

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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2-June-2017

Job No.: 60489141

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Quality Information

Document Name	Ref	Prepared for	Prepared by	Date	Reviewed by
Sydney Metro Southwest Design & Place Making Paper	60489141	Transport for NSW			Michael England

Revision History

Revision	Revision Date	Details	Authorised	Name	Position
1	24-May-2017	Draft		Michael England	Director – Environment, Power and Industrial, Australia & New Zealand
2	2-June - 2017	Revised Draft		Michael England	Director – Environment, Power and Industrial, Australia & New Zealand
3	6-September 2017	Final Version		Michael England	Director – Environment, Power and Industrial, Australia & New Zealand

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01

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

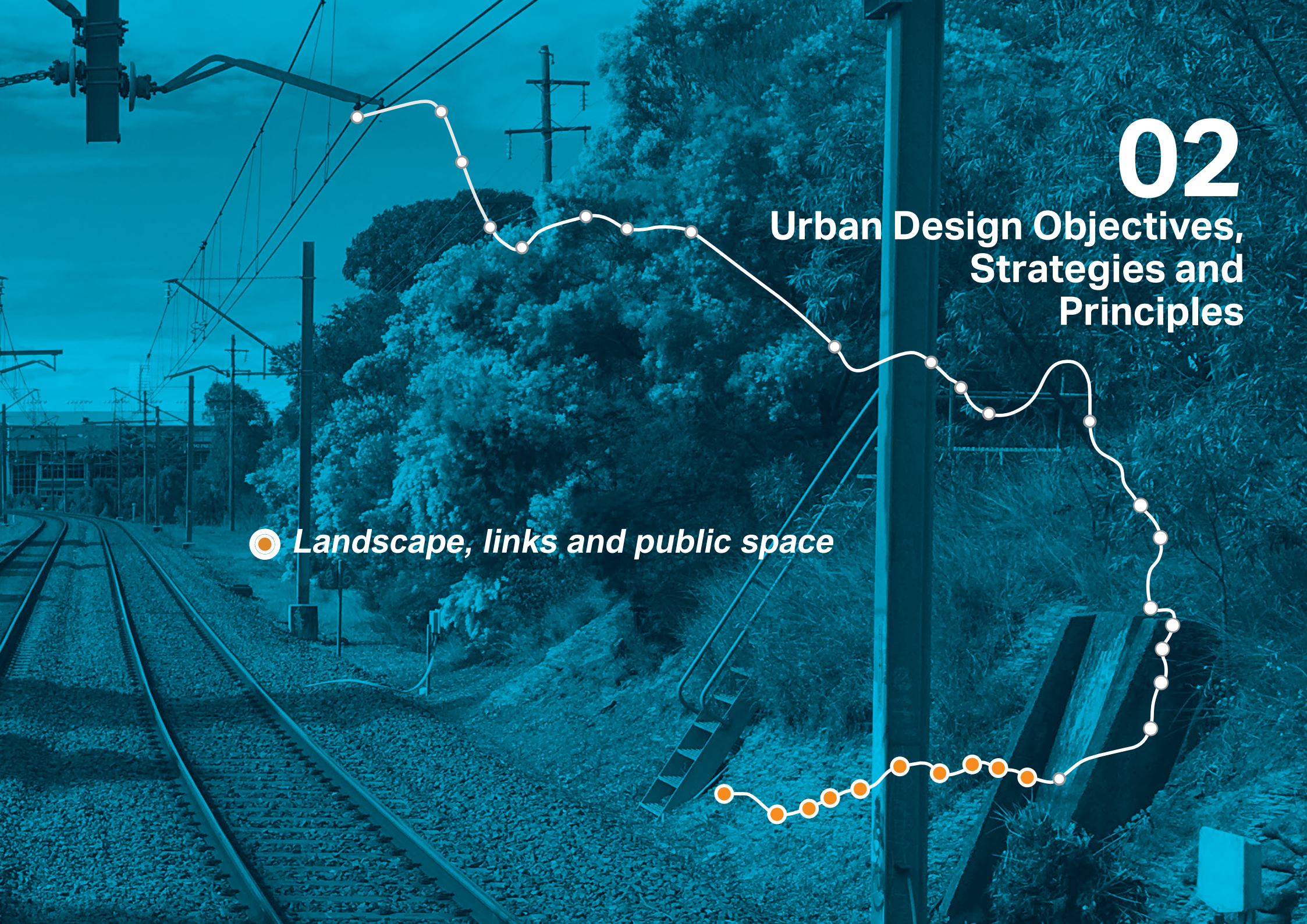
Many guidelines were considered during the development of concepts for Sydney Metro Southwest – Sydenham to Bankstown, including the following:

