>The Guide provides for planting of a minimum of eight (8) trees for each large tree with a diameter at breast height (DBH) of more than 60cm, four (4) trees where the DBH is 15 - 60cm, or two (2) trees where DBH is less than 15cm.</p>

Executive summary

Transport for NSW (TfNSW) is the proponent for the Oatley Station Accessibility Upgrade (the Proposal). TfNSW is the government agency responsible for the delivery of major transport infrastructure projects in NSW.

The Proposal is part of the Transport Access Program which is a NSW Government initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure where it is needed most.

The Proposal is designed to ensure that the railway station and interchange facilities meet the future growth and transport needs of the Kogarah and Hurstville Local Government Areas (LGA) and the wider Sydney region.

This Review of Environmental Factors (REF) has been prepared to assess the environmental impacts associated with the construction and operation of the Proposal under the provisions of Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Description of the Proposal

TfNSW proposes to upgrade facilities at Oatley Railway Station via:

- A new 50 metre long overhead pedestrian footbridge located at the northern end of the existing platform
- Eastern (Oatley Parade) and western (Mulga Road) forecourts with lifts and stairs providing the accessible paths into the station, and a cross corridor link
- Modification of the existing platform canopy to meet the new stairs and an extension on both sides to provide cover to/from the platform lift
- Provision of a Family Accessible Toilet (FAT) on the platform
- Modification to the heritage platform building, including a new access doorway into the ticket office, and installing the communications room where the toilets are currently located
- Closure of the existing access stairs
- Modifications to the northern end of the platform (River Road underpass) to provide for a new lift and stairs, and level access around these and the Family Accessible Toilet
- Amendments and upgrading of existing electrical, mechanical, hydraulic and communication services, and
- An extended commuter car park off Oatley Parade, increasing available spaces to 33 spaces inclusive of an accessible car space.

Interchange works include:

- Reconfiguration of kiss and ride, accessible parking and bus stops
- A new median strip, pedestrian refuge and road realignments on Mulga Road
- Bike racks, lockers and shelters
- Wayfinding signage
- Landscaping in and around the new entrances.

Construction is anticipated to commence with early works in mid to late 2014, with the main works scheduled from early 2015. It is anticipated that the project will take approximately 24 months to complete.

Need for the Proposal

Improving transport customer experience is the focus of the NSW Government's transport initiatives. Transport interchanges, train stations and commuter car parks are the important gateways to the transport system and as such play a critical role in shaping the customer's experience and perception of public transport.

The upgrades are designed to drive a stronger customer experience outcome to deliver improved travel to and between modes, encourage greater public transport use and better integrate interchanges with the role and function of town centres. The Proposal would also assist in responding to forecasted growth in the region and as such would support growth in commercial and residential development.

The Proposal fulfils the program objectives by proposing to provide:

- Three new lifts to provide accessible access from street to platforms
- Reconfiguration of the existing kiss and ride, taxi and bus access
- Accessible parking spaces compliant with DDA requirements
- Bus shelters in Oatley Parade and Mulga Road
- Upgraded facilities for staff and customers including a family accessible toilet
- Upgraded lighting and CCTV to new works
- Upgraded signage to the station and interchange
- Maintenance of the cross-corridor access and integrating with the existing street pattern.

The Proposal would also ensure that Oatley Station would meet the legislative requirements under the Disability Standards For Accessible Public Transport (DSFAPT).

Statutory considerations

The EP&A Act is the key legislative instrument for the environmental impact assessment of development proposals in NSW. Part 5 of the EP&A Act specifies the environmental impact assessment requirements for activities undertaken by public authorities, such as TfNSW, which do not require development consent.

State Environmental Planning Policy (Infrastructure) 2007 (the Infrastructure SEPP) is the primary environmental planning instrument relevant to the proposed development. Clause 79 of the Infrastructure SEPP allows for the development of 'rail infrastructure facilities' by or on behalf of a public authority without consent on any land. Clause 78 defines 'rail infrastructure facilities' as including: railway stations, station platforms and areas in a station complex that commuters use to get access to the platforms, and associated public transport facilities for railway stations.

As TfNSW is a public authority and the proposed activity falls within the definition of rail infrastructure facilities under Infrastructure SEPP, the Proposal is permissible without development consent. Consequently the environmental impacts of the Proposal have been assessed by TfNSW under Part 5 of the EP&A Act.

This REF has been prepared to assess the construction and operational environmental impacts of the Proposal. The REF has been prepared in accordance with clause 228 of the *Environment Planning and Assessment Regulation 2000* (the EP&A Regulation).

In accordance with section 111 of the EP&A Act, TfNSW, as the proponent and determining authority, must examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposed activity.

A summary of the steps of the assessment process under the EP&A Act is provided in Figure 1.

Community and stakeholder consultation

Under the Infrastructure SEPP, consultation is required with local councils or public authorities in certain circumstances, including where council-managed infrastructure is affected, or where local heritage items are affected. Although not mandated under Part 5 of the EP&A Act or the Infrastructure SEPP, TfNSW will be undertaking consultation with the surrounding community stakeholders, which will include:

- Direct notification to community stakeholders by way of newsletter and
- Public display of the REF.

Community consultation activities for the Proposal would be undertaken during public exhibition of this REF. The REF would be displayed for a period of four weeks (28 days).

During this period, the REF would be available for viewing at Hurstville and Kogarah City Council offices and libraries, TfNSW's office in Chatswood and via download from the TfNSW website. Furthermore, an information line (1800 684 490) would be available for the public to make enquires about the Proposal.

TfNSW would review and assess all feedback received during the public display period prior to determining whether or not to proceed with the Proposal.

Should the Proposal proceed to construction, the community would be kept informed throughout the duration of the construction period.



Figure 1: Planning approval process for the proposal

Environmental impact assessment

This REF identifies the potential environmental benefits and impacts of the Proposal and outlines the mitigation measures to reduce the identified impacts.

During the construction period the following key impacts would be expected to occur if the Proposal were to proceed:

- Disruptions to vehicle and pedestrian movements
- Tree removal
- Noise and vibration
- Visual impacts, and

- Visual and minor construction impacts to the heritage listed platform building.

Further information regarding these impacts is provided in Chapter 6 of the REF.

Crime Prevention through Environmental Design principles would be incorporated into the design in order to minimise risk to personal safety and asset security.

The long term operational impacts of the Proposal would be positive for Oatley Railway Station commuters and the general community within the town centre. The upgrade would provide for enhanced amenity for access to and throughout the station and would provide upgraded bus, kiss and ride, and bicycle parking facilities, new accessible parking and additional commuter parking provision. Improved access would service a growing population in the Hurstville and Kogarah LGAs and encourage public transport use to the metropolitan areas of Sydney.

Conclusion

This REF has been prepared having regard to sections 111 and 112 of the EP&A Act, and clause 228 of the EP&A Regulation, to ensure that TfNSW takes into account to the fullest extent possible, all matters affecting or likely to affect the environment as a result of the Proposal.

The Proposal has also been designed in accordance with the Transport for NSW's Sustainable Design Guidelines and has taken into account the principles of Ecologically Sustainable Development (ESD).

Key sustainability initiatives include the incorporation of energy efficient equipment and lighting. These initiatives would be considered further amongst others during the detailed design, construction and operational phases of the Proposal.

Potential adverse impacts associated with the Proposal would be appropriately managed in accordance with the mitigation measures outlined in this REF. This would ensure the Proposal is delivered to maximise benefit to the community and minimise any adverse impacts on the environment.

In considering the overall potential impacts and proposed mitigation measures outlined in this REF, the Proposal is unlikely to significantly affect the environment including critical habitat or threatened species, populations, ecological communities or their habitats.

1. Introduction

TfNSW was established in 2011 as the lead agency for integrated delivery of public transport services across all modes of transport in NSW. TfNSW is the proponent for the Oatley Station Accessibility Upgrade (the Proposal), to be delivered by Transport Projects Division (TFNSW).

1.1. Overview of the Proposal

The main elements of the Proposal include:

- A new 50 metre long overhead pedestrian footbridge located at the northern end of the existing platform
- Eastern (Oatley Parade) and western (Mulga Road) forecourts with lifts and stairs providing the accessible paths into the station
- Lifts and stairs from new forecourt entrances to the east (Oatley Parade) and west (Mulga Road), providing a cross-corridor link
- Modification of the existing platform canopy to meet the new stairs and an extension on both sides to provide cover to/from the platform lift
- Provision of a Family Accessible Toilet (FAT) on the platform
- Closure of the existing access stairs
- Modifications to the northern end of the platform (River Road underpass) to provide for a new lift and stairs, and level access around these and the FAT
- Amendments and upgrading of existing electrical, mechanical, hydraulic and communication services, and
- An extended commuter car park off Oatley Parade, increasing available spaces to 33 spaces inclusive of an accessible car space.

Interchange works include:

- Reconfiguration of kiss and ride and bus stops
- New accessible parking spaces
- A new median strip, pedestrian refuge and road realignments on Mulga Road
- Bike racks, lockers and shelters
- Wayfinding signage
- Landscaping in and around the new entrances.

Artist's impressions of the Proposal are presented at Figure 8 and Figure 9.

The Proposal would facilitate extension of public transport use, particularly for the elderly, those with disabilities, or those with prams, luggage etc. This would support a reduction in cross-regional trips, reducing the need to use private cars.

Construction is anticipated to commence with early works in mid to late 2014, with the main works scheduled from early 2015. Construction is estimated to take around 24 months. Further detail of the design of the Proposal is contained in Section 3.

1.2. Location of the Proposal

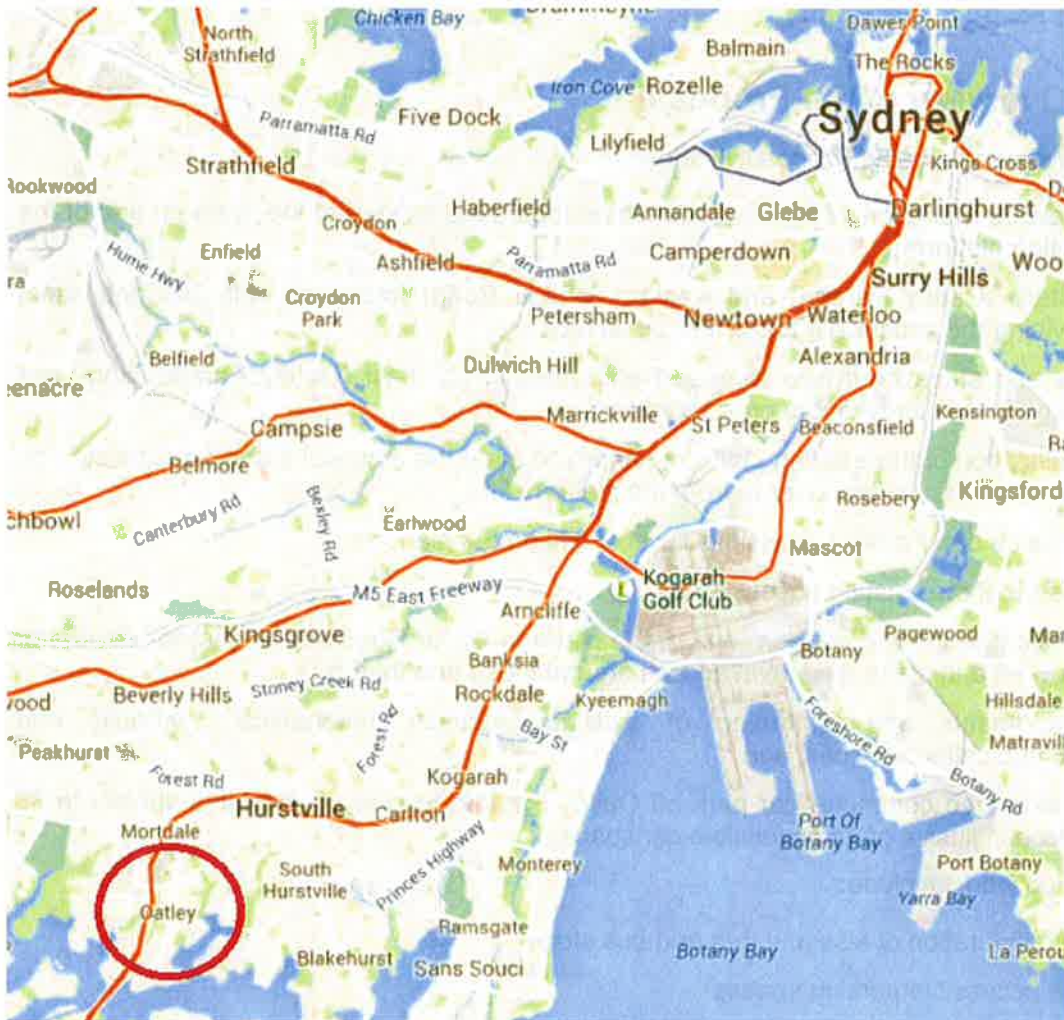


Figure 2: Regional context of Oatley Station

The Oatley Station Precinct is located approximately 18.25 kilometres to the south-west of the Sydney CBD (see Figure 2). Oatley is located on the boundary of two local government areas, Hurstville and Kogarah.

The suburbs of Peakhurst Heights, Mortdale, Penshurst, Hurstville Grove and Connells Point all border the suburb of Oatley on the north side of the Georges River, with the suburbs of Illawong, Como and Oyster Bay located on the south side of the river. The major centres of Hurstville and Kogarah are located approximately 2.5 and 5 kilometres to the north-east of Oatley respectively.

The Oatley Station Precinct is situated in the centre of the suburb of Oatley and south of River Road, with an underpass beneath the Illawarra Railway Line at River Road.

Oatley Parade is situated to the east of the station, along with the main commercial centre of Oatley. Other key land uses on the eastern side of the rail corridor are the Mortdale Rail Maintenance Centre, accessed from Mortdale Station and the Georges River College (Senior Campus), both of which are located approximately 350 metres to the north of Oatley station. A RailCorp storage area is located on the eastern side of the rail corridor towards the southern end of the platform. Land on the eastern side of the rail corridor is low to medium density residential dwellings, a service station and local shops. It also includes the Douglas Cross and Memorial Gardens.

Land use to the west of the rail corridor is predominately low density residential dwellings, with the exception of the following:

- Myles Dunphy Reserve, located to the south-west of the station, is a large area of natural vegetation located between the station and the Georges River
- Boongarra Reserve is located at the corner of River and Mulga Roads
- Oatley West shops, located approximately 200 metres to the west of the station on Mulga Road and
- The former Oatley Bowling Club to the west of the station - only former bowling greens and hardstand areas remain with onsite buildings demolished in 2011.

Oatley Railway Station is the 125th busiest in the network with over 3,440 commuters using the station each day. The busiest periods are between 0600 and 0930 when 1,070 commuters enter and between 1500 and 1830, when 970 commuters exit the station. (Reference: *Compendium of Sydney Rail Travel Statistics, 8th edition*).

The existing interchange allows for commuters to change between bus, rail, taxi, private car and bicycle. However, there are currently no formalised kiss and ride zones, and no bus zone on the western side of the interchange.

The eastern or Kogarah LGA side of Oatley has a demographic which features a larger proportion of empty nesters and retirees, seniors and elderly aged than Greater Sydney. Hurstville LGA has a similar proportion of pre-schoolers and a similar proportion of people at post retirement age as Kogarah City. The western or Hurstville LGA side of Oatley has a larger percentage of primary schoolers than the Greater Sydney average (See Section 6.6).

Neither Oatley nor Oatley West are identified as centres in the Metropolitan Strategy for Sydney 2031 (NSW Government 2013) and therefore are not currently subject to urban renewal strategies or plans. No major developments have been identified as occurring or potentially occurring in the vicinity of Oatley Station, with residential densities remaining low and no major commercial or industrial development.

Hurstville Council (as owners of the former Bowling Club site) have plans to provide an aged care facility on their site for either 140 beds and serviced units or 25 independent living units.

The proposed works are situated within the rail corridor and on local public roads under the care and control of Kogarah and Hurstville Councils.

Oatley Village Centre Improvement Plan

Kogarah Council has developed the Oatley Village Centre Improvement Plan. This plan outlines the potential streetscapes work which would be undertaken to facilitate a better pedestrian and traffic interface thereby increasing the amenity and quality of the overall streetscape and the village centre.

An aspect of the Oatley Village Centre Improvement Plan which is of considerable relevance to the upgrade of the station is the long term option of the plan to provide a new link to the station between the petrol station and commercial building on Oatley Parade. These plans include a long term vision for an aerial bridge to the station and across the rail corridor. This plan was prepared independent of TfNSW's accessibility upgrade of the station.

Below are photos that indicate the current environment at Oatley Station and commuter car park.



Bus stop on Oatley Parade



Bus shelter on Oatley Parade



Commercial development between Oatley Parade and the rail corridor



Service station between Oatley Parade and the rail corridor



Commercial development between Oatley Parade and the rail corridor



Douglas Cross Gardens on the corner of Oatley Parade and River Road.



Off-street commuter car park on Oatley Parade



Off-street commuter car park on Oatley Parade



Narrow footpath on River Road (looking west).



Access to RailCorp corridor on western side.



Bicycle storage on eastern side



Bicycle storage on the western side.



Only stair access to the station is currently provided



Narrow footpath at the entrance to the station



Crossing point considered unsafe (as per Road Safety Audit)



River Road underpass



Western side (Mulga Road) of the interchange.



Toilets off the Waiting Room are not DDA compliant



Sydney Trains storage area in the rail corridor between the commuter car park and railway line



Platform 1 looking north, indicating the step to the Waiting Room and toilets



Looking south towards the northern end of the platform building



Looking north to the southern end of the platform building.



The ticket window



The lever room at the northern end of the platform building

Figure 3: Photos of the Oatley Railway Station precinct

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1.3. Purpose of this Review of Environmental Factors

This REF has been prepared by TfNSW. For the purposes of these works, TfNSW is the proponent and the determining authority under Part 5 of the EP&A Act.

The purpose of this REF is to describe the Proposal, to assess the likely impacts of the Proposal having regard to the provisions of section 111 of the EP&A Act, and to identify mitigation measures to reduce the likely impacts of the Proposal. This REF has been prepared in accordance with clause 228 of the EP&A Regulation.

This assessment has also considered the relevant provisions of other relevant environmental legislation, including the *Threatened Species Conservation Act 1995* (TSC Act), *Fisheries Management Act 1994* (FM Act) and the *Roads Act 1993* (Roads Act).

Having regard to the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), this REF considers the potential for the Proposal to significantly impact a matter of national environmental significance (NES) or Commonwealth land and the need to make a referral to the Commonwealth Department of Environment for any necessary approvals under the EPBC Act.

2. Need for the Proposal

Chapter 2 discusses the need and objectives of the Proposal, having regard to the objectives of the Transport Access Program and the specific objectives of the Proposal. This chapter also provides a discussion of the options that have been considered during development of the Proposal and why the preferred option has been chosen.

2.1. Strategic justification

Improving transport customer experience is the focus of the NSW Government's transport initiatives. Transport interchanges and train stations are the important gateways to the transport system and as such play a critical role in shaping the customer's experience and perception of public transport.

The proposed Oatley Station Accessibility Upgrade, the subject of this REF, forms part of the Transport Access Program. This program is designed to drive a stronger customer experience outcome to deliver seamless travel to and between modes, encourage greater public transport use and better integrate station interchanges with the role and function of town centres within the metropolitan area and developing urban centres in regional areas of NSW.

The proposed Oatley Station Accessibility Upgrade is consistent with the NSW Government's commitment to deliver an efficient and effective transport system around Sydney and NSW as detailed in *NSW 2021 – A Plan to Make NSW Number One* (Department of Premier and Cabinet 2011).

NSW 2021 is the NSW Government's ten year plan to guide budget and decision making in NSW. *NSW 2021* includes the following goals, targets and priority actions relevant to the Proposal:

- Reduce travel times
- Minimise public transport waiting times for customers
- Improve co-ordination and integration between transport modes
- Grow patronage on public transport
- Improve public transport reliability
- Improve customer experience with transport services.

