Appendix H

Urban Design and Place Making Paper

Sydney Metro Southwest
Sydenham to Bankstown Upgrade
Design & Place Making Paper

Sydney Metro Southwest Design & Place Making Paper

Client: Transport for NSW

Acknowledgement: This document presents information specifically relating to the urban design and place making issues derived from Volumes 1 and 2 of a preliminary design report prepared by Transport for NSW's technical adviser.

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Quality Information

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1	24-May-2017	Draft		Michael England	Director – Environment, Power and Industrial, Australia & New Zealand
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Introduction

Connecting Sydney

1. Introduction

1.1 Overview

The New South Wales (NSW) Government is implementing *Sydney's Rail Future*, a plan to transform and modernise Sydney's rail network so that it can grow with the city's population and meet the needs of rail customers into the future.

Sydney Metro is a new standalone rail network identified in *Sydney's Rail Future*, providing 66 kilometres of metro rail line and 31 metro stations. The NSW Government is currently delivering the first two stages of Sydney Metro, which consist of Sydney Metro Northwest (between Rouse Hill and Chatswood) and Sydney Metro City & Southwest (between Chatswood and Bankstown).

1.2 Purpose Statement

1.2.1. Sydney Metro Northwest

Stage 1, Sydney Metro Northwest is under construction. It includes 36 kilometres of track and the following;

- Northwest: a new service facility and 8 new stations from Cudgegong Road to Cherrybrook and tunnels connecting Epping; and
- ECRL: the upgrade of five existing stations along the Epping to Chatswood Rail Link to suit Metro.

Sydney Metro Northwest is currently under construction. Sydney Metro Northwest services will start in the first half of 2019, with a metro train running every four minutes in the peak period. Services will operate between a new station at Cudgegong Road (beyond Rouse Hill) and Chatswood Station.

1.2.2. Sydney Metro City & Southwest

Stage 2 of the project, Sydney Metro City & Southwest will extend the Sydney Metro system beyond Chatswood to Bankstown, delivering about 30 kilometres of additional metro rail, a new crossing beneath Sydney Harbour, new railway stations in the lower North Shore and Sydney central business district (CBD), and the upgrade of existing stations from Marrickville to Bankstown. It is proposed to open in 2024 and includes:

- the Chatswood to Sydenham project - 17 kilometres of new tunnel from Chatswood, under the harbour to Sydenham connecting 7 new underground stations at Crows Nest, Victoria Cross (North Sydney), Barangaroo, Pitt Street, Martin Place, Central and Waterloo; and the upgrade of Sydenham plus southern service facilities; and
- the Sydenham to Bankstown upgrade ('the project' and the subject of this document) - 13 kilometres and the upgrade of 10 existing stations on the Bankstown line including Marrickville, Dulwich Hill, Hurlstone Park, Canterbury, Campsie, Belmore, Lakemba, Wiley Park, Punchbowl and Bankstown.

1.3 Objectives

1.3.1. Project Objectives

The overarching objectives for the project are:

- Improve the quality of the transport experience for customers
- Provide a transport system that is able to satisfy long-term demand
- Grow public transport patronage and mode share
- Support the productivity of the Global Economic Corridor
- Serve and stimulate urban development
- Improve the resilience of the transport network
- Improve the efficiency and cost effectiveness of the public transport system
- Implement a feasible solution recognising impacts, constraints and delivery risk.

1.3.2. Design Objectives

To help meet the transformational vision and world class aspirations of the project, five design objectives for the project have been identified to guide decision making and the design process for the City & Southwest project.

- Objective 1: Ensuring an easy customer experience.
- Objective 2: Being part of a fully integrated transport system.
- Objective 3: Being a catalyst for positive change.
- Objective 4: Being responsive to distinct contexts and communities.
- Objective 5: Delivering an enduring and sustainable legacy for Sydney.

1.3.3. Customer Experience Drivers

A number of project objectives relate to the customer experience. Improving the experience for all customers with regard to design and operational needs will enable TfNSW to grow public transport patronage. This is why the customer is at the centre of the project and is a focus throughout development of the station and public domain designs.

- Timeliness - Frequent and reliable services that keep to schedule, arrive on time and offer a reasonable journey time given the distance travelled.
- Convenience - Conveniently located station and bus stop, ease of interchange and connection between modes, plus ease of parking and drop-off.
- Safety and security - Feeling safe and secure on all parts of the system as a result of physical design features, the way the service is operated and the behaviour of other people.
- Comfort throughout the journey including adequate personal space, availability and comfort of seats, a smooth journey, appropriate temperature, and other amenities where needed.
- Accessibility - Ease and convenience of physical access and navigation through the system.
- Information Clear, effective, relevant communication of service information and timetables, including real-time updates on service changes and clear, easy-to-understand announcements.
- Ticketing - Ease and convenience of getting and using tickets without having to queue and confidence that the right price has been charged.
- Cleanliness - A clean, well-maintained environment with clean seats, toilets and operating equipment, an absence of graffiti and litter, and availability of rubbish bins.
- Customer service - Polite, knowledgeable, helpful staff who respond promptly and effectively to service requests, issues and feedback.

1.4 Safety in Design

Safety is a fundamental consideration to the design of all elements of Sydney Metro City and Southwest project. In order to ensure that this is addressed by the design, safety analysis has been conducted, comprising of the following:

- Preliminary Hazards Analysis (PHA) workshops (including Human Factors);
- Safety in Design (SiD) workshops;
- Safety reviews of technical papers on specific design issues; and
- Safety reviews of design options.

1.5 Crime Prevention through Environmental Design

Design of stations and station precincts, interchange facilities, car parks and accessible areas of the corridor should be informed by Crime Prevention through Environmental Design (CPTED) principles. Public space design must incorporate, as a minimum, three primary CPTED strategies, namely

- Natural Access Control,
- Natural Surveillance and
- Territorial Reinforcement.

In alignment with CPTED principles, the design of each station incorporates these three overlapping CPTED strategies. The stations are safe and secure. CPTED measures considered during the design process include passive security, design and physical security.

1.6 Design for Passenger Demand

The proposed Sydney Metro station concepts are based on delivering the following objectives regarding the pedestrian environment.

- Platform to be clear of queues within 2 minutes
- Queueing time of less than 1 minute to leave the platform
- In the direction of travel capacity should always be into areas and/or elements (including gates and vertical transport) of greater capacity than the preceding areas and/or elements.

Station upgrades have been developed to meet a forecast demand for 2056 8 car sets at 20 trains per hour. The distribution of Sydney Metro demand to and from each station was assessed and this split used to size spatial requirements to and from the station including: platform widths, entry widths, numbers of escalators/lifts and the number of gates. The distribution is influenced by the land use in the immediate vicinity of the station.

Sydney Metro stations are compliant and will meet the needs of all potential customers. Providing equal access is crucial to social justice and inclusion for people with disabilities. Design concepts have been assessed against accessibility requirements and legislation including:

- Disability Discrimination Act 1992 (DDA);
- Disability Standards for Access to Public Transport (DSAPT);
- Building Code of Australia (BCA); and
- Relevant Australian Standards.

1.7 Stakeholder Interfaces

The development of Place Making and Urban Design concepts illustrated in this Paper has been informed in part by key contributions from the following stakeholders:

- Inner West Council
- Canterbury Bankstown Council
- Sydney Trains and NSW Trains
- Australian Rail Track Corporation
- Roads and Maritime Services
- Sydney Coordination Office
- Department of Planning & Environment
- NSW Environment Protection Authority
- Heritage Working Group (Office of Environment & Heritage)
- Office of the Government Architect
- Utility providers (Transgrid, Ausgrid, Quenos, Sydney Water)
- Sydney Motorway Corporation.

1.8 Standards and Guidelines

Many guidelines were considered during the development of concepts for Sydney Metro Southwest – Sydenham to Bankstown, including the following:

- AS 1428.1-2009 Design for access and mobility, Part 1: General requirements for access – New Building work (Council of Standards Australia, 2009)
- AS 4282-1997 Control of the obtrusive effects of outdoor lighting (Council of Standards Australia, 1997)
- Better Placed – a design led approach: developing an Architecture and Design Policy for NSW (NSW Government Architect, draft for discussion)
- Beyond the Pavement: urban design policy, procedures and design principles (RMS, 2014)
- Bridge Aesthetics: Design guidelines to improve the appearance of bridges in NSW (RMS, 2012)
- Crime prevention and the assessment of development applications (DUAP, 2001)
- Crime Prevention Through Environmental Design (CPTED) (Queensland Govt, 2007)
- Cycling Aspects of Austroads Guides (Austroads, 2014)
- Disability (Access to Premises – Buildings) Standards (Commonwealth Govt, 2010)
- Disability Action Plan 2012 – 2017 (TfNSW, 2012)
- Disability Standards for Accessible Public Transport Guidelines (Commonwealth Govt, 2004)
- Healthy Urban Development Checklist (NSW Health, 2009)
- NSW Bicycle Guidelines, V1.2 (RTA, 2005)
- NSW Sustainable Design Guidelines, V3.0 (TfNSW, 2013)
- Planning Guidelines for Walking and Cycling (DIPNR, 2004)
- Technical guideline for Urban Green Cover in NSW (OEH, 2015).

02

Urban Design Objectives, Strategies and Principles

Landscape, links and public space

2. Urban Design Objectives, Strategies and Principles

2.1 Strategic Framework

The Sydney Region Plan, “A Plan for Growing Sydney” sets the strategic framework for the future of Sydney. The Greater Sydney Commission’s “Towards our Greater Sydney 2056” forms a draft amendment to A Plan for Growing Sydney and reconceptualises Greater Sydney as a Metropolis of Three Cities.

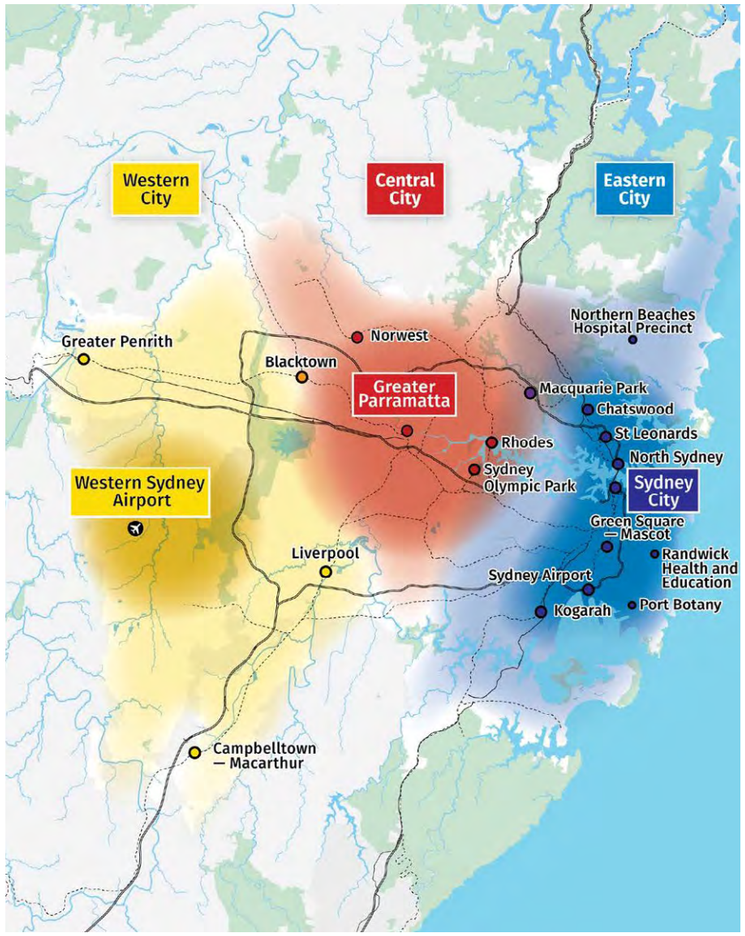


Figure 2-1: A Metropolis of three cities: Global Sydney. Source: Greater Sydney Commission, 2016

The Sydenham to Bankstown corridor straddles the ‘Eastern’ and ‘Central’ cities. The strategy’s framework notes that it is critical that the Central City has strong transport connections (and sufficient capacity) between the established Eastern City and the emerging Western City.

A Plan for Growing Sydney is supported by six District Plans. The project falls within the Central and South Districts.

Productivity

A city with more jobs in many centres, with more people being able to access their jobs within 30 minutes of where they live.

Liveability

A liveable city that helps maintain and improve our quality of life. A city with many different places, experiences with greater housing choice.

Sustainability

A city that uses its natural landscape as an asset, builds Greater Sydney’s resilience and enhances its waterways and biodiversity

The District Plans note that Sydney Metro – City and Southwest will play a critical role in improving transport connections and capacity.

2.2 Urban Renewal Context

The NSW Department of Planning and Environment, in partnership with the Inner West Council (formerly Marrickville Council) and the City of Canterbury-Bankstown (formerly the City of Canterbury and Bankstown City Council), has produced the draft Sydenham to Bankstown Urban Renewal Corridor Strategy. This is designed to guide future development and infrastructure delivery over the next 20 years.

The strategy aims to create the opportunity for the development of low, medium, high-rise and mixed use projects located within walking distance of railway stations. It also proposes new areas of open space on potentially surplus railway land and other underused areas. The strategy promotes an active transport link along the Sydenham to Bankstown corridor.

Another focus of the strategy is the quality of the public domain in residential streets and town centres so that the future public realm is designed to support the anticipated housing and population densities. The strategy recommends that the growth of Bankstown CBD as a district centre in the wider region should be supported and that employment generating land uses at Sydenham should be intensified.

The urban quality and fine grain of other centres’ high streets is recognised and it is suggested that these qualities should be retained.

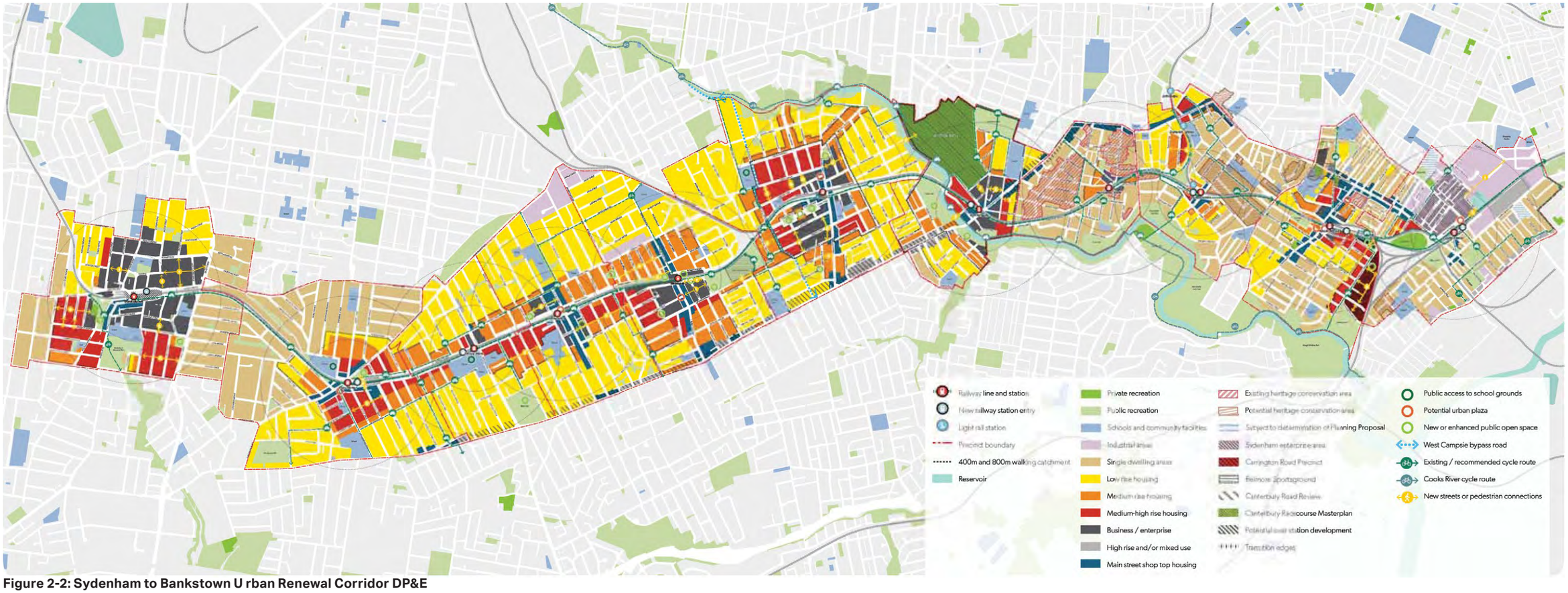


Figure 2-2: Sydenham to Bankstown U rban Renewal Corridor DP&E
Source: Sydenham to Bankstown Urban Renewal Corridor Strategy June 2017

In summary, the Urban Renewal Corridor Strategy aims to:

- Identify the environmental and built form constraints and opportunities for renewal
- Develop a vision and land use plan for each precinct
- Project appropriate housing and employment growth to 2036
- Be informed by market demand and economic feasibility analysis
- Undertake a high level infrastructure capacity analysis
- Identify the infrastructure required to support projected growth
- Identify various transport infrastructure and service improvements.
- Develop a framework to guide future land use change
- Provide an evidence base for more detailed precinct planning
- Establish an implementation and monitoring framework.

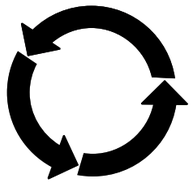
The Sydney Metro City and Southwest embodies the transport infrastructure aims and supports future development and infrastructure delivery.

2.3 Design Themes

The design of Sydney Metro City and Southwest will draw on the landscapes and heritage, the cultural history and the communities of the Bankstown Line, revealing and enhancing the qualities of these places, making new connections between communities and contributing to the regeneration of town centres.

Sydney Metro will provide an efficient and easy travelling experience as part of an integrated transport system - a contemporary, sustainable system that will leave an enduring legacy for Sydney.

The design philosophy for Sydney Metro City and Southwest is based on the following three themes.



RE-DISCOVER

RE-CONNECT

RE-GENERATE

2.3.1. Re-Discover

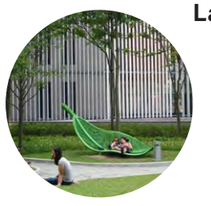
An ambition to rediscover existing qualities of the Bankstown corridor reflects a number of the project's design objectives. Two primary qualities of the corridor are the heritage fabric of the line itself and the diversity of its centres and communities. A design that is responsive to this context, that reveals and re-purposes heritage buildings and structures, adds a new layer of high quality architecture and public spaces; spaces, attuned to local settings, that would support wider urban renewal and deliver an important public legacy for southwest Sydney.

Heritage

- Conservation and re-use of as much of the heritage fabric on the Bankstown Line as possible
- An architectural strategy at stations that reveals the heritage platform buildings
- The removal of canopies and other accretions that currently compromise heritage buildings
- Protection of endangered species in the rail corridor

Community

- Locally responsive design
- Station precincts that respond to local urban form and character
- A public art program informed and inspired by the local communities
- Provision for social or community activities or facilities in station plazas



Landscape + open space

- Build on the landscape character of the corridor
- Maximise tree canopy and biodiversity
- Safeguard areas of the rail corridor for new open space in centres where there is an open space deficit, where increases in density are anticipated, or where adjacent to existing reserves
- New physical links along the corridor between communities

Place + narrative

- The story of land use and development of southwest Sydney
- Cultural diversity of the region as successive waves of migrants settled in the southwest
- Social life as the generative point of design

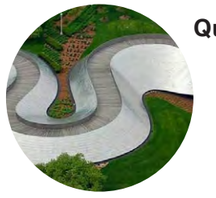
2.3.2. Re-Connect

Renewal of the Bankstown Line allows for the creation of a more integrated transport system and an enhanced customer experience. Easy, accessible interchange between modes would be designed in, while improved walking and cycling facilities at, and between, stations would give priority to these modes. Opportunities have been considered for provision of new links to or within town centres, across the corridor, and from station to station, which would better connect communities and build on existing landscape and open space qualities.

The intention is to ensure a positive and durable project legacy.

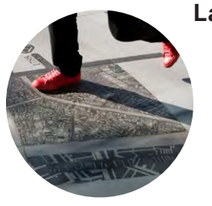
Integrated transport system

- Clear hierarchy of station roles
- Legible station address and clear wayfinding
- Enhancement of the capacity and quality of the network
- Connections to cycling and pedestrian network
- Easy and accessible interchange



Quality transport experience

- Reliable and comfortable on-train and in-station service
- Efficient and safe transfers between modes
- High level of urban amenity in stations and precincts



Landscape continuity

- Building on existing street tree planting
- Increasing the tree canopy of the corridor
- Connecting the corridor landscape to adjacent landscapes

Links to wider network

- Cross corridor connections: renewal of existing connections and new unpaid connections and Opal enabled cross corridor connections
- Connection of station precincts to adjacent open space and links
- Active transport corridor spaceproofing on the southern side of the alignment
- Residual corridor land potentially added to local open space

2.3.3. Re-Generate

Updating the southwest line to twenty-first century standards will be a critical catalyst for the town centres along the corridor. Thoughtful integration with existing landscape areas and provision of new links will foster connection and ease of travel in the region and locally.

Adding spaces and architecture of quality to town centres will be an important broader legacy of the project.

Landscape character of the Bankstown Line

- Enhance the native tree canopy and the shrub and understorey layers of the the landscape
- Build on adjacent roadway avenue plantings
- Protect identified endangered species (Acacia pubescens)
- Develop an appropriate matrix of open and enclosed landscape

Connections to the wider green grid

- Develop complementary solutions to those in adjacent areas of open space
- Spaceproof for active transport corridor and passive recreation spaces on residual corridor land

Ecological design

- Design for drought-resilience and low-maintenance
- Use locally endemic species where appropriate
- Use suitable riparian/wetland planting where appropriate to improve water quality and provide habitat

Catalyst of positive change

- Metro service as a stimulus for new housing and employment
- Rejuvenating local centres of commerce, culture and civic life
- Urban renewal in the walking catchment of stations
- New public spaces at stations

2.4 Design Objectives and Principles

The design objectives are discussed below in terms of the design principle prescribed for each objective. The design principles describe the intention of the objective for the design of stations, station precincts and the wider Sydney Metro corridor.

2.4.1. Objective 1 - Ensuring an easy customer experience

Principle: Sydney Metro places the customer first. Stations are welcoming and intuitive with simple, uncluttered spaces that ensure a comfortable, enjoyable and safe experience for a diverse range of customers.

Design concepts will meet the objective through:

- A safe, comfortable and pleasant journey to the station, between modes and on the train.
- Clear way-finding and place-making values embedded in precinct design.
- Public spaces and local connections with high amenity value.
- Attractive station environments.

2.4.2. Objective 2 - Being part of a fully integrated transport system

Principle: Sydney Metro is a transit-oriented project that prioritises clear and legible connections with other public and active transport modes within the wider metropolitan travel network that intersect with this new spine.

Design concepts will meet the objective through:

- Quality and frequency of service.
- Station legibility in precinct.
- Seamless interchange in station precincts.
- Application of the modal hierarchy with an emphasis on pedestrian priority.
- Clarity of way-finding, timetable and modal information.
- Connections to walking, cycling and open space networks.

2.4.3. Objective 3 - Being a catalyst for positive change

Principle: Sydney Metro is a landmark opportunity to regenerate and invigorate the city with new stations and associated development that engage with their precincts, raise the urban quality and enhance the overall experience of the city.

Design concepts will meet the objective through:

- Precinct design that responds to and supports local character, urban form and activity.
- Enabling urban renewal close to stations.
- Contributing to the rejuvenation of town centres.
- New or additional cross-corridor connections in most station precincts.

2.4.4. Objective 4: Being responsive to distinct contexts and communities

Principle: Sydney Metro's identity is stronger for the unique conditions of centres and communities through which it passes. This local character is to be embraced through internationally benchmarked high quality station architecture and public domain that is well integrated with the valuable inherited urban fabric of existing places.

Design concepts will meet the objective through:

- Drawing on the character of each locality in the design of stations' public spaces, furniture, landscape and public art.
- Responding to the landscape character of the line and its villages.
- Signature southwestern line station architecture expressed in the context of the broader line-wide Metro identity.

2.4.5. Objective 5: Delivering an enduring and sustainable legacy for Sydney

Principle: Sydney Metro is a positive legacy that demonstrates excellence and enduring design quality for future generations. A high standard of design across the corridor, stations and station precincts, that sets a new benchmark, is vital to ensuring the longevity of the Metro system, its enduring contribution to civic life and an ability to adapt to a changing city over time.

Design concepts will meet the objective through:

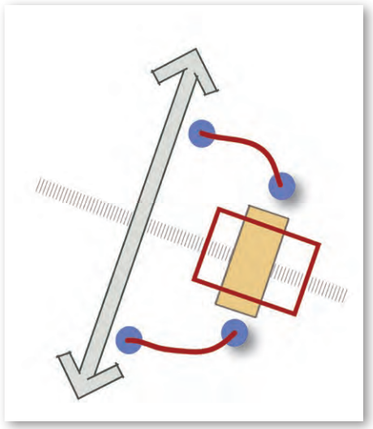
- A modern, architecturally distinctive line that also celebrates and re-purposes valuable heritage buildings.
- Open space and active transport links added to Southwest Sydney's green space network.

2.5 Design Strategies

The conversion of the Bankstown Line to a modern Metro system includes upgrading the stations, comfortable interchange facilities, new links at some stations across and along the corridor, enhanced and new areas of landscape in plaza and forecourt areas and clear connections to existing town centres. The design will seek to enhance active recreational links and draw design inspiration from the cultural histories and communities of the town centres of the alignment.

The urban design strategies illustrated below express the design intent for station precincts and the corridor. These strategies respond to the general Sydney Metro design objectives and guide the design of the Sydney Metro Sydenham to Bankstown project.

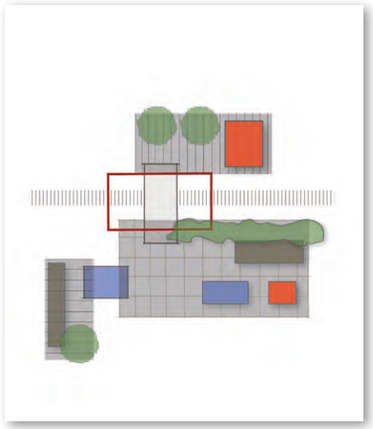
Address and Legibility



Direct line of sight to station entry and canopy from areas of adjacent public space and adjacent streets.

Permanent station entry and clear point of address.

Public Space

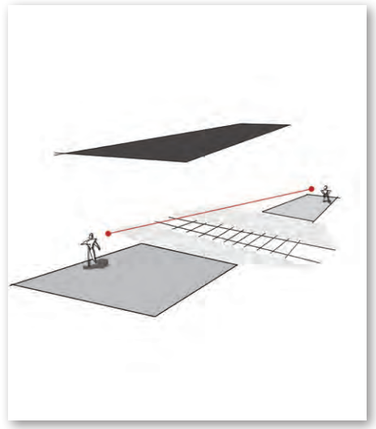


Generous, accessible, memorable and barrier free public space at station public space, activated by adjacent retail, commercial, community or civic uses. Each station plaza and space will reflect the unique cultural character and identity of its locality.

Shelter

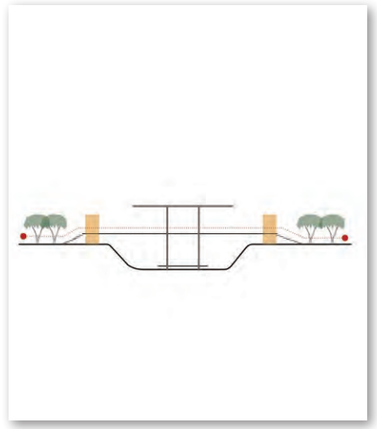
Significant shade and shelter in public spaces provided by trees, canopies and shelters.

View



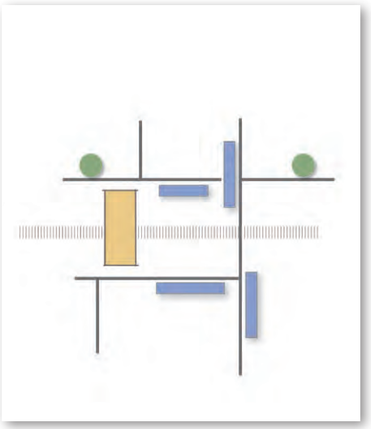
Clear, ground level pedestrian views to be maintained across the public domain and the corridor.

Cross-Corridor Links



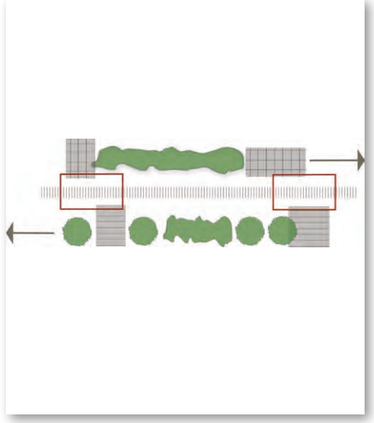
Generous unpaid pedestrian and cycle access will be provided across the corridor at stations and, where possible, at other locations.

Interchange



Interchange provision at station precinct will conform to the following order of priority: pedestrians, cyclists, public transport, taxis, kiss & ride, park & ride.

Corridor Landscape



A continuous indigenous tree canopy between stations, on both sides of the corridor.

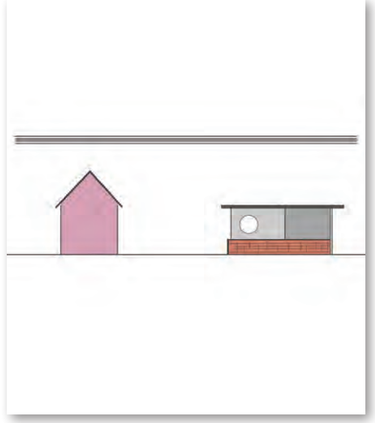
The railway cutting will be planted with indigenous trees, shrubs and ground cover

Sustainability

Stormwater from station roofs and the public domain will be harvested, treated and reused in stations and the precinct landscapes.

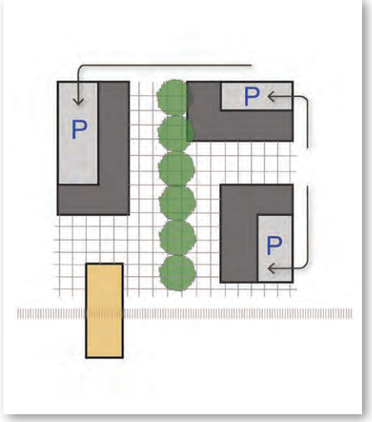
Station canopies support PV panels, generating power for the network.

Heritage



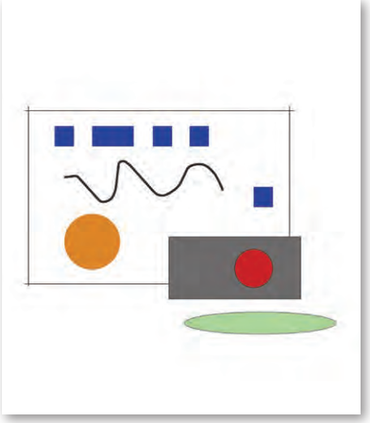
Valuable heritage buildings, structures and artefacts will be conserved and adaptively reused wherever possible, (e.g. either as transport facilities or within the public realm). The local history of the place will be reflected in the design of the station plazas, streets and public spaces.

Commuter Parking



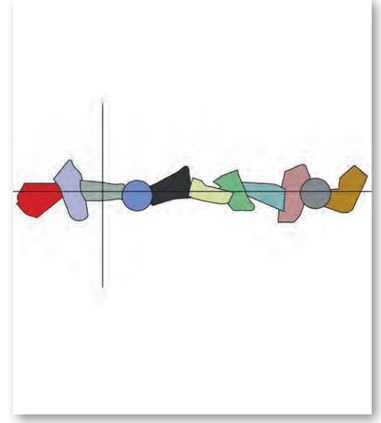
Rail commuter parking provided in dedicated areas, separate from the station, or integrated in adjacent developments.

Urban Elements



The public realm of station precincts and the corridor will be enriched and animated by a bespoke suite of urban elements: furniture, lighting, fences and balustrades. The design of the urban elements will be informed by the cultural character and history of the locality.

Public Art



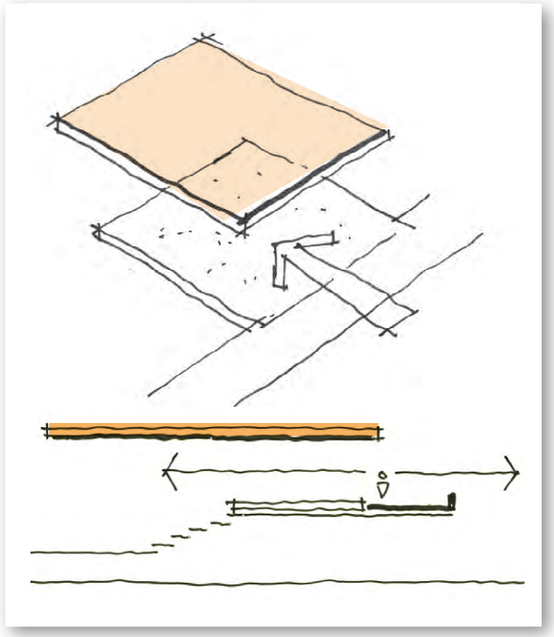
A public art program will be expressed at stations and precincts, and along the corridor. The art will be integral to the station and public domain design, and will draw from the unique identities and cultural history of the local areas.

2.6 Design Approach

A simple approach has been adopted for the stations that allows consistency and a clear identity across the line whilst still being able to respond to the unique conditions of each station and its surrounding context.

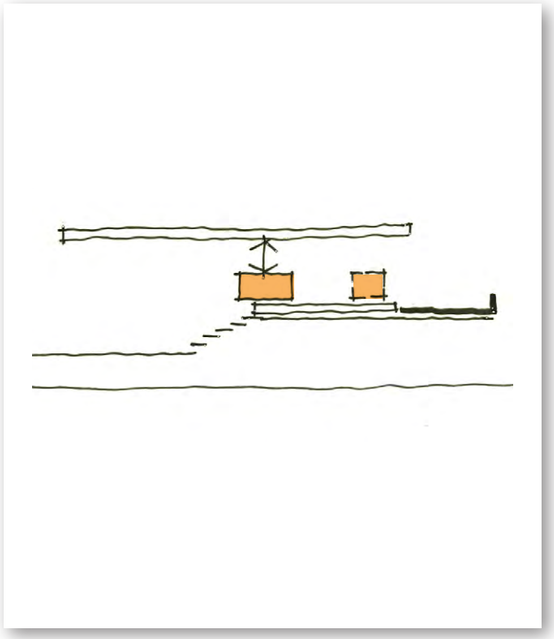
The design has been further developed from this basic design approach to respond to customer needs and the context of each station, including the relationship with heritage buildings.

A new public place, address and contemporary identity



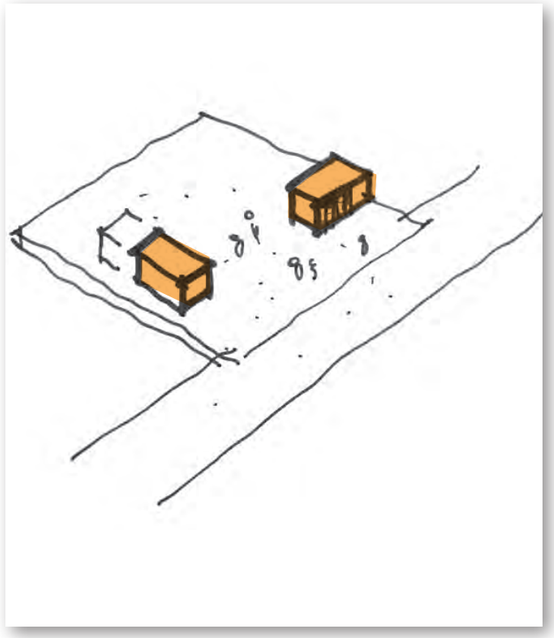
For civic identity, presence and visual continuity.

Defined by a floating roof



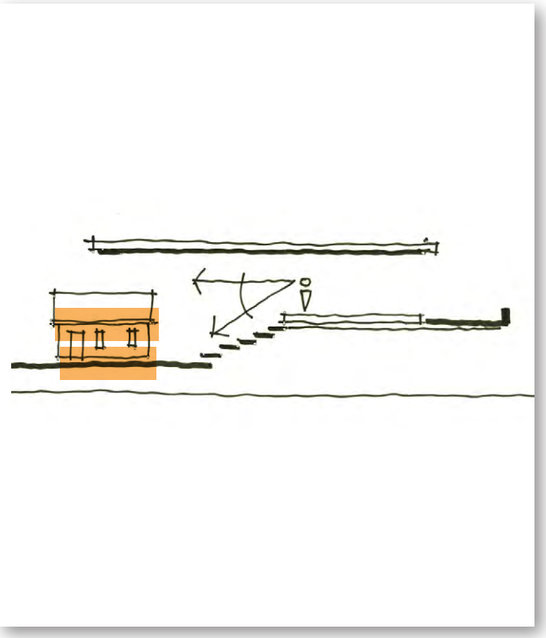
For customer amenity, shade and shelter.

Inhabited by a collection of freestanding pods



For enhanced transport and customer services.

Embracing the adaptive reuse of heritage structures



For engaging with heritage structures through placement of new station elements.

03

System Wide Design

Cohesive elements and themes

3. System Wide Design

3.1 The Corridor

Sydney Metro will tie into the existing and future urban context of stations through the creation of urban spaces that serve both station and the local centre. Metro stations will contribute to urban renewal in station catchments while interchanges, new public domain and open space links will encourage modal shift to walking, cycling and other public transport modes.

The Sydney Metro Southwest corridor package identifies potential opportunities along the alignment for areas of publicly accessible space where the location of the corridor boundary allows. These areas will also be suited to forming part of an active transport link alongside the rail corridor.

Existing ecologically significant vegetation inside the existing rail corridor will be protected and reinforced wherever possible, subject to clearance tolerances to metro rail infrastructure. Where trees and protected vegetation communities are required to be removed, offsets will be provided by the project via a Biodiversity Offset Strategy, as well as tree replacement to add to the existing retained vegetation and contribute to biodiversity.

Key issues that the corridor design addresses are:

- Rail corridor security fencing and noise walls and related visual mitigation;
- Landscape and other treatment to cut and fill batters;
- Opportunities to enhance or add to existing areas of publicly-accessible open space;
- Opportunities for improved links within and between existing local open space networks; and
- Safeguarding for an active transport corridor (where possible). Further design, interdisciplinary and interagency coordination and agreements will be required in relation to a future active transport corridor.

3.2 Stations

The ten stations considered as part of this project typically fall into two primary typologies - island platform or side platform. Island platform stations are proposed for Dulwich Hill, Belmore, Lakemba and Bankstown stations. Side platform stations are proposed for Marrickville, Hurlstone Park, Canterbury, Campsie, Punchbowl and Wiley Park stations.

The architectural strategy for the stations is to introduce elegant, contemporary structures that complement the earlier station buildings but to ensure that the station architecture for the Bankstown Line is clearly distinguishable from and respectful of the earlier heritage fabric.

It is proposed that a canopy over the station concourse be located to optimise views of platform buildings without the clutter of structures as originally intended and without attached awnings and other later additions where feasible. Station canopies would provide weather protection between the concourse and at platform buildings.

New elevated concourses that bridge the rail corridor have been carefully placed so that they directly address heritage platform buildings - generally the new stairs from the concourse lead directly down to these buildings.

To minimise impacts on existing platform buildings, the design strategy integrates contemporary new platform canopies with existing heritage canopies. This means that in some cases, weather protection is not fully met for the length of the 6 car Metro train, though this gap (approximately 2 metres) is considered acceptable given the positive outcome in relation to the heritage building.

Due to the circulation requirements at ticket gatelines on concourses, there typically is not enough space between road overbridges and platform buildings for the Metro concourse and stairs down to platform. At a number of stations, to retain platform buildings, the elevated concourse and station entrance have been relocated away from their traditional location on the adjacent road overbridge to meet these accessibility requirements.

A consistent approach to the design of the ten stations has generally been adopted to provide a consistent Sydney Metro identity, experience and journey.

3.3 Station forecourts/ plazas

The upgrades of the ten existing stations of the Bankstown Line and the change to Metro will be signified locally by elegant station canopies set in well-designed station entry forecourts/ plazas. These areas will respond to their local settings, building on the diverse character of the neighbourhoods and communities found along the line.

The public domain is a significant component of the door-to-door journey for Metro customers.

Each station entry will include an entry forecourt/ plaza that provides for safe and comfortable interchange between transport modes. Quality public art, furniture, landscaping and pavement, tailored to the particular urban context, will be featured. Retail, civic or community facilities and social spaces are proposed to activate the station plazas where space permits.

New station entries will be clearly visible and well connected to adjacent high streets and town centres. Most stations will provide an unpaid connection from the plazas across the rail corridor.

The design quality of station entries, forecourts, interchanges and the environment around station entries is of paramount importance to the overall public experience and perception of the new metro service. This has implications for the detailed design stages of the project with a range of architectural and engineering structures, landscape elements and operational equipment that will need to be coordinated to create coherent and distinctive station environs.

Each station will take on a unique identity that responds to its locality, expressed through the design of the station entries, forecourts and associated buildings. The interface between the station and its immediate surrounds has been designed as a well-integrated, functional and legible interchange.

The overall guiding principle for the design of public domain places around the station entry and forecourt is the provision of hard and soft landscapes that establish civic, high quality, safe and attractive public realm. These areas have been designed to reflect and enhance the adjoining urban and landscape character in a way that is responsive to local conditions.

Street furniture to be used in plazas will be selected with the following attributes in mind.

- Comfortable, attractive and easily maintainable public furniture
- Drinking fountains and litter/ recycling bins to meet customer needs
- Secure bike parking facilities
- Pedestrian level plaza lighting.

3.4 Public Domain

Key elements of the public realm around Metro stations and along the alignment include:

- Landscaping
- Furniture and fixtures
- Pavements
- Retaining walls
- Cuttings and embankments.

The following framework has been identified to help guide the detailed design process that is part of post-approval design:

- Public domain and landscape design is a critical component of a positive, high quality and appealing public realm for Southwest Metro stations and structures.
- The public domain design must represent a safe, clean, clutter free and functional environment that is visible and provides easy access for all users.
- The public domain design must deliver an integrated customer-focussed design that maximises a positive customer experience including safe, legible, convenient, obstruction free environments with direct and clear pedestrian routes.
- The public domain works associated with the stations must integrate seamlessly into the existing built environments and streets, having regard to the existing and planned future context.
- Hard and soft landscape design, species selection and materials are to respond to and enhance the existing urban fabric of the station precincts.
- Landscape treatments are to reinforce the identity for the stations, while also being functional and suitable for an urban setting, considering maintenance and safety-in-design, transport customer environment, and adjacent road and public domain areas.
- Landscape treatments are to be designed to provide appropriate scale and comfort to users throughout the seasons, with planting and materials suited to the local microclimate.
- Materials are to minimise slips, trips and falls.
- Integration of water seneitive urban design where feasible.

3.5 Modular design

The approach to the design of the stations and other elements of the metro system has been to provide a consistent Sydney Metro identity, experience and journey across the network. A modular kit of parts approach has been adopted for the following reasons:

- To enable construction to minimise station shut downs and rail corridor closures;
- To maintain Sydney Trains' operations during construction;
- To maintain quality of finish in factory for prefabricated modules with fine tolerances;
- To enable 'plug and play' with services pre-assembled, minimising time during possessions for services fit-out;
- To provide economies of scale with multiple construction items of the same size;
- To create consistency of Metro product across all southwest stations for customers;
- To provide consistency for branding, wayfinding, station identity; and
- To enable ease of replacement.

The objective is for the various modular elements to be assembled to form a coherent design delineating the Sydney Metro brand, and at the same time addressing the individual locality and characteristics of each station.

A generally consistent height of the elevated concourse above the platform enables standard lifts, precast stair elements, cladding panels and the like to be used. A structural grid of column centres is proposed to facilitate (where feasible) standardised fabrication of steel elements, reduced piling for column footings, clear longitudinal views and sightlines along platforms as well as consistent cladding size for ease of maintenance.

Pedestrian circulation and waiting distances have been accommodated in the standard concourse arrangements so that elements are not in conflict with other elements. This ensures that customers transiting through ticket gatelines, walking up and down stairs, waiting for lifts, using ticket machines, viewing station and precinct information and using vending machines have adequate space and will not obstruct the flow of customers entering and exiting the station.

Each station has a series of four typical canopy types that form an overall weather protection system:

- Concourse canopy
- Entry canopy
- Platform canopy
- Existing heritage platform building canopy.

The canopy would define the station as a new public place and signify the contemporary Metro brand.

The entry canopy is a lower level canopy that provides weather protection from the entrance of the station and station amenities, such as ticketing, ATMs, phones, and customer information, all adjacent to the gateline. The size of the entry canopies varies at each station in response to local conditions.

The platform canopy is a modular element, providing both shade and weather protection.

3.6 Public Art

Successful public art can speak to the particular character of places and in the transport context, enrich the experience of the travelling public. As a component of the amenity, and even beauty, of well-designed public spaces and infrastructure, public art can contribute to memorable journeys. As such, it should also support the growth of patronage on the network.

Public art can interface with other design disciplines to create a convincing, line-wide and station identity, legible wayfinding, meaningful heritage interpretation and safe public spaces. Locally resonant art pieces can build a sense of ownership by local communities, of their station and its public domain, which potentially adds to both the sustainability and meaning of these places.

The inclusion of art, its curation and production, will be a key feature of the station design process. A public art strategy will be developed for Sydney Metro Southwest which will incorporate appropriate curatorial and procurement processes for artistic excellence to be implemented as part of the new metro service.

04

Marrickville Station

A local station, knitted into the urban fabric

4. Marrickville Station

4.1 Context

4.1.1. Location

Marrickville is 7km southwest of Sydney CBD and is the largest suburb in the Inner West Council (formerly Marrickville) Local Government Area. The suburb lies between Stanmore, Enmore, Newtown, St Peters, Sydenham, Tempe, Dulwich Hill, Hurlstone Park and Petersham.

The primary station entry is on Illawarra Road, a largely retail strip in the section between Warren Road and Marrickville Road. Some large multi-storey apartment buildings occur on Illawarra Road along with a significant number of shop-top housing developments. Back from the high street the southern part of Marrickville is generally a low-rise residential neighbourhood.

A secondary entry at platform level occurs on Station Street, adjacent to the country bound platform. Small apartment buildings and retail outlets characterise the Station Street block. Further to the east, in the Carrington Road precinct, industrial land uses predominate.

Figure 4-1: Existing Marrickville Station - Axonometric

Figure 4-2: Location Plan

4.1.2. Functional Requirements

Aspect	Comment
Station Function	Origin
Corridor	Metro and ARTC corridor
Station Type	Surface
Platform Type	Side Platform
Station Component Elevations	Entrance (west): Illawarra Road Entrance: Station Street
Access & Interchange Requirements	Bus Cycling Taxi Kiss + Ride Accessible Parking

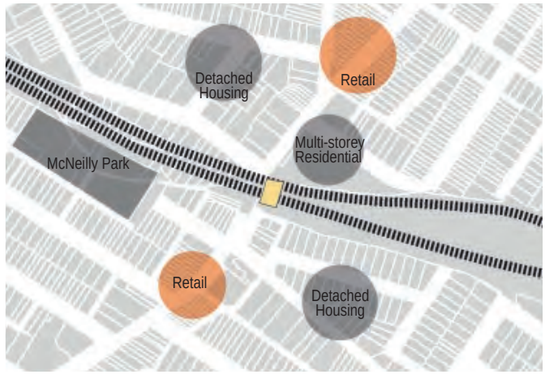
4.1.3. Station Strategy

Upgrades have previously occurred at Marrickville Station as part of the Transport Access Program. That upgrade included construction of a new aerial concourse abutting the Illawarra Road bridge (including some bridge modifications) and lifts and stairs to platforms, upgrading the Station Street entry and extensive works to Station Street.

Sydney Metro would adapt and introduce ticket gatelines on the platforms. Station Street would become an enlarged shared zone between Schwebel Street and Leofrene Avenue, and include taxi and kiss and ride bays, as well as bicycle parking. An accessible ramp is also proposed from lower Station Street to Schwebel Street.

4.1.4. Urban Context

Land use and urban character



- Highly urbanised setting
- Multi-storey apartment and mixed-use buildings on Illawarra Road within a traditional strip retail centre
- Broader catchment is largely Victorian, Federation and Edwardian single and two storey housing
- McNeilly Park is the only green open space in the precinct.

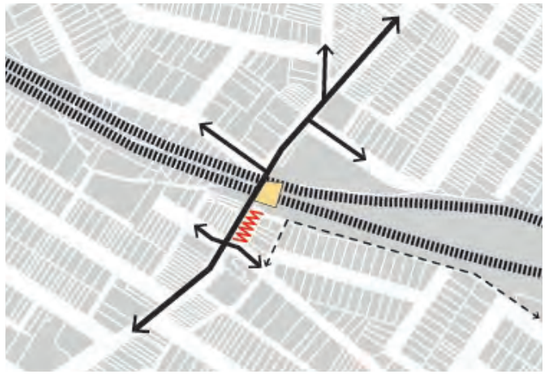
Transport corridors divide the precinct

- Wide rail corridor (passenger and freight) divides neighbourhoods north and south of the station
- Illawarra Road difficult to cross, especially adjacent to the station
- Links such as local streets, parks and lanes, as well as the L5 cycle route on the southern edge of the station, provide important connections.

High street built form

- Largely 20th century single and two storey retail premises
- Recent two to three storey shop-top housing above ground floor retail
- Contemporary larger apartment blocks, four to six levels above ground floor retail/ commercial uses.

Circulation and interchange environment



- Illawarra Road is the dominant traffic and bus route
- Narrow local streets
- Poor quality pedestrian connections - narrow laneways and locally steep footpaths
- Station Street interchange zone is too steep for an accessible path to station
- L5 cycleway below an acceptable width for a shared path.

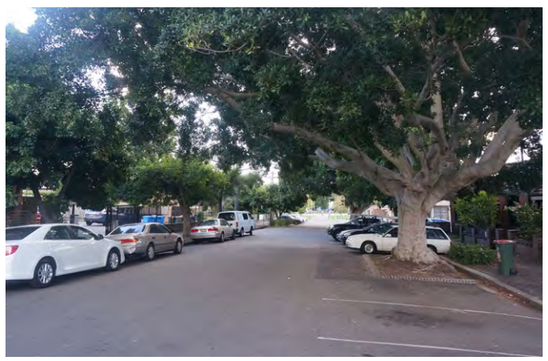


Figure 4-3: Street view

Figure 4-4: View of rail corridor

Figure 4-5: Main Street

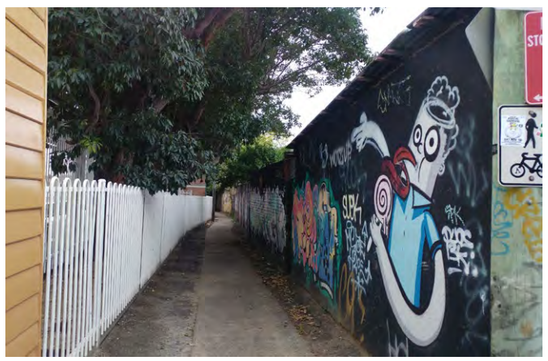


Figure 4-6: Access way

4.1.5. Heritage & Place

Pre-European landscape - The Gadigal and Wangal people had lived successfully along the Cooks River for thousands of years, prior to the arrival of the First Fleet in 1788. Over this time, an enormous body of knowledge and special skills were developed to use the resources that the Cooks River and its surrounding lands provided. This included trapping birds and animals, fish and shellfish, gathering plants, making canoes and carrying dishes from bark and using sandstone shelters for occupation and art. The Gumbramorra Swamp, low-lying land in the centre of the Marrickville Valley, and its associated mudflats, mangroves and salt marshes supported a rich variety of wildlife, providing an abundant source of food for the local Aborigines.

European settlement and land use - Initially Marrickville was regarded as merely a reliable source of timber for boat building and later when Dr Robert Wardell bought 2,000 acres of local land, for firewood. Following Wardell's death in 1834 the first period of subdivision of large landholdings began. By the 1850s, market gardens, dairy farms and stone quarries could be found in the otherwise treed landscape. The Gumbramorra Swamp was drained in the 1890s which ushered in a period of industrial development that included woollen mills, steel and metal operations and automotive industries. With the rise of heavy industry the population surged ahead of neighbouring suburbs. The period between World War I and World War II saw tremendous industrial growth in Marrickville. Industry provided almost universal employment for local men and women.

Heritage *- Marrickville Station is the primary heritage item in the precinct. The station group is listed on the State Heritage Register (SHR). The Sewage Pumping Station 271 at the northern end of Carrington Road is also state listed.*

A stone house in Myrtle Street just east of the station is on the local register.

The Marrickville Station Group (platform buildings, booking office, platforms, overbridge) is listed on the Railcorp Section 170 register and in the Marrickville LEP 2011, as well as on the SHR.

Marrickville's primary significance lies in it being part of the Bankstown Line (initially the Belmore Branch Line), built to relieve congestion on the Main South Line, as well as to encourage suburban development and the growth of agriculture in the late nineteenth and early twentieth century. The highly intact platform 1 building represents the period of transition from the boom time of the 1880s to the standardisation of NSW railway building design, from the 1890s onwards. The timber booking office on platform 2 reflects a later period of change in the early part of the 20th century while the brick platform building dates from the introduction of the Metropolitan Goods Line when the station changed from an island to side platform configuration.

Figure 4-7: General Motors, Marrickville
Source: Marrickville Council

Figure 4-8: Woollen Mills
Source: Marrickville Council

Figure 4-9: Sydney Steel
Source: Marrickville Council

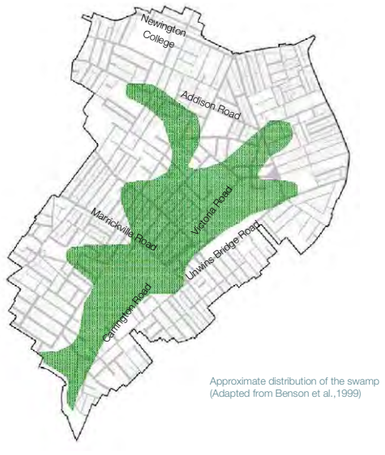


Figure 4-10: Gumbramorra Swamp
Source: Marrickville Council

Figure 4-11: Marrickville Railway Station, 1900s
Source: National Museum Australia

The Office of Environment and Heritage identifies Marrickville Railway Station as *significant at a State level as the platform building demonstrates the high level of aesthetic design of pre-1900 standard buildings, which included the use of polychromatic brickwork, decorative dentil coursing, ornate awning brackets and carved bargeboards. The platform building is intact and is representative of a small group of such ornate platform buildings including those at Canterbury and Belmore on the Bankstown Line. The platform building on Platform 2 provides an interesting contrast, demonstrating the simpler design of the standard platform buildings of the 1910s and 1920s.*

4.1.6. Landscape & Urban Fabric

The low-lying land of the Gumbramorra Swamp once defined the Marrickville area, along with dense woodlands and the sandstone ridgelines of the valley. The clay loam soils of the area proved to be fertile soils for market gardening and later as the source material for the brick making industry that arose in the 1880s. By the 1920s and 1930s the clay had run out and Marrickville Council had resumed most of the brick pits for public parks. Draining of the swamp in the 1890s preceded the industrialisation of Marrickville, the legacy of which is still very apparent, especially in eastern sections of the suburb where the landscape is distinctly commercial and industrial. Residential areas today are a mix of Victorian era terrace housing, Federation bungalows and a range of twentieth century building types, up to and including recent multi-storey apartment buildings.

Figure 4-12: Marrickville Homes
Source: Realestate.com.au

Figure 4-13: Cornersmith Cafe
Source: Fight The Craving

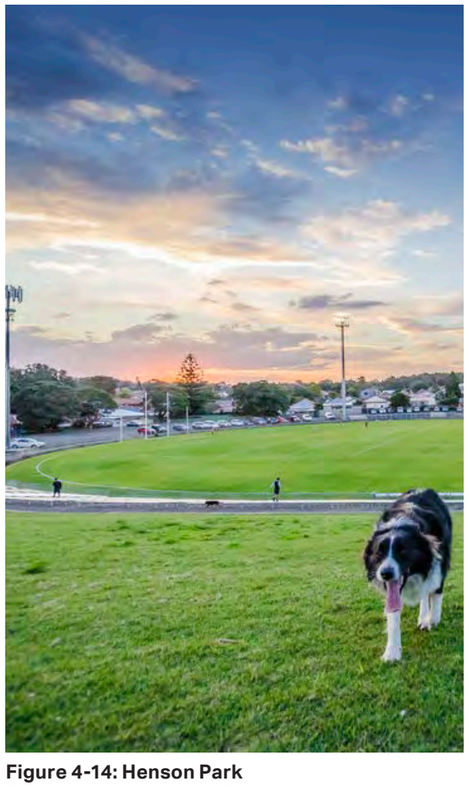


Figure 4-14: Henson Park
Source: Lighting, Art + Science

Figure 4-15: Marrickville Road
Source: Real Estate View

Figure 4-16: McNeilly Park
Source: Saving Our Trees

Figure 4-17: Marrickville Road
Source: Raine & Horne

There are extensive retail/commercial strips along Illawarra and Marrickville Roads and a residual industrial precinct on Carrington Road. Illawarra Road and Marrickville Road combined, form one of the longest main streets in Sydney. The rail corridor divides the precinct in two and restricts north-south movement. The main commercial strip is defined by traditional, fine grain, built form with one to two storey high street buildings of varying quality and a mix of newer, infill buildings. The seven storey, mixed-use development, north of the station, helps define the station precinct.

The retail centre is bounded by a small area of medium density walk-up residential flat buildings and low density semi-detached and detached dwellings. These buildings are a mixture of strata-title and freehold. The outer residential areas are largely occupied by single detached houses on relatively compact lots dating from around the late 19th and early 20th century. Building stock is generally in good condition, with many properties having undergone renovation. Some buildings in the commercial precinct are in poor condition and appear ripe for redevelopment.

4.1.7. Culture & Demographics

The key demographic attributes of the suburb of Marrickville (based on 2011 ABS data) are:

- A median age of 37, which is comparable to that of Greater Sydney.
- 41% of the population born overseas (Vietnam and Greece being the highest proportions) and 33% from a non-English speaking background.
- The predominant household type is lone person (26%) but the fastest growing household type is couples without children (22%). This is consistent with Greater Sydney.
- A median weekly household income of $1,435, compared to the Greater Sydney average of $1,447.
- The majority of residents (52%) owned or were in the process of owning their dwelling.
- A higher proportion (33%) of persons rent privately within the suburb, compared to 25% across Greater Sydney.
- The average weekly rent was $354, compared to that recorded for Greater Sydney ($351).
- Detached dwellings are the most common type (38%), which is less than the proportion recorded for Greater Sydney (59%).
- Medium and high density dwellings comprise 61% of the dwelling stock, with medium density housing the fastest growing type.

The traditional owners of the land are the Gadigal people of the Eora Nation and the Aboriginal name for the area is Bulanaming. There is a relatively significant Aboriginal population in Marrickville, some 1,100 people, or approximately 1.5% of the population.

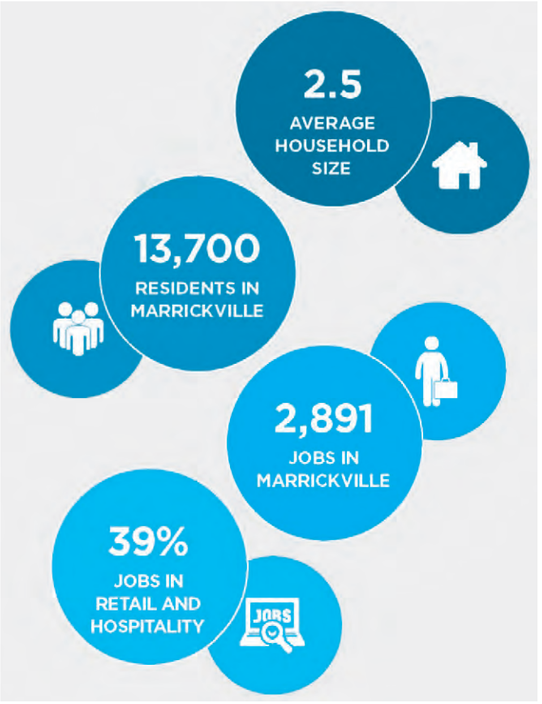


Figure 4-18: Key demographic facts for Marrickville Precinct
Source: Department Planning & Environment

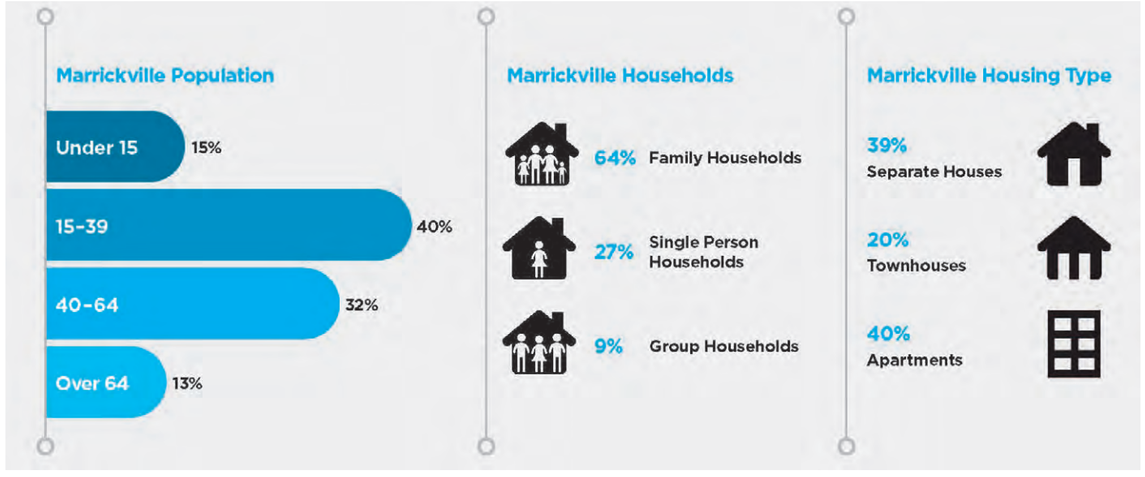


Figure 4-19: Key demographic characteristics for Marrickville Precinct
Source: Department Planning & Environment

After World War II, Marrickville was transformed into one of the most culturally diverse areas in Australia. The influx of mainly non-English speaking people, attracted by the availability of factory work and cheap housing, changed Marrickville in a very short period.

Greek-born migrants formed the largest post war community in Marrickville. The Greek newspaper To Neo (March 1986) evoked the times, describing how wherever you turned, you heard Greek and wherever you looked, you saw Greek shop signs. The main shopping strip of Marrickville Road was dominated by Greek shopkeepers.

Establishing businesses was not always easy for new migrants. Giannis (Jack) Cordatos, one of Marrickville's most prominent Greek migrants, had to resort to subterfuge to purchase the Classic Milk Bar. The owners did not want to sell to southern Europeans but were impressed by French speakers. Cordatos changed his name to Revel and won the sale. Marrickville became known throughout Sydney as 'the Athens of the west' and there remains a strong Greek presence in Marrickville. In the 1980s, Vietnamese and Chinese migrants arrived and began to establish themselves as shopkeepers and restaurant owners along Illawarra Road.

Marrickville has a long tradition of receiving migrants. New migrants are likely to be living beside older migrants, who went through a similar process a generation earlier. The establishment of Addison Road Community Centre in 1976 provided a venue for many cultural groups to gather and mix with others. The shared experiences of migrants in Marrickville generally built a tolerant community.

There were spectacular 'rags to riches' stories such as Vojtech Zimmer. Born in Vienna, he fled Austria at the beginning of World War II and joined the free Czech forces but was torpedoed off Gibraltar. He then joined French forces in the south of France. At the evacuation of Dunkirk he became a British soldier. Zimmer arrived in Sydney in 1948 and took various factory jobs before establishing a company to sell Hungarian spices and condiments. The factory moved to Marrickville in the 1960s. Zimmer was affectionately known as the Paprika King, receiving an Order of the British Empire in 1973.

Figure 4-20: Marrickville Festival
Source: www.innerwest.nsw.gov.au

4.2 Land Use Integration

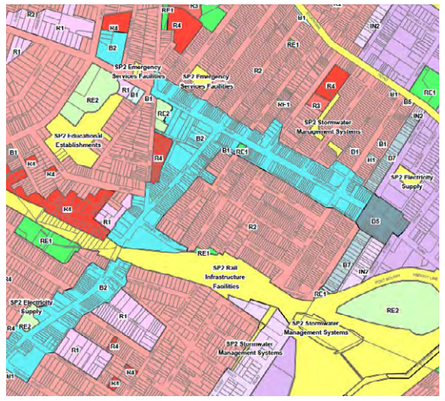
4.2.1. Planning Controls

Under the provisions of Marrickville Local Environmental Plan 2011, the land surrounding the station is zoned (B2) Local Centre, (R4) High Density Residential in the residential area to the north west, (R2) Low Density Residential in the residential areas north and south of the station, together withseveral small areas of (R1) General Residential, particularly north west and south of the station. There is an area zoned (RE1) Public Recreation (comprising McNeilly Park) west of the station, south of the rail corridor.

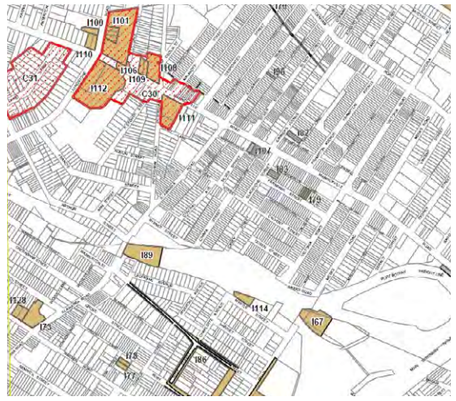
In addition to the LEPs, Marrickville Development Control Plan 2011 also applies. This DCP provides guidance for the desired future character, heritage conservation, and precinct specific planning controls for Marrickville Station West (precinct 23).

The desired future characteristics of the precinct that relate to the vicinity of the Metro station include:

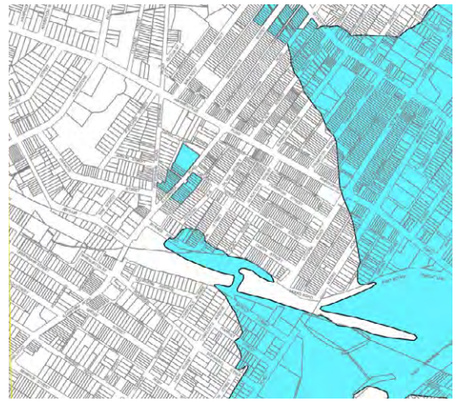
- To protect and preserve the identified period buildings within the precinct and encourage their sympathetic alteration or restoration.
- To protect the identified values of the Civic Precinct Heritage Conservation Area.
- To protect significant streetscapes and/or public domain elements within the precinct
- To preserve the predominantly low density residential character of the precinct.
- To encourage complementary medium density and residential flat building development in the Ann Street and Arthur Street area.
- To promote high density redevelopment on the land bounded by Arthur Street and the rail corridor.



Land Zoning Map
Source: Marrickville Local Environmental Plan 2011



Heritage Map
Source: Marrickville Local Environmental Plan 2011



Flooding Map
Source: Marrickville Local Environmental Plan 2011

Figure 4-21: Land use zones, heritage curtilage and flood mapping for areas surrounding Marrickville Station

4.2.2. Urban Renewal

The NSW Department of Planning and Environment, in partnership with the Inner West Council (formerly Marrickville Council) and the City of Canterbury-Bankstown (formerly the City of Canterbury and Bankstown City Council), has developed an Urban Renewal Corridor Strategy for the Sydenham to Bankstown corridor to guide future development and infrastructure delivery over the next 20 years. The Marrickville Precinct is one of eleven areas studied for which a draft strategy was published in October 2015 for the purpose of public consultation.

Constraints and opportunities mapping of the Marrickville Precinct undertaken for the draft strategy revealed a series of constraints to development in large parts of the precinct, including:

- Limited redevelopment opportunities due to smaller building allotments, a fragmented main street and high residential land values.
- Rail and aircraft noise.

A revised Urban Renewal Corridor Strategy was exhibited between June and September 2017 and addressed feedback from public submissions, community workshops, meetings and technical studies. The following key issues were raised:

- Streets with heritage character should not be redeveloped and Federation streetscapes should be preserved.
- There was concern from some residents about the impact of development on Riversdale Avenue, Leofrene Avenue, David Street, Fletcher Street, Warburton Street, Greenbank Street, Church Street, Silver Street and Central Avenue.
- Growth should be focused on industrial and under-utilised land such as Myrtle Street and Carrington Road, although some submissions raised concerns about flooding in these areas and potential impacts on adjoining residential areas.
- There was general support from land owners (and developers) for redevelopment along Illawarra Road, Station Street and Leofrene Street, although some submissions were concerned about impacts on local traffic, parking and empty shop fronts.

Key changes to the strategy made in response to feedback are shown in Figure 4-22.

The revised strategy for the Marrickville Precinct has proposed:

- A diverse and vibrant community focussed around a reinvigorated Illawarra Road.
- A new station forecourt plaza, with a range of active uses, to be a central meeting point of the Marrickville Station Precinct.
- Future development along Carrington Road to deliver improved connections and new open space for residents of the Marrickville Station Precinct.
- Retention of valued existing neighbourhood areas.
- Improvements to the quality of the public areas with new footpaths, street trees and street lighting to create a great place to live and work.
- A potential new park along the rail line could provide a new and interesting place for leisure and recreation.

South of the station

- A compact area for new development focusing on the area immediately around the station (as well as the industrial area in the Carrington Road Precinct), enabling more streets to retain their existing character.
- “transition edges” be provided on many streets where new apartments are proposed to occur either opposite or adjacent to existing residential dwellings which have a lower scale and different built form.
- Medium high rise housing immediately south of the station (bounded by Station, Leofrene and Schwebel Streets and Illawarra Road) with shop top housing development.
- High rise residential and mixed use (up to 12 storeys) at 369-383 Illawarra Road.
- New urban plazas at the station entrances, 2-24 Station Street and Riverdale Avenue, with improvements to the streetscape along Leofrene Avenue.
- New urban plaza at the intersection of Illawarra Road and Warburton Street.
- Low rise housing area to the south of Schwebel Street and Greenbank Street, to retain its local character (including steep topography) and transition to the single dwelling areas.
- Medium rise housing along Warburton Street and north side of Greenbank Street.
- New residential and mixed use precinct around Carrington Road (including north side of Myrtle Street), with improved open space and pedestrian access, and potential for some high rise development.

North of the station

- New high rise mixed use at O’Hara Street and Byrnes Street.
- Silver and Gladstone Streets as potential new Heritage Conservation Areas.
- Medium rise development on Arthur Street with transition edges and low rise on Francis Street and Fletcher Street.
- High rise mixed use on the former Marrickville hospital site on Marrickville Road.

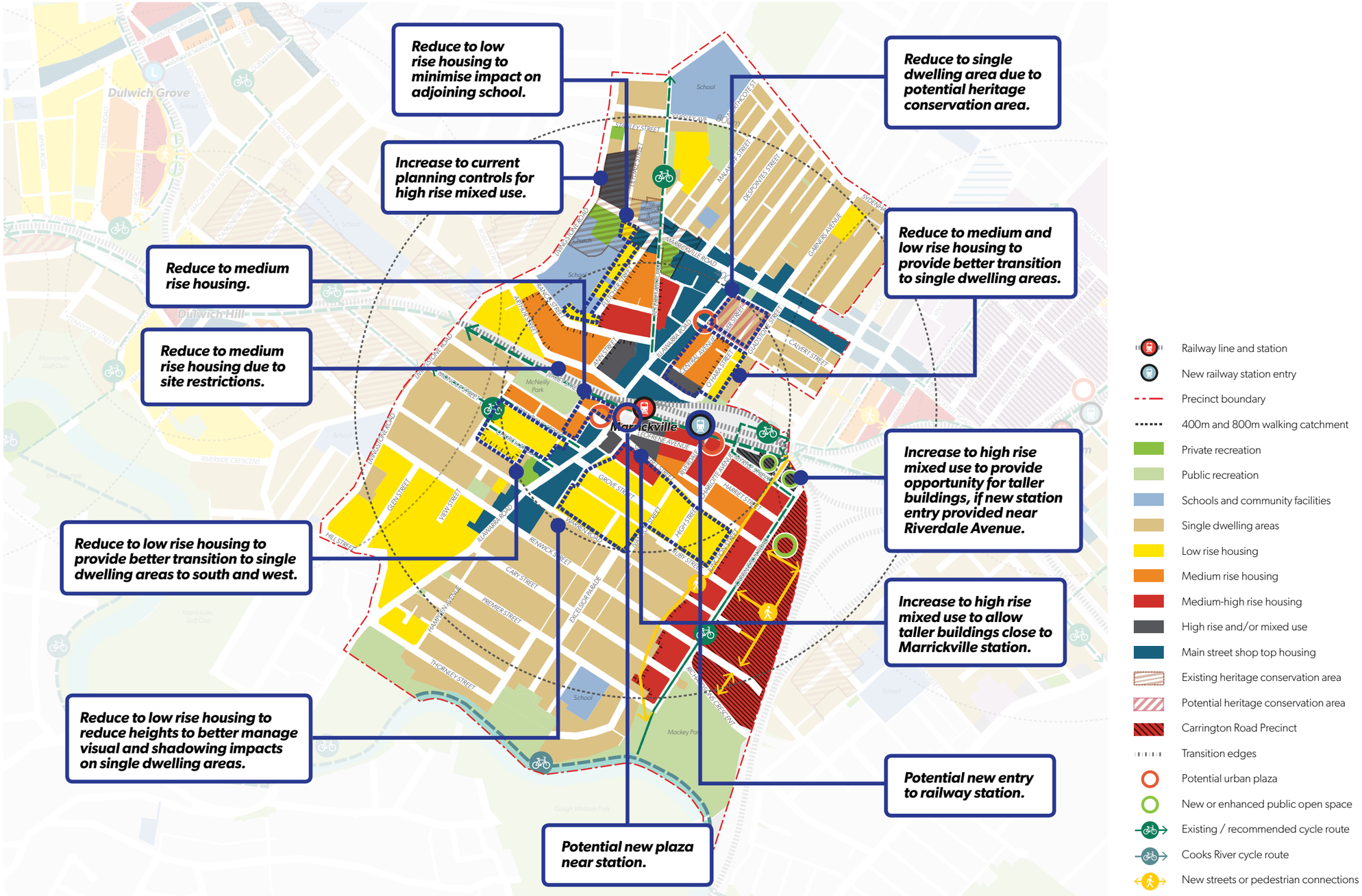


Figure 4-22: Key changes to the Sydenham to Bankstown Draft Urban Renewal Corridor Strategy
Source: Department Planning & Environment

4.3 Accessibility and Connectivity of Communities

4.3.1. Pedestrian Catchment

Marrickville is predominantly an origin station. Illawarra Road retail centre falls within the 5-minute walking catchment. The 10-minute walking catchment extends to include Marrickville Road, the entry to Marrickville Library and St Brigid's School. Marrickville West Public School falls just outside the 10-minute catchment.