- 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.

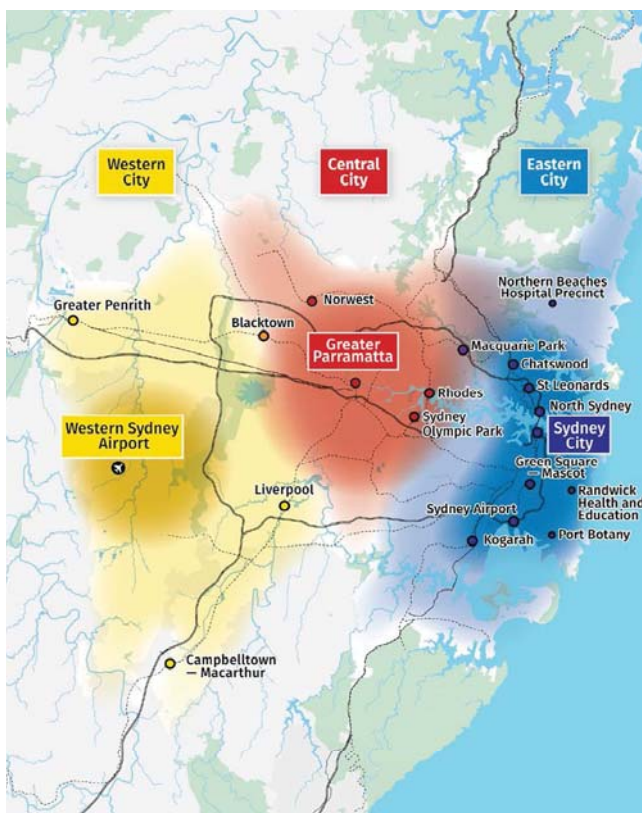


Figure 2-1: A Metropolis of three cities: Global Sydney.
Source: Greater Sydney Commission, 2016

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.