The NSW Government has developed a Long Term Transport Master Plan (December 2012). This plan provides a comprehensive strategy for all modes of transport across NSW over the next 20 years, while also delivering on current commitments.

Further details of the application of NSW Government policies and strategies are discussed in Section 4.2 of this REF.

2.1.1. Objectives of the Transport Access Program

The Transport Access Program is a NSW Government initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure where it is needed most. The program aims to provide:

- Stations that are accessible for those with a disability, for seniors and parents with prams
- Modern buildings and facilities for all modes that meet the needs of a growing population
- Modern interchanges that support an integrated network and allow seamless transfers between all modes for all customers
- Safety improvements including extra lighting, help points, fences and security measures for car parks and interchanges, including stations, bus stops and wharves
- Signage improvements so customers can more easily use public transport and transfer between modes at interchanges, and
- Other improvements and maintenance such as painting, new fencing and roof replacements.

2.1.2. Objectives of the Proposal

The objectives of the Oatley Station Accessibility Upgrade project are to:

- Improve commuter access to Oatley Station and interchange.
- Improve customer experience (specifically weather protection, better interchange facilities and visual appearance)
- Minimise pedestrian conflict and crowding points
- Improve integration with surrounding precinct
- Improve customer safety
- Improve wayfinding in and around the station
- Respond to the heritage values of the site
- Improve customer amenity.

2.1.3. Existing Station Access

Oatley Station is a typical small to medium size suburban railway station with an island style platform. Platform 1 services city-bound trains on the Up Main Illawarra. Platform 2 services trains on the Down Main Illawarra towards Sutherland. As is common with this configuration, it is not possible for emergency evacuation from the station platform to achieve compliance with Access and Egress provisions of the Building Code of Australia (BCA).

Access to the platform is via a stairway to/from the River Road underpass. This design is not compliant with current BCA Standards. There are no level access points to the platforms or to the local street network.

The stairway provides access to/from a narrow pedestrian footpath with a width of 1.2m to existing railings/1.5m to kerb, beside River Road. River Road is a local road which carries approximately 500 vehicles per hour in the AM Peak (0800 – 0900), along with significant bicycle traffic. The railings create a pinch point for pedestrians, but have been installed to prevent over-spill of pedestrians onto the roadway. Given the width, the existing footpath is not fit for purpose as a safe access point as well as a cross-corridor route.

In addition to the stairway and footpath safety and compliance issues, pedestrians are being channelled into a very constrained and potentially unsafe road environment. On the western side of the station, footpath alignments promote crossing at the intersection of busy local roads (River Road and Mulga Road) and conflict with kiss and ride, bus movements, and through traffic.

Other access-related issues include the lack of existing accessible parking, and staff facilities and public amenities that are not compliant with current ASA standards. Egress and travel distance also not compliant with current standards.



Figure 4: Local context of Oatley Station

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2.2. Design development

Four alternative options (and two variations) were considered during the design process. Option 2b (long span) was selected as the preferred design as it:

- Provides more suitable access for commuters with mobility impairment
- Better promotes interchange between other modes of transport
- Better integrates with the surrounding precinct and road network
- Provides a lower lift tower with fewer stair risers
- Provides accessible customer facilities
- Provides facilities to meet current staffing levels
- Minimises existing rail systems impacts
- Retains the heritage-listed platform building
- Reduces construction disturbance.

The four options considered were:

- Option 1 – An underpass at the northern end of the platform providing a new entrance to Oatley Station.
- Option 2 - An overhead footbridge straddling the platform, accessible both from sides of the rail corridor (the preferred option).
- Option 3 - An overhead footbridge to the platform, accessible from one side of the corridor only.
- Option 4 - An overhead footbridge from the commuter car park at the southern end of the platform.

These options are discussed below and shown in Figure 5.

2.2.1. Option 1 – Underpass at the northern end of the platform

Located at the northern end of the platforms, the pedestrian walkway to the new station entrance would be designed as a short underpass below the rail tracks and the platform. The new entrance in this option would be parallel to the existing station entry, utilising existing pedestrian desire lines. This option entailed the construction of an underpass beneath the rail tracks, extending the platform north and construction of a single lift and stairs.

The entrance on the western side would have the potential to be modified into a landscaped garden similar to the existing park on the eastern side which would be modified. The new underpass would be accessible for all interchange users, and the community, with DDA compliant grades and widths to footpaths between Mulga Road (to the west) and Oatley Parade (to the east) via the underpass.

Mulga Road would accommodate a kiss and ride zone, accessible parking and bus stop and new bicycle facilities near the entrance. Accessible parking on Oatley Parade would be provided by modifying the existing time restricted parking spaces. The existing bus stop and taxi service on Oatley Parade would be retained and new kiss and ride zones would be

installed. Existing canopies on the platform would be retained with some modification required at the northern end.

2.2.2. Option 2 – An overhead footbridge straddling the platform

The elevated footbridge features three lifts, three sets of stairs and entrances from the east and west of Oatley Station. Lifts and stairs would be provided to each station entry and to the platforms.

On Oatley Parade, the entrance would be located within the RailCorp access road which currently provides service access to the rail corridor. On the western side, a new footpath path would lead from Mulga Road to the lift and stairs located in Boongarra Reserve (RailCorp land). The existing driveway, which currently provides private and RailCorp access, would not be affected.

Kiss and ride, accessible parking and a bus stop would be located closer to station entrances by modifying existing time restricted parking and unrestricted spaces on Oatley Parade and Mulga Road. On Oatley Parade, the existing pedestrian crossing is proposed to be relocated closer to the station entrance.

The existing canopy on the platform would be modified to accommodate a new lift and stairs at the northern end. The canopy located south of the platform building would be retained as existing.

2.2.3. Option 3 – Overhead footbridge accessible from platform to one side of the rail corridor only

This option is similar to Option 2. It differs in that it only provides access to the platforms from Oatley Parade (eastern side). The general description for Option 2 applies, noting that it would not have an entry from the west.

The option would require the provision of a DDA compliant path in Douglas Cross Gardens (zig zag path) on the eastern side, and an upgrade of the pedestrian path along River Road underpass, which is constrained and restricted in width.

Kiss and ride, bus stop and accessible parking would be relocated close to the station entry by modifying existing timed parking spaces on Oatley Parade.

2.2.4. Option 4 – An overhead footbridge from the commuter car park at the southern end of the platform

A fourth option was considered, but was not pursued due to the number of disadvantages, including that no adjacent road access would be possible unless there was further property acquisition, and the significant level differences which would preclude accessible footpaths. (See Table 1).



1. Option 1 - Underpass at the northern end of platform
2. Option 2 - Overhead footbridge straddling the platform
3. Option 3 - Overhead footbridge accessible from Oatley Parade only
4. Option 4 - Overhead footbridge accessible from commuter car park
5. All options include station building upgrade
6. All options include upgrade of the existing commuter park.

Figure 5: Original options for the Oatley Station Accessibility Upgrade

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2.2.5. The 'do-nothing' option

All existing access to the platform remains the same. There are no changes to the way the interchange currently operates. The NSW Government has identified the need to deliver modern and accessible transport infrastructure where it is needed most. The 'do nothing' option was not considered a feasible alternative as it would not meet legislative requirements, NSW Government objectives and would not assist in encouraging the use of public transport.

The key features of each of the options considered are summarised in Table 1 below (preferred option shaded).

Table 1: Design options

Option	Key Features
<p>Option 1 - Underpass at the northern end of the platform, providing a new entrance to the station</p>	<p>A new underpass below the rail corridor with one new lift and stairs providing access from street level to the northern end of the platform.</p> <p>Small extension/regrading of the platform from the existing platform to the new lift and stairs.</p> <p>Major impacts on Douglas Cross Gardens.</p> <p>Existing unsafe access on the western side, with the potential for pedestrian/vehicle conflicts, is maintained.</p> <p>Changes to the internal layout of the platform building to move the ticket window to face the platform entry, and provide a family accessible toilet and staff accessible toilet.</p> <p>Located within RailCorp land with no land acquisition required.</p> <p>A new path would be provided through the Douglas Cross Gardens on Oatley Parade to provide an accessible path between the station and the interchange facilities (e.g. bus stops) on Oatley Parade.</p> <p>Engineering constraints in the requirements for long track possessions to carry out the works.</p> <p>Engineering constraints due to location/constrained site available to work.</p> <p>Heritage impacts - the existing stairs would be removed to provide an accessible entry (for wheelchairs and parents with prams or people with large bags).</p> <p>Kiss and ride, accessible parking spaces, bicycle parking and bus stops are provided in close proximity to the station entrance by modifying the existing time restricted parking and unrestricted parking spaces along Oatley Parade and Mulga Road.</p> <p>Relocation of an existing sewer line is required.</p> <p>Existing 11KV feeder and Ausgrid 415V line supplying the station, and RailCorp maintenance roads to the rail corridor, would not be affected.</p>
<p>Option 2 – An overhead footbridge straddling the platform, accessible from both</p>	<p>Provision of a cross corridor elevated straight footbridge with least impact on the urban amenity of Oatley Village.</p> <p>Three lifts, three new sets of stairs, a new overhead footbridge, providing cross corridor and platform access.</p>

Option	Key Features
<p>sides of the rail corridor</p>	<p>Minor impact on Douglas Cross Gardens and Boongarra Reserve.</p> <p>Visibility of the entrance is good on the western side (Mulga Road), and slightly concealed behind shops on the eastern side.</p> <p>Changes to the internal layout of the platform building to move the ticket window to face the platform entry, and provide a family accessible toilet and staff accessible toilet.</p> <p>Located within RailCorp land with no land acquisition required.</p> <p>New station entry forecourts are created on both sides of the station.</p> <p>Bike rack would be located in the commuter car park at Oatley Parade and near the entrance at Mulga Road.</p> <p>Relocation of the pedestrian crossing on Oatley Parade to align with the entrance to the station.</p> <p>Kiss and ride, accessible car parking spaces and bus stops are provided by modifying the existing timed and unrestricted parking spaces both sides of the station.</p> <p>The 11KV feeder and 415V Ausgrid supplies to the station would be affected.</p>
<p>Option 2a (short span)</p>	<p>Alignment of the overhead footbridge within the rail corridor in Douglas Cross Gardens, behind the bus shelter at the eastern entrance.</p> <p>Relocation of the bus stop to the north.</p> <p>Overhead footbridge structure aligned between the eastern and western entrances.</p> <p>Fewer stair risers and a lower lift tower.</p>
<p>Option 2b (long span)</p>	<p>The entrances on the eastern and western side are moved further from the rail corridor to allow for future track amplification.</p> <p>Access is provided via a DDA compliant path from Mulga Road.</p> <p>Fewer stair risers and a lower lift tower.</p> <p>Overbridge structure aligned between the eastern and western entrances.</p> <p>Alignment of the overhead footbridge within the rail corridor in Douglas Cross Gardens, behind the bus shelter at the eastern entrance.</p> <p>Relocation of the bus stop to the north on the eastern side of the station.</p>
<p>Option 3 – Overhead footbridge accessible from platform to one side of the rail corridor only</p>	<p>Option 3 has similar common features as Option 2 with the following differences indicated below:</p> <p>No station entrance from the west.</p> <p>Would be a shorter footbridge (55m long), with only two lifts and sets of</p>

Option	Key Features
	<p>stairs, thereby reducing maintenance costs and reducing the visual impact from the west.</p> <p>High heritage impacts - the existing stairs would be removed to provide an indented passing bay along the existing footpath to make it access-friendly (for wheelchairs and parents with prams or people with large bags).</p>
<p>Option 4 – An overhead footbridge from the commuter car park at the southern end of the platform</p>	<p>New forecourt on Oatley Parade to provide a focal point.</p> <p>Three new lifts and associated walkways and ramps.</p> <p>On the western side, no adjacent road access would be possible unless there was further property acquisition (either residence/s or ecologically constrained park).</p> <p>Due to large deviation differences on the western side, DDA compliant pedestrian footpath access from the end of the River Road access road would be difficult to achieve.</p> <p>An additional lift would be required in order to achieve an accessible path between the western entrance and the road level.</p> <p>Requires property acquisition - Council owns the former bowling greens, with plans for re-development.</p> <p>Western entrance access remote from Mulga Road, so is not ideal as it has potential security issues due to its remoteness and lack of casual surveillance.</p> <p>A pedestrian access path would need to run parallel to the rail corridor (within the identified high ecological constraint area), and immediately to the rear of the residential area off Mulga Road.</p> <p>The proposed accessible path on the western entrance would exceed 50 metres in length and is non-compliant in terms of DDA requirements</p> <p>The eastern entrance is not well positioned in relation to pedestrian desire lines and neighbourhood catchments.</p>

2.2.6. Assessment

Based on the initial assessment of the options, the underpass option, option 1, at the northern end of the platform was progressed. However, further detailed investigations concluded that this option was not preferred due to the:

- Engineering and constructability issues with the limited clearance between the underpass and the tracks (e.g. potential structural impacts to the heritage underpass)
- Longer rail possessions and closure of the line would be required to undertake the works
- Works resulting in substantial changes to Douglas Cross Gardens, a key heritage feature

- Lack of alignment with Kogarah Council’s Oatley Village Centre Improvement Plan (see Figure 13)
- Non-alignment with natural pedestrian desire lines from the town centre; and
- The option provides poor legibility as a public transport interchange.

Option 2 was subsequently identified as the preferred solution.

2.2.7. Further development of Option 2

In August 2013, a further examination of the overhead option (Option 2) was conducted by GHD. The result was the submission of an additional report which detailed two further design options based on cross-corridor access requirements.

In terms of impacts, both Options 2a and 2b share the following characteristics:

- Location within the RailCorp boundary, therefore no property acquisition is required
- Minimal impact on the Douglas Cross Gardens, and equivalent impacts on the heritage station building
- Visual impact of the overhead footbridge is partially mitigated by some mature trees on the eastern and western sides of the station which would be further minimised through the detailed design of the footbridge
- Overall improvements with better facilities provided by the options
- Better alignment with pedestrian desire lines
- Improvement to interchange elements on Oatley Parade and Mulga Road would enhance customer experience
- Both options would comply with current codes and standards governing public transport
- Are technically less complex and more economic to build compared to Option 1 (underpass)
- There would be minor diversions required for other transport services affected by the new works.

See Figure 6 below for the preferred option.

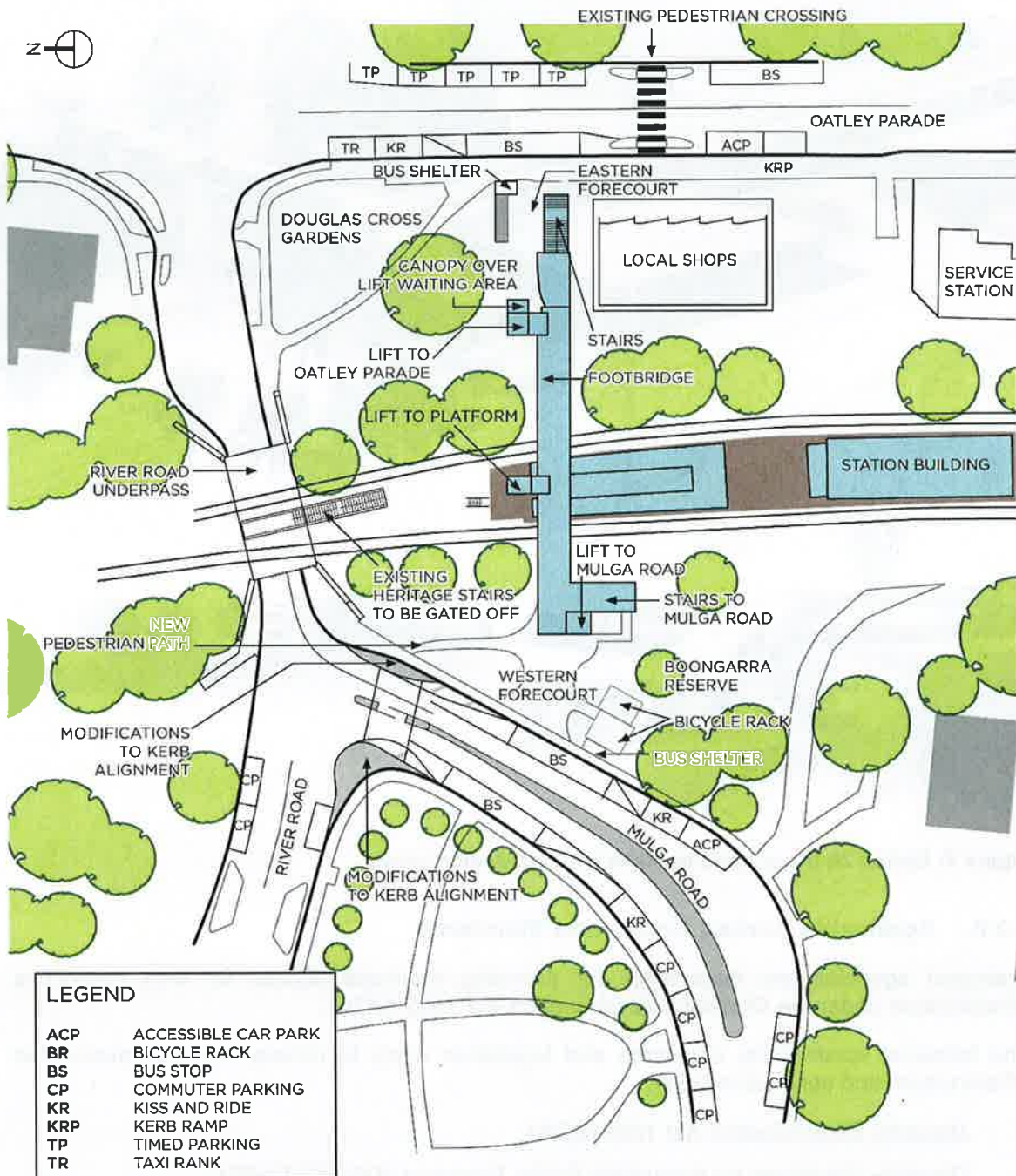


Figure 6: Preferred option plan (subject to detailed design)

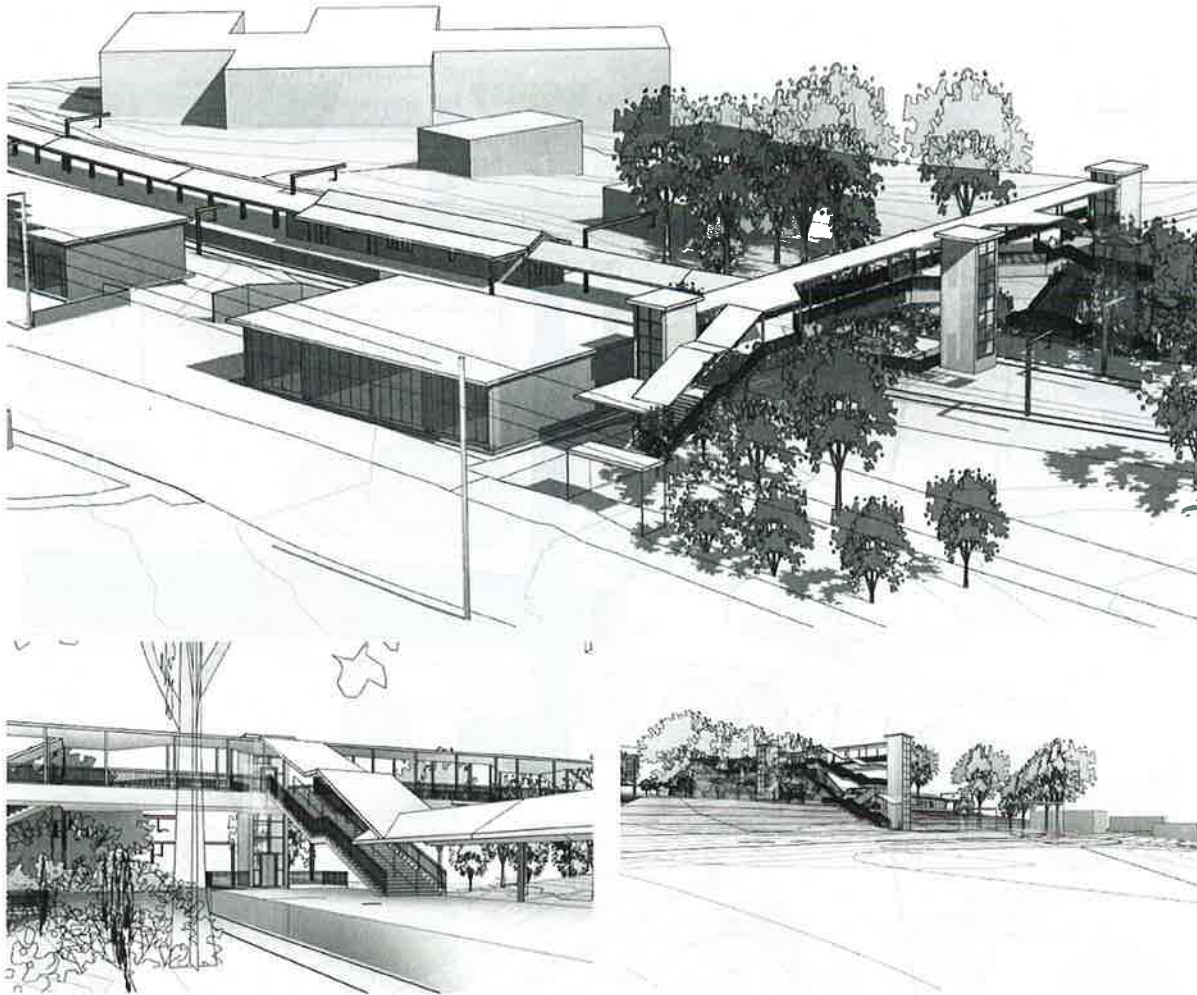


Figure 7: Option 2b (long span) multiple concept design views

2.2.8. Applicable Access Codes and Standards

Transport agencies are responsible for providing equitable access for their respective infrastructure under the *Disability Discrimination Act 1992* (DDA).