The majority of customers are expected to leave the station to the north across the Illawarra Road bridge. The remainder would depart towards the south. Customers entering the station are expected to be more evenly spread between the northern and southern catchment area.

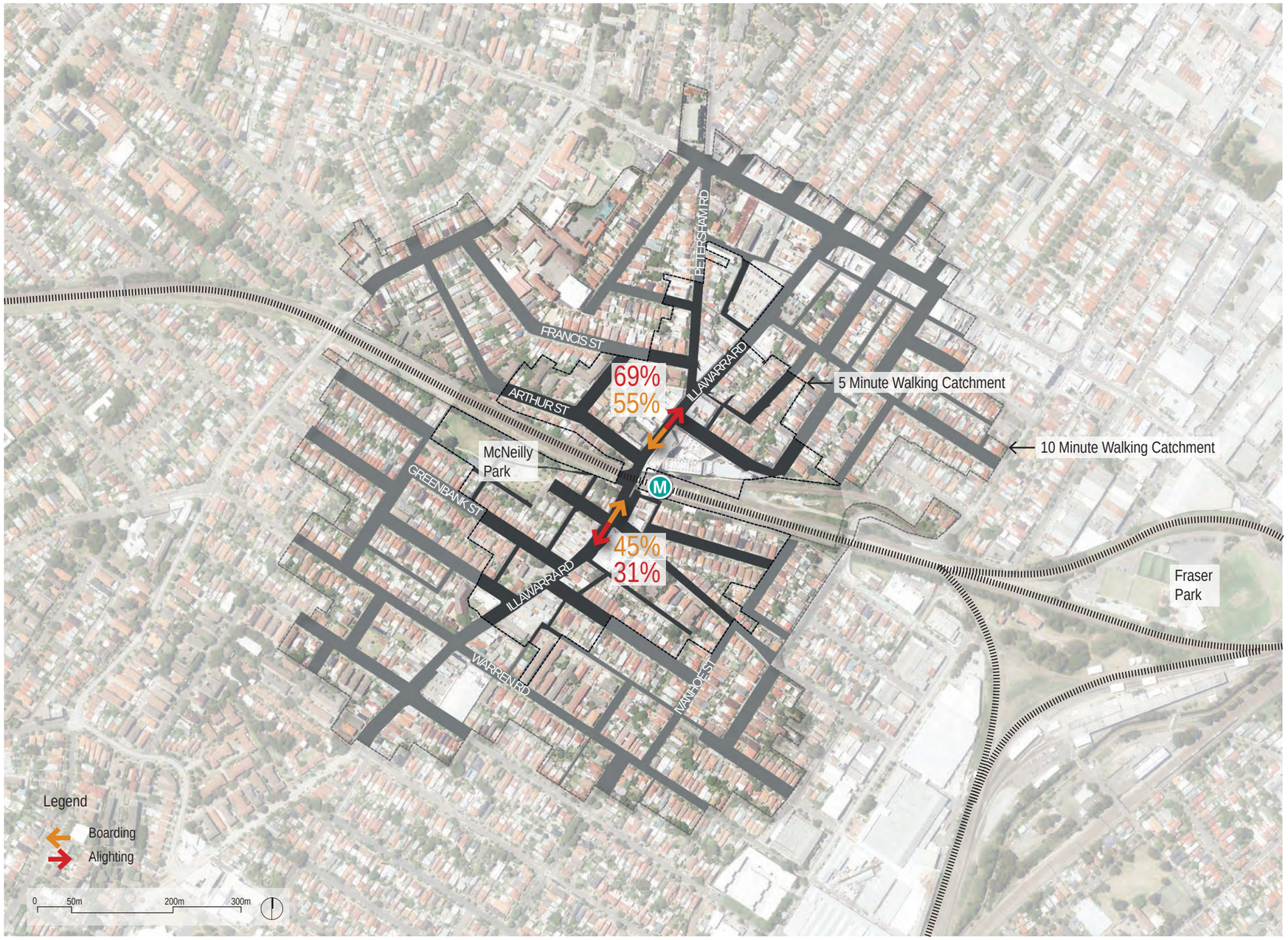


Figure 4-23: 5 & 10 minute isochrones

4.3.2. Access & Interchange Integration

Marrickville Station has two entries, one on Illawarra Road, the second from Station Street directly on to platform 2. A relatively narrow shared path runs parallel with the southern platform. The Transport Access Program has upgraded Station Street to a shared zone on its northern leg with interchange bays on its western leg. Bicycle parking is under the station stairs. The southbound bus stop has been moved to the Illawarra Road entry and the pedestrian crossing realigned. The northbound bus stop is south of the Warburton Street/Illawarra Road intersection.

Urban design and access changes proposed as part of Metro include:

- Station Street widened to become a shared zone
- Taxi, kiss & ride and bike parking area in Station Street and accessible parking on Schwebel Street with an accessible ramp connection
- Full signalisation of Schwebel/Illawarra/Warburton intersection and removal of crossing on bridge, replacement with pedestrian crossing on Illawarra Road, north of Arthur Street.

Interchange	Distance	Total Travel (min:sec)
Bus Northbound	105m from Illawarra Rd entry	01m:21s
Bus Southbound	10m from Illawarra Rd entry	00m:08s
Taxi	10m from Station St entry	00m:08s
Kiss & Ride	20m from Station St entry	00m:15s

Note: Calculations are taken from the cadastral boundary line closest to the Sydney Metro entry points. All travel distances from the base of the direct line of travel for pedestrians and do not take into account light signals and crossing points.

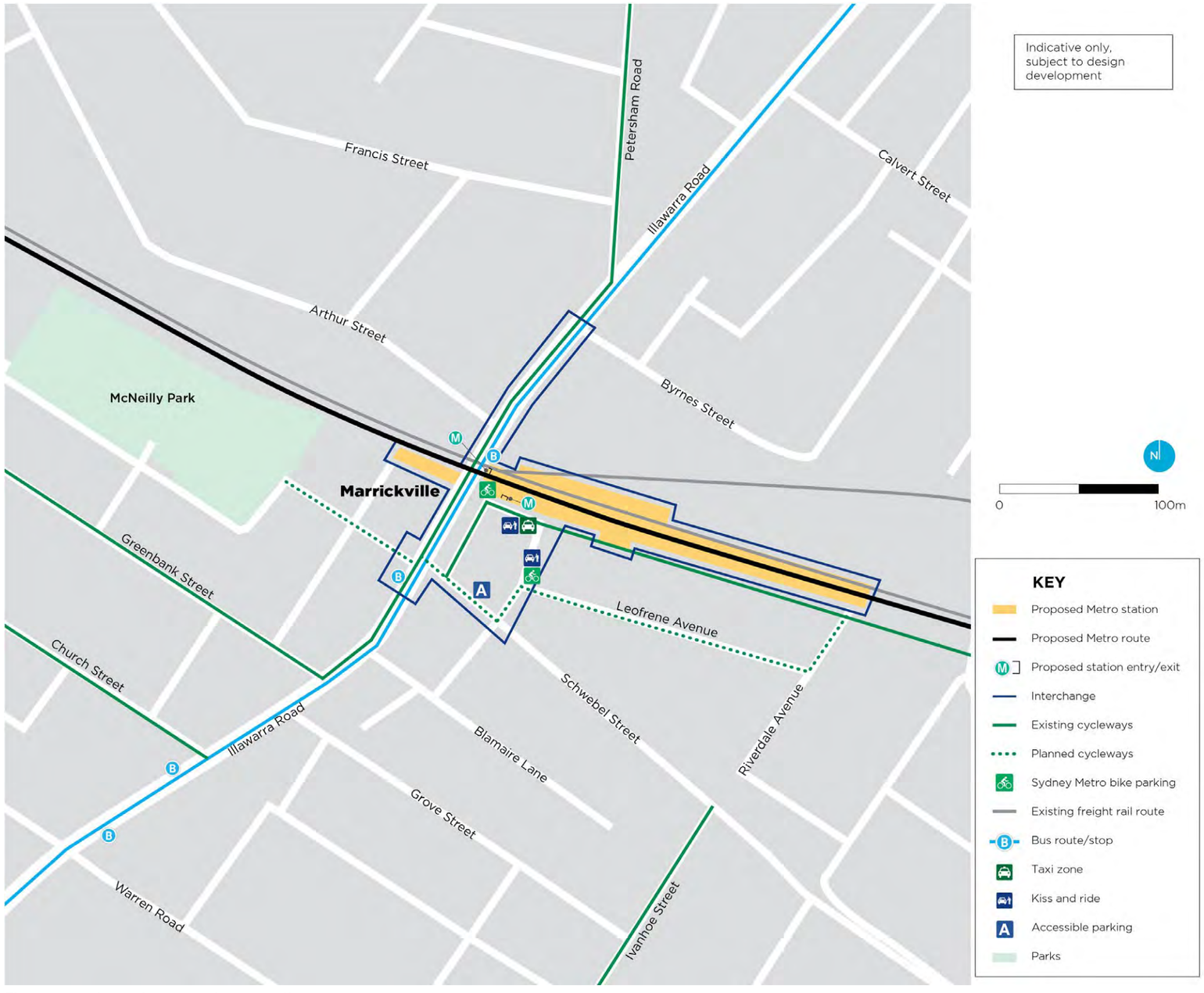


Figure 4-24: Interchange and access diagram

4.4 Station Area Place Making and Community Enhancement

4.4.1. Constraints

Marrickville has a linear retail zone that stretches along Marrickville Road in an east-west direction and extends north-south down Illawarra Road, to Marrickville Station and beyond. Illawarra Road is a busy connector that is not easy to cross. Further, the steepness of the Illawarra Road bridge and adjacent Station Street represent an accessibility challenge. The rail corridor inhibits free north-south movement and the L5 cycle route running east-west along the narrow station access path, south of the alignment, is in poor condition. It is an important connection to the Carrington Road Precinct to the east. The station and South Marrickville is served by only two bus routes, both connecting Kingsgrove to the Sydney CBD. The station group and Sewage Pumping Station 271 on Carrington Road are on the State Heritage Register.

4.4.2. Opportunities

The new station and the associated public domain and interchange upgrades will improve local access and the urban quality of the station area considerably. The station is likely to contribute to the urban renewal already evident along Illawarra Road. Upgrading the southern access path will reinforce connections to the east where large scale urban development is anticipated along Carrington Road. Signalising the Illawarra/Schwebel/Warburton intersection will make a safer pedestrian environment and improve access to the western area, including McNeilly Park. This, and the proposed Station Street shared zone will also facilitate safe interchange in Station Street.

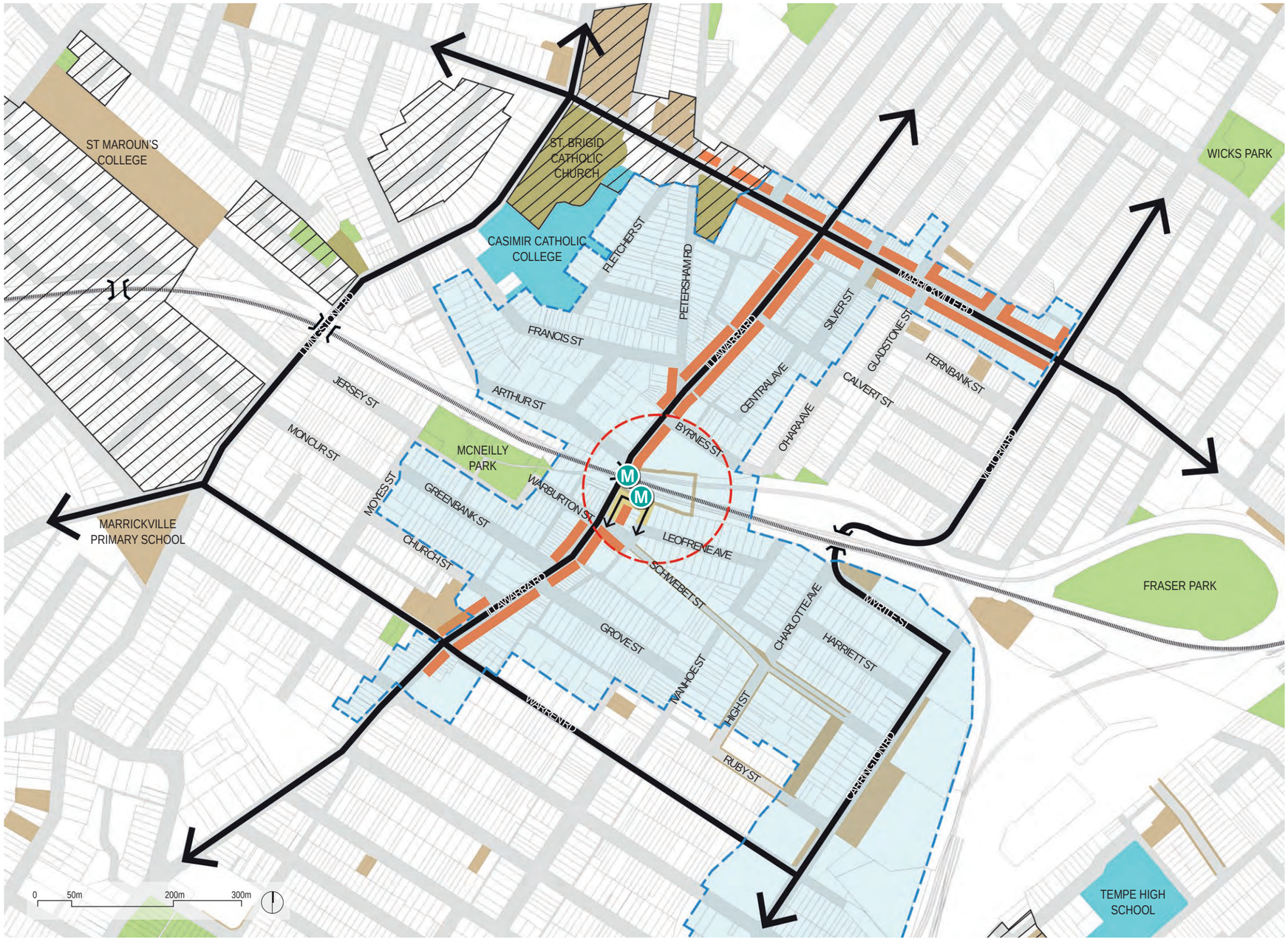
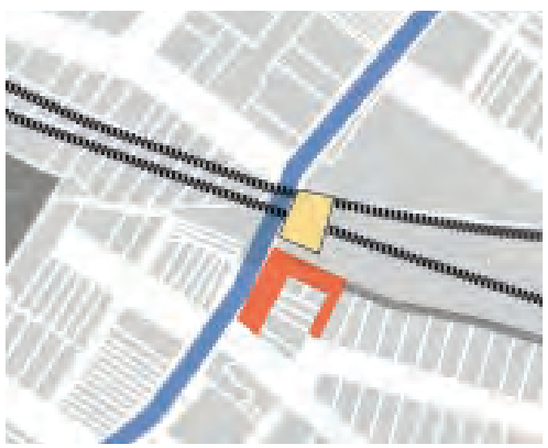


Figure 4-25: Station and precinct opportunities

4.4.3. Place Making Characteristics

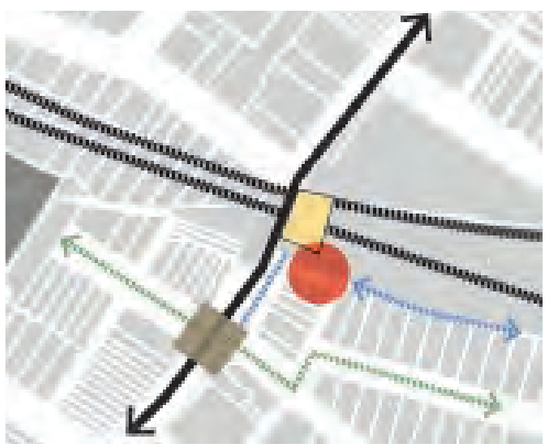
Local Public Domain



- Station Street plaza/shared zone would add a new, intimate public space to the public domain of the Illawarra Road precinct.
- Renewal of the southern access path and the Station Street shared zone would improve the station interface with local streets.

Figure 4-26: Station Street entry following TAP Upgrade

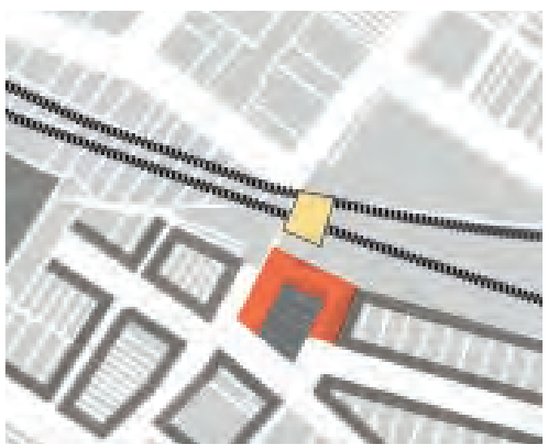
Connectivity and Access



- Improvements to crossing conditions at Illawarra Road, Schwebel and Warburton Streets.
- Provision for inter-connection with future cycle rout.
- Southern station access path upgrade to improve access to the station from the east.
- Addition of an accessible ramp on Station Street (west) to overcome non-compliant grade.

Figure 4-27: Southern access path (L5 Cycle Route) from Riverdale Ave

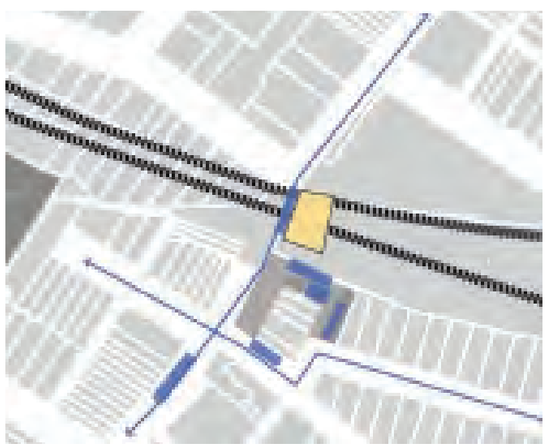
Catalyst



- Station Street plaza/shared zone creates an intimate public space away from the high street.

Figure 4-28: Contemporary development adjacent to Marrickville station

Accessible Interchange



- A new bike parking area along the eastern side of the Station Street plaza with the existing facility retained.
- Taxi and kiss and ride bays in Station Street shared zone.
- Accessible ramp on Station Street (west) providing an accessible path to Illawarra Road bus stops and Schwebel Street accessible parking bays.
- On-road cycle route on streets adjacent to Station Street.

Figure 4-29: Illawarra Road (TAP) station entry

4.4.4. Entry Plaza Accessibility & Design Principles

Illawarra Road Entry (Western Entry)

- Sydney Metro station entry accessed directly off Illawarra Road bridge.
- Concourse entry reuses TAP infrastructure with minor modifications
- Weather protection is achieved by retaining existing concourse canopy. New canopy added to southern entry and platforms.
- Bespoke station building is located on platform 1 to the east of the gateline,
- Access to Sydney Metro platform 1 is via a stair and a lift from the upgraded aerial concourse.

Station Street Entry (Southern Entry)

- Southern Sydney Metro station entry on Station Street.
- Weather protection is achieved by providing an entry canopy covering gatelines and station facilities.
- A new bike parking area is provided along the eastern side of the Station Street shared zone and the existing facility retained. Access to Sydney Metro platform is via a stair and a lift from the upgraded aerial concourse.

4.4.5. Station, Platform and Concourse Elements

Station, platform and concourse elements incorporated in to the design include the following:

- Retention and some upgrade (where required) to existing TAP infrastructure (lifts, deflection walls)
- Platform entry at Station Street and concourse entry at Illawarra Road
- Platform and concourse canopies to provide all weather coverage approaching station gateline and station facilities
- Platform 170m x 4.5m (min) wide (allows 400mm for Platform Screen Doors zone along each platform edge). Design to accommodate 6 x cars on Day 1 operation (2 x additional cars for future demand).
- Gatelines (platforms 1 and 2)
- Emergency egress via DDA accessible 1:14 ramp from eastern end of platform 1 and 2 to track level. Two alternate means of egress via stairs to the aerial concourse and to Station Street.
- The Illawarra Road concourse provides access to platforms 1 and 2 via lifts and stairs
- Canopies to provide all weather coverage approaching station gateline and station facilities
- Retention of existing State Heritage listed platform 1 and platform 2 buildings including relocated booking office
- Secure and sheltered bicycle storage
- Wayfinding and signage elements located on concourse level to minimize obstruction and maximise customer flow
- Station services building
- Ancillary station facilities including communication cupboards, fire hydrants, station control room, facilities for services and staff
- Facilities to meet fire safety including a fire booster, services buildings and fire evacuation ramp

4.4.6. Heritage Elements

Marrickville station group is listed on the following heritage registers:

- State Heritage Register (Listing No. 01186)
- Railcorp Section 170 Register (SHI No. 4801091)
- Marrickville LEP 2011 (Item No. 89).

The recent TAP upgrade has removed the footbridge and stairs to platform. Sydney Metro's Reference Design proposed to remove curved platforms and the Illawarra Road overbridge, as well as either removing or relocating the platform 2 booking office further east along the platform.

The exceptionally significant platform 1 brick building was toremain, along with the highly significant platform 2 brick building. Some rooms will be fitted out for Metro station and staff uses. As the platform 1 state heritage listed building is retained, there is not enough space to accommodate a concourse gateline and its associated run-offs. This means that two gatelines are introduced - one on each platform.

Figure 4-30 represents what was proposed in the Reference Design.

It is noted that further design refinement work has been undertaken since the Reference Design and it is now proposed to retain the existing relocated Booking Office on platform 1 in it's current position (refer Table below).

Element		Significance Grading	Tolerance for Change	Outcome
Symbol	Type			
A	Platform 1 Building (1895)	Exceptional	Low	Retain/Reuse
B	Platform 2 Building (1911)	High	Some	Retain/Reuse
C	Booking Office on Platform 2 (1917)	Moderate	Moderate	Retain/Reuse
	Platform 1 – brick (1895)	High	Some	Platform Removed
	Platform 2 – brick (1911)	High	Some	Platform Removed
D	Overbridge (1911)	High	Some	Remove

Figure 4-30: Summary of heritage elements

4.4.7. Key Design Elements

The key design elements of the Marrickville Station and its surrounding area are summarised in the table below.

Feature	Description
Station works	
Station entry/exit	• The existing station entrance from Illawarra Road would be retained and upgraded, including retention of existing lifts. • The existing at-grade entry from Station Street to platform 2 would be retained and upgraded to include a new entry canopy.
Platform details	• The existing heritage listed platforms would be straightened and extended to the east.
Station buildings	• The existing station buildings, including the recently completed elevated concourse and associated canopy would be retained. • New station buildings would be provided on platform 1. • Heritage station buildings on platforms 1 and 2 would be retained. • The former booking office on platform 2 would be retained • New retail space would be provided in Station Street (the use of the space would be subject to a separate approval process).

Feature	Description
Station area	
Public transport integration	• All stops would be retained in current location, including southbound stop on Illawarra Road which was recently relocated as part of upgrades to the station.
Access	• A new shared zone in Station Street would be provided, allowing access to the southern station entrance, with this entrance and the shared zone forming a new station plaza. This would form part of an active transport corridor. • Signalisation of Warburton Road, Schwebel Street and Illawarra Road intersection is proposed, including installation of pedestrian crossings. • The existing signalised crossing of Illawarra Road outside the station would be removed. A pedestrian crossing would be provided on Illawarra Road immediately north of Arthur Street. • The existing cycle route along the southern side of the rail corridor would be rerouted along Schwebel Street, Leofrene Avenue, and Riverdale Avenue. • A new accessible ramp would be provided from the southern station entrance to Schwebel Street along Station Street.
Kerbside uses, bike parking	• New kerbside facilities would be provided within the new Station Street shared zone/plaza area on both the northern and western sections of the new shared zone. • A new bike parking area would be provided along the eastern side of the Station Street plaza with the existing facility retained.
Car parking	• Loss of one on-street parking space due to new kerbside facilities.

05

Dulwich Hill Station

On the ridge, a landscape, a community place

5. Dulwich Hill Station

5.1 Context

5.1.1. Location

Dulwich Hill is 8km southwest of Sydney CBD and in the Inner West (formerly Marrickville) Local Government Area. The suburb is bounded by Marrickville to the east, Hurlstone Park to the west, New Canterbury Road to the north and Cooks River to the south.

The area around the station is a mixture of largely single storey housing and 2-3 storey apartment blocks. In recent years some taller shop-top housing developments have been added to the existing Wardell Road strip of retail and small commercial buildings. The area has a relatively coherent urban form that includes a large Heritage Conservation Area southeast of the station. The existing station entry is on the Wardell Road overbridge and the Inner West Light Rail terminus is accessed from Bedford Crescent on the northern side of the heavy rail station.

Figure 5-1: Existing Marrickville Station - Axonometric

Figure 5-2: Location Plan

5.1.2. Functional Requirements

Aspect	Comment
Station Function	Origin
Corridor	Metro and ARTC corridor
Station Type	Surface in cutting
Platform Type	Side Platform
Station	Existing entry: Wardell Road overbridge Proposed entry: Bedford Crescent (north)and Ewart Lane (south)
Access & Interchange Requirements	Light Rail Bus Cycling Taxi Kiss + Ride Accessible Parking Park + Ride

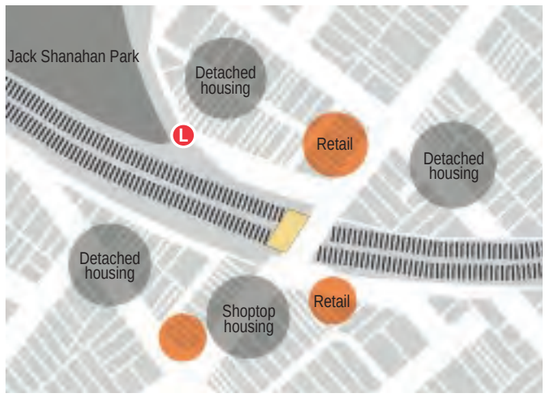
5.1.3. Station Strategy

The Metro station at Dulwich Hill will add a new aerial concourse that bridges the corridor between Bedford Crescent on the northern side of the alignment and Ewart Lane to the south. This will facilitate direct interchange between light and heavy rail from a common concourse.

Dual lifts and a stair connect the concourse to an island platform. A lift and stair lead to a plaza on the southern side. This plaza runs between Ewart Lane and Wardell Road and incorporates the L9 Cycle Route, as well as an accessible path back to the Wardell Road pedestrian crossing. Bicycle parking is located on the upper level of the station services building which will be set into the existing embankment west of the plaza and adjacent to a reconfigured commuter parking area. Taxi, kiss and ride and accessible parking bays are arranged on the southern side of Bedford Crescent where a widened footpath serves as the station approach and interchange zone.

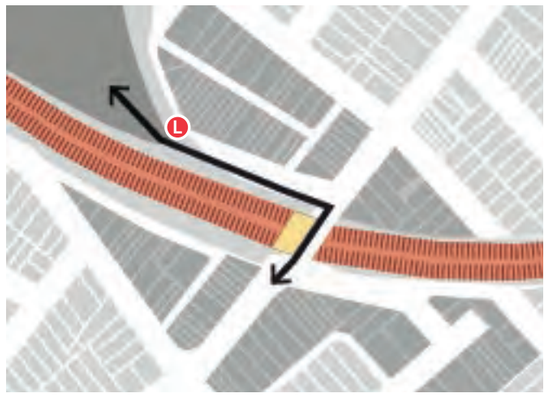
5.1.4. Urban Context

Land use and urban character



- Small village retail centre
- Evolving multi-storey shop-top housing precinct on Wardell Road
- Wider context largely single-storey detached housing
- Inner West Light Rail terminus on Bedford Crescent
- Jack Shanahan Park, including Dulwich Hill Skate Park is just northwest of the station.

Transport corridors

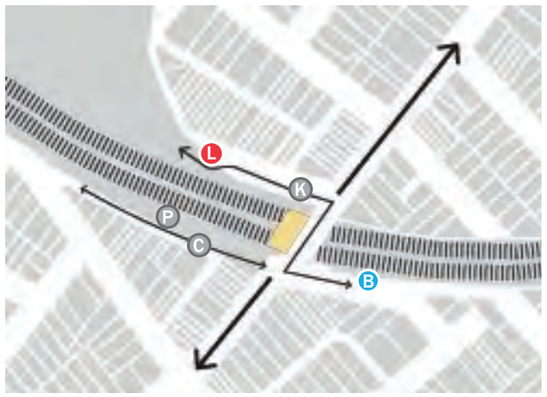


- The wide corridor (passenger and freight) divides the community
- Indirect access to the light rail terminus and Jack Shanahan Park.

Public Domain/pedestrian access

- Overbridge footpaths are very narrow
- Wardell Road approach to overbridge is very steep
- Ewart Lane south of the station is steep and does not have a footpath
- Bedford Crescent north of the station has narrow footpaths.

Circulation and interchange



- Path to light rail terminus and kiss & ride zone from station entry indirect and narrow
- Indirect, steep and narrow access to park & ride area
- L9 Cycle route/shared path is narrow and steep.

Figure 5-3: Dulwich Hill village - Wardell Road

Figure 5-4: Wardell Road bridge footpath

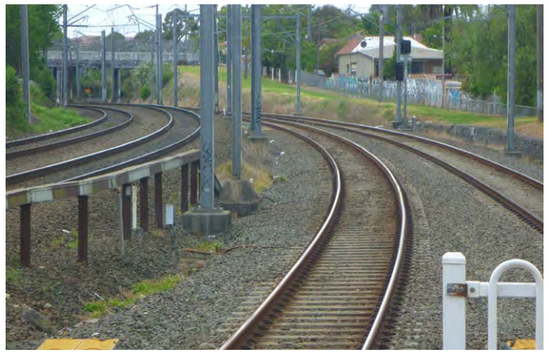


Figure 5-5: Freight and passenger rail corridors from station platform

Figure 5-6: Southern side access path (L9 Cycle Route)

5.1.5. Heritage & Place

Pre-European landscape –The traditional owners of the land were the Gadigal people of the Eora Nation. The once heavily timbered, undulating hills around Dulwich Hill generally run down to the Cooks River Valley. The suburb lies on either side of a ridge that roughly aligns with the rail corridor. The higher terrain once supported taller forest trees such as Turpentine and Ironbark while lower slopes closer to the river were covered in tea-tree scrub.

European settlement and land use – The timber resource was the primary interest of early landowner Thomas Moore, and those who succeeded him, such as Dr Robert Wardell.

Once cleared, the land was cultivated as market gardens, orchards and nurseries. During the 1870s a number of Chinese families developed terraced market gardens in the area. In the late nineteenth and early twentieth centuries, Dulwich Hill developed as a desirable residential district with a small village and isolated pockets of industry. Industrial development was concentrated along the Goods Line (now Inner West Light Rail Line) which opened in 1913.

The area around New Canterbury Road became the primary commercial area of Dulwich Hill late in the nineteenth century with a secondary centre around the station which had opened in 1895. The suburb, however, was largely shaped by twentieth century subdivisions such as the Abergeldie Estate which was developed in two phases in the 1920s and 30s. The estate is characterised by its consistent arrangement of free-standing, single-storey houses on medium size allotments.

In the late twentieth and in the first decades of this century, former factory sites have been redeveloped to create large apartment complexes. These complexes have become small villages within the suburb of Dulwich Hill. Retail areas, and in recent years, have also seen the development of multi-storey apartment buildings, typically with ground floor retail uses

Heritage – The South Dulwich Hill Heritage Conservation Area (HCA) covers an area southeast of the station that dates from the Federation period. A number of subdivisions from that time make up the HCA. They typically feature Federation bungalows (detached houses) with features such as window hoods and period detailing to gables and verandahs. The period of significance for this HCA is 1901-1920.

The Abergeldie Estate Heritage Conservation Area lies to the northwest of the station, in the area east of Old Canterbury Road.

The Dulwich Hill Station Group (platform buildings, overhead booking office, platform, overbridge) is on the Railcorp Section 170 register. The S170 listing has recently been amended to state that the Dulwich Hill overhead booking office may have state heritage significance and that it requires further detailed assessment. Dulwich Hill Railway Station's significance lies in it being part of the Bankstown Line (initially the Belmore Branch Line), built to relieve congestion on the Main South Line, as well as to encourage suburban development and the growth of agriculture in the late nineteenth and early twentieth century.

While the original 1895 station buildings are no longer extant, the replacement 1935 group of structures, including the timber overhead booking office and the brick platform building, are significant as they represent typical examples of the Inter-War Eclectic style used by NSW Railways. The overhead booking office is especially significant as it retains its original configuration and much of its original fabric, including, notably, a bank of west facing clerestory windows.

Figure 5-7: New Canterbury Road, 1936
Source: Unknown

Figure 5-8: Dulwich Hill Station, 1985
Source: NSW Government

Figure 5-9: Overhead Booking Office, 1985
Source: NSW Government

Figure 5-11: Sir Hugh Dixson, Abergeldie Estate 1909
Source: Marrickville Council

Figure 5-10: New Canterbury Road, Scouts Parade
Source: Unknown

Figure 5-12: Dulwich Hill
Source: Marrickville Heritage Society

5.1.6. Landscape & Urban Fabric

Dulwich Hill Village includes a small group of shops directly adjacent to the station while the larger Dulwich Hill town centre is on Marrickville Road and New Canterbury Road. This primary commercial and retail area is located approximately 800m north of the station.

The station village extends for a single block to both the north and south and the southern portion on Wardell Road falls within the Masterplan Area (MA 22.1) as defined in the Marrickville Development Control Plan 2011. This provides for consolidation and redevelopment of sites as medium density projects to a 5-6 storey height limit. The village generally has a traditional two storey high street elevation, although some developments have already occurred bringing a handful of taller mixed-use buildings.

Low vehicle speeds and the relatively narrow carriageway along Wardell Road makes for an attractive public domain for pedestrians, although the street is steep. The station area is surrounded by a zone of medium density walk-up residential buildings, primarily to the south of the station. These buildings are a mixture of strata-title and freehold ownership.

Beyond this area, the residential streets are characterised by single detached houses on relatively compact lots, generally dating from the early twentieth century. The streets are relatively wide with nature strips, street trees and footpaths. Some streets, such as Ness Avenue and Albermarle Street have distinctive brick paved footpaths that date from the Depression of the 1930s.

Tom Kenny Reserve in Bayley Street and Jack Shanahan Park, adjacent to the Light Rail terminus are the only areas of public open space in the wider station precinct.

Figure 5-13: Dulwich Hill
Source: realestate.com.au

Figure 5-14: Dulwich Hill Light Rail
Source: World of Transit

Figure 5-15: Sideway Deli Cafe
Source: Little Eats

Figure 5-18: Dulwich Hill Skatepark
Source:Skateboard.com.au

Figure 5-16: Dulwich Hill High School of Visual Arts and Design
Source: Cowper.J

Figure 5-17: Dulwich Hill Houses
Source: Walk Sydney Streets

Figure 5-19: Holy Trinity Church
Source: Sydney Organ

5.1.7. Culture & Demographics

The key demographic attributes of the suburb of Dulwich Hill (based on 2011 ABS data) are:

- A median age of 37, which is comparable to that of Greater Sydney.
- The predominant household type is lone persons (29%) while the fastest growing household type is couples without children (22%). This is consistent with the Greater Sydney average.
- A slightly higher median weekly household income of $1,580 when compared to the Greater Sydney average of $1,447.
- The majority of residents (54%) owned or were in the processes of owning the dwelling they reside in.
- A higher proportion (35%) of persons renting privately in the suburb as compared to 25% across Greater Sydney.
- The average weekly rent in the suburb was $363, marginally higher than that recorded for Greater Sydney ($351).
- Medium density dwellings comprise the most common dwelling stock (38%), higher than the proportion recorded for Greater Sydney (20%).
- Medium and high density dwellings comprise 63% of the dwelling stock, with medium density housing the fastest growing dwelling type.
- In 2011 there were 1,266 jobs recorded in the Dulwich Hill Precinct, 27% of which were in retail and hospitality, 24% in education, healthcare and public services and 23% in business.

Dulwich Hill is a culturally diverse area. Over a third (35%) of the population (as recorded in 2011) was born overseas (the United Kingdom and Greece being the largest groupings) and 27% are from a non-English speaking background. The main shopping centre reflects this, with businesses representing the plurality of backgrounds of their owners, including those from African, Greek, Italian, Egyptian, Lebanese, Pacific Islander, Portuguese, Chinese and Vietnamese communities.

Sydney's only Egyptian restaurant can be found in Dulwich Hill and the Arabic speaking community has lived in the area for generations. St Maroun's College opened in 1988 on Wardell Road and the Maronite Sisters subsequently also established the Holy Family Village nursing home.

In the 1960s, the Orana Migrant Hostel on Marrickville Road hosted scores of British migrants who had been recruited as skilled tradespeople. The hostel is now backpacker accommodation.

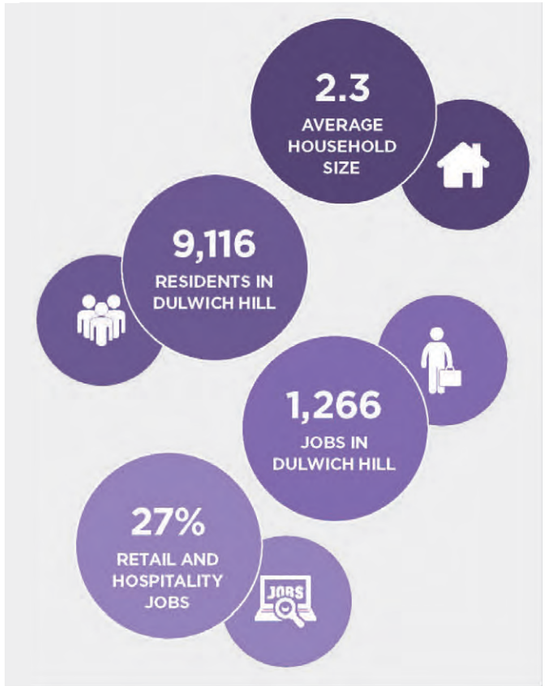


Figure 5-20: Key demographic facts for Dulwich Hill Precinct
Source: Department Planning & Environment

Figure 5-21: Dulwich Hill Village Fair
Source: Your Say Inner West

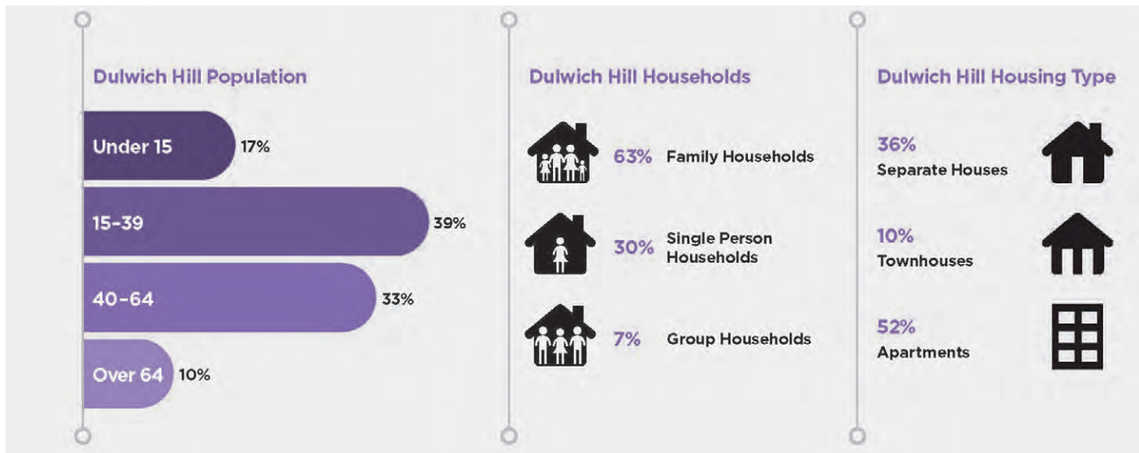


Figure 5-22: Key demographic characteristics for Dulwich Hill Precinct
Source: Department Planning & Environment

5.2 Land Use Integration

5.2.1. Planning Controls

The area around Dulwich Hill Station is subject to the provisions of Canterbury Local Environmental Plan 2012 and Marrickville Local Environmental Plan 2011. The land surrounding the station is zoned (B1) Neighbourhood Centre (predominantly along Wardell and Dudley Street south of the station), a small area of (R4) High Density Residential in the residential area to the south, (R1) General Residential primarily to the south of the station surrounding the Neighbourhood Centre and High Density Residential areas, and (R2) Low Density Residential in the residential areas north and south of the rail corridor (refer to Figure 5-23).

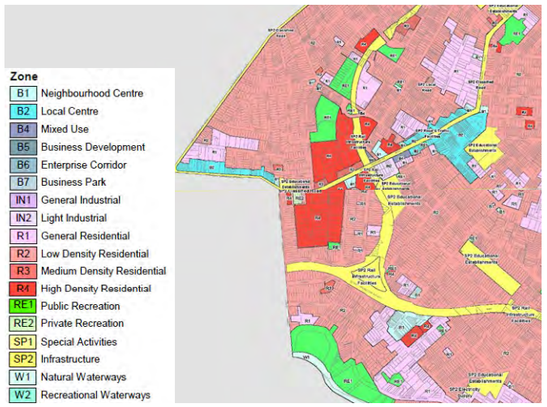
In addition to the LEPs, Marrickville Development Control Plan 2011 (Marrickville DCP) also applies. This DCP provides guidance for the desired future character, heritage conservation, and precinct specific planning controls for Dulwich Hill Station South (precinct 22) and Dulwich Hill Station North (precinct 18). Site specific guidance is also provided for Master plan areas around the station. Marrickville Council is also developing an urban design Public Domain Study for the area, which was not finalised at time of writing.

The desired future characteristics of the precincts that relate to the vicinity of the Metro station, as outlined in the Marrickville DCP, include:

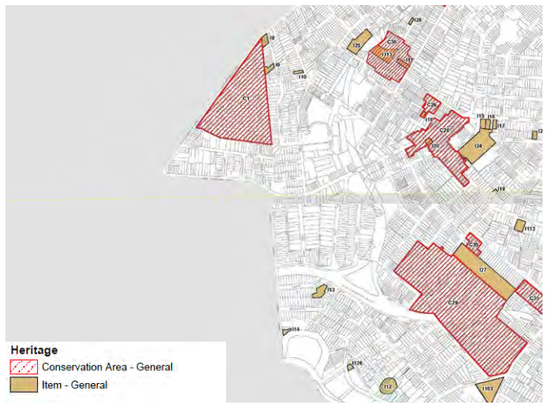
- To protect and enhance the predominantly mixed density residential character of the precinct and to continue its role in providing a mix of housing types close to public transport.
- To protect and enhance the character of streetscapes and public domain elements.
- To protect significant streetscapes and/or public domain elements within the precinct.
- To protect the identified values of the South Dulwich Hill Heritage Conservation Area.
- To protect and enhance the identified period buildings within the precinct and encourage their sympathetic alteration or restoration.
- To facilitate urban renewal in appropriate locations, especially within the Dulwich Hill neighbourhood centre with substantial increase in density as mixed use development.
- To revitalise the neighbourhood shops within the Dulwich Hill neighbourhood centre, including the consolidation of residential properties on the eastern side of Wardell Road and expansion into Dudley Street.
- To take advantage of the characteristics of Dudley Street with low traffic, wide street carriageway, gentle footpath gradient, northern aspect and railway cutting that shields rail noise, to create a new high amenity mixed-use streetscape.
- To support excellence in contemporary design.
- To support pedestrian and cyclist access, activity and amenity including maintaining and enhancing the public domain quality.
- To retain, maintain and enhance existing pedestrian and cyclist connectivity to Dulwich Hill railway station.
- To ensure that new development respects local fauna by minimising lighting impacts on nocturnal fauna.
- To promote sustainable transport by providing higher development density around Dulwich Hill Station.
- To ensure that new development considers all potential impacts to biodiversity.

Precinct-specific planning controls include:

- New development should address the GreenWay Corridor, recognising the space as an active frontage with substantial visual and environmental benefits; as well as an active transport corridor, and provide opportunities for street activation and/or public art and animation.
- Depression-era brick footpaths must be retained and maintained.



Land Zoning Map
Source: Canterbury Local Environmental Plan 2012 and Marrickville Local Environmental Plan 2011



Heritage Map
Source: Canterbury Local Environmental Plan 2012 and Marrickville Local Environmental Plan 2011

Flooding Map
Source: Canterbury Local Environmental Plan 2012 and Marrickville Local Environmental Plan 2011

Figure 5-23: Land use zones, heritage curtilage and flood mapping for areas surrounding Dulwich Hill Station

5.2.2. Urban Renewal

The NSW Department of Planning and Environment, in partnership with the Inner West Council (formerly Marrickville Council) and the City of Canterbury Bankstown (formerly the City of Canterbury and Bankstown City Council), has developed an Urban Renewal Corridor Strategy for the Sydenham to Bankstown corridor to guide future development and infrastructure delivery over the next 20 years. The Dulwich Hill Precinct is one of eleven areas studied for which a draft strategy was published in October 2015 for the purpose of public consultation.

Constraints and opportunities mapping of the Dulwich Hill Precinct undertaken for the draft strategy revealed a series of constraints to development in large parts of the precinct, including:

- Flooding on land in proximity to the Cooks River.
- Limited redevelopment opportunities due to strata titled apartment buildings and small allotments.
- Fragmented retail core.

The revised (2017) Sydenham to Bankstown Urban Renewal Corridor Strategy addressed feedback from public submissions, community workshops, meetings and technical studies. The following key issues were raised:

- Streets with heritage character should not be redeveloped and Federation streetscapes should be preserved.
- There was concern from some residents about the impact of development on Macarthur Parade, Durham Street, Consett Street, The Terrace, Ewart Street, Ness Street, Wardell Road, Riverside Crescent and Pilgrim Avenue.
- Growth should be focused on industrial and under-utilised land such as New Canterbury Road.
- Concerns about the potential impact of new development on the local long-nosed bandicoot population.
- There was general support from land owners for redevelopment on Hercules Street although some submissions were concerned about impacts on local heritage and surrounding existing dwellings.

Key changes to the strategy made in response to feedback are shown in Figure 5-24. The final revised Sydenham to Bankstown Urban Renewal Corridor Strategy was placed on exhibition in June 2017.

The revised strategy for the Dulwich Hill Precinct has proposed:

- A local centre that provides a high quality living environment with good transport connections.
- Pockets of new homes to help to bring a greater range of activity and housing options to Dulwich Hill.
- Support of the heritage and conservation areas which contribute to the character of the area along with the ‘village-like’ feel of the neighbourhood.
- Improvements in the quality of the footpaths, street trees and lighting, especially around Wardell Road and the metro station, to create an enhanced local centre.

South of the station

- Main street shop top housing along Wardell Road.
- New urban plaza in Ewart Street at station entrance and potential urban plaza at Dudley Street.
- Medium-high rise housing (maximum of 8 storeys) along Ewart Street, transitioning to low rise residential development to the southeast and southwest.
- Retention of the ‘heritage and conservation areas which contribute to the character of the area along with the ‘village-like’ feel of the neighbourhood’.

North of the station

- Medium rise housing along Bedford Crescent and west of Hercules Street.
- Medium high rise housing (up to eight storeys) along the eastern side of Hercules Street and medium rise (up to six storeys) along Terrace Street with a new linear park along the light rail corridor.
- Low rise housing (2-3 storeys) north of Keith Lane and along The Parade, between Terrace and Garnet Lanes.
- Low rise housing at 2-10 The Parade to the west of Terrace Road to maintain consistent heights with the continuation of The Parade to the west.
- Retention of more streets for low-density housing, particularly areas south of Ewart Street and north of Beach Street.
- Ewart Street (west of Ness Avenue) as a potential new Heritage Conservation Area.
- Single dwellings in the area bound by Kintore Street and Durham Lane.
- Completing the ‘missing links’ of the GreenWay connecting Cooks River to Iron Cove through the Dulwich Hill Station Precinct and potential shared pedestrian and cycle transport corridor along the rail corridor (the Greenway South West).

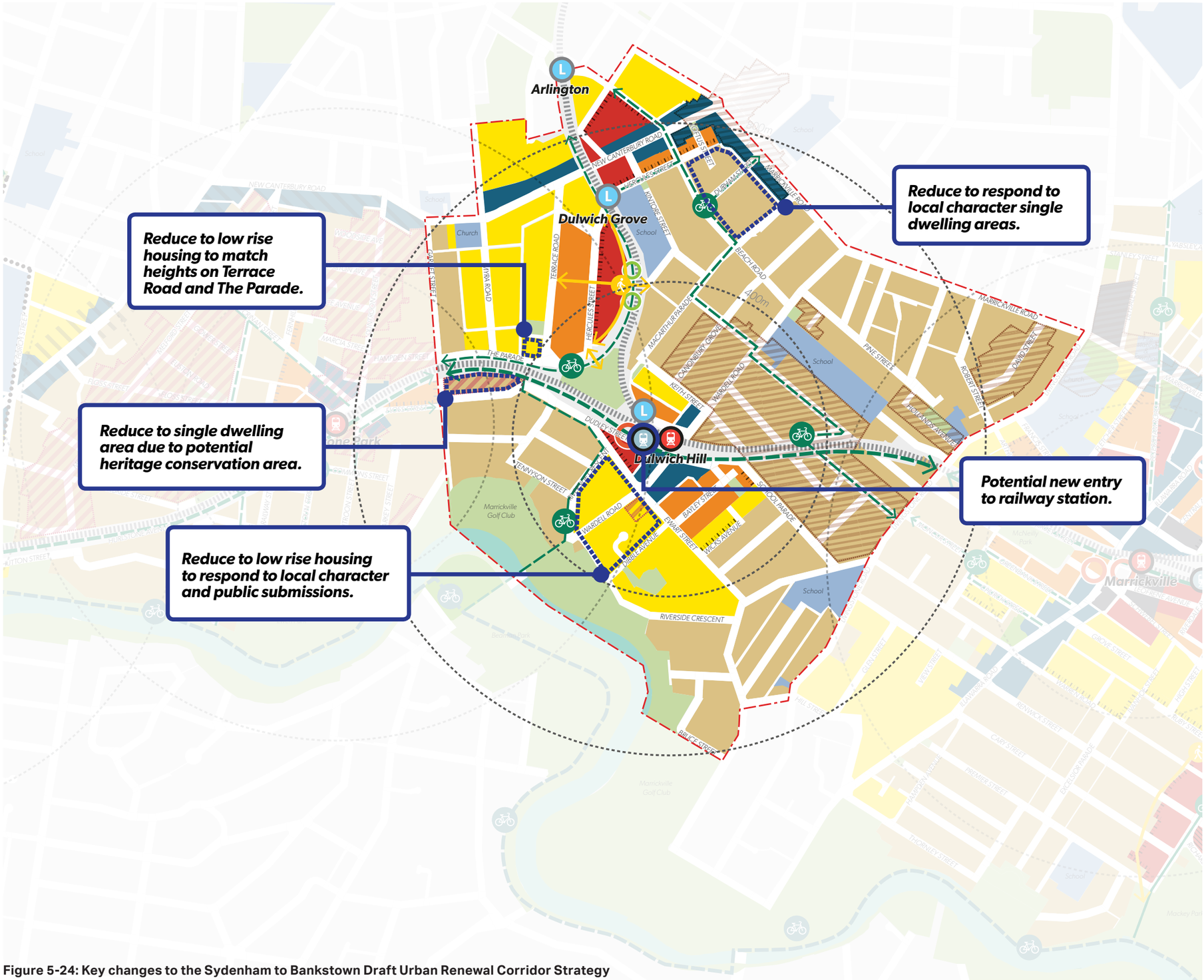


Figure 5-24: Key changes to the Sydenham to Bankstown Draft Urban Renewal Corridor Strategy
Source: Department Planning & Environment

5.3 Accessibility and Connectivity of Communities

5.3.1. Pedestrian Catchment

Dulwich Hill is predominantly an origin station. The Wardell Road retail strip falls within the 5-minute walking catchment. The 10-minute walking catchment extends to include the entry to Dulwich Hill Public School and St Maroun's School. Dulwich Hill School of Visual Arts and Design falls outside the 10-minute catchment to the north.

The majority of customers are expected to leave the station towards the northeast along Wardell Road. Smaller numbers are expected to go towards the southwest along Wardell Road and to the northwest along Bedford Crescent.

The majority of customer movements towards the station are expected to be roughly evenly split between origins to the southwest and northwest on Wardell Road, with a small number coming from the southeast on Bedford Crescent.

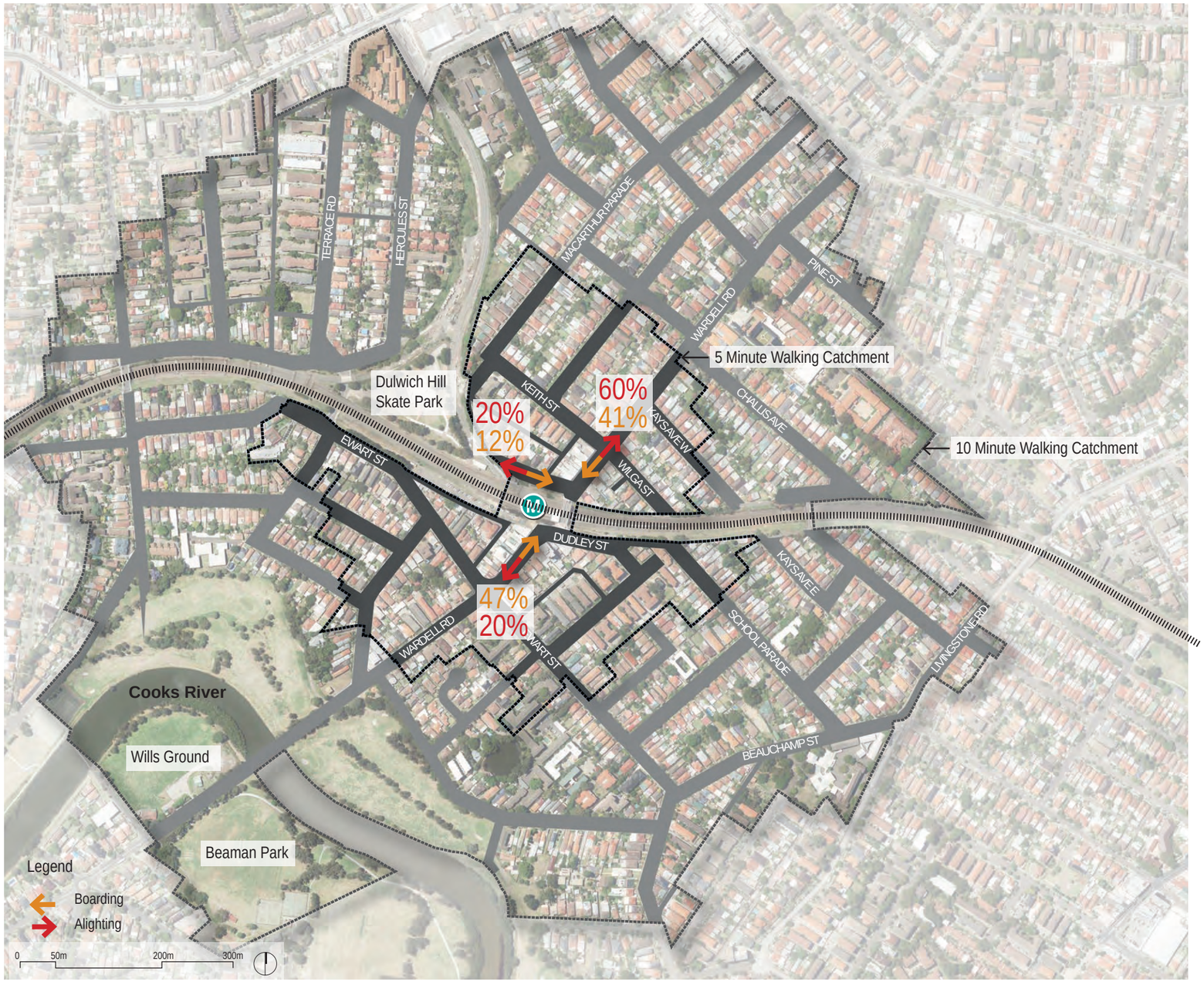


Figure 5-25: 5 & 10 minute isochrones

5.3.2. Access & Interchange Integration

The current station entry is on the Wardell Road bridge. Buses stop on Dudley Street south of the station and a limited number of kiss and ride spaces are on Bedford Crescent. A narrow footpath serves these spaces and doubles as the access path to the Inner West Light Rail terminus. A narrow path connects Wardell Road to Ewart Lane and the parking area. The carpark does not have a path servicing it. There is only a handful of bicycle racks at the Light Rail entry.

Urban design and access changes proposed as part of Metro include:

- The station concourse moves to the west and the northern entry on Bedford Crescent will serve Light Rail and Metro
- The footpath will be widened to serve the station and the interchange zone - taxi, kiss and ride and accessible parking bays
- On the southern side a plaza connects Wardell Road and Ewart Lane, creating space for a range of public uses as well as pedestrian and cyclist circulation
- Pathways will be provided along Ewart Lane, Ewart Street and Dudley Street, to form part of an active transport corridor. New bike parking facilities will be provided on the upper level of the proposed services building.

Interchange	Distance	Total Travel (min:sec)
Bus Eastbound	100m from southern entry	01m:17s
Bus Westbound	100m from southern entry	01m:17s
Taxi	6m from northern entry	01m:05s
Kiss & Ride	12m from northern entry	00m:09s

Note: Calculations are taken from the cadastral boundary line closest to the Sydney Metro entry points. All travel distances from the base of the direct line of travel for pedestrians and do not take into account light signals and crossing points.

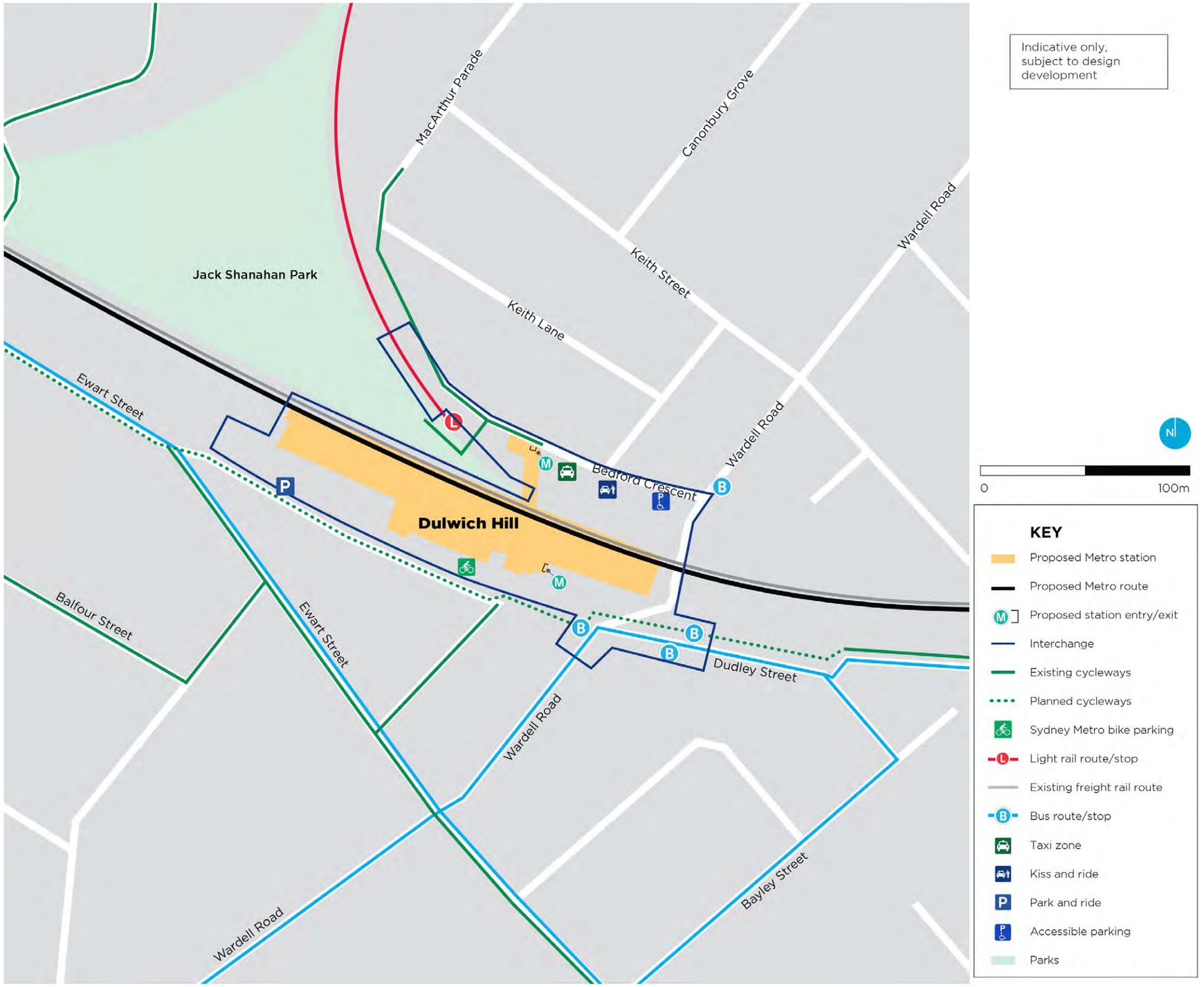


Figure 5-26: Interchange & access diagram

5.4 Station Area Place Making and Community Enhancement

5.4.1. Constraints

Dulwich Hill town centre is a small, attractive village although the retail area is not thriving. Wardell Road is very steep as it approaches the station from the south but quite flat north of the station. Footpaths across the bridge and on Bedford Crescent are narrow. A single bus route serves the centre, connecting it to Campsie and the CBD.

The South Dulwich Hill Heritage Conservation Area lies to the east of the station. The station group itself is on the Railcorp Section 170 Heritage Register.

5.4.2. Opportunities

The new station and the public domain improvements around it will enhance the Wardell Road precinct considerably. In particular the public space south of the station will not only improve access, it may well be a stimulus to the redevelopment of adjacent north facing sites. A number of shop-top multi-storey residential buildings have been built in Wardell Road in recent years and more are likely to follow.

The area is well served by public transport and relatively well endowed with public open space and local schools. Jack Shanahan Park north of the station is the primary local park but the centre is also close to parkland along the Cooks River to the south.

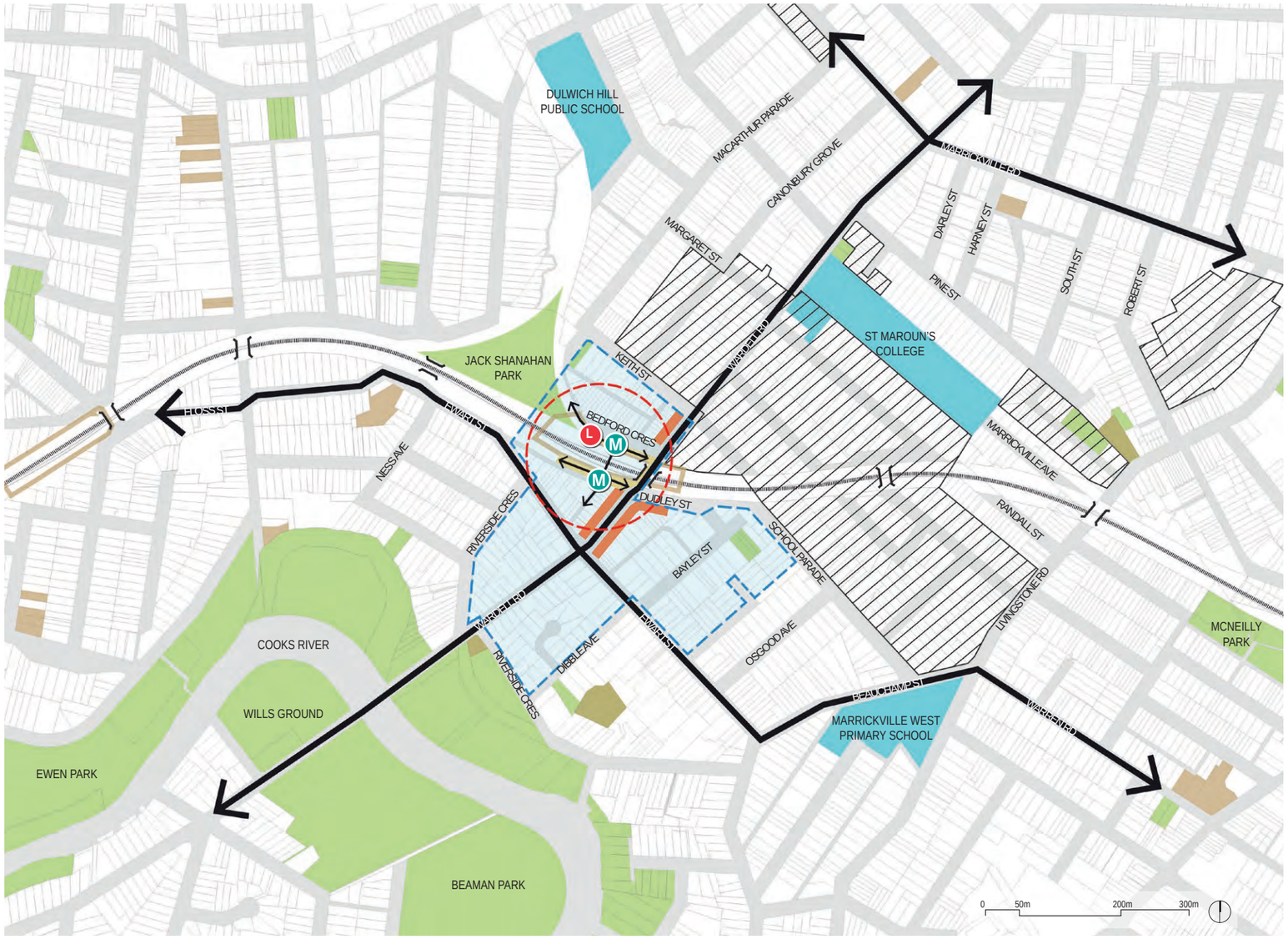
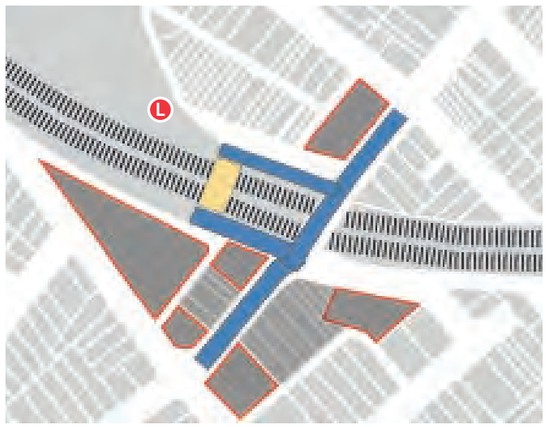


Figure 5-27: Station and precinct opportunities

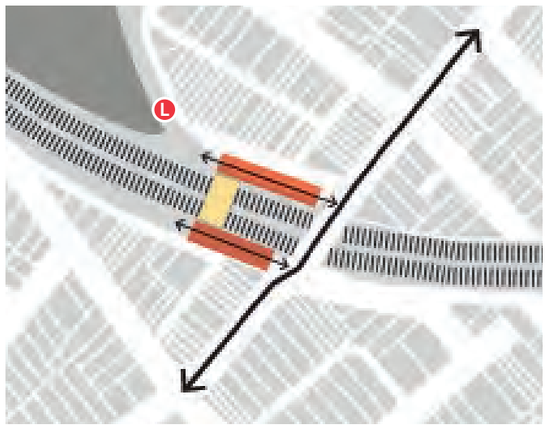
5.4.3. Place Making Opportunities

Public Domain



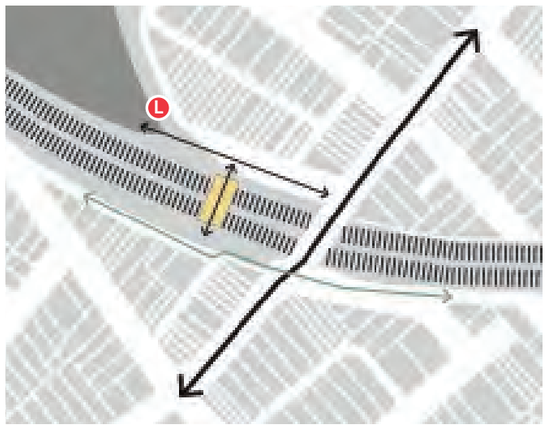
- Generous pedestrian / interchange zone north of station on Bedford Crescent serving both the Metro station and the Inner West Light Rail stop
- Terraced plaza and shared zone to south of station connecting Wardell Road to Ewart Lane.

Connectivity and Access



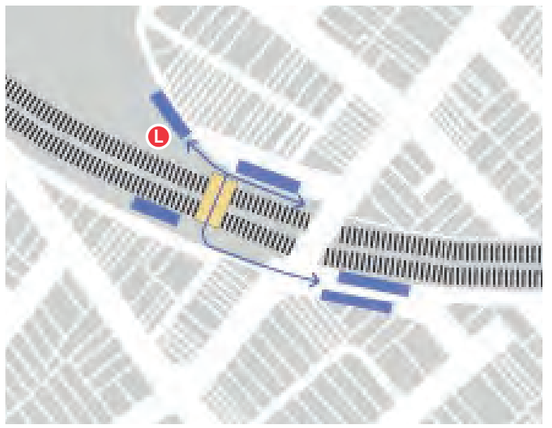
- New unpaid cross corridor connection
- Accessible approaches to station
- Improved link to light rail terminus and Jack Shanahan Park
- Upgrade of L9 Route cycleway through station precinct.

Catalyst



- Broad public connections to the new station concourse
- Improved public domain has the potential to generate wider urban improvements in collaboration with others
- Southern plaza as catalyst for adjacent north facing development sites.

Accessible Interchange



- At grade accessible connection between interchange zone and station concourse
- Lift from concourse to light rail terminus
- Accessible path from station plaza to Wardell Road crossing
- Secure access and sheltered bicycle parking in southern plaza.

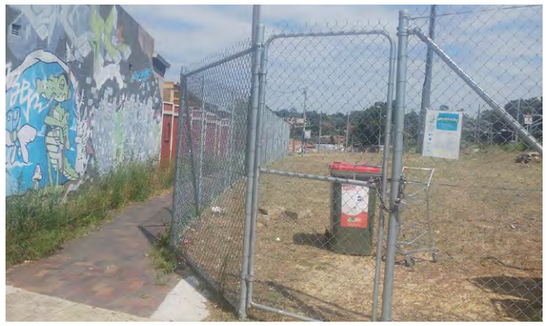


Figure 5-28: Southern plaza site

Figure 5-29: Existing northern approach path - Bedford Crescent

Figure 5-30: Jack Shanahan Park

Figure 5-31: Looking south - Wardell Road

5.4.4. Entry Plaza Accessibility & Design Principles

Bedford Crescent Entry (Northern Entry)

- Northern Sydney Metro station entry at the end of Bedford Crescent
- New public plaza to an integrated Metro and light rail entry.
- At-grade entry levelled, with footpath and existing light rail entry lift and stairs.
- Weather protection is achieved by providing entry canopy to extend beyond gatelines, ticketing and customer facilities.
- The concourse bridges across the ARTC goods line, providing an unpaid cross corridor link and access to the station via a centrally located gateline.

Ewart Lane (Southern Entry)

- Southern Sydney Metro station entry at Ewart Lane.
- Large new plaza to accommodate station entry and new public domain along Wardell Road.
- Weather protection is achieved by providing an entry canopy covering a single lift and stair configuration.
- Station facilities are located under the southern entry at plaza level, also future proofing a retail zone at concourse level.
- New plaza to contain station service facilities including station services building.
- New bike parking facilities are located above the station services building, accessed via the station plaza.

5.4.5. Heritage Elements

Dulwich Hill station group is listed on the following heritage registers:

- Railcorp Section 170 Register (SHI No. 4801909).

The existing heritage listed overhead booking office building located along Wardell Road overbridge will be removed, along with the existing stairs. It will be recorded and a heritage interpretation strategy developed. The highly significant platform brick building will remain and will be re-used for station staff facilities. The Wardell Road overbridge will be retained and regraded for ongoing use.

Element		Significance Grading	Tolerance for Change	Outcome
Symbol	Type			
A	Platform 1/2 Building (1935)	High	Some	Retain/Reuse
B	Overhead Booking Office (1935)	High	Some	Remove
C	Overbridge (c1930, c1975)	Moderate	Moderate	Retain/Reuse
	Platform ½ - brick (1935)	Moderate	Moderate	Platform Removed

Figure 5-33: Graphic summary showing retained and reused elements

5.4.6. Key Design Elements

The key design elements of the Dulwich Hill Station and its surrounding area are summarised in the table below.

Feature	Description
Station works	
Station entry/exit	• The existing station entrance would be removed. • A new elevated station concourse would be provided and would connect with the existing stairs and lift to Dulwich Hill Light Rail stop. The concourse would be accessed from two new station entrances at Bedford Crescent (northern side) and adjacent to Ewart Lane (southern side).
Platform details	• The heritage listed platforms would be rebuilt in their current location and extended to the west. A portion of the existing platform east of Wardell Road would be removed.
Station buildings	• New station facilities would be provided within the new concourse structure and within a new building located on the platform. • The heritage listed overhead booking office would be removed as part of the removal of the existing station entrance. • The existing heritage station building on the platform would be retained. • New retail space would be provided within the southern station entrance below the new concourse (the use of the space would be subject to a separate approval).