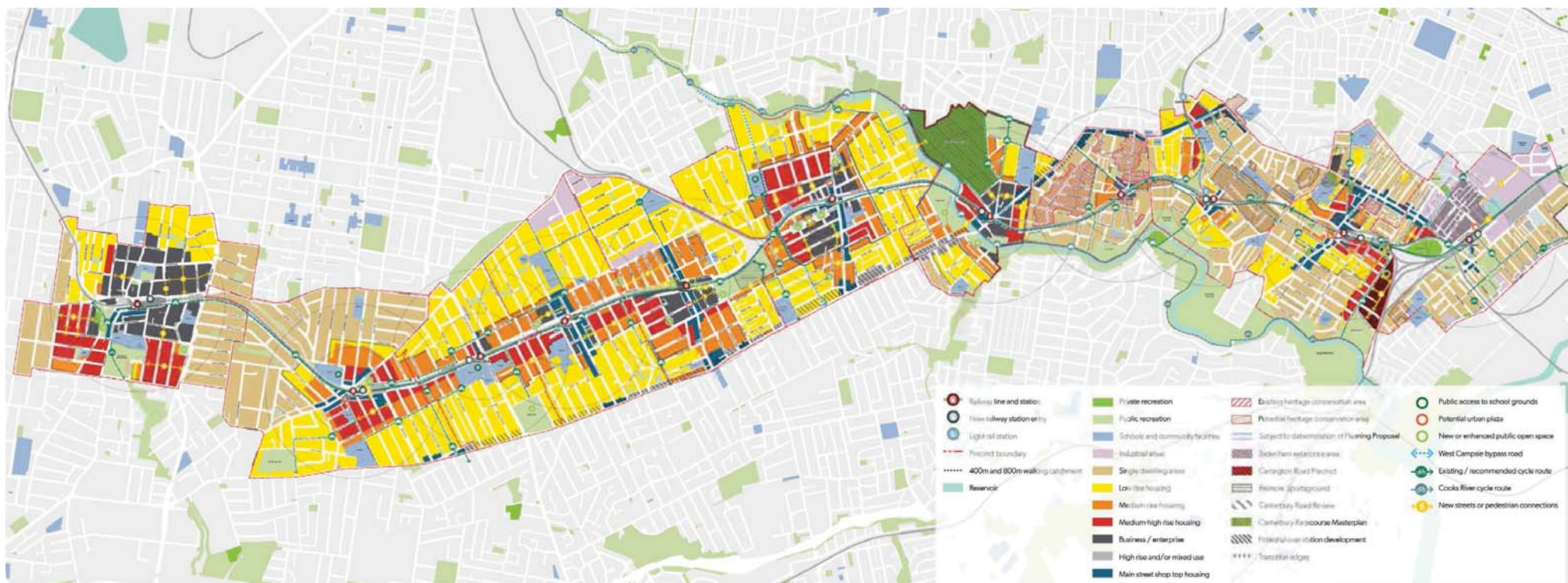


Figure 2-2: Sydenham to Bankstown Urban Renewal Corridor DP&E
Source: Sydenham to Bankstown Urban Renewal Corridor Strategy June 2017

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.

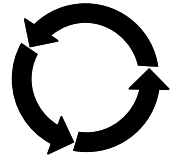
The Sydney Metro City and Southwest embodies the transport infrastructure aims and supports future development and infrastructure delivery.

2.3 Design Themes

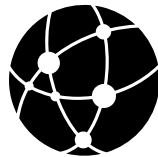
The design of Sydney Metro City and Southwest will draw on the landscapes and heritage, the cultural history and the communities of the Bankstown Line, revealing and enhancing the qualities of these places, making new connections between communities and contributing to the regeneration of town centres.

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:

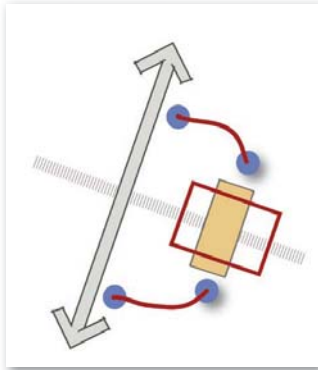
- A modern, architecturally distinctive line that also celebrates and re-purposes valuable heritage buildings.
- Open space and active transport links added to Southwest Sydney's green space network.

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



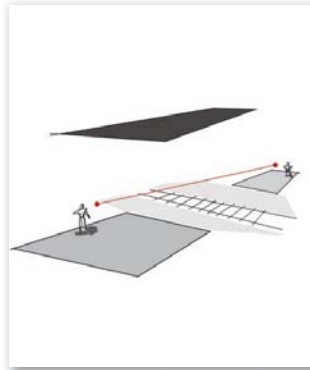
Generous, accessible, memorable and barrier free public space at station public space, activated by adjacent retail, commercial, community or civic uses. Each station plaza and space will reflect the unique cultural character and identity of its locality.