The following accessibility standards and legislation apply to railway stations, associated infrastructure and services in NSW:

- *Disability Discrimination Act 1992* (DDA)
- *Disability Standards for Accessible Public Transport 2002* (DSFAPT)
- *Disability (Access to Premises - Buildings) Standards 2010 Part H2* (APS)
- *National Construction Code 2012 Part H2* (NCC)
- *Australian Standards* (as referenced in DSFAPT, APS and the NCC)

- ASA Engineering Standard – Stations and Buildings – Station Design Standard Requirement ESB003

The 'do nothing' option was not considered a feasible alternative as it would not meet legislative requirements, or NSW Government objectives, and would not assist in encouraging the use of public transport.

2.3. Justification for the preferred option (Option 2b)

The preferred option:

- Provides an elevated, straight cross-corridor footbridge between the eastern and western entrances
- Minimises impact on Douglas Cross Gardens by locating the overhead footbridge on its southern edge and integrating the forecourt with the existing gardens
- Avoids an area that was originally considered as being of potentially high ecological importance on the southern side of Boongarra Reserve
- Provides for a minimal footprint upon the existing reserve on the western side, on either side of the footbridge structures
- Avoids construction impacts to the existing heritage stairs
- Retains the heritage-listed platform building with minimal changes
- The span of the overhead footbridge incorporates allowances for potential additional line capacity
- Provides a lift on the western side with sufficient capacity to meet anticipated high usage due to the number of stairs
- Increases accessibility for commuters with mobility impairment, those with shopping/luggage and parents with prams
- Provides improved accessible customer facilities including family accessible toilet
- Promotes interchange with other modes of transport
- Provides safety improvements including extra lighting and security measures, safer traffic/pedestrian arrangement including accessible parking spaces, taxi stops and kiss and ride zones
- Addresses the need for passive surveillance
- Provides improved bus and bicycle facilities

Option 2b has been further refined during the Reference Design process. The design has moved from a rectangular to an oval profile that reflects the shape of the heritage listed road underpass. This shape gives the footbridge a slim appearance while retaining all its functionalities. It features a curved roof and walls on the northern side and a vertical side facing the station. Its asymmetrical profile provides the footbridge with its identity and allows for the seamless integration with the stairs and lift structures (see Section 3.1.1 below).

Overall, efforts have been made to reduce visual bulk by various measures, including repositioning the lift shaft in the western forecourt closer to the stairs, reducing the stairway width, and spacing the fins on the lifts incrementally to give a more open feel.

The development of the Reference Design has also included changes to the refurbishment of the station building to reduce impacts to the heritage values of the building. The provision of Sydney Trains back-of-house facilities to be incorporated into the existing station building has been reduced to limited internal modifications, and one new doorway in the western facade. Other refinements to enhance the heritage building include relocating the existing pay phone and vending machines at the northern end of the platform building to allow a clearer view of the signal/lever room, and the inclusion of heritage interpretation features/elements.

3. Description of the Proposal

Chapter 3 describes the Proposal and summarises key design parameters, construction method, and associated infrastructure and activities. The description of the Proposal is based on the Reference Design report.

3.1. The Proposal

As described in Section 1.1 of this REF, the Proposal involves the Oatley Station Accessibility Upgrade as part of the Transport Access Program.

The design of the proposed works is described in more detail below.

3.1.1. Design Features

The key features of the Proposal are:

- Three lifts, three new sets of stairs, and a new overhead footbridge providing cross corridor and platform access
- Landscaped forecourts featuring bike racks, bus shelter, and seating
- New Family Accessible Toilet on the platform
- Opal card readers located at the bottom of the central staircase, on the platform to the north of the station building, and adjacent to the lift entrance/exit
- Kiss and ride, accessible car parking spaces and bus stops are provided by modifying the existing timed and unrestricted parking spaces on both sides of the station
- Relocation of the westbound bus stop on Mulga Road and provision of a new eastbound bus stop on Mulga Road adjacent to the proposed station entrance
- Extension of the existing off-street commuter car park on Oatley Parade from 16 spaces to 33 spaces
- Interchange improvements.

Artist's impressions of the Proposal are provided in Figure 8 and Figure 9 below.



Figure 8: Artist impressions of the proposed interchange upgrade from Mulga Road

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Figure 9: Artist impressions of the proposed interchange upgrade from Oatley Parade and River Road

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Specific features are described below. (Refer also to Figure 19 and Figure 20.)

Western Side (Mulga Road)

- Stairs and lift to the overhead footbridge
- New bus stop and shelter closer to western entrance
- New DDA compliant forecourt entrance
- Creation of refuge islands to improve pedestrian safety
- Realignment of road median to improve safe traffic movement at the junction with River Road
- Relocation of accessible parking, and kiss and ride closer to the western entrance of the station
- Introduction of traffic calming devices to improve pedestrian safety
- Provision of bicycle racks and lockers
- Integrated landscaping to the new forecourt and adjacent areas
- Rail corridor fencing
- Wayfinding signage.

Eastern Side (Oatley Parade)

- Demolition and rebuilding of the bus stop and creation of new forecourt access to the overhead footbridge
- Stairs and lift to the overhead footbridge
- Provision of bicycle racks within the forecourt area
- Addition of commuter car spaces by expanding the existing car park
- Relocation of existing kiss and ride, accessible parking and taxi rank closer to the eastern entrance and
- Landscaping to the new forecourt integrated with existing garden beds
- Wayfinding signage
- Access from the forecourt to various station maintenance rooms beneath the stairway.

Overhead footbridge

The overhead footbridge is a modern design and features an oval profile along the east-west axis with three lift towers along its side. The elevated footbridge needs to be constructed over existing overhead wiring (OHW) and stanchions, and must maintain critical clearances in order to comply with applicable Standards.

On the western side a significant gradient drop to Mulga Road level has resulted in a large number of stair risers to the footbridge level.

The design seeks to achieve the following architectural and urban design objectives:

- A slimline overhead footbridge to minimise visual impact on sensitive viewpoints

- A design which is sympathetic to the heritage elements of the station
- Entrances which are clearly legible and visible from pedestrian desire lines
- Transparency which reduces the perception of bulk, improved lines of sight from the bridge and from surrounding areas, and
- Improved passive surveillance for a safe and secure rail environment.

The linear footbridge would maintain a clear width of three metres between handrails over its entire length. Lift towers would be located at the junctions with the two entrances and at the platform. A waiting area outside the lift would be constructed by setting back the lift structure away from the footbridge so that the footbridge traffic is unimpeded. A dedicated waiting area is not required on the western side, as the footbridge terminates at the junction with the lift.

The footbridge features a roof which is articulated by an oval structure supporting the covering and other ancillary services which form part of the design. Anti-throw screens would be installed on both sides from floor to ceiling to meet applicable Standards.

Eastern entrance

The southern edge of Douglas Cross Gardens provides a relatively open area which is a suitable location for the forecourt off Oatley Parade, in an area behind an existing concrete bus shelter.

Located along pedestrian desire lines, the eastern entrance comprises a forecourt with a straight flight of stairs intersecting with the footbridge level. Creation of the forecourt requires the demolition of the existing bus shelter and store attached to its rear. The accessible path into the station is provided by a lift opening onto the forecourt and a waiting area. Areas under the stairs accommodate a rainwater harvesting pump room, a fire hydrant pump room, a store, electrical cupboard and a Fire Indicator Panel. The forecourt is paved and achieves DDA compliance grades from areas adjoining the entrance.

The eastern entrance is setback 500 mm (nominal) from the property boundary of the local shops in order to maintain in excess of three metres clearance between the building and its north facing windows and the overhead footbridge to meet applicable Standards. The concrete stairs and block work construction would achieve the required fire rating.

Key points to note for the eastern entrance are:

- Forecourt measures approximately 8 x 18 metres
- The stairs are aligned with the footbridge and provide for a clear width of three (3) metres. Handrails and balustrades would be provided on both sides
- The stairs are set back approximately 2.5 metres from the eastern boundary (back of the footpath along Oatley Parade)
- Handrails and balustrades would be provided on both sides of the stairs inclusive of landings
- The lift is setback approximately 14 metres from the eastern boundary
- Forecourt is located approximately 8-9 metres north of the existing pedestrian crossing along Oatley Parade

- Interchange elements include bus stops and shelters, accessible parking, taxi rank, kiss and ride, located within a 25 metre radius from the entrance
- Bike racks for 10 bicycles are provided off the forecourt, with large plantings between the bike rack and Douglas Cross Gardens that would mirror existing species
- Heritage interpretation.

The forecourt features an integrated landscaped design which seeks to enhance the existing Douglas Cross Gardens and incorporate the overhead footbridge into the broader context. It provides a design response which is sensitive to the gardens by using locally identifiable materials to enhance legibility and wayfinding.

Western entrance

The western entrance is located in an open clearing in Boongarra Reserve which does not impact on the adjacent ecologically sensitive area. It features a drop of 13 metres from the footbridge. The significant height differences prevented consideration of a ramp option early in the design process as it would have required a length of over 200 metres. Apart from the visual impact and space constraints in the reserve, a ramp could not be easily achieved without substantial impact on the open space amenities. A straight flight of stairs was originally considered but discarded due the excessive number of risers and length of stairway.

The general arrangement features a lift tower and stairs which are located on the southern side of the footbridge to meet accessibility requirements. It provides improved legibility and lines of sight from River and Mulga Roads. The accessible path is provided by a lift opening onto the forecourt and a waiting area which is accessed from the footpath along Mulga Road.

The Sydney Trains requirement for waste storage is located in an area behind the lift tower which provides ease of access for station staff. Access for weekly refuse removal is within easy reach from the Mulga Road kerbside collection point.

The western entrance would feature a paved forecourt with grades which are DDA compliant from the footpath.

Key points to note for the western entrance are:

- Forecourt measures approximately 11 x 7 metres
- A setback from the footpath of about 11 metres to create a forecourt
- A stairway with five flights located south of the footbridge
- Handrails and balustrades would be provided on both sides of the stairs inclusive of landings
- A lift tower approximately 17 metres tall
- Interchange elements include: relocated bus stops and shelters, accessible parking and kiss and ride zone on the station side of Mulga Road
- Provision for bike racks for bicycles in an areas adjoining the forecourt
- Bike lockers with a dimension of 6 x 6 metres

- A large native specimen tree would be planted (in approximately the same position as the original bike racks) with seating adjacent.

Platform arrival

Due to the narrowing of the platform at the Sydney end, the preferred solution was confined to a lift and stairs option. The location of the lift also looks at the consideration for the provision of temporary access during construction by means of using the existing stairs off River Road underpass.

Key points to note are:

- The distance between the foot of the stair and the station building is approximately 18 metres to provide sufficient space for movement and circulation
- The northern end of the platform structure features a waiting area between the lift and stairs
- A new platform canopy at the northern end of the platform would be installed between the lift and new stairs to provide continuous coverage from the lift waiting area to the platform, and
- The lift and stairs are located to maintain required clearances for the accessible path.

Platform

Access to the platform would be provided by a straight flight of stairs located at the northern end of both platforms. Lift access between the footbridge and the platform would provide the accessible path into the station. The existing stairs would be gated and blocked off to prevent associated safety/security issues.

The existing awning, which is located north of the station building, would be modified at the junction with the stairs, including a section which would need to be demolished to make way for the lift. The requirement for a circulation space around the lift requires the existing stairs to be closed. On either side of the new stairs, new awnings would be added to the existing structure to provide cover from the new lift waiting area.

The construction of the new stairs and lift on the platform would affect existing services which currently serve this half of the station. Services to be modified include:

- Existing Station Platform Information (SPI) mounted to the existing awning
- Closed circuit television (CCTV) cameras mounted to the underside of the awning
- Existing light fittings on this section of the platform
- Existing stormwater lines under the platform
- Public Address (PA) system serving the northern half of the platform
- Ticket Vending Machine (TVM) relocated to under the existing awning, and
- Opal card readers at the new lift and stairs.

The construction of the overhead footbridge would have minimal impact on existing overhead wiring (OHW) stanchions and wiring. The new stairs and lift would be constructed without affecting the rail infrastructure.

Relocation of seating and bins on Platform 1 and 2 currently adjacent to the station building would be necessary to maintain accessible path widths from north to south. Seats would be relocated to the north and south sides of the station building with wind breaks incorporated in the construction.

Some platform re-surfacing/re-grading would take place in the vicinity of the Family Accessible Toilet entrance as well as at the foot of the stairs.

Canopy

The existing canopies are constructed from galvanised steel structures with a corrugated metal roof. They are currently pitched to match the roof of the station building. Roof drainage is provided using metal gutters and downpipes which drain into stormwater lines under the platform.

Key points to note are:

- The southern (Sutherland end) section of the existing canopy would be retained
- Existing canopies between the rear of the proposed lift and the existing stairs would be removed
- A redesign at the northern (Sydney end) section would be required in order to allow for the construction of the overhead footbridge and its integration with the new stairs
- A section of canopy at the northern end of the platform would be demolished to make way for the lift
- New canopies would be provided on either side of the stairs in order to maintain continuous cover from the new lift waiting area. This canopy would be of a flat roof construction.

Station building

The station building is centrally located on the platform. It is a timber framed and metal roofed building which accommodates a lever room, a ticket office, a waiting room, separate male and female toilets and a cleaner's store.

Internally the station building appears to have maintained most of its original detailing and finishes. The station building was modified in 1991 with the following:

- Enlargement of the Ticket Office by moving the wall south
- Demolition of chimney to enlarge the waiting room, and
- Re-organisation of the remaining part of the building to construct separate male and female toilets and a cleaner's store.

The approach adopted for the design of the upgrade is guided by the need to minimise the impact on the heritage value whilst improving the functional areas to meet any achievable accessibility objectives. It is intended that the external facades would be retained in their entirety, and redecorated.

Improvements include a separate entrance into the Ticket Office and ensuring that internal areas are DDA compliant. The new doorway is to be constructed on the western side, for

staff to access the Ticket Office. The existing toilets would be turned into the communications room (with a new Family Accessible Toilet located under the new stairs).

Electronic ticketing system

A new system of fare and ticketing is progressively being rolled out across the rail network. The Opal card provides an easy, convenient and fast way of travelling on the public transport network in Sydney, the Blue Mountains, Central Coast, Hunter, Illawarra and Southern Highlands.

Readers for the electronic system would be located at the bottom of the stairs, on the platform as well as adjacent to the lift at platform level. The system would be policed by CCTV camera mounted on an overhead structure adjacent to the reader.

Additional works

- Relocation of, and additional, station furniture
- Relocation of Station Passenger Information (SPI), Ticket Vending Machines, Opal Card readers and systems
- DDA compliant footpaths
- A new gardener's store to be located under the eastern stairs to replace the demolished store
- Addition of rainwater harvesting tanks to collect water from the footbridge (located behind the forecourt structures)
- A new Family Accessible Toilet on the platform, located under the stairs and adjacent to the lift
- Provision of a new 11kV/415V transformer located on a padmount in the rail corridor (behind the local retailers' car park)
- Communications and lighting renewals to new works
- A new fire pump room to be added on the western side adjacent to the lift.

Finishes and materials

Materials and finishes have been selected based on the criteria of durability, low maintenance and cost effectiveness, to accord with heritage requirements, to minimise visual impacts, and to be aesthetically pleasing. For example, reinforced concrete was selected as the preferred material for the footbridge structure as it is durable and would easily achieve a 100 year design life. It is also low maintenance and cost effective compared to the alternative of using steel.

Availability and constructability were also important criteria to ensure that materials are readily available and the structure can be built with ease and efficiently. Materials are also selected for their application based on their suitability to meet the design requirements.

Other criteria for train stations include:

- Fitness for purpose within the rail environment
- Proximity to the corrosive environment of the coast would be an issue where metals are intended to be used

- Ability to withstand extreme wear and tear
- Structural integrity
- Highly resistant to vandalism
- Non-combustible
- Ease of repair and replacement
- Self-finished where possible and easily cleaned, and
- Be maintained with minimum disruption to station operations

The general design life of the overhead footbridge would be 100 years with various parts having various design life periods.

A summary of selected materials and finishes is provided in Table 2 (subject to final design).

Table 2: Selected materials and finishes (subject to detailed design)

Elements	Materials	Finishes
Footbridge structures	Concrete	
Footbridge floor finish	Concrete topping	Slip resistant
Columns and deflection walls	Concrete	
Concrete lift shafts	Concrete	
Steel arches (footbridge)	Steel	Rusted steel
Lift shafts structures	Galvanised steel	Natural in light silver
Lift shaft claddings	Porcelain stone tiles	
Lift door frame/door	Stainless steel	Brushed finish
Lift glazing frame	Aluminium	Anodised light bronze
Lift glazing	Glass	Laminated - clear
Lift louvres	Aluminium	Anodised light bronze
Stairs	Concrete	
Stairs treads finish	Concrete	Slip resistant
Stairs cladding	Aluminium	Anodised box sections light bronze
Footbridge and stairs roofs	Metal	Dune Colorbond custom orb roof

Elements	Materials	Finishes
Gutters and downpipes	Metal	Dune Colorbond
Anti-throw screen	Galvanised steel	Natural light silver
Handrail and balustrade	Galvanised steel	Natural light silver
Walls facing at eastern courtyard	Porcelain stone tiles	
Walls not easily seen	Blockwork paint	Dulux Warm Neutral
Forecourt	Pavers	200 x 200mm Florence paver – Amber colour
Lift canopies	Aluminium	Anodised light bronze
New platform awning structure	Galvanised metal	Natural light silver
Awning roof	Metal	To match Evening haze
Bus shelters	Metal and glass	Corrugated roof Dune Colorbond Clear side glazing Aluminium seating
Bike rack	Stainless steel	Brushed finish
Bike lockers	Thermoset plastic	Light beige

Commuter car park

The existing commuter car park is located on Oatley Parade close to the Frederick Street intersection. The existing car park layout includes 16 angled parking bays located on the western side of the car park. The existing bay angles vary to suit the spatial constraints of the site. The existing layout consists of a separate single lane entry and exit, but there is no line marking or signage to define the operation to north and south.