Feature	Description
Station area	
Public transport integration	• The existing bus stops located in Dudley Street and Wardell Road would be retained. • The new concourse would connect the existing lift and stairs to the Dulwich Hill light rail stop.
Access	• A new public plaza would be provided between the proposed southern station entrance and the existing pedestrian crossing on Wardell Road. • Ewart Lane would be widened/upgraded adjacent to the new southern station entrance to improve vehicular access to the reconfigured Ewart Lane car park. • Pathways would be provided along Ewart Lane, Ewart Street, and Dudley Street, to form part of an active transport corridor.
Kerbside uses, bike parking	• New kiss and ride, taxi, and accessible parking would be provided on the southern side of Bedford Crescent. • New bike parking facilities would be provided on the upper level of the proposed services building.
Car parking	• Commuter parking on Ewart Lane would be reconfigured with the same number of spaces retained. • Loss of five on-street parking spaces due to new kerbside facilities.

06

Hurlstone Park Station

At the centre of the village

6. Hurlstone Park Station

6.1 Context

6.1.1. Location

Hurlstone Park Station is approximately 8.5km southwest of the Sydney CBD in the City of Canterbury-Bankstown. The suburb is bordered by Dulwich Hill to the north and east, Earlwood to the south and Canterbury to the west. The existing station on the overbridge is immediately before the small strip shopping centre further north on Crinan Street.

The village centre is largely low scale retail and residential buildings and beyond Crinan Street generally single or two-storey detached housing dating to the early twentieth century. There is also a grouping of later walk up apartment blocks north of the station.

Figure 6-1: Existing Hurlstone Park Station Axonometric

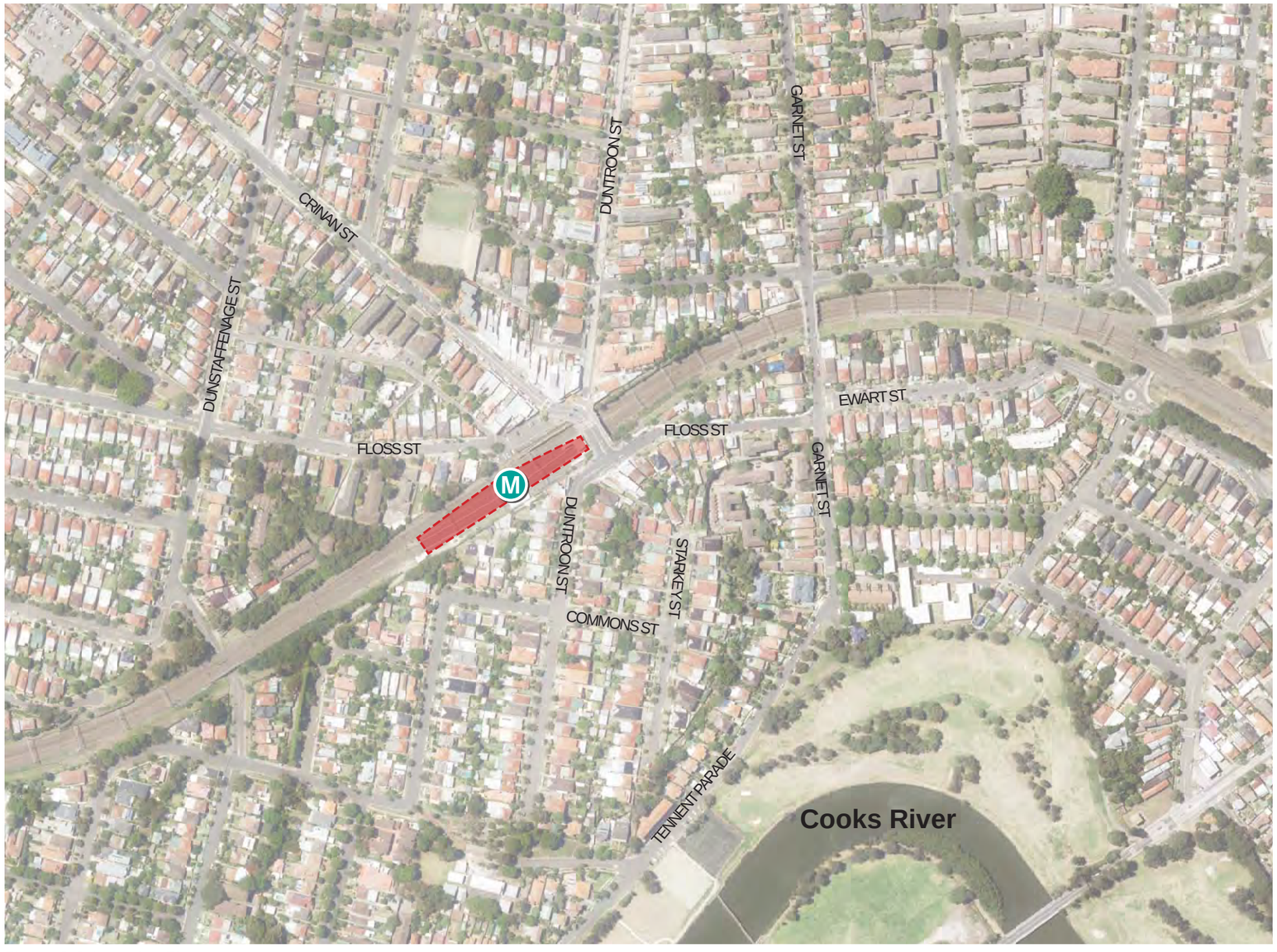


Figure 6-2: Location Plan

6.1.2. Functional Requirements

Aspect	Comment
Station Function	Origin
Corridor	Metro and ARTC corridor
Station Type	Surface in cutting
Platform Type	Side Platform
Station	Entrance: Existing entrance off Duntroon Street bridge upgraded
Access & Interchange Requirements	Bus Cycling Taxi Kiss + Ride Accessible Parking

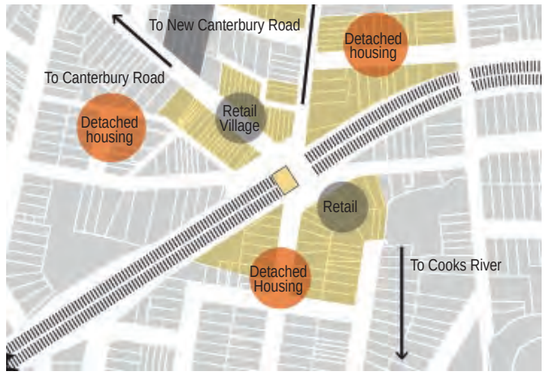
6.1.3. Station Strategy

The Metro station relocates the station concourse slightly west of its current location so that it emerges on a small plaza on Duntroon Street on the southern side of the alignment and directly to Floss Street on the north. Dual lifts and a stair lead down to each of the side platforms (city and country bound) from the concourse.

Taxi, kiss and ride and accessible parking bays are proposed at level ground on Duntroon Street adjacent to the plaza while bus stops will remain on the Crinan Street bridge. Secure access bicycle parking is located in the southern plaza and sheltered parking in Floss Street.

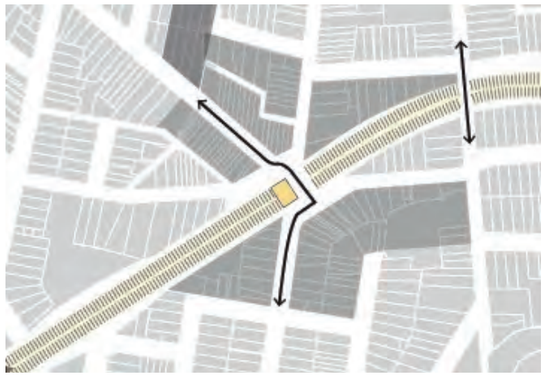
6.1.4. Urban Context

Land use and urban character



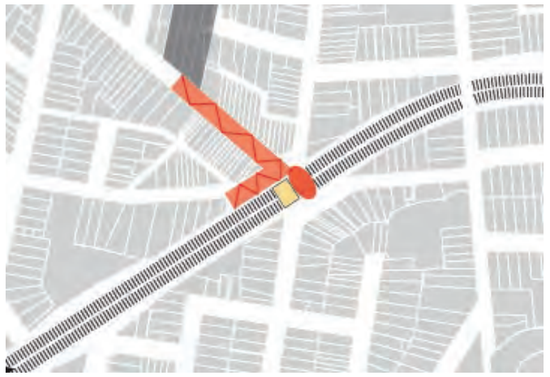
- Small, declining retail village centred on Crinan Street
- Wider context largely detached housing
- Series of potential Heritage Conservation Areas affecting the station precinct.

Transport corridors divide the precinct



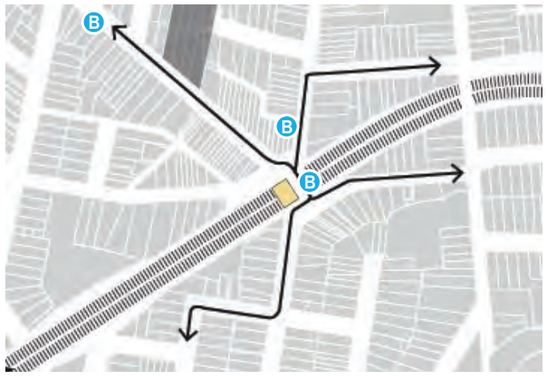
- Wide (passenger and freight) corridor an obstacle to north-south movement in the precinct.

Public Domain/pedestrian environment



- Steep gradient on Crinan Street approach to station from the north
- Steep and narrow footpath on Floss Street (north)
- Poor sightlines at crossing on Crinan Street overbridge.

Circulation and interchange environment



- Bus stops on Crinan street overbridge
- No other interchange provision.

Figure 6-3: Crinan Street village

Figure 6-4: Floss Street car park - northern side of station

Figure 6-5: Passenger rail and freight corridor Hurlstone Park

Figure 6-6: Crinan Street bridge and pedestrian crossing

6.1.5. Heritage & Place

Pre-European landscape – Hurlstone Park, in the City of Canterbury, lies within the traditional lands of the Wangal people. The suburb extends from New Canterbury and Canterbury Roads in the north to the Cooks River in the south. The area slopes from the Canterbury Road ridge to the river and two small creeks extend down the hill to wetlands along the river bank.

The vegetation communities along the ridges in this region of the Sydney Basin were typically open forests of the Turpentine-Ironbark communities. They generally had a grassy understorey. Closer to the river the vegetation mix changed to include a sclerophyllous understorey. Hawkesbury sandstone outcrop cliffs occurred above the Cooks River and saltmarsh flats along the river itself.

European settlement and land use – Hurlstone Park was originally known as Fern Hill before being renamed in 1910 following a referendum of local people. The first two land grants were made to John Homerson in1799 and Thomas Moore in 1803. John Homerson's land was sold to William Cox and then to Sydney merchant, Robert Campbell. The area was part of a 673-acre estate inherited by Sophia Ives Campbell in 1846 from her father. Sophia subdivided the estate in 1865 and again in 1874 although sales were slow until the Belmore Branch Line route became known. Dairy farmers, brickmakers and speculators had bought blocks but urban development did not materialise until the Federation period when small farms were turned into housing estates. A shopping strip grew up around the station which had opened in 1895 and also around the tram terminus at the junction of Old and New Canterbury Roads.

Heritage - The station group at Hurlstone Park is listed on the Canterbury (LEP 2012) local heritage register along with the Foord Avenue underbridge, to the west of the station.

A number of Federation houses in Euston Road, Floss Street, Garnett Street and Hopetoun Road feature on the local register.

The City of Canterbury-Bankstown Council voted to endorse the Hurlstone Park Heritage Assessment Study in September 2016. The study identifies multiple potential properties to be added to the register as well as potential Heritage Conservation Areas on both sides of the station.

The Hurlstone Park Station Group (platform buildings, footbridge and associated stairs) is also included on the Railcorp Section 170 register.

The station was opened as Fern Hill on 27 November 1894. It was renamed Hurlstone Park on 19 August 1911. In that year the Metropolitan Goods line was added to the alignment and the station transformed from island platforms to dual side platforms. In 1915 the timber station building was replaced with brick buildings on both platforms and a timber overhead booking office was added. This was replaced in the 1980s by a brick structure.

The significance of Hurlstone Park Railway Station lies in it being part of the Bankstown Line (initially the Belmore Branch Line), built to relieve congestion on the Main South Line, as well as to encourage suburban development and the growth of agriculture in the late nineteenth and early twentieth century. The platform buildings, footbridge and stairs are significant examples of the designs used by NSW Railways between 1910 and 1920. The platform buildings are good examples of their type, being relatively intact, with the original 1915 men's toilet on platform 2, although long disused, still retaining its original configuration.

Figure 6-7: Vietnamese Baptist Church and Hall Hurlstone Park
Source: HASSELL/COX

Figure 6-8: Tram Canterbury Road Hurlstone Park
Source: Canterbury Commons

Figure 6-9: Ewen Park, Cooks River
Source: Canterbury Commons

Figure 6-10: Federation House Hurlstone Park
Source: HASSELL/COX

Figure 6-11: Horse drawn cart Canterbury Road Hurlstone Park 1908
Source: Canterbury Commons

6.1.6. Landscape & Urban Fabric

Hurlstone Park is predominantly residential in nature. The small row of local shops along Crinan Street forms the village centre. Significant other commercial activities are centred on the Canterbury Road and New Canterbury Road intersection to the north. The Cooks River forms the southern boundary of the precinct.

The village centre has a traditional, fine grain built form with 1–2 storey high street buildings. The centre has a consistent form created by building height and street width proportions. Together with its low vehicular speed and narrow carriageway, Crinan Street provides a comfortable and attractive public domain for pedestrians.

A small area of medium density walk-up buildings is located primarily to the north of the railway station. These buildings are a mixture of strata-title and freehold. The surrounding residential areas are largely occupied by single detached houses on relatively compact lots dating from around the early twentieth century. Building stock is generally in good condition.

Figure 6-12: Crinian Street
Source: Realestateview.com.a

Figure 6-13: Walkup
Source: strealty.com

Figure 6-14: Gladstone Hotel
Source: Gladstone Hotel

Figure 6-15: Duntroon Street, Hurlstone Park
Source: rawmarrickville.com.au

6.1.7. Culture & Demographics

The key demographic attributes of the suburb of Hurlstone Park (based on 2011 ABS data) are:

- A median age of 40, which is slightly higher than that of Greater Sydney (36)
- 39% of the population was born overseas (Greece and the United Kingdom being the highest proportions), and 33% were from a non-English speaking background.
- The predominant household type is couples with children (33%), however the fastest growing household is couples without children (24%), which is slightly higher than Greater Sydney.
- Slightly higher earning potential with a median weekly household income of $1,480, when compared to Greater Sydney average of $1,447.
- The majority of residents (67%) owned or were in the process of owning the dwelling they reside in.
- An average proportion (24%) of persons renting privately within the suburb, when compared to 25% across Greater Sydney.
- The average weekly rent within the suburb was $347, marginally less than that recorded for Greater Sydney ($351).
- Detached dwellings comprise the bulk of housing stock (60%), which is comparable to the proportion recorded for Greater Sydney as of 2011.
- Medium and high density dwellings comprise 40% of the dwelling stock, with separate housing the fastest growing dwelling type.

In the second half of the twentieth century, the suburb's population changed gradually as homes built around World War I were sold when their original owners retired or died. Many of these houses were bought by postwar immigrants from southern Europe. The population shift was reflected in the change in appearance of many of the houses, and also in the change of use of existing buildings: for instance, St Stephen's Anglican Church on New Canterbury Road was sold and became St Stephanos Greek Orthodox Church.

Federation era houses of Hurlstone Park which remain in original condition have become very popular with young couples seeking a heritage property to restore, and the composition of the population is changing yet again in the early twenty-first century.

Figure 6-16: Key demographic facts for Hurlstone Park Precinct
Source: Department Planning & Environment

Figure 6-17: Hurlstone Park Wanderers
Source: Canterbury District Soccer

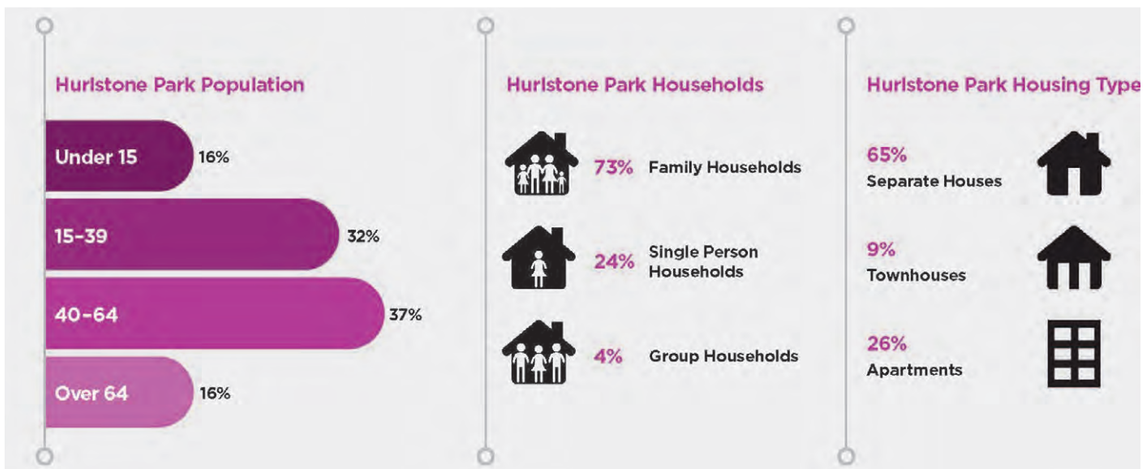


Figure 6-18: Key demographic characteristics for Hurlstone Park Precinct
Source: Department Planning & Environment

6.2 Land Use Integration

6.2.1. Planning Controls

Under the provisions of Canterbury Local Environmental Plan 2012, the land surrounding the station is zoned (B2) Local Centre (predominantly along Crinan Street), (R4) High Density Residential in the residential area to the north, and (R3) Medium Density Residential in the residential area to the south, and surrounding the Local Centre and High Density Residential area to the north. The land use zones are shown in Figure 6-19.

In addition to the LEP, Canterbury Development Control Plan 2012 also applies. This DCP provides guidance for the desired future character for the Hurlstone Park local centre. This includes retail/commercial street activation along the station frontage on Crinan Street (refer to Figure 6-20). This future character will further increase the activation and density around the Metro station.

Land Zoning Map
Source: Canterbury Local Environmental Plan

Zone

- B1 Neighbourhood Centre
- B2 Local Centre
- B4 Mixed Use
- B5 Business Development
- B6 Enterprise Corridor
- B7 Business Park
- IN1 General Industrial
- IN2 Light Industrial
- R1 General Residential
- R2 Low Density Residential
- R3 Medium Density Residential
- R4 High Density Residential
- RE1 Public Recreation
- RE2 Private Recreation
- SP1 Special Activities
- SP2 Infrastructure
- W1 Natural Waterways
- W2 Recreational Waterways

Heritage Map
Source: Canterbury Local Environmental Plan

Heritage

- Conservation Area - General
- Item - General

Flooding Map
Source: Canterbury Local Environmental Plan

- Flood planning area

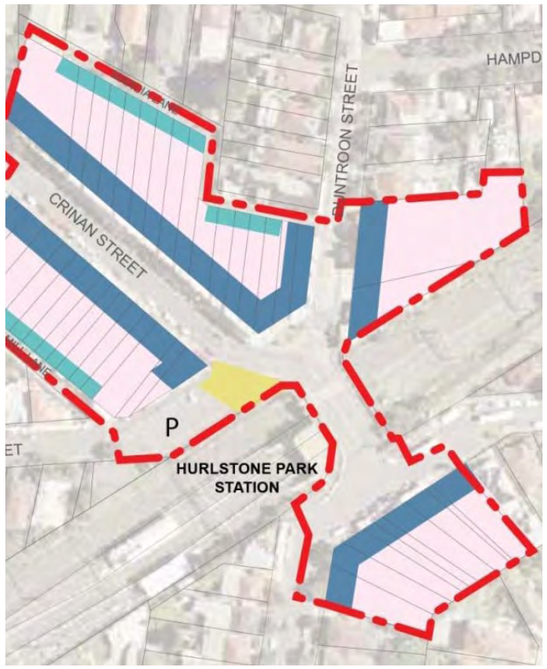


Figure 6-20: Development Control Plan provisions relating to Hurlstone Park Station
Source: Canterbury Local Environmental Plan 2012

LEGEND

- Plan area
- Retail/commercial street activation
- Possible parking area
- Proposed lane
- Driveway access/ future pedestrian path
- Proposed pedestrian path/ maintain existing path
- Proposed public place
- Existing public open space
- P Existing public car park
- Heritage Item (CLEP)
- Garden Court mixed use area
- Front building setback

Figure 6-19: Land use zones, heritage curtilage and flood mapping for areas surrounding Hurlstone Park Station

6.2.2. Urban Renewal

The NSW Department of Planning and Environment, in partnership with the Inner West Council (formerly Marrickville Council) and the City of Canterbury Bankstown (formerly the City of Canterbury and Bankstown City Council), has developed an Urban Renewal Corridor Strategy for the Sydenham to Bankstown corridor to guide future development and infrastructure delivery over the next 20 years. The Hurlstone Park Precinct is one of eleven areas studied for which a draft strategy was published in October 2015 for the purpose of public consultation.

Constraints and opportunities mapping of the Hurlstone Park Precinct undertaken for the draft strategy revealed a series of constraints to development in large parts of the precinct, including:

- Limited redevelopment opportunities due to strata titled apartment buildings and smaller building allotments.
- Localised flooding on land adjacent to the Cooks River.

The revised strategy (2017) addressed feedback from public submissions, community workshops, meetings and technical studies. The following key issues were raised:

- The need for the protection of areas of heritage and local character.
- The Strategy will result in the loss of Hurlstone Park's unique and fine-grain character and 'village feel'.
- Concern about the integration of apartment development with the surrounding lower density areas.
- Preference for density to be focused along Canterbury Road.
- The Strategy should recognise the GreenWay project.
- The importance of including new open space in developments.
- Concern about the potential impact on biodiversity, including the long nosed bandicoot.
- Poor design quality of recent developments along Canterbury Road.
- Apartments will result in negative impacts such as overshadowing and privacy issues.

Key changes to the strategy made in response to feedback are shown in Figure 6-21. The final revised Sydenham to Bankstown Urban Renewal Corridor Strategy was placed on exhibition June 2017.

The revised strategy for the Hurlstone Park Precinct has proposed:

- Retention of the existing valued neighbourhood character.
- Protection of additional heritage conservation areas.
- Improved streetscape along Crinan Street and station forecourt to reinvigorate the shopping area, while retaining and enhancing its village-like character.
- Improvements to public and active transport connections as a result of shared pedestrian/cycle paths and parks along the rail line.
- Encouragement of appropriate development for the surrounding low density neighbourhood character.

South of the station

- Medium rise housing (maximum of 5 storeys) between Floss Street and the rail corridor, and retention of the surrounding low density neighbourhood character.

North of the station

- Revitalisation of Crinan Street with cafes, shops and streetscape improvements, including renewal of existing shops through redevelopment and encouraging active ground floor uses.
- Improvements to the public realm including green streetscapes and new urban plaza on Crinan Street.
- Heritage-sensitive shop-top housing along Crinan and Floss Streets (maximum of 5 storeys), with the retention of existing facades on Crinan Street.
- Medium rise housing between the rail corridor and Crinan Street.
- Medium rise housing (maximum of 5 storeys) between Marcia Street, Fernhill Street, Floss Street and the rail corridor, and interface with low density neighbourhood areas via setbacks and landscaping elements.
- Retention of the surrounding low density neighbourhood character with identification of seven new heritage conservation areas, including Crinan Street shops, Duntroon Street, Floss Street, Hampden Street, Melford Street and Tennent Parade.
- Retention of single dwelling areas along Duntroon Street, Hopetoun Street and Railway Street.

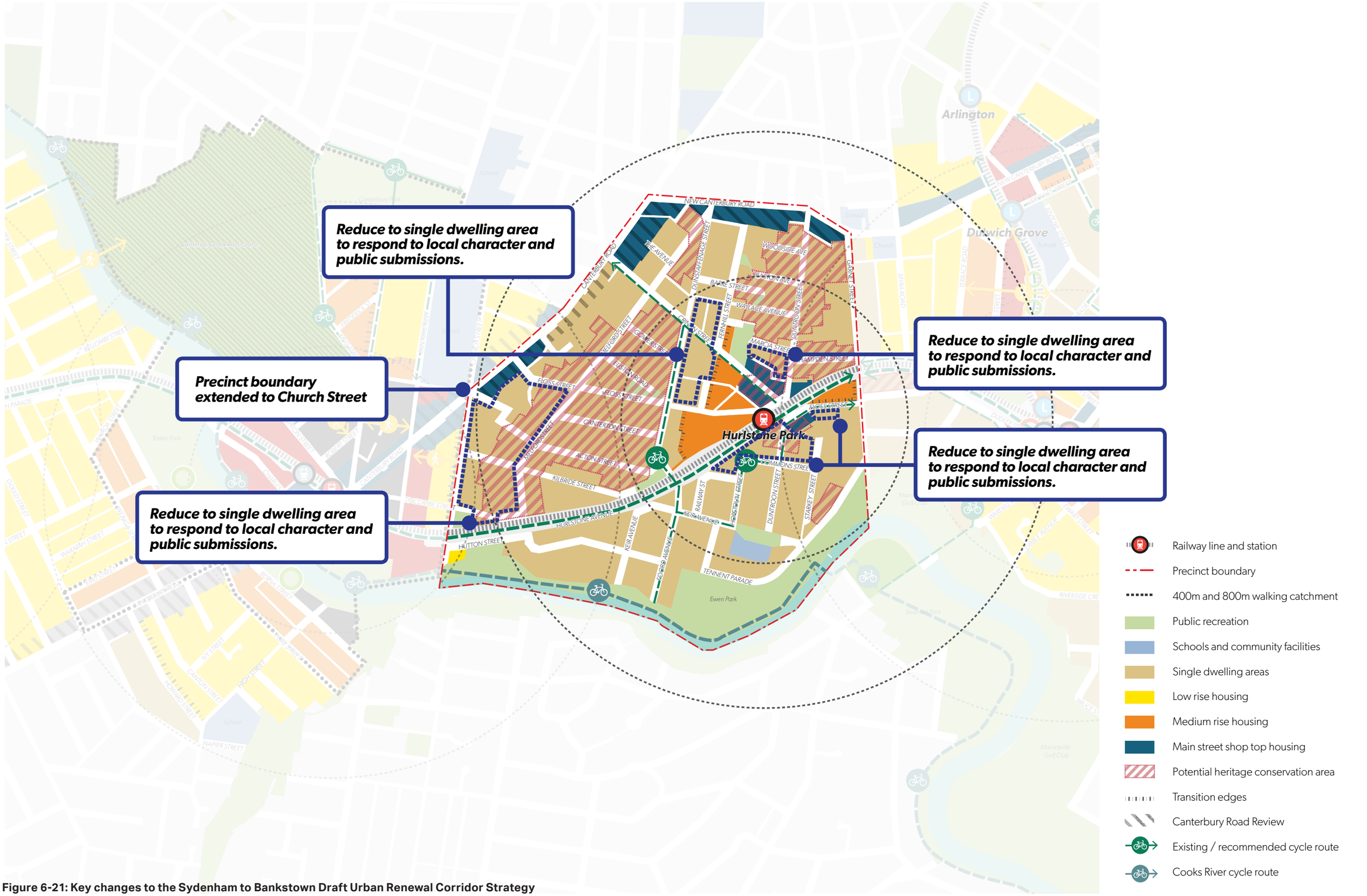


Figure 6-21: Key changes to the Sydenham to Bankstown Draft Urban Renewal Corridor Strategy
Source: Department Planning & Environment

6.3 Accessibility and Connectivity of Communities

6.3.1. Pedestrian Catchment

Hurlstone Park is an origin station. The inner residential area of Hurlstone Park and the Crinan Street shopping strip lies within the 5 minute walking catchment as does the Hurlstone Memorial Reserve.

The 10 minute catchment extends to the Cooks River in the south and to New Canterbury Road to the north and Old Canterbury Road to the west. Eastwards the catchment almost reaches Dulwich Hill station.

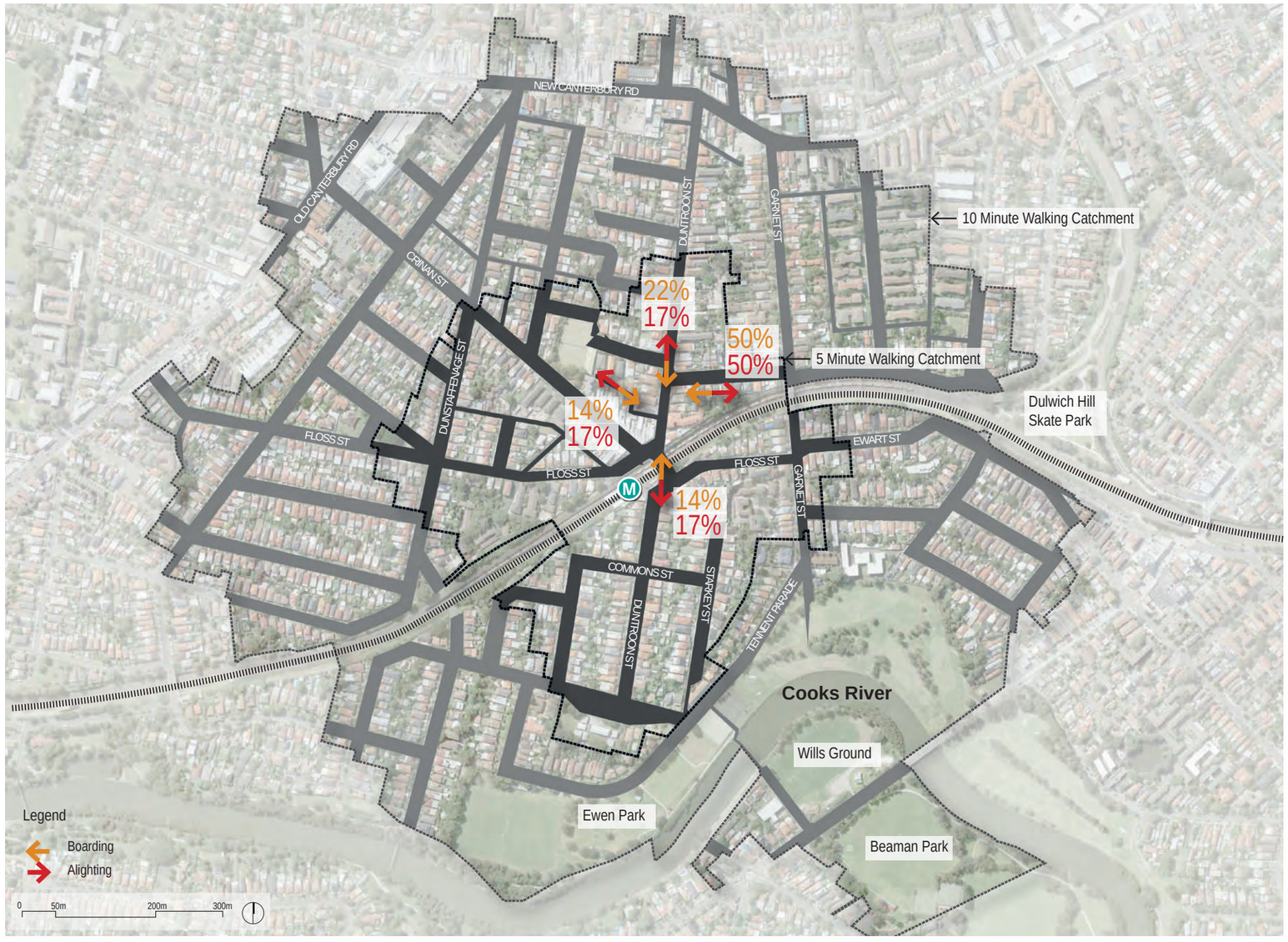


Figure 6-22: 5 & 10 minute isochrones

6.3.2. Access & Interchange Integration

Hurlstone Park Station is on the Crinan Street bridge. Interchange with the two bus routes that serve the area is direct, with the stops being outside the entry where there is also a pedestrian crossing. Approaches to the station from the north are relatively steep, though flatter from the south. There is no taxi and kiss and ride provision. There are some bicycle racks on the station concourse.

Urban design and access changes proposed as part of Metro include:

- Station concourse slightly to the west of its current location, a station plaza on Duntroon Street and taxi, kiss and ride and accessible parking bays
- New pedestrian crossing facilities provided at the southern intersection of Floss Street and Duntroon Street and on Crinan Street just north of Floss Street. This will improve pedestrian connectivity between the station and the retail strip
- Modification of the existing pedestrian crossing on the rail bridge
- Access from south (stairs), North (stairs) and east (at grade). Two lifts to each platform. Accessible path to the Crinan Street bus stops
- New kerbside facilities would be located near the southern station entrance on Floss Street on the eastern side of the overbridge adjacent to the station
- New bicycle parking area in the Floss Street car park on the northern side of the rail corridor
- Connection to an active transport corridor along the western side of Duntroon St (south of the rail corridor).

Interchange	Distance	Total Travel (min:sec)
Bus Northbound	33m from Southern entry	00m:25s
Bus Southbound	80m from Southern entry	01m:02s
Taxi	32m from Southern entry	00m:25s
Kiss & Ride	38m from Southern entry	00m:29s

Note: Calculations are taken from the cadastral boundary line closest to the Sydney Metro entry points. All travel distances from the base of the direct line of travel for pedestrians and do not take into account light signals and crossing points.

Figure 6-23: Access & interchange diagram

6.4 Station Area Place Making and Community Enhancement

6.4.1. Constraints

Hurlstone Park village near the station is a small commercial area with a restricted retail offering. The suburb, though quiet, in other ways offers a good level of amenity. Crinan Street is not a busy thoroughfare and consequently provides a pleasant urban domain. The street is steep immediately north of the station while Duntroon and Floss Street to the south are reasonably flat. Beyond the station precinct in the south, the terrain runs downhill to the Cooks River valley.

There is currently a proposal before the Inner West Council to declare a Heritage Conservation Area that would include properties north and south of the station. This may restrict redevelopment of sites in and around the town centre.

6.4.2. Opportunities

Urban renewal is likely to be stimulated by the new station, at least on those sites outside the proposed Heritage Conservation Area. More intense development around the station would in turn revitalise what is currently a struggling retail strip. The pedestrian crossing on Crinan Street would directly connect proposed future medium rise housing between the rail corridor and Crinan Street (DP&E, 2017) with the station. The new pedestrian crossing of Duntroon Street to the south east would also provide safe crossing for existing residents and proposed future medium rise development areas to the south of the station along Floss Street and areas alongside the rail corridor up to Commons and Railway Streets within easy walking distance.

The area has access to high quality open space and recreation areas, particularly to the south along the Cooks River, although there is little in the way of schools or other community facilities.

The bus services running through the centre provide connections to Five Dock, Burwood, Mascot and Bondi Junction. The centre is also within walking distance of the Dulwich Hill Light Rail service.

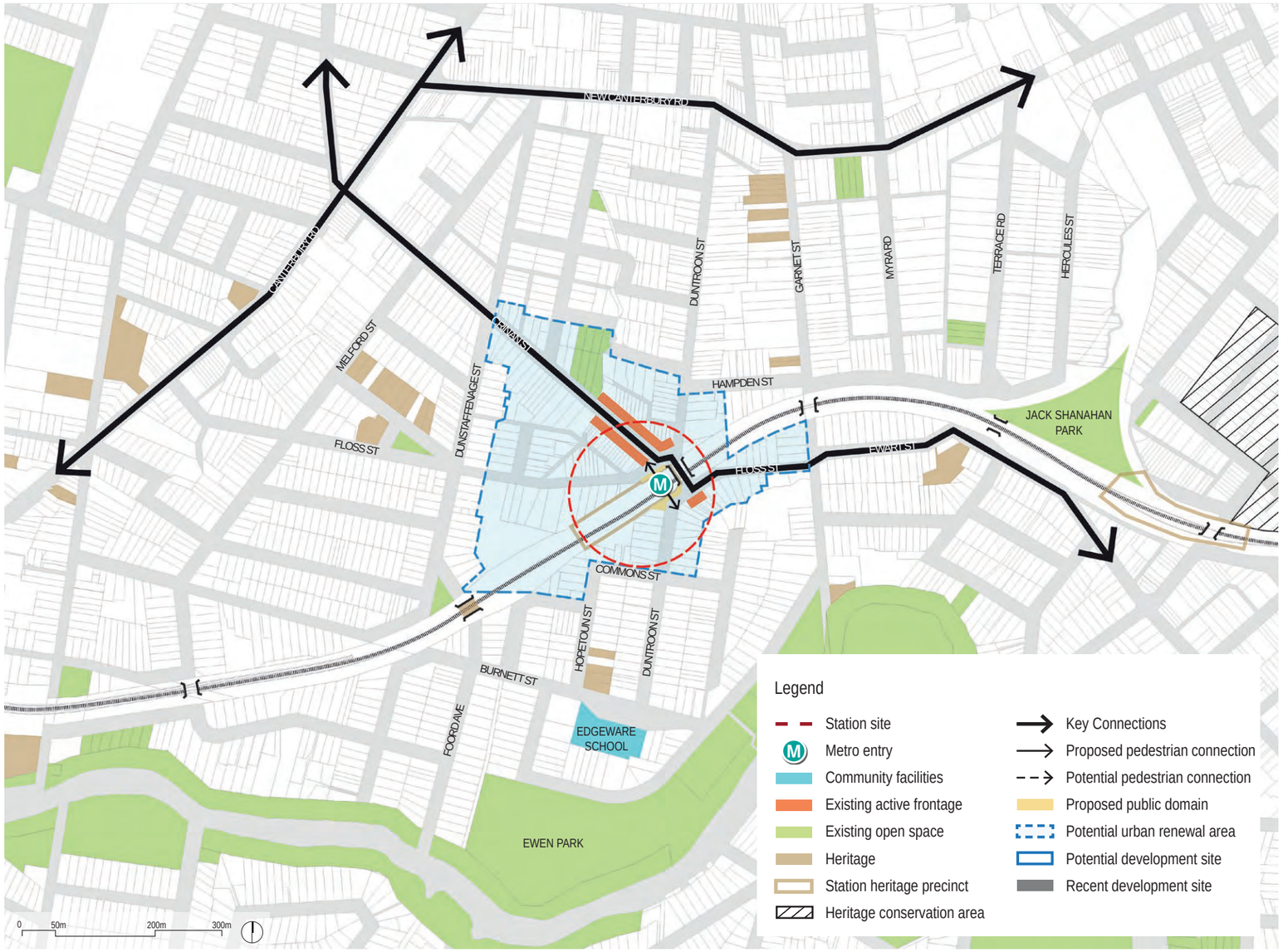
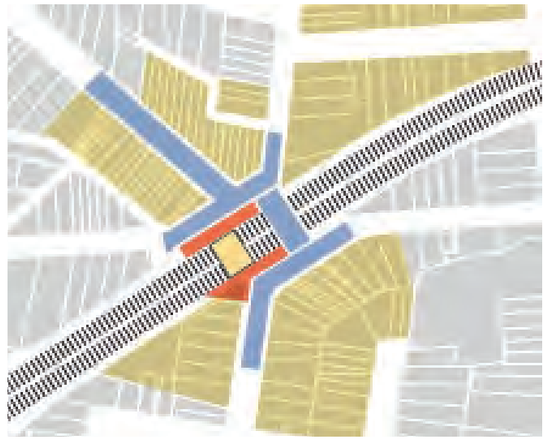


Figure 6-24: Station and precinct opportunities

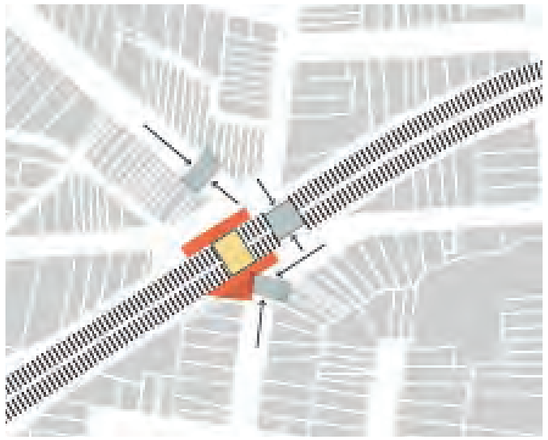
6.4.3. Place Making Opportunities

Local Public Domain



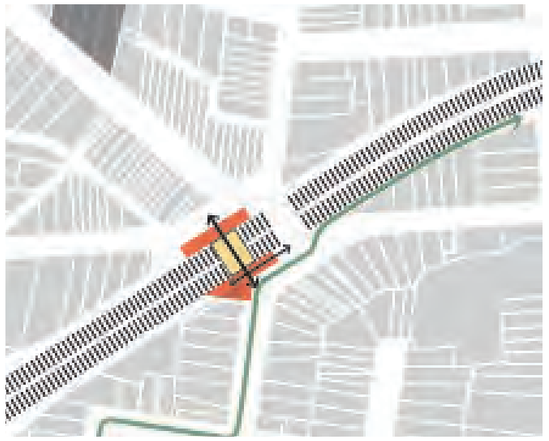
- Widened approaches to new concourse
- Kerb extension at overbridge crossing to improve sightlines
- New crossings on Duntroon Street (south) and Crinan Street (north).

Connectivity and Access



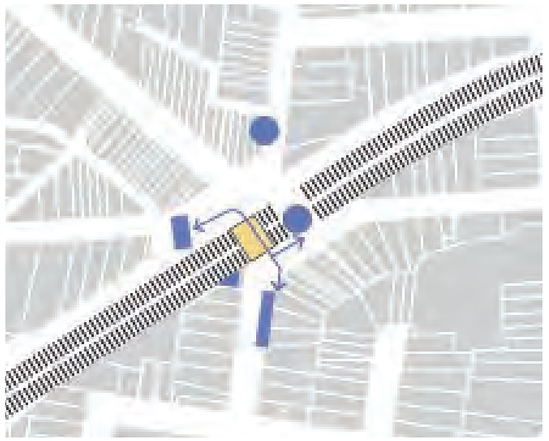
- New unpaid cross-corridor connection
- Accessible approach on southern side of station
- Potential active transport connection in corridor east of the station and on-road south and west of the station.

Catalyst



- Broad public connections to new station entries
- Improved public domain has the potential to generate wider streetscape improvements in the retail village and future potential Heritage Conservation Areas.

Interchange/Accessibility



- At-grade accessible connection between Duntroon Street interchange zone and station concourse
- Accessible path to bus stops from southern entry
- The existing accessible parking spaces on Floss Street retained and a new accessible space provided on Duntroon Street
- New bike parking area provided in Floss Street on the northern side of the rail corridor.

Figure 6-25: Crinan Street village

Figure 6-26: Existing conditions on Floss Street north side of station

Figure 6-27: Duntrooon Street - southern side of station

Figure 6-28: Bus stop on Crinan Street overbridge

6.4.4. Entry Plaza Accessibility & Design Principles

Duntroon Street Entry

- The existing station entrance on the overbridge upgraded
- Entry stair and DDA ramp to access unpaid concourse link
- Weather protection is achieved by providing station canopy to extend beyond gatelines, ticketing and customer facilities and cover unpaid concourse.

Floss Street Entry (Northern Entry)

- Northern Sydney Metro station entry at corner of Floss Street and Crinan Street opposite existing station parking zone
- New entry stair and lift to provide access to unpaid concourse link from lower street footpath level
- The concourse bridges across the ARTC goods line, providing an unpaid corridor link and access to the station via a centrally located gateline.
- Weather protection to entry is achieved by providing canopy and balustrade to stair and lift lobby area.

6.4.5. Station, Platform and Concourse Elements

Station, platform and concourse elements incorporated in to the design include the following:

- Main concourse entry from Duntroon Street
- Access from platform to aerial concourse via a single stair and two lifts per platform.
- Aerial concourse with full weather protection, including full weather protection for station gateline and customer facilities.
- Platform 170m x 4.5m (min) wide (allows 400mm Platform Screen Door zone along each platform edge). Design to accommodate 6 x cars on Day 1 operation (2 x additional cars for future demand).
- Existing overhead booking office and heritage listed buildings platform 1 to be removed. The heritage building on platform 2 to remain and be reused
- Emergency egress via DDA accessible 1:14 ramp from western end of Platform 1 and 2 to track level. The alternate means of egress is via stairs to the concourse at the eastern side of platform.
- Concourse and platform canopies to provide all weather coverage (where provided)
- Secure and sheltered bicycle
- Wayfinding and signage elements located on concourse level to minimize obstruction and maximise customer flow
- Station services building
- Ancillary station facilities including communication cupboards, fire hydrants, station control room, facilities for services and staff
- Facilities to meet fire safety including a fire booster, services buildings and fire evacuation ramp

6.4.6. Heritage Elements

Hurlstone Park Station Group is listed on the following heritage registers:

- RailCorp Section 170 Register (SHI No.4802051)
- Canterbury LEP 2012 (Item No. I124).

The existing overhead booking office building located along Duntroon Street overbridge will be removed, along with the existing footbridge. The new Metro platform alignment means the highly significant platform 1 brick building will be removed. The highly significant platform 2 brick building is to remain and be reused for station staff facilities.

Element		Significance Grading	Tolerance for Change	Outcome
Symbol	Type			
A	Platform 1/2 Building (1915)	High	Low	Remove
A	Platform 1/2 Building (1915)	High	Low	Retain/Reuse
B	Overhead Booking Office (1980)	Little	Some	Remove
	Platform 1 – brick (1894)	High	Some	Platform Removed
	Platform 2 – brick(1894)	High	Some	Platform Removed
D	Overbridge (heavily modified 1961)	Little	High	Remove

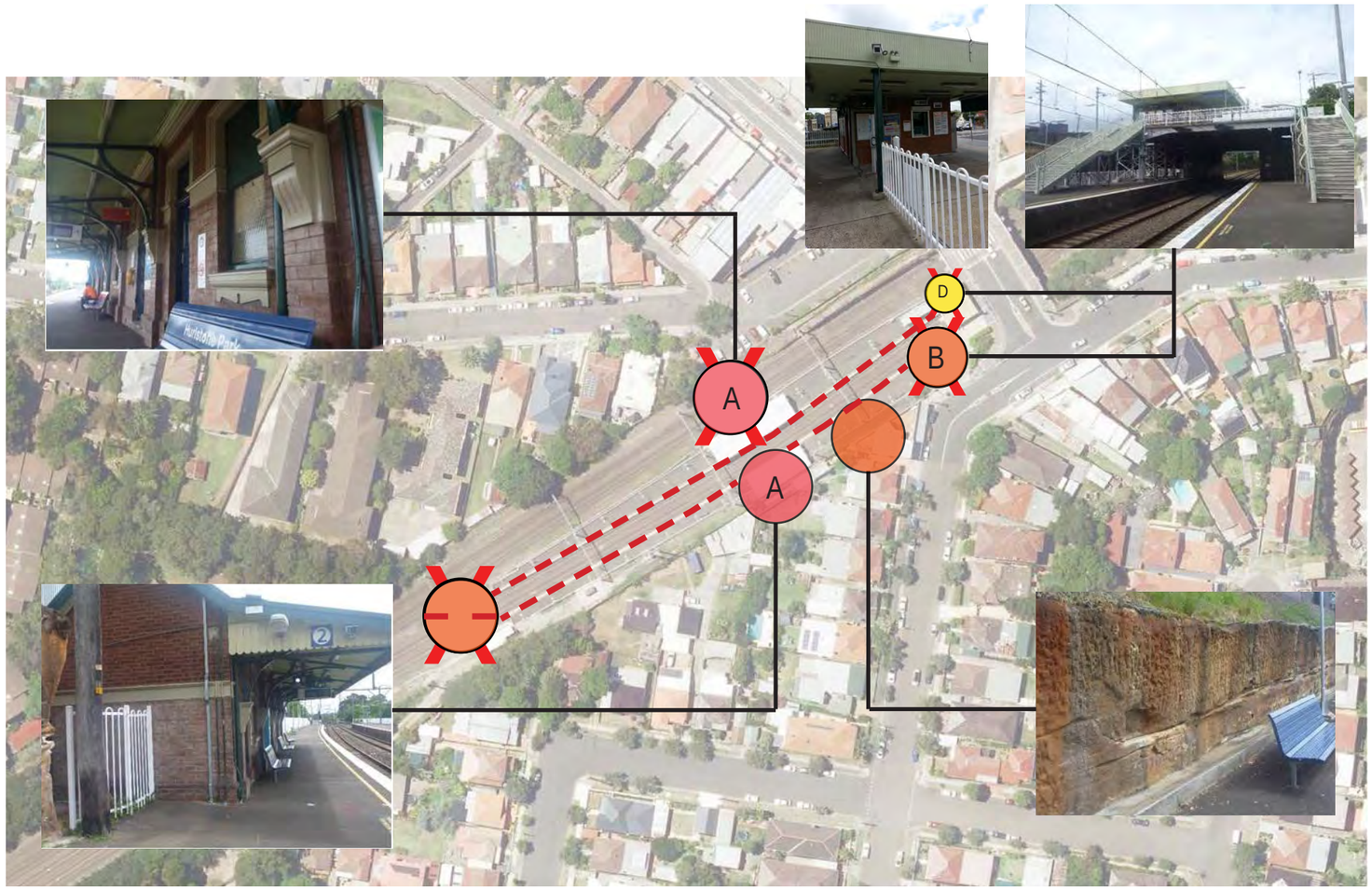


Figure 6-29: Summary of heritage elements

6.4.7. Key Design Elements

The key design elements of the Hurlstone Park Station and its surrounding area are summarised in the table below.

Feature	Description
Station works	
Station entry/exit	• The existing station entrance on the overbridge would be upgraded. • A new enlarged, elevated station concourse would be provided in the same location to provide an enlarged station forecourt area and entry set back from the road.
Platform details	• Heritage listed platforms would be rebuilt, straightened, and extended to the southwest along the rail corridor, generally in their existing locations.
Station buildings	• New station buildings would be located within the concourse and on platforms. • The existing heritage listed overhead booking office and heritage building on platform 1 would be removed. • The existing heritage station building on platform 2 would be retained. • New retail space would be provided as part of the new concourse (the use of the retail space would be subject to a separate approval process).
Station area	
Public transport integration	• The existing bus stops on the overbridge would be retained.
Access	• New pedestrian crossing facilities would be provided adjacent to the new southern station entrance and on Crinan Street just north of Floss Street. • The existing pedestrian crossing on the overbridge would be modified to improve pedestrian flow by including more space on the southwestern side. • Connection to an active transport corridor along the western side of Duntroon Street (south of rail corridor).
Kerbside uses, bike parking	• New kerbside facilities would be located near the southern station entrance on Floss Street on the eastern side of the overbridge adjacent to the station. • New bike parking areas would be provided in Floss Street on the northern side of the rail corridor. • The existing accessible parking spaces on Floss Street would be retained, and a new accessible space would be provided on Duntroon Street.

07

Canterbury Station

Improved interchange and new connections to the river

7. Canterbury Station

7.1 Context

7.1.1. Location

Canterbury is 10.5km southwest of Sydney CBD and is in the City of Canterbury-Bankstown. The suburb closely borders the Cooks River to the south and is bisected by Canterbury Road. Earlwood lies south of the river, Hurlstone Park to the east, Campsie to the west and Ashbury to the north. The rail corridor and Canterbury Road limit pedestrian and cycle connectivity in the Canterbury Town Centre and the station precinct, in particular restricting connections to the Cooks River from the north.

The station precinct, particularly to its north, comprises largely detached housing of the federation and Inter-war periods. South of the station a former industrial area has become a multi-storey residential zone with some ground floor retail. Further development of this type is anticipated east and north of the station and along Canterbury Road itself. Canterbury-Bankstown Council and the Department of Planning and Environment are promoting the development of a new town centre to the west of Canterbury Road.

The station entry is currently on Canterbury Road where heavy vehicle traffic and extended clearways create an unpleasant pedestrian environment.

Figure 7-1: Existing Canterbury Station - Axonometric

Figure 7-2: Location Plan

7.1.2. Functional Requirements

Aspect	Comment
Station Function	Origin
Corridor	Metro and ARTC corridor
Station Type	Surface in cutting
Platform Type	Side Platform
Station	Entrance: – existing entrance on Canterbury Road relocated to the western side of the rail corridor New station entrance on Broughton Street
Access & Interchange Requirements	Bus Cycling Taxi Kiss + Ride Accessible Parking

7.1.3. Station Strategy

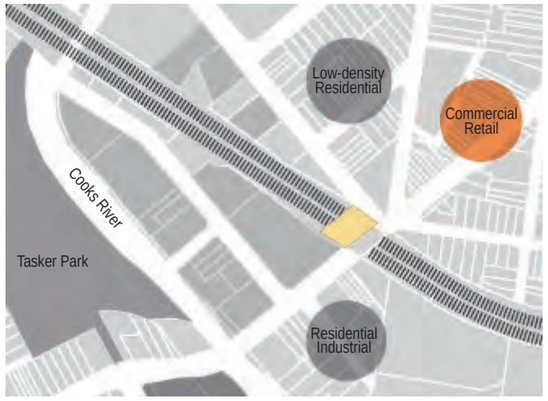
The Metro station proposed at Canterbury moves the station entry to a position approximately 150 metres west, aligned with the potential future town centre and connected to the urban renewal area north of the alignment. A northern entry and interchange/entry plaza is proposed on Broughton Street with bus shelters, kiss and ride, taxi stand, accessible parking and service building.

Station entry from the north is via lift and stairs to an aerial concourse gateline leading to dual lifts and a stair to platforms.

The existing station entrance on Canterbury Road will be relocated to the western side of the rail corridor and provide access to platform 2. A new bicycle parking area will be provided within the plaza on the western side of the station.

7.1.4. Urban Context

Land use and urban character

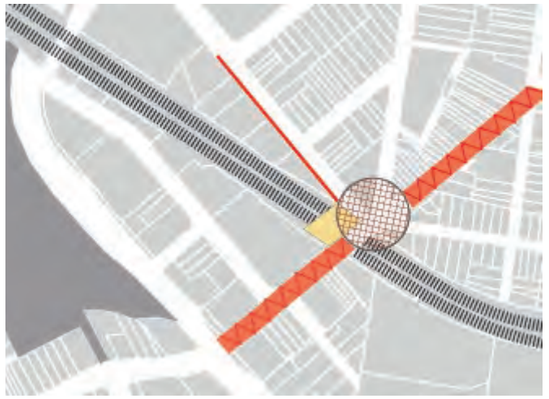


- Canterbury Town Centre Master Plan has facilitated high density development between the station and the Cooks River
- Canterbury Road mixed-use zone has promoted higher density residential development south of the river
- Sites southeast of the station likely to see a change in land use to residential development
- Low-density area north of the station likely to be rezoned for mixed-use and higher density residential.

Transport corridors divide the precinct

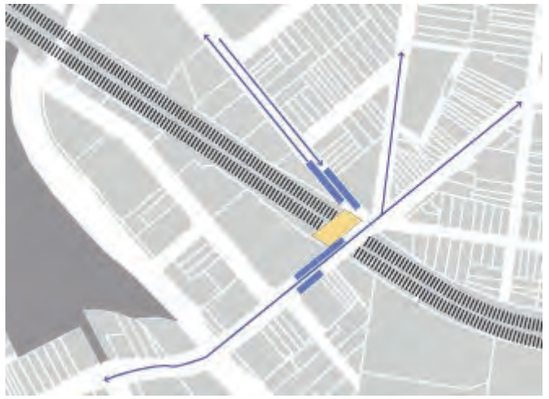
- Transport corridors obstruct movement in the precinct
- Wide rail corridor (passenger and freight) divides the town centre
- Poor connectivity to developing Charles Street precinct
- Five way intersection adjacent to station is difficult to cross

Public Domain/pedestrian environment



- Bus stops on Broughton Street and Canterbury Road immediately adjacent to station entry
- Canterbury Road stops do not have an accessible path of travel from the station entries
- Broughton Street stops suffer from narrow footpaths and poor infrastructure
- No dedicated taxi or kiss and ride interchange bays
- No bicycle parking.

Circulation and interchange environment



- Low level of pedestrian amenity and steep gradients on Canterbury Road
- Heavy traffic and extended clearways
- Multiple crossings at five way intersection
- Narrow, uneven footpath on Broughton Street adjacent to station.

Figure 7-3: Canterbury Road station entrance

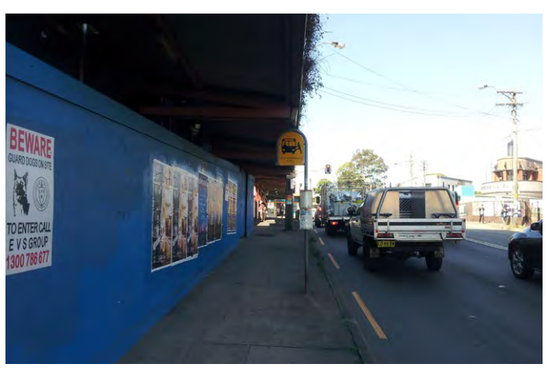


Figure 7-4: Canterbury Road bus stops

Figure 7-5: Canterbury Signal Box

Figure 7-6: Canterbury Road

7.1.5. Heritage & Place

Pre-European landscape – The original inhabitants of the area were the Bediagal clan of the Eora nation. Early exploration of the Cooks River valley in 1770 preceded the colonisation of Sydney although it was not until 1789 that officers of the First Fleet negotiated the river as far as present-day Canterbury. The officers noted the low and marshy aspect of the countryside and observed Aborigines fishing on the river.

European settlement and land use – The first grantee of land in Canterbury was the Reverend Richard Johnson. He was granted one hundred acres of land on May 28, 1793 although there is evidence he was occupying the property before this time. This property was about one mile from the Cooks River but critically it enjoyed a fresh water supply with a number of ponds on the land. The river became known as Cooks River as early as 1798. By 1800 orchards, vineyards and various crops were beginning to be grown in the district although it was 1840 before the first bridges were built across the river.

The Australian Sugar Company established its sugar mill adjacent to the river in 1841 and other industries followed suit. Horse racing began in the area in 1871 and the Canterbury Racecourse, just west of the station remains in use today. The Municipality of Canterbury was proclaimed in 1879.

By the turn of the twenieth century the population was a little over 4,000 but following the opening of the Belmore Branch Line in 1895, and especially after WWI, suburban development flourished. By 1933 the population had grown to 79,000. Following the Second World War, immigration from southern Europe changed the ethnic composition of the area and those settlers, typically Greek, Italian and Portuguese, were later followed by significant numbers of Lebanese, Chinese and Vietnamese people in making Canterbury their home.

Heritage – Canterbury Station is considered a significant heritage item in the area.

The Canterbury Railway Station Group (buildings, structures, context, platform building, overhead booking office, signal box, platform, footbridge, overbridge, canopies) is listed on the SHR as well as the Railcorp Section 170 register and the Canterbury LEP 2012 heritage register. The heritage significance of Canterbury Railway Station lies in it being one of the stations on the first section of what was to become the Bankstown Line, and in the quality of its structures. The Bankstown Line was built in the 1890s to relieve congestion on the Main South Line and to encourage both suburban development and agricultural production.

The platform 1 building at Canterbury is a pre-1900 railway building that features polychromatic brickwork, decorative dentil coursing, ornate awning brackets and carved bargeboards. The building is relatively intact and is representative of a small group of such ornate platform buildings including examples at Marrickville and Belmore on the Bankstown Line.

The Canterbury signal box is also of historical significance as it is representative of the development of railway signalling technology in the first decades of the 20th century. The building is intact internally and is available as a potential resource about the workings of signalling systems of this era.

Immediately opposite the station are two important locally listed buildings: the former Canterbury Post Office, a Federation era building on the corner of Broughton Street and Canterbury Road, and the Canterbury Club Hotel, a signature, interwar building of the streamlined modern style, on the corner of Tincombe Street and Canterbury Road.

Figure 7-7: Canterbury Station 1916-1926
Source: NSW Government

Figure 7-8: Canterbury & Prout's Bridge on Cooks River
Source: Unknown

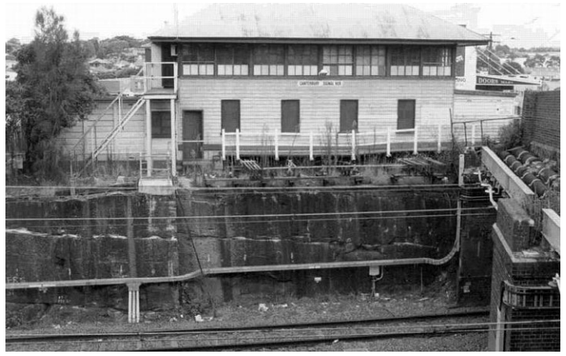


Figure 7-9: Canterbury Station Signal Box
Source: NSW Government

Figure 7-10: Canterbury Postcard
Source: Unknown

Figure 7-11: Canterbury Racecourse
Source: Unknown

Figure 7-12: Canterbury Sugarworks
Source: Dictionary of Sydney

7.1.6. Landscape & Urban Fabric

The key features of the Canterbury precinct are the Cooks River which runs through the middle of the precinct and the 35ha Canterbury Park Racecourse on the northern banks of the river.

Canterbury has a linear retail and business area centred on Canterbury Road and Broughton/Jeffrey Street. The Cooks River and rail corridor divide the centre from areas to the south.

The centre is still largely composed of fine grained built form, with 1–2 storey high buildings along Canterbury Road and detached suburban houses and smaller apartment blocks in the streets radiating from Canterbury Road. Building stock is generally in average to good condition, however a number of shop fronts along Canterbury Road are vacant and in poor condition awaiting redevelopment.

Former industrial land immediately south and west of the station has been developed in recent years for mixed use and higher density residential uses. These precincts feature larger, perimeter block buildings of up to 12 storeys in height.

Heavy traffic volumes and car parking restrictions have compromised Canterbury Road as a retail street. Significant retail premises such as a large supermarket complex has been developed on Jeffrey Street, behind the commercial strip where the pedestrian and traffic environment is less hostile. The City of Canterbury-Bankstown and the Department of Planning and Environment both foresee a new town centre, serving an increased local population, developing away from Canterbury Road.

Figure 7-13: Canterbury Racecourse
Source: Australian Turf Club

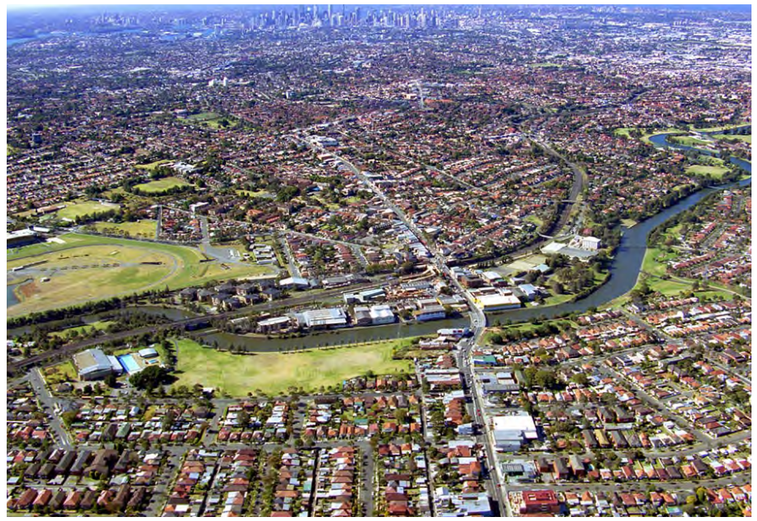


Figure 7-14: Canterbury Cooks River
Source: Dictionary of Sydney

Figure 7-15: Canterbury Club Hotel
Source: Dunedoo via Flickr

Figure 7-16: Cooks River
Source: Canterbury Council

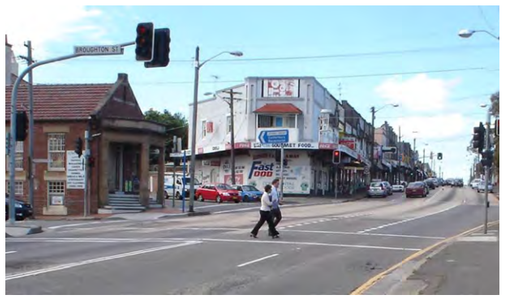


Figure 7-17: Canterbury Road
Source: Canterbury Council

Figure 7-18: Tasker Park, Canterbury
Source: Postcard Sydney

7.1.7. Culture & Demographics

The key demographic attributes of the suburb of Canterbury (based on 2011 ABS data) are:

- A median age of 35, which is comparable to that of Greater Sydney.
- 47.9% of the population was born overseas (China and Greece being the highest proportions), and 43.5% were from a non-English speaking background.
- The predominant and fastest growing household type is couples with children (37%) which is slightly higher than Greater Sydney.
- Slightly lower income when compared to Greater Sydney with a median weekly household income of $1,229.
- The majority of residents (59%) owned or were in the processes of owning the dwelling they reside in.
- A slighter higher proportion (34%) of persons renting within the suburb compared to 32% across Greater Sydney.
- The average weekly rent within the suburb was $330. This was 6% less than that recorded for Greater Sydney ($351).
- Detached dwellings comprises the bulk of dwelling stock (49%). This was lower than that recorded for Greater Sydney as of 2011, where medium and high density dwellings comprise half of the dwellings stock, with high density housing the fastest growing dwelling type.

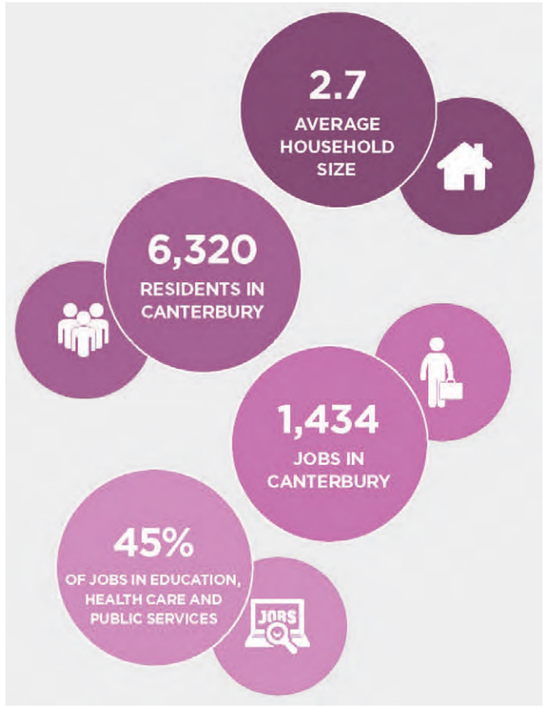


Figure 7-19: Key demographic facts for Canterbury Precinct
Source: Department Planning & Environment

Figure 7-20: Australia Day Celebrations, Tasker Park Canterbury
Source: City of Canterbury Bankstown

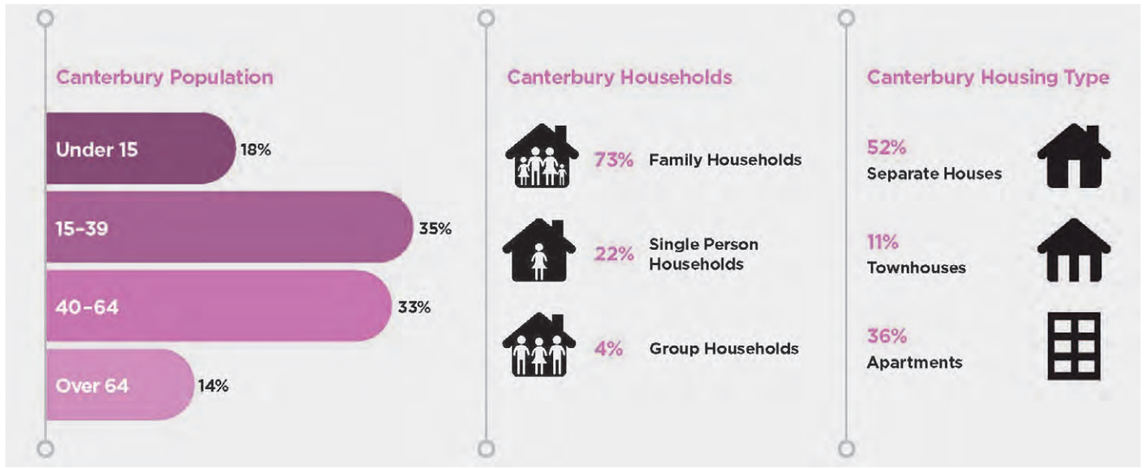


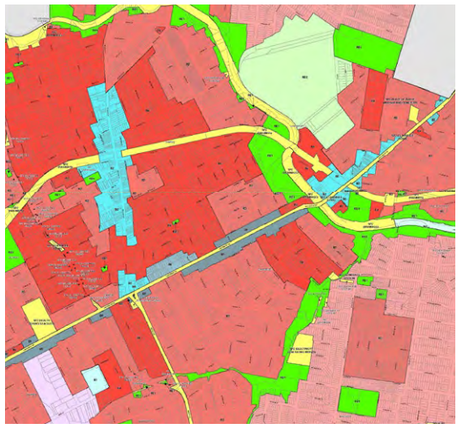
Figure 7-21: Key demographic characteristics for Canterbury Precinct
Source: Department Planning & Environment

7.2 Land Use Integration

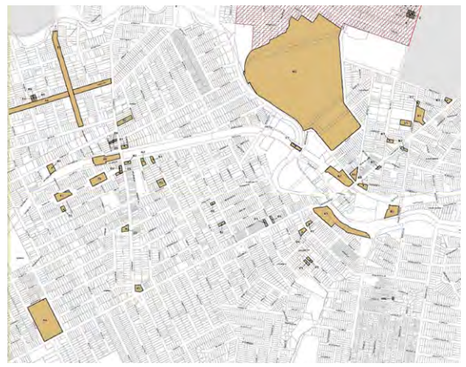
7.2.1. Planning Controls

Under the provisions of Canterbury Local Environmental Plan 2012, the land surrounding the station is zoned (B2) Local Centre, (R4) High Density Residential in the residential area to the north, (R3) Medium Density Residential in the residential area to the south, (RE1) Public Recreation to the west, and SP2 Drainage (Cooks River) to the west (refer to Figure 7-22).

In addition to the LEP, Canterbury Development Control Plan 2012 also applies. This DCP provides guidance for the desired future character for the Canterbury local centre. It provides for retail/commercial street activation along the station frontage on Canterbury Road, the precinct south of the station to the Cooks River (refer to Figure 7-23). This future development will further increase the activation and density around the Metro station.



Land Zoning Map
Source: Canterbury Local Environmental Plan 2012



Heritage Map
Source: Canterbury Local Environmental Plan 2012

Flooding Map
Source: Canterbury Local Environmental Plan 2012

Figure 7-22: Land use zones, heritage curtilage and flood mapping for areas surrounding Canterbury Station

Canterbury Town Centre Urban Design Plan
Source: Canterbury Development Control Plan 2012

Canterbury Town Centre Structure Plan
Source: Canterbury Development Control Plan 2012

Figure 7-23: Canterbury Town Centre Plan

7.2.2. Urban Renewal

The NSW Department of Planning and Environment, in partnership with the Inner West Council (formerly Marrickville Council) and the City of Canterbury Bankstown (formerly the City of Canterbury and Bankstown City Council), has developed an Urban Renewal Corridor Strategy for the Sydenham to Bankstown corridor to guide future development and infrastructure delivery over the next 20 years. The Canterbury Precinct is one of eleven areas studied for which a draft strategy was published in October 2015 for the purpose of public consultation.

Constraints and opportunities mapping of the Canterbury Precinct undertaken for the draft strategy revealed a series of constraints to development in large parts of the precinct, including:

- Limited redevelopment opportunities due to smaller building allotments.
- Localised flooding on land adjacent to the Cooks River.
- Pedestrian and traffic connectivity impacted by the rail corridor, Canterbury Road and the Cooks River.

The revised strategy (2017) addressed feedback from public submissions, community workshops, meetings and technical studies. The following key issues were raised:

- Areas with heritage character should not be redeveloped including:
  - Blocks bounded by Church Street, Canterbury Road, Floss Street, Melford Street and Canberra Street.
  - Redman Street, Waratah Street and Emu Street.
- Preference for density to be focused along Canterbury Road and on industrial and underutilised land.
- Canterbury Racecourse should be considered for residential development and/or public open space.
- Concerns over negative impacts of high density development such as overshadowing and privacy issues.
- Poor design quality of some recent developments.
- Priority bus corridors and other measures to improve public transports should be planned for along Canterbury Road.
- Traffic impacts and existing congestion should be addressed in a traffic management plan, particularly on Canterbury Road.
- Canterbury town centre should be revitalized with improvements to streetscape and public open space.
- Additional community amenities, such as child care, schools and community facilities should be provided to accommodate increased population.
- New development should incorporate sustainability measures to manage potential environmental impacts on the Cooks River.
- Development should include housing diversity, including provisions for affordable housing.

Key changes to the strategy made in response to feedback are shown in Figure 7-24. The final revised Sydenham to Bankstown Urban Renewal Corridor Strategy was placed on exhibition June 2017.

The revised strategy for the Canterbury Precinct has proposed:

- A reinvigorated town centre that supports the role of Canterbury Station Precinct as a local centre.
- Establishment of a new retail strip along Robert and Jeffrey Streets extending from Canterbury station.
- New open space areas and community facilities that will support the growing population, particularly along the Cooks River foreshore.
- Protection and establishment of a built form that respects existing and potential heritage items.
- Enhancement of connections between Canterbury Town Centre and Cooks River.

South of the station

- Highly urbanised centre with high rise apartments up to 25 storeys at the new town centre.
- Potential renewal of the land between Broughton Street and Cooks River for mixed use and higher density residential uses, to be further developed.
- Raised height limits on Close Street to encourage taller slender towers to minimise potential amenity impacts, and improvements to the interface between the Cooks River foreshore and foreshore development via cafes and public art and increased safety through residential interface with the public recreation area.
- Main street shop top housing along Canterbury Road.
- High rise housing and/or mixed use east of Canterbury Road.
- New pedestrian and cycle connections along the Cooks River and new pedestrian and cycle bridge over the Cooks River to connect Tasker Park to the station.