Shelter



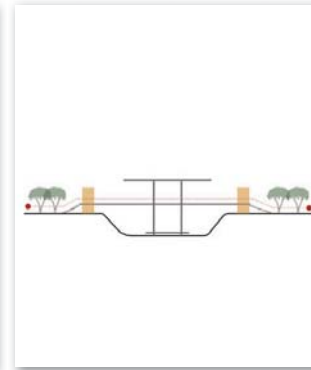
Significant shade and shelter in public spaces provided by trees, canopies and shelters.

View



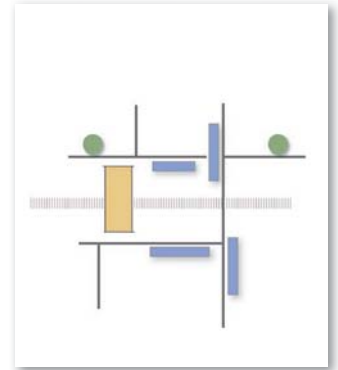
Clear, ground level pedestrian views to be maintained across the public domain and the corridor.

Cross-Corridor Links

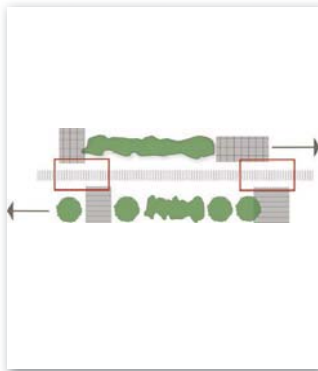


Generous unpaid pedestrian and cycle access will be provided across the corridor at stations and, where possible, at other locations.

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

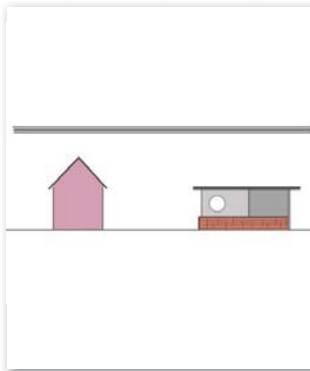
A continuous indigenous tree canopy between stations, on both sides of the corridor.

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

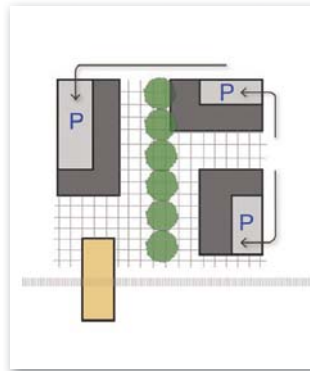
Sustainability

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

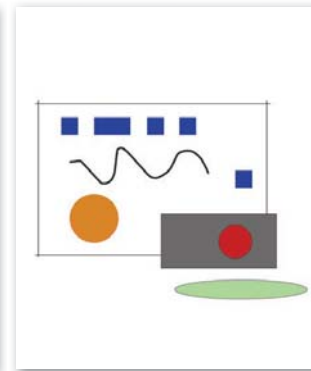
Station canopies support PV panels, generating power for the network.

Heritage

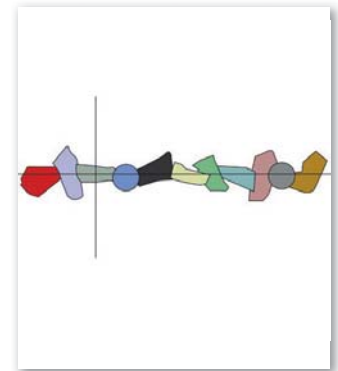
Valuable heritage buildings, structures and artefacts will be conserved and adaptively reused wherever possible, (e.g. either as transport facilities or within the public realm). The local history of the place will be reflected in the design of the station plazas, streets and public spaces.