The proposed car park includes the construction of a concrete deck which is supported by columns on footings, with provision of a low height crash barrier/balustrade. Up to five mature trees may need to be removed to enable the construction of the deck. The mature eucalypt in the north west corner of the car park would be retained if possible, along with existing street trees.

The proposed car park upgrade (see

Figure 15) includes:

- The extension of the existing car park to the west to allow an additional parking lane with the parking aisle relocated centrally
- Total parking spaces would increase from 16 to 33 (an increase of 17), including one DDA parking space
- All spaces would be 90 degree angle parking
- Existing entry and exit points would be maintained
- A new bitumen-topped surface would improve levels and accessibility
- New lighting would be installed to meet current illumination levels for public car park
- The existing kerbs along the eastern side of the car park would be upgraded, with provision of new kerb ramps.

Traffic calming Mulga Road

A pedestrian crossing refuge is proposed in front of the forecourt access to improve pedestrian safety on Mulga Road. This upgrade includes providing traffic calming in the form of a raised platform, and providing narrower traffic lanes for pedestrians to cross. The proposed kerb arrangement at the pedestrian refuge would encourage pedestrians to face towards oncoming traffic before crossing the traffic lanes.

The proposed arrangement is also more efficient for parking and would improve safety for pedestrians and cyclists crossing at this location.

Bus stop locations are proposed adjacent to the pedestrian crossing in both directions of travel. Provision of designated kiss and ride and an accessible parking space is also included.

3.1.2. Sustainability in design

TfNSW is committed to delivering projects in a manner that balances economic, environmental and social issues to ensure a sustainable transport system for NSW. TfNSW has environmental and sustainability targets, that apply to the delivery and operation of transport projects. TfNSW has developed the NSW Sustainable Design Guidelines which are to be complied with on our projects.

By applying these targets and guidelines, TfNSW covers the following sustainability themes:

- Energy management
- Pollution control
- Climate change resilience
- Resource management
- Biodiversity
- Heritage
- Liveable communities, and

- Corporate sustainability

Sustainable design initiatives for this Proposal that are to be included during detailed design are at Appendix 3.

3.2. Construction activities

3.2.1. Engineering constraints

There are a number of constraints impacting on the design of the Proposal. These include the limited space for development due to the requirement for the existing concourse to remain open and the station to remain operational during the works. It is assumed lifts would be installed, sequentially rather than concurrently.

3.2.2. Work methodology

The estimated construction duration of the main works for the Proposal would be approximately 24 months.

The Proposal would need to be constructed within railway operating constraints and the rail possession schedule. Some works would be required during weekend track possessions and during night periods to minimise impacts to commuters and local traffic. The concourse and platforms would remain accessible by commuters at all times during normal train operations, and either closed or controlled during the relevant possession works (usually weekends).

Construction of the various components would be as follows:

Overhead Footbridge

- Precast concrete deck beams with cast in situ concrete topping slab
- Structural steel enclosure frame incorporating services zone at apex and screening enclosure with handrails
- Metal deck roofing with gutter system, a proportion of which discharges to recycled water tanks.

Deck Support System

- Cast in situ platform column with piled foundations to rock
- Cast in situ columns and/or lift shaft to support outer ends of deck with piled foundations to rock.

Lift Shafts

- Concrete lift pits with piled foundations to rock
- Platform lift to have a structural steel form with external cladding incorporating glass view panels
- Eastern lift to have a structural steel form with external cladding incorporating glass view panels, and
- Western lift to be cast in situ concrete pit and shafts incorporating glass view panels.

Miscellaneous Works

- Stairs to be cast in situ concrete with steel framed roofing system
- Recycled water tank to be below ground reinforced concrete structure with services areas overhead. Access hatches to tanks to be provided, and
- Services rooms to be a combination of reinforced concrete slabs and columns with block walls and external cladding.

Table 3 below provides the tasks expected for construction associated with the footbridge and lifts.

Table 3: Footbridge and lifts - proposed general construction sequence (subject to detailed design)

Task No.	Construction Method	Track Possession Required?
1	Lift and support column piles on platform. Backfill platform over lift footings. Provide hoarding around column footing work area.	Yes
2	Platform column and headstock. Hoarding for works to allow passenger access to platform. Concrete pours to take place out of hours (at night or during weekend possession) with pumping via the underpass pedestrian access.	Yes
3	Installation of bridge deck beams for spans 2 & 3, together with installation of walkway enclosure steelwork. Side deck beams to include edge hob as formwork for deck pour. Enclosure steelwork to include roof sheeting, handrails and screen enclosure. Additional temporary hording enclosure to be included with steelwork if necessary.	Yes
4	Construction of outer end deck support supports. Columns and/or lift shafts.	No
5	Construction of platform access stair. Hoarding works associated with task 3 extended. Passenger access clearance around hoarding provided for.	No
6	Installation of bridge deck beams for spans 1 & 4, together with installation of walkway enclosure steelwork.	No

Task No.	Construction Method	Track Possession Required?
7	<p>Construction of outer end access stairs, lift(s) and utilities areas.</p> <p>Include roofing and stair enclosure works.</p> <p>Provide public access paths to new stairs.</p> <p>Install services including fire, water, electrical and communications across walkway and onto platform.</p>	No
8	Pour bridge deck slab with pumping via the access stairs.	No
9	Finishing works to stairs (ends and platform) and access bridge to allow public access and use during operating hours of these elements for station access.	No
10	Passenger access moved to new access bridge to allow closure of underpass access.	No
11	<p>Underpass access ramp demolished and platform lift pit constructed.</p> <p>Demolish access ramp.</p> <p>Construct platform end wall.</p> <p>Construct lift pit.</p>	Yes
12	Platform lift steelwork erected and enclosed with cladding. (Possession)	No
13	<p>Complete finishing works including lift installation.</p> <p>Some night works (out of operation works) would be required when access to pedestrian bridge is required.</p> <p>Final commissioning of all elements.</p> <p>Completion of lift fitouts. (A Possession may be required for the fitout of the platform lift but efforts should be made to load equipment onto the platform area beside and behind the lift in earlier Possessions if possible).</p>	Possession may be required

The work methodology would be developed further, in consultation with the construction contractor and TfNSW. The staging, as outlined in Table 3 is based on the current Reference Design and is subject to change during the detailed design stages.

3.2.3. Plant and equipment

Indicative construction activities and equipment are shown in the following table:

Table 4: Construction scenarios and associated maximum sound levels at point source

Scenario	Equipment	SWL
Demolition of existing structures and site clearing	Bobcat	104
	Jackhammer	108
	Dozer	110
	Excavator with hammer	121
	Grader	108
	10T truck	98
	Concrete saw	115
	20T excavator	99
Relocation of services and preparation of structure	20T excavator	99
	10T truck	98
	Wacker packer	108
	Hand tools	94
Construction of external cladding	Jackhammer	108
	10T truck	98
	Hand tools	94
Site clearing and bulk earthworks	Chainsaw	106
	Bobcat	103
	Jackhammer	108
	Grader	108
	10T dump truck	101
	Concrete saw	115
	20T excavator	99
Excavation and installation of drainage	20T excavator	99
	10T dump truck	101
	Trench compactor	104
	Hand tools	94
Construction of access bridge, deck support system, lift shafts and stairs	Jackhammer	108
	Generator	101
	Piling rig	107

Scenario	Equipment	SWL
	10T truck	98
	Concrete pump	106
	Concrete truck	106
	Mobile crane	100
	Hand tools	94
Pavement works including laying concrete and asphaltic surface and footpaths	Concrete pump	106
	Concrete truck	106
	Paving machine	102
	Grader	108
	20T excavator	99
	10T truck	98
	Mobile crane	100
	Grinder	110
Line marking and signposting	Hand tools	94
	Line marker	102
	10T truck	98
Landscaping	Bobcat	103
	Hand tools	94

Note:

SWL is the sound power level, the intrinsic noise output of plant and equipment, and does not depend on distance or orientation of the machine.

(Source: Ausenco Services Pty Ltd, Noise and Vibration Impact Assessment, 2014)

3.2.4. Working hours

Main construction works would take approximately 24 months, from early 2015 with early works proposed for mid-late 2014. The standard construction hours would be as follows:

- 7am to 6pm Monday to Friday
- 8am to 1pm Saturdays
- no work on Sundays or public holidays.

The project as designed is capable of being staged to be constructed within railway operating constraints and a track possession schedule. Much of the work is able to be undertaken in non-possession times using appropriate means of safe working to protect the live network.

However, some works outside of standard hours would be required during evening, night periods and weekends during track possessions, and for key activities (including possible short-term closures of Oatley Parade and Mulga Road).

Where out of hours works are required, approval from TfNSW would be required and the affected community would be advised as outlined in the TfNSW's *Construction Noise Strategy* (TfNSW, 2012), and as per the *Oatley Environmental Noise and Vibration Impact Assessment* (Ausenco February 2014).

3.2.5. Source and quantity of materials

The source and quantity of materials would be determined during the detailed design phase of the Proposal, and would consider the requirements of the TfNSW Sustainable Design Guidelines. Materials would be sourced, where practicable, from local suppliers.

3.2.6. Traffic access and vehicle movements

Traffic and access arrangements during construction of the Proposal are discussed in detail in Section 6.1 of this REF. An indicative construction methodology has been developed for the Proposal as outlined in Section 3.2.2 above. A detailed construction methodology and associated management plan would be developed as part of the detailed design stage of works.

The potential impacts of construction activities and construction traffic with regard to transport and parking include:

- Additional heavy vehicle flows and new construction vehicle access arrangements
- Although works would be staged to minimise impacts to commuters, there is the potential for minor impacts to commuters and staff as a result of works during standard hours. This can include traffic diversions and temporary access restrictions near the interchange.
- Impact on surrounding land uses (including the temporary removal of existing parking spaces, and changes to bus and kiss and ride zones) and
- Degradation of amenity via construction traffic noise.

A detailed Construction Traffic Management Plan (CTMP) would be prepared in consultation with the Hurstville and Kogarah City Councils prior to construction works to manage potential construction traffic impacts of the Proposal.

The following objectives would be incorporated into the construction methodology and management measures:

- Maintain pedestrian access to and from the rail, bus, bicycle, and taxi facilities at all times during construction activities (the commuter parking would need to be closed during its reconstruction)
- Where practicable, minimise the use of local and town centre roads for construction vehicle access to and from the site
- Major regional roads shall be utilised where practicable
- Minimise the number of deliveries by obtaining a storage compound local to the site and
- The use of night time work periods needs to be considered to reduce the duration of works and thus to minimise town centre and interchange impacts, and overall construction impacts.

Indicative construction traffic routes and volumes are shown in Figure 10. The CTMP would include:

- Timing of proposed works
- Hours of construction activities
- Number of construction vehicles to be used
- Designation of construction routes
- Mitigation and management measures including use of traffic control signals, construction vehicle access and traffic circulation arrangements
- Designation of temporary parking during construction works (for both the community and project personnel), and
- Contact details for key onsite construction personnel.

Site-specific traffic management issues would be addressed through the implementation of appropriate Traffic Control Plans (TCPs) developed in consultation with the relevant Roads Authority. The TCPs would outline key details such as advanced warning signage, traffic flow management and pedestrian management measures.

To mitigate congestion due to on-street parking of construction works, project personnel would be required to park away from the station (Oatley Parade) and Town Centre (Frederick Street), where possible. Contractors would be encouraged to utilise public transport or car share arrangements where practicable.



Figure 10: Potential construction vehicle access routes

3.2.7. Ancillary facilities

Details of stockpile sites, construction compounds and other ancillary facilities that would form part of the Proposal would be prepared by the Contractor at the detailed design phase, in consultation with Sydney Trains and Kogarah and Hurstville City Councils.

As well as temporary stockpiles, short-term lay down areas may be needed for large pre-cast sections (see Section 6.1.2).

3.2.8. Public utility adjustments

A utility investigation, including 'Dial Before You Dig' enquiries and non-destructive excavation work, has been undertaken during preliminary design stages. .

The following utilities occur within the Proposal area:

- Ausgrid – Electrical
- Energy Australia
- Telstra and Optus - Telecommunications
- Sydney Water Corporation (SWC) - water and sewerage
- Jemena - gas
- Hurstville and Kogarah City Councils - Stormwater
- RailCorp/Sydney Trains – CCTV, signalling and electrical.

The appropriate utility providers would be consulted during the detailed design phase.

It is possible some additional services may require relocation. Such relocation is unlikely to occur outside of the work footprint assessed in this REF. In the event that works would be required outside of this footprint, further assessment would be undertaken.

3.3. Property impacts

While the majority of the proposed works are within the RailCorp corridor, and land owned by TfNSW, road and footpath works are on land under the care and control of Hurstville and Kogarah City Councils. Notably, this includes proposed road works associated with the location of the new entry forecourts, including reconfigured bus zone, and accessible parking.

No property acquisition for the Proposal has been identified.

3.4. Operational management and maintenance

The future management and maintenance of the new station forecourts is subject to further discussions with Sydney Trains, TfNSW and Kogarah and Hurstville City Councils. Structures and forecourts constructed under this Proposal would be maintained by Sydney Trains. It is expected that garden/reserve areas would continue to be maintained by the relevant Councils.

4. Statutory considerations

Chapter 4 provides a summary of the statutory considerations relating to the Proposal including a consideration of NSW Government policies/strategies, NSW legislation, environmental planning instruments, and Commonwealth legislation.

4.1. Ecologically sustainable development

TfNSW is committed to ensuring that its projects are implemented in a manner that is consistent with the principles of ecologically sustainable development (ESD).

The principles of ESD are generally defined under the provisions of clause 7(4) of Schedule 2 to the EP&A Regulation as:

- **The precautionary principle** – If there are threats of serious or irreversible damage, a lack of full scientific uncertainty should not be used as a reason for postponing measures to prevent environmental degradation
- **Intergenerational equity** – the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations
- **Conservation of biological diversity and ecological integrity** – the diversity of genes, species, populations and their communities, as well as the ecosystems and habitats they belong to, should be maintained or improved to ensure their survival, and
- **Improved valuation, pricing and incentive mechanisms** – environmental factors should be included in the valuation of assets and services.

The principles of ESD have been adopted by TfNSW throughout the development and assessment of the Oatley Station Accessibility Upgrade. Section 3.1.2 summarises how ESD has been incorporated in the design development of the proposal. Section 6.12 includes an assessment of the proposal on climate change and sustainability, and Section 7.2 lists mitigation measures to ensure ESD principles are incorporated during the construction and operation of the proposal.

4.2. NSW Government policies and strategies

In addition to statutory requirements, several NSW Government policies and strategies are relevant to the Proposal. Table 5 summarises the NSW Government policies and strategies applicable to the Proposal.

Table 5: Relevant NSW Government policies/strategies

Policy/Strategy	Commitment	Comment
Metropolitan Strategy for Sydney 2031	<p>The draft <i>Metropolitan Strategy for Sydney to 2031</i> was released in March 2013.</p> <p>The Metropolitan Strategy is designed to meet the targets in the updated NSW State Plan—notably in integrated transport and land use planning.</p>	<p>This Proposal supports the following Strategic Directions in the Metropolitan Strategy:</p> <p>A10.1 - Develop Sydney's transport system to support its role as a global city</p> <p>C2.2 - Develop modal strategies</p>

Policy/Strategy	Commitment	Comment
	<p>The <i>Metropolitan Transport Plan – Connecting the City of Cities</i> (February 2010) was the NSW Government's response to the specific challenges of passenger travel and transport within and across Sydney identifies in the Metropolitan Strategy. This Transport Plan has been integrated into the Metropolitan Plan.</p> <p>The Transport Plan identifies a number of initiatives to be delivered over the next decade. One of these initiatives is 'to improve passenger connections between buses and trains through upgrades to essential interchanges' across the greater Sydney Metropolitan area.</p>	<p>including rail, bus, walking and roads to respond to growth in demand</p> <p>E3.3 - Strengthen existing freight and industry clusters and support emergence of new clusters</p> <p>H3.1 - Design and plan for healthy, safe, accessible and inclusive places</p>
State Infrastructure Strategy (SIS)	<p>The SIS is the 20-year strategy to identify and prioritise the delivery of critical public infrastructure that drives productivity and economic growth. The Strategy presents the NSW Government with clear and strategic options for delivering infrastructure and market reform in a way that provides the best value for taxpayers.</p>	<p>The Proposal is consistent with the Priority: Deliver a well connected region – reduce road congestion and improve public transport improved with integrated services to reduce travel times across the region and on to other destinations.</p>
NSW 2021	<p>NSW 2021 is the NSW Government's ten year plan to guide budget and decision making in NSW. NSW 2021 includes the following goals, targets and priority actions relevant to the Proposal:</p> <ul style="list-style-type: none"> ▪ reduce travel times ▪ minimise public transport waiting times for customers ▪ improve co-ordination and integration between transport modes ▪ grow patronage on public transport ▪ improve public transport reliability ▪ improve customer experience with transport services. <p>In December 2012, the Government released the Southern Regional Action Plan. This Plan outlines the immediate actions the Government would take to address the priorities identified by the community.</p>	<p>The proposal is consistent with the NSW Government's commitment to:</p> <ul style="list-style-type: none"> ▪ grow patronage on public transport, and ▪ improve customer experience with transport services. <p>and in particular with NSW 2021 Goal 7 – Reduce travel times, and Goal 20 – build liveable centres.</p> <p>The Proposal contributes to Goal 14 – Increase opportunities for people with a disability, by improving transport access.</p> <p>The Proposal also supports active transport by contributing to the development of cycle facilities as part of an integrated local network.</p>
NSW Transport Master Plan	<p>The <i>NSW Long Term Transport Master Plan</i> (December 2012) identifies a planned and coordinated set of actions to address transport challenges. It would guide the NSW Government's transport</p>	<p>The Proposal implements key themes in the Master Plan:</p> <ul style="list-style-type: none"> ▪ Improving customers' journey experience

Policy/Strategy	Commitment	Comment
	<p>funding priorities over the next 20 years.</p> <p>The Long Term Master Plan would meet a number of challenges to building an integrated transport system for Sydney and NSW, including:</p> <ul style="list-style-type: none"> ▪ Customer-focussed integrated transport planning ▪ Integrated modes to meet customer needs ▪ Getting Sydney Moving Again ▪ Sustaining Growth in Greater Sydney. <p>The Master Plan links to <i>NSW 2021</i>, the <i>Metropolitan Strategy for Sydney</i>, the <i>State Infrastructure Strategy</i>, regional and sub-regional strategies, and national plans.</p>	<ul style="list-style-type: none"> ▪ Making better use of existing assets ▪ Providing accessible transport to help address social exclusion.
<p>South Subregional Strategy</p>	<p>The South Subregion covers the council areas of Canterbury, Hurstville, Kogarah, Rockdale and Sutherland.</p> <p>The strategy plans for housing and jobs growth to serve a population in Sydney of 5.6 million by 2031.</p> <p>Some specific initiatives for the centres of Hurstville and Kogarah include:</p> <ul style="list-style-type: none"> ▪ Supporting the Hurstville major centre as the primary subregional focus for additional office, retail, entertainment, cultural and public administration growth as well as higher intensity residential development; ▪ Providing capacity for 5,000 additional jobs to 2031 in the Hurstville major centre; ▪ Using St George Hospital as a catalyst for additional health, medical, educational and finance related industries at the Kogarah Town Centre where an additional 2,000 jobs are targeted. ▪ Supporting additional housing at Kogarah along with office and retail growth; ▪ Increasing the capacity for office, retail, entertainment, services and mixed use development at Sutherland. <p>The transport system supports the</p>	<p>The Proposal is consistent with the South Subregional Strategy for the Sydney subregion.</p> <p>The Proposal would facilitate extension of transport networks to connect Oatley with job opportunities at Kogarah, Hurstville and Sutherland, and other employment and entertainment opportunities in the Sydney metropolitan area. This would support a reduction in cross-regional trips, resulting in less need to use private cars.</p>

Policy/Strategy	Commitment	Comment
	economic growth of every subregion in Sydney by getting people to jobs and services and other daily activities in a fast, safe and reliable way. Most travel is undertaken within the subregion where people live.	