North of the station

- Potential for Robert and Jeffrey Streets to become new main streets with retail, café and restaurant uses with apartments above (up to 25 storeys) with set backs from the street alignment, along with some retail on Broughton Avenue opposite the new station entry.
- Potential for a new urban plaza on Jeffrey Street and pedestrian through-site link to connect to Minter Street and Canterbury Road.
- Medium high rise housing (up to 8 storeys) south of Broughton Street and east of Minter Street.
- A new urban plaza along Broughton Street presenting opportunities for weekend markets and outdoor seating areas.
- Redevelopment of Canterbury Park Racecourse to provide housing and open space outcomes as part of a masterplanned development.
- Potential for a covered two storey colonnade to be provided along Canterbury Road to improve amenity.
- A compact area of apartment residential development immediately surrounding the station with a transition from medium-high rise and single dwelling areas between Minter Street and Church Street, allowing more streets to remain single dwelling areas.

Canterbury has been identified as a Priority Precinct, and future detailed planning will be undertaken by the Department of Planning and Environment

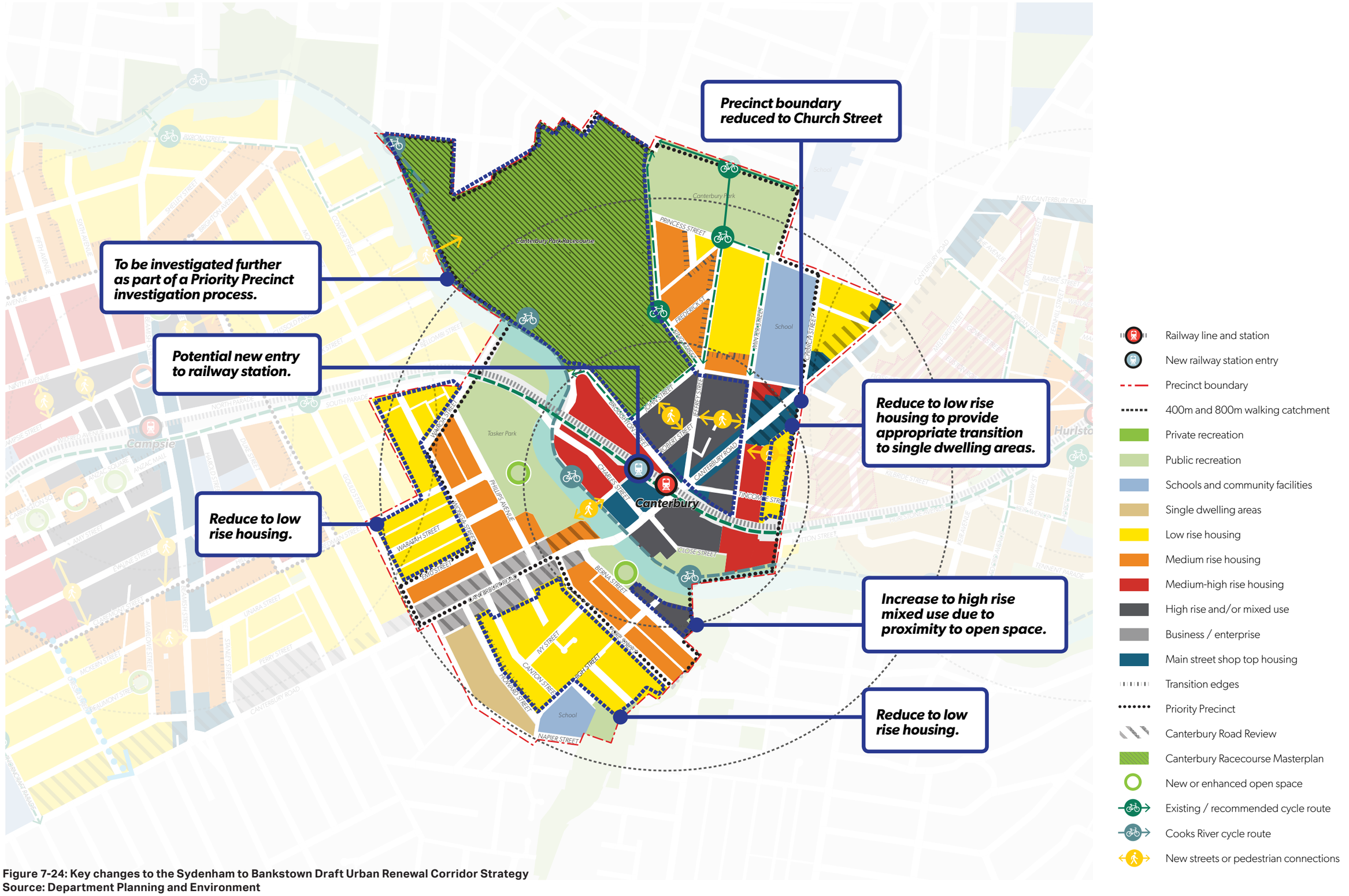


Figure 7-24: Key changes to the Sydenham to Bankstown Draft Urban Renewal Corridor Strategy
Source: Department Planning and Environment

7.3 Accessibility and Connectivity of Communities

7.3.1. Pedestrian Catchment

- Canterbury is largely an origin station. The Broughton Street residential area, the retail zone on Jeffrey Street and the rear of Canterbury Racecourse lies within the 5 minute walking catchment as does the urban renewal area between the station and the Cooks River.
- The 10 minute catchment extends across and along the river, east to Hutton Street and west of Tasker Park. It also captures most of the Canterbury Road commercial strip northeast of the station.

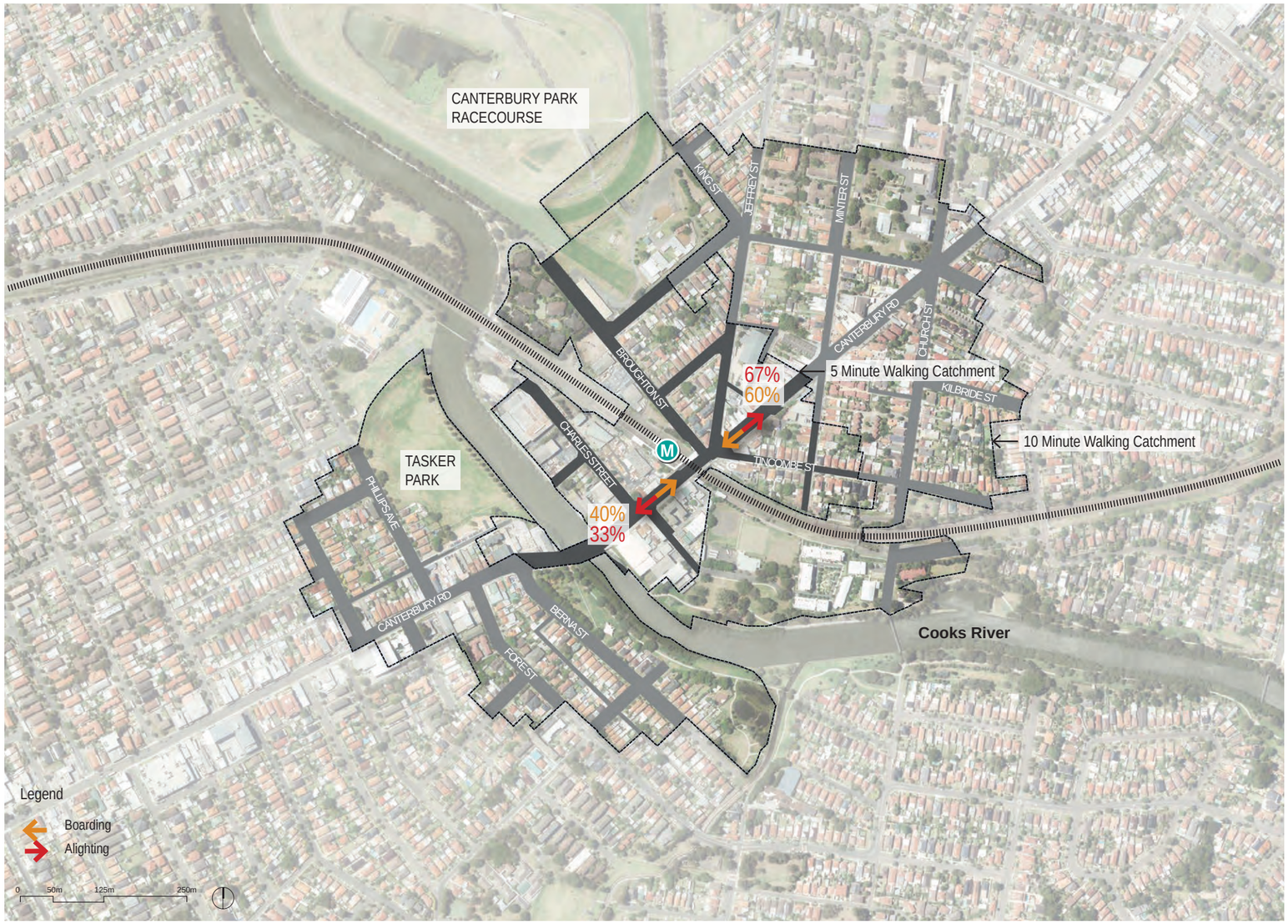


Figure 7-25: 5 & 10 minute isochrones

7.3.2. Access & Interchange Integration

The existing station entry is on Canterbury Road with bus stops on Canterbury Road and Broughton Street. There are no dedicated taxi, kiss and ride bays or bicycle parking. Two accessible parking bays are on Broughton Street. Access from south of the station is indirect and steep.

Urban design and access changes proposed as part of Metro include:

- Station concourse west of its current location, existing station entrance relocated to the western side of the rail corridor, new entry on Broughton Street, creating cross-corridor connection. Safeguarding of an entrance to Charles Street
- Taxi, kiss and ride and accessible parking bays on Broughton Street and bicycle parking in plaza on the western side of the rail corridor.
- New pedestrian crossing on Broughton Street entrance in line with the entrance
- Active transport corridor to the south of the corridor.

Interchange	Distance	Total Travel (min:sec)
Bus Broughton St drop	12m from Northern entry	00m:09s
Bus Broughton St pick up	78m from Northern entry	01m:00s
Bus Canterbury Rd Northbound	155m from Northern entry	01m:59s
Bus Canterbury Rd Southbound	210m from Northern entry	02m:42s
Taxi Broughton St	60m from Northern entry	00m:46s
Taxi Charles St	27m from Southern entry	00m:21s
Kiss & Ride Broughton St	78m from Northern entry	01m:00s
Kiss & Ride Charles St	33m from Southern entry	00m:25s

Note: Calculations are taken from the cadastral boundary line closest to the Sydney Metro entry points. All travel distances from the base of the direct line of travel for pedestrians and do not take into account light signals and crossing points.

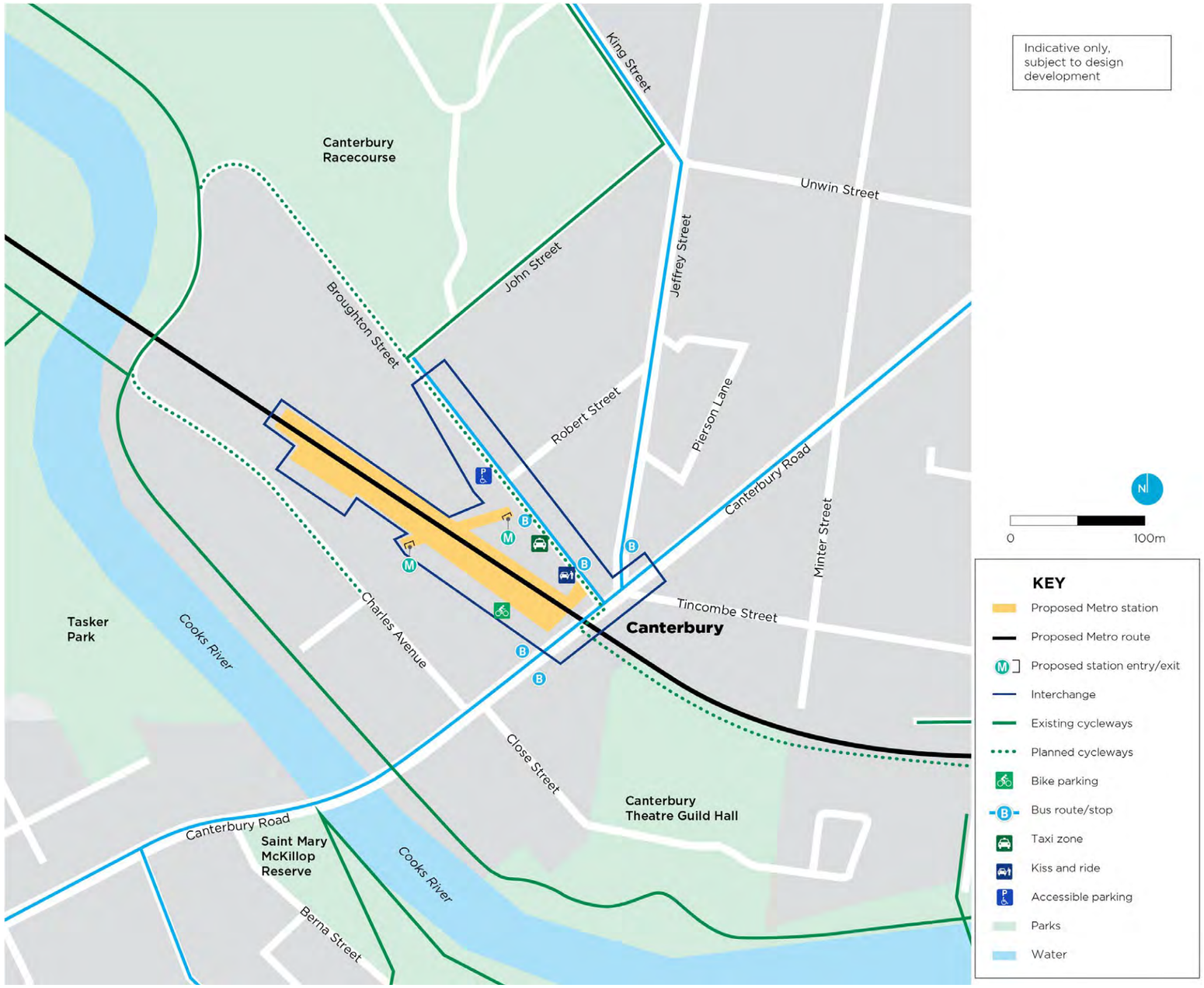


Figure 7-26: Access & interchange diagram

7.4 Station Area Place Making and Community Enhancement

7.4.1. Constraints

Heavy vehicle traffic and extended clearways on Canterbury Road create an unpleasant pedestrian environment on the principal north-south spine of the precinct. These conditions have led to a decline of the town centre on Canterbury Road. The rail corridor and Canterbury Road limit pedestrian and cycle connectivity in the Canterbury town centre and the station precinct, in particular limiting connections to the Cooks River from the north.

7.4.2. Opportunities

The City of Canterbury-Bankstown has foreshadowed the development of a new town centre west of Canterbury Road, centred on Robert Street. The Department of Planning and Environment Sydenham to Bankstown Urban Renewal Corridor Strategy envisages greater housing densities (and mixed-use development) on all sides of the station and the concentration of new retail immediately north of the station on Jeffrey, Broughton and Robert Street. The new station creates cross-corridor connection from Robert Street to Canterbury Road and the southern development zone adjacent to the river. The proposed signalisation of the Canterbury Road/Charles Street/ Close Street intersection by others will greatly improve east-west connectivity between urban renewal areas.

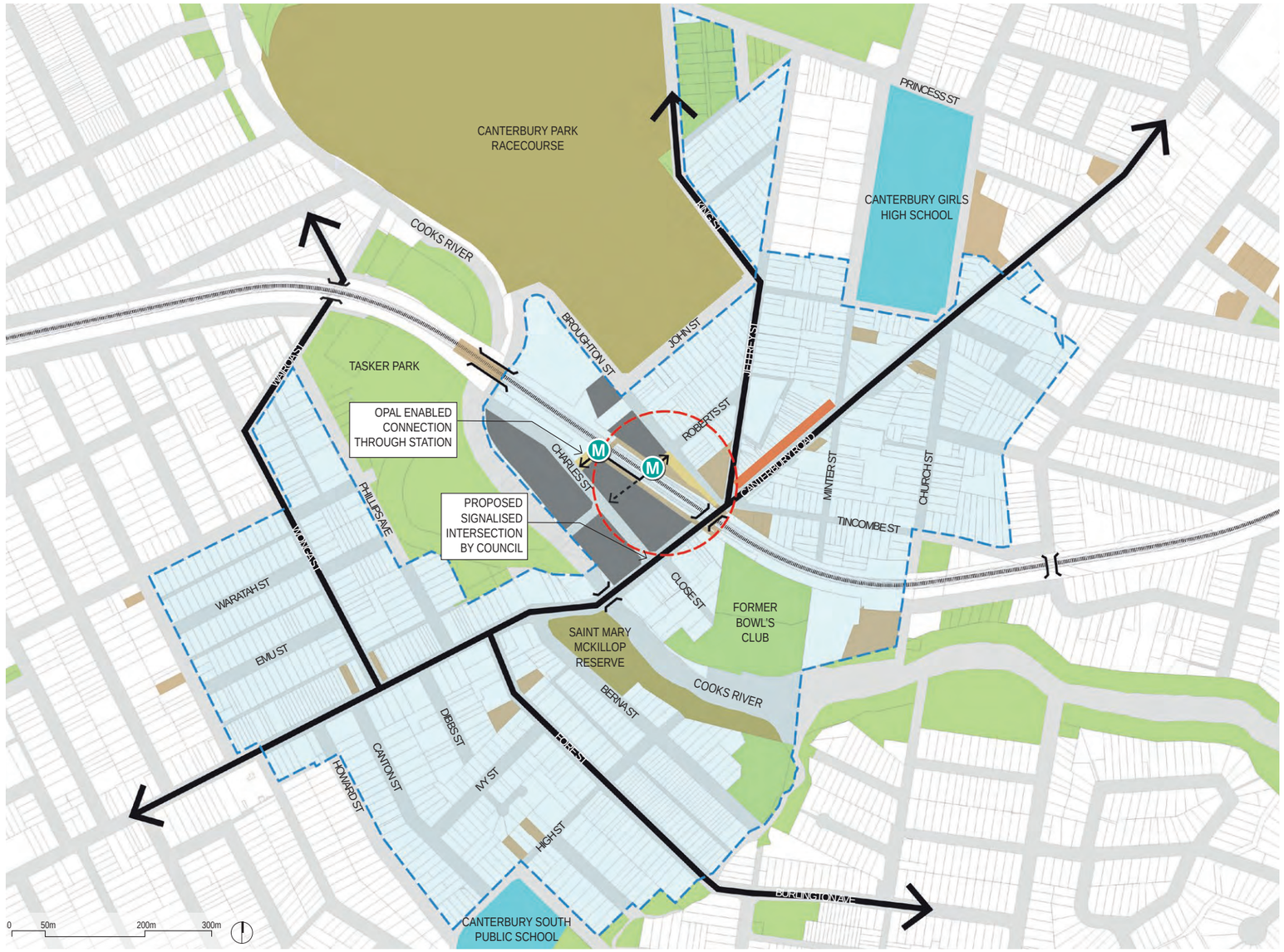
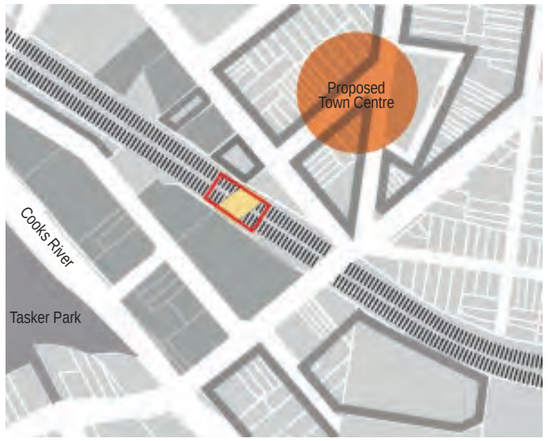


Figure 7-27: Station and precinct opportunities

7.4.3. Place Making Characteristics

Local Public Domain

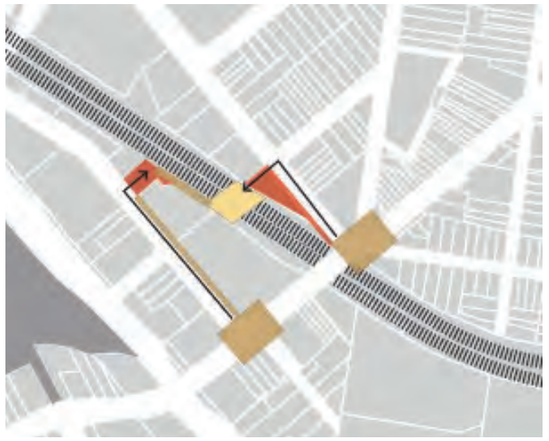


- Canterbury-Bankstown Council and Department of Planning and Environment led promotion of a new town centre to the west of Canterbury Road precinct
- Completion of foreshadowed development south of the rail line
- Maintenance of station address/ legibility from Canterbury Road through architectural expression of station canopy.

Connectivity and Access

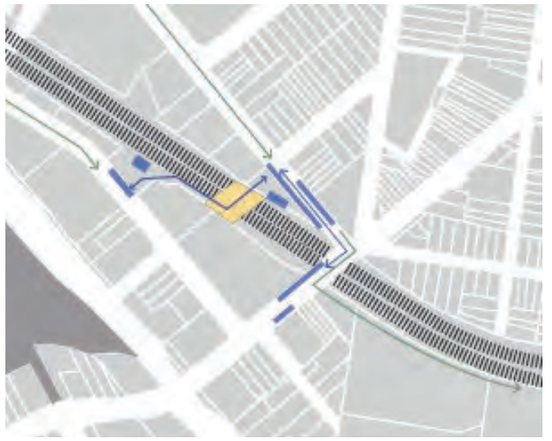
- Station concourse provides a new (Opal enabled) cross-corridor connection between the prospective new town centre, Canterbury Road and the southern renewal area and the Cooks River
- The proposed signalisation of Charles and Close Streets/Canterbury Road intersection will improve east-west connectivity.

Catalyst



- Proposed interchange plaza on Broughton Street will create a comfortable, attractive public forecourt to the station.

Interchange/Accessibility



- Broughton Street interchange plaza will provide comfortable, accessible connections to bus stops, taxi and kiss and ride bays, accessible parking and secure access and sheltered bicycle parking
- Canterbury Road bus stops will not have an accessible path of travel between them and station entries due to the existing fixed, steep gradient.

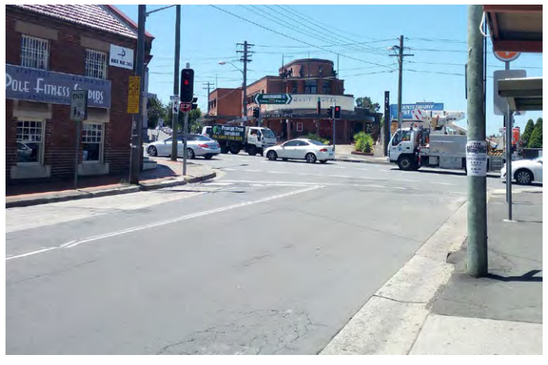


Figure 7-28: View from Broughton Street to Canterbury Road

Figure 7-29: New development on Charles Street, south of the station

Figure 7-30: Pedestrian walkway 2A Charles Street, south of the station

Figure 7-31: Site of proposed Broughton Street plaza

7.4.4. Entry Plaza Accessibility & Design Principles

Broughton Street Entry (Northern Entry)

- Northern Sydney Metro station entry is located at the junction between Broughton Street and Robert Street
- New public plaza to entry
- At-grade entry levelled with footpath
- New northern plaza building includes retail and other facilities.
- Weather protection is achieved by providing an entry canopy to the unpaid bridge connection over the ARTC tracks.

Canterbury Road Entry

- Customers access the station from Canterbury Road via an area activated by retail with bicycle parking. The entry is located on the western side of the corridor. A stair and lift provide access to the station to bridge the level difference between the entrance and platform level.
- Views to platform heritage buildings opened up for community appreciation.

7.4.5. Station, Platform and Concourse Elements

Station, platform and concourse elements incorporated into the design include the following:

- Concourse entries from Broughton Street and Canterbury Road via retail plaza. Futureproofing a third future station entrance from Charles Street.
- Access from platform to aerial concourse via a single stair and two lifts.
- Aerial concourse with full weather protection, including full weather protection for station gateline and customer facilities.
- Platform 170m x 4.5m (min) wide (allows 400mm Platform Screen Door zone along each platform edge). Design to accommodate 6 x cars on Day 1 operation (2 x additional cars for future demand).
- Existing heritage overhead booking office and footbridge to be removed. The heritage buildings on platforms 1 and 2 to remain and be reused
- Emergency egress via DDA accessible 1:14 ramp from western end of platform 1 and 2 to track level. Two additional alternate means of egress are via stairs to the Metro aerial concourse.
- Concourse and platform canopies to provide all weather coverage (where provided)
- Secure and sheltered bicycle storage
- Wayfinding and signage elements located on concourse level to minimize obstruction and maximise customer flow
- Station services building
- Ancillary station facilities including communication cupboards, fire hydrants, station control room, facilities for services and staff
- Facilities to meet fire safety including a fire booster, services buildings and fire evacuation ramp

7.4.6. Heritage Elements

Canterbury Railway Station Group is listed on the following heritage registers:

- NSW State Heritage Register (Listing No.01109)
- Railcorp Section 170 Register (SHI No.4801100)
- Canterbury LEP 2012 (Item No. I67).

The existing station entry building is located off Canterbury Road. The booking office building is to be removed. The stairs and lift to the existing platform will be removed, as well as the footbridge canopy connected to the platform heritage building. The highly significant platforms 1 and 2 are to be removed to allow for the construction of a new platform to accommodate the straight rail line alignment required for the Metro trains.

The signal box is retained. The existing platform heritage buildings are to remain and service the new Metro station. They will house station services and staff facilities to minimise the built form on the platform.

The exceptionally significant platform 1 brick building will be retained for reuse with potential retrofitting.

Element		Significance Grading	Tolerance for Change	Outcome
Symbol	Type			
A	Platform 1 Building (1895)	Exceptional	Low	Retain/Reuse
B	Platform 2 Building (1915)	High	Some	Retain/Reuse
C	Signal Box (1915)	High	Some	Retain/Reuse
–	Platform 1 – brick (1895)	High	Some	Remove
–	Platform 2 – brick (1895)	High	Some	Remove
D	Overbridge (1915)	High	Some	Retain/Reuse
E	Footbridge (1915 – later modified 1947)	Moderate	Moderate	Remove

Figure 7-32: Summary of heritage elements

7.4.7. Key Design Elements

The key design elements of the Hurlstone Park Station and its surrounding area are summarised in the table below.

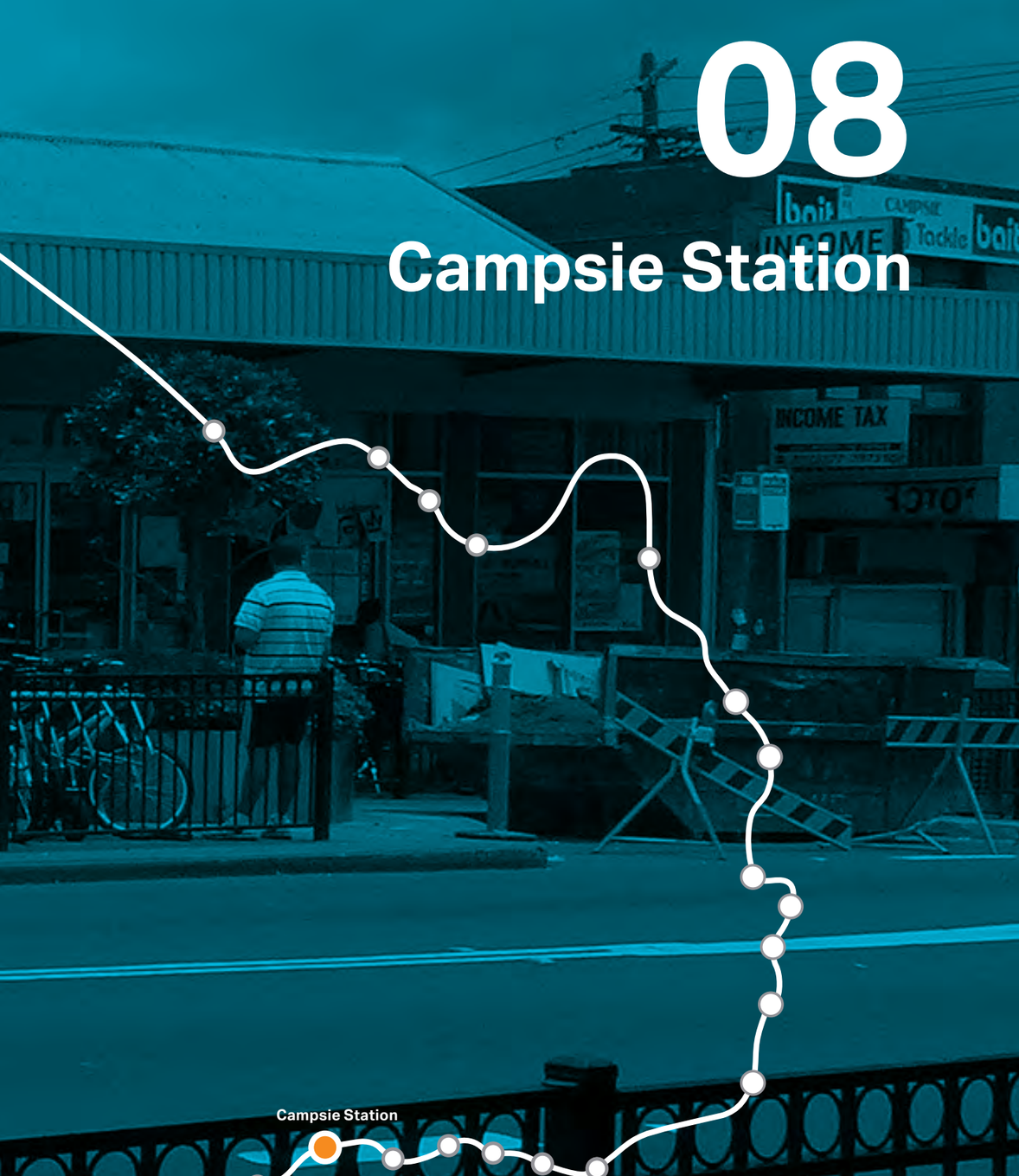
Feature	Description
Station works	
Station entry/exit	• The existing station entrance on Canterbury Road would be relocated to the western side of the rail corridor and provide access to platform 2. • A new elevated station concourse would be provided about 150 metres west of Canterbury Road. • A new station entrance would be provided on Broughton Street providing access to platforms 1 and 2. • Futureproofing for a potential future station entrance on Charles Street as part of any future developments along Charles Street, this entrance would provide access to platform 2.
Platform details	• The heritage listed platforms would be rebuilt and extended to the northwest.
Station buildings	• The heritage listed footbridge and overhead booking office would be removed.. • The heritage listed buildings on platforms 1 and 2 would be retained. • The existing heritage listed signal box on the southeastern side of the Canterbury Road overbridge would be retained. • New station buildings would be provided at the station entrance on Broughton Street. • New retail space would be provided at the station entrances at Broughton Street and Canterbury Road (the use of the retail space would be subject to a separate approval process).

Feature	Description
Station area	
Public transport integration	• All existing bus stops would be retained, with the exception of one stop on Broughton Street, which is to be relocated to the new Broughton Street entrance. • A new bus shelter would be provided at the station entrance on Broughton Street.
Access	• Connection to an active transport corridor located along Charles Street via Canterbury Road. • New pedestrian crossing on Broughton Street in line with new station entrance.
Kerbside uses, bike parking	• Kerbside facilities would be provided on Broughton Street adjacent to the new station entry, this would include new accessible parking on Broughton Street. • New bike parking areas would be provided within the new station plaza areas on Broughton Street and Canterbury Road.

08

Campsie Station

A new gateway to dynamic Beamish Street



8. Campsie Station

8.1 Context

8.1.1. Location

Campsie Station lies approximately 13km southwest of the Sydney CBD, within the City of Canterbury Bankstown. The suburb is bounded by Belfield to the north, Cooks River to the east, Clemton Park to the south and Belmore to the west.

The busy retail spine of Beamish Street runs through the centre of Campsie, a suburb that is otherwise predominantly residential.

The housing stock is generally a mixture of detached housing and two to three storey apartment blocks. Recently, more intense development is beginning to emerge in the vicinity of the station. The former City of Canterbury administrative centre is located north of the station on Beamish Street while important local public spaces – Anzac and Carrington Squares – are found immediately southwest of the station.

The station entry and concourse at Campsie Station directly abut the Beamish Street road bridge with the concourse retail and station buildings aligned to the Beamish Street building line. Entry to the station is from a relatively narrow Beamish Street footpath. The station was the subject of an upgrade in 2002 that extended the station concourse, renewed amenities and retail outlets and provided lift access to station platforms.

Figure 8-1: Existing Campsie Station Axonometric

Figure 8-2: Location Plan

8.1.2. Functional Requirements

Aspect	Comment
Station Function	Origin Destination
Corridor	Metro and ARTC corridor
Station Type	Surface in cutting
Platform Type	Side Platform
Station	Entrance: North entry – off North Parade Main entry – Beamish Street
Access & Interchange Requirements	Bus Cycling Taxi Kiss + Ride Accessible Parking Park + Ride

8.1.3. Station Strategy

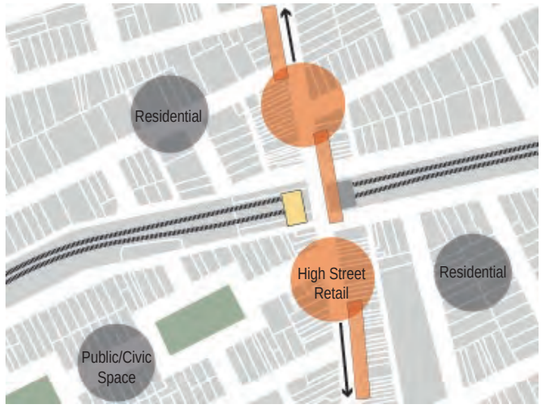
The Metro station will maintain its primary Beamish Street address while new passenger facilities and retail concessions on the concourse will be set further back to widen the public domain at the entry.

A secondary entry on North Parade will be via lift and stairs. A single gateline on the concourse leads to lifts and stairs to side platforms. South of the station, Lilian Lane is proposed as a shared zone.

Bus arrangements remain unchanged at Campsie. A new taxi zone is proposed next to the North Parade entry while additional kiss and ride bays are also proposed as part of the new elevated platform on the eastern side of Beamish Street.. New bicycle parking facilities will be provided near the northern station entrance on North Parade, and on the southern side of the station concourse.

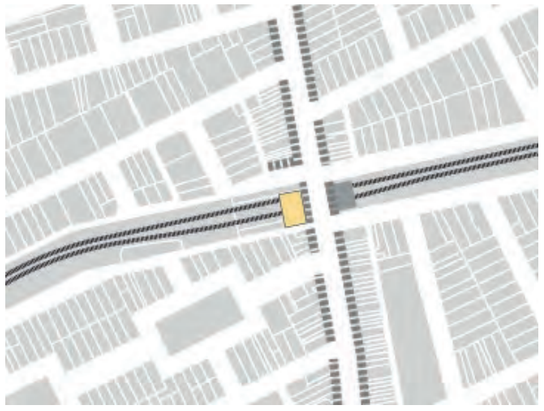
8.1.4. Urban Context

Land use and urban character



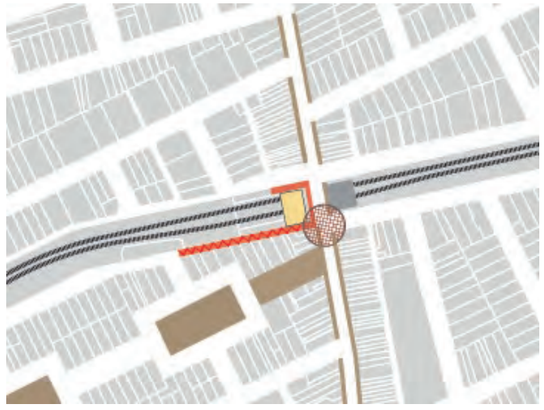
- Campsie Station on Beamish Street is at the centre of a dynamic retail centre
- Beamish Street has a generally consistent, two-storey retail street wall from Hill Street in the south through to Ninth Avenue in the north
- Campsie Station and its retail outlets form part of this continuous High Street
- Anzac Mall, Anzac Square, Anglo Road and Carrington Square form a string of important public spaces immediately south of the station
- The wider precinct is generally detached housing interspersed with pockets of small apartment blocks
- Multi-storey developments now occurs close to the station on Beamish Street, South Parade and Anglo Road

Transport corridors divide the precinct



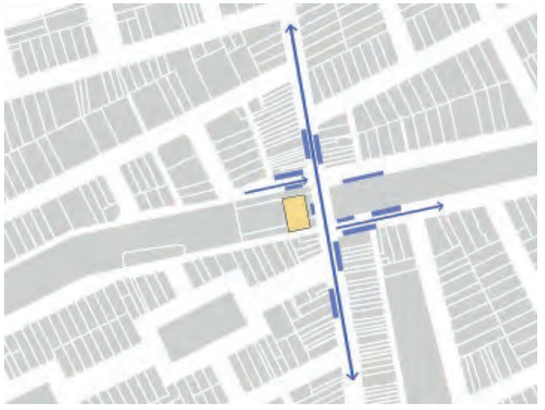
- There are limited crossings of the rail corridor around Campsie, with Wairoa Street 850m east of the station and Loch Street around one kilometre by road west of the station. An elevated pedestrian bridge over the rail corridor is about 200m east of the station
- In a number of locations the street blocks along Beamish Street are relatively long, reducing local permeability

Public Domain/pedestrian environment



- The street environment of Beamish Street and the adjacent Anzac Mall form the spine of the centre's busy public realm
- Congestion in front of the station and at the Beamish Street/South Parade intersection compromise pedestrian amenity
- There is no pedestrian provision on Lilian Lane, an important link to the station from the southwest
- Localised steepness on Beamish Street at the corner of North Parade is an accessibility challenge immediately adjacent to the station.

Circulation and station interchange environment



- Multiple bus routes connect to Campsie Station with stops on Beamish Street, and North and South Parades
- Stops north of the station do not currently have an accessible path of travel to the station
- Taxi bays on North Parade do not have an accessible path of travel to the station
- There are limited bicycle parking facilities in a congested area at the front of the station
- Kiss and ride zones on North Parade do not have an accessible path to the station.

Figure 8-3: Entry to station on Beamish Street

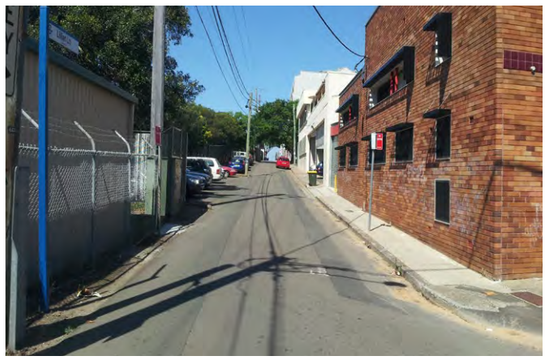


Figure 8-4: View along Lilian Lane towards Beamish Street

Figure 8-5: View towards North Parade bus stop

Figure 8-6: View along Beamish Street

8.1.5. Heritage & Place

Pre-European landscape – The study area is likely located within the area thought to have been inhabited by the Wangal clan. The Wangal clan's territory extended between the Parramatta River and the Cooks River from Darling Harbour to Rosehill.

Prior to European settlement the whole area between the Cooks and Georges Rivers was covered by a forest of large trees. What is now the suburb of Campsie was a gently sloping area from the ridge - now Canterbury Road - running towards the Cooks River to the east and north and up a steeper slope to Cup and Saucer Creek to the south.

European settlement and land use – In the early days of European settlement, the land in this area was mostly used for farming. The southern parts of Campsie were part of the Laycock Estate that extended to most of Kingsgrove. The area between South Campsie and the Cooks River was known as the Redman Estates. John Redman was granted 100 acres (40 ha)} in 1812 and he later purchased the area to the east. Redman Estate, an early subdivision and Redman Parade, between Campsie and Belmore stations are both named after him.

The Campsie Park Estate was an early suburban subdivision in the area and although unsuccessful some physical remnants of it remain in street plantings and layout. The earliest model suburb in New South Wales was Harcourt, between Canterbury and Burwood, developed by William Phillips from 1889.

Industrial development occurred in quite large pockets of the area in the early to the mid twentieth century. Among other things it was home to the Sunbeam factory that produced the iconic Australian Victa lawnmower.

More recently the Sunbeam site has been redeveloped as a medium density housing estate.

Heritage – A small number of commercial, civic and residential buildings and structures of heritage significance occur in the vicinity of Campsie Station. Among those listed on the City of Canterbury LEP 2012 heritage register are a Federation era commercial building at 191-197 Beamish Street, an interwar building at 203 Beamish Street and another at 2-16 Anglo Road. The memorial clock tower in Anzac Mall is also listed as are Anzac and Carrington Squares southwest of the station.

The Campsie Station Group (Structures, Platform Buildings, Overhead Booking Office, Station Concourse and Footbridge, Platforms, Overbridge, Canopies) is listed on the Railcorp Section 170 register as well as the City of Canterbury LEP 2012 heritage register. Campsie Railway Station has local significance as a station developed in the 1890s when expansion of the railways was undertaken to encourage agriculture and suburban growth in southwest Sydney. The area around the station then developed in the late nineteenth and early twentieth centuries. The existing station layout, platform buildings and overbridge date from 1915 and demonstrate the ongoing expansion of the railways in the early twentieth century and represent that period of suburban development.

The station is associated historically with the movement of railway employees to and from the Enfield/Chullora workshops area. The extant, largely intact platform buildings (1915) and the Beamish Street overbridge are representative of railway structures of this period.

The station concourse was expanded and modified in 2001 to provide lifts to platforms. This process encased the overhead booking office in a new structure, to the degree that its original form is barely discernible today.

Figure 8-7: Beamish Street Campsie 1883
Source: Canterbury Commons

Figure 8-8: Campsie Railway Station 1905
Source: City of Canterbury

Figure 8-9: Campsie Railway Station
Source: Canterbury City Council

Figure 8-10: Beamish Street Campsie 1940s
Source: City of Canterbury

Figure 8-11: Campsie Railway Station c.1908
Source: City of Canterbury Local History Photograph Collection

8.1.6. Landscape & Urban Fabric

The Campsie town centre comprises a commercial strip running in a north-south direction along Beamish Street. The precinct contains a large variety of shops and civic and community services supporting the needs of the surrounding residents.

Campsie is the largest commercial centre in the former City of Canterbury local government area and was its civic and administrative hub. The centre is divided by the railway line. The primary commercial strip along Beamish Street extends for a distance of approximately 900m.

The centre has a traditional, fine grain built form with one to two storey high street buildings. Although buildings within Beamish Street are of varied architectural styles, it has a consistent form generated by relatively consistent building height and street widths. Larger buildings include the council chambers at the northern end of the core and the Campsie Centre shopping centre at the southern end.

There are a number of more recent four to six storey shop top housing developments. These are generally located on the eastern and western perimeter of the Beamish Street commercial strip.

The residential areas surrounding the commercial core are a mix of two to three storey walk up residential flat buildings and single detached houses on relatively large lots dating from around the mid twentieth Century.

Figure 8-12: Beamish Street, Campsie
Source: homehound.com.au

Figure 8-13: Beamish Street, Campsie
Source: Commerical Real Estate

Figure 8-14: Campsie Food Festival, Beamish Street
Source: Weekend Notes

Figure 8-15: Anzac Park
Source: Daily Telegraph

Figure 8-16: Campsie Centre
Source: The Novella

8.1.7. Culture & Demographics

The key demographic attributes of the suburb of Campsie (based on 2011 ABS data) are:

- A median age of 36, which is comparable to that of Greater Sydney.
- 63% of the population was born overseas (China and South Korea being the highest proportions), and 61% were from a non-English speaking background.
- The predominant household type is couples with children (36%) which is comparable to Greater Sydney however, the fastest growing household type is couples without children (20%), which is still slightly below the Greater Sydney average (23%).
- A lower income with a median weekly household income of $965, when compared to Greater Sydney average of $1,447.
- Slightly less than the majority of residents (48%) owned or were in the processes of owning the dwelling they reside in.
- A higher proportion (39%) of persons renting privately within the suburb, this compared to 25% across Greater Sydney.
- The average weekly rent within the suburb was $325, this was 8% less than that recorded for Greater Sydney ($351).
- Medium density dwellings comprises the bulk of dwelling stock (49%), which is far higher than that recorded for Greater Sydney as of 2011 (20%).
- Medium and high density dwellings comprise 70% of the dwelling stock, with both categories equally the fastest growing dwelling types.

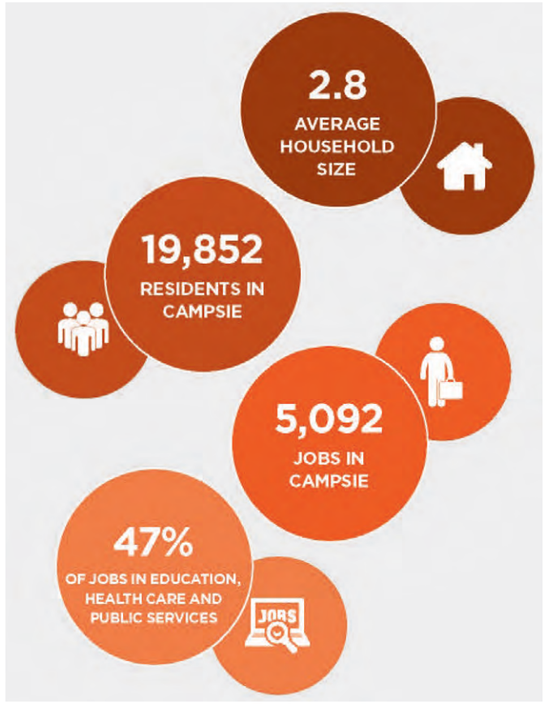


Figure 8-17: Key demographic facts for Campsie Precinct
Source: Department Planning & Environment

Figure 8-18: Campsie Food Festival
Source: Weekend Notes

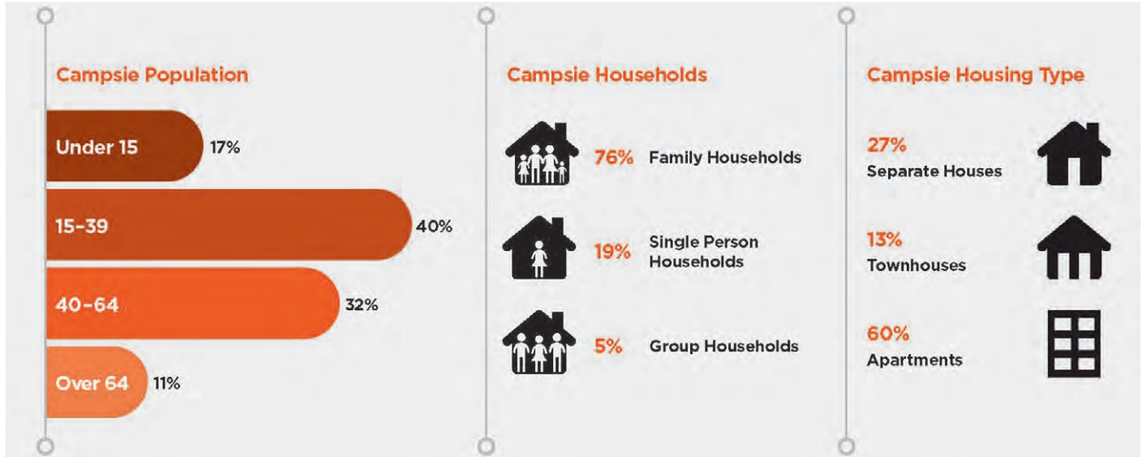


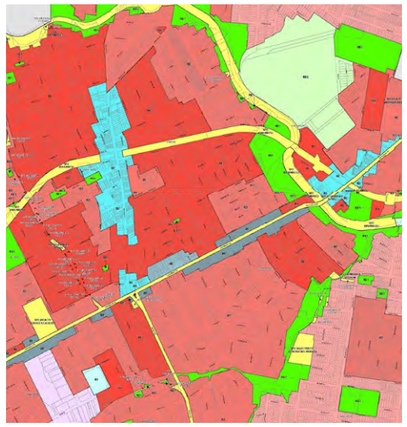
Figure 8-19: Key demographic characteristics for Campsie Precinct
Source: Department Planning & Environment

8.2 Land Use Integration

8.2.1. Planning Controls

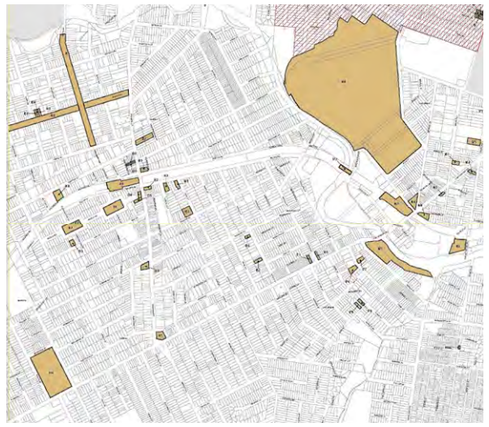
Under the provisions of Canterbury Local Environmental Plan 2012, the land along Beamish Street north and south of the station is zoned (B2) Local Centre. (R4) High Density Residential generally surrounds the commercial/ retail centre in the residential areas, with (R3) Medium Density Residential predominantly outside the high density zoned areas to the south of the station and outside the Local Centre to the north (refer to Figure 8-20). There is also a small area of (RE1) Public Recreation southeast of the station (Anzac Park). This planning framework enables considerable additional future development density and activation around the Metro station.

In addition to the LEP, Canterbury Development Control Plan 2012 also applies to the station environs, providing guidance for the desired future character of the Campsie centre. This includes retail/commercial street activation along Beamish Street and surrounding streets, including the station frontage (refer to Figure 8-21).



Land Zoning Map
Source: Canterbury Local Environmental Plan 2012

Zone
- B1 Neighbourhood Centre
- B2 Local Centre
- B4 Mixed Use
- B5 Business Development
- B6 Enterprise Corridor
- B7 Business Park
- IN1 General Industrial
- IN2 Light Industrial
- R1 General Residential
- R2 Low Density Residential
- R3 Medium Density Residential
- R4 High Density Residential
- RE1 Public Recreation
- RE2 Private Recreation
- SP1 Special Activities
- SP2 Infrastructure
- W1 Natural Waterways
- W2 Recreational Waterways



Heritage Map
Source: Canterbury Local Environmental Plan 2012

Heritage
- Conservation Area - General
- Item - General

Flooding Map
Source: Canterbury Local Environmental Plan 2012

Flood planning area

Figure 8-20: Land use zones, heritage curtilage and flood mapping for areas surrounding Campsie Station
Source: Canterbury Local Environmental Plan 2012

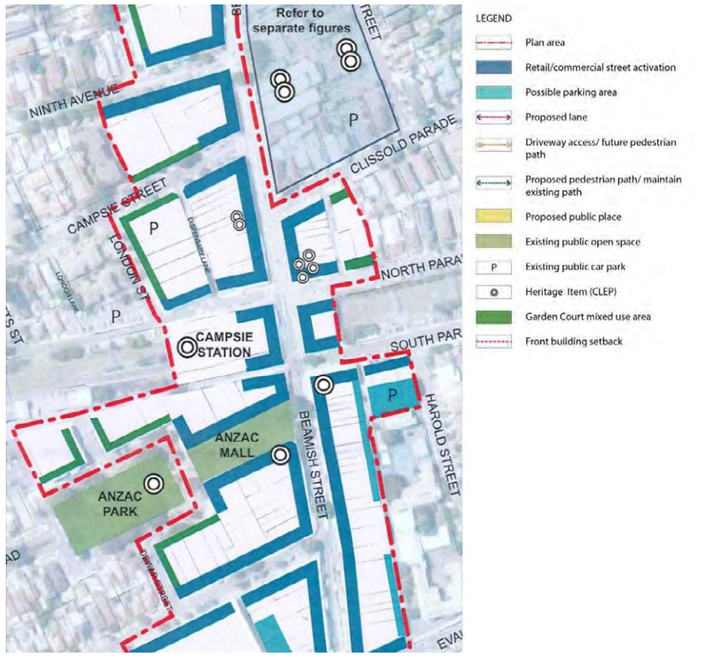


Figure 8-21: Development Control Plan provisions relating to Campsie Station
Source: Canterbury Development Control Plan 2012

8.2.2. Urban Renewal

The NSW Department of Planning and Environment, in partnership with the Inner West Council and the City of Canterbury Bankstown, has developed an Urban Renewal Corridor Strategy for the Sydenham to Bankstown corridor to guide future development and infrastructure delivery over the next 20 years. The Campsie Precinct is one of eleven areas studied for which a draft strategy was published in October 2015 for the purpose of public consultation.

Constraints and opportunities mapping of the Campsie Precinct undertaken for the draft strategy revealed a series of constraints to development in large parts of the precinct, including:

- Redevelopment opportunities limited due to strata titled apartment buildings within the precinct.
- Limited open space in close proximity to the Town Centre.
- Localised flood impacts along the Cooks River.

The revised strategy addressed feedback from public submissions, community workshops, meetings and technical studies. The following key issues were raised:

- Traffic planning should be undertaken to address existing and future congestion
- Public transport options in Campsie should be improved.
- Increased development should be supported by more parks and open space.
- Additional community amenities should be provided for a growing population in Campsie.
- The Strategy should help create a more pedestrian-friendly precinct with walkable neighbourhoods, active transport, friendly and inclusive public spaces.
- Recent high rise redevelopments along the corridor set a poor precedent for design quality. Strong design principles should guide new development.
- Concern that residents will be forced to move through forced property acquisitions, or due to negative impacts from surrounding development.
- There was general support from land owners and developers for increased densities.

Key changes to the strategy made in response to feedback are shown in Figure 8-22. The final revised Sydenham to Bankstown Urban Renewal Corridor Strategy was placed on exhibition June 2017.

The revised strategy for the Campsie Precinct has proposed:

- Promoting growth to reinvigorate the centre and support the role of Campsie as a District Centre within the Greater Sydney Commission's Sydney South District.
- Future development is designed well and positively contributes to the public domain.
- Beamish Street to be benefited from streetscape improvements.
- New opportunities for open space and community facilities to support the growing population.
- Anzac and Carrington Squares are protected as part of the future growth of the Campsie Station Precinct.
- Enhancing connections between Campsie's Centre and the Cooks River.
- A potential new park along the rail line could provide a new and interesting place for leisure and recreation.

Campsie is identified as a *'Priority Precinct, with height and density controls to be determined through a detailed masterplanning process'*. The strategy envisages Campsie as *'a highly urbanised centre with high rise apartment buildings up to 25 storeys located throughout the core area, stretching from Ninth Avenue to Claremont Avenue'*. The vision for Beamish Street is to retain this fine-grain retail strip as the precinct grows. Key sites within the precinct such as the Campsie RSL, Campsie Shopping Centre and Council's Administration Centre provide a catalyst for urban renewal, transformation and transitoriented development within easy walking distance of Campsie Station.

The strategy proposes a new station plaza at Beamish Street, providing a new public open space in this area. Investigations will also be undertaken to determine the feasibility of development over the rail corridor, with potential over station development creating a visual marker for the Campsie Station precinct.

The strategy also proposes the following land use and associated built form changes to the LEP within the immediate surrounds of Campsie Station:

South of the station

- Main street shop top housing along Beamish Street.
- High rise /mixed use development (nine storeys and above) on 14-28 Amy Street and enhanced retail offering and potential for new community facilities and meeting rooms as part of the Campsie Centre redevelopment.
- Potential activated laneway retail development along Amy Lane, creating pedestrian connectivity to key nodes in the precinct including Carrington and Anzac Squares.
- High rise residential and/or mixed use development between the station and Claremont Street.
- Development north of Carrington and Anzac Squares to be limited to five storeys with the potential for high rise if overshadowing of the squares can be avoided.
- Development at Campsie RSL to be podium and tower typology with active ground floor uses and street wall height that relates to the existing scale of development in Anzac Mall (two to four storeys).
- Opportunity to increase open space by connecting Carrington and Anzac Squares.

North of the station

- Main street shop top housing along Beamish Street, along with high rise housing and mixed use development at 124-142 Beamish Street and 16-18 Ninth Avenue, with set backs of upper levels from the street alignment on Beamish Street and opportunity for a laneway connecting Sixth Avenue to Dispensary Lane to provide pedestrian connectivity to the station.
- Medium rise development on Sixth Avenue.
- High rise mixed use development on 10 London Street and 43 North Parade (with limited podium heights of two storeys) with public domain improvements along North Parade, London Street and potential activation of Dispensary Lane.
- Medium rise development (up to 8 storeys) north of Wilfred Avenue, incorporating design measures to integrate with predominant two to four storey built form.
- Rejuvenate Beamish Street as a 'thriving local shopping area') and investigate opportunity for a new urban plaza at the junction of Beamish and Campsie streets.

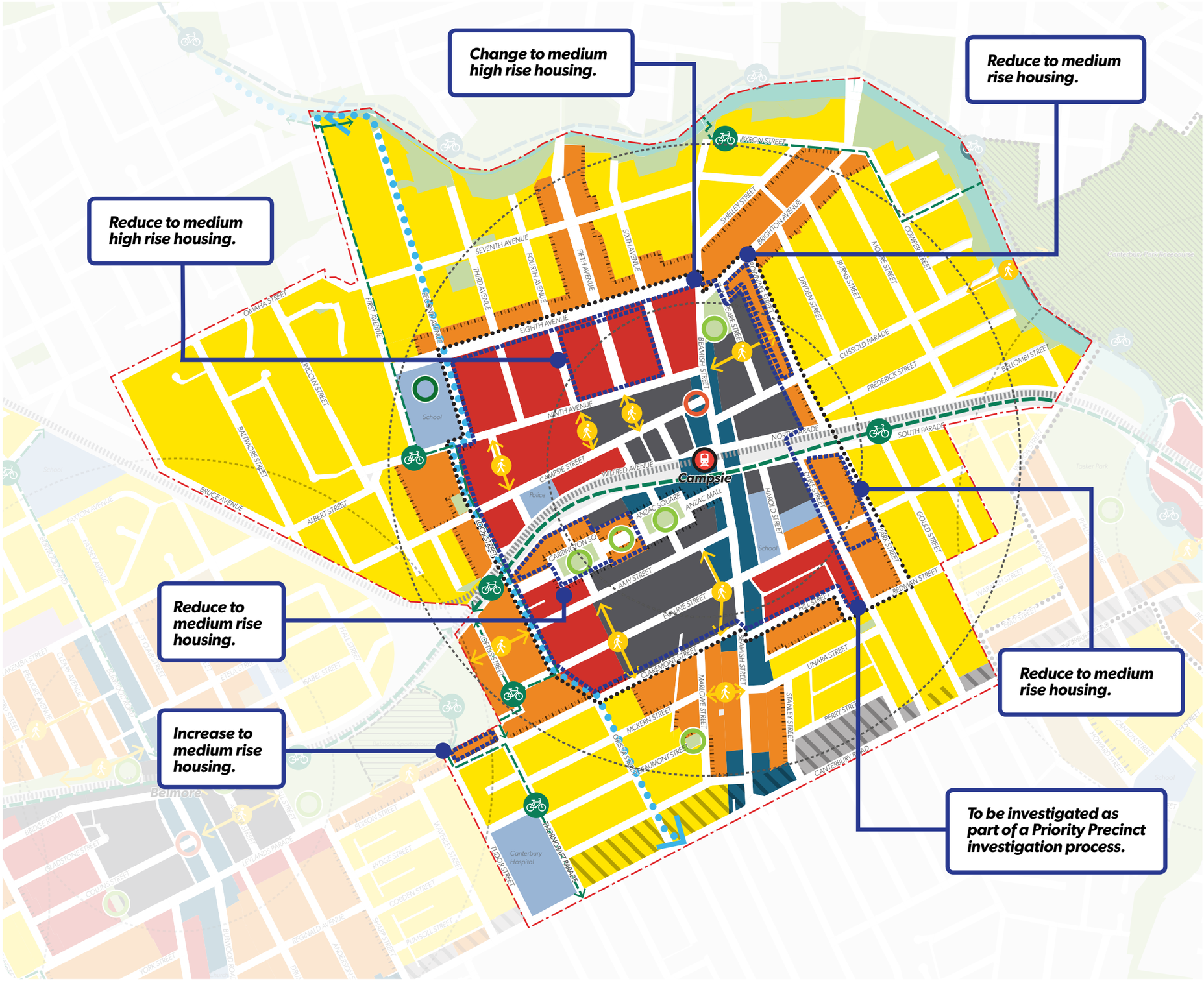


Figure 8-22: Key changes to the Sydenham to Bankstown Draft Urban Renewal Corridor Strategy
Source: Department Planning & Environment

8.3 Accessibility and Connectivity of Communities

8.3.1. Pedestrian Catchment

Campsie is both an origin and destination station although the majority of travellers in the morning peak are leaving Campsie to travel to work, education, etc. These are split about 60:40 arriving from north of the station compared with those arriving from the south.

Much of the Beamish Street shopping strip, along with Anzac and Carrington Squares, fall within the 5 minute walking catchment while the 10 minute catchment extends to the Council chambers, to St. Mels Street Primary School and to a large residential area.

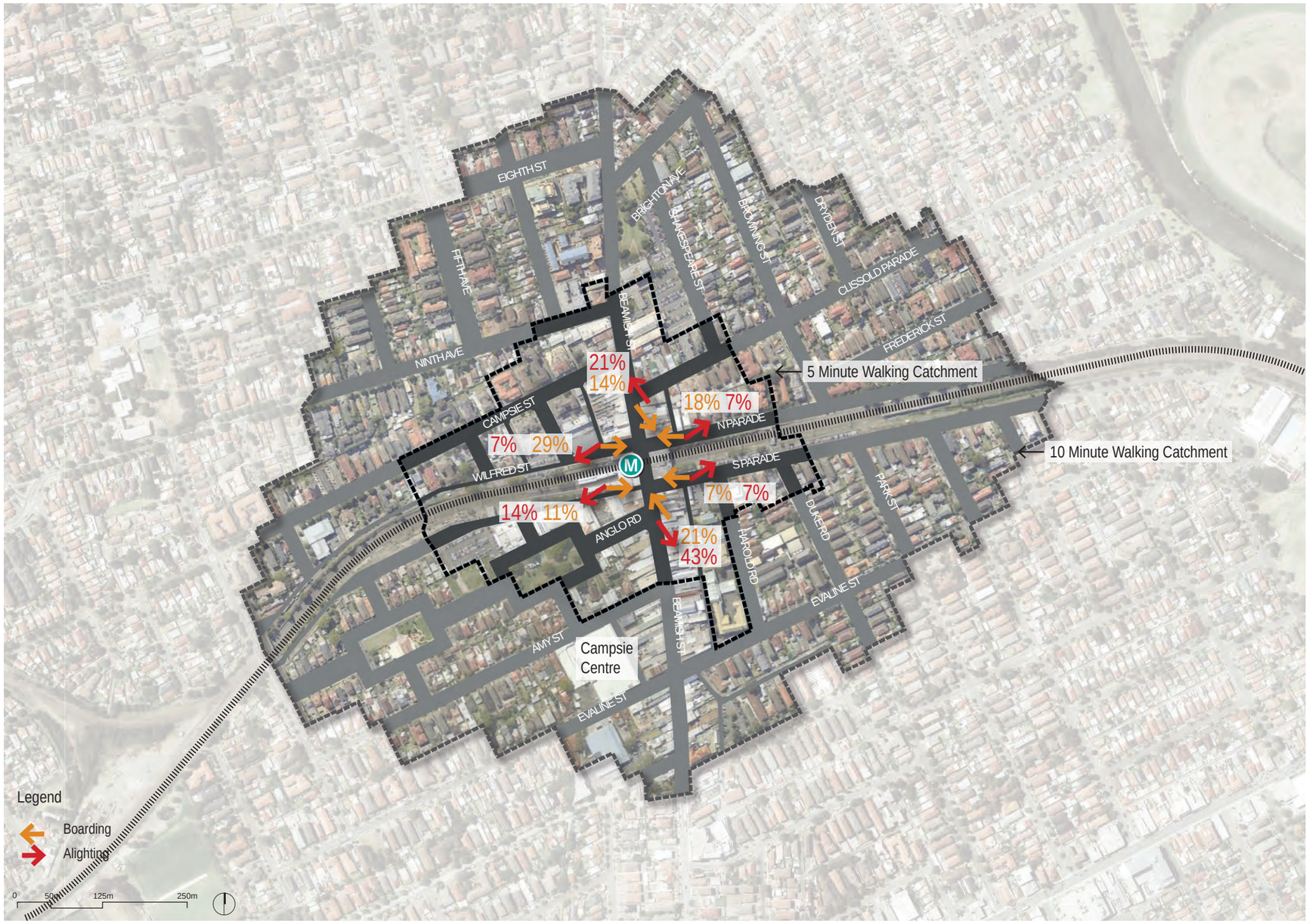


Figure 8-23: 5 & 10 minute isochrones

8.3.2. Access & Interchange Integration

There is no accessible path of travel to the existing taxi bays or the accessible parking bay on North Parade east of Beamish Street, nor to the kiss and ride zone to the west of Beamish Street. The bus stops north of the station on Beamish Street are also inaccessible.

There is noticeable congestion on footpaths in front of the station and at pedestrian crossings, especially at Lilian Lane. The pedestrian environment is particularly poor on the western approach to the station on Lilian Lane where the footpath is less than a metre wide.

East-west connectivity is well served on the southern side of the station with a full signalised intersection at South Parade but less so to the north where the signalised crossing is a block further away at Clissold Parade. There are no footpaths adjacent to the commuter parking areas on South and North Parade.

Interchange	Distance	Total Travel (min:sec)
Bus Northbound	70m from North Parade entry	00m:54s
Bus Southbound	70m from Beamish St entry	00m:54s
Bus Eastbound	80m from Beamish St entry	01m:02s
Taxi	8m from North Parade entry	00m:06s
Kiss & Ride North Parade	190m from North Parade entry	02m:26s
Kiss & Ride South Parade	50m from Beamish St entry	00m:38s

Note: Calculations are taken from the cadastral boundary line closest to the Sydney Metro entry points. All travel distances from the base of the direct line of travel for pedestrians and do not take into account light signals and crossing points.

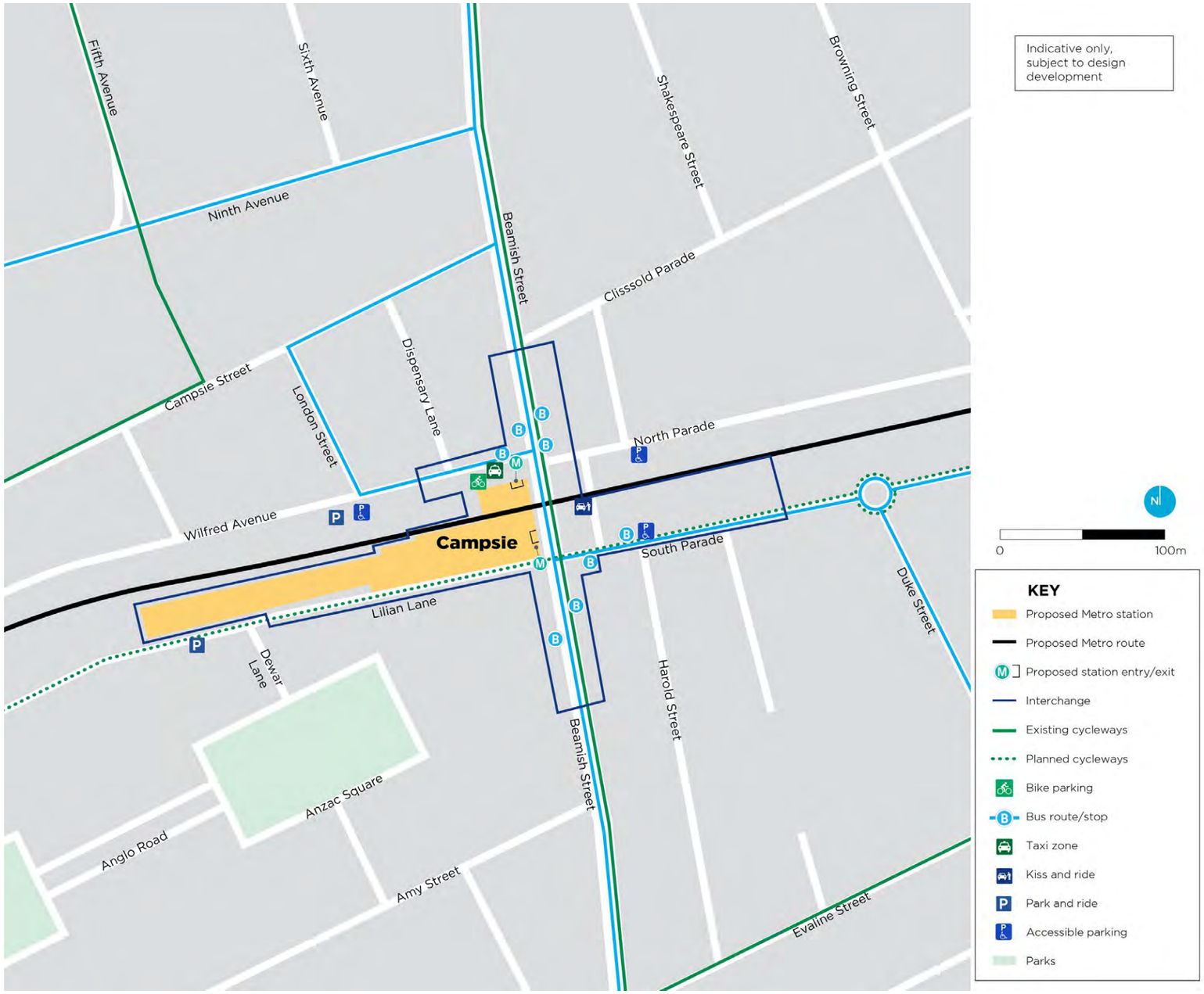


Figure 8-24: Access & interchange diagram

8.4 Station Area Place Making and Community Enhancement

8.4.1. Constraints

Traffic and pedestrian congestion occurs on Beamish Street and especially at the station entrance.

The centre is a major hub for a number of bus routes and for interchange with heavy rail.

There is limited open space in the wider precinct although there are well used public spaces just south of the station at Anzac Mall, Anzac Square and Carrington Square. The rail corridor is a barrier to north-south movement in the precinct.

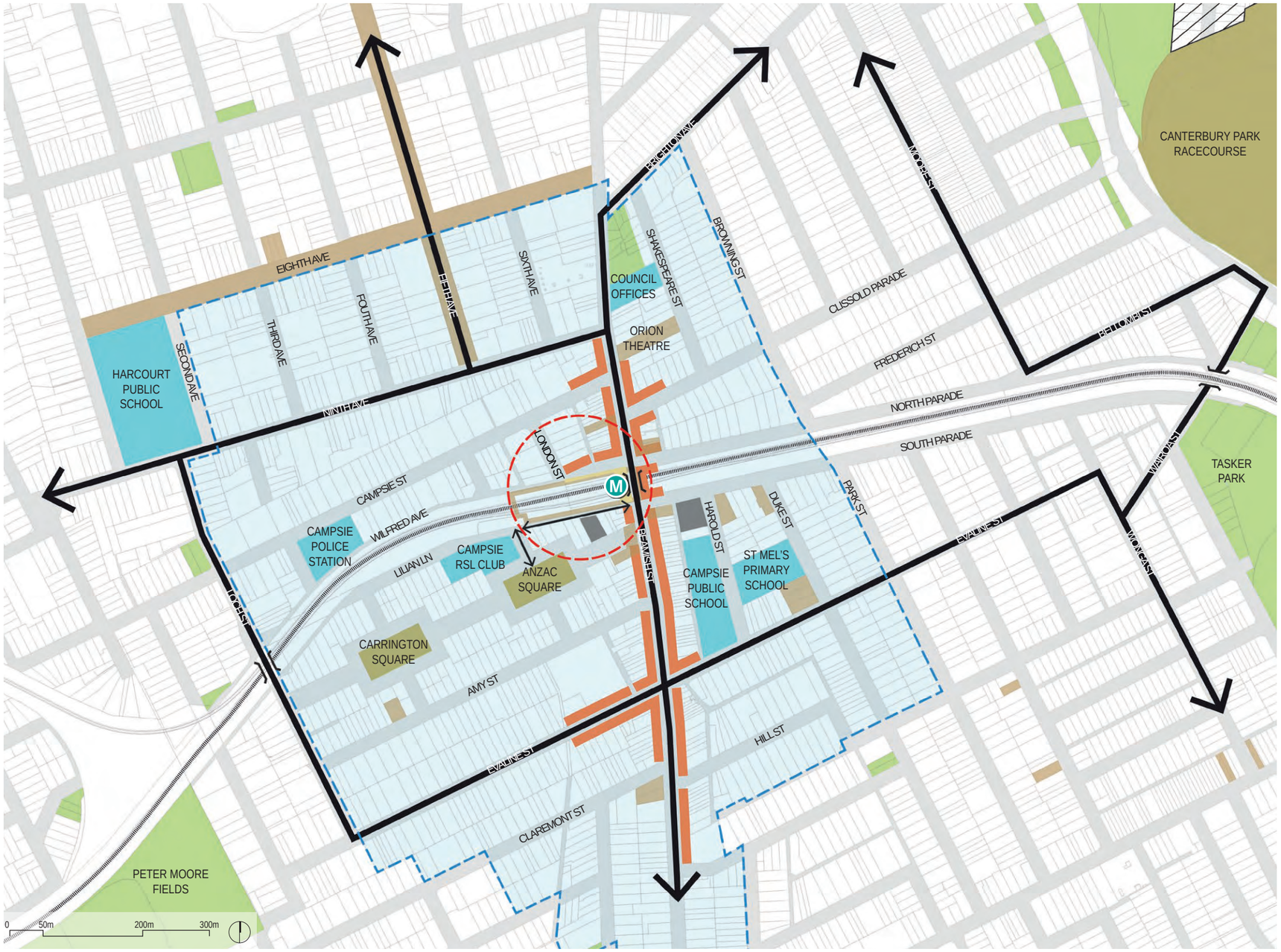
A range of heritage listed sites occur around the station: early street tree plantings on Eighth and Fifth Avenues, Federation-era Anzac and Carrington Squares, the former Orion Theatre on Beamish Street, the war memorial clock tower and an interwar commercial building on Anzac Mall, a number of twentieth century shops and dwellings and the station itself.