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

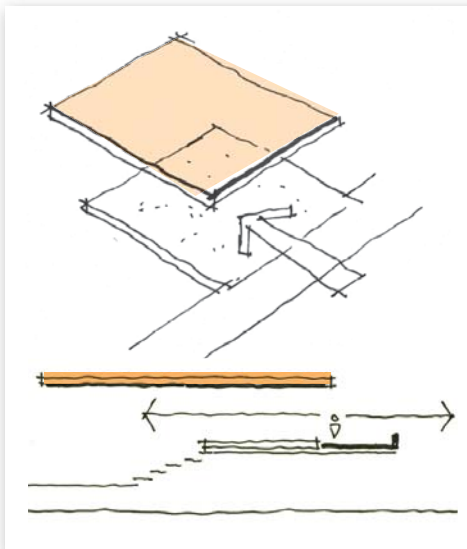
A public art program will be expressed at stations and precincts, and along the corridor. The art will be integral to the station and public domain design, and will draw from the unique identities and cultural history of the local areas.

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.

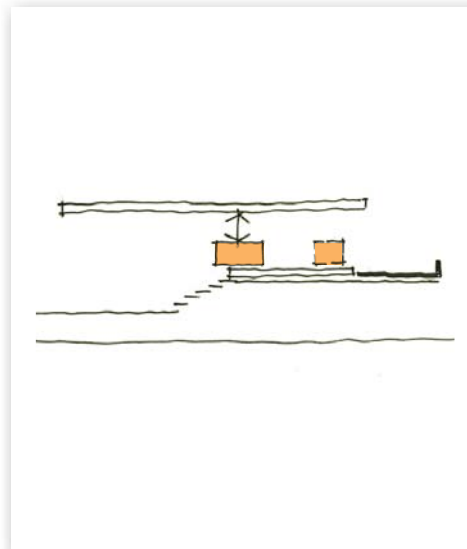
The design has been further developed from this basic design approach to respond to customer needs and the context of each station, including the relationship with heritage buildings.

A new public place, address and contemporary identity



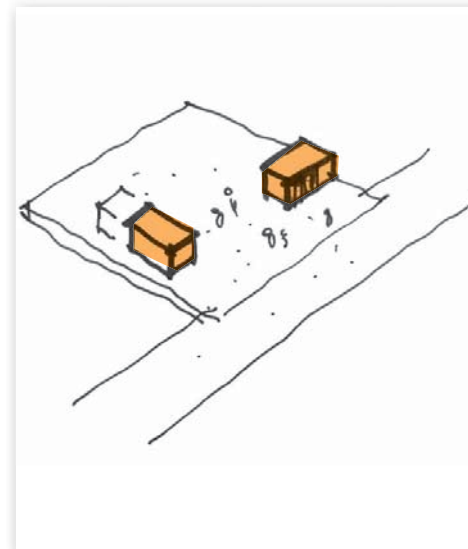
For civic identity, presence and visual continuity.

Defined by a floating roof



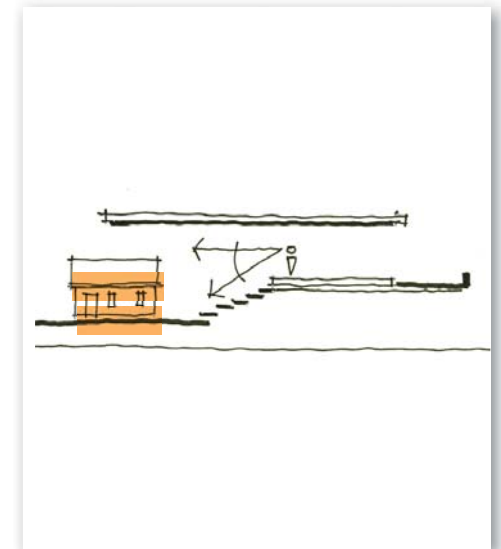
For customer amenity, shade and shelter.

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.

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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 sensitive urban design where feasible.

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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.