4.3. NSW legislation and regulations

4.3.1. Environmental Planning and Assessment Act 1979

The EP&A Act establishes the system of environmental planning and assessment in NSW. This Proposal is subject to the environmental impact assessment and planning approval requirements of Part 5 of the EP&A Act. Part 5 of the EP&A Act specifies the environmental impact assessment requirements for activities undertaken by public authorities, such as TfNSW, which do not require development consent.

In accordance with section 111 of the EP&A Act, TfNSW, as the proponent and determining authority, must examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the Proposal. Having regard to these provisions, TfNSW has determined that no significant environmental impact is likely and that therefore an environmental impact statement is not required.

Clause 228 of the EP&A Regulation defines the factors which must be considered when assessing an activity under Part 5 of the EP&A Act is likely to have a significant impact on the environment.

Chapter 6 of this REF provides an environmental impact assessment of the Proposal in accordance with clause 228. Appendix 1 specifically responds to the factors for consideration under clause 228.

4.3.2. Other NSW legislation and regulations

Table 6 provides a list of other relevant legislation applicable to the proposal.

Table 6: Other relevant legislation applicable to the Proposal

Legislation	Requirements for the Proposal
<i>Heritage Act 1977 (NSW)</i>	<p>Oatley Railway Station Group is listed on the State Heritage Register, the RailCorp Section 170 Register, and Kogarah LEP.</p> <p>A section 57 exemption or a section 60 approval is required where items listed on the State Heritage Register are to be impacted. Sections 139 and 140 (permit) are required where relics are likely to be exposed.</p> <p>Clause 14 of the Infrastructure SEPP requires that TfNSW, as the proponent and determining authority, should consult with the local Council and Sydney Trains as the Proposal has the potential to impact on heritage items listed on the LEP.</p> <p>Transport agencies are responsible for conserving heritage places under their stewardship, as well as provide equitable access under the <i>Disability Discrimination Act 1992</i> and relevant transport standards.</p>

Legislation	Requirements for the Proposal
	The Proposal aims to ensure equitable access outcomes are achieved in a way that conserves heritage values and minimises impacts on heritage significance.
<i>National Parks and Wildlife Act 1974 (NSW)</i>	Sections 86, 87 and 90 require consent from the Office of Environment and Heritage (OEH) for the destruction or damage of Aboriginal objects. The Proposal is unlikely to disturb any Aboriginal objects.
<i>Threatened Species Conservation Act 1995 (NSW)</i>	The site does not contain suitable habitat for any listed threatened species or community and is unlikely to have a significant impact on any threatened species or community (refer to section 6.7).
<i>Fisheries Management Act 1994 (NSW)</i>	Adequate stormwater quality measures would prevent any adverse impacts on any natural watercourse. The Proposal would not affect any listed threatened species, marine vegetation or involve dredging or dam works.
<i>Contaminated Land Management Act 1997 (NSW)</i>	The site has not been declared under the CLM Act as being significantly contaminated.
<i>Protection of the Environment Operations Act 1997 (PoEO Act) (NSW)</i>	The proposed works are not included as a scheduled activity under the PoEO Act. Therefore an Environment Protection Licence under this Act is not required. Part 5.7 provides a Duty to notify the EPA in the event of a pollution incident occurring.
<i>Water Management Act 2000 (NSW)</i>	The Proposal would not involve any marked increase in water consumption, water management works, drainage or flood mitigation works, controlled activities or aquifer interference.
<i>Waste Avoidance and Resource Recovery Act 2001 (NSW)</i>	TfNSW would carry out the construction of the Proposal in accordance with the objects of this Act. A Waste Management Plan would be prepared and implemented during construction.
<i>Native Title Act 1993 (Commonwealth)</i>	The proposed site is unlikely to be affected by any native title holders or claim.
<i>Disability Discrimination Act 1992 (DDA) (Commonwealth);</i> <i>Disability Services Act 1993 (NSW);</i> <i>Disability Standards for Accessible Public Transport 2002 (DSFAPT) (Commonwealth)</i>	The objects of the DDA are to eliminate, as far as possible, discrimination against persons on the grounds of disability, including in the provision of services. The proposal would promote the objectives of TfNSW's Disability Action Plan 2012-2017 which aims to eliminate, as far as practicable, direct and indirect discrimination in the provision of transport services to NSW residents and visitors. The Plan requires all new and refurbished transport infrastructure to meet customer focussed design standards and comply with DDA requirements.

4.4. State Environmental Planning Policies

4.4.1. State Environmental Planning Policy (Infrastructure) 2007

The Infrastructure SEPP is the key environmental planning instrument which determines the permissibility of the Proposal.

Clause 79 of the Infrastructure SEPP allows for the development of 'rail infrastructure facilities' by or on behalf of a public authority without consent on any land. Clause 78 defines 'rail infrastructure facilities' as including: railway stations, station platforms and areas in a station complex that commuters use to get access to the platforms, and associated public transport facilities for railway stations.

Consequently, development consent is not required, however the environmental impacts of the Proposal have been assessed under the provisions of Part 5 of the EP&A Act.

Part 2 of the Infrastructure SEPP contains provisions for public authorities to consult with local councils prior to the commencement of certain types of development. Section 5.5 of this REF discusses the consultation undertaken with Council during the development of the Proposal.

It is noted that the Infrastructure SEPP prevails over all other environmental planning instruments except where *State Environmental Planning Policy (Major Development) 2005*, *State Environmental Planning Policy No 14 – Coastal Wetlands* or *State Environmental Planning Policy No 26 – Littoral Rainforest* applies.

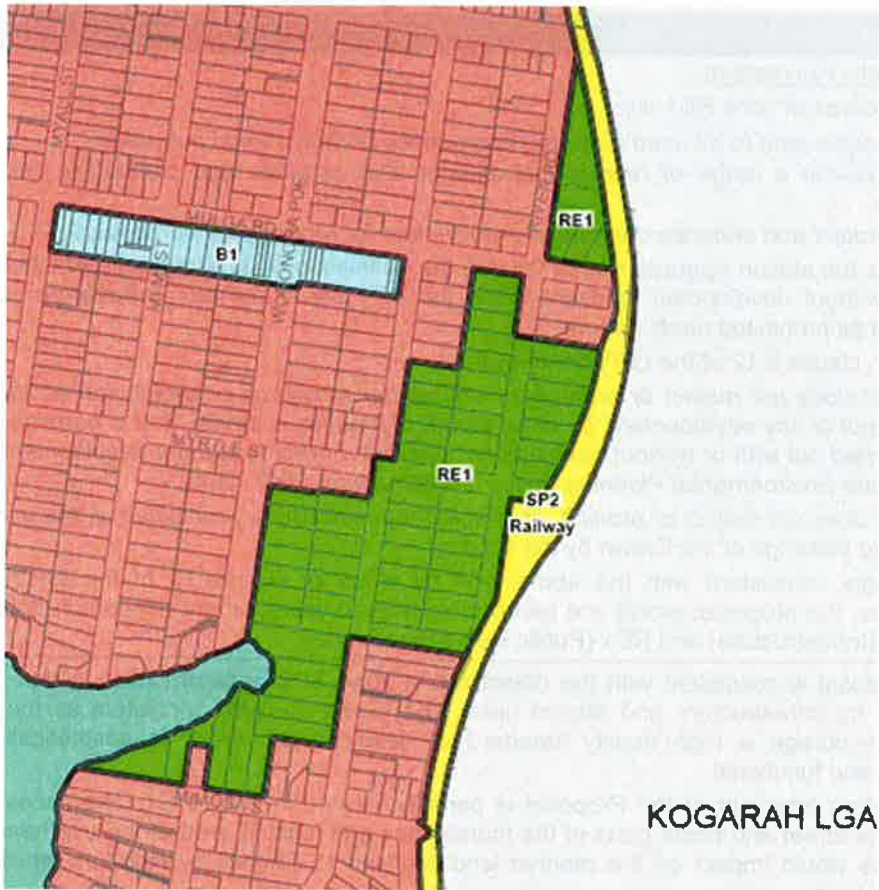
4.5. Local environmental planning instruments and development controls

4.5.1. Hurstville Local Environmental Plan 2012

Table 7: Relevant provisions of the Hurstville Local Environment Plan 2012

Description	Comment
Zone	The portion of the Proposal within the Hurstville local government area is zoned as SP2 (Infrastructure) and RE1 (Public Recreation) (refer to Figure 11).
Zone Objectives and Development Control	<p>The project footprint encroaches upon two specific zones in the Hurstville LGA, namely Zone SP2 (Infrastructure), and zone RE1 (Public Recreation)</p> <p>SP2 (Infrastructure)</p> <p>The objectives of zone SP2 are:</p> <ul style="list-style-type: none"> – To provide for infrastructure and related uses; – To prevent development that is not compatible with or that may detract from the provision of infrastructure. <p>Development permitted with consent includes</p> <ul style="list-style-type: none"> – "Roads; The purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose" <p>No works or uses are permissible without development consent</p> <p>The works to be undertaken as part of the proposal within the SP2 zone are therefore permissible with consent.</p>

Description	Comment
	<p><u>RE1 (Public Recreation)</u></p> <p>The objectives of zone RE1 are:</p> <ul style="list-style-type: none"> - <i>To enable land to be used for public open space or recreational purposes.</i> - <i>To provide a range of recreational settings and activities and compatible land uses.</i> - <i>To protect and enhance the natural environment for recreational purposes.</i> <p>Works for the station upgrade do not fall into the definitions of development permitted with or without development consent within the RE1 zone, and would therefore be classified as prohibited development.</p> <p>However, clause 5.12 of the LEP identifies that:</p> <p><i>"The LEP does not restrict or prohibit, or enable the restriction or prohibition of, the carrying out of any development, by or on behalf of a public authority, that is permitted to be carried out with or without development consent, or that is exempt development, under State Environmental Planning Policy (Infrastructure) 2007. [and]</i></p> <p><i>The LEP does not restrict or prohibit, or enable the restriction or prohibition of, the use of existing buildings of the Crown by the Crown."</i></p> <p>Accordingly, consistent with the above and by virtue of clause 79 of the ISEPP provisions, the proposed works are permissible without development consent in both the SP2 (Infrastructure) and RE1 (Public Recreation) zones.</p>
<p>Relationship to the Proposal</p>	<p>The Proposal is consistent with the objectives of zone SP2 (Infrastructure) in that it provides for infrastructure and related uses. The works are also consistent as they would encourage a high quality standard of development which is aesthetically pleasing and functional.</p> <p>The western forecourt of the Proposal is partially located in zone RE1. The access way to the street and those parts of the foundations and landing area of the overhead footbridge would impact on the reserve land licensed to Council by RailCorp which owns the land.</p>
<p>Preservation of trees or vegetation</p>	<p>Clause 5.9(3) of the LEP identifies that</p> <p><i>"A person must not ringbark, cut down, top, lop, remove, injure or wilfully destroy any tree or other vegetation to which any such development control plan applies without the authority conferred by:</i></p> <p><i>(a) development consent, or</i></p> <p><i>(b) a permit granted by the Council."</i></p> <p>The Proposal requires the removal of trees that are prescribed under Clause 5.9, discussed above and would therefore require development consent. However by virtue of clauses 5(3) & 79 of the ISEPP, the clearing of vegetation for the Proposal is permissible without development consent and would be approved under Part 5 of the EP&A Act.</p>
<p>Heritage conservation</p>	<p>Clause 5.10 of the LEP provides for conservation of the environmental heritage of Hurstville, and the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views; and for the conservation of archaeological sites, and Aboriginal objects and Aboriginal places of heritage significance.</p> <p>The Oatley Railway Station Group is listed on the State Heritage Register, the RailCorp s170 register. Extensive consultation has taken place with the Heritage Branch of the Office of Environment and Heritage.</p> <p>See Section 6.5 for further details regarding heritage considerations.</p>



Zone

- B1 Neighbourhood Centre
- B2 Local Centre
- B4 Mixed Use
- E4 Environmental Living
- IN2 Light Industrial
- R2 Low Density Residential
- R3 Medium Density Residential
- RE1 Public Recreation
- RE2 Private Recreation
- SP2 Infrastructure
- W2 Recreational Waterways

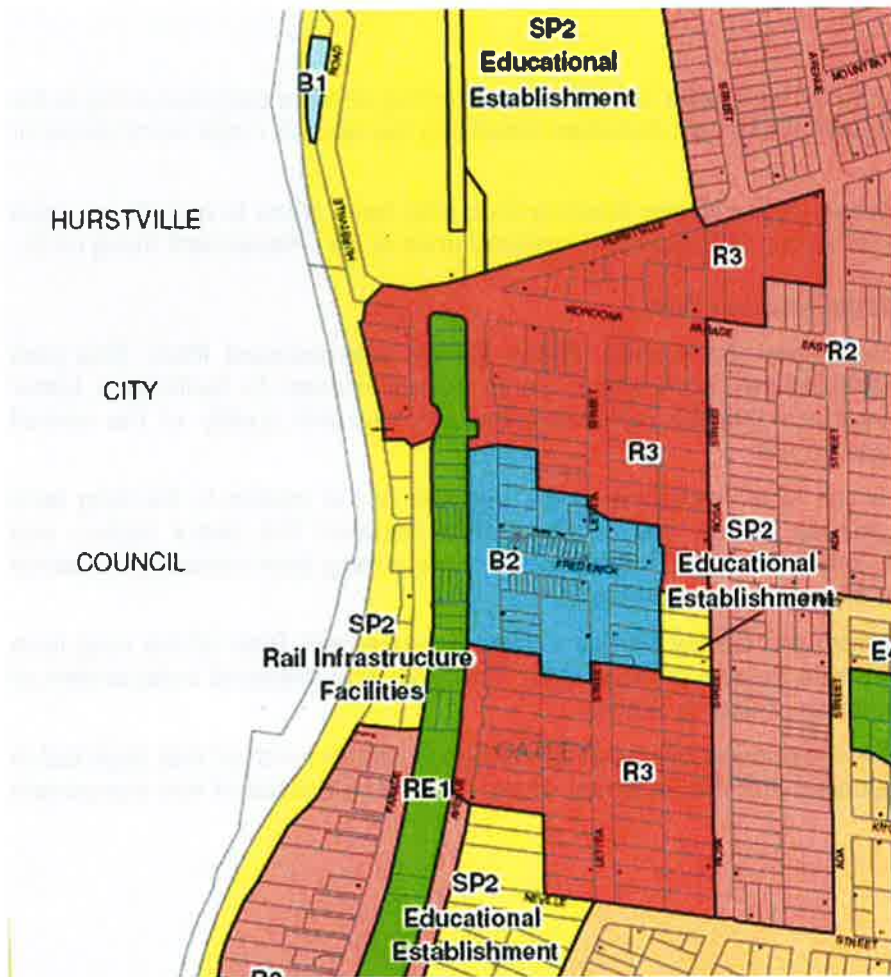
Figure 11: Hurstville LEP 2012 zoning map (Sheet LZN_006)

4.5.2. Kogarah Local Environmental Plan 2012

Table 8: Relevant provisions of the Kogarah Local Environment Plan 2012

Description	Comment
Zone	The portion of the Proposal within the Kogarah local government area is zoned as SP2 (Infrastructure) (refer to Figure 12).
Zone Objectives and Development Control	<p>The objectives of zone SP2 are:</p> <ul style="list-style-type: none"> – <i>To provide for infrastructure and related uses;</i> – <i>To prevent development that is not compatible with or that may detract from the provision of infrastructure.</i> <p>Development permitted with consent includes</p> <ul style="list-style-type: none"> – <i>Car parks; Child care centres; Community facilities; Depots; Environmental facilities; Environmental protection works; Markets; Places of public worship; Recreation areas; Respite day care centres; Roads; Signage; The purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose</i> <p>No works or uses are permissible without development consent</p> <p>The works to be undertaken as part of the proposal within the SP2 zone are therefore permissible with consent.</p> <p>However, clause 5.12 of the LEP identifies that:</p> <p><i>“The LEP does not restrict or prohibit, or enable the restriction or prohibition of, the carrying out of any development, by or on behalf of a public authority, that is permitted to be carried out with or without development consent, or that is exempt development, under State Environmental Planning Policy (Infrastructure) 2007. [and]</i></p> <p><i>The LEP does not restrict or prohibit, or enable the restriction or prohibition of, the use of existing buildings of the Crown by the Crown.”</i></p> <p>Accordingly, consistent with the above and by virtue of clause 79 of the ISEPP provisions, the proposed works are permissible without development consent within the SP2 (Infrastructure) zone.</p>
Relationship to the Proposal	The Proposal is consistent with the objectives of zone SP2 (Infrastructure) and is consistent with the objective that the development is to provide for infrastructure and related uses. The works are also consistent as they would encourage a high quality standard of development which is aesthetically pleasing, functional and relates sympathetically to nearby and adjoining development.
Preservation of trees or vegetation	<p>Clause 5.9(3) of the LEP identifies that</p> <p><i>“A person must not ringbark, cut down, top, lop, remove, injure or wilfully destroy any tree or other vegetation to which any such development control plan applies without the authority conferred by:</i></p> <p><i>(a) development consent, or</i></p> <p><i>(b) a permit granted by the Council.”</i></p> <p>The Proposal requires the removal of trees that are prescribed under Clause 5.9, discussed above and would therefore require development consent. However by virtue of clauses 5(3) & 79 of the ISEPP, the clearing of vegetation for the Proposal is permissible without development consent and would be approved under Part 5 of the EP&A Act.</p>

Description	Comment
Trees or vegetation not prescribed by development control plan	<p>1. This clause applies to any tree or other vegetation that is not of a species or kind prescribed for the purposes of the clause above by a development control plan made by the Council.</p> <p>2. The ringbarking, cutting down, topping, lopping, removal, injuring or destruction of any tree or other vegetation to which this clause applies is permitted without development consent.</p>
Heritage conservation	<p>Clause 5.10 of the LEP provides for conservation of the environmental heritage of Hurstville, and the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views; and for the conservation of archaeological sites, and Aboriginal objects and Aboriginal places of heritage significance.</p> <p>The Oatley Railway Station Group is listed on the State Heritage Register, the RailCorp s170 register and the Kogarah LEP 2012. Extensive consultation has taken place with the Heritage Branch of the Office of Environment and Heritage.</p> <p>See Section 6 5 for further detail regarding heritage considerations.</p>



Zone

- B1 Neighbourhood Centre
- B2 Local Centre
- B4 Mixed Use
- E4 Environmental Living
- IN2 Light Industrial
- R2 Low Density Residential
- R3 Medium Density Residential
- RE1 Public Recreation
- RE2 Private Recreation
- SP2 Infrastructure
- W2 Recreational Waterways

Figure 12: Kogarah LEP 2012 zoning map (Sheet LZN_004)

Future development

No other major developments have been identified as occurring or potentially occurring in the vicinity of Oatley Station, with residential densities remaining low and no major commercial or industrial development.

Hurstville Council (as owners of the former Bowling Club site) have plans to provide an aged care facility on their site for either 140 beds and serviced units or 25 independent living units.

Oatley Village Centre Improvement Plan

Kogarah Council has developed the Oatley Village Centre Improvement Plan. This plan outlines the potential streetscapes work which would be undertaken to facilitate a better pedestrian and traffic interface thereby increasing the amenity and quality of the overall streetscape and the village centre.

An aspect of the plan which is of relevance to the upgrade of the station is the long term option of the plan to provide a new link to the station between the petrol station and commercial building on Oatley Parade. These plans include a long term vision for an aerial bridge to the station and across the rail corridor.

Figure 13 is an extract from the Oatley Village Centre Improvement Plan of the long term variation to the plan to include access to the station. This plan was prepared independent of TfNSW's accessibility upgrade of Oatley Station.

Although the location of the proposed overhead footbridge is further north of that depicted in Council's plan, it is considered that the Proposal meets the key objectives of this component of the plan.