8.4.2. Opportunities

The Campsie town centre offers a high level of urban amenity, being well served by retail, hospitality businesses and community and transport facilities. Beamish Street is a low speed and pedestrian friendly environment. Anzac Mall is an important local public space used for markets and festivals as well as everyday activities.

The precinct contains a number of schools: Campsie Public School, Harcourt Public School and St Mel's Primary School. Canterbury Council (now Canterbury-Bankstown) offices are on Beamish Street north of the station.

There are large blocks suited to redevelopment adjacent to Beamish Street that are suited to larger scale development. Campsie RSL is proposing a multi-storey mixed-use development on Lilian Street. Higher density developments have occurred in the centre in recent years, notably in Beamish Street, and on Anglo Road and South Terrace, close to the station. Improved connections and a more generous public domain around the station will link to a range of existing public spaces.



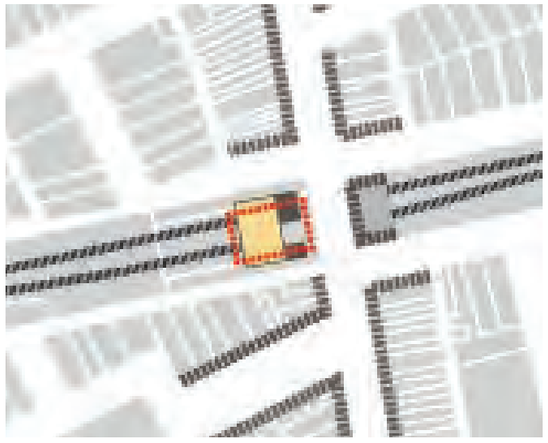
Legend

- Station site
- Metro entry
- Community facilities
- Existing active frontage
- Existing open space
- Heritage
- Station heritage precinct
- Heritage conservation area
- Key Connections
- Proposed pedestrian connection
- Potential pedestrian connection
- Proposed public domain
- Potential urban renewal area
- Potential development site
- Recent development site

Figure 8-25: Station and precinct opportunities

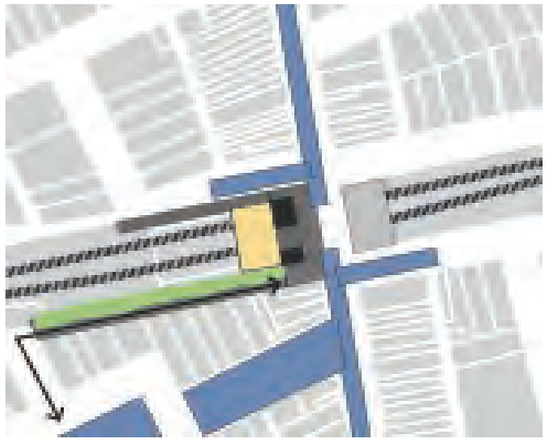
8.4.3. Place Making Opportunities

Local Public Domain



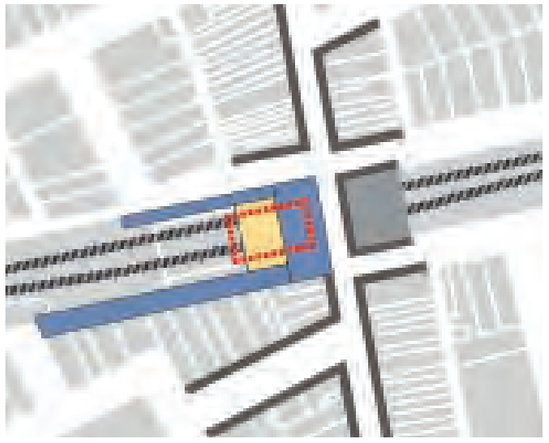
- New station will reinforce Beamish Street as the central spine of the town centre
- New retail concessions on the station concourse will continue the activation of Beamish Street, and the station canopy will maintain the consistent street wall built form of Beamish Street across the alignment

Connectivity and Access



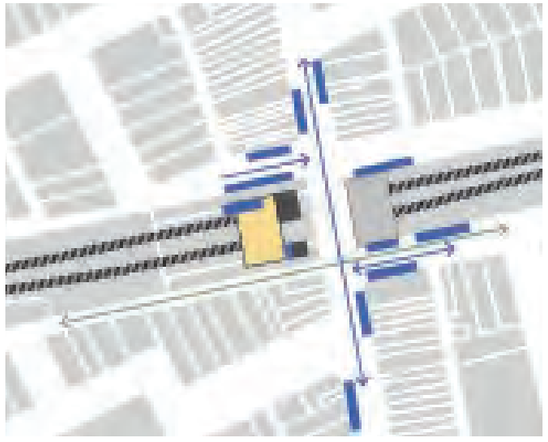
- A widened footpath and station entry on Beamish Street will create an enlarged station forecourt and ease pedestrian congestion in front of station
- New station entry and footpath upgrade on North Parade
- Landscaped shared zone on southern approach to station on Lilian Lane

Catalyst



- New Metro station and high frequency service will support the urban renewal of Campsie town centre
- Improved public domain on western side of Beamish Street (station) and to the east (new elevated platform with kerbside facilities and retail (grey shading)), Lilian Lane and North Parade has the potential to generate wider precinct improvements
- Maintenance of station address on Beamish Street will keep the station as the central focus of the precinct

Accessible Interchange



- Greater concentration of transport interchange facilities adjacent to station, specifically:
  - Maintenance of existing bus stops and services
  - New taxi bays next to North Parade station entry
  - Kiss and ride on new elevated platform between North Parade and South Parade east of Beamish Street
  - New bicycle parking facilities provided near the northern station entrance on North Parade, and on the southern side of the station concourse. A new shared zone along Lilian Lane between Beamish and Dewar streets
  - A potential cycle route along Lilian Street, Lilian Lane and South Parade

Figure 8-26: Recent development on Lilian lane

Figure 8-27: Beamish Street

Figure 8-28: Lilian Lane, south side of the station

Figure 8-29: Bus stop, Beamish Street

8.4.4. Entry Plaza Accessibility & Design Principles

Beamish Street Entry

- Enlarged station entry plaza.
- New enlarged, elevated station concourse provides more space for pedestrian circulation and pedestrian movement along Beamish Street.
- New bicylce parking facilities provided on the southern side of the station concourse.
- Weather protection to the station concourse achieved by providing canopy and balustrade.

North Parade Entry

- A new station entry on North Parade
- Canopy provides weather protection
- New bicycle parking facilities provided near the northern station entrance on North Parade
- Retail activates concourse area
- Stairs , lift at entrance provides access up to the concourse which is also accessed from at grade Beamish Street entrance.

8.4.5. Heritage Elements

Campsie station group is listed on the following heritage registers:

- Railcorp Section 170 Register (SHI No.4801101)
- Canterbury LEP 2012 (Item No. I40)

The existing highly significant platform heritage buildings are to remain and service the new Metro station. They will house station services and staff facilities to minimise the built form on the platform.

Element		Significance Grading	Tolerance for Change	Outcome
Symbol	Type			
A	Platform 1 Building (1915)	High	Some	Retain/Reuse
B	Platform 2 Building (1915)	High	Some	Retain/Reuse
C	Overhead Booking Office & Concourse (1915 & later mods)	Moderate	Some	Remove
– –	Platform 1 – brick (1894)	High	Some	Remove
– –	Platform 2 – brick (1894)	High	Some	Remove
D	Overbridge (1915)	High	High	Retain/Reuse

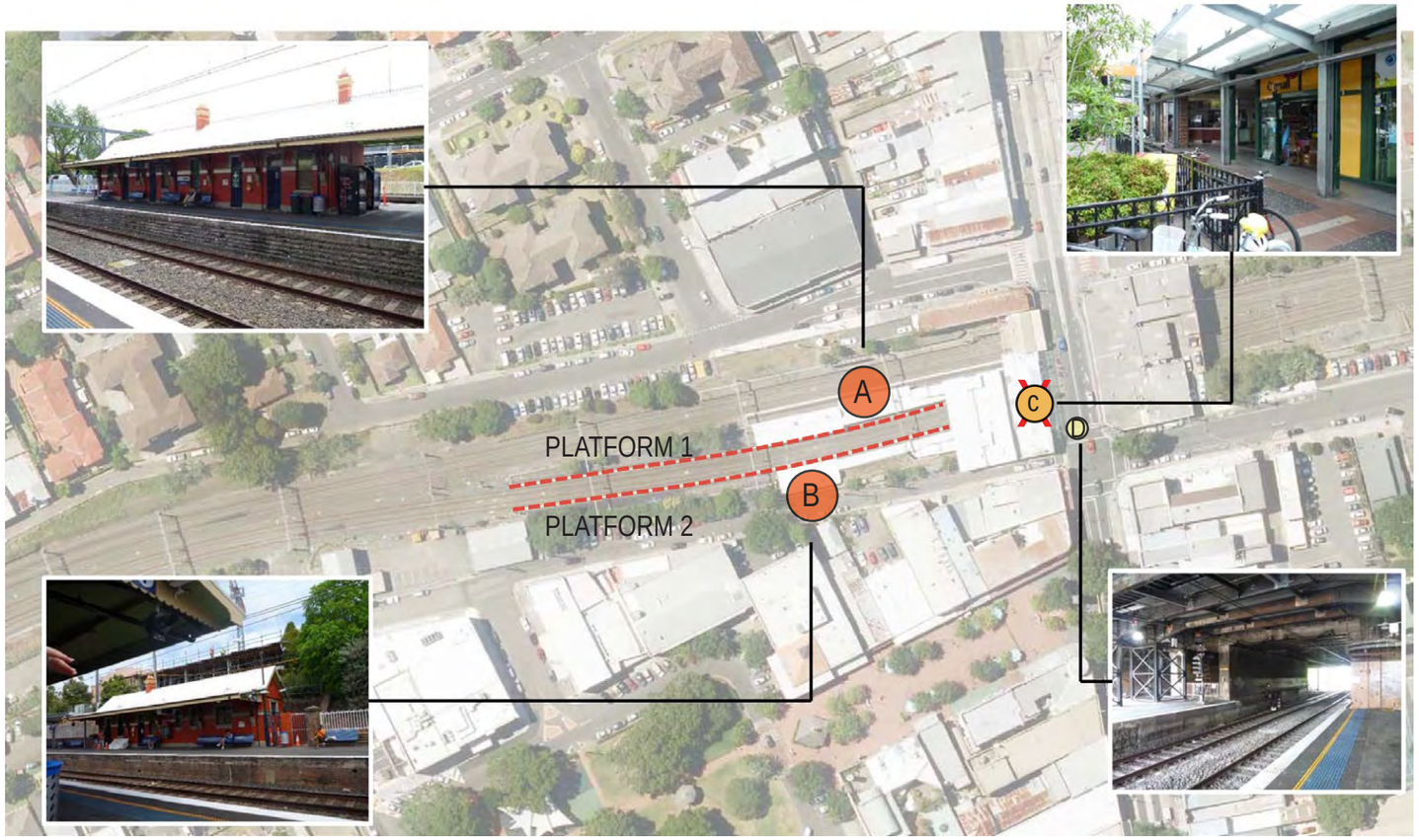


Figure 8-30: Summary of heritage elements

8.4.6. Key Design Elements

The key design elements of the Campsie Station and its surrounding area are summarised in the table below.

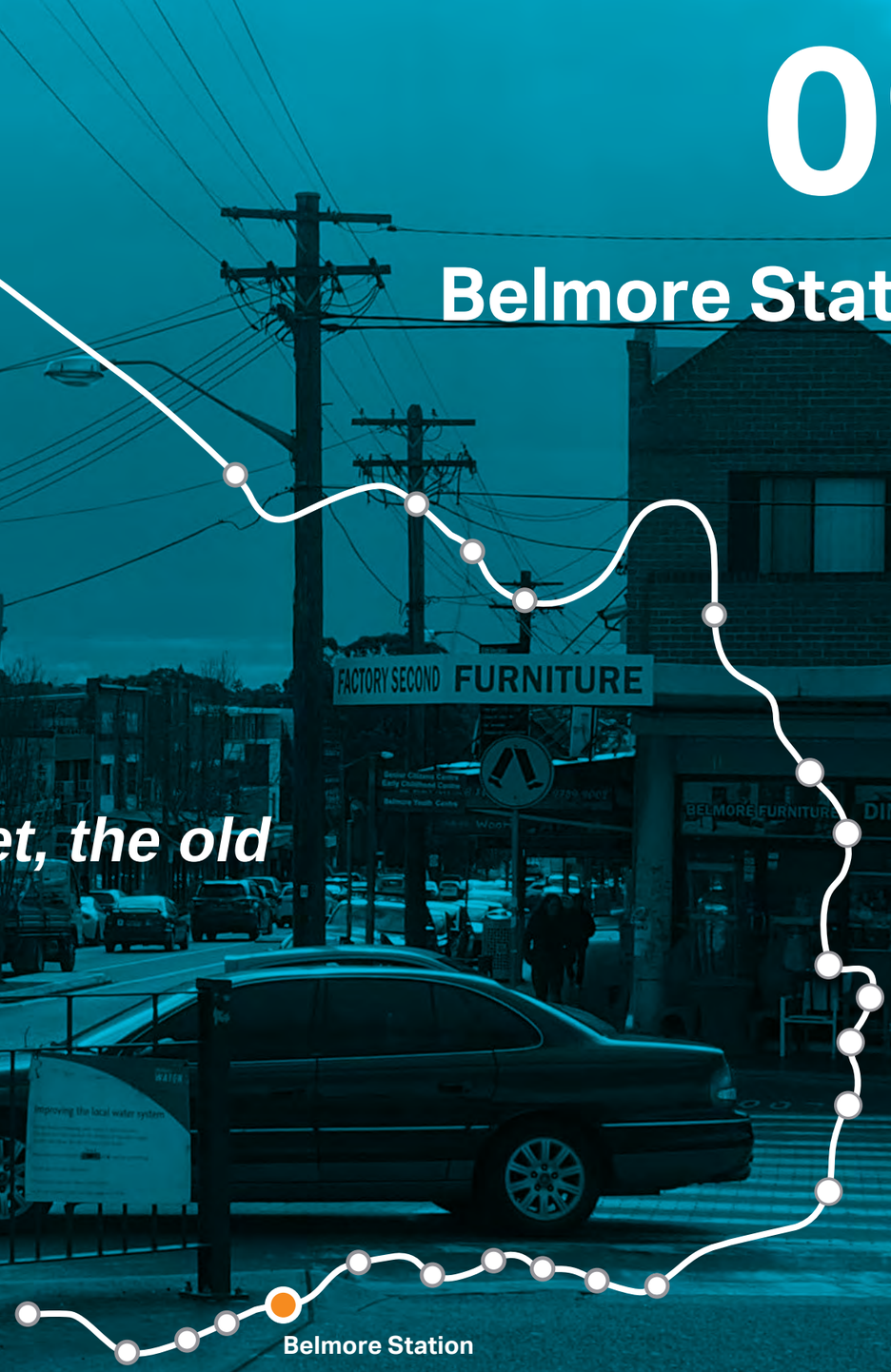
Feature	Description
Station works	
Station entry/exit	• The existing station entrance at Beamish Street would be upgraded. • A new station entry would be provided on North Parade. • A new enlarged, elevated station concourse would provide more space for pedestrian circulation and pedestrian movement along Beamish Street. The part of the existing concourse built in 2001 would be retained.
Platform details	• The heritage listed platforms would be rebuilt, straightened and extended to the west.
Station buildings	• The heritage listed overhead station concourse and footbridge (except the part built in 2001) would be removed. • The existing heritage listed buildings on platforms 1 and 2 would be retained. • New station facilities would be provided within the new concourse. • New retail space would be provided at the station entrance on North Parade and on the eastern side of Beamish Street (the use of the retail space would be subject to a separate approval process).

Feature	Description
Station area	
Public transport integration	• Existing bus stops located in the vicinity of the station would be retained.
Access	• New shared zone would be provided along Lilian Lane between Beamish and Dewar streets. This would form part of an active transport corridor.
Kerbside uses, bike parking	• New kerbside facilities would be provided on the southern side of North Parade, adjacent to the northern station entrance. • The existing kerb facilities on the northern side of South Parade would be removed. • New kerbside facilities would be provided as part of the new elevated platform on the eastern side of Beamish Street. • The existing accessible parking on North Parade, Wilfred Avenue, and South Parade would be retained. • New bike parking facilities would be provided near the northern station entrance on North Parade, and on the southern side of the station concourse.
Car parking	• The existing parking area along the northern side of Lilian Lane would be reconfigured, which would result in the provision of 80 additional commuter car parking spaces. • The new kerbside facilities would result in the loss of about 20 on-street car parking spaces on North Parade and South Parade.

09

Belmore Station

The park and the high street, the old and the new



9. Belmore Station

9.1 Context

9.1.1. Location

Belmore Station is located on Burwood Road in Belmore, approximately 14km south-west of the Sydney CBD in the City of Canterbury Bankstown. The station lies in the middle of the Burwood Road shopping strip. The proposed Metro station and entries are to be located slightly to the east of the existing station entry with entry plazas on the northern and southern side of the rail corridor. The southern entry on Tobruk Avenue will be within an expanded shared interchange area.

The suburb of Belmore is bounded by Belfield to the north, Campsie to the east, Kingsgrove to the south and Lakemba to the west. Belmore is characterised by low scale built form, generally single or two-storey detached housing interspersed with three discrete pockets of older style apartment blocks. The prevailing character of the suburb is established by its many detached bungalows on relatively large lots.

Figure 9-1: Existing Belmore Station Axonometric

Figure 9-2: Location Plan

9.1.2. Functional Requirements

Aspect	Comment
Station Function	Origin
Corridor	Metro
Station Type	Surface in cutting
Platform Type	Island Platform
Station	Southern entry – Tobruk Avenue east of Burwood Road Northern entry – Redman Parade east of Burwood Road
Access & Interchange Requirements	Bus Cycling Taxi Kiss + Ride Accessible Parking Park + Ride

9.1.3. Station Strategy

The Metro station at Belmore will reinforce the existing retail and community activities along and adjacent to Burwood Road. The station will remain central to the retail strip, the Council facilities on Redman Parade, the Canterbury Leagues Club, and Belmore Sports Ground.

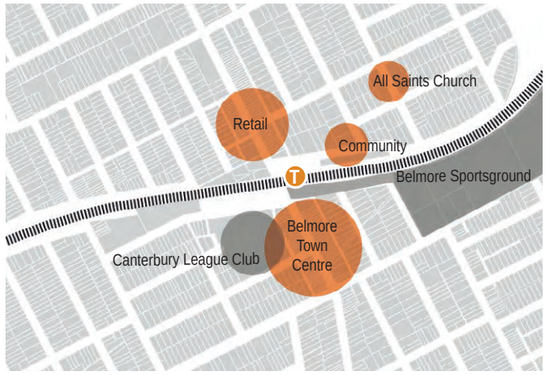
A new southern station plaza on Tobruk Avenue will provide a significant urban space that connects Burwood Road and the station to the parkland and sports grounds to the east. The elevated station concourse design connects to an entry on the northern side of the rail corridor on Redman Parade.

Entry off Tobruk Avenue is via a gentle ramp and stairs from the station plaza to the concourse. Lifts and a stair lead from the concourse to an island platform. The Redman Parade entry is via stairs to the elevated concourse.

Entry is via a gentle ramp or stairs from the Tobruk Avenue plaza to concourse level. Dual lifts and a stair lead from concourse to an island platform.

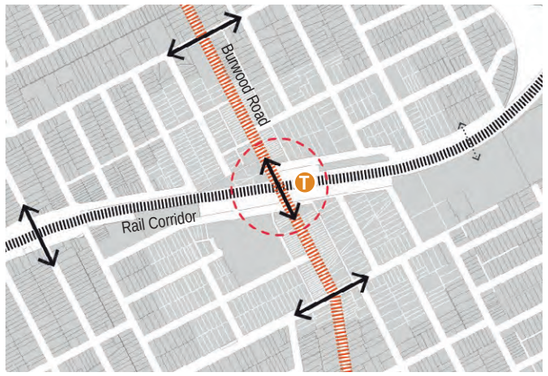
9.1.4. Urban Context

Land use and urban character



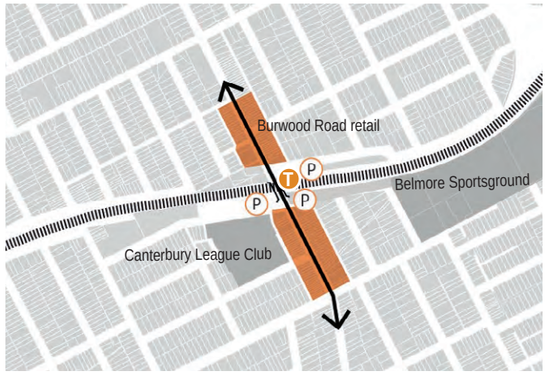
- Generally fine grain urban development pattern
- Typically one and two storey housing and low rise apartment blocks
- Retail concentrated on Burwood Road
- Canterbury Leagues Club
- Belmore Sports Ground, home to Canterbury-Bankstown Bulldogs and Sydney Olympic Football Club.

Transport corridors divide the precinct



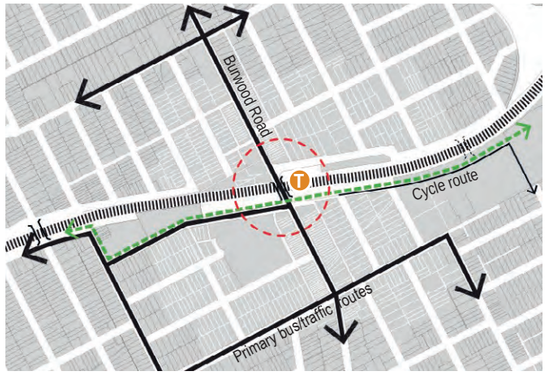
- Burwood Road is an obstacle being a relatively busy road that interrupts free east west movement in the precinct
- There are no dedicated pedestrian crossings at the Bridge Road / Burwood Road intersection
- The rail corridor inhibits north-south movement in the precinct
- Burwood Road is the main vehicle crossing of the rail corridor with the next connection across the corridor at Moreton Street, Lakemba, about 750m by road to the west, and Loch Street around 1.7 kms by road to the east
- A pedestrian only underpass connects the Belmore Sports Ground to Redman Parade about 500m east of the station.

Public Domain/pedestrian access



- Vibrant traditional strip shopping village along Burwood Road
- Linear parkland adjacent to the rail corridor lends Belmore an open, green character
- Off-street and on-street commuter and shopper car parking areas around the existing train station
- Station entrance and overhead booking office on the Burwood Road overbridge
- Sporting facilities bring large event-related crowds to the centre.

Circulation and interchange environment



- Train and bus services and local cycling and walking routes meet in the centre of the Belmore precinct
- Improved connections across Burwood Road will improve connectivity and interchange around the station

Figure 9-3: Canterbury Bankstown Bulldogs home game

Figure 9-4: Burwood Road

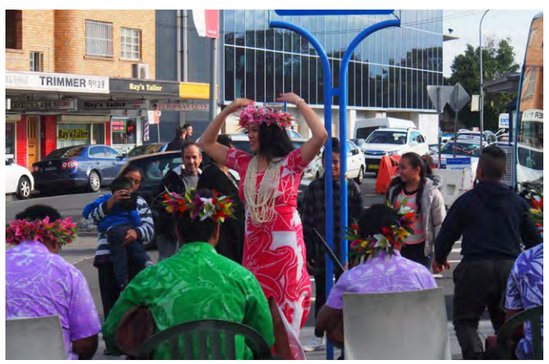


Figure 9-5: Community gathering at Belmore Station

Figure 9-6: Belmore Station entry

9.1.5. Heritage & Place

Pre-European landscape – Belmore is part of the traditional land of the Bediagal people.

The area was once covered by a forest of Sydney Blue Gum, Blackbutt, Red Mahogany and Ironbark trees, growing on clay soils derived from Wianamatta shales. Water came from three small creeks, which flowed in a north-easterly direction towards the Cooks River.

European settlement and land use – The earliest colonial surveyors followed an Aboriginal pathway (which became Punchbowl Road/ Milperra Road) which led from Cooks River to Georges River. Before 1810, this pathway became a convenient access road from Sydney through Canterbury Farm, crossing Cooks River at the 'Punch Bowl' ford, and land grants were surveyed along the route. Once over the ford, travellers could turn south on a track, now Burwood Road at Belfield, and pass through country which is today's suburb of Belmore, south-east to King's Grove Farm and the land grants beyond.

Canterbury Road was not formed as an access road into Sydney until after the 1830s, and it was not gazetted until 1856. Much of the timber used in colonial era Sydney buildings came from the forests of the area. The hardwood was also used as sleepers in the first rail line from Sydney to Parramatta and for firewood. Once cleared, the fertile clay soils around Belmore were planted with potatoes and other staple crops, as well as being used for grazing, orchards and vineyards. As the property boom of the 1880s developed, speculators bought up farmland to the south of Cooks River and pressure was applied to the Colonial Government to build a railway.

Subdivision of land around what was to become the Belmore terminus got under way even before the Belmore Branch Line opened in 1895.

Heritage – The Belmore Station Group (Platform Buildings, Overhead Booking Office, Platform, Overbridge, Canopies) is listed on the State Heritage Register (no. 01081) as well as the Railcorp Section 170 register (4801084) and the City of Canterbury LEP 2012 heritage register (I11). The Belmore Railway Station Group is a significant heritage place in the Belmore area.

Opposite the station, at 346 Burwood Road, the original station master's cottage remains although it is now in private ownership. The cottage is on the City of Canterbury LEP 2012 heritage register, as are two small buildings within the station curtilage on Redman Parade, a waiting shelter and a public lavatory, both dating from the interwar period.

Belmore Station was opened as the initial terminus station on February 1, 1895 when Belmore was still rural. Its original name was Burwood Road but it became Belmore Station on opening. .

The line was built to relieve the crowding on the Main Southern Line and encourage agriculture and suburban growth in the late 1800s and early 1900s.

The station layout featured a typical brick station building on an island platform. which represents a period of transition from the boom period of the 1880s to the standardisation of NSW railway building design of the 1890s and onwards. The platform building features high quality polychromatic brickwork, ornate filigreed awning brackets and fine detailing of all timber work and joinery.

Belmore station retains a timber overhead booking office on Burwood Road; a building type that is now relatively rare on the Sydney rail network. The building is timber framed and clad in weatherboard with a hipped Marseille terracotta tiled roof. The booking office was altered in 2008 to provide lift access to the station platform and to create a more open frontage to Burwood Road.

Figure 9-7: St George Hotel 1919
Source: Canterbury City Council

Figure 9-8: Belmore Station
Source: edublog

Figure 9-9: Blacksmith at Belmore ca 1905
Source: Unknown

Figure 9-10: Belmore Scouts Hall 1940
Source: National library of Australia

Figure 9-11: Belmore South Public School 1917
Source: edublog

9.1.6. Landscape & Urban Fabric

The Canterbury Leagues Club building on Gladstone Street is the most significant built form in the locality. The nearby Belmore Sports Ground is also a key land use in the precinct. Terry Lamb Reserve and the adjacent bowls club add to the expanse of open space in the immediate station precinct as does a stretch of rail corridor land east of the station that is effectively an extension of the parkland.

With the above exceptions, the Belmore centre generally has a traditional, fine grained built form with two storey high street buildings and a mix of older style walk-up apartment buildings and detached housing in the streets behind. Burwood Road village is a successful local shopping strip. The Greek community is apparent in Belmore, north of the station. All Saints Greek Orthodox Church and All Saints Grammar School are local landmarks.

The precinct has three discrete areas of higher density residential zoned land. Compared to the adjoining precincts of Campsie and Lakemba, Belmore is relatively small and has fewer apartment buildings. The outer residential areas of the precinct are largely occupied by single detached houses on relatively large blocks dating from around the early to mid twentieth century.

Building stock is generally in good condition and there has been little high or medium density residential development in the centre in recent years.

Figure 9-12: Belmore Town Centre
Source: HASSELL/COX

Figure 9-13: Heritage Listed House, The Towers
Source: Bar, J.

Figure 9-14: All Saints Greek Orthodox Church
Source: All Saints Belmore

Figure 9-15: Belmore Sports Ground
Source: Daily Telegraph

Figure 9-16: Belmore Station

Figure 9-17: Belmore Hotel
Source: Dunedoo, Flickr

Figure 9-18: Canterbury Leagues Club
Source: www.canterbury.com.au

9.1.7. Culture & Demographics

The key demographic attributes of the suburb of Belmore (based on 2011 census data) are:

- A median age of 37, which is comparable to that of Greater Sydney.
- 50% of the population was born overseas (Greece, Lebanon and China being the highest proportions), and 47% were from a non-English speaking background
- The predominant household type is couples with children (42%) which is higher than Greater Sydney however the fastest growing household type is couples without children (21%), which is still slightly below the Greater Sydney average (23%).
- A lower income with a median weekly household income of $1,005 when compared to Greater Sydney average of $1,447.
- The majority of residents (54%) owned or were in the processes of owning the dwelling they reside in.
- A slighter higher proportion (31%) of persons renting privately within the suburb, when compared to 25% across Greater Sydney.
- The average weekly rent within the suburb was $293, this was 20% less than that recorded for Greater Sydney ($351).
- Detached dwellings comprises the bulk of dwelling stock (52%), this was slightly lower than that recorded for Greater Sydney as of 2011 (59%).
- Medium and high density dwellings comprise 47% of the dwelling stock, with high density housing the fastest growing dwelling type.

The 1960s was a period of change with the introduction of apartment buildings principally for rent in parts of Belmore coinciding with changes in the ethnic composition of the population, as the flats provided short-term housing for successive waves of migrants to Australia.

The opening of Roselands Centre in 1965 had an effect on small businesses in the shopping centre around that time. By the end of the twentieth century, specialty shops offering goods and services to Korean and Greek speaking people predominated on Burwood Road.

Belmore retains much of its early twentieth century Federation and interwar California Bungalow housing stock, and Redman's Estates, the Towers Estate and Belmore shopping centre, were classified by the National Trust in 1999 as Urban Conservation Areas.

Figure 9-19: Key demographic facts for Belmore Precinct
Source: Department Planning & Environment

Figure 9-20: Belmore Sports Ground
Source: Daily Telegraph

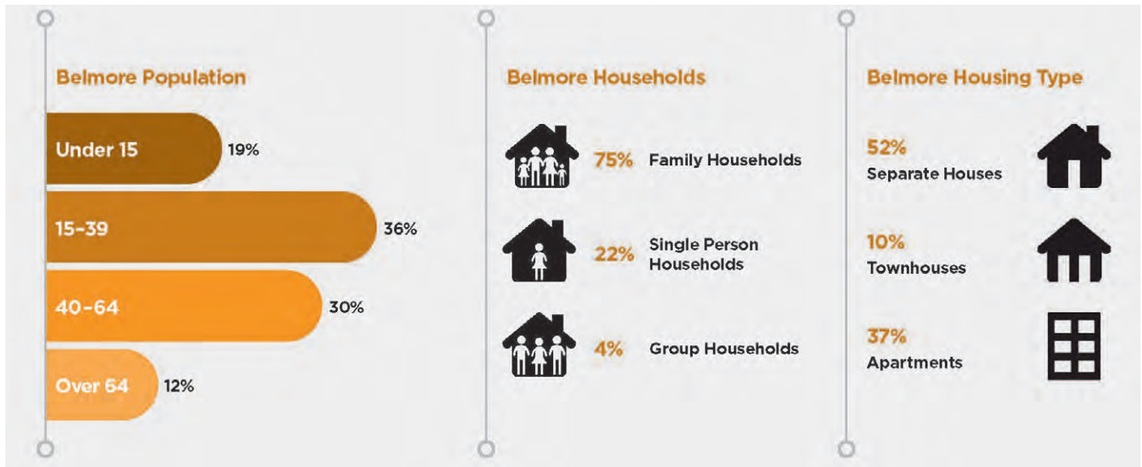


Figure 9-21: Key demographic characteristics for Belmore Precinct
Source: Department Planning & Environment

9.2 Land Use Integration

9.2.1. Planning Controls

Canterbury Local Environmental Plan 2012 provides the land use controls for the station and surrounding area (refer to Figure 9-22).

Burwood Road between the station and Canterbury Road is around 700 metres in length and is activated by local retail in an area that is zoned (B2) Local Centre. It is surrounded by (R3) Medium Density Residential to (R4) High Density Residential land use zones (which have seen relatively little change in recent years). There are small areas of business development /enterprise along Canterbury Road.

There is also a large area zoned (R1) Public Recreation (comprising Terry Lamb Reserve) southeast of the station bound by the rail corridor.

LEP 2012 building height map indicates five to six storeys along Burwood Road within the town centre area, and up to four storeys for lots close to the town centre. Canterbury Leagues Club has a height allowance up to ten storeys.

In addition to the LEP, Canterbury Development Control Plan 2012 provides guidance on the design of the urban structure of centres, including Belmore.

The Belmore Structure Plan indicates retail/commercial street activation along Burwood Road (refer to Figure 9-23). Although the train station is currently well positioned in the middle of the main retail strip, with the ongoing new developments along the southern part of Burwood Road and Canterbury Road, the town centre is most likely to be further extended towards the south, increasing the strength of the retail strip between the railway station and Canterbury Road.

Land Zoning Map
Source: Canterbury Local Environmental Plan and Development Control Plan 2012

Heritage Map
Source: Canterbury Local Environmental Plan and Development Control Plan 2012

Figure 9-22: Land use zones and heritage curtilage surrounding Belmore Station

Figure 9-23: Development Control Plan provisions relating to Belmore Station

9.2.2. Urban Renewal

The NSW Department of Planning and Environment, in partnership with the Inner West Council and the City of Canterbury Bankstown, has developed an Urban Renewal Corridor Strategy for the Sydenham to Bankstown corridor to guide future development and infrastructure delivery over the next 20 years. The Belmore Precinct is one of eleven areas studied for which a draft strategy was published in October 2015 for the purpose of public consultation.

Constraints and opportunities mapping of the Belmore Precinct undertaken for the draft strategy revealed a series of constraints to development in large parts of the precinct, including:

- Small residential lots and strata title apartment buildings within the precinct.
- Limited open space in the western part of the precinct.
- Localised flood impacts.

The revised strategy (2017) addressed feedback from public submissions, community workshops, meetings and technical studies. The following key issues were raised:

- The protection of Belmore's quiet suburban character.
- Concern about the design and quality of new development.
- Support for development and requests for increased height and density controls on specific sites.
- Concerns about traffic congestion and insufficient parking including a desire to retain commuter parking.
- Support for transport upgrades.
- Requests for more services and infrastructure to support growth.
- Support for increased housing diversity in the Belmore Station Precinct.
- Requests for more information about the implementation process to help property owners plan for the future.

Key changes to the strategy made in response to feedback are shown in Figure 9-24. The final revised Sydenham to Bankstown Urban Renewal Corridor Strategy was placed on exhibition June 2017.

The revised strategy for the Belmore Precinct has proposed:

Burwood Road to continue to be a vibrant, popular eat street.

- Belmore Sportsground to be better connected to the station via a potential linear park along the rail corridor. Open space around the sportsground to be upgraded.
- New apartment development to deliver improved streetscapes, new pedestrian connections and more green and urban open space.
- Belmore Station to be connected to neighbouring Campsie and Lakemba Station Precincts via improved streets, shared pedestrian and cycle paths and potential linear parks along the rail line.

This strategy aims to 'facilitate employment growth within the Belmore Station Precinct by reinforcing Burwood Road as a vibrant commercial centre attractive to business investment'. The strategy proposes higher density development with new apartments closer to the station, and low rise development in areas outside of a five to 10 minute walk. Areas to the north of the station would predominantly be medium rise, with high rise largely confined to the southern side of the rail corridor, and shop top housing along Burwood Road north and south of the station. The strategy also proposes the following land use and associated built form changes:

South of the station

- Increased density and transit oriented development with most of the area designated for high rise/mixed use development south of the station to Leylands Parade.
- New urban plaza at the intersection of Collins Street and Burwood Road.
- Improved access to Belmore Sportsground via a pedestrian connection along the rail corridor and upgrade of the northern edge of Terry Lamb Reserve as part of the GreenWay. South West project.
- Expansion of retail into a grid between Belmore Sportsground and Canterbury Leagues Club.
- Medium rise development south of Belmore Sportsground.

North of the station

- Medium rise residential on Cleary Avenue to create a continuous medium rise future character between Lakemba Street and the rail corridor from Belmore Station to Punchbowl Station.
- High rise and/or mixed use development (maximum 18 storeys) along Redman Parade incorporating commuter parking, community facilities, active uses at ground floor to Burwood Road and Redman Parade, and commercial offices and community uses at first and second floor.
- Enhancement of the open spaces on Wortley Avenue and Redman Parade.
- Potential for a linear park along Wortley Avenue and Railway Parade.

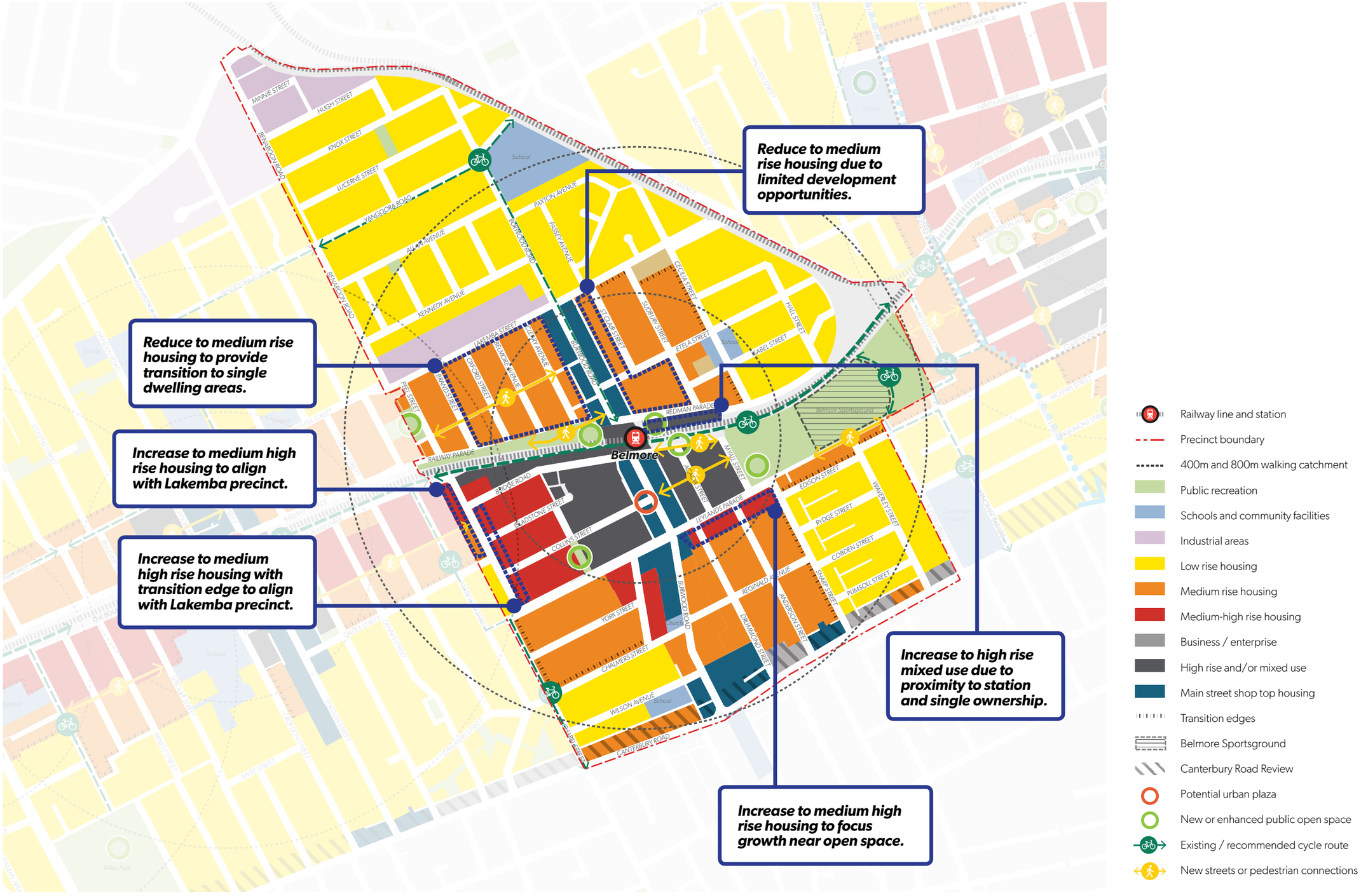


Figure 9-24: Key changes to the Sydenham to Bankstown Draft Urban Renewal Corridor Strategy
Source: Department Planning & Environment

9.3 Accessibility and Connectivity of Communities

9.3.1. Pedestrian Catchment

Belmore is predominantly an origin station although occasional sporting events at the Belmore Sports Ground see large crowds arriving by train. The stadium at the Sports Ground and the Canterbury Leagues Club west of Burwood Road fall within the 5 minute walking catchment.

The 10 minute walking catchment extends northwards towards Lakemba Street and southwards almost as far as Canterbury Road. It includes a largely residential catchment as well as the Greek Orthodox Church and All Saints Grammar School junior campus on Isabel Street, north of the station. St Joseph's Primary, Belmore Boys High and Belmore North Public School all lie just outside the 10 minute walking catchment. Canterbury Hospital to the south-east on Canterbury Road is approximately 15 minutes walking distance from the station.

Broadly, flows from the station in the morning peak are around 80% to the south along Burwood Road, and 20% to the north along Burwood Road

Inward flows to the station are split approximately 60:40 from the south and from the north respectively, along Burwood Road.

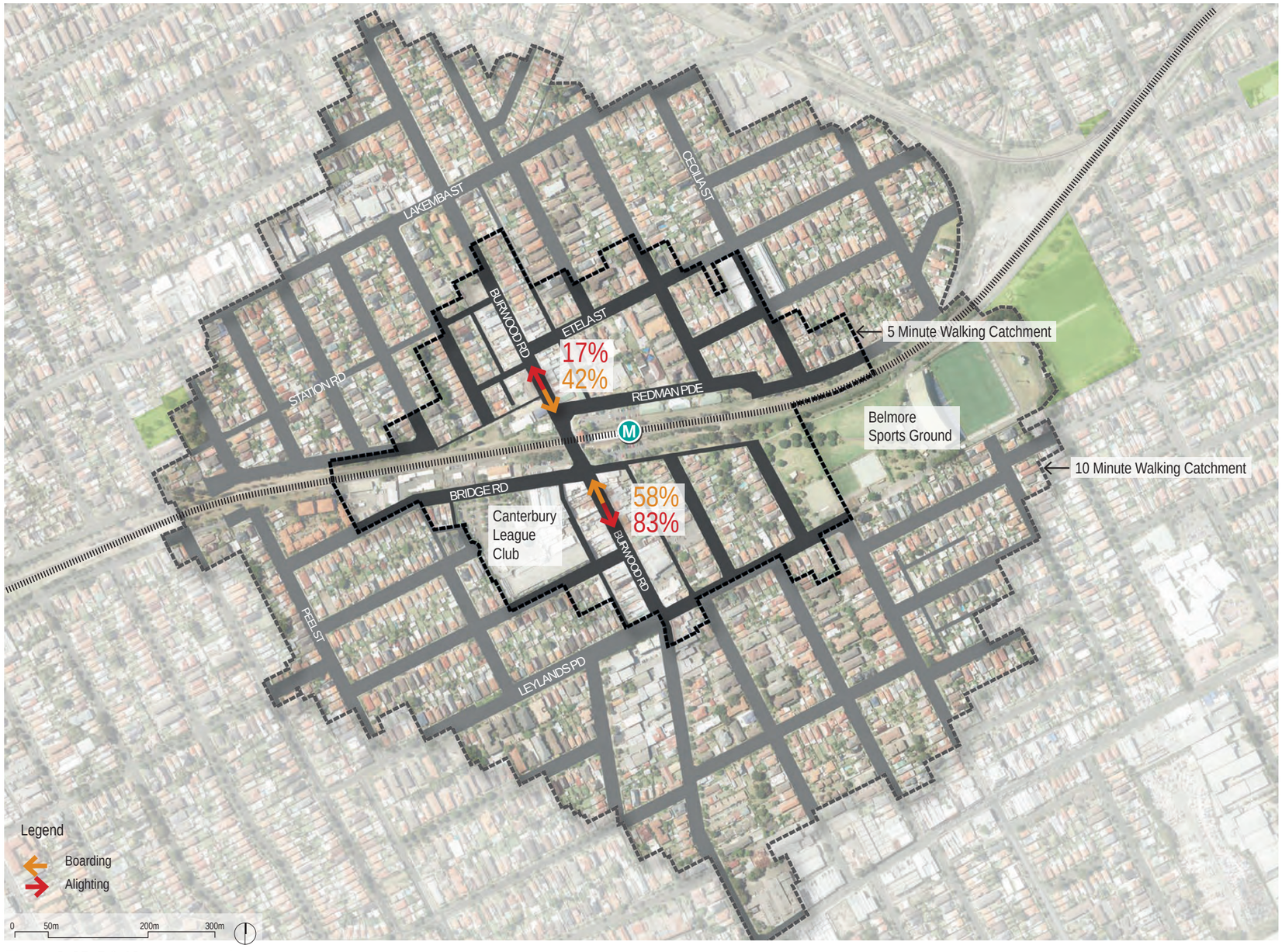


Figure 9-25: 5 & 10 minute isochrones

9.3.2. Access & Interchange Integration

The existing entry to Belmore Station on Burwood Road lacks an accessible path of travel due to the relative steepness of the approach footpaths on the road bridge. The proposed southern station entry and the associated plaza and shared zone on Tobruk Avenue will provide fully accessible connections between Burwood Road bus services and proposed taxi and kiss and ride bays. Bicycle parking is to be provided within the new plaza at Tobruk Avenue.

A new signalised crossing at Tobruk Avenue/ Bridge Road/ Burwood Road will include pedestrian crossings and a cycling and pedestrian connection to the shared path in Belmore Park to the east. The signalised crossing on Burwood Road at the existing station entrance, therefore, can be removed.

It is proposed to move the southbound bus stop on Burwood Road to the south side of the newly signalised Tobruk Avenue, Bridge Road and Burwood Road intersection. Tobruk Avenue will be extended and widened to provide a shared zone with the station entry plaza/ forecourt, which will include bicycle parking facilities, new taxi and kiss and ride facilities. The existing northbound bus stop will be retained. The southbound stop on Burwood Road would be relocated to the south of Tobruk Avenue.The northern entrance to the station will be on Redman Parade on the northern side of the rail corridor.

Widening of Tobruk Avenue will allow for a new enlarged footpath on the southern side to connect to the active transport corridor along Bridge Road, and the existing paths along the southern side of the corridor along Tobruk Avenue. Provision has been made in the station plaza for new retail concessions, the use of which will be the subject of a separate approval process. It is intended that a range of suitable uses will provide appropriate activation to the plaza.

Interchange	Distance	Total Travel (min:sec)
Bus Northbound	100m from entry	01m:17s
Bus Southbound	95m from entry	01m:13s
Taxi	28m from entry	00m:22s
Kiss & Ride	28m from entry	02m:22s

Note: Calculations are taken from the cadastral boundary line closest to the Sydney Metro entry points. All travel distances from the base of the direct line of travel for pedestrians and do not take into account light signals and crossing points.

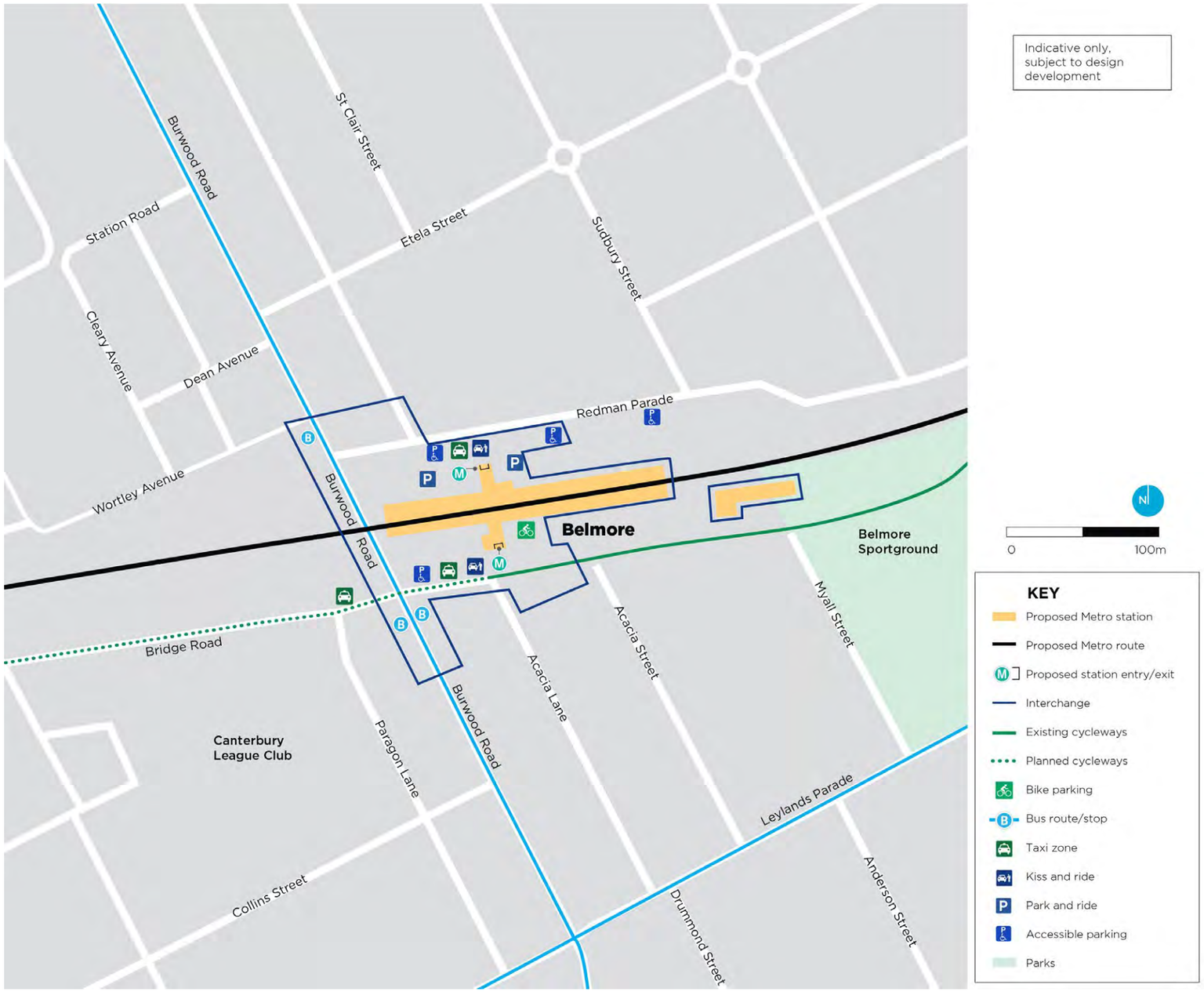


Figure 9-26: Access & interchange diagram

9.4 Station Area Place Making and Community Enhancement

9.4.1. Opportunities

The relocation of Belmore Station as part of the Sydney Metro development allows for the creation of an important new public space on a strategic site in the Belmore town centre at the nexus between public transport modes, the Burwood Road village and the open spaces and sporting facilities of Belmore Park. The plaza design includes provision for future retail space (the use of the retail space would be subject to a separate approval process).

The space is conceived as both station forecourt and interchange zone and as one where space and facilities are provided for a wider range of public uses. The plaza ties together the urban qualities of Burwood Road with the parkland setting of the Belmore Sports Ground. The Draft Sydenham to Bankstown Urban Renewal Strategy 2017 focuses on the enhancement of the existing public realm in the Belmore Precinct along with potential opportunities for both active transport links and small extensions to parks adjacent to the rail corridor.

The Strategy suggests that any new community facilities should be sited in the town centre close to Belmore Station.

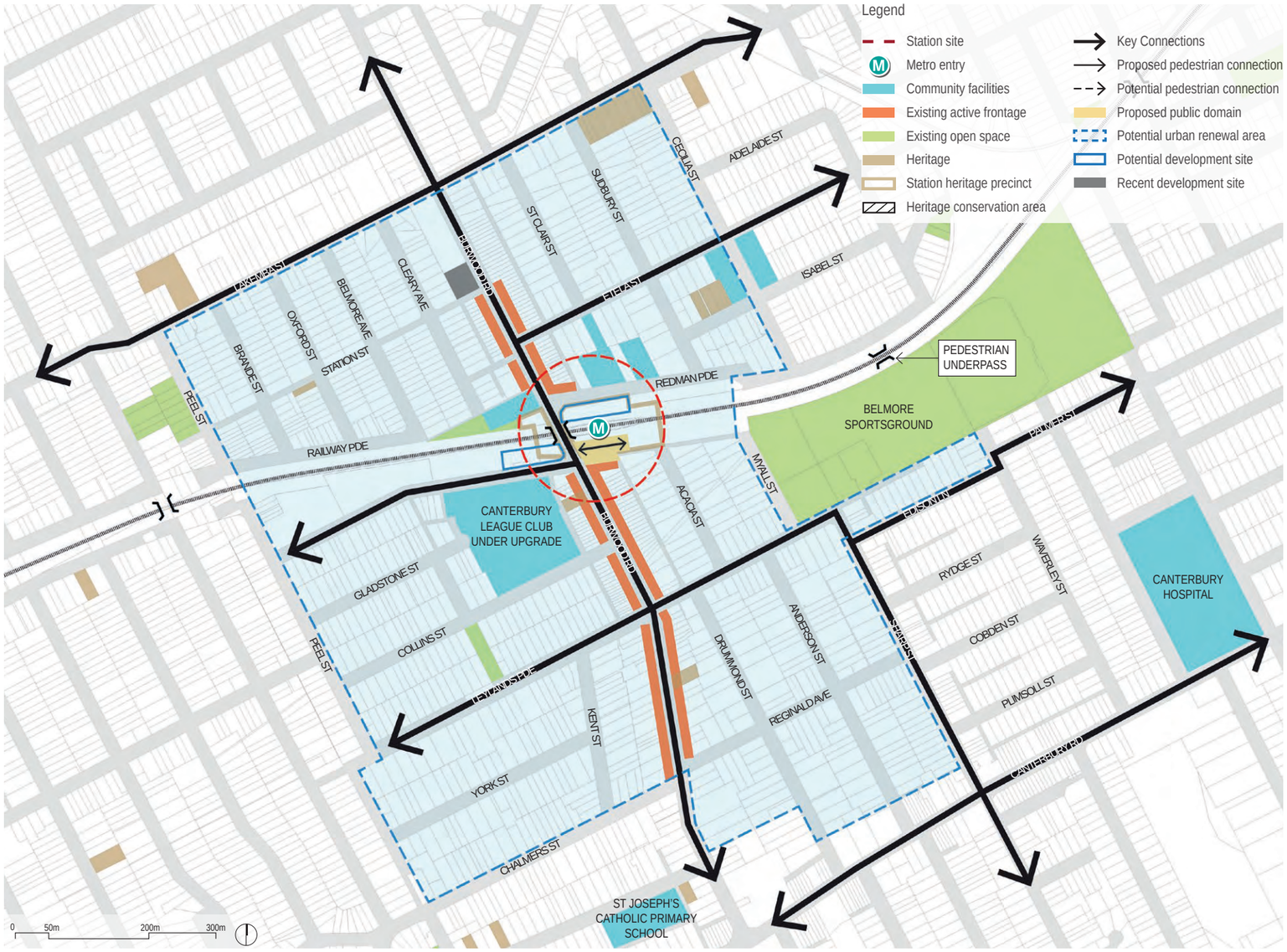
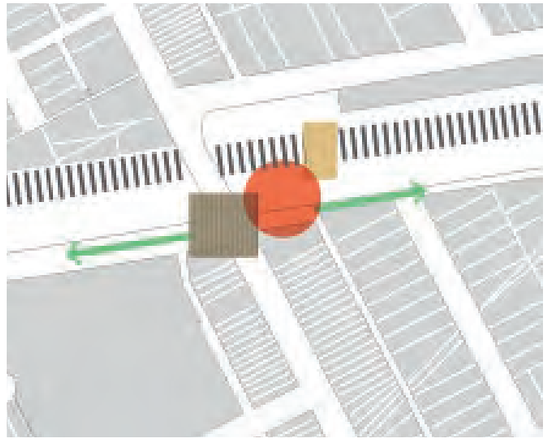


Figure 9-27: Station and precinct opportunities

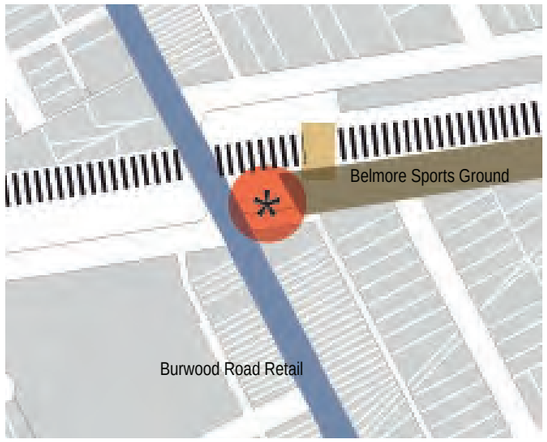
9.4.2. Place Making Characteristics

Local Public Domain



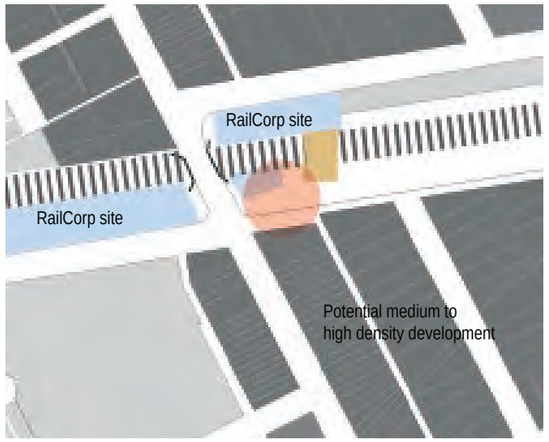
- A generous station plaza and shared zone for the main station entry on Tobruk Avenue.
- Tobruk Avenue/Bridge Road/Burwood Road will become a signalised intersection, improving vehicle, pedestrian and cycling connectivity from east to west.
- The crossing and shared zone will link a proposed on-road cycle route on Bridge Road to the shared path through Belmore Sports Ground.

Connectivity and Access



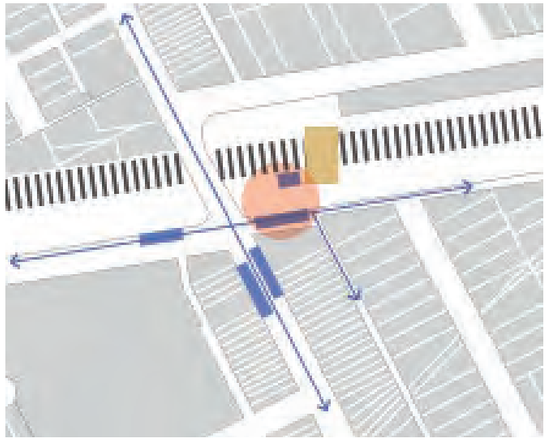
- A landscaped urban plaza will connect the station, the Burwood Road village and the linear parkland of the Belmore Sports Ground.
- The plaza will include retail development, secure access bicycle parking, public seating, artwork and landscaping.
- The distinctive Metro canopy will ensure the station is legible in the Belmore precinct.

Catalyst



- Metro at Belmore will support the renewal of the town centre, through shop-top housing along Burwood Road and higher density development within 400 metres of the station.

Accessible Interchange



- The Tobruk Avenue shared zone will consolidate taxi and kiss and ride bays immediately adjacent to the station plaza.
- Bicycle parking will be found in the Tobruk Avenue plaza
- Bus stops on Burwood Road will remain within 50 metres walking distance of the station plaza.

Figure 9-28: Burwood Road village

Figure 9-29: Entries Belmore Park shared path

Figure 9-30: Shop top housing

Figure 9-31: Existing station entry

9.4.3. Entry Plaza Accessibility & Design Principles

Burwood Road / Tobruk Avenue Entry (South Entry)

- South Entry is via a large plaza located between Burwood Road and Acacia Street. The state heritage listed overhead booking office building along Burwood Road overbridge is to remain and be re-purposed. The existing stairs from Burwood Road to the platform will be removed.
- The entry has been located to the east of the state heritage listed platform building such that the new elevated concourse and stairs directly engage with the heritage building.
- Stairs and ramps will connect passengers from the entry to the new elevated concourse.
- Weather protection would be achieved by providing an entry canopy covering the stairs from the entry.
- Bicycle parking will be provided in the Tobruk Avenue plaza
- Retail and some station services to be contained within the southern entry plaza.

Northern entry – Redman Parade east of Burwood Road

- North entry on site of existing commuter car park
- The entry located to the east of the state heritage listed platform building enables the new elevated concourse and stairs to directly engage with the heritage building
- Weather protection would be achieved by covering the stairs from the entry with a canopy.

9.4.4. Station & Platform Elements

Station, platform and concourse elements incorporated in to the design include the following:

- Concourse entry on the southern side is via a large plaza located between Burwood Road and Acacia Street. Concourse entry on the northern side is on site of existing commuter car park.
- Access from platform to aerial concourse via a single stair and two lifts.
- Aerial concourse with full weather protection, including full weather protection for station gateline and customer facilities
- Platform 170m x 4.5m (min) wide (allows 400mm Platform Screen Door zone along each platform edge). Design to accommodate 6 x cars on Day 1 operation (2 x additional cars for future demand).
- The state heritage listed overhead booking office building along Burwood Road overbridge is to remain and be re-purposed. The existing stairs from Burwood Road to the platform will be removed.
- Existing heritage listed buildings on platforms 1 and 2 to remain and be reused
- Station facilities have been located under stairs where possible to minimize additional built form and obstructions at platform level
- Emergency egress via DDA accessible 1:14 ramp from western end of Platform 1 and 2 to track level. Two additional alternate means of egress are via stairs to the Metro aerial concourse.
- Concourse and platform canopies to provide all weather coverage (where provided)
- Secure and sheltered bicycle storage
- Wayfinding and signage elements located on concourse level to minimize obstruction and maximise customer flow
- Station services building
- Ancillary station facilities including communication cupboards, fire hydrants, station control room, facilities for services and staff
- Facilities to meet fire safety including a fire booster, services buildings and fire evacuation ramp

9.4.5. Heritage Elements

Belmore station group is listed on the following heritage registers:

- NSW State Heritage Register (Listing No. 01081)
- Railcorp Section 170 Register (SHI No.4801084)
- Canterbury LEP 2012 (Item No. I11).

The existing station entry building (overhead booking office) is located along Burwood Road. The building is to remain and be adaptively reused as part of the precinct. The stairs and lift to the existing platform will be removed, as well as the glass canopy connected to the platform heritage building. The structure will require a new sub-structure to comply with new standards.

The existing platform heritage building is to remain and service the new metro station

Elements		Significance Grading	Tolerance for Change	Outcome
Symbol	Type			
A	Platform 1/2 Building (1895)	Exceptional	Low	Retain/Reuse
B	Overhead Booking Office (1937-2008)	High	Some	Retain/Reuse
C	Awning connection to Platform Building (2008)	Intrusive	High	Remove
	Platform 1 – brick (1895)	High	Some	Remove
	Platform 2 – brick (1907)	High	Some	Remove
D	Overbridge (heavily modified 1961)	Little	High	Retain/Reuse

Figure 9-32: Summary of heritage elements

9.4.6. Key Design Elements

The key design elements of the Belmore Station and its surrounding area are summarised in the table below.

Feature	Description
Station works	
Station entry/exit	• The existing station entrance would be removed. • A new station entrance and plaza would be at Tobruk Avenue to the south and a new entrance provided to Redman Parade to the north. • A new elevated concourse would be provided to the east of the heritage platform building.
Platform details	• The heritage listed platforms would be rebuilt, straightened and extended to the east.
Station buildings	• New station buildings would be provided within the concourse and at the eastern end of the platform. • The existing heritage listed platform building would be retained. • The existing overhead booking office would be retained. Existing stairs from the overhead booking office to the platform would, however, be removed. • Existing heritage buildings located within the car park to the north of the station would be retained. • New retail space would be provided as part of the new station plaza on Tobruk Avenue (the use of the retail space would be subject to a separate approval process).

Feature	Description
Station area	
Public transport integration	• The existing northbound bus stop on Burwood Road would be retained. • The southbound stop on Burwood Road would be relocated to the south of Tobruk Avenue.
Access	• The existing signalised crossing on Burwood Road at the station entrance would be removed, and a new signalised intersection would be provided at the Tobruk Avenue, and Burwood Road intersection. The new signalised intersection would include pedestrian crossings • New pathways would be provided on Tobruk Avenue to connect to an active transport corridor along Bridge Road, and the existing pathways along the southern side of the rail corridor.
Kerbside uses, bike parking	• Tobruk Avenue would be extended and widened to provide a shared zone, including new taxi and kiss and ride facilities. • A new bike parking area would be provided within the new plaza on Tobruk Avenue.
Car parking	• Potential impacts to commuter parking and council parking on the northern side of existing station due to new northern station entrance. • Removal of existing council off-street car park located south of the station, resulting in the loss of 48 spaces.

10

Lakemba Station

Building on the social life of the public square

10. Lakemba Station

10.1 Context

10.1.1. Location

Lakemba station is 15km southwest of Sydney CBD in the City of Canterbury Bankstown. The suburb is bounded by Greenacre to the north, Belmore to the east, Roselands to the south and Wiley Park to the west.

The main retail/ commercial strip for Lakemba runs north-south along Haldon Street with minor extensions on Railway Parade and The Boulevarde, adjacent to the station. Haldon Street is an attractive and dynamic retail strip, and a slow traffic environment, conducive to pedestrian and social activity. The existing station plazas are well used public spaces.

The wider precinct takes in a number of community, religious, cultural and educational uses, from the Lakemba Library and Lakemba Club on The Boulevarde, the Lakemba Mosque on Wangee Road, the Musallah (outdoor Mosque) on Railway Parade and Haldon Street, to a range of private and public schools (Hampden Park Public School, Holy Spirit College, Risallah College and St Therese's Public School).

Figure 10-1: Existing Lakemba Station axonometric

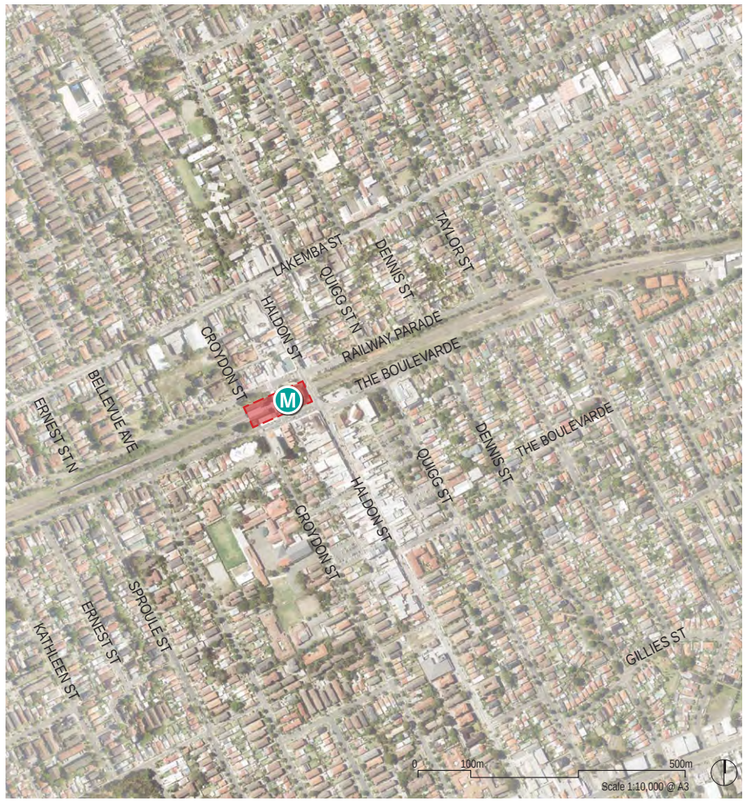


Figure 10-2: Location Plan

10.1.2. Functional Requirements

Aspect	Comment
Station Function	Origin
Corridor	Metro
Station Type	Surface in cutting
Platform Type	Island Platform
Station	Existing entry: Northern entry – Railway Parade, just west of Haldon Street Southern entry – The Boulevarde, just west of Haldon Street
Access & Interchange Requirements	Bus Cycling Taxi Kiss + Ride Accessible Parking Park + Ride

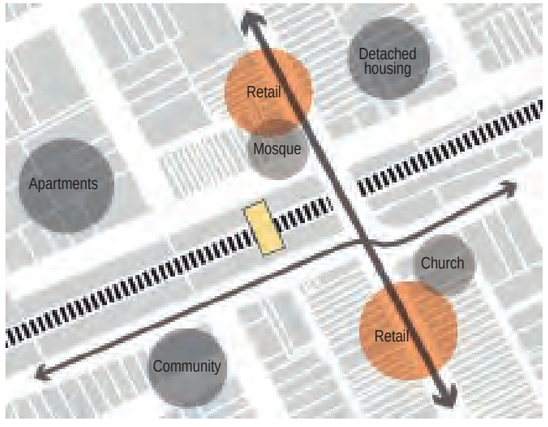
10.1.3. Station Strategy

Lakemba Station entry has been recently upgraded as part of the Transport Access Program (TAP). A new structure has been erected on the original footbridge, including a central aerial concourse traversing the rail corridor, with stair and lift access to the station plazas in Railway Parade and The Boulevarde. The station plazas form an important part of the town centre public domain. The existing elevated concourse would be retained with a minor expansion on the western side to accommodate additional station buildings/ facilities The plazas connect to the station concourse via lift and stairs(existing) on either side of the rail corridor. The concourse will have dual lifts and a stair to the island platform and gatelines at the concourse level.

The existing bus stops located on The Boulevarde, Railway Parade, and Haldon Street(south) would be retained. Taxi bays will remain on The Boulevarde and a new kiss and ride facility is proposed off-road northwest of the station off Railway Parade west of the station entrance and kerbside facilities on The Boulevarde east of the station entrance. New bicycle parking areas would be provided on either side of the rail corridor adjacent to the existing station entrances.

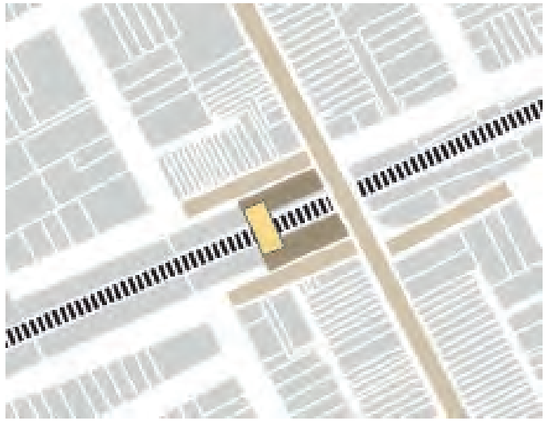
10.1.4. Urban Context

Land use and urban character



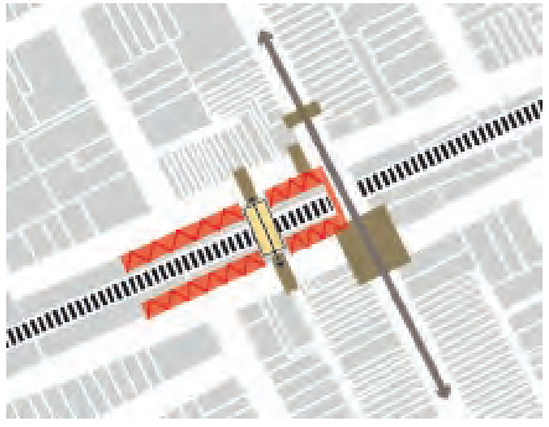
- Lakemba has a dynamic retail village centred on busy Haldon Street, an important north-south connection
- Lakemba Street and The Boulevarde are the principal east-west roads through the precinct, north and south of the station
- The local library, an outdoor mosque (musallah) and the Uniting Church are also found in the centre
- Housing is a mix of two to three storey apartment buildings and generally single storey houses.

Transport corridors divide the precinct



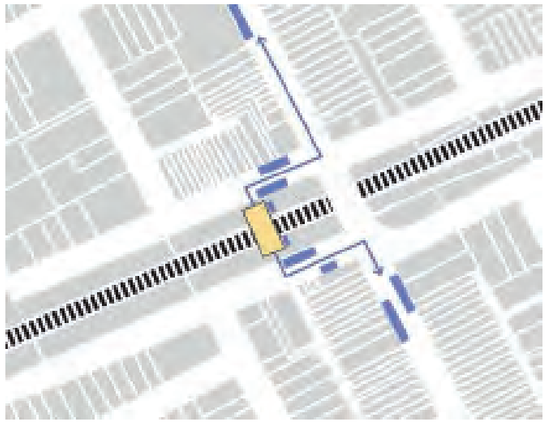
- Station precinct is well served by pedestrian crossings
- Railway Parade and The Boulevarde have steep gradients running to the west
- Haldon Street overbridge has very narrow footpaths.

Public Domain/pedestrian environment



- Station plazas form an important part of the town centre public domain focussed on the station in a crowded urban setting
- The plazas are well used public spaces and contain locally significant elements: a war memorial, a multicultural mosaic and trees derived from Lebanon and the wider Mediterranean.

Circulation and interchange environment



- Connections to taxi bays on The Boulevarde outside the station and to Haldon Street are steep
- The path to the bus stop on the northern side of Railway Parade is also locally steep
- There is only limited bicycle parking provision at station entries.

Figure 10-3: View of Station The Boulevard

Figure 10-4: View from Station towards Haldon Street

Figure 10-5: View from Haldon Street towards Railway Parade

Figure 10-6: View from Haldon Street down The Boulevard towards the Station

10.1.5. Heritage & Place

Pre-European landscape – Lakemba is part of the traditional land of the Bediagal people.

The area was once covered by forest of Sydney Blue Gum, Blackbutt, Red Mahogany and Ironbark, growing on clay soils derived from Wianamatta shales. Water was available from three small creeks that flowed in a northeasterly direction towards the Cooks River.

European settlement and land use – The area had been known as Potato Hill in colonial times when potatoes were a common crop. From 1810, land grants had been made by the colonial government.

Lakemba was known as Belmore South until 1910, and the suburb was renamed after early resident Benjamin Taylor's property Lakemba, which had been named after a Fijian island of that name. Taylor was, among other things, an early mayor of Canterbury.