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04

Marrickville Station

● *A local station, knitted into the urban fabric*

Marrickville Station



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

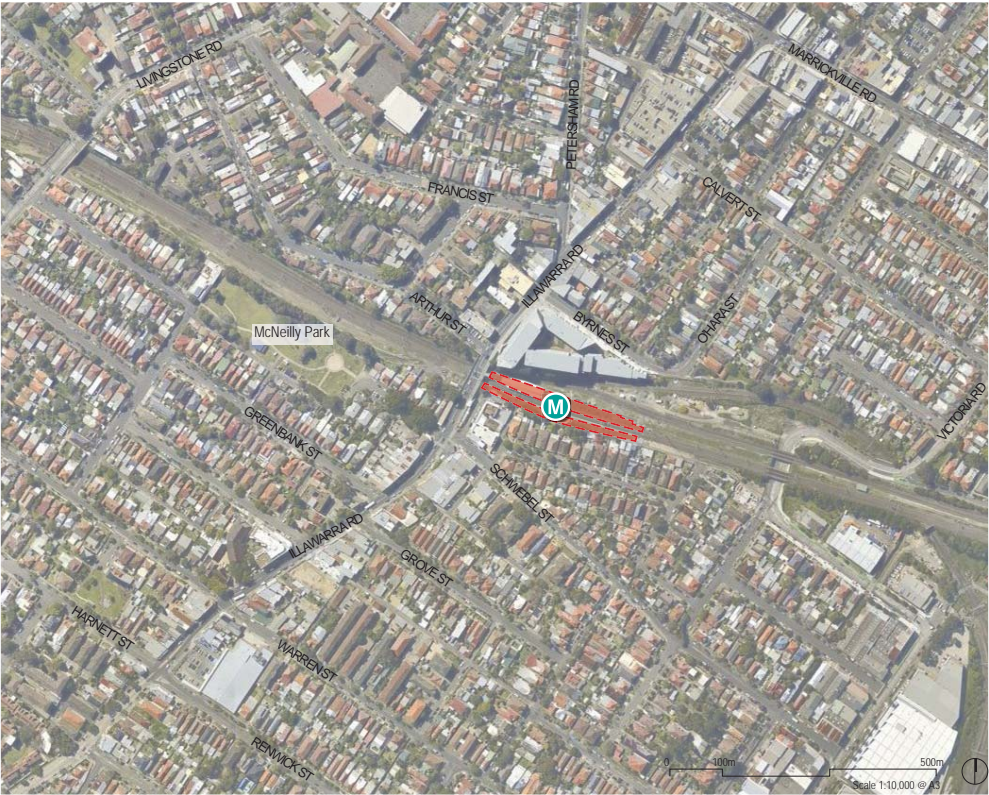


Figure 4-2: Location Plan

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.



Figure 4-3: Street view

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.



Figure 4-4: View of rail corridor

High street built form

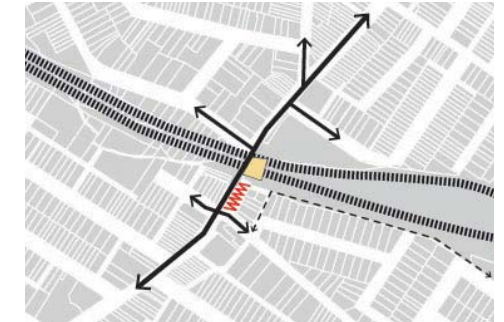


- Largely 20th century single and two storey retail premises
- Recent two to three storey shop-top housing above ground floor retail
- Contemporary larger apartment blocks, four to six levels above ground floor retail/commercial uses.



Figure 4-5: Main Street

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.