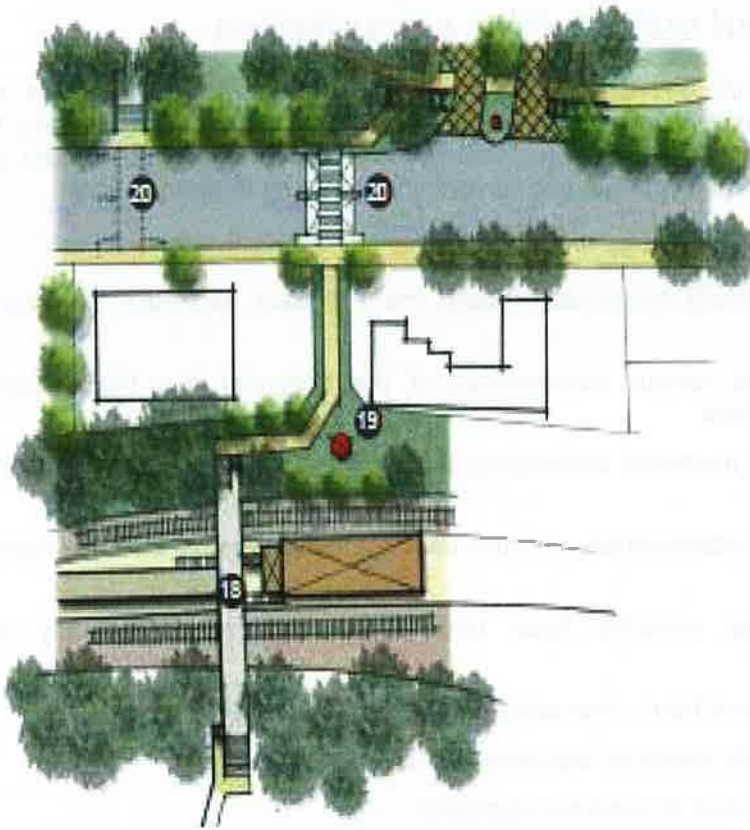


Figure 13: Extract from the Oatley Village Centre Improvement Plan

Source: Oatley Village Centre Improvement Plan, 2009

4.6. Commonwealth legislation

4.6.1. Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth EPBC Act requires the assessment of whether the Proposal is likely to significantly impact on matters of National Environmental Significance (NES) or matters relating to Commonwealth land.

These matters are considered in full in Appendix 1.

The proposal would not impact on any matters of NES or on Commonwealth land. Therefore a referral to the Commonwealth Department of the Environment is not required.

5. Community and stakeholder consultation

The consultation strategy for the Proposal was developed to encourage stakeholder and community involvement and foster interaction between stakeholders, the community and the project team. The consultation strategy ensures that relevant stakeholders, customers and the community are informed of the Proposal and have the opportunity to provide input.

The objectives of the consultation strategy are to:

- Provide accurate and timely information about the Proposal and REF process to relevant stakeholders
- Raise awareness of the various components of the Proposal and the specialist environmental investigations
- Ensure that the directly impacted community are aware of the REF and consulted where appropriate
- Provide opportunities for stakeholders and the community to express their view about the Proposal
- Understand and access valuable local knowledge from the community and stakeholders
- Record the details and input from community engagement activities
- Build positive relations with identified community stakeholders, and
- Ensure a comprehensive and transparent approach.

5.1. Consultation tools and activities

The REF consultation strategy adopts a range of consultation mechanisms, including:

- Public display of the REF
- Community information sessions
- Distribution of project updates by letterbox drop up to a radius of approximately 500 metres to the station to local community and rail commuters, where appropriate, outlining the Proposal and inviting feedback on the REF
- Advertisement of REF public display in local newspapers with details of the TfNSW website that includes a summary of the Proposal and information on how to provide feedback
- Consultation with Councils, RMS, Sydney Trains and other non-community stakeholders, and
- Advertisement of the REF public display on posters installed at Oatley Station.

5.2. Public display of the REF

Community consultation activities for the Proposal would be undertaken during the public display of this REF. The display period of the REF would be advertised in the week that the

public display commences. The REF would be placed on public display for a period of four weeks at the following locations:

Hurstville City Council
Civic Centre, McMahon Street
Hurstville NSW 2220
Monday to Friday 8.30 am to 4.30 pm

Hurstville City Library
Cnr Queens Road and Dora Streets
Hurstville NSW 2220
Monday to Friday 9.30 am – 9.00 pm
Saturday 9.30 am – 4.00 pm
Sunday 2.00 pm – 5.00 pm

Kogarah Council Customer Service Centre
84 Railway Parade
Kogarah NSW 2217
Monday to Friday 8.30am – 5pm

Kogarah Library
Kogarah Town Square
Belgrave Street
Kogarah NSW 2217
Monday to Friday 9:30am to 7pm
Saturday 10am – 4pm
Sunday 10am – 1pm

Oatley Branch Library
26 Letitia Street
Oatley NSW 2223
Monday to Friday 10am – 6pm
Saturday 10am – 1pm

South Hurstville Library
Corner Short and Allen Streets
South Hurstville NSW 2221
Monday to Friday 10am – 6pm
Saturday 10am to 1pm

Office of Mark Coure MP
8 Ormonde Parade
Hurstville, Monday to Friday 9am – 5pm

Oatley RSL and Community Club
23 Letitia Street, Oatley
Monday and Tuesday 10am – 10pm
Wednesday 10am – 11pm
Thursday 10am – 12am
Friday 10am – 12am
Saturday 11am – 12am
Sunday 11am – 10pm

Office of Environment and Heritage
Heritage Branch Library
Ground floor, Heritage Branch
3 Marist Place Parramatta
Monday to Friday - 9:00am to 4pm

The REF would also be available on the TfNSW website: www.transport.nsw.gov.au/projects. Information on the Proposal would be available through the Project Infoline (1800 684 490) or by email (projects@transport.nsw.gov.au).

Feedback on the REF is invited during the public display period. Following consideration of feedback received during the public display period, TfNSW would determine whether to proceed with the Proposal.

5.3. Consultation requirements under SEPP (Infrastructure) 2007

In accordance with Part 2 Division 1 of the Infrastructure SEPP, TfNSW is required to undertake consultation with relevant Councils and/or other public authorities where works are likely to affect council infrastructure/services, and other relevant areas as detailed below in Table 9.

Where consultation is required, TfNSW will notify the relevant council and authorities in accordance with the ISEPP requirements, and take into consideration any response to the notice that is received from the council/public authority within 21 days after the notice is given.

Table 9: Infrastructure SEPP consultation requirements

Consultation with Councils – development with impacts on council related infrastructure and services	Relevance to the Proposal
<p>Where proposed works:</p> <ul style="list-style-type: none"> ▪ substantially impact on storm water management services ▪ place a local road system under strain ▪ involve connection to or impact on a council owned sewerage system ▪ involve connection to and substantial use of council owned water supply ▪ significantly disrupt pedestrian or vehicle movement ▪ involve significant excavation to a road surface or footpath for which Council has responsibility. 	<p>ISEPP triggers the following requirements: Clause 13: - consultation with councils (development with impacts on council-related infrastructure or services).</p> <p>The Proposal would include works that would disrupt pedestrian and vehicle movements and impact on Council operated footpaths.</p> <p>Consultation with Hurstville and Kogarah Councils has been undertaken and would continue throughout the detailed design and construction phases.</p>
Consultation with Councils – development with impacts on local heritage	Relevance to the Proposal
<p>Where proposed works:</p> <ul style="list-style-type: none"> ▪ substantially impact on local heritage item (if not also a State heritage item) ▪ substantially impact on a heritage conservation area 	<p>ISEPP triggers the following requirements: Clause 14: consultation with Councils (development with impacts on local heritage).</p>

Consultation with Councils – development with impacts on flood liable land	Relevance to the Proposal
<p>Where proposed works:</p> <ul style="list-style-type: none"> ▪ impact on land that is susceptible to flooding – reference would be made to <i>Floodplain Development Manual: the management of flood liable land</i>. 	<p>The proposed site is not susceptible to flooding. Accordingly, consultation with Council is not required in regard to this aspect. Refer to Hydrology assessment in section 6.9</p>

Consultation with public authorities other than Councils	Relevance to the Proposal
<p>Where development is undertaken adjacent to land reserved under the National Parks and Wildlife Act 1974, OEH and other agencies specified by the Infrastructure SEPP where relevant.</p>	<p>The Proposal is not adjacent to land reserved under the National Parks and Wildlife Act 1974. Consultation with relevant public authorities would be undertaken as a matter of course.</p>

Although not a specific Infrastructure SEPP requirement, other agencies TfNSW may consult would include:

- Roads and Maritime Services (RMS)
- RailCorp
- Sydney Trains
- OEH

5.4. Aboriginal community involvement

An Aboriginal Heritage Inventory Management System (AHIMS) search was undertaken for Oatley Railway Station and surrounding lands within a 50 metre radius. The search did not identify any Aboriginal sites recorded in or near the subject location, and no Aboriginal places have been declared in or near the subject location.

The extensive landscape modification that has occurred across the study area suggests that intact evidence of Aboriginal land use is unlikely to occur within the study area boundaries. Similarly, the high level of disturbance would suggest that the archaeological potential of the area is low.

Therefore it was not considered necessary to undertake specific Aboriginal consultation.

5.5. Local Government consultation

TfNSW conducted a briefing on the Proposal with Kogarah City Council in January 2014. See Table 10 for a summary of the issues raised by Council at the meeting.

Table 10: Potential issues raised by Kogarah City Council during initial consultation

Item	Issue	TfNSW response
Property ownership	Council sought clarity on whether the car park extension is on Council land or within the rail corridor.	The car park extension is wholly within the RailCorp rail corridor.

Item	Issue	TfNSW response
	Council sought clarity on who would maintain the car park	Maintenance of the car park would be the responsibility of Sydney Trains
	Council requested clarity on the size of the replacement gardener's store room attached to the bus shelter in Douglas Cross Gardens (to be located under the new stairs)	TfNSW have subsequently confirmed the size of the gardener's store.
	Council advised of the need for a license for the works on land licensed to Council, TfNSW to contact the relevant Council officer.	TfNSW to commence discussion with Council.
Urban design	Council noted that provision of bus shelters is under contract to Adshel and that the same style of shelters should be used.	Adshel bus shelter would be specified to the Contractor.
Footpath works	Council requested TfNSW to consider extension of the footpath works to improve the footpath as far as the River Road underpass.	TfNSW has advised that footpath works would be undertaken from the taxi rank (south of the pedestrian crossing) to the north side of the existing bus shelter in Oatley Parade. In addition, the footpath would be widened at the intersection of Oatley Parade and River Road.

TfNSW conducted a briefing on the Proposal with Hurstville City Council in February 2014. Table 11 provides a summary of the issues raised by Council at the meeting.

Table 11: Potential issues raised by Hurstville City Council during initial consultation

Item	Issue	TfNSW response
Safety	Council noted the current situation where the footpath on the north side of River Road directs pedestrians to an unsafe crossing point. This needs to be assessed in the context of the new western forecourt entrance.	TfNSW to provide the results of the Road Safety Audit. TfNSW advised that any works associated with the realignment of this crossing point does not fall within the current project scope.
Urban design	Council noted changes to provision of bus shelters. Council noted that the contract with Adshel for provision of shelters was under review and that the results would be notified to TfNSW.	Noted
	Fencing in the median in Mulga Road was discussed and Council noted that fencing with provision of hedges was a maintenance issue and that native grasses would be preferred.	Noted. Detailed design would investigate native grass landscaping associated with the median fence

Item	Issue	TfNSW response
Property issues	Council provided the contact officer's details.	Noted.

Additional meetings and workshops would be held with key stakeholders during the detailed design process. These would include but not be limited to:

- Hurstville and Kogarah City Councils
- Punchbowl Bus Company, Telfords Tours
- Taxi Council
- Heritage Council
- RailCorp/Sydney Trains.

5.6. Ongoing consultation

At the conclusion of the public display period for this REF, TfNSW would acknowledge receipt of feedback from each respective respondent. The issues raised by the respondents would be considered by TfNSW before determining whether to proceed with the Proposal.

Should TfNSW determine to proceed with the Proposal, a Determination Report would be prepared. The Determination Report would be made available on the TfNSW website and would summarise the key impacts identified in this REF, response to submissions, and include Conditions of Approval for the Proposal.

Should TfNSW determine to proceed with the Proposal, interaction with the community will continue throughout the construction phase would be undertaken in accordance with a Community Liaison Plan (CLP) to be developed prior to the commencement of construction.

6. Environmental impact assessment

This environmental impact assessment has been undertaken in accordance with Part 5 of the EP&A Act and clause 228 of the EP&A Regulation. A checklist of clause 228 factors and how they have been specifically addressed in this REF is included at Appendix 1.

6.1. Traffic and transport

A Traffic, Transport and Access Impact Assessment (TT&AIA) of the Proposal was carried out by GHD Consultants in January 2014.

The purpose of the TT&AIA is to determine the potential traffic and transport impacts that the proposed commuter car park and interchange upgrade would have on the adjoining road network. In that regard, the intent of this assessment is to:

- Broadly assess existing traffic conditions and surrounding road network in terms of traffic volumes and road capacity
- Review the traffic generation potential of the project and its impacts on the surrounding road network
- Review of the geometry and layout of the preliminary concept design for the proposed car park and interchange arrangements, and
- Broadly assess the likely traffic implications during construction.

6.1.1. Existing environment

Oatley Station Precinct is located on the Illawarra Railway line of the Sydney Trains network, and serves the southern Sydney suburb of Oatley. The station has been in its current location since 1905, however it was originally located to the east within the area now occupied by the Memorial Gardens. Oatley Station is an island platform with two platform faces to operational tracks.

Generally, in peak hours the station is served by four trains per hour in each direction. There are all stations and limited stops services to Hurstville, Central and Bondi Junction via Central, and all stations and limited stops services to Sutherland, Cronulla and Waterfall.

Punchbowl Bus Company operates one route via Oatley Station, Service 955 to Hurstville and Mortdale Stations. This service operates an hourly service from Oatley Station in each direction. Existing bus stops are located on Oatley Parade, near a concrete shelter. A west bound bus stop is located on Mulga Road.

The station precinct is also served by a taxi zone located on the corner of River Road and Oatley Parade. The station precinct is well connected by local roads allowing private motor vehicle use. Existing footpaths lead to the entrance of the station on River Road underpass.

An off-street commuter car park for 16 cars is provided on Oatley Parade. On-street car parking is also available on either side of the station. Images of the Oatley Station Precinct are shown in Figure 3.

Existing access

The station is accessed via the underpass located on River Road to the north of the station. Access to the platform is currently via non-DDA compliant stairs and a ramp. The original station building is located on the platform towards the northern end. There are no lifts currently provided at this station.

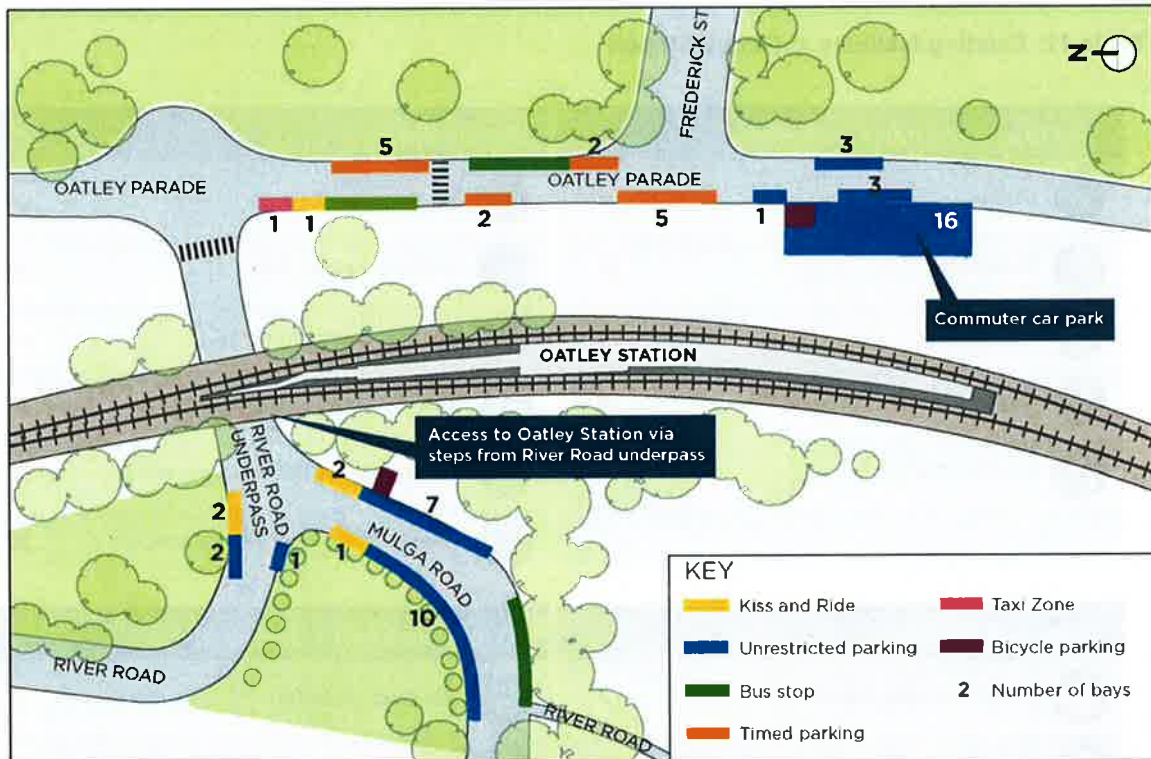


Figure 14: Existing transport infrastructure

Existing station access is:

- Not DDA compliant
- Has limited passive surveillance; and has
- Improvements are required to reduce potential conflicts between pedestrians, bicycles and vehicles.

Access to the Oatley Railway Station does not meet the requirements of Disability Standards for Accessible Public Transport (DSFAPT). It is therefore proposed to upgrade access with the following improvements:

- Full easy access upgrade from street to platform, including lifts and stairs from new forecourt entrances to east (Oatley Parade) and west (Mulga Road), providing a cross corridor link
- New pedestrian overhead footbridge located at the northern end of the platform

- Improved bus stops, kiss and ride, accessible parking and bicycle facilities
- Accessible platform staff and commuter facilities (particularly toilet facilities), and
- Localised traffic management and traffic calming on Mulga Road, including a median strip, pedestrian refuge and road realignments.
- Further traffic management initiatives on the west side of the station are being discussed with Hurstville Council.

Table 12: Existing facilities at Oatley Station

Getting around the station			Accessibility		
	Stairs	✓		Hearing loop	✓
	Escalator	✗		Platform tactile tiles	✗
	Lift	✗		Portable boarding ramp	✓
	Ramp	✗		Wheelchair accessible toilet	✗
	Level crossing	✗		Wheelchair accessible payphone	✗
				Wheelchair accessible carspace/s	✗
General facilities			Transport interchanges		
	Ticket vending machine	✓		Bus stop close by	✓
	Eftpos	✓		Ferry wharf close by	✗
	Toilet	✓		Taxi rank close by	✓
	Payphone	✓		Bike racks or bike lockers	✗
	Passenger display screens	✓		Kiss and ride	✗
	Help point	✓		Car park close by	✗

Source: www.sydneytrains.info

The Bureau of Transport Statistics provided data that indicates that in 2006, for the weekday AM Peak, the station access modes at Oatley were as follows: Walk 57%, Bus 2%, Car driver 24%, Car passenger 15%, Other 2%. (Source: *A Compendium of CityRail Travel Statistics- Seventh Edition - Appendix 4 Station Access Modes, AM Peak*).