Much of the area was still forested as late as 1905 when only a few fledgling industries were trading, notably a tannery, a small brickyard producing handmade bricks, charcoal burners and a nursery. Lakemba Station was built on Taylor's property in 1909, after which date the area began slowly to develop. What had been first known as the Belmore Public School in 1878 became Belmore South and then finally Lakemba Public School in 1910.

Until the middle of the twentieth century, the population was predominantly Anglo-Celtic but this changed with the post-war arrival of large numbers of Greek and Italian migrants. After 1970, Lakemba became popular with Lebanese migrants and over the ensuing decades has become known as the centre of Australian Lebanese life. There is also a significant Chinese population resident in the area.

The centre is home to several mosques, among which are the Lakemba Mosque, Ernest Street Mosque and the Lakemba Musallah.

Heritage – Lakemba Station is locally listed on the Canterbury LEP 2012 Register and on the Railcorp Section 170 Register. On The Boulevarde, opposite the station, the Lakemba Post Office is on the local register, as is a single Federation era house to the east of the station.

The war memorial, in the plaza adjacent to the station on The Boulevarde, was dedicated on Sunday 19th April, 1953.

The Lakemba Railway Station Group (Platform Buildings, Overhead Booking Office/Concourse, Platforms, Footbridge, Canopies, War Memorial) is listed on Railcorp Section 170 register (4801916) as well as the City of Canterbury LEP 2012 heritage register (I143).

Lakemba Station was opened on 14 April 1909. The original station at Lakemba had an island platform with entrance steps from the Haldon Street overbridge. A small timber station building with a ticket and parcels office was at the Belmore end with a small signal frame on the Bankstown side of the building. On 24 December 1919, a new brick station building with cantilevered awnings and a signal box was opened at the Bankstown end of the station. A haunched beam footbridge with overhead booking office was erected with electrification in 1926.

Lakemba Station was upgraded in recent years to improve access through the addition of lifts to concourse level and from concourse to platform. The aerial concourse/ footbridge was considerably altered with a new floating roof added along with other structures, although much of the original structure remains

Figure 10-7: Lakemba Railway Station 1910
Source: City of Canterbury

Figure 10-10: Ali Ben Abi Talib Mosque, known as Lakemba Mosque, built 1979
Source: National Library of Australia

Figure 10-8: Lakemba Railway Station 1926
Source: City of Canterbury

Figure 10-9: Odeon Theatre 1960s
Source: City of Canterbury

Figure 10-11: Haldon Street, 1910
Source: Daily Telegraph

10.1.6. Landscape & Urban Fabric

The precinct borders the suburbs of Greenacre to the north, Belmore to the east, Roselands to the south and Wiley Park to the west.

Lakemba town centre comprises a retail/commercial strip running north-south along Haldon Street. The centre generally has a traditional, fine grain, built form with 1–2 storey high street buildings. Although buildings within Haldon Street are of varied architectural styling, it has a consistent form created by building height and street width proportions. Together with its low vehicular speed and narrow carriageway, Haldon Street provides a comfortable and attractive public domain for pedestrians.

The town centre is surrounded by an area of medium density housing. Apartment buildings are generally concentrated within the western portion of the high density residential area.

The outer areas of the precinct are largely occupied by single detached houses on relatively large lots dating from around the mid twentieth century, including some weatherboard housing stock.

Figure 10-12: Lakemba town centre

Figure 10-13: Haldon Street retail/commercial strip

Figure 10-14: Lakemba Shopping Centre
Source: Ray White Lakemba

Figure 10-15: Ali Ben Abi Talib Mosque, Lakemba Mosque
Source: Go Pray

Figure 10-16: Haldon Street, Lakemba
Source: realestate.com.au

Figure 10-17: Haldon Street, Lakemba
Source: realestate.com.au

10.1.7. Culture & Demographics

The key demographic attributes of the suburb of Lakemba (based on 2011 ABS data) are:

- A median age of 31, which is lower to that of Greater Sydney (36).
- 59% of the population was born overseas (Bangladesh and Lebanon being the highest proportions), and 57% were from a non-English speaking background.
- The predominant and fastest growing household type is couples with children (42%) which is higher than Greater Sydney (35%).
- A lower income with a median weekly household income of $849, when compared to Greater Sydney average of $1,447.
- Slightly less than the majority of residents (42%) owned or were in the processes of owning the dwelling they reside in.
- A higher proportion (44%) of persons renting privately within the suburb, this compared to 25% across Greater Sydney. The average weekly rent within the suburb was $296, this was 19% less than that recorded for Greater Sydney ($351).
- Medium density dwellings comprises the bulk of dwelling stock (53%), this was significantly higher than that recorded for Greater Sydney as of 2011 (20%).
- Medium and high density dwellings comprise 74% of the dwelling stock, with high density housing the fastest growing dwelling type.

Lakemba is a southwestern residential suburb, site of the home of Benjamin Taylor, who named it in the 1880s after his father-in-law's mission station in Fiji. It has a large Muslim community chiefly of Lebanese and Bangladeshi ancestry.

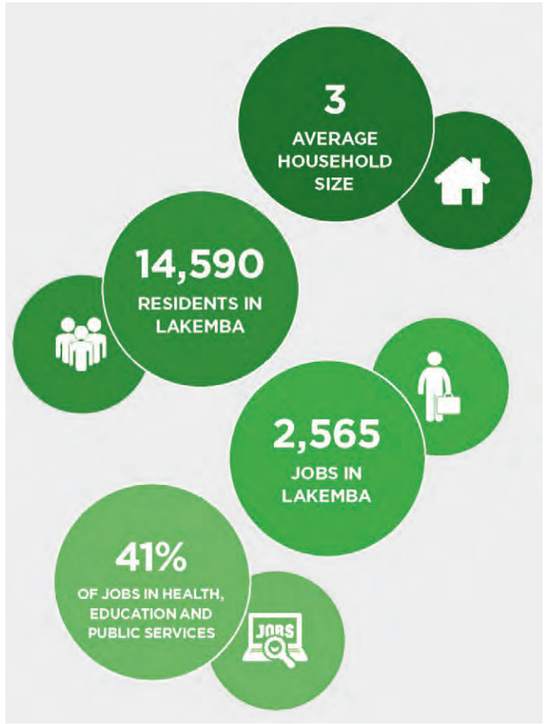


Figure 10-18: Key demographic facts for Lakemba Precinct
Source: Department Planning & Environment

Figure 10-19: Haldon Street Festival
Source: City of Canterbury Bankstownt

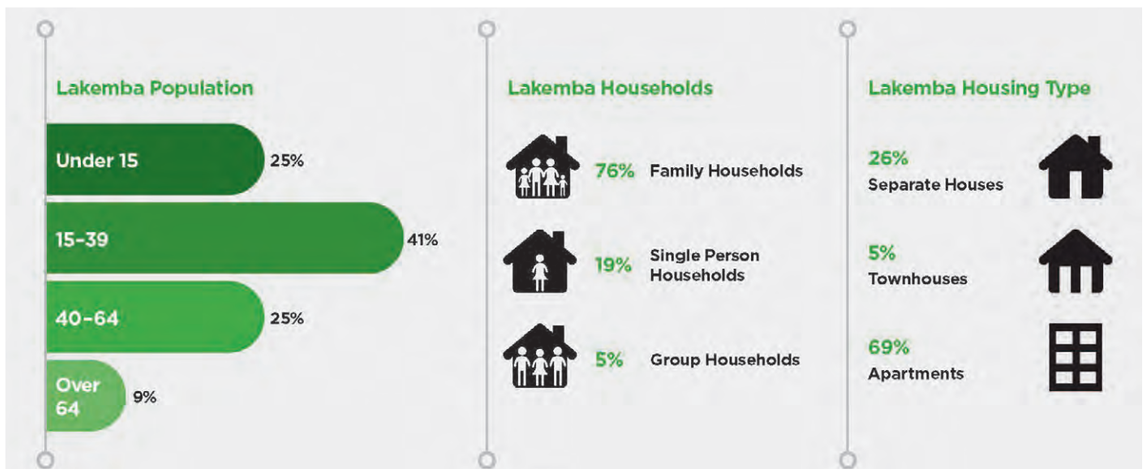


Figure 10-20: Key demographic characteristics for Lakemba Precinct
Source: Department Planning & Environment

10.2 Land Use Integration

10.2.1. Planning Controls

Under the provisions of Canterbury Local Environmental Plan 2012, the land surrounding the station is zoned (B2) Local Centre (predominantly along Haldon Street), (R4) High Density Residential, and (R3) Medium Density Residential in the residential areas around the south, and surrounding the areas of High Residential (refer to Figure 10-21).

In addition to the LEP, Canterbury Development Control Plan 2012 also applies, providing guidance for the desired future character for the Lakemba local centre. This includes retail/commercial street activation along the station frontage on Haldon Street (refer to Figure 10-22). This future character will further increase the activation and density around the Metro station.

Canterbury Land zoning map
Source: Canterbury Local Environmental Plan 2012

Canterbury heights map
Source: Canterbury Local Environmental Plan 2012

Canterbury FSR map
Source: Canterbury Local Environmental Plan 2012

Figure 10-21: Land use zones, floor space ratio and building heights maps for areas surrounding Lakemba Station

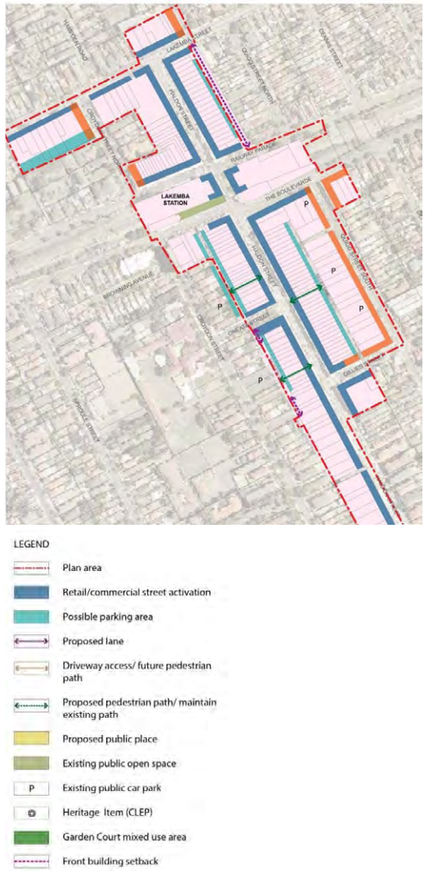


Figure 10-22: Development Control Plan provisions relating to Lakemba Station
Source: Canterbury Development Control Plan 2012

10.2.2. Urban Renewal

The NSW Department of Planning and Environment, in partnership with the Inner West Council and the City of Canterbury Bankstown, has developed an Urban Renewal Corridor Strategy for the Sydenham to Bankstown corridor to guide future development and infrastructure delivery over the next 20 years. The Lakemba Precinct is one of eleven areas studied for which a draft strategy was published in October 2015 for the purpose of public consultation.

Constraints and opportunities mapping of the Lakemba Precinct undertaken for the draft strategy revealed a series of constraints to development in large parts of the precinct, including:

- Limited open space in close proximity to the town centre.
- Limited redevelopment opportunities due to strata titled apartment buildings in both the north and south of the rail corridor.
- Localised flood impacts on Sproule Street.

The 2017 revised strategy addressed feedback from public submissions, community workshops, meetings and technical studies. The following key issues were raised:

- Increased densities should include improvements to the public domain and along Haldon Street.
- Along Haldon and Lakemba Streets in the centre, building heights should be kept lower to retain the village feel.
- Existing older three storey buildings and some newer developments are of poor quality and the Strategy should encourage better design outcomes. Tall 'lego block' outcomes should be avoided.
- Access to regional open space and maintaining existing pocket parks in the centre is important. A new central park and more pocket parks would be desirable.
- Some landholders were supportive of increased densities at locations in the centre of the station precinct and in industrial areas on the periphery.

Key changes to the strategy made in response to feedback are shown in Figure 10-23. The final revised Sydenham to Bankstown Urban Renewal Corridor Strategy was placed on exhibition June 2017.

The revised strategy for the Lakemba Precinct has proposed:

- A centre that capitalises on its vibrant shopping strip with great places to shop, eat and socialise.
- Increased housing options with pockets of modern residential development around the station.
- retention of architecture along Haldon Street that contributes to its character and ensure that new development is complementary.
- Improved station entry and potential urban plaza providing a new public space.
- A proposed linear park along the train line that could provide a new and interesting place for leisure and recreation.

The revised strategy proposes the following land use and associated built form changes, within the immediate surrounds of Lakemba Station:

South of the station

- Main street shop top housing along Haldon Street.
- High rise residential and mixed use development between Croydon Street and Oneata Lane, and Gillies Lane and Quigg Street South.
- Medium-high rise residential along The Boulevarde (aside from a small area of medium rise to provide interface with the heritage item at 12 The Boulevarde), ensuring that any development provides for a through site link in line with Oneata Street.
- Medium rise residential north of Gillies Street.
- Potential for a linear park to be developed along both sides of the rail corridor (incorporating existing parks south of the rail corridor) and GreenWay South West which would run alongside the rail corridor. The park would extend west to become an urban plaza at Lakemba Station before transitioning back to green open space connecting to Wiley Park.

North of the station

- High rise residential and mixed use development (up to 12 storeys) along Railway Parade, west of Croydon Street.
- Main street shop top housing along Haldon Street.
- Medium rise residential (6 storeys) north of Railway Parade, east of Quigg Street North, along Bellevue Avenue and Lakemba Street aside from an area of high rise mixed use development at 206 – 214 Lakemba Street.
- Enhancement of Jubilee Reserve.

Lakemba has been identified as a Priority Precinct and future detailed planning will be undertaken by the Department of Planning and Environment.

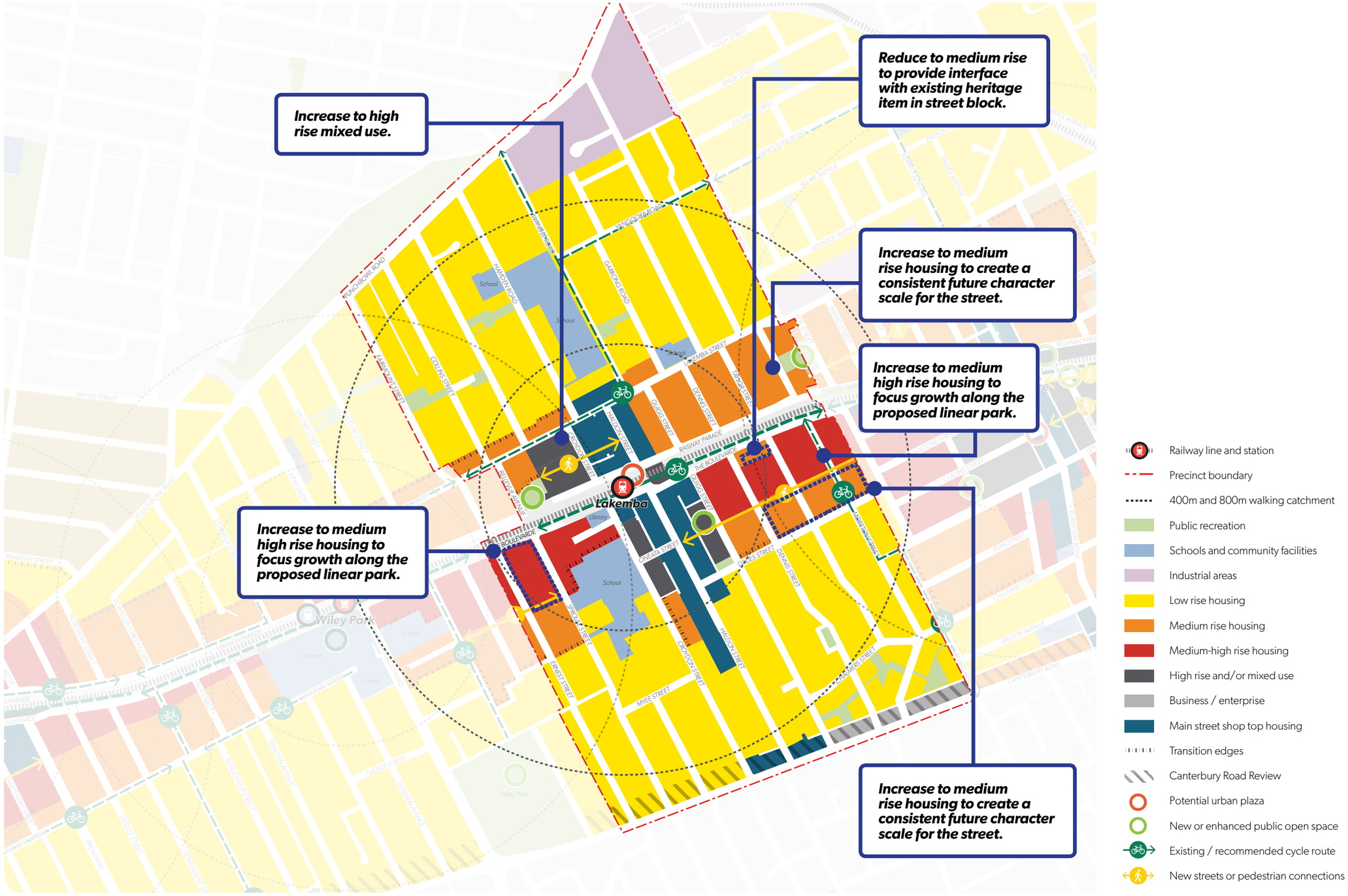


Figure 10-23: Key changes to the Sydenham to Bankstown Draft Urban Renewal Corridor Strategys
Source: Department Planning & Environment

10.3 Accessibility and Connectivity of Communities

10.3.1. Pedestrian Catchment

Lakemba is primarily an origin station. The 5 minute walking catchment extends to Lakemba Street in the north and half way along the Haldon Street retail strip to the south. Holy Spirit College, the Lakemba Public Library, Lakemba Club and the Lakemba Community Services Centre also sit within this zone.

The 10 minute catchment collects the balance of the Haldon Street centre and a wider residential zone.

Pedestrian flows from the station to the precinct are around one third from the south, with the remaining pedestrians flowing equally to the east, north and west.

Flows of pedestrians to the station are roughly one in four from the west and south, and about one in five from the east and north.

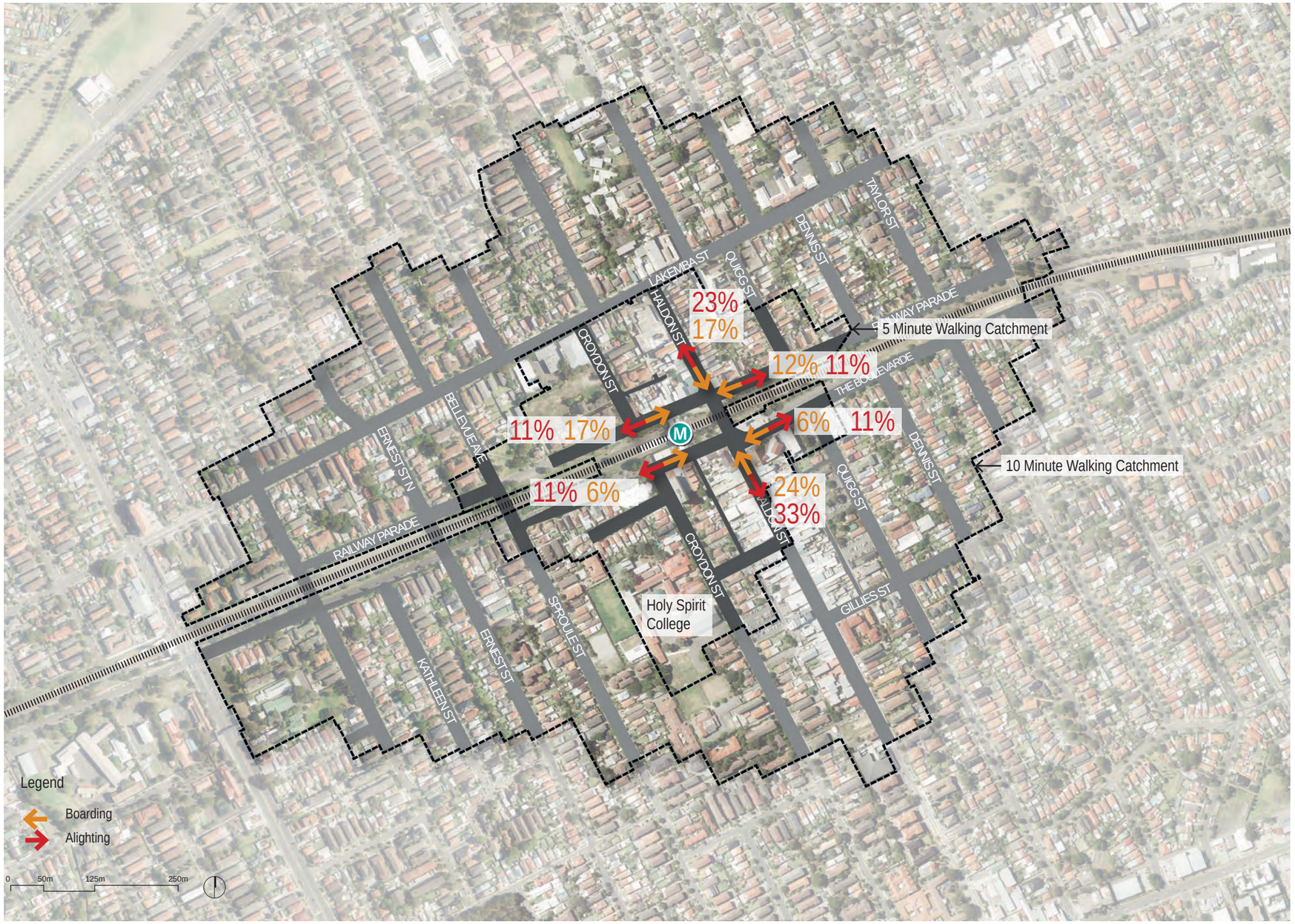


Figure 10-24: 5 & 10 minute isochrones

10.3.2. Access & Interchange Integration

Lakemba Station is flanked by two small station plaza spaces that connect to stairs and lifts to an elevated station concourse. Bus stops occur on both sides of the station and on Haldon Street. Gradients on The Boulevarde and Railway Parade present accessibility challenges for interchange areas.

Urban design and access changes proposed as part of Metro include:

- New kiss and ride facility off-road northwest of the station off Railway Parade west of the station entrance and kerbside facilities on The Boulevarde east of the station entrance.
- New bicycle parking on either side of the rail corridor adjacent to the existing station entrances
- A new footpath on the southern side of Railway Parade, adjacent to the existing car parking area leading to the station entrance.

Interchange	Distance	Total Travel (min:sec)
Bus The Boulevarde	28m from Southern entry	00m:22s
Bus Haldon St Northbound	90m from Southern entry	01m:09s
Bus Haldon St Southbound	115m from Southern entry	01m:28s
Bus Railway Pde	6m from Northern entry	00m:05s
Taxi	10m from Southern entry	00m:08s
Kiss & Ride	50m from Northern entry	02m:38s

Note: Calculations are taken from the cadastral boundary line closest to the Sydney Metro entry points. All travel distances from the base of the direct line of travel for pedestrians and do not take into account light signals and crossing points.

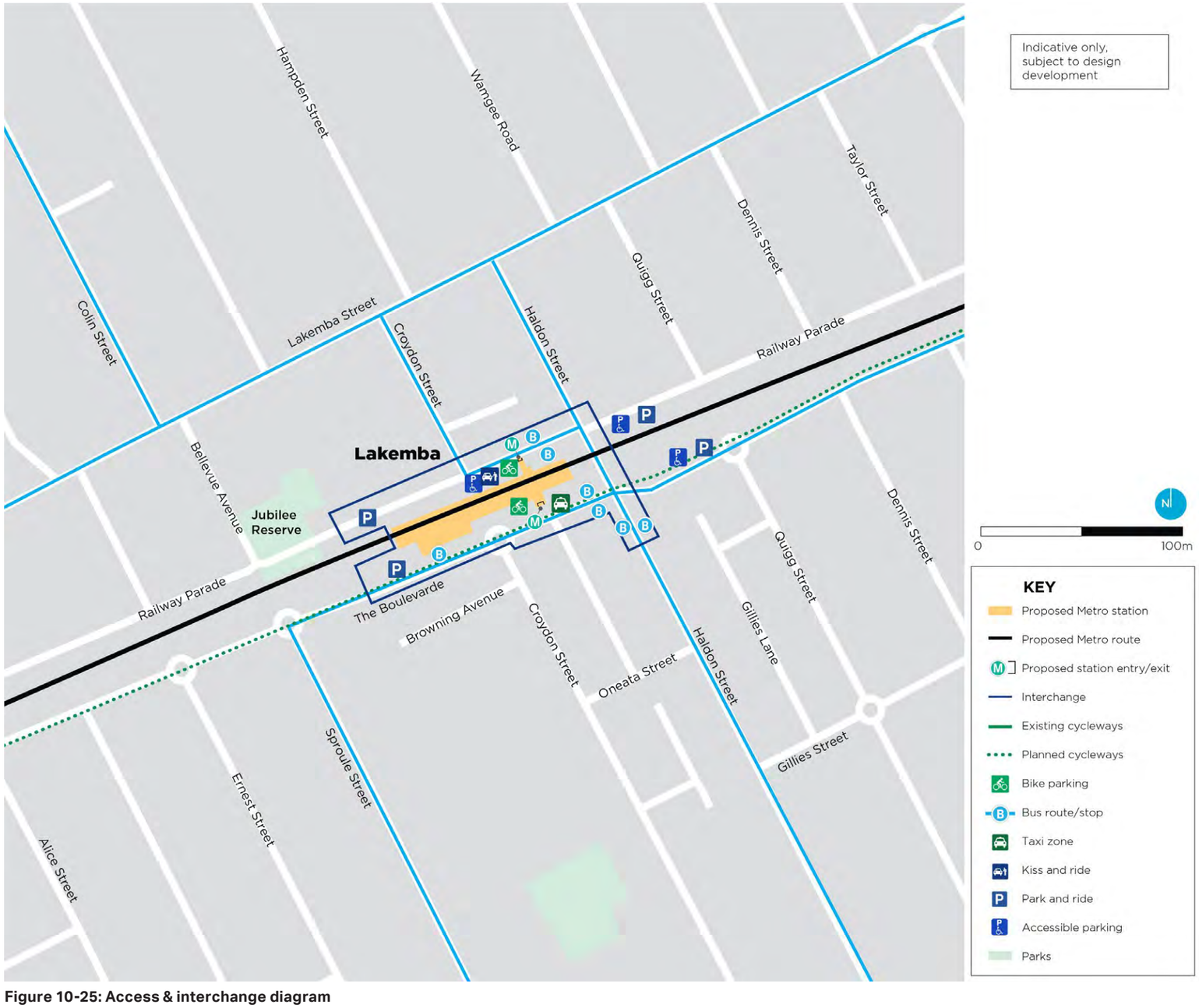


Figure 10-25: Access & interchange diagram

10.4 Station Area Place Making and Community Enhancement

10.4.1. Constraints

The rail corridor is a barrier to north-south movement in the precinct with Haldon Street/ Wangee Road the main north-south connection and The Boulevarde and Lakemba Street are the principal east-west connections. There is limited open space in the vicinity of the station and surrounding area although two public spaces at the station, one a plaza, the other a garden, are well used. Haldon Street itself is the primary public space of the precinct.

The centre is served by a number of both local and regional bus routes. A range of heritage listed sites occur in the precinct, notably the interwar Post Office on The Boulevarde, an interwar urban park on Dennis Street, several interwar and Federation houses and the station itself.

10.4.2. Opportunities

Haldon Street is an attractive and dynamic retail strip and a slow traffic environment conducive to pedestrian and social activity. There are opportunities to build on the urban character of the Lakemba town centre through urban renewal focused mixed-use development.

The location of the station buildings would be unchanged, however, minor additions to widen the concourse area, and the new platform canopies would slightly alter the 'sense of place' and character of the station and surrounding streetscapes.

The increased strong architectural statement of the canopy and consistency with the form of the metro station architecture would improve the prominence and legibility of the station

Upgrades to the existing square and memorial space on The Boulevarde, would maintain the sense of local identity.

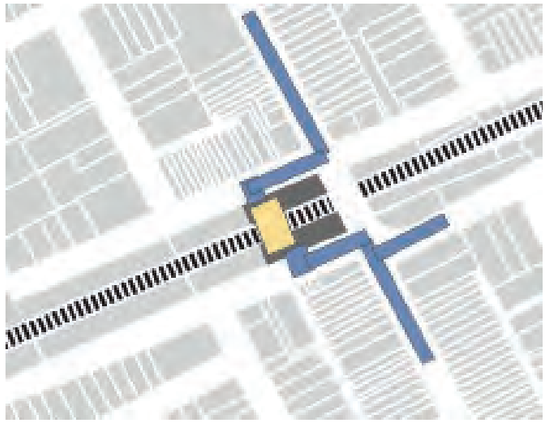
Legend

- Station site
- Metro entry
- Community facilities
- Existing active frontage
- Existing open space
- Heritage
- Station heritage precinct
- Heritage conservation area
- Key Connections
- Proposed pedestrian connection
- Potential pedestrian connection
- Proposed public domain
- Potential urban renewal area
- Potential development site
- Recent development site

Figure 10-26: Station and precinct opportunities

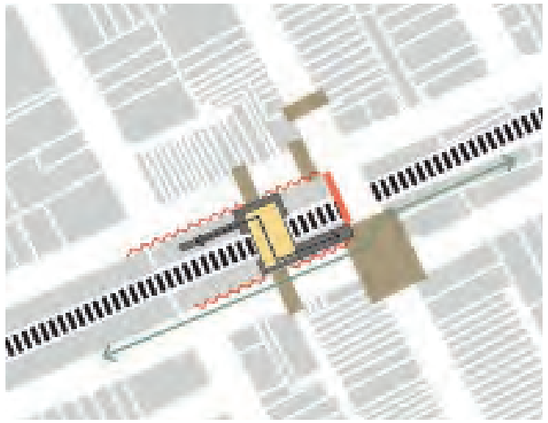
10.4.3. Place Making Opportunities

Local Public Domain



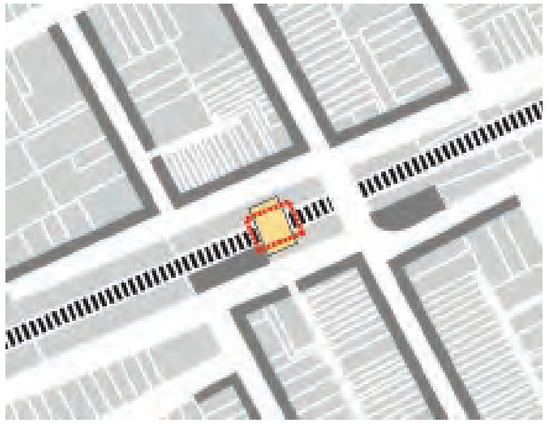
- The extension and upgrade of the station and entry plazas has the potential to complement wider public domain improvements in the town centre
- The war memorial and local mosaic will be maintained as features near the new station plazas
- Tree planting in the plazas can build on the Mediterranean theme currently apparent in the northern plaza.

Connectivity and Access



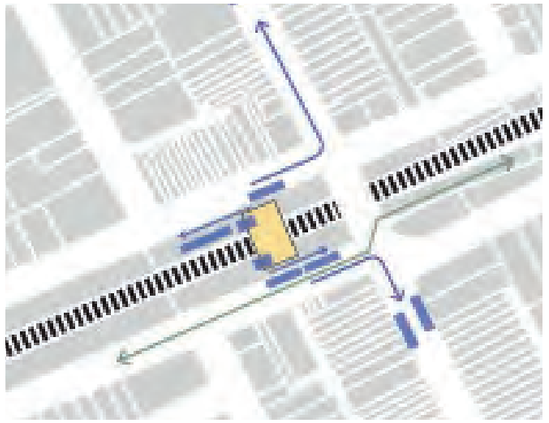
- The new station concourse will provide an Opal card enabled cross-corridor connection
- Accessible connections to, respectively, taxi bays on The Boulevarde and Railway Parade kiss and ride bay
- Connection to active transport corridor along the southern side of the station along The Boulevarde east of Haldon Street, and along the rail corridor boundary west of Haldon Street.

Catalyst



- The new station, its plazas, and metro services will support the urban renewal of the wider precinct.

Accessible Interchange



- Accessible connection to taxi bays and to Haldon Street bus stops
- An off-road kiss and ride zone on Railway Parade will allow for an accessible path to station
- New bicycle parking on either side of the rail corridor adjacent to existing station entrances.

Figure 10-27: Adjacent potential development site

Figure 10-28: The Boulevarde southern station plaza

Figure 10-29: Lakemba Station concourse

Figure 10-30: Railway Parade northern entry bus stop

10.4.4. 15.4.4 Entry Plaza Accessibility & Design Principles

The Boulevarde Entry (Southern Entry)

- Existing station entry retained at The Boulevarde.
- Existing public plaza to entry retained. Existing memorial to southern plaza remains.
- Elevated concourse from The Boulevarde retained with minor expansion on western side to accommodate additional station buildings/facilities.
- Weather protection is achieved with existing roof and new canopies extending beyond gatelines and customer facilities.
- Existing lift and stairs connecting the elevated concourse and the platform.
- New bicycle parking adjacent to station entrance.

Railway Parade Entry (Northern Entry)

- Retain northern Sydney Metro station entry at Railway Parade.
- Weather protection is achieved with existing roof and new canopies extending beyond gatelines and customer facilities
- New bicycle parking adjacent to station entrance.
- Existing lift and stairs connecting the elevated concourse and the platform.

10.4.5. Station, Platform and Concourse Elements

Station, platform and concourse elements incorporated in to the design include the following:

- Existing station entries retained at The Boulevarde (southern entry) and Railway Parade (northern entry) to provide access to concourse
- Existing aerial concourse retailed with minor expansion on western side to accommodate additional station buildings/facilities
- Access from platform to aerial concourse via a single stair and two lifts.
- Aerial concourse with full weather protection, including full weather protection for station gateline and customer facilities
- Platform 170m long (allows 400mm Platform Screen Door zone along each platform edge). Design to accommodate 6 x cars on Day 1 operation (2 x additional cars for future demand).
- Existing heritage listed buildings on platform 1/2 to remain and be reused
- Emergency egress via DDA accessible 1:14 ramp from western end of platform 1 and 2 to track level. Two additional alternate means of egress are via stairs to the Metro aerial concourse.
- Concourse and platform canopies to provide all weather coverage (where provided)
- Secure and sheltered bicycle storage
- Wayfinding and signage elements located on concourse level to minimize obstruction and maximise customer flow
- Station services building
- Ancillary station facilities including communication cupboards, fire hydrants, station control room, facilities for services and staff
- Facilities to meet fire safety including a fire booster, services buildings and fire evacuation ramp

10.4.6. Heritage Elements

Lakemba station group is listed on the following heritage registers:

- Railcorp Section 170 Register (SHI No. 4801916)
- Canterbury LEP 2012 (Item No. I143)

The existing highly significant platform heritage buildings are to remain and service the new Metro station. They will house station services and staff facilities to minimise the built form on the platform.

The highly modified overhead booking office on Beamish Street requires removal to accommodate the enlarged station entry plaza. The platforms require replacement to enable straight platforms, and to accommodate platform screen doors.

Elements		Significance Grading	Tolerance for Change	Outcome
Symbol	Type			
A	Platform 1/2 Building (1919)	High	Some	○
B	Footbridge (1926 with later modifications)	Moderate	High	⊗
	Platform 1/2 (1919)	Moderate	High	⊗

Figure 10-31: Summary of heritage elements

10.4.7. Key Design Elements

The key design elements of the Lakemba Station and its surrounding area are in the table below.

Feature	Description
Station works	
Station entry/exit	• The existing station entrances on Railway Parade and The Boulevarde would be retained. • The existing elevated concourse would be retained with a minor expansion on the western side to accommodate additional station buildings/facilities.
Platform details	• The heritage listed platform would be rebuilt and straightened.
Station buildings	• New station buildings would be provided in the concourse, on the platform and would also be provided adjacent to the Railway Parade entrance. • The existing heritage station building on the platform would be retrofitted.

Feature	Description
Station area	
Public transport integration	• The existing bus stops located on The Boulevarde, Railway Parade, and Haldon Street (south) would be retained.
Access	• Connection to an active transport corridor along The Boulevarde east of Haldon Street, and along the rail corridor boundary east of Haldon Street. • A new footpath is proposed on the southern side of Railway Parade, adjacent to the existing car parking area leading to the station entrance.
Kerbside uses, bike parking	• New kerbside facilities would be provided on Railway Parade and on The Boulevarde, east of the new station entrance. • New bike parking areas would be provided on either side of the rail corridor adjacent to the existing station entrances.

11

Wiley Park Station

Local connections and a street address

11. Wiley Park Station

11.1 Context

11.1.1. Location

Wiley Park is 17km southwest of Sydney CBD in the City of Canterbury-Bankstown. The suburb is bounded by Greenacre to the north, Lakemba to the east, Roselands to the south and Punchbowl to the west.

The station precinct is dominated and divided by King Georges Road, a busy arterial road with extended clearway hours. There is a small retail centre adjacent to the station on King Georges Road which extends to Lakemba Street.

Three public schools lie immediately south of the station - Wiley Park Girls High, Wiley Park Public School and Lakemba Public School - but otherwise the precinct is predominantly residential. Medium density apartment buildings, of generally three storeys, occur just north and east of the station. Remaining areas are typically occupied by single detached houses.

Figure 11-1: Existing Wiley Park Station Axonometric

Figure 11-2: Location Plan

11.1.2. Functional Requirements

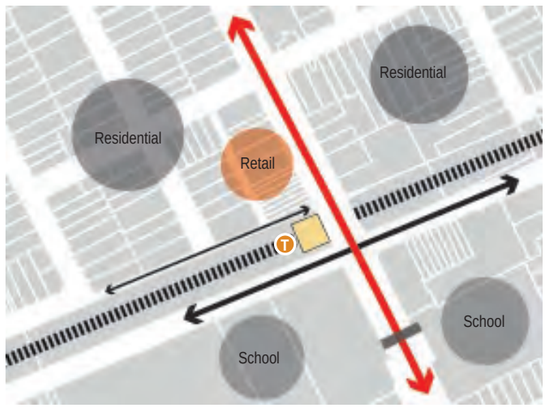
Aspect	Comment
Station Function	Origin
Corridor	Metro
Station Type	Surface in cutting
Platform Type	Side Platform
Station	Existing entry – King Georges Road Proposed entry –Stanlea Parade (north) and The Boulevarde (south)
Access & Interchange Requirements	Bus Cycling Taxi Kiss + Ride Accessible Parking

11.1.3. Station Strategy

The Metro station address will be relocated from the busy King Georges Road with new station entries in close proximity to the existing entrance from the north and south to create a more open, permeable public domain around the station. New retail buildings are proposed on the concourse fronting King Georges Road and a new elevated concourse will be built to provide more space for pedestrian circulation. Single lifts and stairs will be provided to each platform. Improved landscaped connections along The Boulevarde and the northern laneway will add to local amenity and proposed widened pathways on The Boulevarde, both east and west of King Georges Road can potentially become part of a southwest corridor active transport link. Secure access and new bicycle parking areas (at each platform) will be provided on both sides of the station. Bus interchange on King Georges Road is unchanged but a new taxi and kiss and ride zone is proposed on the northern side of The Boulevarde, on flat terrain, east of King Georges Road.

11.1.4. Urban Context

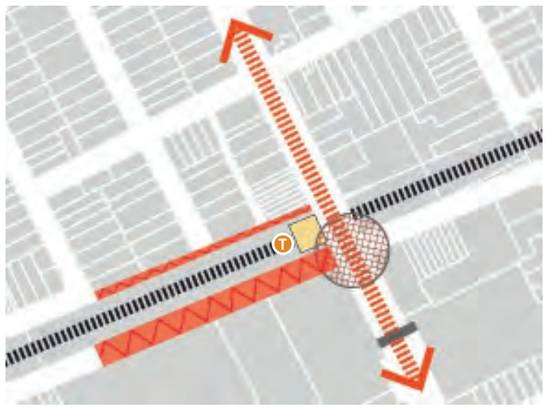
Land use and urban character



- Station bordered by two busy thoroughfares: King Georges Road and The Boulevarde
- Small declining retail area on King Georges Road
- Wiley Park Girls High and Lakemba Public School immediately south of the station
- Precinct otherwise largely residential: a mixture of detached housing and two to three storey apartment blocks.

Figure 11-3: Wiley Park Newsagent located adjacent to the Station

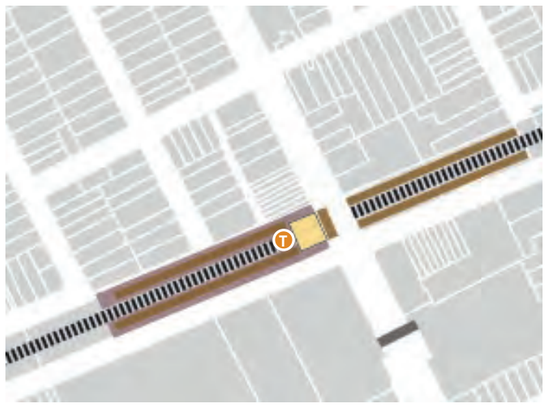
Transport corridors divide the precinct



- King Georges Road presents a hostile environment for pedestrians and difficult to cross
- Current RMS proposal to extend clearway times on King Georges Road (6am-7pm weekdays and 9am-6pm weekends)
- The Boulevarde and the Stanlea Parade laneway, running west of the station, are steep approaches to the station.

Figure 11-4: View from the Boulevard towards Wiley Park Station

Public Domain/pedestrian environment



- Traffic dominated public realm bereft of social or retail activation
- Station approaches offer limited public amenity
- Unattractive, inactive station frontage.

Figure 11-5: View along King Georges Road

Circulation and interchange environment

- Extended clearways on King Georges Road and long No Stopping zone on The Boulevarde preclude interchange drop off adjacent to station entry
- No taxi, kiss & ride or bicycle parking provision
- Bus stops north and south of the station on King Georges Road.

Figure 11-6: View along The Boulevard

11.1.5. Heritage & Place

Pre-European landscape – The area that became Wiley Park was largely covered by mixed forest of Sydney Blue Gum, Blackbutt, Red Mahogany and Ironbark, growing on clay soils.

European settlement and land use – Wiley Park is named after the reserve of 20 acres that was bequeathed in 1906 by successful local butcher, Mr. J.V. Wiley, for a park and recreational ground for local residents. This land was part of an earlier land grant of 60 acres made to Robert Wilkinson in 1832.

Once heavily timbered, the Wiley Park district was largely cleared by the early twentieth century. Today, the park itself is once again the setting for large stands of indigenous and native trees. The park also includes a large grassed amphitheatre and a theatre building, home to the Horizon Theatre Company.

Today, the commercial strip, immediately north of the station on King Georges Road, is modest, and compromised by the constant heavy traffic on this major north-south arterial road. Three public schools, Wiley Park Public School, Lakemba Public School and Wiley Park Girls High School lie adjacent to the station to the south and a little further south on King Georges Road is the Cao Dai temple, a distinctive landmark built by the local Vietnamese community.

Housing in the area is typically low rise apartment buildings and detached houses, mostly dating from the period of the 1930s through until the 1970s.

Heritage – Wiley Park Station is a significant heritage place in the suburb. The station has a particular history, in that it was added to the Bankstown Line in 1938, many years after the line was extended from Belmore through to Bankstown. The station came about following local representation to the State government, and unusually, was paid for by the local council.

The Lakemba Pumping Station dating from between the world wars is also on the City of Canterbury LEP 2012 heritage register. The pumping station is in the grounds of the adjacent Wiley Park Public School.

Wiley Park Railway Station has local aesthetic significance due to its Interwar Domestic Style 1930s era buildings. Two of these are the waiting buildings on platform 1 and 2. The platform 1 building has been significantly altered, having had its gabled roof replaced with a flat roof and its face brickwork painted out. The overhead booking office although also altered through later additions is still relatively intact.

The station possesses local historical significance for being a railway station not financed or constructed by the NSW Government Railways but by the local council. The station opened on 19 June 1938, catering for the suburban development in the area in the 1930s and for the interchange with commuters on King Georges Road. The station was built with an overhead booking office as the major building with ramps leading down to the two side platforms and their small platform waiting buildings. The Lakemba Station Group (Platform Buildings, Overhead Booking Office/Concourse,Platforms, Footbridge, Canopies, War Memorial) is listed on Railcorp Section 170 register as well as the City of Canterbury LEP 2012 heritage register.

Figure 11-7: Newsagent at Wiley Park Station

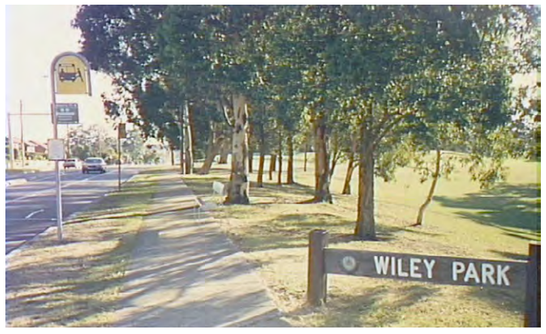


Figure 11-8: Wiley Park

Figure 11-9: Cao Dai Temple was opened in 2000 at Wiley Park
Source: daotam.info

11.1.6. Landscape & Urban Fabric

Wiley Park has only a small retail centre with a limited range of retail and takeaway food premises, centered on King Georges Road and Lakemba Street, north of the station.

The retail offering is largely convenience and fast food businesses, together with the Wiley Park Hotel. Built form is generally one to two storeys although some larger shop-top housing/mixed-use buildings have emerged in recent years.

The wider precinct is characterised by medium-density residential flat buildings to the north and east of this small commercial core. The buildings are generally older, small scale (three storey) buildings occupying narrow sites with a high proportion of strata-titled properties. Beyond the core residential areas single detached houses are located on relatively large blocks dating from around the mid twentieth century.

Building stock is generally in average condition and there has been minimal new residential development in the centre in recent years with the exception of the large, six storey shop-top housing building at the corner of King Georges Road and Lakemba Street and a four storey shop-top building closer to the station.

Figure 11-10: Wiley Park Amphitheatre
Source: City of Canterbury Bankstown

Figure 11-11: Wiley Park Hotel
Source: Wotif

Figure 11-12: 3 Storey Walk-up
Source: Ray White

Figure 11-13: 2 Storey Walk up
Source: Ray White

Figure 11-14: Wiley Park
Source: Unique Property Real Estate

11.1.7. Culture & Demographics

The key demographic attributes of the suburb of Wiley Park (based on 2011 ABS data) are:

- A median age of 30, which is lower to that of Greater Sydney (36).
- 55% of the population was born overseas (Bangladesh and Lebanon being the highest proportions), and 53% were from a non-English speaking background.
- The predominant and fastest growing household type is couples with children (38%) which is slightly higher than Greater Sydney.
- A lower income with a median weekly household income of $894, when compared to Greater Sydney average of $1,447.
- A high proportion of residents (44%) owned, or were in the processes of owning, the dwelling they reside in.
- A higher proportion (41%) of persons renting privately within the suburb, this compared to 25% across Greater Sydney.
- The average weekly rent within the suburb was $295, This was 19% less than that recorded for Greater Sydney ($351).
- Medium density dwellings comprises the bulk of dwelling stock (57%), this was significantly higher than that recorded for Greater Sydney as of 2011 (20%).
- Medium and high density dwellings comprise 85% of the dwelling stock, however separate dwellings are the fastest growing housing type.

A southwestern residential suburb between Punchbowl and Lakemba, Wiley Park was named for a reserve bequeathed to local residents by J.V. Wiley in 1906.

Wiley Park was formerly inhabited largely by Anglo Celtic residents of a working-class background. The suburb was to become an increasingly multicultural suburb from the late 1970s onwards, with many residents born overseas or having parents born overseas, from countries such as Lebanon, Vietnam, Italy, Greece, the Philippines and the Pacific Islands. At the 2011 census, 10% of the population was born in Bangladesh and 7.7% in Lebanon. The most common responses for religion in Wiley Park were Islam 44.0%, Catholic 15.0%, No Religion 6.3%, Eastern Orthodox 6.1% and Buddhism 6.0%

Figure 11-15: Key demographic facts for Wiley Park Precinct
Source: Department Planning & Environment

Figure 11-16: Carols in the Park
Source: City of Canterbury Bankstown

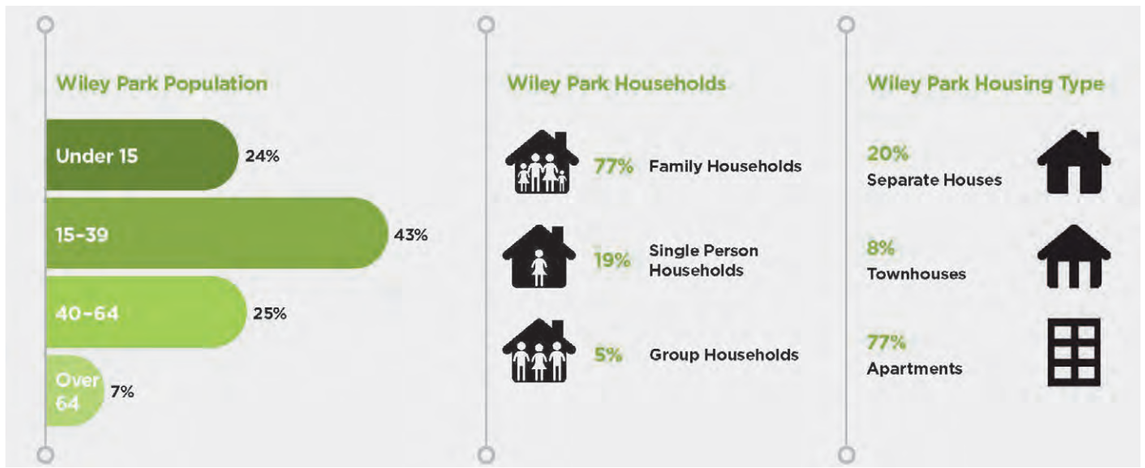


Figure 11-17: Key demographic characteristics for Wiley Park Precinct Department Planning + Environment

11.2 Land Use Integration

11.2.1. Planning Controls

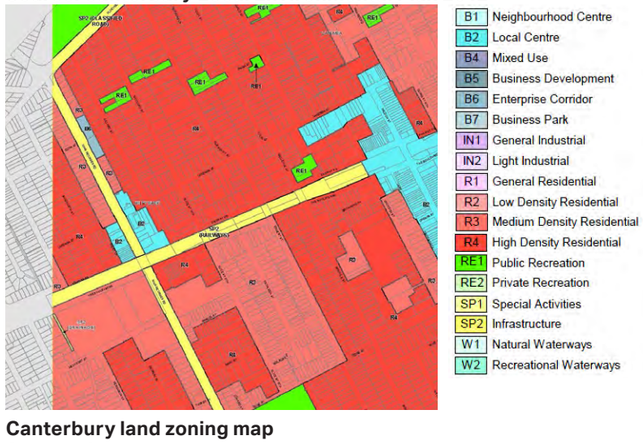
Under the provisions of Canterbury Local Environmental Plan 2012, the land surrounding the station is zoned (B2) Local Centre along King Georges Road, (R4) High Density Residential in the residential area to the north (and a small area to the south east), and (R3) Medium Density Residential in the residential area to the south (refer to Figure 11-18).

Floor space ratios for the area to the north of the station are primarily set at 0.9:1. The area to the south of the station is set at 0.5:1, with smaller areas of 1.6:1 and 1.8:1 immediately south east of the station. Building height north of the station is set at 27 metres within proximity to the station on King Georges Road, with surrounding areas set at 11.5 metres and 8.5 metres. The area to the south of the station is predominantly set at 8.5 metres aside from several small areas set at 11.5 metres, 18 metres and 21 metres south east of the station.

In addition to the LEP, Canterbury Development Control Plan 2012 also applies, providing guidance on the desired future character for the Wiley Park local centre. This includes retail/ commercial street activation along King Georges Road immediately north of the station (refer to Figure 11-19). This future desired character will further increase the activation and density around the Metro station.

Canterbury LEP FSR map
Source: Canterbury Local Environmental Plan 2012

Canterbury LEP heights map
Source: Canterbury Local Environmental Plan 2012



Canterbury land zoning map
Source: Canterbury Local Environmental Plan 2012

Figure 11-18: Land use zones, floor space ratio and building heights maps for areas surrounding Wiley Park Station

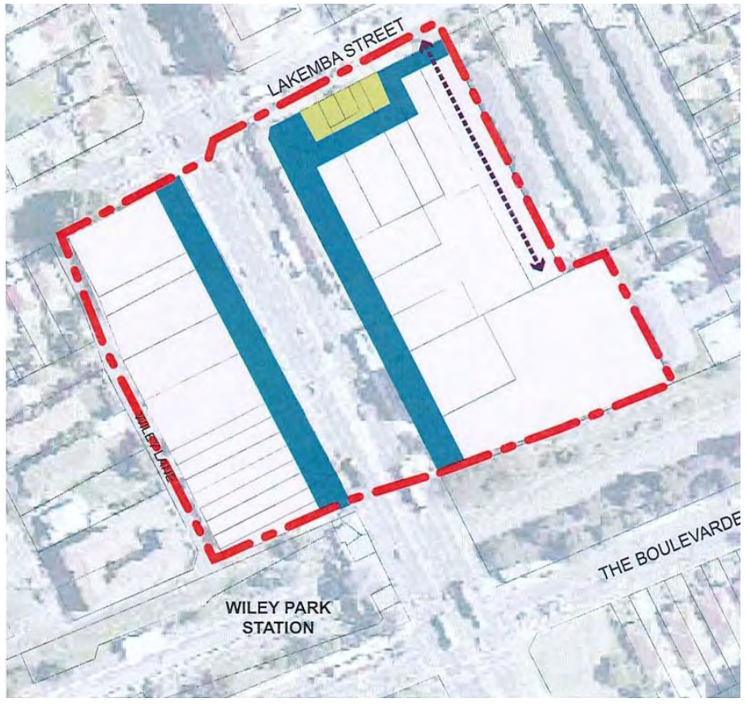


Figure 11-19: Development Control Plan provisions relating to Wiley Park Station

11.2.2. Urban Renewal

The NSW Department of Planning and Environment, in partnership with the Inner West Council (formerly Marrickville Council) and the City of Canterbury Bankstown (formerly the City of Canterbury and Bankstown City Council), has developed an Urban Renewal Corridor Strategy for the Sydenham to Bankstown corridor to guide future development and infrastructure delivery over the next 20 years. The Wiley Park Precinct is one of eleven areas studied for which a draft strategy was published in October 2015 for the purpose of public consultation.

Constraints and opportunities mapping of the Wiley Park Precinct undertaken for the draft strategy revealed a series of constraints to development in large parts of the precinct, including:

- Limited redevelopment opportunities due to strata titled apartment buildings and smaller building allotments.
- Pedestrian and traffic connectivity impacted by the rail corridor and King Georges Road.

The revised strategy (2017) addressed feedback from public submissions, community workshops, meetings and technical studies. The following key issues were raised:

- Density should be increased on Shadforth Street and Cornelia Street between Edna Street and Lakemba Street due to a lack of constraints and proximity to amenities.
- Shop top housing should be extended on King Georges Road north to Edna Street to achieve consistency with existing developments and lack of traffic impacts.
- Medium rise housing should be extended on the northern side of Urunga Parade to increase density between the Wiley Park Station Precinct and Lakemba Station Precinct.
- Medium rise housing should be extended south to Tucker Street to achieve consistency with existing development between Wiley Park Station and Canterbury Road.
- A pedestrian bridge should be provided between Wiley Park station and the eastern side of King Georges Road.
- Some landholders were supportive of increased residential densities within the 400 metre radius of the station and along industrial areas on the periphery.
- Good design and quality building finishes should be an essential requirement of any new development.
- Non-residential ground floor uses would be appropriate along King Georges Road.
- Improvements to existing green open space and pedestrian and cycle connections should be considered.

Key changes to the strategy made in response to feedback are shown in Figure 11-20. The final revised Sydenham to Bankstown Urban Renewal Corridor Strategy was placed on exhibition June 2017.

The vision for Wiley Park in the revised strategy is:

- A great place for families with a range of new and existing housing, good access to schools and improved public open space.
- New and improved pedestrian and cycle access to Lakemba and Punchbowl to be facilitated by the revitalisation of The Boulevarde.
- New high quality showroom developments on King Georges Road to provide an alternative focus more suited to heavy vehicular traffic.
- The potential for a new linear park along the rail line that could provide a new and interesting place for leisure and recreation.

South of the station

- The potential for a new linear park along the train line and development of the GreenWay South West.
- Medium-high rise development adjacent to the rail line, along The Boulevarde to the east and west of the station.
- Medium rise housing west from Wiley Park Girls High School (north of Hillcrest Street) to connect with similar densities in the Punchbowl Station Precinct.

North of the station

- High rise residential and/or mixed use development along King Georges Road, to Lakemba Street.
- Medium-high rise residential (8 storeys) east of Shadforth Street.
- Medium rise residential along Urunga and Railway Parades, and on both sides of Lakemba Street to the east of King Georges Road.
- Low rise housing north of Lakemba Street from Defoe Street to King Georges Road.
- A small area of main street shop top housing on King Georges Road north of Lakemba Street.

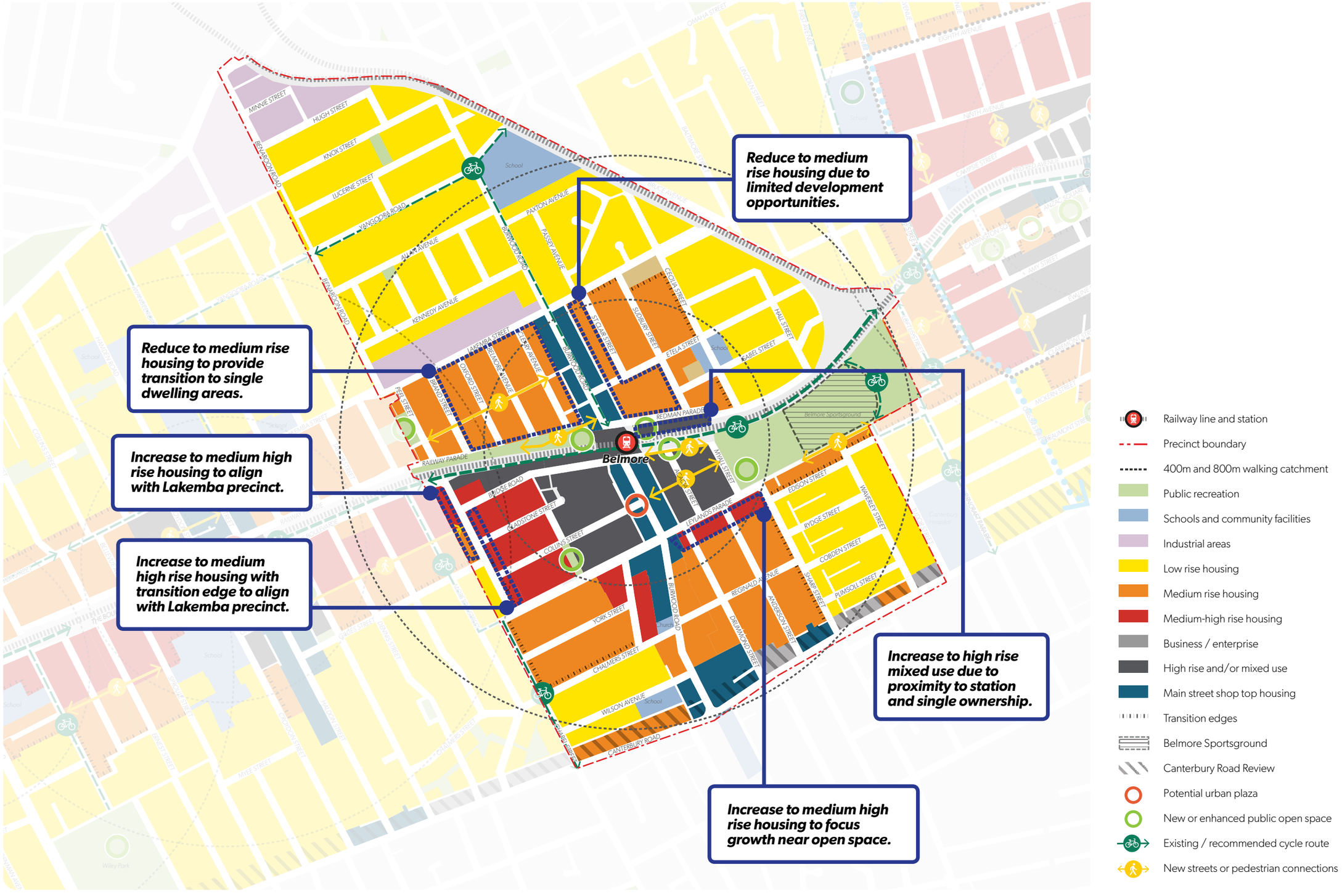


Figure 11-20: Key changes to the Sydenham to Bankstown Draft Urban Renewal Corridor Strategy

11.3 Accessibility and Connectivity of Communities

11.3.1. Pedestrian Catchment

Wiley Park is primarily an origin station. The 5 minute walking catchment extends just beyond Lakemba Street in the north, and south of the station captures Wiley Park Public School, Lakemba Public School and Wiley Park Girls High School.

The 10 minute catchment reaches Edge Street at the northern end of Wiley Park Reserve and includes the Cao Dai Vietnamese Temple on King Georges Road. To the west it extends halfway to Punchbowl Station and a similar distance east towards Lakemba. Northwards it almost reaches Punchbowl Road.

Figure 11-21: 5 & 10 minute isochrones

11.3.2. Access & Interchange Integration

The entry to Wiley Park Station is on busy King Georges Road, in a small declining retail centre. A narrow footpath on The Boulevarde leads to the entry from the southern side while an austere pedestrian laneway on the northern side connects to the residential area northwest of the station. There is no dedicated taxi or kiss and ride areas as "No Stopping" and "Clearway" zones preclude them close to the station. Bus stops are located north and south of the station on King Georges Road. There are a small number of bicycle racks next to the station entry.

Urban design and access changes proposed as part of Metro:

- Additional station entries from the north and south through a more permeable concourse
- Improved, landscape station approaches on the northern and southern sides of station
- A taxi, kiss and ride and accessible parking interchange zone on The Boulevarde, east of King Georges Road
- Secure access and bicycle parking on both sides of the station.

Interchange	Distance	Total Travel (min:sec)
Bus Northbound	75m from Southern entry	00m:58s
Bus Southbound	160m from Southern entry	02m:03s
Taxi	85m from Southern entry	01m:05s
Kiss & Ride	90m from Northern entry	01m:09s

Note: Calculations are taken from the cadastral boundary line closest to the Sydney Metro entry points. All travel distances from the base of the direct line of travel for pedestrians and do not take into account light signals and crossing points.

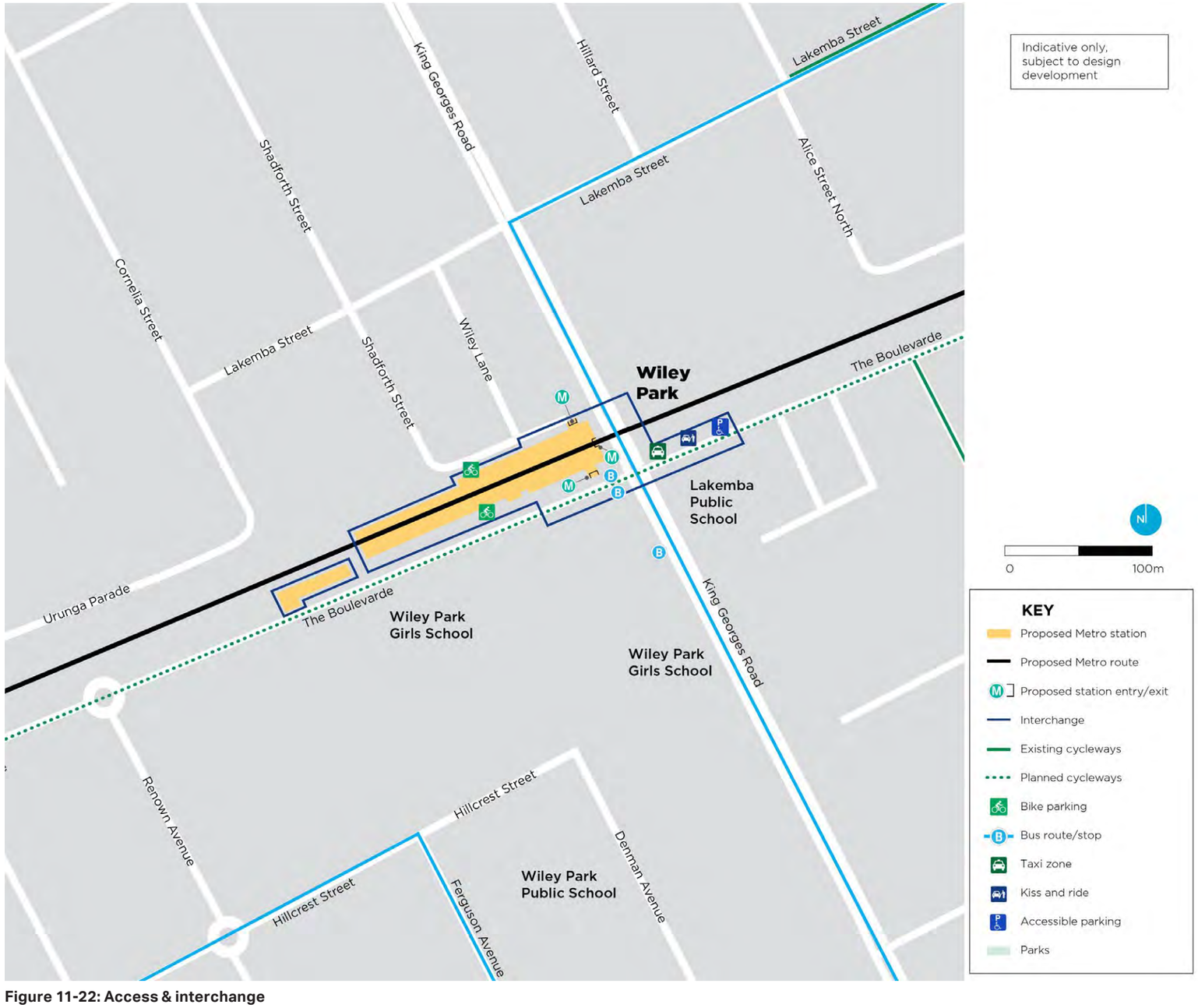


Figure 11-22: Access & interchange diagram

11.4 Station Area Place Making and Community Enhancement

11.4.1. Constraints

King Georges Road is a major north-south arterial road in southwest Sydney with extended clearway times; a hostile environment for pedestrians and retail businesses at the station entry and a barrier to east-west movement. The rail corridor is an obstacle to north-south movement and the next crossing points do not occur until Punchbowl or Lakemba Station. Limited open space exists in the immediate precinct, and its public domain, offers little amenity. Wiley Park, after which the suburb is named, is about 600 metres south of the station. The centre is only served by two bus routes, with stops on King Georges Road, connecting the precinct to Campsie, Roselands and Riverwood. The Wiley Park Station Group is listed on the S170 Rail Heritage and Conservation Register and along with a pumping station in the grounds of the adjacent Wiley Park Public School, on the local heritage register (Canterbury LEP 2012).

11.4.2. Opportunities

Although a car dominated precinct, the station and a range of cultural and educational sites also characterise the public domain of the area. Among these, the Cao Dai Vietnamese Temple is a local landmark and three schools lie immediately south of the station: Wiley Park Public School, Lakemba Public School and Wiley Park Girls High School. Ultimately, Lakemba Street is seen as a more likely site for future development of retail activity. There may be some scope for multi-storey development in the immediate station precinct although moving away from the station, the preponderance of strata titled buildings may inhibit redevelopment opportunities. The new station will create a far more open and permeable public domain. Improved, landscaped connections along The Boulevarde and the northern laneway will add to local amenity.

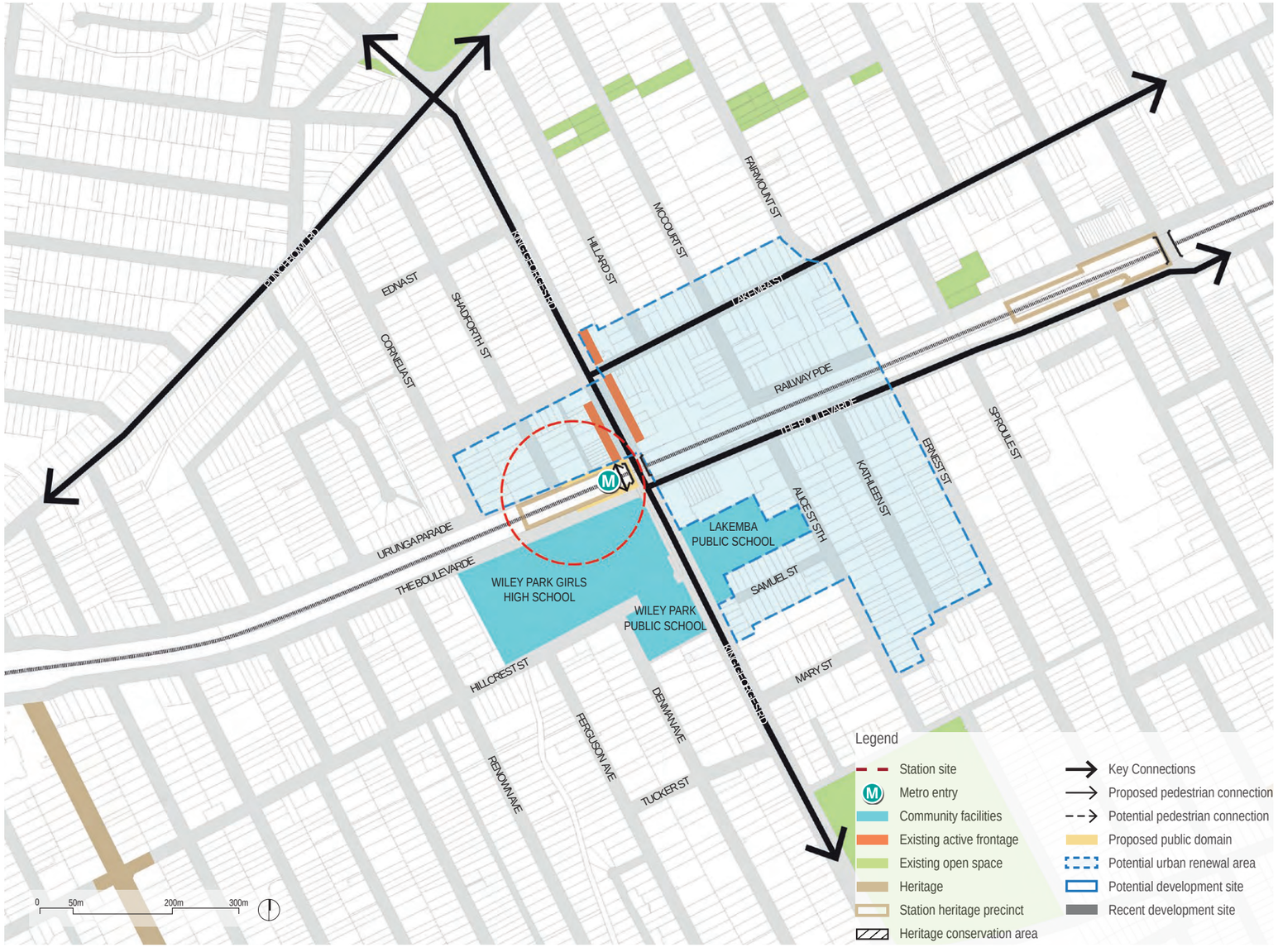
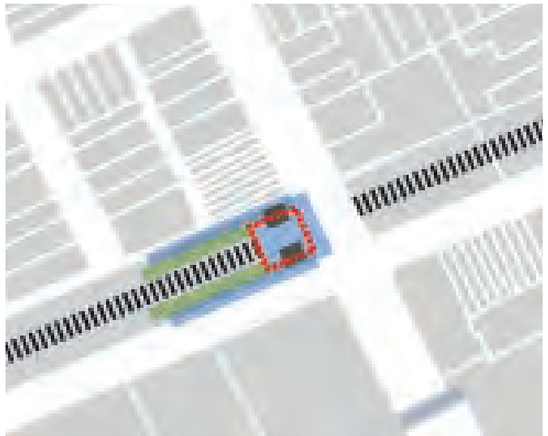


Figure 11-23: Station and precinct opportunities

11.4.3. Place Making Opportunities

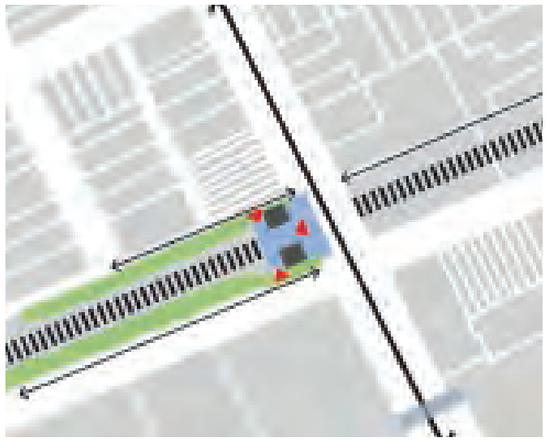
Local Public Domain



- Attractive station forecourt
- More generous setback of station from King Georges Road
- Linear plazas with bicycle parking and public amenities north and south of the station.

Figure 11-24: Wiley Park Station concourse from platform

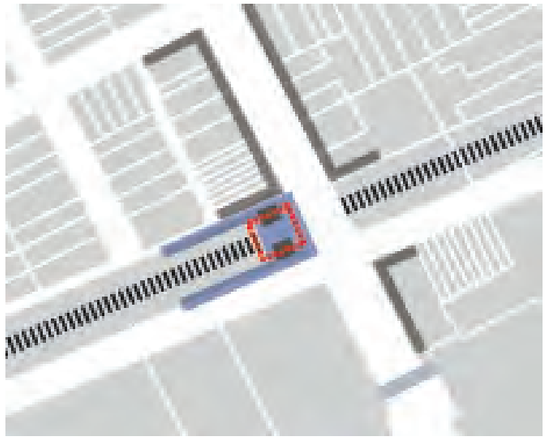
Connectivity and Access



- Landscaped pedestrian approaches to the station
- Station design creates a more permeable entry arrangement, with entry from the north and south
- Active transport corridor is along The Boulevarde.