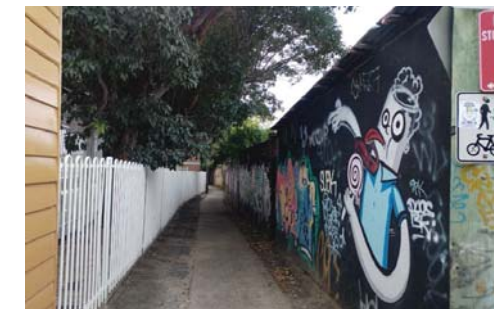


Figure 4-6: Access way

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

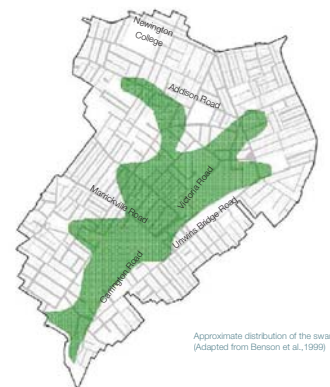


Figure 4-10: Gumbramorra Swamp
Source: Marrickville Council



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

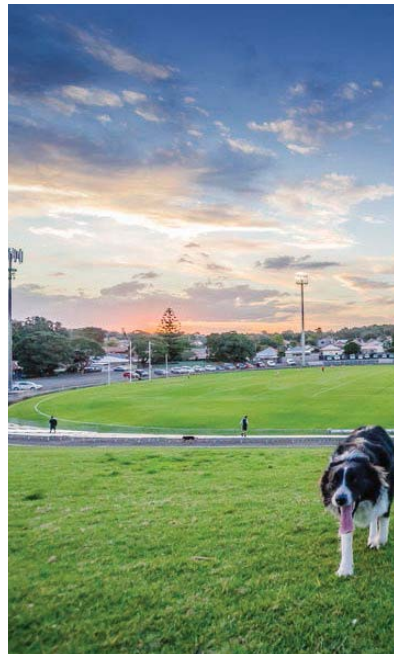


Figure 4-14: Henson Park
Source: Lighting, Art + Science



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

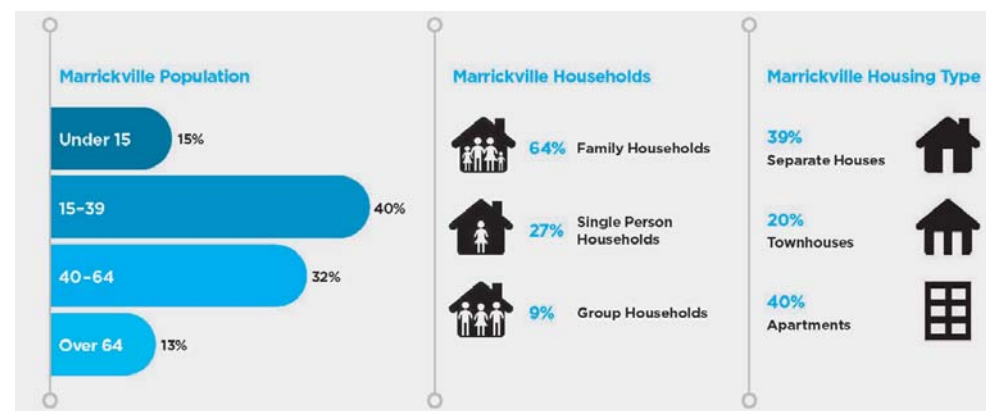


Figure 4-19: Key demographic characteristics for Marrickville Precinct
Source: Department Planning & Environment

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 with several 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).

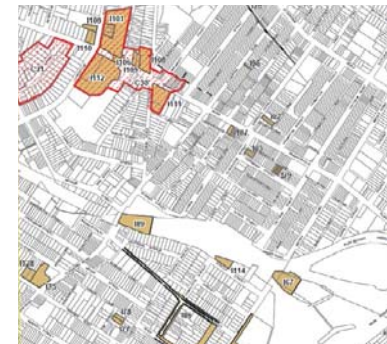
The desired future characteristics of the precinct that relate to the vicinity of the Metro station include:

- 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

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: Marrickville Local Environmental Plan 2011

Heritage	
	Conservation Area - General
	Item - General



Flooding Map
Source: Marrickville Local Environmental Plan 2011

	Flood planning area
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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.