Table 13: Existing traffic and transport

Transport	Details												
Train	<p>Oatley Railway Station is serviced by the Eastern Suburbs and Illawarra Line (Bondi Junction to Cronulla) via Sydney Central.</p> <p>Train services accessing Oatley Station</p> <table border="1"> <thead> <tr> <th>Direction</th> <th>AM Peak (0800-0900)</th> <th>PM Peak (1700-1800)</th> <th>Saturday Peak (1200-1300)</th> </tr> </thead> <tbody> <tr> <td>Towards Sydney</td> <td>15 mins</td> <td>12 mins</td> <td>30 mins</td> </tr> <tr> <td>Towards Cronulla</td> <td>15 mins</td> <td>10 mins</td> <td>30 mins</td> </tr> </tbody> </table>	Direction	AM Peak (0800-0900)	PM Peak (1700-1800)	Saturday Peak (1200-1300)	Towards Sydney	15 mins	12 mins	30 mins	Towards Cronulla	15 mins	10 mins	30 mins
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Towards Sydney	15 mins	12 mins	30 mins										
Towards Cronulla	15 mins	10 mins	30 mins										
Bus	<p>Bus zones are provided adjacent to the station on Oatley Parade in the southbound and northbound directions and on Mulga Road in the westbound direction only.</p> <p>Punchbowl Bus Services operates the 955 Hurstville to Mortdale service in and out of the interchange:</p> <p>Bus route 955 operates along Mulga Road, River Road, Oatley Parade and Frederick Street.</p> <p>A bus shelter with seating is located in Oatley Parade.</p> <p>In addition to the public bus, a Telfords Tours bus picks up private school students from the bus zone in Oatley Parade. This bus waits at the bus stop for around 15 mins during the weekday morning, departing at 0750.</p>												
Parking for those with a disability	<p>There is currently no DDA compliant accessible parking provided at Oatley Station.</p>												
Kiss and ride	<p>No formal kiss and ride facilities are provided near the station, however informal kiss and ride zones are provided in the form of non-sheltered "No Parking" zones on River Road, Mulga Road and Oatley Parade.</p> <p>Illegal (and potentially unsafe) kiss and ride activity occurs, e.g. in River Road on the eastern side of the underpass.</p>												
Taxi	<p>A taxi rank is located in Oatley Parade near the intersection with River Road, on the eastern side of the interchange. The taxi rank has capacity for one taxi.</p> <p>There is no taxi rank on the western side of the interchange.</p>												
Bicycle Facilities	<p>Bike racks (11 spaces in total) are located on either side of the interchange. The rack in the commuter car park on the eastern side is often obstructed by parking.</p> <p>The underpass has relatively high usage by bicyclists travelling to Oatley Park and other areas to the west.</p>												
Commuter Car Parking	<p>A commuter car park for 16 cars is provided on Oatley Parade on the eastern side of the station, approximately 200 metres from the existing station entrance.</p> <p>Unrestricted kerbside parking is also available along River Road and Mulga Road, closer to the station. Some on-street unrestricted parking is provided on Oatley Parade near the commuter car park.</p>												
Traffic Access and Movements	<p>Intersections within the vicinity of Oatley Station currently operate with acceptable levels of service during both the week AM and PM peak hour.</p> <p>To some extent, the underpass (clearance 4.5m) and local street geometry forms a barrier to traffic access.</p>												
Pedestrian	<p>There are multiple pedestrian routes to access the station due to highly connective</p>												

Transport	Details
Access and Movements	<p>structure of the surrounding local street network. Pedestrians can access Oatley Station via Oatley Parade, River Road and Mulga Road.</p> <p>On the eastern side, pedestrians access the interchange either via the footpath network (Oatley Parade and River Road) which has considerable slopes, or across Douglas Cross Gardens (also with a considerable slope).</p> <p>From the western side, some access routes across Mulga Road and River Road are potentially unsafe.</p> <p>There is a zebra crossing on the eastern side of the interchange, across Oatley Parade.</p>
Local road network	<p>Oatley Parade runs along the eastern perimeter of the site and functions as a collector road, providing one traffic lane in either direction. Footpaths are generally provided on both sides of Main Road, with the exception of the section of Main Road between Margaret Street and the station entrance, where a footpath is only provided along the northern side of the street.</p> <p>The speed limit along Oatley Parade to the south of River Road is 50 km/hr. To the north of River Road, Oatley Parade is a 40 km/hr school zone.</p> <p>Mulga Road is located to the west of Oatley Station and functions as a local road, providing one traffic lane in either direction. Mulga Road forms the minor leg of a priority controlled T-intersection with River Road.</p> <p>Footpaths are provided along both sides of Mulga Road. On-street car parking is also currently provided along Mulga Road adjacent to the site.</p> <p>The speed limit along Mulga Road is 50 km/hr, and a central median is provided along Mulga Road adjacent to the site.</p> <p>River Road passes beneath the rail line to the north of Oatley Station and functions as a local road, providing one traffic lane in either direction. Light vehicles can pass each other beneath the rail bridge, although the road is not wide enough for heavy vehicles, including buses, to pass each other. The underpass also has a clearance height of 4.5 metres. A footpath is provided along the southern side of River Road, which also continues beneath the rail bridge. Pedestrian access to Oatley Station is provided via steps from River Road beneath the rail bridge.</p> <p>The speed limit along River Road is 50 km/hr.</p> <p>Frederick Street is the main shopping street in Oatley Village Centre and functions as a local road, providing one traffic lane in either direction. Footpaths are provided on both sides of Frederick Street.</p> <p>At its eastern end, Fredrick Street forms the minor leg of a priority controlled T-intersection with Oatley Parade. A wide central median is provided along Frederick Street between Oatley parade and Oatley Avenue.</p> <p>The speed limit along Frederick Street is 50 km/hr to the west of Rosa Street, with a 40 km/hr school zone provided to the east.</p> <p>Hurstville Road functions as a sub-arterial road, providing one traffic lane in either direction. To the north of Oatley Station, Hurstville Road forms a roundabout with Oatley Parade and Boundary Road.</p> <p>Hurstville Road becomes Hillcrest Avenue at its north-eastern end, providing access towards Hurstville and the A3 King Georges Road arterial road.</p>

6.1.2. Potential impacts

(a) Construction phase

The key impacts for the construction phase have been identified and are discussed below:

Pedestrian access to Oatley Railway Station: During construction of the Proposal, pedestrians would continue to access the station platform via the existing station access on River Road. Impacts to pedestrians during the construction of the Proposal include the following:

- Closure of a section of the footpath along the western side of Oatley Parade during construction of the pedestrian bridge, footpath upgrade and relocation of the bus shelter
- Closure of a section of the footpath on the eastern side of Mulga Road for short periods during construction of the proposed pedestrian bridge, bus stop and upgrade to the pedestrian refuge. Pedestrians would be required to walk along the footpath on the western side of Mulga Road or along the footpath within the Boongarra Reserve to the west of Mulga Road. Impacts to pedestrians would be managed through the development of the Construction Traffic Management Plan (CTMP).

Works would be staged, so that much of the work likely to impact upon passenger and pedestrian movements would be undertaken during night periods, outside of peak train travel periods or during possessions.

Access to parts of the Douglas Cross Gardens is also likely to be restricted during construction, for a period of up to 24 months.

Bus: The northbound bus stop on the western side of Oatley Parade would need to be temporarily relocated to allow for construction of the proposed pedestrian bridge to Oatley Station. This temporary bus zone could be located further to the north on Oatley Parade at the existing kiss and ride parking area. Details of any changes to bus operation would not be known until the detailed design stage. This would be managed through the development of a CTMP provided by the Contractor.

Taxi: The construction arrangements would not result in any impact to taxis. The existing taxi ranks on Oatley Parade, near the River Road intersection, would remain as existing.

Kiss and ride: The temporary relocation of the northbound bus stop on Oatley Parade may require the removal of the kiss and ride zone during the construction period. However, this is expected to occur for only a short period, and would be managed through the development of the CTMP.

A temporary kiss and ride space could also be provided on the western side of Oatley Parade to the south of the Oatley Parade/River Road intersection. This parking area is currently unrestricted parking, and provides safe access to the existing station entrance on River Road via the zebra crossing on River Road at the intersection with Oatley Parade.

The "No Parking" zone on Mulga Road, which is currently used for kiss and ride, would be removed during construction of the pedestrian footbridge and upgrade to the pedestrian refuge on Mulga Road. This would be managed through the development of the CTMP.

Based on the above, there would be minor impacts to kiss and ride during the construction of the site.

Cyclists: Construction of the Proposal may require short-term temporary closure of roads on both sides of the station, potentially impacting on cyclists using the underpass.

Heavy vehicles: During construction, heavy vehicles would be required to bring building material, precast sections, and large plant and equipment to the site and remove any waste.

The number of heavy vehicles would be kept to a minimum, and where practical they would operate outside the peak hours. It is expected that both heavy vehicles and light vehicles would access the site via Hurstville Road and Oatley Parade. Vehicles accessing the construction site on Mulga Road would do so from Oatley Parade via River Road.

A CTMP would be prepared to manage construction traffic movements, including temporary traffic controls, pedestrian access, turning movements of the heavy vehicles as well as standing locations. The CTMP would identify specific management measures to be implemented for the Proposal. Construction traffic routes would be dependent on the contractor chosen for construction and the location of their source material. See map at Figure 10.

Construction worker parking and traffic: As parking is in high demand in the vicinity of Oatley Railway Station, construction workers would be restricted from parking in certain areas. The CTMP would designate areas for construction worker parking, however it is anticipated that construction workers would be restricted from parking in the off-street commuter car park or in unrestricted spaces within the town centre. The CTMP would include a parking plan to address construction worker parking for the duration of the construction period.

Untimed/Commuter car parking: It would be necessary to close one parking bay at the northern end of the commuter car park (adjacent to the bike racks) from mid/late 2014 until early 2016 as the existing Kogarah Council gardener's storeroom would be positioned in this location until the new facility is provided. The existing commuter car park would need to be closed for use during its re-construction, for a period of around 3-4 months. During this time, commuters would be required to park at unrestricted on-street parking at Oatley Parade, Mulga Road, Oatley Avenue and other streets in the vicinity of the site. There is also likely to be a loss of untimed informal commuter car parking off Oatley Parade and Mulga Road as a result of the construction activities, specifically the proposed works compound, site amenities and construction access. Construction of proposed bus stops and the proposed upgrade of the pedestrian refuge at the Mulga Road/River Road intersection would result in a loss of approximately ten on-street car parking spaces on Mulga Road. However, this is only expected to occur over a short period.

Oatley Parade

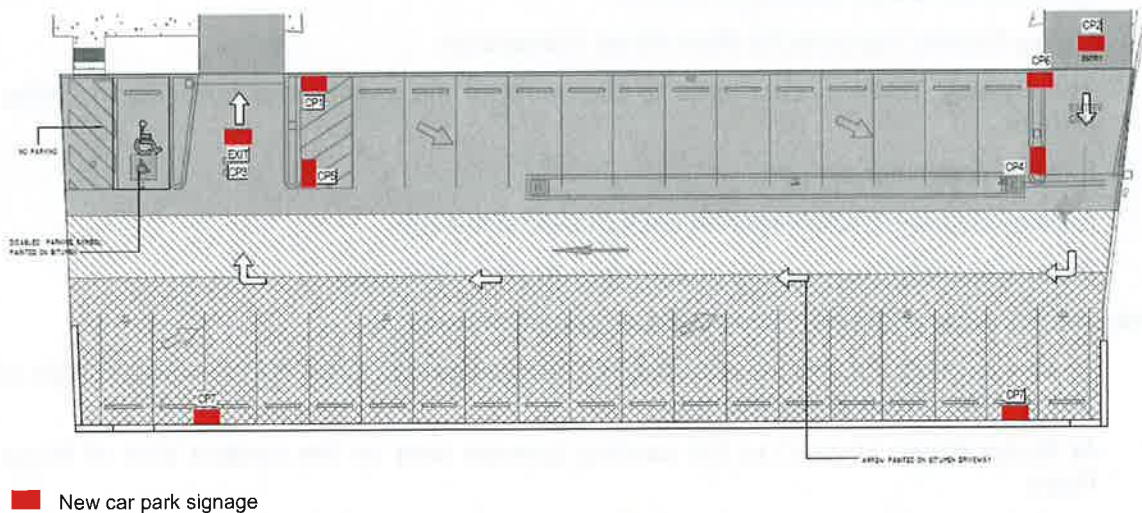


Figure 15: Proposed commuter car park extension (subject to detailed design)

Construction zones: Construction of the proposed pedestrian bridge may require the use of various construction sites, which would be determined at the detailed design phase.

Construction zones/laydown areas would be located where there is the lowest impact to flora and fauna, and according to a ranking system i.e. Category 1 before Category 2 - refer to Figure 16.

Where Category 1 areas are not available, use of any construction zones/laydown that potentially impact areas of native vegetation would be rehabilitated following construction activities.

Table 14: Analysis of proposed local parking supply (subject to detailed design)

	Rail commuter		Kiss & Ride, taxi, Council, private		Other related projects	Total	Bicycle
	General	DDA	Timed	Untimed			
Existing (based on footprint of the new car park and impact from other interchange works)							
0	16	0	14	27	0	57	11
Gross new parking spaces							
0	32	3	12	22	0	69	26
Net increase in parking spaces							
0	16	3	-2	-5	0	12	15

Proposed construction zones/laydown areas include:

Category 1 – ideal, includes areas of hard stand with no ecological value

- Construction area including forecourts
- Oatley Parade, opposite the River Road intersection;
- The Sydney Trains access area to the south of the commercial buildings in Oatley Parade;
- Existing commuter car park
- Existing Sydney Trains depot on eastern side of the line
- Existing Sydney Trains depot on the western side of the line.

Category 2 – other preferred, including mown exotic grasses

- At Mulga Road, located on the existing grassed/garden area on the western side of Mulga Road (Boongarra Reserve);
- At Mulga Road, located on the existing grassed area on the eastern side of Mulga Road

Category 3 – possible, includes landscaped vegetation with relatively little ecological value

- Additional lay down areas may be required for pre-cast sections.

The existing Sydney Trains storage area within the RailCorp corridor would also be required, and a construction site would also be located at the commuter car park for a limited period of the construction programme in order to provide the proposed car park extension.

A Traffic and Transport Access Impact Assessment and a Road Safety Audit to cover access to construction zones/laydown areas would be completed at the detailed design phase, and would be required prior to construction.



Figure 16: Potential construction/compound/laydown areas

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(b) Operational phase

The Proposal includes amendments to existing traffic infrastructure, particularly accessible parking, taxis and kiss and ride zones. No additional congestion is anticipated, and no need for additional traffic management as a result of the Proposal has been identified.

There would be a gain in the number of formal commuter car parking, and new accessible parking spaces on either side of the station as a result of these works, along with upgrades to bus shelters, a new bus zone and formalisation of kiss and ride spaces.

Aspects of the design that would influence operation of Oatley Station would be those that result from:

- Improved access for those with a disability resulting from the addition of three passenger lifts
- Improved entry forecourts with additional weather protection on the both sides of the station to improve amenity and access to the station
- New DDA parking - a total of three accessible parking spaces would be provided at Oatley Station - one accessible parking space is proposed to be provided within the commuter car park, with one on-street space provided on Oatley Parade and one on-street space provided on Mulga Road. There would be associated kerb ramps at proposed on-street car parking spaces.
- Re-location of the bus shelter on the western side of Oatley Parade
- Relocation of the westbound bus stop on Mulga Road adjacent to the proposed station entrance. A new westbound bus stop on Mulga Road is also proposed to be provided adjacent to the proposed station entrance
- There would be a loss of two timed parking spaces in the vicinity of the site, resulting from parking provision as outlined above
- The Proposal would result in an overall increase of 12 parking spaces for commuters (given spaces required for accessible and kiss and ride spaces etc) at Oatley Station. (Refer to Table 14.)
- The existing pedestrian refuge on Mulga Road at the intersection with River Road is proposed to be upgraded to provide safe access for pedestrians between the station entrance and the western side of Mulga Road. This would also provide a safe crossing to the proposed bus stop and kiss and ride parking on the western side of Mulga Road.
- Traffic calming would be provided at the proposed crossing on Mulga Road in the form of a raised platform. The proposed pedestrian refuge would provide "chicane" style kerbs, so that pedestrians and cyclists are required to face the direction of traffic before crossing the traffic lane.
- It is proposed to extend the central median along Mulga Road to the proposed pedestrian refuge and provide a barrier within the median (either by providing a fence or extend the existing hedge within the median) in order to prevent pedestrians crossing Mulga Road directly adjacent to the proposed station entrance. This would improve safety for pedestrians by reducing conflict between pedestrians and buses/kiss and ride adjacent to the proposed station entrance.
- Upgrade of the existing "No Parking" zone currently used for kiss and ride on the western side of Oatley Parade to provide a formal kiss and ride zone. It is also

proposed to provide a kerb ramp at this location to assist access for those with a disability.

- A new kiss and ride space to be provided on the eastern side of Oatley Parade, to the north of the zebra crossing.
- A kiss and ride parking space would be provided on both the eastern and western sides of Mulga Road, to the south of the proposed station entrance. A dropped kerb would be provided at each of these kiss and ride spaces to assist access for those with a disability. The existing kiss and ride spaces (“No Parking” zones) would be removed.
- New covered bike racks would be provided at the proposed station access at Mulga Road. Bike lockers to accommodate four bicycles would also be provided at the proposed station access at Mulga Road, and
- An increase the number of parking spaces at the car park from 16 spaces to 33 spaces (including one accessible parking space).

6.1.3. Mitigation measures

- Prior to the commencement of construction, a CTMP would be prepared as part of the CEMP which addresses, as a minimum, the following:
 - Adequate road signage at construction work sites that interface with roads 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
 - A Pedestrian Management Plan to maximise safety and access for pedestrians and cyclists, including details of alternative access arrangements to the station platforms
 - Adequate sight lines to allow for safe entry and exit from the site
 - Impacts and changes to on and off street parking and requirements for any temporary replacement provision
 - Location of construction compounds
 - Routes to be used by heavy construction-related vehicles to minimise impacts on sensitive land uses and businesses
 - Details for the relocation of kiss and ride, taxi ranks and bus stops if required, including appropriate signage to direct patrons , and
 - Measures to manage traffic flows around the area affected by the project, including as required regulatory and direction signposting, line marking and variable message signs and all other traffic control devices necessary for the implementation of the CTMP.
- Consultation with the relevant roads authority would be undertaken during preparation of the CTMP, where required. The performance of all project traffic arrangements must be monitored during construction.
- Heavy vehicles would be restricted to specified routes, with the aim of minimising impacts on local roads, high pedestrian areas and school zones. Where feasible, route markers would be installed for the guidance of heavy vehicles along designated routes.
- The impacts of construction traffic and on deliveries on the local road network and the impacts on intersection operation would be minimised by undertaking construction

- vehicle traffic movements outside of AM and PM peak road traffic periods and outside of school peak periods where feasible
- Signs would be provided at each access point to assist in deliveries to each work site
 - Limit off-site construction vehicle parking to designated areas. Areas of temporary on-street parking during peak construction events would be identified in the CTMP to minimise the impact on surrounding properties and businesses
 - Where possible, alternative means of transport to and from the site for construction workers would be promoted e.g. encourage the use of public transport, car share or use of shuttle bus services
 - Pedestrian access to the station platforms is to be maintained at all times trains are operational
 - Safe and efficient interchange facilities would be maintained for passengers arriving by car, bus, taxi, bicycle or on foot
 - Pedestrian access across the rail corridor would be maintained at all times
 - Staging would provide the ability to reduce the overall impact of construction works on access. Phasing of construction would maintain access to the rail corridor for ARTC/Sydney Trains, and take into consideration access to the station by pedestrians and vehicles
 - Adequate signage would be in place to advise Contractor's contact details
 - Appropriate signage would be installed to meet the various stages of construction. Any pedestrian diversions or bus or commuter parking relocation required during works would be implemented in consultation with Sydney Trains, TfNSW and the 131500 Transport Infoline (www.transportnsw.info)
 - Temporary traffic management to be in place at the Oatley Parade/River Road, River Road/Mulga Road and Oatley Parade/Frederick Street intersections for critical activities. Traffic control staff to limit access to priority vehicles during critical activities if required
 - The queuing and idling of construction vehicles in residential streets would be minimised
 - A pre and post construction assessment of road pavement assets would be conducted in areas likely to be used by heavy construction vehicles
 - Where required, community engagement activities would be conducted to warn the community and local residents of the temporary closure of the commuter car park, and of vehicle movements and anticipated effects on the local road network relating to site works in accordance with the CEMP
 - Access to all private properties/businesses adjacent to the works would be maintained during construction, unless otherwise agreed by consultation with specific relevant property owners.