Figure 11-25: Station frontage - King Georges Road

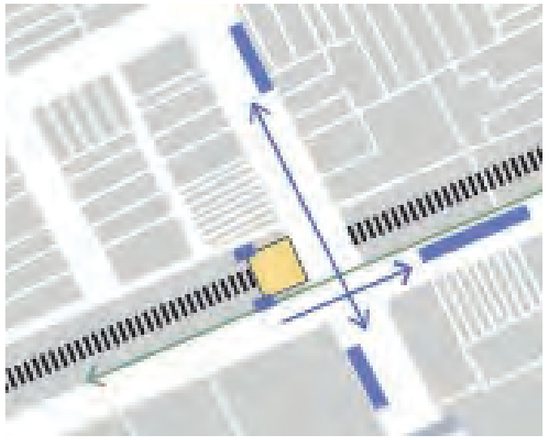
Catalyst



- The new station and its associated plazas will introduce a new urban standard to this currently run down urban setting
- Proposed retail buildings on a more generous station concourse will help activate the precinct.

Figure 11-26: Wiley Park Station northern laneway approach

Accessible Interchange



- At-grade accessible connection to interchange zone on The Boulevarde
- Secure access and bicycle parking (at each platform) in both station plazas
- Shared path as part of potential active transport corridor on southern station approach.

Figure 11-27: Wiley Park Station bicycle parking

11.4.4. Entry Plaza Accessibility & Design Principles

Stanlea Parade Entry (Northern Entry)

- Northern station entry at the corner of Stanlea Parade and King Georges Road.
- New public plaza to entry.
- At-grade entry levelled with footpath.
- Existing station concourse removed and a new elevated concourse will be built in the same location to improve pedestrian circulation from the entrance.

The Boulevarde Entry (Southern Entry)

- Southern station entry at The Boulevarde.
- New public plaza to entry.
- Existing station concourse removed and a new elevated concourse will be built to improve pedestrian circulation from the entrance.

11.4.5. Station, Platform and Concourse Elements

Station, platform and concourse elements incorporated in to the design include the following:

- Access to the concourse via The Boulevarde (southern entry) and Stanlea Parade (northern entry)
- Existing aerial concourse removed and replaced in same location
- Access from each of the platforms to aerial concourse via a single stair and lift.
- Aerial concourse with full weather protection, including full weather protection for station gateline and customer facilities
- Existing heritage buildings removed
- Platform 170m x min. 4.5m wide (allows 400mm PEB zone along each platform edge). Design to accommodate 6 x cars on Day 1 operation (2 x additional cars for future demand).
- Emergency egress via DDA accessible 1:14 ramp from western end of Platform 1 and 2 to track level. Two additional alternate means of egress are via stairs to the Metro aerial concourse.
- Concourse and platform canopies to provide all weather coverage (where provided)
- Secure and sheltered bicycle storage
- Wayfinding and signage elements located on concourse level to minimize obstruction and maximise customer flow
- Station services building
- Ancillary station facilities including communication cupboards, fire hydrants, station control room, facilities for services and staff
- Facilities to meet fire safety including a fire booster, services buildings and fire evacuation ramp

11.4.6. Heritage Elements

Wiley Park station group is listed on the following heritage registers:

- Railcorp Section 170 Register (SHI No. 4801946)
- Canterbury LEP 2012 (Item No. I159)

The main works associated with the proposed Sydney Metro Southwest conversion of Wiley Park Railway Station comprise realignment and extension of the platforms 1 and 2, demolition of the overhead booking office and construction of a new overhead station concourse connecting the two platforms in the existing location. The platform buildings on platform 1 and 2 will be removed.

The new station concourse and Metro stop would have distinctive canopies at the station entrances and concourse and would have a strong architectural form in keeping with the metro brand. In addition, glazed platform edge barriers (about1.8m high) would be added along platforms 1 and 2, the platforms would be regraded to the centre of the platform, and canopies would provide shade, comfort and amenity to platforms.

Station/Station Building		Significance Grading	Tolerance for Change	Outcome
Symbol	Type			
A	Platform 1 Building (1938)	Moderate	High	Remove
B	Platform 2 Building (1938)	Moderate	High	Remove
C	Overhead Booking Office & Concourse (1938 with later modifications)	High	Some	Remove
	Platform 1/2 (1938)	Moderate	High	Remove

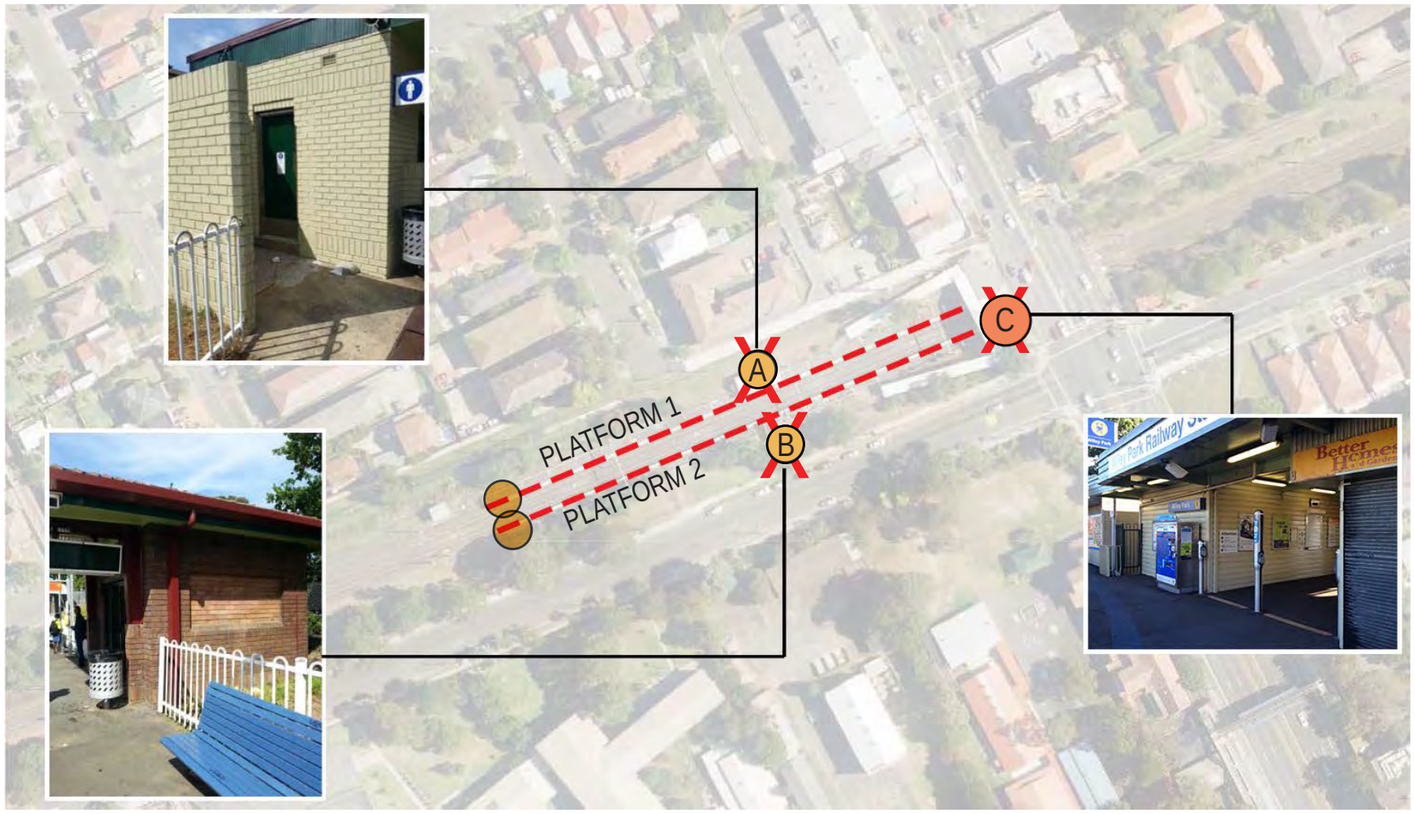


Figure 11-28: Summary of heritage elements

11.4.7. Key Design Elements

The key design elements of the Wiley Park Station and its surrounding area are summarised in the table below.

Feature	Description
Station works	
Station entry/exit	• The existing station entrance on King Georges Road would be removed. • Two new entrances would be provided on The Boulevarde and from the Stanlea Parade walkway near King Georges Road. • Futureproofing for two new station entrances to provide direct access to platforms about 100 metres west of Kings Georges Road. • The existing station concourse would be removed but a new structure installed in the same location. • A new elevated concourse would be built to provide more space for pedestrian circulation.
Platform details	• The heritage listed platform would be rebuilt, straightened and extended to the west.
Station buildings	• New station buildings would be provided within the southern side of the new concourse, on platforms 1 and 2 and adjacent to The Boulevarde. • The existing heritage listed overhead booking office, concourse and platform buildings would be removed to enable the new facilities to be provided. • New retail space would be provided in the new concourse along King Georges Road (the use of the retail space would be subject to a separate approval process).

Feature	Description
Station area	
Public transport integration	• No changes would be made to existing bus stops.
Access	• Connection to active transport corridor along the southern side of the station along The Boulevarde east of Haldon Street, and along the rail corridor boundary west of Haldon Street.
Kerbside uses, bike parking	• New bike parking areas would be provided on either side of the rail corridor, at platform level with access to be provided from The Boulevarde and the new path located between Shadforth Street and Kings Georges Road. • Kerbside facilities would be provided on the northern side of The Boulevarde, east of King Georges Road.
Car parking	• Land within the rail corridor on the northern side of The Boulevarde would be used to provide replacement off-street parking as part of the King Georges Road clearways project undertaken by Roads and Maritime.

12

Punchbowl Station

Opening up The Boulevarde

12. Punchbowl Station

12.1 Context

12.1.1. Location

Punchbowl is 17km southwest of Sydney CBD within the City of Canterbury-Bankstown. The suburb is bounded by Greenacre to the north, Wiley Park to the east, Riverwood to the south and Bankstown/Mt Lewis to the west.

The immediate station precinct comprises a mix of small retail and commercial premises, recent multi-story apartment blocks, shop-top housing and a range of community, educational and religious institutions. The wider area is largely two to three storey walk up apartment blocks and detached housing.

The main and most lively retail street is The Boulevarde where the southern station entry is located. By contrast, pedestrians and the businesses on Punchbowl Road suffer from a more hostile traffic environment. Punchbowl Road divides the northern part of the centre around Bruest Place from the southern area centred on The Boulevarde. A narrow pedestrian underpass below Punchbowl Road connects Bruest Place back to Warren Reserve and the station. The northern station entry lies in Warren Reserve.

Figure 12-1: Existing Punchbowl Station Axonometric

Figure 12-2: Location Plan

12.1.2. Functional Requirements

Aspect	Comment
Station Function	Origin
Corridor	Metro
Station Type	Surface
Platform Type	Side Platform
Station	Entrance (south): The Boulevarde Entrance (north): Adjacent to Warren Reserve
Access & Interchange Requirements	Bus Cycling Taxi Kiss + Ride Accessible Parking

12.1.3. Station Strategy

The Metro station at Punchbowl lies slightly north and east of its current location. Entry on both sides of the station is from generous public plazas to gatelines connected at-grade to side platforms. Dual lifts and stairs lead to an aerial concourse that bridges between platforms.

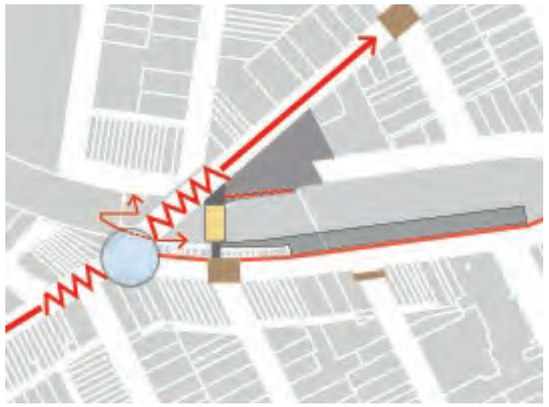
Bus interchange is largely unchanged, with only one stop on the northern side of The Boulevarde proposed to be moved closer to the new station entry. Taxi and kiss and ride bays are proposed on The Boulevarde and additional kiss and ride bays in Urunga Parade will be connected to the northern entry via an accessible ramp. A new pedestrian crossing on Punchbowl Road north east of Bruest Place will improve connections to the north of the precinct.

12.1.4. Urban Context

Land use and urban character

- Retail centred on The Boulevarde although land uses include shop-top, multi-storey housing and community and religious institutions
- Secondary retail strip on Punchbowl Road also contains shop-top housing
- Wider precinct built form is typically two to three storey apartment blocks and detached housing
- Punchbowl Boys High School lies northwest of the station and Warren Reserve immediately north of station.

Transport corridors divide the precinct

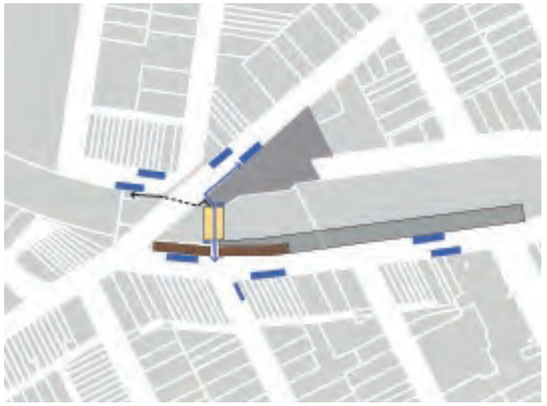


- Punchbowl station is concealed behind retail and office buildings on its southern side and within the park on its northern side
- Connections to the station entries are modest and easily missed.

Public Domain/pedestrian environment

- Punchbowl Station meets a tight urban plaza south of the station and connects to a crossing on The Boulevarde; to the north entry is in Warren Reserve on Punchbowl Road, a busy arterial road
- Punchbowl Road overbridge has steep gradients and the pedestrian underpass is narrow and poorly lit
- Punchbowl Road is difficult to cross and effectively divides the centre
- Station interface to the south is to a large area of surface car parking lacking in pedestrian connections.

Circulation and interchange environment



- Bus stops occur on The Boulevarde and Punchbowl Road in the vicinity of station entries
- There is no pedestrian crossing across Punchbowl Road to reach the east bound stop
- Taxi bays occur on Arthur Street opposite the southern station plaza
- Limited bicycle parking at both station entries
- No dedicated kiss and ride bays in the station precinct
- Large area of surface parking south of the station.

Figure 12-3: View from The Boulevarde

Figure 12-4: Approach from station into Rest Park

Figure 12-5: View towards Punchbowl Station from Punchbowl Road

Figure 12-6: View along The Boulevard

12.1.5. Heritage & Place

Pre-European landscape – The forested areas of southwestern Sydney such as Punchbowl were previously inhabited by the Bediagal aboriginal people. The suburb gained its distinctive name from a circular valley or depression called 'the punch bowl' some three kilometres northeast of the location of the present day station and town centre.

European settlement and land use – The punch bowl depression was bordered by the original course of the Cooks River at the point where Georges River Road and Punchbowl meet in the suburb of Belfield. An early farm in the area was first named Punch Bowl Farm. An inn built by George Faulkener in the 1830s was also called the Punch and Bowl.

Development in the area really began following the opening of the station in 1909 when the Belmore Line was extended though to Bankstown. Small agricultural parcels were gradually subdivided and suburban housing spread with the coming of the station.

The area was relatively prosperous and was home to a handful of large picture theatres such as the Astoria and the Regent. The predominantly Anglo-Celtic population to some degree gave way to an influx of Italian and Greek migrants after the Second World War, and subsequent to that many Lebanese people made Punchbowl their home.

Until the 1990s, the Punchbowl Rail Maintenance Depot to the northwest of the station was a large feature of the local landscape.

Heritage – Unusually, an entire streetscape in the area is listed on the City of Canterbury LEP 2012 heritage register. The Broadway and Hillcrest Street streetscape, its war memorial and Date Palms are listed, as is St Savior's cemetery on Viola Street.

The Punchbowl Railway Station Group (Platforms, Platform Buildings, Toilet Block, Overhead booking office and footbridge) is listed on the Railcorp Section 170 register (4802009) as well as the City of Canterbury LEP 2012 heritage register (I155).

Punchbowl Station was opened along with the line extension on 14 April 1909, at the same time as Bankstown and Lakemba. The contract for construction of station buildings was awarded to G Leggo of Paddington. Block signalling was introduced in 1916, and a covering erected over the platform signal levers the next year.

Punchbowl Railway Station has local historical significance as it is one of the railway stations on the Sydenham to Bankstown Line built to relieve the crowding on the Main Southern Line and encourage agriculture and suburban growth in the late 1800s and early twentieth century. The station represents the extension of the line to Bankstown in 1909 and the overhead booking office and associated footbridge and stairs, the suburban development after the First World War when many War Services Homes were built in the area.

Overall the station has lost integrity due to the replacement and modification of the station platform buildings.

Figure 12-7: Punchbowl Brick Pit
Source: Unknown

Figure 12-8: St Jerome Church
Source: The National Library of Australia

Figure 12-9: Punchbowl Astoria Theatre 1930
Source: City of Canterbury

Figure 12-10: Punchbowl Station Booking Office
Source: OCP Architects

Figure 12-11: Survey of Railway Footbridges
Source: State Rail Authority

12.1.6. Landscape & Urban Fabric

The Punchbowl town centre is spread between Punchbowl Road and The Boulevarde and includes a range of retail, community and residential land uses. It extends from the station approximately 200m to the east, southwest and northeast in a semi-radial fashion. The rail corridor, coupled with Punchbowl Road, divides the town centre.

In recent times, the commercial precinct has extended further east, with the development of a large, multi-level, mixed-use development that includes a supermarket and several minor retail tenancies with residential apartments above.

Similar shop-top housing development, generally four to five storeys in height, has also occurred on Punchbowl Road.

More generally the centre has a finer grain built form, with one to two storey high street buildings. Although building form and architectural expression is varied, the centre is reasonably consistent in terms of building height and street width and proportions. The public domain has been upgraded in recent years and is a comfortable and reasonably attractive place for pedestrians.

The core is adjoined by a large area of higher density zoned residential land to the south. This contains existing detached housing and three storey walk-up residential flats. Land located beyond the Punchbowl Road commercial strip, on the north-western side of the precinct, is largely restricted to low density residential uses under the former Bankstown City Council LEP (2015). Building stock is generally in average to good condition and the commercial precinct appears reasonably healthy.

Figure 12-12: The Boulevard Streetscape

Figure 12-13: Punchbowl Station northern entry

Figure 12-14: Rest Park

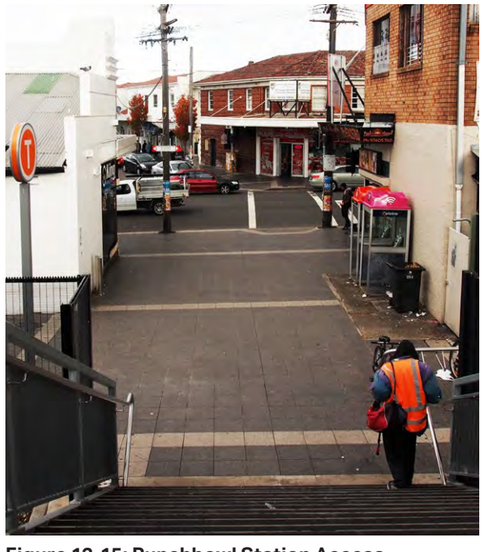


Figure 12-15: Punchbowl Station Access

Figure 12-16: Punchbowl Community Centre
Source: GroupN

Figure 12-17: Streetscape Urban Character

12.1.7. Culture & Demographics

The key demographic attributes of the suburb of Punchbowl (based on 2011 ABS data) are:

- A median age of 31, which is lower than Greater Sydney (36).
- 47% of the population was born overseas (Vietnam, China, Lebanon being the highest proportions), and 44% were from a non-English speaking background
- The predominant and fastest growing household type is couples with children (46%) which is higher proportion when compared to Greater Sydney (35%).
- A lower earning potential with a median weekly household income of $964, when compared to Greater Sydney average of $1,447.
- The majority of residents (62%) owned or were in the process of owning the dwelling they reside in.
- A lower proportion (21%) of persons renting privately within the suburb, this compared to 25% across Greater Sydney.
- The average weekly rent within the suburb was $292, this was 20% less than that recorded for Greater Sydney ($351).
- Detached single dwellings comprises the bulk of dwelling stock (66%), this was higher than that recorded for Greater Sydney as of 2011 (59%)
- Medium and high density dwellings comprise 33% of the dwelling stock, with medium density dwellings being the growing housing type on average.

Punchbowl is named for a circular valley, called “the punch bowl”, which is actually located in the nearby suburb of Belfield at the intersection of Coronation Parade, Georges River and Punchbowl Roads.

In the 1920s and 1930s, Punchbowl was a higher-class suburb, with a number of popular theatres that have since been closed. The Astoria opened on 17 July 1935 with seating for 915 persons. The final programme was shown on Wednesday 4 February 1959. The Astoria was eventually gutted and refitted as a three-storey office building. The Punchbowl Regent was situated on the corner of The Boulevarde and Matthews Street. Operated by Enterprise Theatres Ltd, the Regent opened on Saturday 24 May 1923, showing The White Rose. It was a large cinema with seating for 1,287 patrons. The last programme was shown on Wednesday 4 February 1959. The Regent was demolished in August 1964 and replaced by a block of shops.

The first inhabitants of Punchbowl were Aboriginal tribes. The first Europeans in the area were British and Irish settlers in the nineteenth century. By the mid twentieth century, the suburb had absorbed many migrants of Italian and Greek origin. From the mid-1970s, Punchbowl became a very popular location with migrants from Lebanon. At the 2011 census, 46.0% of Punchbowl residents were born in Australia. The next most common countries of birth were Lebanon 14.4%, Vietnam 5.6%, China 2.5%, Greece 2.1% and Indonesia 1.7%. The most common responses for religion in Punchbowl were Islam 30.3%, Catholic 27.8%, Eastern Orthodox 9.8%, Buddhism 6.6% and No Religion 5.2%.

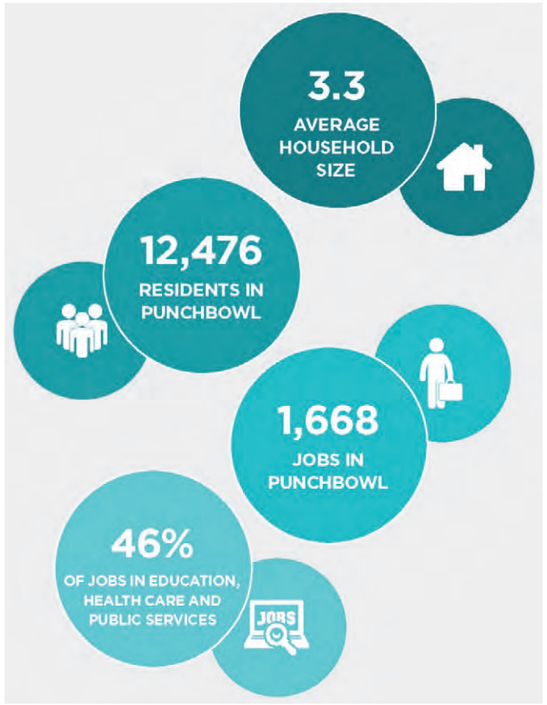


Figure 12-18: Key demographic facts for Punchbowl Precinct
Source: Department Planning & Environment

Figure 12-19: Punchbowl Community Centre
Source: GroupN

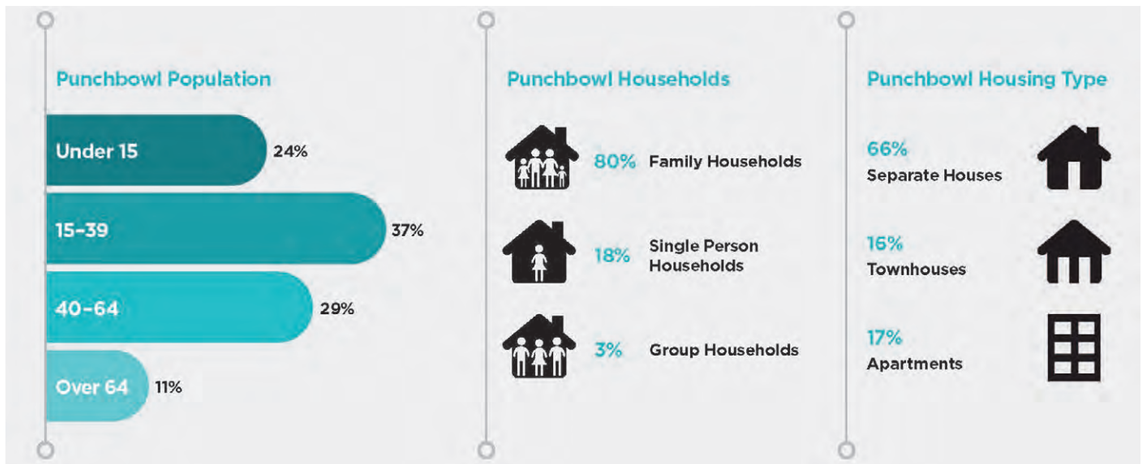


Figure 12-20: Key demographic characteristics for Punchbowl Precinct
Source: Department Planning & Environment

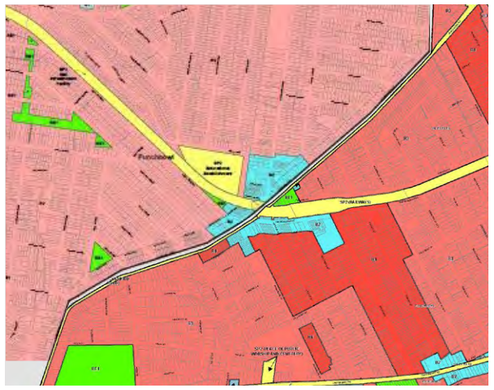
12.2 Land Use Integration

12.2.1. Planning Controls

Punchbowl Station is located on the boundary of two LEPs, with the Bankstown LEP 2015 to the north and the Canterbury LEP 2012 to the south.

Under the provisions of these LEPs, the land surrounding the station is zoned (B2) Local Centre north and south of the station, (R4) High Density Residential in the residential area to the south, (R3) Medium Density Residential in the residential areas to the east (north and south of the rail corridor), and (R2) Low Density Residential to the northwest (refer to Figure 12-21. There are also several areas of (RE1) Public Recreation east and west, and Punchbowl Boys High School to the north-west, zoned (SP2) Educational Establishment.

In addition to the LEP, Canterbury Development Control Plan 2012 also applies providing guidance for the desired future character for the Punchbowl local centre. This includes retail/ commercial street activation along the station frontage on The Boulevarde (refer to Figure 12-22). This future desired character will further increase the activation and density around the Metro station.



Land Zoning Map
Source: Bankstown Local Environmental Plan 2015 and Canterbury Local Environment Plan 2012

Zone

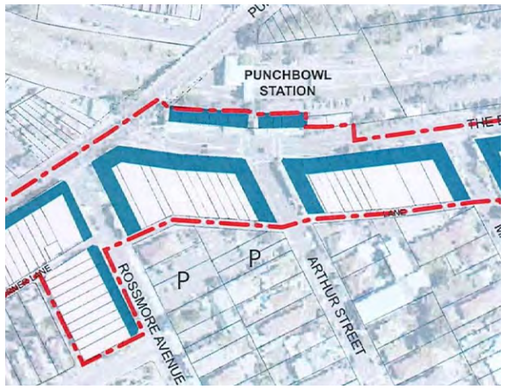
- B1 Neighbourhood Centre
- B2 Local Centre
- B4 Mixed Use
- B5 Business Development
- B6 Enterprise Corridor
- B7 Business Park
- IN1 General Industrial
- IN2 Light Industrial
- R1 General Residential
- R2 Low Density Residential
- R3 Medium Density Residential
- R4 High Density Residential
- RE1 Public Recreation
- RE2 Private Recreation
- SP1 Special Activities
- SP2 Infrastructure
- W1 Natural Waterways
- W2 Recreational Waterways

Heritage Map
Source: Bankstown Local Environmental Plan 2015 and Canterbury Local Environment Plan 2012

Heritage

- Conservation Area - General
- Item - General

Figure 12-21: Land use zones, and heritage curtilages for areas surrounding Punchbowl Station
Source: Bankstown Local Environmental Plan 2015 and Canterbury Local Environment Plan 2012



LEGEND

- Plan area
- Retail/commercial street activation
- Possible parking area
- Proposed lane
- Driveway access/ future pedestrian path
- Proposed pedestrian path/ maintain existing path
- Proposed public place
- Existing public open space
- P Existing public car park
- Heritage Item (CLEP)
- Garden Court mixed use area
- Front building setback

Figure 12-22: Development Control Plan provisions relating to Punchbowl Station
Source: Canterbury Development Control Plan 2012

12.2.2. Urban Renewal

The NSW Department of Planning and Environment, in partnership with the Inner West Council (formerly Marrickville Council) and the City of Canterbury Bankstown (formerly the City of Canterbury and Bankstown City Council), has developed an Urban Renewal Corridor Strategy for the Sydenham to Bankstown corridor to guide future development and infrastructure delivery over the next 20 years. The Punchbowl Precinct is one of eleven areas studied for which a draft strategy was published in October 2015 for the purpose of public consultation.

Constraints and opportunities mapping of the Punchbowl Precinct undertaken for the draft strategy revealed a series of constraints to development in large parts of the precinct, including:

- Limited redevelopment opportunities due to strata titled apartment buildings and a weaker housing market.
- Limited north-south connectivity due to rail corridor and Punchbowl Road.

The revised strategy (2017) addressed feedback from public submissions, community workshops, meetings and technical studies. The following key issues were raised:

- Connections between the north and south sides of the rail line should be improved to form a more cohesive centre.
- A mix of support and opposition for increased densities around the station precinct.
- Traffic congestion should be addressed, particularly along The Boulevard, Punchbowl Road, King Georges Road and Georges River Road.
- Improved cycleways will help make Punchbowl more pedestrian friendly.
- Parking requirements should be addressed to cater for an increase in population, particularly on Victoria Road, Rossmore Avenue, Campbell and Turner Streets.
- New retail and streetscape improvements should complement existing shops and amenities, along with more night-time activities in Punchbowl.
- More pocket parks and facilities for children should be provided.
- The provision of new housing in the area should include a variety of options to take into consideration varying family sizes.

Key changes to the strategy made in response to feedback are shown in Figure 12-23. The final revised Sydenham to Bankstown Urban Renewal Corridor Strategy was placed on exhibition June 2017.

The vision for the Punchbowl Station Precinct in the revised Strategy is:

- A centre that is better connected to its well-loved cosmopolitan shopping strip with great places to shop, eat and socialise – day and night.
- Retention of architecture along Punchbowl Road, The Boulevarde and Breust Street that contributes to the character of the area and ensure that new development responds appropriately.
- The potential for a new linear park along the Metro line and new access to school grounds could create new and interesting places for leisure and recreation.
- A range of new homes to suit different households and complement the existing character of Punchbowl.

The revised strategy also proposes the following land use and associated built form changes, within the immediate surrounds of Punchbowl Station:

South of the station

- New urban plaza on Rossmore Avenue, adjacent to Punchbowl Road and improvements to the public realm around the station.
- Potential new linear park.
- Main street shop top housing (typically 3–5 storeys) along Punchbowl Road and southern side of The Boulevard.
- High rise and mixed use development (up to 12 storeys) on the north side of The Boulevarde, where the shops and car parking are located.
- Medium and medium high rise residential development between Victoria Road and Broadway.
- Medium and low rise housing between South Terrace and Myall Street.

North of the station

- Potential widening of Punchbowl Road traffic bridge to widen footpaths and improve pedestrian amenity.
- Medium high rise residential development (up to 8 storeys) along Urunga Parade, Rickard and Dudley streets.
- Medium (6 storeys) and medium high rise residential development between Kelly Street and Acacia Avenue.
- Investigation of a new pedestrian link over the rail corridor between Broadway and Rickard Street.
- Improvements to Warren Reserve (also known as Urunga Reserve.

Punchbowl has been identified as a Priority Precinct and future detailed planning will be undertaken by the Department of Planning and Environment.

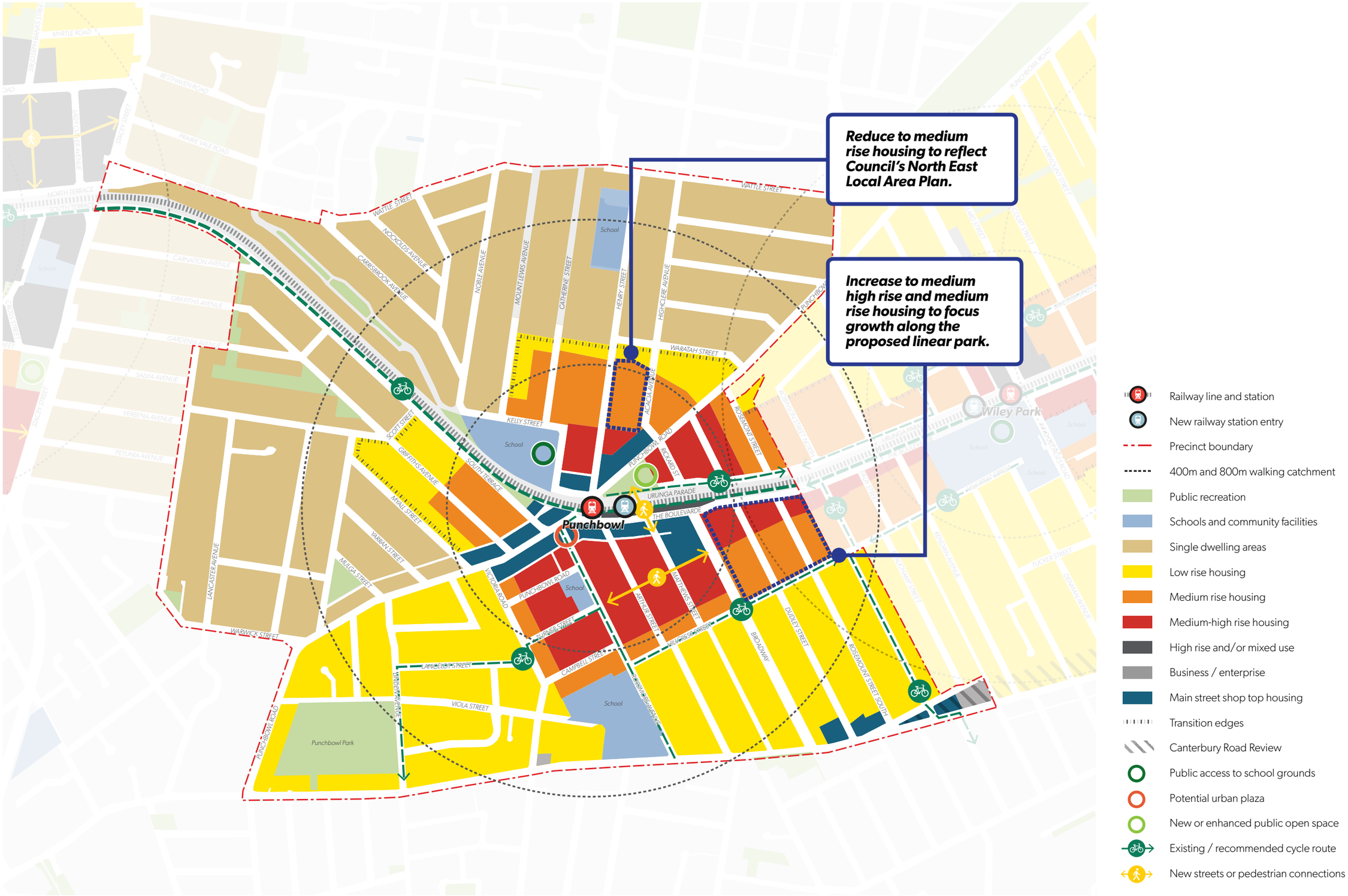


Figure 12-23: Key changes to the Sydenham to Bankstown Draft Urban Renewal Corridor Strategy
Source: Department Planning & Environment

12.3 Accessibility and Connectivity of Communities

12.3.1. Pedestrian Catchment

Punchbowl is largely an origin station. The 5 minute walking catchment takes in the whole town centre, on both sides of Punchbowl Road and the rail corridor, including Punchbowl Boys High School and Punchbowl Community Centre.

The 10 minute catchment takes in a much wider, generally residential area.

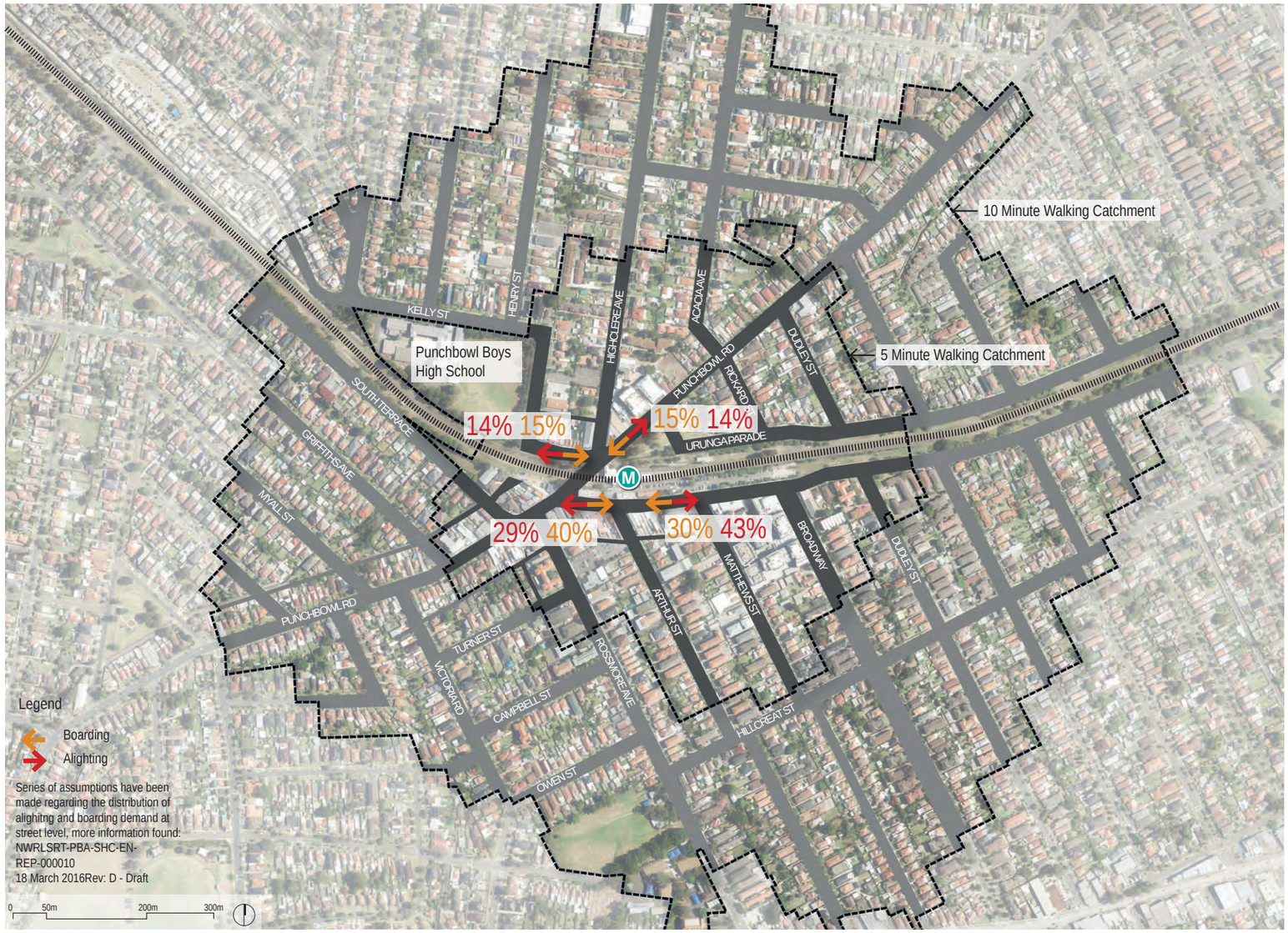


Figure 12-24: 5 & 10 minute isochrones

12.3.2. Access & Interchange Integration

Station entry plazas will address The Boulevarde and Warren Reserve, connecting at-grade to platforms 1 and 2. New taxi and kiss and ride bays would be provided on both sides of The Boulevarde adjacent to the southern station entrance, and further west on the northern side of the road adjacent to the existing station access path (to be removed). The existing eastbound bus stop on The Boulevarde would be relocated east of Arthur Street, adjacent to the new station entry and bus stops on Punchbowl Road will be retained.

On the north side of the station new paths and an accessible ramp in Warren Reserve will connect the station plaza to Punchbowl Road and Urunga Parade kiss and ride and accessible parking bays, while a new signalised crossing on Punchbowl Road will provide safe connections to Bruest Place and north of the precinct. Secure access and sheltered bicycle parking will be provided at both station entries. Paths located in the vicinity of the station between the rail corridor and The Boulevarde would form part of the active transport corridor.

Interchange	Distance	Total Travel (min:sec)
Bus Punchbowl Rd Northbound	115m from Northern entry	01m:28s
Bus Punchbowl Rd Southbound	80m from Northern entry	01m:02s
Bus The Boulevarde Eastbound	40m from Southern entry	00m:31s
Bus The Boulevarde Westbound	130m from Southern entry	01m:40s
Taxi The Boulevarde	65m from Southern entry	00m:50s
Kiss & Ride Urunga Parade	60m from Northern entry	00m:46s
Kiss & Ride The Boulevarde	70m from Southern entry	00m:54s

Note: Calculations are taken from the cadastral boundary line closest to the Sydney Metro entry points.
All travel distances from the base of the direct line of travel for pedestrians and do not take into account light signals and crossing points.

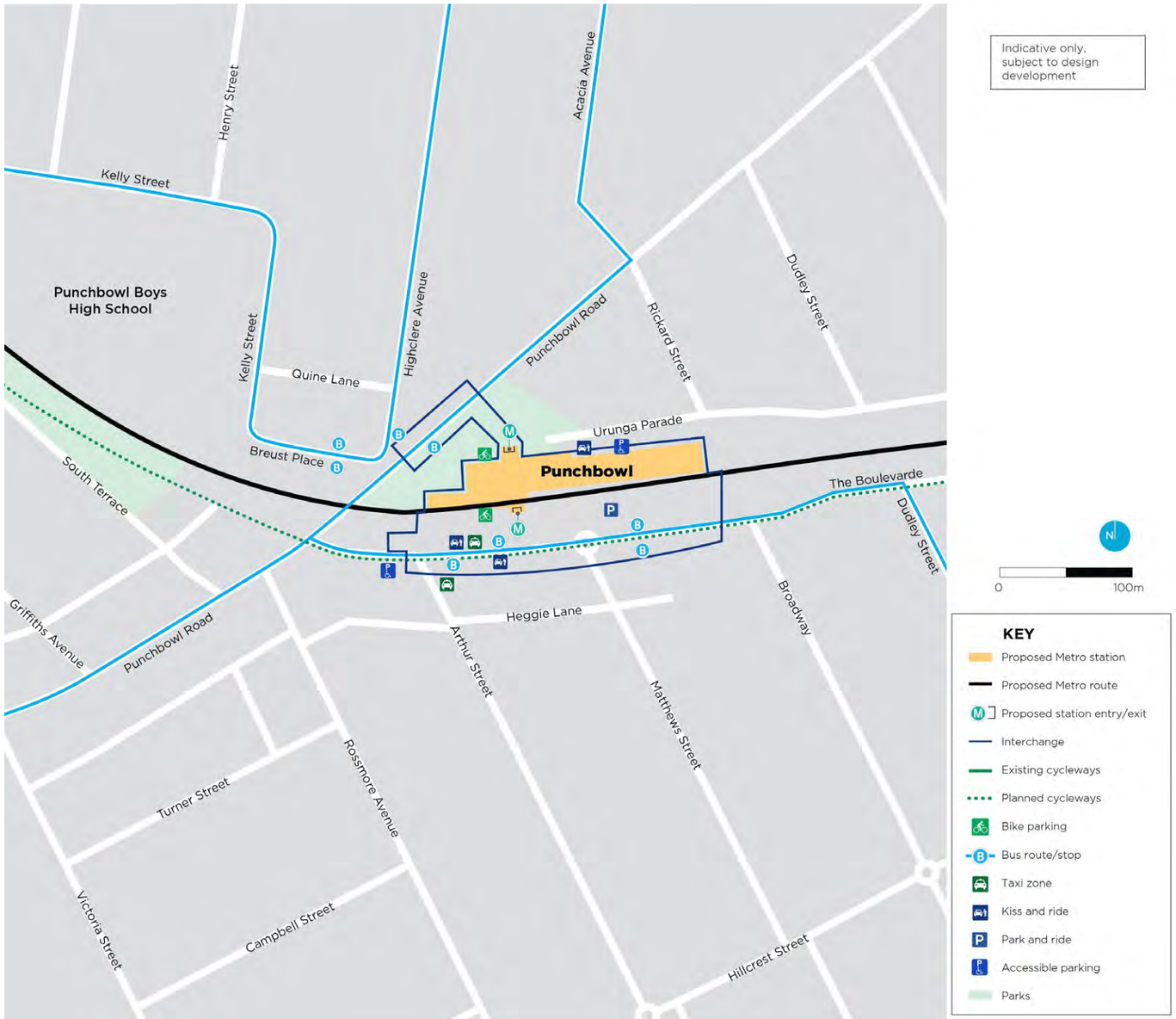


Figure 12-25: Access & interchange diagram

12.4 Station Area Place Making and Community Enhancement

12.4.1. Constraints

The rail corridor and Punchbowl Road effectively divide the Punchbowl town centre into four uneven quadrants, with the main retail centre concentrated along The Boulevarde, south of the station. There are no intermediate crossing points between Punchbowl, and Wiley Park and Bankstown stations. A small plaza connects the station to The Boulevarde, while the northern entry occurs in Warren Reserve. A large car park on Railcorp land lies between the station and The Boulevarde. There is limited open space in the precinct apart from Warren Reserve. Punchbowl Park, a multi-purpose sporting venue, is 800 metres southwest of the station. Punchbowl Community Centre is just behind the retail strip. The centre is served by five bus routes, including primary routes connecting the centre to Bankstown, Roselands, Riverwood and Hurstville. The Punchbowl Railway Station Group is heritage listed on the S170 Rail Heritage and Conservation Register and the local register (Canterbury LEP 2012). Also listed are a streetscape, the war memorial and Date Palms on Broadway and Hillcrest Street and St Savior's cemetery on Viola Street.

12.4.2. Opportunities

Punchbowl has a relatively dynamic retail area and a range of community and educational sites: the Baptist Church, the Australian Islamic Mission and St Jerome's Catholic Church; and local schools, Punchbowl Boys High, Punchbowl Public School, St Jerome's Catholic Primary School and St Charbel's College. Recent multi-storey developments occur southeast of the station. Further redevelopment in the precinct is likely. Sites north of the station on Punchbowl Road have been redeveloped with three to four levels above ground floor retail. Improvements to the public domain, notably paths along the southern boundary of the station, generous plazas and improvements to Warren Reserve will all contribute to the amenity of the precinct.

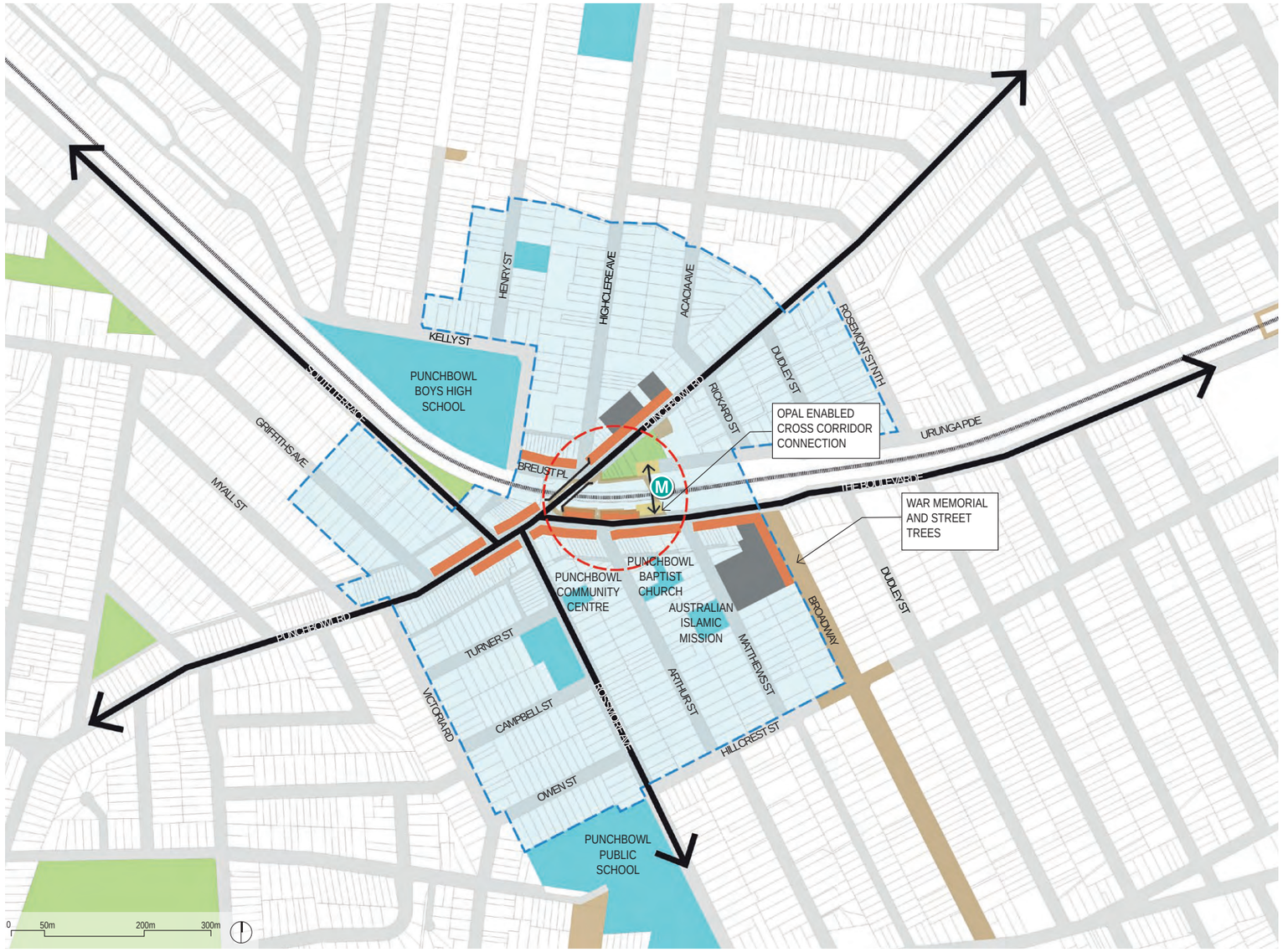
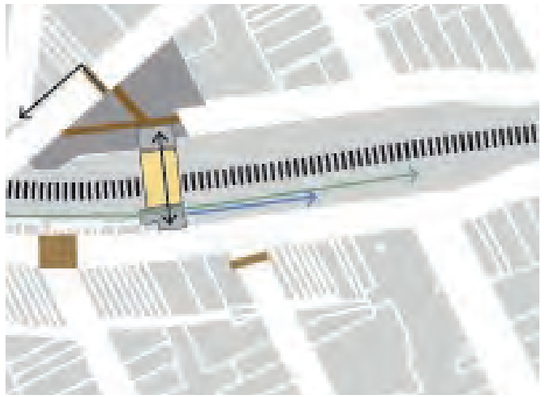


Figure 12-26: Station and precinct opportunities

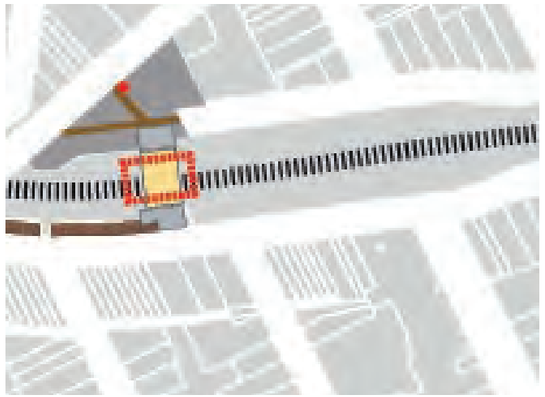
12.4.3. Place Making Opportunities

Local Public Domain



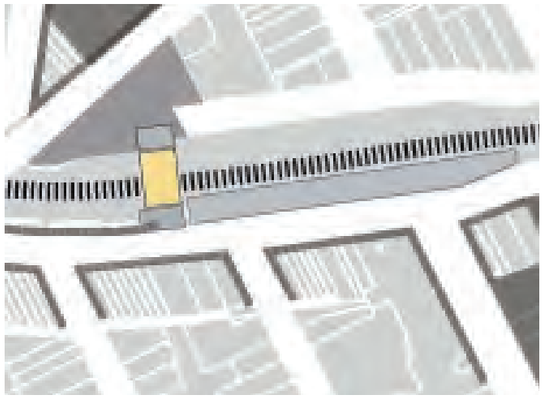
- The new station plaza on The Boulevarde will provide a generous public space for the centre
- Pedestrian and cycle paths will connect to the station plaza and the adjacent car park
- New paths and an accessible ramp in Warren Reserve will connect the station plaza to Punchbowl Road and Urunga Parade
- A new signalised crossing on Punchbowl Road will provide safe connections to Bruest Place and to the north of the precinct.

Connectivity and Access



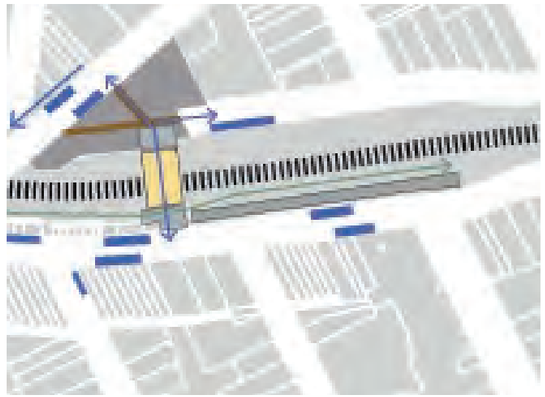
- Large station entry plazas will create clear view corridors to the station from the precinct
- The Metro station canopy will be visible in the centre and specifically from the Punchbowl Road bridge.

Catalyst



- Recent development pattern evident on The Boulevarde and Punchbowl Road likely to extend throughout the centre
- Large site south of the station suited to mixed use or residential development
- New station plaza likely to promote new retail activity.

Accessible Interchange



- The existing eastbound bus stop on The Boulevarde would be relocated east of Arthur Street, adjacent to the new station entry. A new crossing on Punchbowl Road to the eastbound bus stop and to school bus stops on Bruest Place
- New taxi and kiss and ride bays are proposed on The Boulevarde and the taxi bays on Arthur Street will remain. Dedicated kiss and ride and accessible parking bays are proposed on Urunga Parade. One accessible bay will be provided on The Boulevarde
- New bicycle parking at both station entries.

Figure 12-27: Shop-top housing Punchbowl Road
Source: HASSELL/ COX

Figure 12-28: Station entry Punchbowl Road

Figure 12-29: Northern station entry Warren Reserve

Figure 12-30: Site of proposed crossing on Punchbowl Road

12.4.4. Entry Plaza Accessibility & Design Principles

The Boulevarde Entry (Southern Entry)

- Southern Sydney Metro station entry located east of its existing location on The Boulevarde
- Large new public plaza to entry and new station buildings.
- At-grade entry located on platform
- The eastbound bus stop on the Boulevarde is proposed to move slightly eastwards closer to the new station Plaza east of Arthur Street
- Bicycle parking area is located in the southern entry Plaza
- Provision will be made for a future new retail space within the southern station plaza adjacent to The Boulevarde (use of this space would be subject to separate approval).

Urunga Parade Entry (Northern Entry)

- Northern Sydney Metro station entry at the Urunga Parade cul-de-sac
- New entry plaza is integrated with Warren Reserve Park. A new accessible ramp is required from the station plaza to Urunga Parade parking bays
- At-grade entry located on platform
- Bicycle parking area is located in the northern entry Plaza

12.4.5. Station & Platform Elements

Station, platform and concourse elements incorporated in to the design include the following:

- The proposed station is located to north east side of the existing station site and provides two at grade station entrances from The Boulevarde (southern entry) and Urunga Parade (northern entry)
- A new elevated bridge would be constructed to provide access between the two platforms, with stairs and lifts to connect to platforms
- Concourse and connecting bridge provided with full weather protection, including full weather protection for station gateline and customer facilities
- Existing heritage listed buildings on platforms and overhead booking office to be removed
- Platform 170m x min. 4.5m wide (allows 400mm PEB zone along each platform edge). Design to accommodate 6 x cars on Day 1 operation (2 x additional cars for future demand).
- Emergency egress ramp between the eastern end of the platform and north to Urunga Parade and south to The Boulevarde Accessible ramp
- Concourse and platform canopies to provide all weather coverage (where provided)
- Secure and sheltered bicycle storage
- Wayfinding and signage elements located on concourse level to minimize obstruction and maximise customer flow
- Station services building
- Ancillary station facilities including communication cupboards, fire hydrants, station control room, facilities for services and staff
- Facilities to meet fire safety including a fire booster, services buildings and fire evacuation ramp

12.4.6. Heritage Elements

Punchbowl station group is listed on the following heritage registers:

- Railcorp Section 170 Register (SHI No. 4802009)
- Canterbury LEP 2012 (Item No. I158)

The existing Punchbowl Railway Station is characterised by the relatively intact overhead booking office dating from the Inter-war period. The overhead booking office dates from 1929 and is a timber building with weatherboard cladding and a hipped roof clad in corrugated steel. The railway station further comprises a series of Post-war brick platform buildings dating from the 1960s through to the 1980s. The proposal will result in the removal of all the existing station buildings.

Element		Significance Grading	Tolerance for Change	Outcome
Symbol	Type			
A	Eastern Platform Building (c1929)	Moderate	Moderate	
B	Eastern Platform Building (c1980s)	Moderate	Moderate	
C	Overhead Booking Office & Footbridge (1930, replaced 2014)	High Moderate	Some High	
	Platform 1/2 (1909)	High	Moderate	

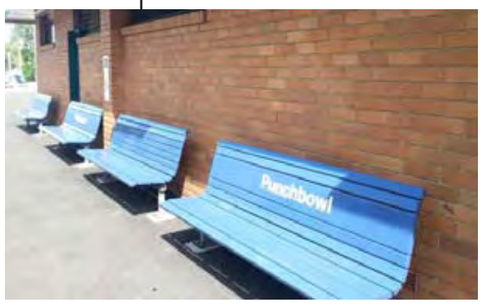


Figure 12-31: Summary of heritage elements

12.4.7. Key Design Elements

The key design elements of the Punchbowl Station and its surrounding area are in the table below.

Feature	Description
Station works	
Station entry/exit	• The existing station entrance would be removed. • Two new station entrances would be provided from The Boulevarde (to the south) and adjacent to Warren Reserve to the north. The new southern entrance would be located within a new station plaza. • A new elevated bridge would be constructed to provide access between the two platforms.
Platform details	• The heritage listed platform would be rebuilt, straightened and extended to the east. A portion of the existing platform to the west of the new concourse would be removed.
Station buildings	• New station buildings would be provided at the station entrances and platforms. • The heritage listed station buildings and overhead booking office would be removed. • New retail space would be provided within the southern station plaza adjacent to The Boulevarde (use of this space would be subject to separate approval).

Feature	Description
Station area	
Public transport integration	• The existing bus stops on Punchbowl Road would be retained. • The existing eastbound bus stop on The Boulevarde would be relocated east of Arthur Street, adjacent to the new station entry.
Access	• Paths located in the vicinity of the station between the rail corridor and The Boulevarde would form part of an active transport corridor.
Kerbside uses, bike parking	• New bike parking areas would be provided on either side of the corridor at the station entrances. • Kerbside facilities would be provided on both sides of The Boulevarde adjacent to the southern station entrance. • Kerbside facilities would be provided along the southern side of Urunga Parade to the east of the northern station entrance. • A new pedestrian crossing would be provided on Punchbowl Road northeast of Bruest Place.
Car parking	• About 30 existing commuter parking spaces located on the northern side of The Boulevarde would be relocated further to the east to provide space for the new station plaza and entrance.

13

Bankstown Station

Bringing the city together

13. Bankstown Station

13.1 Context

13.1.1. Location

Bankstown station is 20km southwest of Sydney CBD in the City of Canterbury Bankstown Local Government Area. The suburb is bounded by Potts Hill to the north, Punchbowl to the east, Padstow to the south and Condell Park to the west. Bankstown is a major centre in southwest Sydney with strong employment, civic, and retail functions. The building stock and urban form within the centre is varied, from larger twentieth century commercial buildings, a range of public buildings and spaces, shops and residential buildings of traditional scale and more recent civic and cultural buildings, and multi-storey apartment buildings. It contains a substantial area of open space/ public plaza at the Council services/ library/ theatre hub north of the station.

The station is a significant centre of interchange between bus and train services.

The Bankstown CBD is centred around the Bankstown station and exhibits a vibrant street character, especially on smaller commercial streets such as Bankstown City Plaza and Chapel Road. Large retail centres like Bankstown Central and their attendant surface and/or rooftop car parking also typify the centre. The rail corridor, the South Terrace bus interchange, and its associated restricted road pattern divide the centre, and restrict movement opportunities within the centre.

Figure 13-1: Existing Bankstown Station Axonometric

Figure 13-2: Location Plan

13.1.2. Functional Requirements

Aspect	Comment
Station Function	Origin + Destination + Interchange
Corridor	Metro and Sydney Trains
Station Type	Surface
Platform Type	Island Platform
Station	Southern entry – South Terrace west of current Sydney Trains station Northern entry - North Terrace, east of existing Sydney Trains station
Access & Interchange Requirements	Train Bus Cycling Taxi Kiss + Ride Accessible Parking Park + Ride

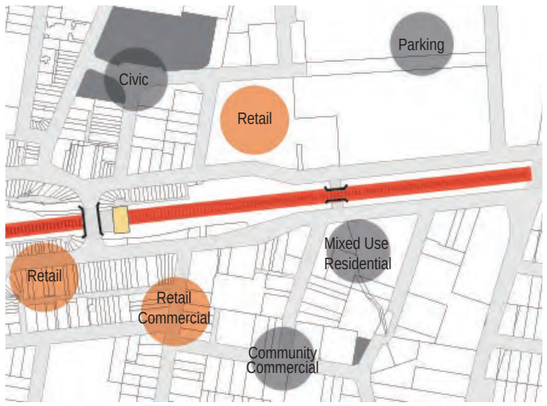
13.1.3. Station Strategy

Bankstown Station will become a place of interchange between Metro and Sydney Trains services. A new street-level unpaid concourse will cross the corridor, providing access to the existing Sydney Trains platforms as well as Metro platforms. Entry from the northern entry plaza on North Terrace near Appian Way will be via a gentle ramp. Entry from the South Terrace plaza on South Terrace near Restwell Street, is effectively at grade level with the street.

Interchange arrangements with buses on South Terrace and taxi and kiss and ride arranged on North Terrace will largely replicate the existing, but for the addition of extra kiss and ride bays on North Terrace.

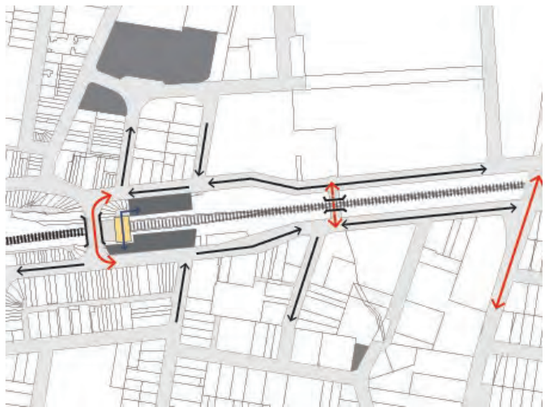
13.1.4. Urban Context

Land use and urban character



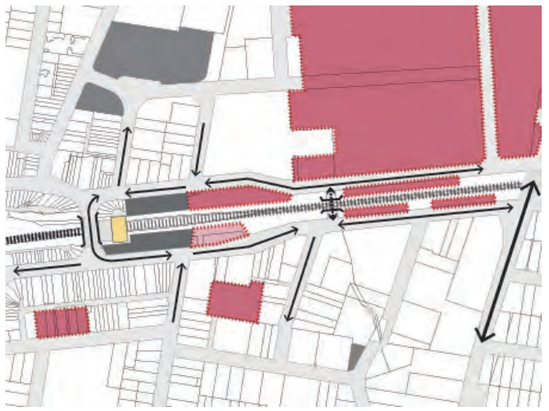
- Bankstown is a district centre with significant commercial, retail, civic and entertainment precincts
- The station is the hub where multiple bus routes converge
- The rail corridor divides the town centre with limited pedestrian connections.

Transport corridors divide the precinct



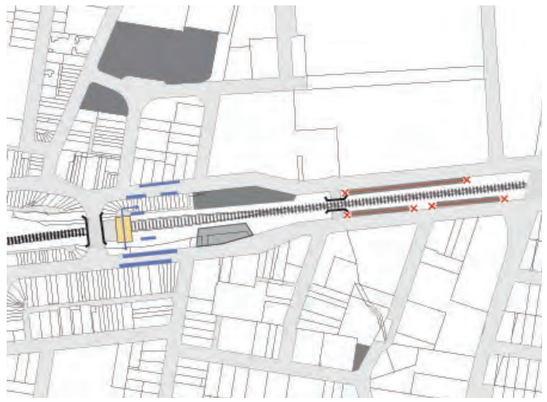
- Cross-corridor connections at Bankstown City Plaza and West Terrace have relatively poor pedestrian amenity due the traffic movements
- The rail corridor divides the main civic and commercial area of Bankstown from a range of uses south of the corridor
- Pedestrian connections across corridor are 350 metres apart.

Public Domain/pedestrian environment



- The station precinct is bounded by busy roads with the Stacey Street flyover to the east carrying 60,000 vehicles daily
- One way system prioritises private vehicles and buses over pedestrians
- Large areas of surface and first floor car parking characterise parts of the urban fabric of the centre
- Generous existing station plazas provide a high level of amenity in the immediate station area.

Circulation and interchange environment



- Over twenty bus services service or terminate at Bankstown Station
- An interchange plaza and bus layover on South Terrace, and a single bus stop on North Terrace service these bus routes
- Taxi and kiss and ride bays are located on North Terrace opposite the existing station plaza
- There is some bicycle parking in both plazas
- Commuter parking bays east of the station do not have pedestrian access paths.

Figure 13-3: Approach to Bankstown Station

Figure 13-4: Bicycle interchange and public amenity

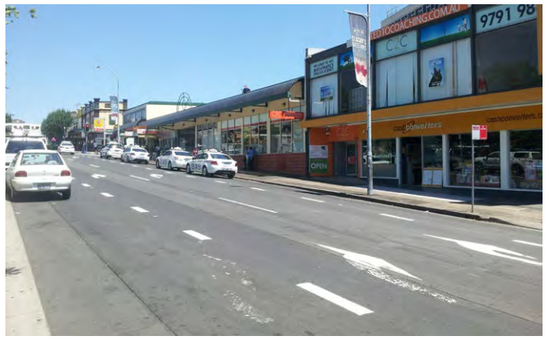


Figure 13-5: View along North Terrace

Figure 13-6: Interface between North Terrace and Bankstown Station

13.1.5. Heritage & Place

Pre-European landscape – Turpentine ironbark forest covered much of what is now the central area of Bankstown. More broadly the landscape (vegetation community) was Cumberland Plain Woodland.

The land belonged to the Bediagal (Bidjigal) people and was bordered by areas inhabited by the Dharawal and the Dharug people. Aboriginal people resisted the occupation of their land by European settlers until many of their leaders were killed. Introduced diseases took their toll on a local population that lacked immunity to infections borne by Europeans.

European settlement and land use – Governor Hunter, the second governor of the Colony of NSW (1795-1800), named the area Banks' Town after Sir Joseph Banks, the noted botanist who had been on Cook's voyage to Australia in 1770. The first white settlement was on a tributary of the Georges River, west of the Bankstown CBD, on a site now known as Mirambeena Regional Park.

The local council established chambers as early as 1898 but the city began to really develop following the extension of the railway line from Belmore, and the opening of Bankstown Station, in 1909.

Bankstown Aerodrome became a strategic air base during World War II. It was under the control of the US Armed Forces between 1942 and 1945 and for a year after that under British control.

The Second World War also saw the industrialisation of the area, with a focus on aviation related industries. A number of aviation, engineering and maintenance businesses still flourish in the airport precinct.

The population of Bankstown grew significantly after the war with people moving from inner city Sydney and new migrants arriving from Europe, all seeking work in the industries that had emerged during and after the war. Later in the twentieth century large numbers of Vietnamese and Lebanese people settled in the city.

Heritage – Bankstown Station, including the former Parcels Office, and a number of shops on North Terrace as well as the Bankstown Hotel, are locally listed heritage properties. Bankstown Public School is also listed on the Bankstown City Council heritage register.

The Bankstown Railway Station Group (Platform Buildings, Platforms, Overhead Booking Office and Footbridge, Former Parcels Office) is listed on the Railcorp Section 170 register (4802067) as well as the Bankstown City Council local register(I3).

Bankstown Station was opened as the new terminus station on 14 April 1909 at the same time as Lakemba and Punchbowl Stations, when the Belmore Branch Line was extended. The extension of the line to Bankstown triggered a real estate boom in the area that ran from 1909 until the late 1920s.

Bankstown Railway Station is historically significant at a local level as a station dating from the early twentieth century expansion of the railways between Belmore and Bankstown undertaken to accommodate the suburban development particularly the War Service residential development that took place during the interwar period along this line. The collection of railway structures dating from the 1909 opening of the station and its expansion in the 1940s, reflects the real estate boom in the area and the development of Bankstown into a major centre. The extant 1909 'initial island' platform building, platform and North Terrace overbridge exist alongside 1940s structures namely the Railway "Stripped Functionalist" style former Parcels Office, timber Overhead Booking Office and footbridge, representing the different phases of development of the station.

Figure 13-7: Bankstown Station Opening 1909
Source: NSW State Government

Figure 13-8: Bankstown Parcel Office
Source: NSW State Government

Figure 13-9: Bankstown Station c1980s
Source: NSW State Government

Figure 13-10: Bankstown Station
Source: State Rail Authority Archives Photographic Print Collection

Figure 13-11: De Havilland Drover aircraft assembly plant at Bankstown Airport 1956
Source: Hickson, J. Australian Photographic Agency (APA) Collection

13.1.6. Landscape & Urban Fabric

Bankstown is a district centre and its key features are extensive retail, community and civic services in a CBD precinct laid out north and south of Bankstown Station.

Building stock varies considerably in age, condition and architectural presentation. Building typologies include older style, attached, retail buildings with office space or residential above, larger commercial office buildings from the late twentieth century and newer civic buildings (Council offices, Library and Bryan Brown Theatre) surrounding Paul Keating Park.

Other key sites in the CBD include the Bankstown Central Shopping Centre, Bankstown Sports Club, Arts Centre and RSL Club.

Residential buildings in the northeast, northwest and southeastern precincts around the CBD core also vary significantly in age and style from three storey walk up flats to more modern, multi-storey residential apartment buildings, set over ground floor retail/ commercial and basement car parking.

The majority of the building stock dates from the latter part of the twentieth century with newer stock close to the station. These buildings are interspersed with single storey dwellings yet to be redeveloped. This is particularly the case in the northern precinct.

Beyond these inner areas, lower density housing is the norm, with some modern villa and townhouse style developments.

Figure 13-12: Bankstown Town Centre
Source: Adam J.W.C

Figure 13-13: Youth Week 2015, Paul Keating Park
Source: Christopher Woe Photography

Figure 13-14: Bankstown Library and Knowledge Centre
Source: FJMT

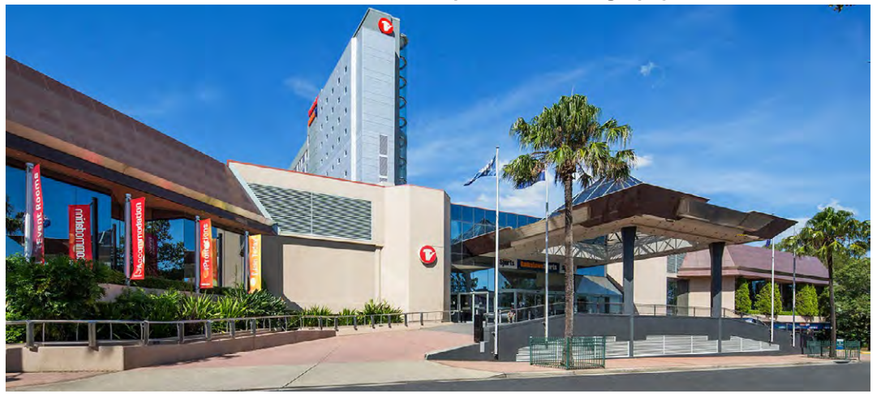


Figure 13-15: Bankstown Sports Club
Source: Bankstown Sports Club

Figure 13-16: Paul Keating Park
Source: FJMT

13.1.7. Culture & Demographics

The key demographic attributes of the suburb of Bankstown (based on 2011 ABS data) are:

- The median age of 35 is comparable to that of Greater Sydney.
- 53% of the population was born overseas (Vietnam, China and Lebanon being the highest proportions) and 51% were from a non-English speaking background.
- The predominant and fastest growing household type is couples with children (34%) which is comparable to Greater Sydney.
- A lower earning potential with a median weekly household income of $950 compared to the Greater Sydney average of $1,447.
- A large proportion of residents (41%), owned or were in the process of owning, the dwelling they reside in.
- A higher proportion (37%) of persons renting privately within the suburbs compared to 25% across Greater Sydney.
- The average weekly rent within the suburb was $319 –10% less than that recorded for Greater Sydney.
- High density housing comprises the majority of dwelling stock 68%, significantly higher than Greater Sydney (20%).
- Medium and high density dwellings comprise 66% of the dwelling stock, and these types of dwellings are the fastest growing housing type.