Refer to Table 27 for a consolidated list of proposed mitigation measures.

6.2. Urban design, landscape and visual amenity

An Assessment of *Potential Visual Impact, Oatley Station Upgrade Project* was carried out by RPS in February 2014. A *Landscape and Urban Design Report* was also carried out by GHD in December 2013 to inform the design process.

6.2.1. Existing environment

The Proposal site is located within the Oatley Town Centre, within an urban context.

Oatley is primarily a suburban village, servicing the needs of the local community and surrounding district in terms of business and educational facilities and services. The built form in the area has limited modern structures and the proposed development requires specific parameters in terms of height and scale to achieve its function.

The landform of the area is generally sloping with gentle ridges to the east and west of the site, before sloping away to the banks of the Georges River to the south. The site and surrounding area can be described as a typical suburban area with residential dwellings the dominant land use. This includes mainly single detached dwellings with some low level multi unit residential development. Generally the streetscapes to the east of the site include a mix of dwelling types with patchy landscape urban plantings of trees and shrubs. To the west of the site the land use is generally single detached dwellings with generous nature strips dominated by mature trees.

To the north and south along Oatley Parade there are residential dwellings and commercial premises respectively. The railway line is elevated from view and is fringed by mature vegetation on a steep embankment, with only the regular sound of passing trains giving its presence away.

Entry to the station is from a stairway located off a narrow footpath on the south side of the overpass. This access also forms the cross-corridor pedestrian and road connection. The underpass, which is heritage-listed, has a low clearance height that restricts large vehicles from accessing Oatley village.

Eastern side

Immediately to the east of the site, a large linear park runs north-south and provides a separation from the railway line and the residential area to the east. The park is a valuable leftover space from the original railway corridor which was later moved to its current alignment. The park is heavily vegetated with a variety of mature trees species and provides valuable shaded passive recreation spaces along with a large playground space. Oatley Parade borders the park to the west and the park rises steeply to Oatley Avenue to the east. The park is divided by Frederick Street which is home to a village-style commercial centre with a town clock as its centrepiece.

At the site scale the visual landscape character to the east is framed by the large trees that are scattered through Oatley Memorial Park. This edge plays an important role in many respects for the local community. It provides amenity for passive recreation and helps define the streetscape, particularly in Oatley Avenue where its scale balances with the built form.

To the west of Oatley Memorial Park, Oatley Parade flanks the site and is intersected by River Road. This junction forms a hub for pedestrian movement and is embellished by a

small cottage-style garden park, named Douglas Cross Garden. This manicured landscape space is unique to the area and is well-used, not just for passive recreation but also for special events. The combination of tree species used, combined with the form of the nearby arched underpass, provides a unique visual contrast that gives this space a distinctive quality.

Western side

To the west of the site, River Road and Mulga Road meet and are enclosed by open space. From here the elevation of the railway line is more exaggerated and the tall trees that line its fringe are balanced by the large open green spaces. Mulga Road leads to the west with its southern boundary initially lined by large remnant vegetation before being fully enclosed with vegetation on both sides of the road.

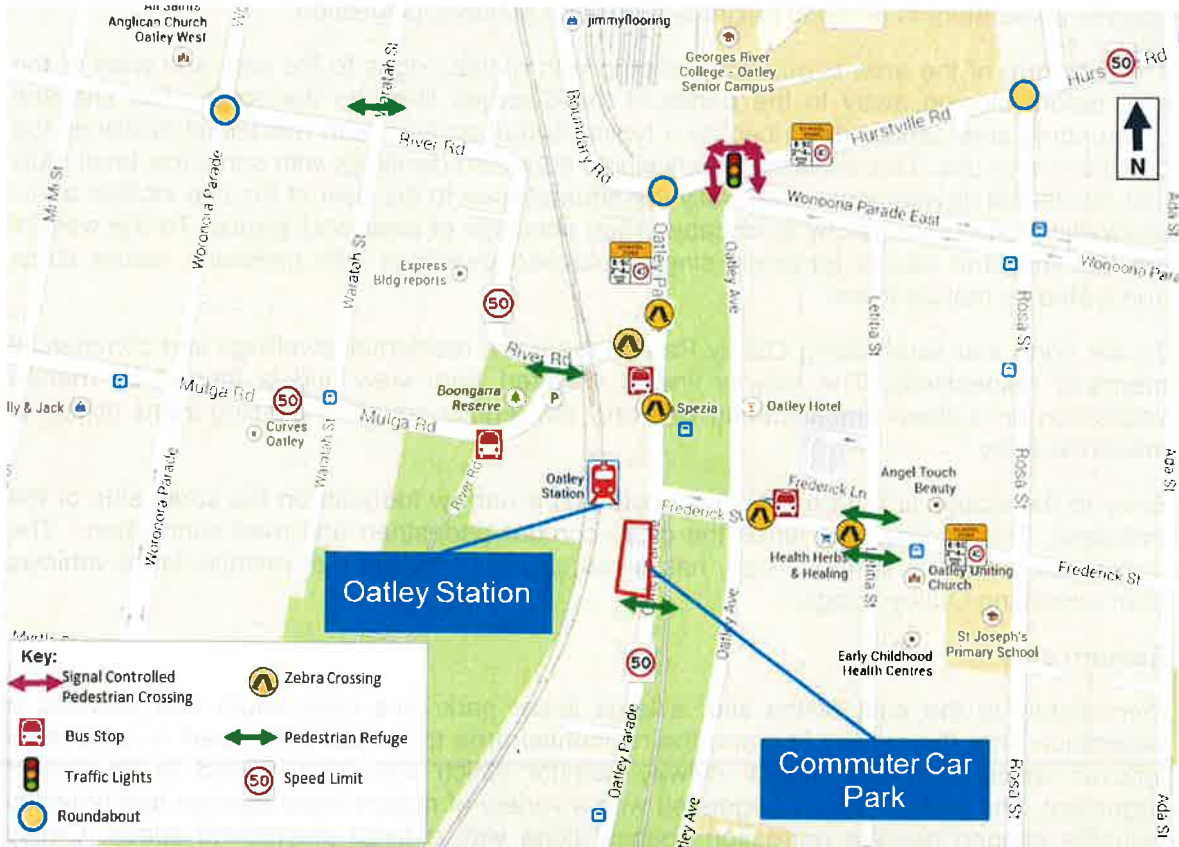


Figure 17: Oatley Station - existing access arrangements

Potential impacts

The greatest visual impacts would be the proposed new entry forecourts, overhead footbridge, lifts and stairs which would serve to connect the pedestrian paths between the multiple modes of arrival and departure on each side of the corridor.

An Assessment of Potential Visual Impact, Oatley Station Upgrade Project was carried out by RPS in February 2014. The report finds that, in terms of visual impact, the project would change the landscape of the setting at the site level, however, beyond this it would have little impact on the local area. The landscape character of the setting is generally suburban residential. Much of the open space and residential dwellings around the site provide a dense band of vegetation and built form. The effect of this, in a number of cases, has been to effectively contain the view shed to the immediate vicinity, blocking more distant views of the site.

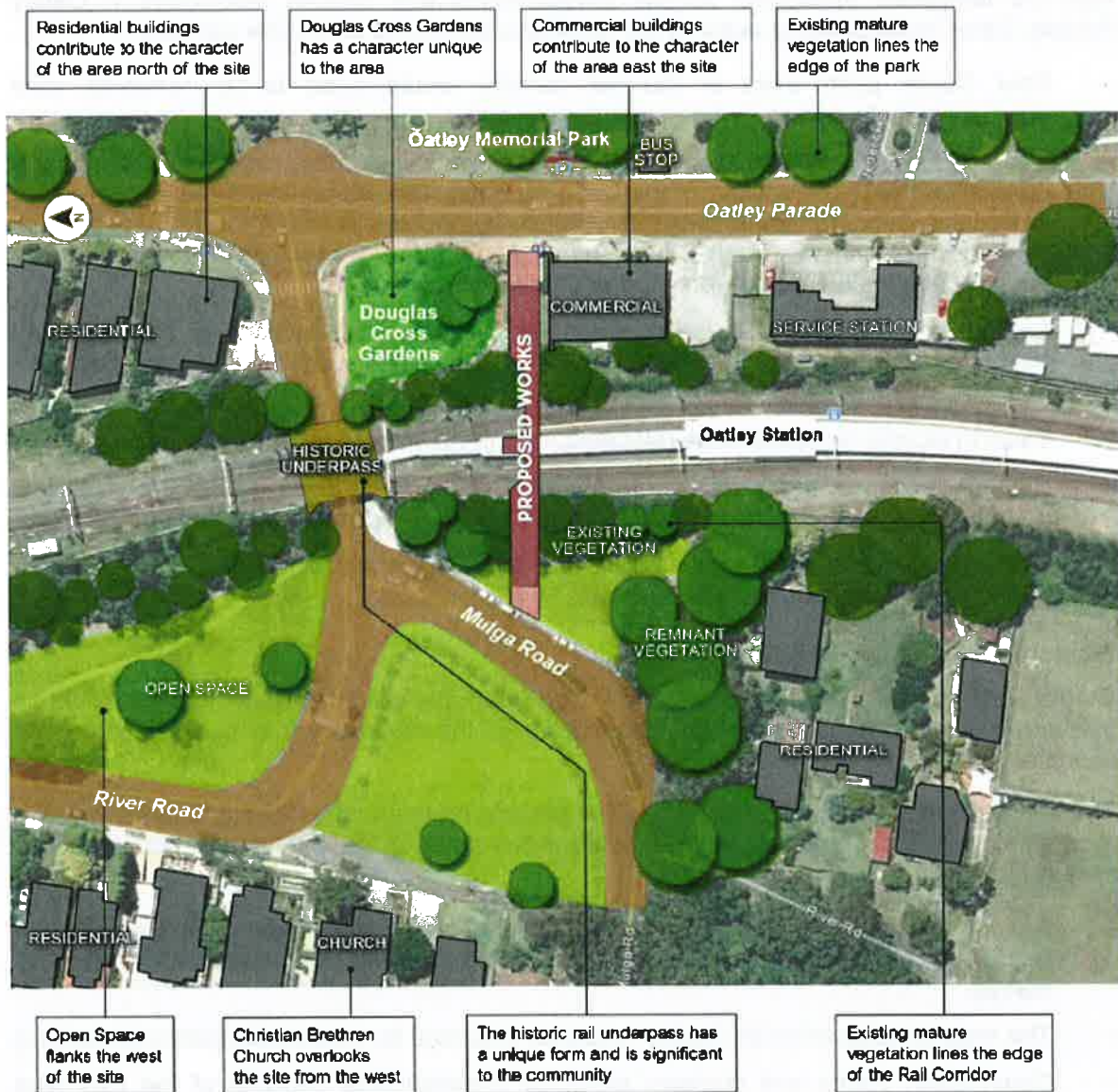


Figure 18: Local landscape character plan

(a) Construction phase

Potential visual impacts during construction include: removal of vegetation; signage and hoarding; construction machinery and storage areas; potential pedestrian crowding points and queuing; and perceptions of security and safety.

Eastern side - Oatley Parade

The greatest visual impact on the Oatley Parade side of the station would relate to works associated with the construction of the new entry forecourt, lift and stairs and canopies, and from the temporary pedestrian access arrangements and parking restrictions in Oatley Parade. Other impacts would relate to the reconstruction of the commuter car park.

- Four Cocos palm trees in the rail corridor would need to be removed, plus approximately four trees in the commuter car park
- Douglas Cross Gardens would be impacted by construction fencing/hoarding and removal of the upper section of the water fountain. The alterations to the water feature in Douglas Cross Gardens would necessitate its decommissioning for the period of the construction works. Kogarah Council has indicated that this would provide opportunity to undertake maintenance works to the garden embankments.
- Construction zones and laydown areas for pre-fabricated sections of the overhead footbridge and other materials would be required, along with a crane during specific construction phases
- Existing bicycle racks would be relocated from the commuter car park
- Signage for temporary parking arrangements would need to be installed for bus, taxi and on-street parking outside the station, requiring a temporary redistribution of parking
- The commuter car park would be closed and fencing/hoarding erected for a period during its re-construction and extension.

Western side – Mulga and River Roads

On the western side of the interchange in Mulga Road, the greatest visual impacts would be tree and vegetation removal, and the construction of the new entry forecourt, lift, stairs and canopies.

The adjacent road space would also require kerb and footpath adjustments, and the existing road space would be reconfigured to provide a bus zone, a formal kiss and ride zone and accessible parking.

- Around 14 trees and other vegetation on the railway embankment would need to be removed. These range in height from 6 to 21 metres and have spreads from 4 to 12 metres.
- The reserve adjacent to the station would be impacted by construction fencing/hoarding
- Construction zones and laydown areas for pre-fabricated sections of the overhead footbridge and other materials would be required, along with a crane during specific construction phases
- Realignment of the Mulga Road/River Road intersection and reconfiguration of the existing road space to provide for a bus zone, and kiss and ride and accessible parking

would impact the visual amenity by virtue of construction equipment and temporary signage, and

- Temporary parking arrangements would need to be made for bus, taxi and commuter parking, and the existing bicycle racks would also need to be relocated.

Oatley Station

Within the station itself, impacts relate to works in relation to:

- Construction of three new lifts, stairs and canopies
- A new landing would be constructed at central lift level, with accessible circulation and waiting spaces clear of the pedestrian path of travel
- The exterior appearance of the heritage station building would remain substantially the same, with a new doorway onto the platform installed on the eastern side
- Seating, Opal ticket readers and the TVM would be relocated, and
- The vending machines and pay phone at the northern end of the heritage building would be relocated away from the northern façade of the platform building to enhance the views of the heritage lever room.

In relation to the above works, visual impacts would typically include:

- Construction fencing
- Temporary site signage
- Cranes and other construction machinery
- Construction compound and construction worker parking
- Temporary lighting
- Temporary pedestrian detours and associated signage, and
- Temporary relocation of bus and kiss and ride zones and associated signage.

These works would be temporary in nature (approximately 24 months) and therefore visual impacts as a result of these items would be temporary. The following would minimise the visual impact of the works:

- Additional lighting would be kept as low as possible, so that customer safety is maintained and to minimise it dominating surrounding areas
- Construction sites and work areas would be kept tidy and well maintained at all times.

(b) Operational phase

An Assessment of *Potential Visual Impact, Oatley Station Upgrade Project* was carried out by RPS in March 2014. This report identifies key viewpoints and potential impacts from the works (See Figure 18 and Figure 24). Artist's impressions of the Proposal are at Figure 8 and Figure 9.

During operation, the following permanent structural elements would contribute to visual impact:

- Overhead footbridge and three new lifts

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- New platform canopy to meet the new stairs
- New bus shelter on Oatley Parade
- Permanent screening and fencing
- New forecourts with bike racks, bus shelter and seating
- Changed on-street parking arrangements.

Generally, urban design, landscape and visual impacts would be as follows:

Forecourts: The urban design intent is to create a precinct with clearly-identifiable station entries on both sides of the corridor by creating clearly defined entry forecourts, with a unified architectural appearance.

These forecourts connect the station precinct to the urban town centre and provide a landmark feature for the existing town centre. Providing legibility of the entries would reinforce the local identity through effective place-making. The forecourt integrates the station forecourt with Douglas Cross Gardens as one space. It provides visual connections from the forecourt to the Gardens, and uses treatments that reflect the formal garden character. The design respects the adjoining parks, their heritage and environmental value and their function as critical pedestrian connections to the suburb and village centre.

The entry forecourts on each side of the corridor serve to connect the pedestrian paths between multi-modes of arrival and departure. Forecourt treatments facilitate movement and increase legibility and way finding to the station. A heritage interpretation panel could potentially be used on the large wall adjoining the stair landing on the western side. The two forecourts would be surfaced in feature brick paving to create a unified appearance. The design responds to the pedestrian movements and inclusion of seating and gathering space at the front of the station precinct adds value to the customer experience.

The hard and soft landscape elements provide definition to these spaces. On the eastern side, larger plantings interface between the forecourt and the Douglas Cross Gardens. On the western side, large feature shade trees would be a landscape focal point, providing an avenue entrance and assisting to screen the footbridge structure. Trees chosen would reflect the natural character of the surrounding area.

Selection and incorporation of street furniture (seats and bins), signage, lighting, CCTV, tactile indicators, canopies, and the materials palette would also enhance the customer experience and create effective place-making. In the eastern forecourt, the bus shelter would be reinstated, along with the fountain in Douglas Cross Gardens which would have a terraced rock garden bed to capture the change of grade from the forecourt.

Footbridge: The footbridge is designed to mitigate against its bulk and form in the visual environment of the station precinct. The solution is for the footbridge to be expressed as an oval shaped structure which portrays slimness and transparency. Existing mature trees would provide a backdrop to the structure from sensitive viewpoints/vistas/lines of sight. Residential areas on the north, south and west of the footbridge would be viewing the structure from a distance rather than close up, further lessening its impact on the amenities.

Views and vistas from the footbridge have been maintained by the use of a transparent anti-throw screen material. Materials and colours selected for the footbridge are non-reflective, mitigate against glare of adjacent road users or shine into nearby private properties.

Potential areas of overshadowing from the overhead footbridge would occur on commercial properties during the afternoon (during the winter solstice). Refer to Figure 21, Figure 22 and Figure 23. This is not considered to have a significant impact.. Landscape treatments would reduce the visual impact of the overpass structure, and tie in with the natural character of the western approach.

Lifts: Three new lift towers would be attached to the new overhead footbridge. The scale impact of the lift shafts has been minimised by limiting the height of the lift shafts to around two (2) metres above the top of the footbridge roof.

The tall lifts and stairs are located on the southern side of the footbridge on the eastern and western forecourts to open up the forecourts to lines of sight and vistas from surrounding areas. Both lifts incorporate glass view panels. The centre or platform lift faces north. It would have a structural steel form with external cladding also incorporating glass view panels. The lifts would be designed with a maximum capacity for 17 people.

Bus and kiss and ride: The bus and kiss and ride zones would be reconfigured. Bus stops would be moved closer to the forecourt entrances. A formalised eastbound bus zone would be provided in Mulga Road, and the westbound stop would have a new bus shelter. Formalised kiss and ride spaces would be provided including an accessible parking space, and these would be closer to the forecourt entrances.

Pedestrian access: The existing pedestrian crossing in Oatley Parade would be retained. A refuge island would be created on Mulga road to improve pedestrian safety. Traffic calming would also improve pedestrian safety.

Platform canopies: A modification at the Sydney end of the platform would be required in order to allow for the construction of the footbridge and its integration with the new stairs. A section would need to be demolished to make way for the lift. New canopies would be provided on either side of the stairs in order to maintain continuous cover from the new lift waiting area. This canopy would be of a flat roof construction with a soffit cladding.

The design is required to maintain form and materials to provide continuity between the new and old structures. Materials such as galvanised steel structures and Colorbond metal roof would be used to construct sections of the canopy, enabling a seamless appearance to be achieved.

Bicycle: On the eastern side, bicycle rack parking would be provided. On the western side covered bicycle parking would be provided, with the addition of lockers.

Commuter parking: The upgrade of the existing car park aims to retain existing trees to the street frontage where possible to soften the appearance of the car park. The design includes a compliant accessible car parking space with line marking.

Flora and fauna: Landscape impacts on the eastern side include removal of four palm trees, and on the western side, approximately 14 trees would need to be removed. Trees would be offset in accordance with the TfNSW *Vegetation Offset Guide*. The railway embankment would be revegetated and mulched, and low ground cover planting would be provided at forecourt edges where suitable. Larger plantings would interface between the forecourts and Douglas Cross Gardens on the eastern side. The plant species palette selected would be a combination of natives and exotics and would be selected in consultation with the relevant Council.