Bankstown is a southwestern suburb named for colonial botanist Joseph Banks, now home to an ethnically diverse population. During the Second World War the presence of the US Army Air Force at Bankstown Aerodrome led to the area becoming known as 'Yankstown'

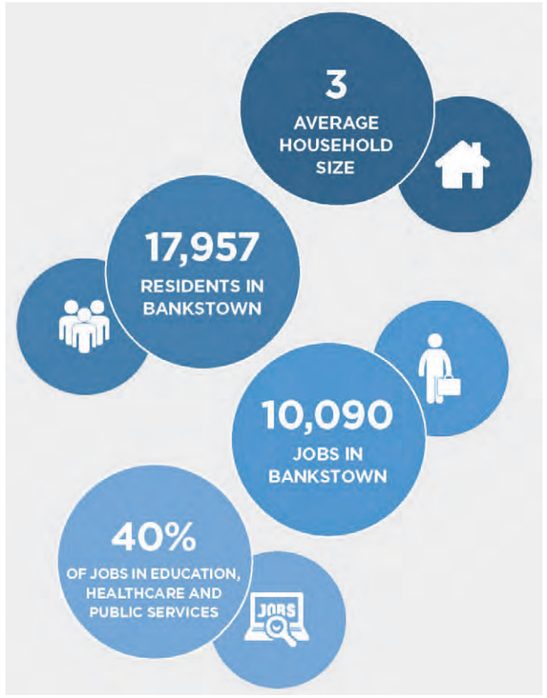


Figure 13-17: Key demographic facts for Bankstown Precinct
Source: Department Planning & Environment

Figure 13-18: Youth Week 2015, Paul Keating Park
Source: Christopher Woe Photography

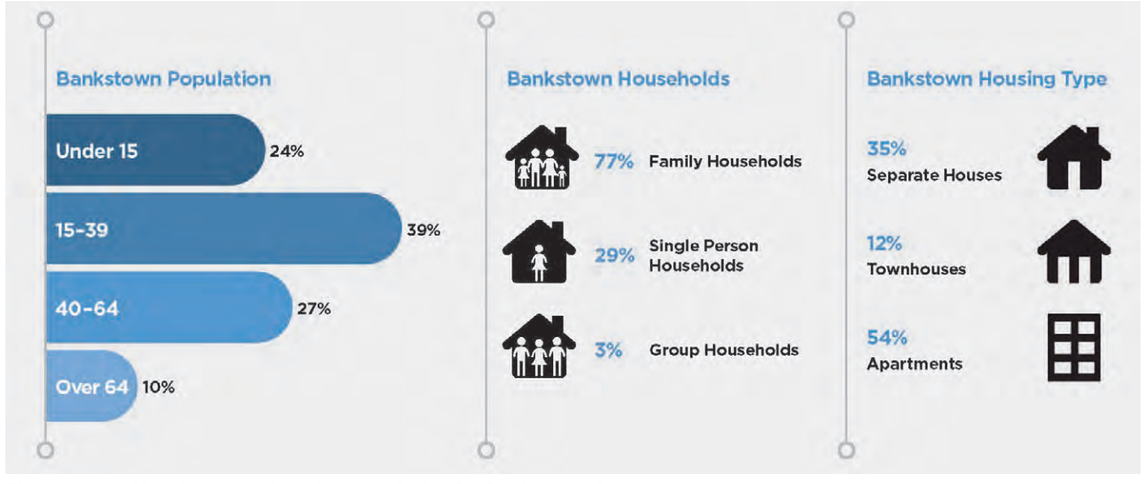


Figure 13-19: Key demographic characteristics for Bankstown Precinct
Source: Department Planning & Environment

13.2 Land Use Integration

13.2.1. Planning Controls

Under the provisions of Bankstown LEP 2015, the land around the station is zoned (B4) Mixed Use, with small areas of (RE1) Public Recreation and (SP2) Public Administration Building, Telecommunication Facility, and several other facilities (refer to Figure 13-20). The area of the railway corridor has a Floor Space Ratio of 3:1, replicated in much of the centre. Pockets of the town centre north of the station have a Floor Space Ratio of 4.5:1, with other areas of lower density of 2:1 – mainly immediately west/ south and north of the station.

The rail corridor has a building height limit of 32 metres. Land within close proximity to the north of the station has a building height limit of up to 41 metres with an area further north set at 53 metres. Land to the south of the station has a building height of up to 38 metres.

In addition to the LEP, Bankstown Development Control Plan 2015 also applies. Part A1 – Local Area Plan of this DCP provides guidance for the desired future character for the Bankstown CBD. It covers three areas, including the Northern CBD, Southern CBD, and the Bankstown City Plaza precincts (refer to Figure 13-21).

Northern CBD precinct - desired character:

- To continue to function as the heart of the City of Bankstown with a mix of retail and commercial activities on the first floors and high density residential housing above.
- Generally, buildings around the railway station will be built to the street alignment to reinforce the urban character and strengthen the pedestrian amenity and activity at street level.
- Elements of taller buildings may need to be setback to protect amenity of neighbouring areas.
- Pedestrian access to and from the station will remain a high priority.
- Proposed central boulevard along Fetherstone Street will provide a high quality north–south pedestrian connection to the local Civic Precinct.
- The boulevard treatment will extend along The Mall to also provide a high quality east–west pedestrian connection to Bankstown Central.
- Encouragement of airspace development over the station to create a memorable landmark at the terminus of the Fetherstone Street boulevard and to provide better pedestrian connections between the north and south sides of the Bankstown City Plaza precinct.

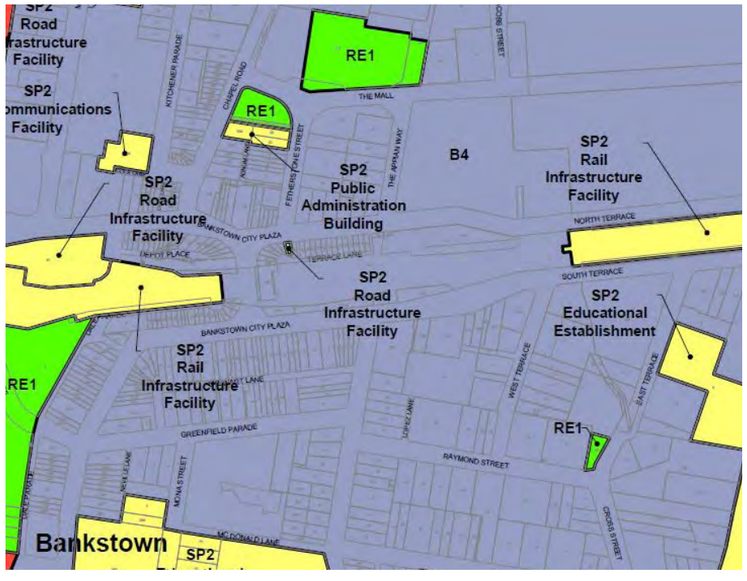
Southern CBD precinct - desired character:

- Retail activities and high amenity housing around the transport hub.
- Building form will be a mix of retail and commercial activities on the ground and first floors, and high density living above.
- The location of the tallest buildings will take advantage of the larger site sizes in proximity to the railway station and bus interchange.
- Generally, buildings around the railway station will be built to the street alignment to reinforce the urban character and strengthen the pedestrian amenity and activity at street level with setbacks to avoid impacts to amenity of neighbouring areas.

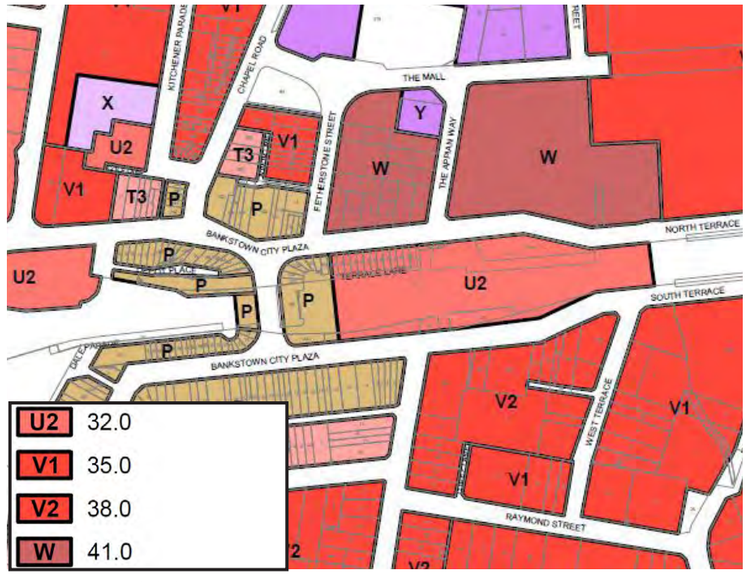
Bankstown City Plaza precinct - desired character:

- Retention of the low density shopping strip renowned for the consistent two storey street wall and Art Deco buildings.
- Development will promote retail and commercial activities particularly at the ground and first floors.
- Good solar access to the pedestrian friendly streets and setbacks for development above the two storey street wall from the street alignment.

The City of Canterbury-Bankstown has prepared a planning proposal to amend the Local Area Plans. The Planning Proposal is yet to be exhibited.



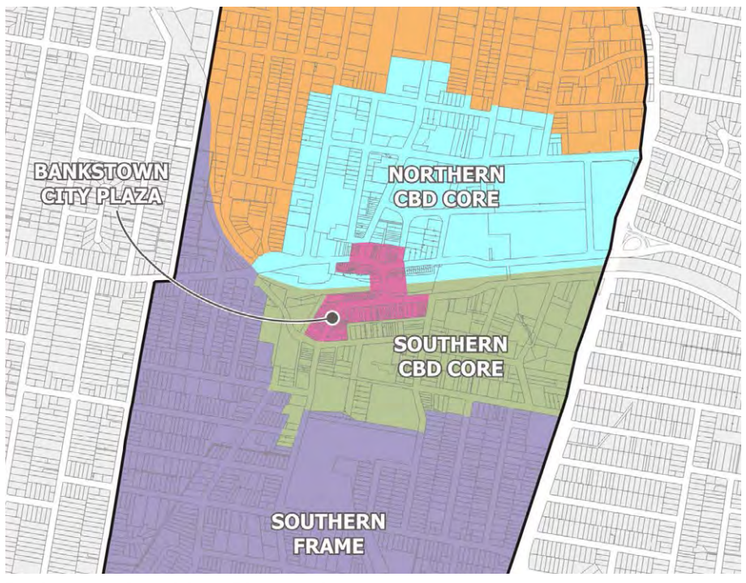
Bankstown – Zoning
Source: Bankstown Local Environmental Plan 2015



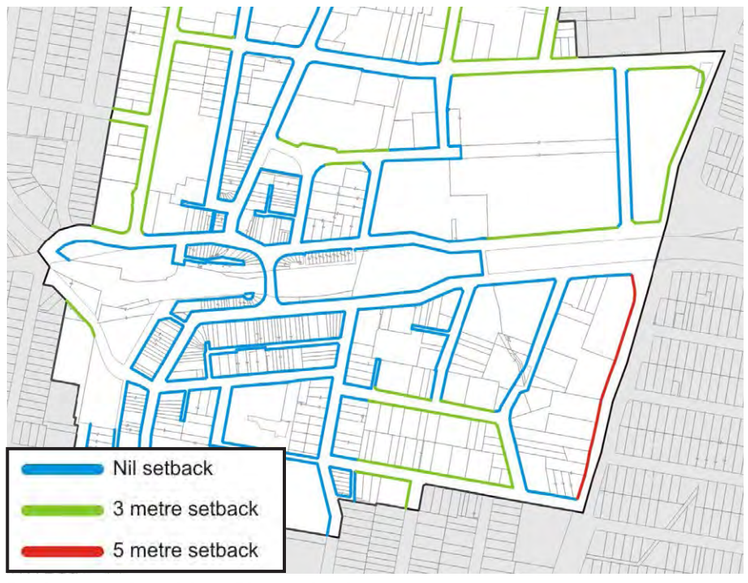
Bankstown – Heights
Source: Bankstown Local Environmental Plan 2015

Bankstown – FSR
Source: Bankstown Local Environmental Plan 2015

Figure 13-20: Land use zones, floor space ratio and building heights maps for areas surrounding Bankstown Station



Bankstown - Local Area Plan precincts
Source: Bankstown Development Control Plan 2015



Bankstown - Local Area Plan setbacks
Source: Bankstown Development Control Plan 2015

Bankstown – Local Area Plan mid-block connections
Source: Bankstown Development Control Plan 2015

Figure 13-21: Development Control Plan provisions relating to Bankstown Station

13.2.2. Urban Renewal

The NSW Department of Planning and Environment, in partnership with the Inner West Council and the City of Canterbury Bankstown has developed an Urban Renewal Corridor Strategy for the Sydenham to Bankstown corridor to guide future development and infrastructure delivery over the next 20 years. The Bankstown Precinct is one of eleven areas studied for which a draft strategy was published in October 2015 for the purpose of public consultation.

Constraints and opportunities mapping of the Bankstown Precinct undertaken for the draft strategy revealed a series of constraints to development in large parts of the precinct, including:

- Limited redevelopment opportunities due to strata titled apartment buildings north of Rickard Street and around the precinct.
- Additional approval process required for high density developments due to proximity to the Bankstown Airport.

The 2017 revised strategy addressed feedback from public submissions, community workshops, meetings and technical studies. The following key issues were raised:

- "Extend the Bankstown Station Precinct boundary to include the TAFE, Catholic college, and primary school.
- Increased heights should be supported in Bankstown to help the Precinct become a strategic centre in Sydney's inner west.
- Increased density in Bankstown should not be supported due to traffic congestion and parking issues, particularly around the City centre and shopping mall.
- Public transport should be improved between Bankstown and Parramatta.
- Road improvements should include widening of Stacey Street.
- Cycleway infrastructure improvements will not necessarily lead to an uptake of cycling in Bankstown.
- The revitalisation of the Bankstown City Centre should create a family-friendly place to live with a modern shopping centre, alfresco dining, night time activity and more street lights.
- A community centre should be planned for Bankstown.
- New high rise developments in Bankstown should be well designed.
- Infrastructure improvements should include increasing hospital capacities".

Key changes to the strategy made in response to feedback are shown in Figure 13-22. The final revised Sydenham to Bankstown Urban Renewal Corridor Strategy was placed on exhibition June 2017.

The revised strategy for the Bankstown Precinct has proposed:

- Bankstown to continue to provide shops, jobs and community services for the wider corridor to support the Greater Sydney Commission's District Centre's employment target.
- A potential station square to be the heart of the Bankstown Station Precinct enhancing pedestrian activity and providing new north-south connections.
- Future development around the station to provide a visual marker for Bankstown Station Precinct.
- Bankstown CBD to be renewed and modernised as it redevelops for increased jobs and homes.

The revised strategy also proposes the following land use and associated built form changeswithin the immediate surrounds of Bankstown Station:

South of the station

- Main street shop top housing along Chapel Road South (up to six storeys with upper levels set back from the street), Bankstown City Plaza and Stuart Lane (opportunity for a new shared zone).
- High rise residential and mixed use development along South Terrace (up to 15 storeys) and along east side of Greenwood Avenue, and north of Bankstown Public School and Stanley Street.
- New pedestrian connection through Bankstown Memorial Park to link the Bankstown CBD to Salt Pan Creek.
- New/improved public open space within Griffith Park and surrounding the Arts Centre.
- Provision of a new east-west regional cycle link along the rail corridor that would improve pedestrian and cycle access between the town centres and stations.

North of the station

- Potential development of a station square linking the north and south portions currently divided by the rail corridor.
- High rise residential and mixed use development along North Terrace and potential over station development (18 to 25 storeys), transitioning to low rise residential development west of Bungalow Crescent to reflect land use and density under existing planning controls.
- Potential redevelopment of Bankstown Central, activation of the street via shopfronts, and opportunity for a bus interchange to be provided at the site.

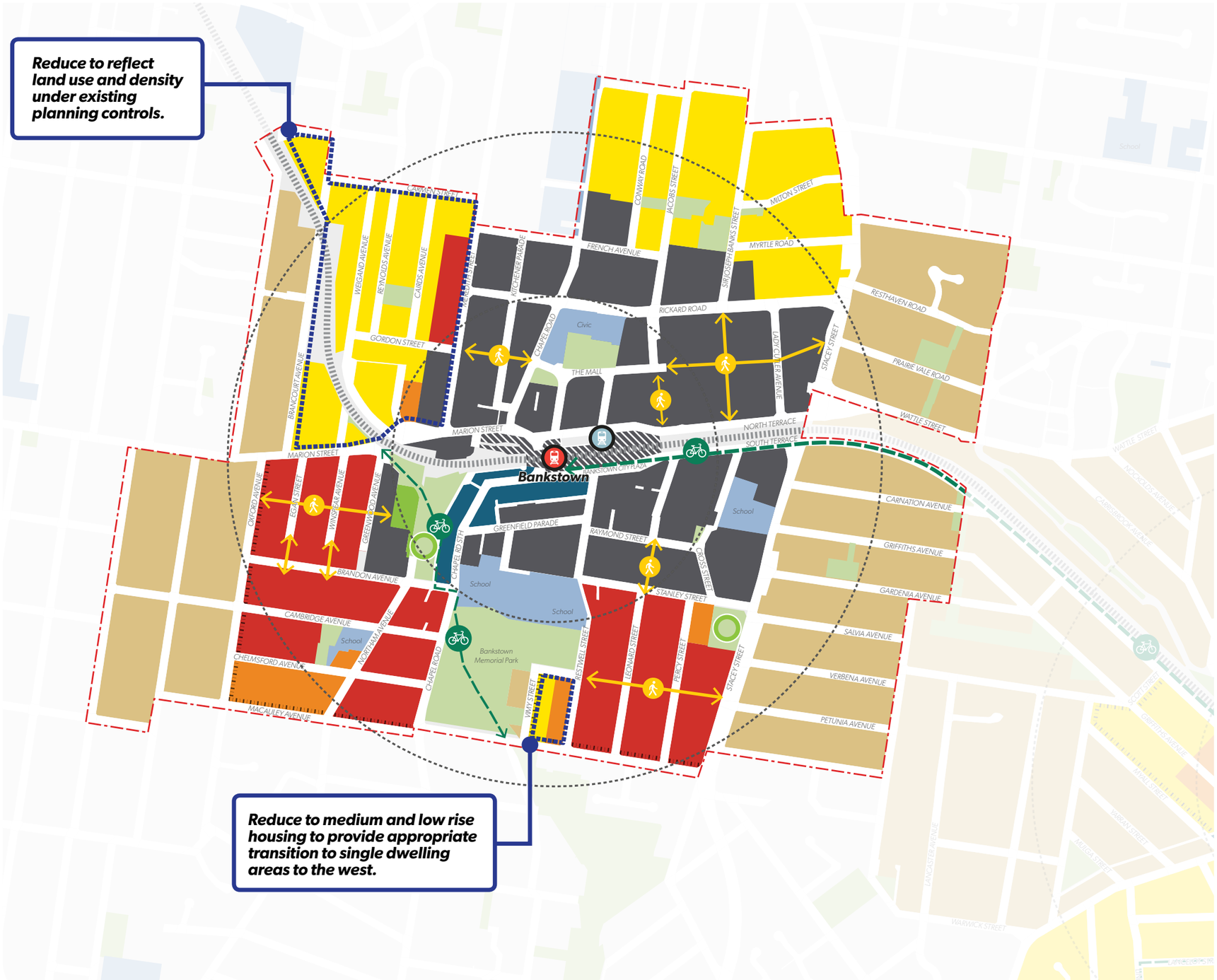


Figure 13-22: Key changes to the Sydenham to Bankstown Draft Urban Renewal Corridor Strategy
Source: Department Planning & Environment

13.3 Accessibility and Connectivity of Communities

13.3.1. Pedestrian Catchment

Bankstown is an origin, destination and interchange station. Its destination role is due to the range of jobs, entertainment, shopping and civic activities which attract people, as well as the interchange between bus and rail. Its origin status is a result of the number of people who use the train to get to work, school and other activities.

To the north of the station, the five minute walking catchment takes in Paul Keating Park, Bankstown Library, Bryan Brown Theatre, Council offices, and Bankstown Central Shopping Centre. Within five minutes walk to the south, a lower scale retail and commercial area is captured as well as the Bankstown Arts centre, and Bankstown Sports Club.

The 10 minute catchment extends to Bankstown Public School and Bankstown Girls High School and Bankstown Memorial Park and just beyond the CBD to residential areas.

Pedestrian flows from the station are approximately one third to the north, one third to the northeast, and the remaining third split amongst the southeast, southwest and northwest.

Flows of pedestrians to the station are roughly one third from the southwest, one in five from the northeast, and the remaining split amongst people from the north, northwest and southeast.

Figure 13-23: 5 & 10 minute isochrones

13.3.2. Access & Interchange Integration

Entry to the existing Bankstown Station is from North Terrace and South Terrace to a concourse at the western end of the station. Large plazas lie on either side of the station, the southern side serving the bus interchange, while taxis and kiss and ride spaces are arranged on North Terrace. There is a secondary bus stop on North Terrace outside the station entry and bicycle racks in both plazas.

Urban design and access changes proposed as part of Metro include:

- A new unpaid concourse generally at-grade with access ramps aligned to Restwell Street and The Appian Way will serve both the new Metro and the existing Sydney Trains platforms
- Additional kiss and ride bays and accessible parking bays on the southern side of North Terrace
- Secure access and sheltered bicycle parking in both station plazas
- Reconfiguration of the South Terrace bus layover to allow for the station entry ramp and a cycle path connection to the southern station plaza.

Interchange	Distance	Total Travel (min:sec)
Bus South Terrace	140m from Southern entry	01m:48s
Bus North Terrace	160m from Southern entry	02m:03s
Taxi	90m from Northern entry	01m:09s
Kiss & Ride	105m from Northern entry	01m:21s

Note: Calculations are taken from the cadastral boundary line closest to the Sydney Metro entry points. All travel distances from the base of the direct line of travel for pedestrians and do not take into account light signals and crossing points.

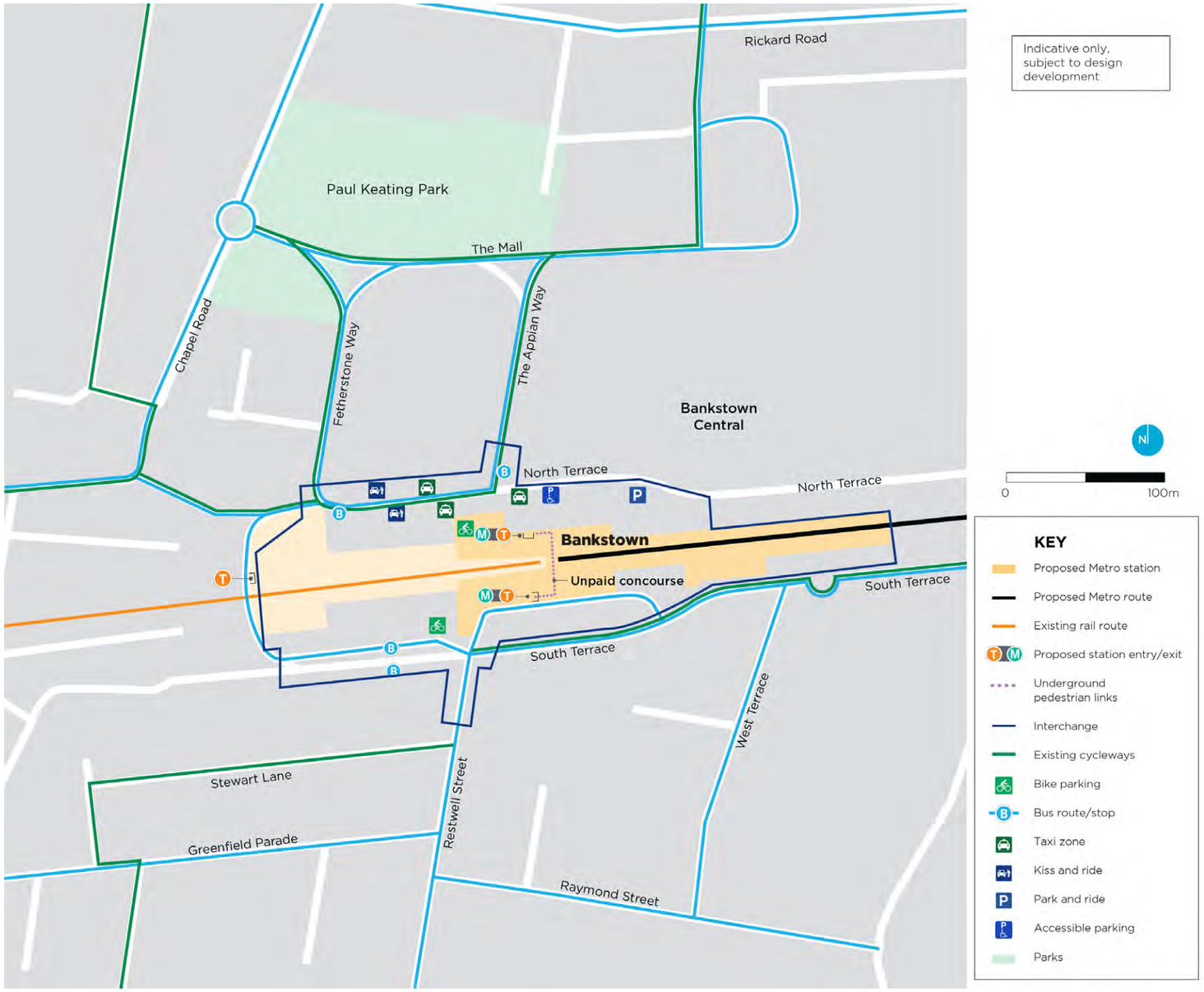


Figure 13-24: Access & interchange diagram

13.4 Station Area Place Making and Community Enhancement

13.4.1. Constraints

The rail corridor, adjacent car parks and bus layover form a broad physical barrier in central Bankstown. The two crossings in the vicinity of the station do not have a high level of pedestrian amenity as a consequence of traffic volumes and vehicles types.

A one-way traffic system contributes to an environment that favours vehicles over pedestrians.

Further east, the Stacey Street flyover is heavily trafficked. The urban quality of the city centre is compromised by large areas of surface and roof-top car parking, especially in the area to the northeast of the station.

13.4.2. Opportunities

Bankstown is a district centre with a good range of civic and cultural amenities, education, recreational and sporting facilities, transport options, retail, large and small, and a vibrant commercial centre.

There are large potential development sites close to the station, suited to commercial, mixed-use or larger scale residential buildings. South of the station a number of sites have been developed as multi-storey apartment buildings in recent years.

The well designed station plazas have the potential to become more important public spaces once the Metro cross-corridor connection is added and as denser development arises around the station.

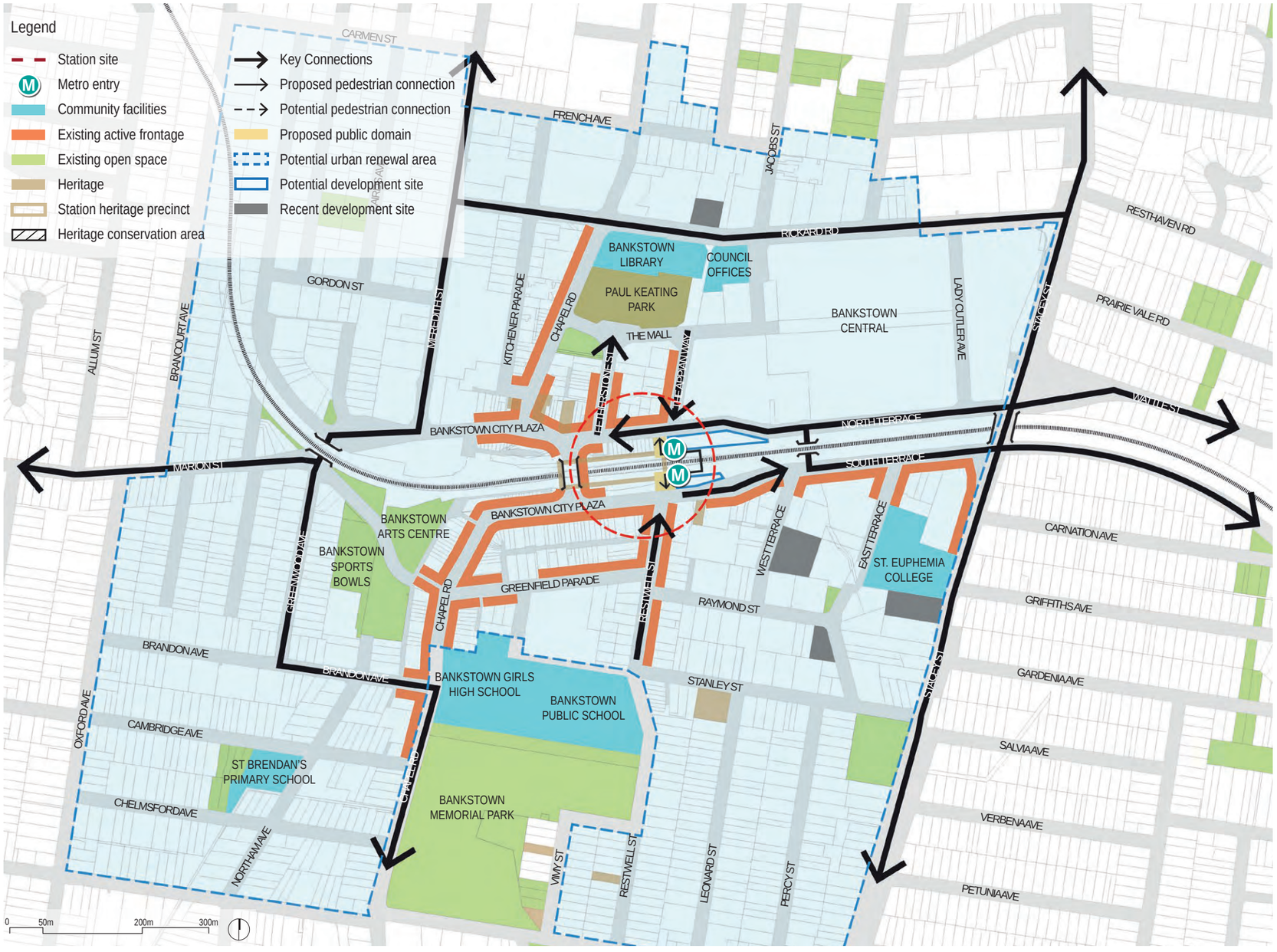
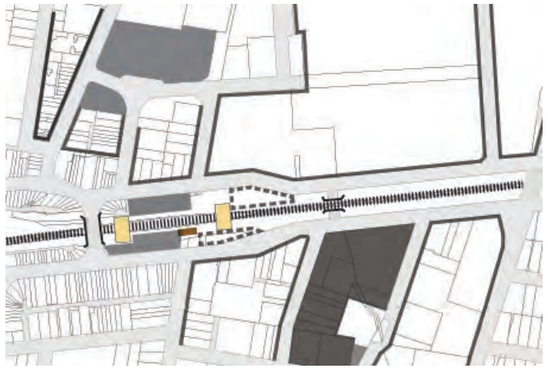


Figure 13-25: Station and precinct opportunities

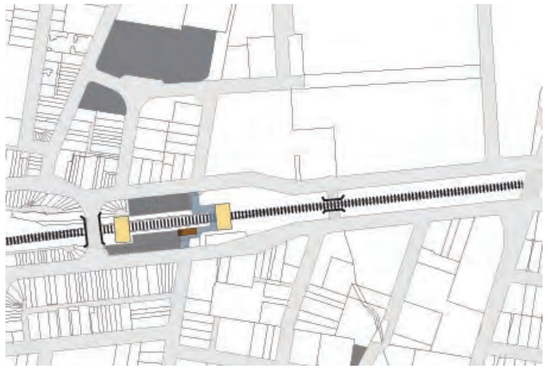
13.4.3. Place Making Characteristics

Local Public Domain



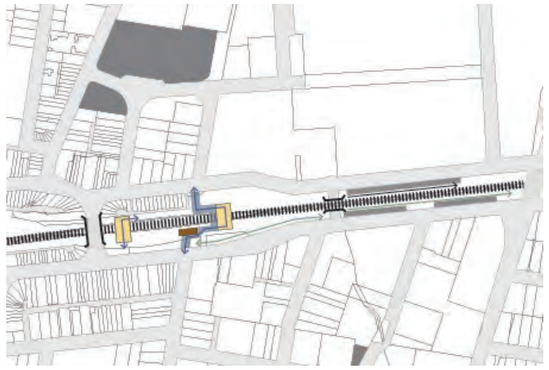
- Existing station plazas will be extended eastwards to serve Metro entries, providing additional public amenities
- Metro will introduce a broad, unpaid concourse across the corridor
- Southern plaza extension will provide an improved setting for the heritage listed Parcels Building.

Connectivity and Access



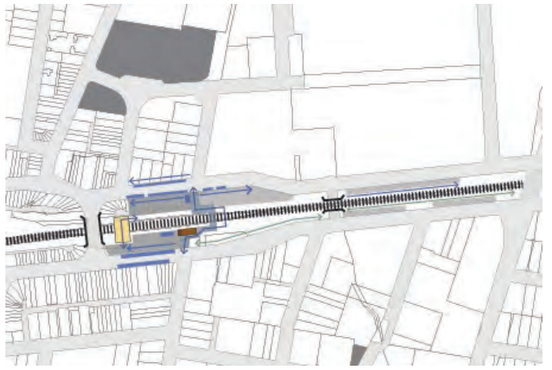
- Existing unpaid Sydney Trains concourse will remain
- New unpaid cross-corridor connection aligned to Restwell Street/ The Appian way
- New access paths servicing the existing commuter parking east of the station
- Southern access path doubling as an active transport link/ shared path.

Catalyst



- New Metro station and high frequency service will reinforce Bankstown's strategic role as a District Centre in Sydney's southwest
- The station and frequent metro services will support urban renewal and greater density in the centre, building on recent developments
- There are potential long-term development sites on the rail corridor and in adjacent areas of retail car parking, subject to the future form of rail within the city centre.

Accessible Interchange



- The bus interchange area on South Terrace, near the existing station entrance will remain
- The existing bus stop on the northern side of station on North Terrace will be retained
- Extended taxi and kiss & ride zones on North Terrace
- New bicycle parking in both plazas
- Accessible parking bays on North Terrace
- Active transport link on southern side of the rail corridor towards Punchbowl station.

Figure 13-26: Recent development South Terrace

Figure 13-27: South Terrace plaza

Figure 13-28: Bankstown Station Sydney Trains northern entry

Figure 13-29: South Terrace bus interchange

13.4.4. Entry Plaza Accessibility & Design Principles

South Terrace Entry (Southern Entry)

- New South Terrace entry enhanced by new public plaza
- Bicycle parking area within plaza.

North Terrace Entry (Northern Entry)

- New northern entry plaza, near The Appian Way, with ramped station entry, and with access to Kiss and Ride, taxi and accessible parking
- Bicycle parking area within plaza.
- Access to all Sydney Trains and Sydney Metro platforms is on the same level connected by an unpaid cross corridor link.

0

13.4.5. Station & Platform Elements

Station, platform and concourse elements incorporated in to the design include the following:

- Existing Sydney Trains Station to be retained.
- A new unpaid concourse generally at-grade with access ramps aligned to Restwell Street and The Appian Way will serve both the new Metro and the existing Sydney Trains platforms
- Sydney Metro platforms to be constructed to the east of the new at-grade crossing
- Concourse provided with full weather protection, including full weather protection for station gateline and customer facilities
- Existing heritage listed building \former Parcel's Office adjacent the Southern Plaza to be retained for ongoing use. Existing heritage listed building on Sydney Trains platform to remain.
- Platform 170m long (allows 400mm Platform Screen Door zone along each platform edge). Design to accommodate 6 x cars on Day 1 operation (2 x additional cars for future demand).
- Emergency egress via DDA accessible 1:14 ramp from eastern end of Platform 1 and 2 to track level.
- Concourse and platform canopies to provide all weather coverage. A new canopy would also be constructed over the Sydney Trains platform between the new station entrance and the existing platform building.
- Secure and sheltered bicycle storage
- Wayfinding and signage elements located on concourse level to minimize obstruction and maximise customer flow
- Station services building
- Ancillary station facilities including communication cupboards, fire hydrants, station control room, facilities for services and staff
- Facilities to meet fire safety including a fire booster, services buildings and fire evacuation ramp

13.4.6. Heritage Elements

Bankstown station group is listed on the following heritage registers:

- Railcorp Section 170 Register (SHI No. 4802067)
- Bankstown LEP 2015 (Item No. I3)

Bankstown Station comprises a suite of buildings that collectively represent the varying architectural styles of railway station buildings throughout the twentieth century. The station is composed of an island platform building, rectangular in plan and constructed in brick, a standard NSW Railways design, a timber and weatherboard overhead booking office, and a steel footbridge. There is a stripped functionalist style former parcels office to the southeast of the station, with its own side platform.

The station is accessed by two entrances at street level. The overhead booking office presents as a modest structure in the context of North Terrace and South Terrace and the Old Town Centre Plaza, a landscaped space, to the north.

The main works associated with the proposed Sydney Metro Southwest conversion of Bankstown Railway Station differ slightly from that of the other stations in that Bankstown is the terminus stop for the Metro line. A new Metro station would be constructed to the east of the existing station and all of the existing station infrastructure would be retained including the former parcels office.

The Metro station will include a new concourse canopy, platforms and precinct integration works. No additional physical works would be required to the existing station, apart from straightening out the existing curved platform to the east to accommodate the Sydney Metro platform extension, and provision of a canopy to the Sydney Trains platforms between the new station entrance and the existing platform building.

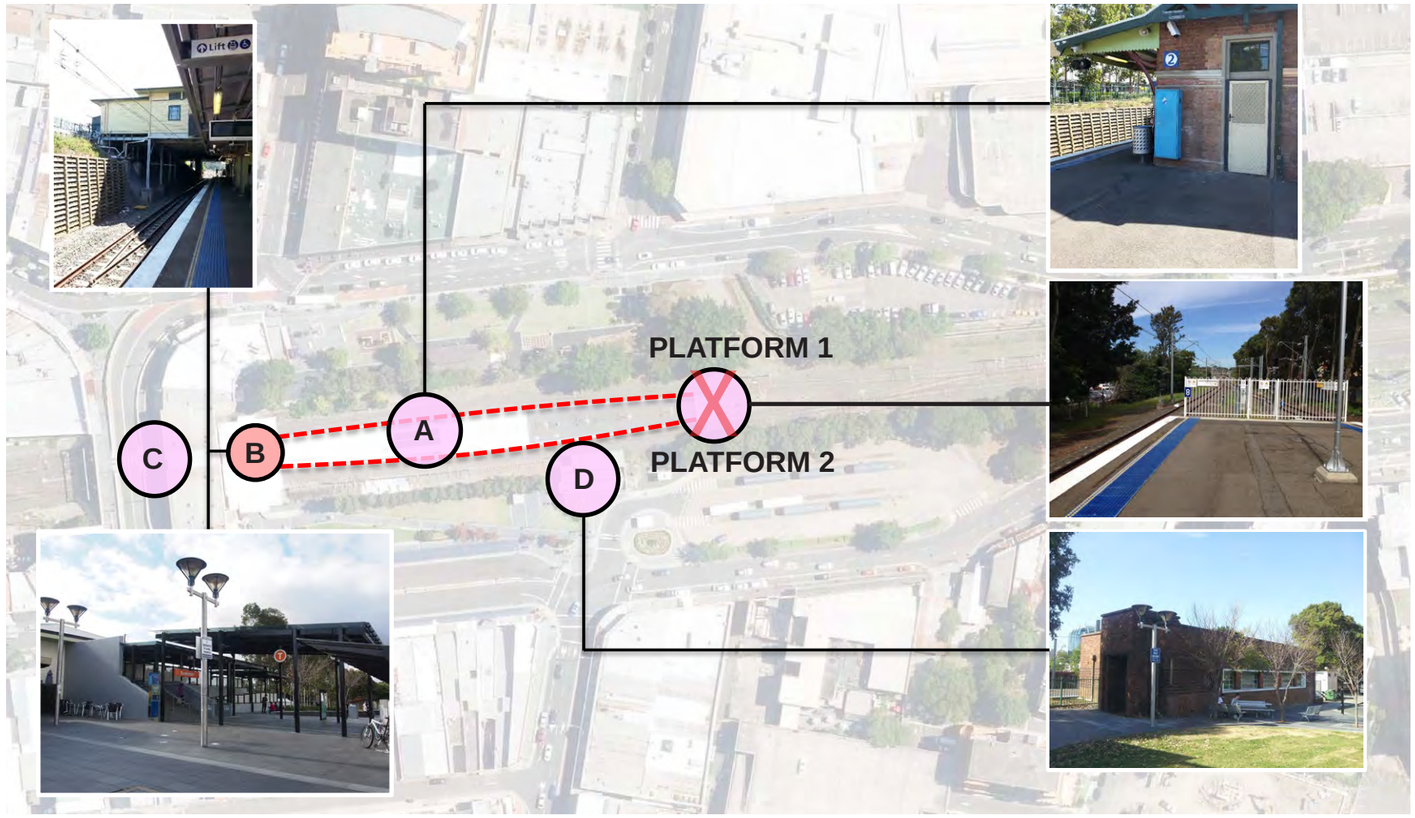


Figure 13-30: Summary of heritage elements

Element		Significance Grading	Tolerance for Change	Outcome
Symbol	Type			
A	Platform 1/2 Building (1909 with 1923 xtn)	Exceptional	Some	Retain/Reuse
B	Overbridge (1909, 1997))	Moderate	Some	Retain/Reuse
C	Overhead Booking Office & Footbridge (1948 and modified)	Moderate	Some	Retain/Reuse
D	Former Parcels Office (1948)	High	Some	Retain/Reuse
– –	Platform 1/2 brick (1909)	High	Moderate	Remove

13.4.7. Key Design Elements

The key design elements of the Bankstown Station and its surrounding area are in the table below.

Feature	Description
Station works	
Station entry/exit	• The existing Sydney Trains station entrance at Bankstown City Plaza would be retained. • A new at-grade corridor crossing would be provided at the eastern end of the existing Sydney Trains platform and would provide access to both Sydney Trains and new Sydney Metro platforms. • New station plazas would be constructed at station entrances on both sides of the rail corridor.
Platform details	• The heritage listed Sydney Trains platforms would be retained with minor modifications required at the eastern end. • New Sydney Metro platforms would be constructed to the east of the new at-grade corridor crossing.
Station buildings	• All station buildings (including the heritage listed station building and Parcels Office) on the Sydney Trains platforms would be retained. • A new canopy would be constructed over the Sydney Trains platform between the new station entrance and the existing platform building.

Feature	Description
Station area	
Public transport integration	• The bus layover area on South Terrace would be retained with minor adjustments to accommodate the new station entrance. • The bus interchange area on South Terrace, near the existing station entrance, would be retained. • The existing bus stop on the northern side of station on North Terrace would be retained.
Access	• The existing bus stop on the northern side of station on North Terrace would be retained. • A new 'at grade' corridor crossing would be provided at the eastern end of the existing Sydney Trains platform and would provide access to both Sydney Trains and new Sydney Metro platforms.
Kerbside uses, bike parking	• Changes would be made to kerbside facilities and parking along North Terrace, between the new station entrances and the existing entrance. Existing kerbside facilities (i.e. taxi rank) on northern side of North Terrace would be retained. • New bike parking would be provided on both sides of the station within the new station plazas.
Car parking	• Removal of existing car park located adjacent to the Appian Way off North Terrace, resulting in the loss of 10 spaces.

Appendix I

Utilities Management Framework

Sydney Metro City and Southwest

Sydenham to Bankstown Upgrade

Utilities Management Framework

Project:	Sydney Metro City and Southwest Sydenham to Bankstown Upgrade	**Date:**	29 June 2017
Group:		**Status:**	Final
Author:	Carolyn McCallig	**Revision:**	02
Company:	Sydney Metro	**File number:**	Project no.
File name:	S2B EIS_Utilities Management Framework_290617		

Revision	Revision date	Status	Brief reason for update	Name/ position/ company	Author/ Reviewer/ Approver	Signature
01	15/06/17	Draft	n/a	Carolyn McCallig / Panning Manager / Sydney Metro	Carolyn Riley / Senior Panning Manager / Sydney Metro	
02	29/06/17	Final	Metro review	Carolyn McCallig / Panning Manager / Sydney Metro	Carolyn Riley / Senior Panning Manager / Sydney Metro	

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1. Introduction

It is anticipated that the project will require the relocation, adjustment and protection of public utilities such as electricity, communications, gas, water and sewerage. While it is expected that most utility relocation/adjustment would be contained within the rail corridor, there will be occasions where a utility needs to be relocated outside the rail corridor or in some instances outside the project area. The details of each utility relocation are currently being worked through as part of design development and early contractor involvement. To assess potential impacts associated with these works, which would typically be undertaken as part of construction phase of the project, a risk based environmental assessment approach has been adopted and is contained within this Utilities Management Framework (UMF).

This UMF has also been prepared to address the following Secretary's Environmental Assessment Requirements (SEARs) for the Sydney Metro City and Southwest Sydenham to Bankstown upgrade project (the project):

Key issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)
16. Utilities This project is designed, constructed and operated to minimise impacts to utilities and provision of such to the public.	1. The Proponent must identify impacts on key identified active or disused public trunk utilities infrastructure (including communications, electricity, gas, and water and sewerage). 2. Where impacts on utilities are expected, the Proponent must prepare a utilities management framework, to identify a management strategy for options, including relocation or adjustment of the utilities. 3. The utilities management framework must identify ways in which opportunities to integrate with and support initiatives adopted by Councils and utilities providers and how access to assets will be maintained during construction.

This document provides an overview of the principles and practices that would apply to the management of utilities during the construction of the project. It includes a list of active and disused utilities located within and/or crossing the project area (either underground, aboveground or via existing road overbridges) with the potential to be affected by construction of the project, and outlines the approach to management of these utilities at a strategic or high level.

Should the project be approved, it is anticipated that Conditions of Approval (CoAs) for the project will require preparation of a Construction Environmental Management Plan (similar to Chatswood to Sydenham project) that includes detail of the required utilities related activities (such as relocation, adjustment and protection works) during the construction phase (refer below for extract from the Chatswood to Sydenham project CoA):

> ***UTILITIES AND SERVICES***
>
> *Utilities, services and other infrastructure potentially affected by construction must be identified before works affecting the item, to determine requirements for access to, diversion protection, and/or support. The relevant owner and/or provider of services must be consulted to make suitable arrangements for access to diversion, protection, and/or support of the affected infrastructure as required. The Proponent must ensure that disruption to any service is minimised and be responsible for advising local residents and businesses affected before any planned disruption of service. All*

excavations adjacent to RMS road infrastructure must meet the requirements of RMS Technical Direction (GTD 2012/0001) 'Excavation adjacent to RMS infrastructure'.

In addition, the following CoA was applied to Chatswood to Sydenham (extract below) and it is expected that similar would be applied to Sydenham to Bankstown approval. This condition indicates that low impact activities such as utilities relocation and adjustments is outside the definition of construction for the purposes of planning approval unless it could impact heritage items or threatened species etc in which case the activity would be addressed as a construction matter in the project Construction Environmental Management Plan.

Construction includes all physical work required to construct the CSSI, including demolition, other than the following low impact work:

(j) relocation and connection of utilities where the relocation or connection has a minor impact to the environment as determined by the ER;

However, where heritage items, or threatened species, populations or ecological communities (within the meaning of the EP&A Act) are affected or potentially affected by any low impact work, that work is construction, unless otherwise determined by the Secretary in consultation with OEH or DPI Fisheries (in the case of impact upon fish, aquatic invertebrates or marine vegetation). The low impact work described in this definition becomes construction with the approval of a Construction Environmental Management Plan.

This UMF provides a mechanism for identifying, assessing and minimising impacts to the public because of required utilities relocation/adjustments.

2. Utilities identification

The location of trunk utilities has been determined by the design team to the current stage of design, based on Dial Before You Dig searches; and a review of utility data, including as-built surveys, and agency and council records. Preliminary consultation has also been held with utility owners, including Sydney Water, Ausgrid, Telstra, Axicom, TPG, Qenos, Transgrid, Optus, Jemena and NBN.

The following utility owners have assets which may require adjustment, protection, and/or relocation as part of the project:

- Sydney Water:
    - potable water mains
    - stormwater drains and channels
    - wastewater mains/tunnels including potentially disused assets
- Ausgrid:
    - underground electricity cables (potentially up to 132 kV)
    - 33 kV underground electricity cables
    - high voltage underground electricity cables
    - low voltage overhead and underground electricity cables
    - abandoned underground cables
- Qenos:
    - disused high pressure gas main (filled with inert ethylene gas)
- Jemena:
    - high pressure gas main (primary and secondary mains)
    - medium pressure gas main
    - low pressure gas main
- Telstra:
    - underground cables
    - underground and above ground service connections (i.e. to stations)
    - optic fibre underground cables
    - underground copper wire
    - vacant cable conduits
- NBN:
    - network cables
- Optus:
    - underground optic fibre cables

- the Inner West and Canterbury-Bankstown councils:
    - stormwater channels
    - underground stormwater pipes
    - drainage culverts.

A number of the above assets are positioned within/below the existing road overbridges crossing the rail corridor.

3. Utilities management

A risk-based approach to the management of utilities would be adopted during the construction phase of the project to avoid damage throughout the project lifecycle. To ensure a consistent approach across all project activities the following stages would be undertaken:

- confirm utilities with the potential to be impacted
- design refinement
- detailed assessment
- consultation with asset owners and relevant stakeholders
- integration with other assets
- construction management.

These stages are described below:

3.1. Confirm utilities with the potential to be impacted

Dial Before You Dig searches and targeted site investigations would continue to be undertaken to establish the full extent of services with the potential to be impacted by construction. During this process, it is likely that unfiorseen utilites would be uncovered. Site investigations would be carried out using a range of techniques:

- Dial Before You Dig information
- electronic detection scanners
- pot holing by vacuum methods as well as other non-destructive methods
- slit trenching using vacuum excavation
- detailed survey pickup
- visual inspection within pits
- physical testing of selected assets.

The extent of slit trenching and potholing would be determined by the number of services in each area, as well as the amount of outstanding information required. This would supplement existing investigations already undertaken.

3.2. Design refinement

Where an existing utility conflicts with the proposed design, it may be necessary to:

1. Provide physical protection where the utility is not directly affected but may be indirectly affected by vibration or accidental impact. This could include:
    - constructing a piled wall between the work site and the utility
    - plating over the utility to minimise the impact of construction traffic
    - marking or fencing the location of the utility to avoid it being accidentally damaged.

2. Modify construction methods to avoid impacting a nearby utility. For example, this could involve using hand excavation and compaction tools such as hand digging tools, a vibration plate, or pedestrian rollers where compacting within a specified distance of utilities.
3. Wrap and support the utility service to provide mechanical protection.
4. Divert the utility around the construction site.
5. Relocate the utility.
6. Abandon the utility.

3.3. Detailed assessment

Designs would be developed in accordance with each utility owner's specification once the provider requirements are agreed. Design packages would be produced for each geographic area, which would describe the utilities in the area, so that utility owners have confidence that the potential impacts have been adequately assessed. The design packages would be sent to the relevant utility owner for approval.

3.4. Opportunities to integrate with utility owners and other affected stakeholders

To manage integration with utility owners, Sydney Metro has established an internal Utilities Working Group. Ongoing consultation with all relevant utility owners and other stakeholders, including the Inner West and Canterbury Bankstown councils will be undertaken following project approval through the Sydney Metro Utilities Working Group. The following utility providers have dedicated resources / points of contact for Sydney Metro: Ausgrid, Sydney Water, Qenos, Transgrid, Telstra, Optus, TPG and Axicom.

Construction works that may directly or indirection impact utilities would be coordinated with the relevant utility owners, including consideration of any proposed utility upgrades and access requirements, particularly maintaining access during project construction. Access to utilities within the project area would be maintained at all times.

3.5. Environmental assessment and approval

Minor relocations within the existing rail corridor would be undertaken in accordance with a work method statement provided in the project Construction Environmental Management Plan. For relocations outside the rail corridor, the need for additional assessment and approval would be determined in line with the approach to design refinements for the project, described in Section 27.3 of the EIS.

3.5.1. Overview and context

In some cases construction works for the project will require the relocation/adjustment of utilities and in other cases utilities will require protection from potential impacts during construction works associated with other aspects of the project. If utilities are not managed adequately, by adjusting, relocating, or protecting them prior to construction, there would be the potential for rupture or breakage of connections. This could lead to service disruptions and/or pose a hazard in the form of electrocution, release of sewage from a wastewater main, or fire if a gas main is impacted. It may be necessary to establish a construction work zone (ie compound area and hard stand area etc) during the utility relocation/adjustment.

3.5.1.1. Potential impacts to utilities

Construction would have the potential to impact on utilities as a result of works to and around stations, track works, excavation, and works to overbridges. In most cases, utility impacts would be minimised by protecting utilities in place, or, where required, constructing a replacement utility ahead of re-connection thus minimising the duration of outages. Connection activities would be undertaken during planned periods of disruption, which would be notified in advance to affected communities. However, there is also the possibility of accidental damage or incidents if utilities are uncovered in locations not previously identified, leading to unplanned disruptions. Such disruptions can result in impacts to the operation of utility networks.

All works would be undertaken in accordance with the requirements of the relevant asset owners, which would be determined following consultation.

3.5.1.2. Utilities relocation/adjustment

Most utilities to be relocated/adjusted are likely to be located within the rail corridor, as this is where the highest density of utilities typically occurs. However, in some locations, works would be required outside the rail corridor but still within the project area, for example at a construction compound site or a rail overbridge. Also, depending on the utility and the utility owners requirements, it may not always be possible to divert the utility at the point of intersection with the project, requiring consideration of upstream and downstream utility considerations.

3.5.2. Risk based environmental assessment

This framework establishes a risk based approach to the assessment and management of potential impacts associated with utilities management.

Typical environmental impacts associated with a range of anticipated utilities works likely to be required during the construction phase of the project are identified below:

Environmental aspect	Typical impacts to assess
Traffic and access	• Additional construction related traffic • Changes/disruption to traffic movements • Changes/disruption to property access • Changes/disruption to bus services/routes • Changes/disruption to pedestrian and cyclist movements • Temporary reduction in available car parking
Noise and vibration	• Vibration depending on utility removal/installation technique eg horizontal directional drilling or trenching • Road traffic noise due to construction vehicle movements/haulage routes and changes in traffic movements associated with detours • Construction noise associated with physical works and type of plant of equipment proposed
Non Aboriginal Heritage	• Potential intrusion within heritage curtilage • Works within heritage conservation area • Potential impact to, or removal of, heritage trees • Potential impacts to views and vistas associated with heritage items • Potential impacts to heritage buildings/fabric from vibration

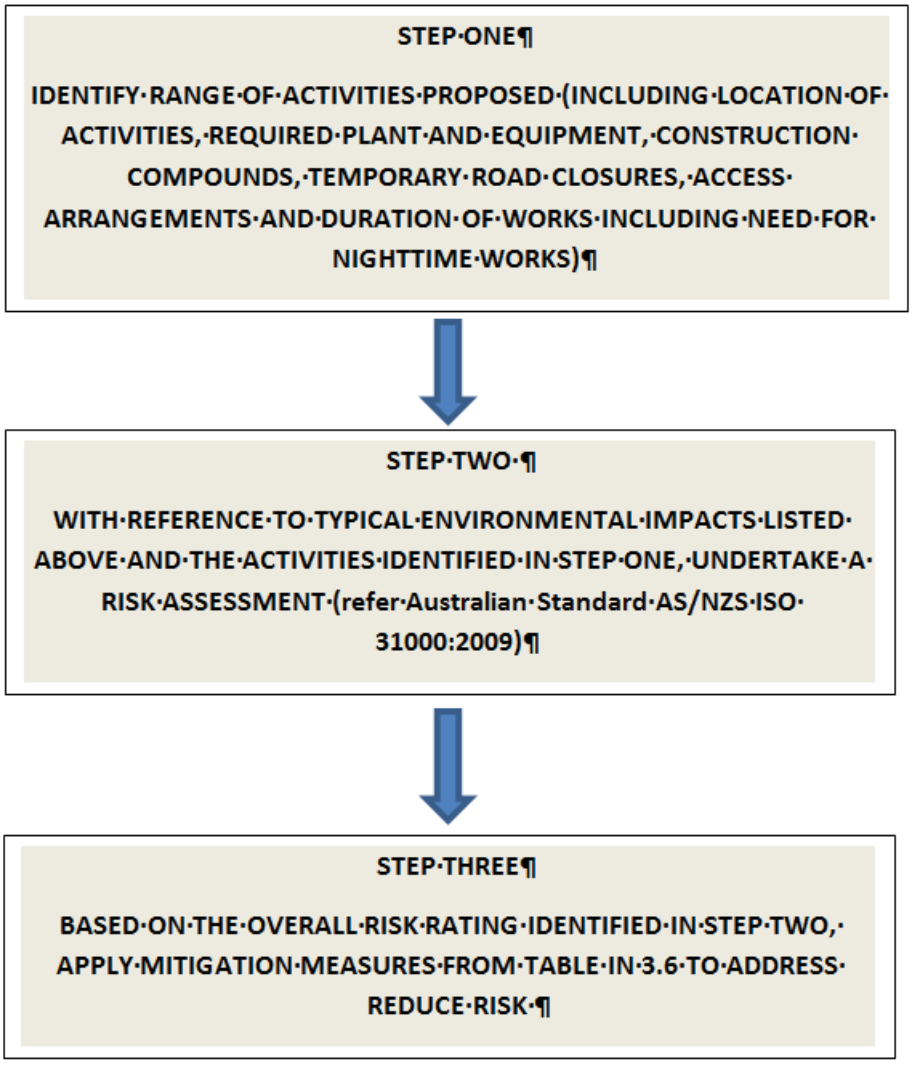
Environmental aspect	Typical impacts to assess
Biodiversity	• Removal of vegetation and/or trees • Impact to tree protection zone • Loss of habitat such as trees and other vegetation types causing habitat fragmentation • Impacts to fauna from construction related noise and vibration eg bats
Air quality	• Dust from construction works • Exhaust emissions from equipment, machinery and construction vehicles
Hazard and risk	• Potential electric and magnetic field impacts during operation (where electricity infrastructure is relocated to a new area) • Hazards specific to the Qenos pipeline relocation work include: • Abrasive blasting - potential contamination of air/soil/water from blasting material. • Radiation exposure – use of xray to inspect the new welds. • Welding – grinding/welding operation has risk of fire or injury to personnel • Horizontal directional drilling – potential for frac-out and damage to buried services • Hydrostatic testing – potential for injury to workers due to failure of high pressure fittings • Remaining ethylene product in the pipeline – there could be a minimal amount of product left in the pipeline that we need to be aware of during tie-in.
Property and land use	• Potential leasing of property for construction works • Potential changes to, or requirements for, easement arrangements for utility
Soils and contamination	• Potential disturbance, handling and disposal of contaminated material including acid sulphate soils during construction
Landscaping/urban design matters	• Erection of fencing, barricades, gates and lighting • Potential light spill from night-works • General construction activities within the construction footprint, trenching, stockpiling of materials and the parking/use of construction plant and vehicles • Rehabilitation of land (potential replanting etc) following relocation/adjustment works
Aboriginal heritage	• Potential disturbance to registered sites • Potential disturbance to areas of potential archaeological deposits • Unexpected finds during utility relocation/adjustment works.

Note: this is not intended to limit the range of environmental aspects considered for a specific project, but rather provides a guide for likely matters to consider.

This utilities management framework is underpinned by the Australian Standard for risk management - *AS/NZS ISO 31000:2009, Risk management - Principles and guidelines.* An analysis of potential impacts associated with utilities relocation/adjustments would be undertaken by considering consequence and likelihood as set out in the Australia Standard.

Likelihood	What's the chance the of the risk occurring?		Consequence: How severe could the outcomes be if the risk event occurred? →				
			1 Insignificant	2 Minor	3 Significant	4 Major	5 Severe
	↑	5 Almost Certain	5 Medium	10 High	15 Very high	20 Extreme	25 Extreme
		4 Likely	4 Medium	8 Medium	12 High	16 Very high	20 Extreme
		3 Moderate	3 Low	6 Medium	9 Medium	12 High	15 Very high
		2 Unlikely	2 Very low	4 Low	6 Medium	8 Medium	10 High
		1 Rare	1 Very low	2 Very low	3 Low	4 Medium	5 Medium

The steps associated with the assessment are outlined in the figure below:



An assessment of these aspects and any other site specific matters would be undertaken prior to construction and mitigation adopted in the project Construction Environmental Management Plan.

3.6. Construction management

Construction would be managed in accordance with the requirements of the Construction Environmental Management Framework and the Construction Environmental Management Plan. This plan would address contingency management for any unplanned utilities interruptions.

Notwithstanding, the table below presents example mitigation measures that could be adapted to specific utilities work associated with the construction phase of the project

Environmental aspect	Typical mitigation measures to be adopted as required
Traffic and access	During detailed design: • Road occupancy licence(s) for temporary closure of roads would be obtained prior to construction, where required, from the relevant road authority. • A Traffic Control Plan would be developed during detailed design and would identify all traffic control arrangements required to be implemented during construction. • To keep the road user delays to a minimum, all works would be planned and staged to avoid road occupancies during peak periods, where possible. • An emergency response plan would be developed for construction traffic incidents. • A pre and post-construction assessment of road pavement assets would be conducted in areas likely to be used by construction traffic or disturbed by the proposed trenching and HDD activities. During construction: • Heavy vehicles would be restricted to allowable routes. • Where schools or child care centres occur in the immediate vicinity of the construction sites, heavy vehicle movement would be minimised (where reasonable and feasible), between 8 am and 9.30 am and 2.30 pm–400 pm Monday to Friday (on school days). • Traffic controllers would be located at worksite access point(s) as required to direct vehicle movements, vehicle deliveries, pedestrians and cyclists, where required. • Public communications would be conducted to notify the community and local residents of vehicle movements and anticipated effects on the local road network relating to the site works. • Access to all private properties adjacent to the works would be maintained during construction, where possible. Where access is known to be restricted, all proposed changes to existing access arrangements would be discussed with residents and/or businesses prior to the commencement of works. Upon completion of the construction works, the original property access would be reinstated. • Early advanced communication with affected properties would be undertaken to identify alternative arrangements. • During Project inductions, all heavy vehicle drivers would be provided with the emergency response plan for construction traffic incidents. • Project staging, vehicle movement and scheduling, equipment and resourcing would be coordinated to minimise impacts. • Construction vehicle parking would be discouraged on local roads and construction staff encouraged to use public transport, car share, or in some cases workers can park in a designated off-site area and ferried to site via a shuttle bus. • Temporary closure or relocation of any bus stops impacted by the works would be coordinated with bus companies and advertised locally in advance.

Environmental aspect	Typical mitigation measures to be adopted as required
Noise and vibration	During construction: • Carry out work mainly during standard construction hours when in the vicinity of residential receivers. • Use a portable barrier (or similar protection) to shield the drilling equipment where works occur in proximity to residential receivers where reasonable and feasible. The height and nature of the barrier would be determined when the equipment selection is finalised. The barrier would be constructed of a material of minimum mass 12 kilograms per metre squared such as 20 millimetre plywood or a proprietary barrier such as Echobarrier. • Provide periods of respite from use of the road saw. • Schedule the use of the road saw to times when the community are less sensitive by avoiding early morning and late evening/night periods, where feasible with respect to the proposed construction methodology. • Inform surrounding residents by mail of planned works prior to the works commencing. • Organise the site to avoid unnecessary use of reversing alarms on vehicles. • Truck drivers to use approved access routes to the site. • Orientate and place water pumps and vacuum trucks away from receivers. • Turn equipment off when not in use and avoid idling machinery or trucks near sensitive receivers. • Utilise vehicles, obstacles and stockpiles on site to provide shielding to receivers, where possible. • Avoid dropping tools or materials from height, striking materials or making metal-metal contact • Operate the excavator in a manner that avoids maximum noise levels associated with striking or shaking the bucket. • Educate workers on the importance of minimising noise and avoid creating short duration high noise level events. • Carry out a survey of sensitive receivers to ensure adequate acoustic performance of façade. During reinstatement/rehabilitation works: • Schedule deliveries to be carried out to avoid sensitive periods in the early morning and late evening/night. • Turn equipment off when not in use and avoid idling machinery or trucks near sensitive receivers. • Provide respite periods from tipper and compactor usage. • Select equipment such as a compactor and tipper trucks, based on lower noise emissions and use equipment that has lower noise levels • Inform surrounding residents by mail of planned works prior to the works commencing.
Non Aboriginal heritage	• Construction works associated with utilities relocation/adjustment with the potential to impact non Aboriginal heritage would be managed through a Heritage Management Plan that would be prepared for the Sydney Metro Sydenham to Bankstown upgrade project. • The presence or potential presence of a heritage item or archaeological deposit would inform the construction method adopted, for instance underboring using HDD may be preferable to trenching in some sensitive locations.

Environmental aspect	Typical mitigation measures to be adopted as required
Biodiversity	During construction • Where vegetation clearing is required, pre-clearing surveys would be completed to mitigate potential impacts and identify risks to flora, fauna and habitat prior to construction activities occurring and to identify the presence of any unidentified threatened or endangered species. • Where impacts to existing street trees are unavoidable, both the relevant Council and an ecologist or arborist would be consulted prior to removal or pruning of any trees • If the removal of any tree with hollows/dead trees/tree stump is unavoidable (subject to detailed design and advice from contractor) further assessment by a qualified ecologist would be undertaken. • Any sensitive areas along alignment would be identified during detailed design and/or pre-construction planning activities and would be indicated on a site environmental plan for the proposed works. Protective fencing and environmental signage would be installed as required. • Vegetation removal would only be carried out under a permit system. • Flora and/or fauna located during works would be subject to a Vegetation Clearing Procedure and/or Fauna Rescue Procedure. • Site office, stockpiles, machinery wash down areas, and plant storage areas would be located outside of any ecologically sensitive areas. • Fuel (or other chemical) storage would be located outside all identified riparian zones, and at least 10 metres from any retained ecologically sensitive areas onsite.

Environmental aspect	Typical mitigation measures to be adopted as required
Air quality	During construction: • Trucks carrying spoil onto or off site are to be covered. • Any stockpiling of materials would be located away from sensitive receivers, where feasible and reasonable, and protected from the elements through barriers or appropriate coverings. • On-going monitoring for dust (e.g. site inspections) would be undertaken during trenching works to assess the effectiveness of mitigation measures. • Water sprays and/or water carts would be used as required for dampening exposed surfaces to control dust generation. • Silt accumulated in sediment control devices (e.g. silt fences and spoon drains) would be removed on a regular basis to prevent dust generation. • Cutting, grinding or sawing equipment (such as for concrete/bitumen surfaces) must only be used in conjunction with suitable dust suppression techniques, such as water sprays or local extraction. • Dust generating activities would be assessed during periods of strong winds and rescheduled, where required. • Exhaust systems of construction plant, vehicles and machinery would be maintained to minimise exhaust emissions to the atmosphere. All equipment and vehicles are to be regularly maintained and records kept of maintenance. • Engines would be switched off when vehicles and plant are not in use, to minimise idling, and refuelling areas would be away from areas of public access and sensitive receivers. • Plant would be well maintained and serviced in accordance with manufacturers' recommendations. • Low emission vehicles and plant fitted with catalysts, diesel particulate filters or similar devices would be used, where feasible and reasonable. • Plant and other machinery (including generators) would be sited away from sensitive receivers, such as dwellings and schools, where feasible and reasonable. • The amount of excavated material stored on site would be minimised, and replaced within the open trench as soon as possible. • Dust generating activities would be assessed during periods of strong winds and rescheduled where required. • Dust complaints would be handled accordance with the complaints handling process in the Community Communication Strategy to be developed by each Sydney Metro Principal Contractor.

Environmental aspect	Typical mitigation measures to be adopted as required
Hazard and risk	With regard to EMF: • Where practical, site the electrical infrastructure in the carriageway of roads, away from residential property boundaries, so that the magnetic field contribution at and beyond them would be lower. • Adopt an underground cable concept rather than overhead lines. • Use 3-core cables, which greatly increase the rate at which the magnetic field levels drop off with increasing distance from the source when compared to the single core alternative. • Include consideration of public awareness/education as part of community information material to identify the minimal impacts with respect to EMF. General: • Hazardous substances would only be used onsite as required, in accordance with the manufacturer/ supplier instructions. • The use of any hazardous substance that could result in a spill would be undertaken away from drainage or stormwater lines and, wherever possible, within defined bunds • Contractors to operate under appropriate Work Health and Safety Plan
Property and land use	During pre-construction: • In consultation with utility providers, the ongoing maintenance and access requirements would be identified and the potential impact to an existing easement or need for a new easement considered. • The proposal would not permanently restrict any future access to residential, commercial, industrial or recreational land uses.
Soils and contamination	During construction: • All fuels, chemicals and hazardous liquids would be stored in accordance with Australian standards and EPA guidelines. • Any refuelling undertaken on site would be undertaken in designated areas only. • Spill kits would be available as part of any worksite for use in case of fuels, chemical or other spill(s) which may occur during construction. • All spills or leakages would be immediately contained and absorbed. • Should any signs of contamination be identified during work within the site, the material would be tested against the National Environment Protection Council's National Environment Protection (Assessment of Site Contamination) Measure 1999, and managed accordingly. • Soil excavated in areas with identified surrounding industrial land uses (including former uses) would be assessed for either its potential re-use on-site or classified for waste disposal purposes. • If groundwater is encountered during the works, groundwater quality would be investigated and appropriate management measures implemented to avoid further impacts. • In the event of unexpected finds of contamination a Contamination Unexpected Finds and Contingency (refer to the CSWMP) procedure would be implemented.

Environmental aspect	Typical mitigation measures to be adopted as required
Landscaping/urban design matters	During construction: • Visual mitigation measures would be implemented as soon a feasible and practical and remain in place during the construction period. • All effort would be made for vegetation to be retained where practical and feasible. • Site sheds, where required, would be located to minimise visual impact where it is feasible and reasonable to do so. • Hoarding banners for the external faces of hoardings and fences at each construction site would be a non-obtrusive colour, which would comply with the Sydney Metro style guidelines (co-branding). • Hoarding would be maintained in an excellent condition with prompt removal of graffiti. • No signage, advertising or branding (other than safety signage or other required signage) would be placed on the external face of any hoarding or fence without the prior written approval of TfNSW. • Temporary works to be designed and constructed as per the requirements of crime prevention through environmental design. • Temporary fencing, walls, and hoarding would be designed and implemented to increase natural surveillance with straight runs. • Way finding signage to direct pedestrians, commuters and vehicles around the construction site would be installed as required. • The storage of materials and construction machinery would be minimised as far as possible. • The site would be maintained in an orderly and tidy fashion through good housekeeping. • Cut-off and directed lighting would be used to ensure glare and light spill are minimised lit during night work periods (where this is required).

Aboriginal heritage	During construction
	• If suspected Aboriginal objects are located during construction, an archaeologist would be notified to assess the nature and significance of the find. If the find is an Aboriginal object, further investigation and permits may be required before works commence. If the find is an Aboriginal object, then OEH and the relevant Local Aboriginal Land Council (LALC) would be notified.
	• If suspected human skeletal remains were uncovered at any time within the area of the utility works, the following actions would need to be followed:
	  ○ immediately cease all excavation activity in the vicinity of the remains
	  ○ notify NSW Police
	  ○ notify OEH via the Environment Line on 131 555 to provide details of the remains and their location
	  ○ no recommencement of activity in the vicinity of the remains unless authorised in writing by OEH

3.6.1. Rehabilitation and re-instatement

Mitigation measures required for reinstatement or work sites will be incorporated into the CEMP and will include as a minimum:

- Principal Contractors will clear and clean all working areas and accesses at project completion
- At the completion of construction all plant, temporary buildings or vehicles not required for the subsequent stage of construction will be removed from the site
- All land, including roadways, footpaths, loading facilities or other land having been occupied temporarily will be returned to their pre-existing condition or better
- Reinstatement of community spaces, infrastructure and services will occur as soon as possible after completion of construction.

3.6.2. Communications and notifications

Throughout construction, Sydney Metro and the Principal Contractors will work closely with stakeholders and the community to ensure they are well informed regarding the construction works.

Stakeholders and the community will be informed of significant events or changes that affect or may affect individual properties, residences and businesses. These will include:

- Significant milestones
- Design changes
- Changes to traffic conditions and access arrangements for road users and the affected
- public
- Construction operations which will have a direct impact on stakeholders and the community including noisy works, interruptions to utility services or construction work outside of normal work hours.

A Community Communication Strategy will be developed by the Principal Contractor. Key elements of the Community Communication Strategy, which will be implemented at appropriate times in the construction process, will include:

- Notification (including targeted letterbox drops and email) of any works that may disturb local residents and businesses (such as noisy activities and night works) at least seven days prior to those works commencing
- Notification (including targeted letterbox drops and email) of works that may affect transport (such as road closures, changes to pedestrian routes and changes to bus stops)
- Traffic alerts (via email) to all key traffic and transport stakeholders advising of any changes to access and local traffic arrangements (at least seven days prior to significant events)
- Print and radio advertisements regarding major traffic changes
- 24-hour toll-free community project information phone line
- Complaints management process

- Community information sessions, as required
- Regular updates to the Sydney Metro website (sydneymetro.info), including uploading of all relevant documents, and contact details for the stakeholder and community relations team
- Provision of information to the Sydney Metro Community Information Centre including community newsletters, information brochures and fact sheets and interactive web based activities
- Clear signage at the construction sites
- Regular newspaper advertisements in local and metropolitan papers
- Regular inter-agency group meetings
- Community, business and stakeholder satisfaction surveys and feedback forms
- Translator and interpreter services
- The Principal Contractor's Community Relations Team will liaise with the Sydney Metro Project Communications team as the point of contact for the community.

Community liaison and complaints handling will be undertaken in accordance with the Construction Complaints Management System and will include:

- Principal Contractors will deal with complaints in a responsive manner so that stakeholders' concerns are managed effectively and promptly
- A verbal response will be provided to the complainant as soon as possible and within a maximum of two hours from the time of the complaint (unless the complainant requests otherwise). A detailed written response will then be provided, if required, to the complainant within one week.

4. Conclusion

This framework acts as an input and a reference for the development of the Construction Environmental Management Plan. This framework will guide the project team's approach to the management of utilities and integration with utility providers and relevant stakeholders, during the construction phase of the project.

SYDENHAM TO BANKSTOWN

ENVIRONMENTAL IMPACT STATEMENT

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