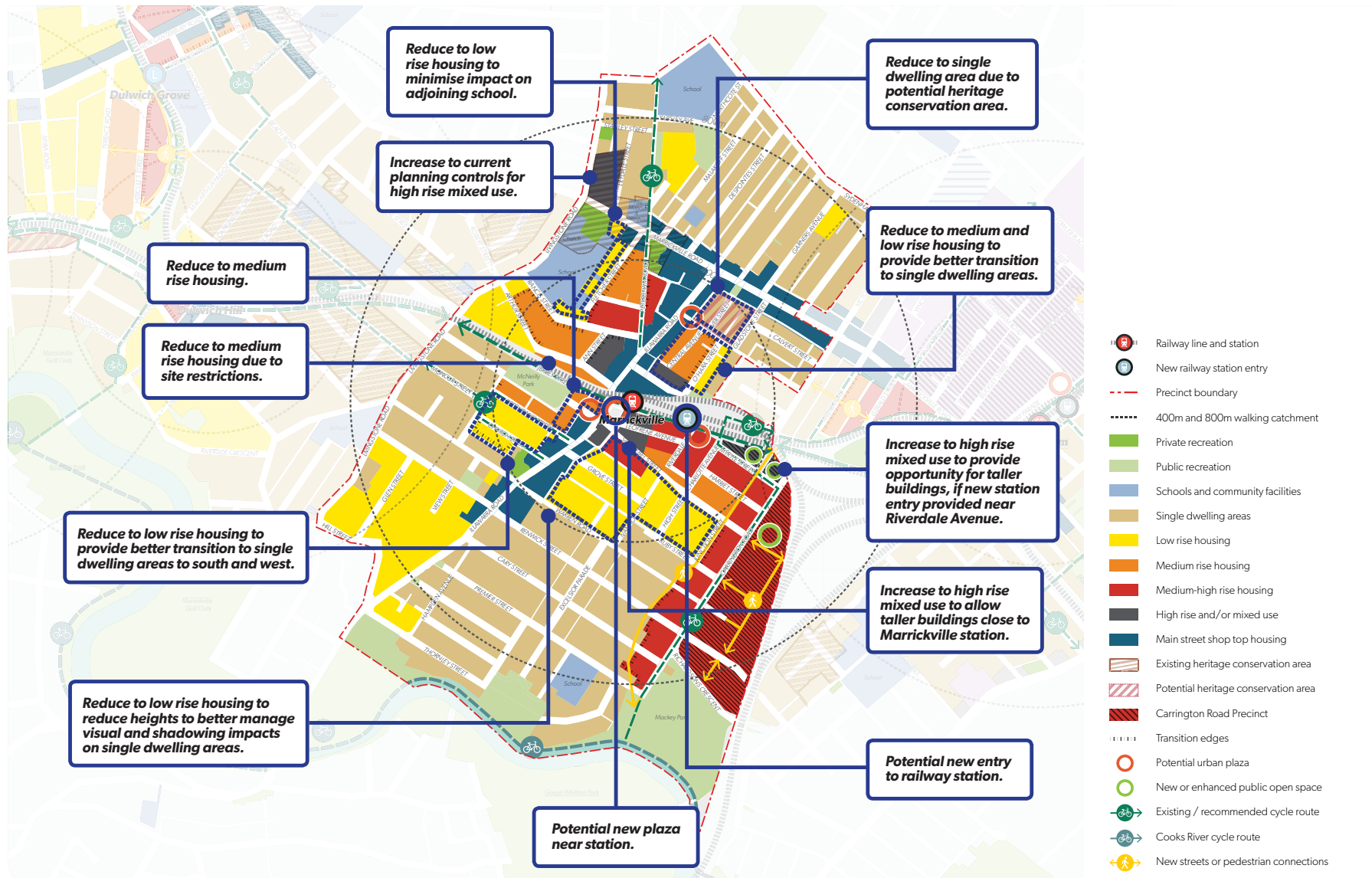


Figure 4-22: Key changes to the Sydenham to Bankstown Draft Urban Renewal Corridor Strategy
Source: Department Planning & Environment

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.

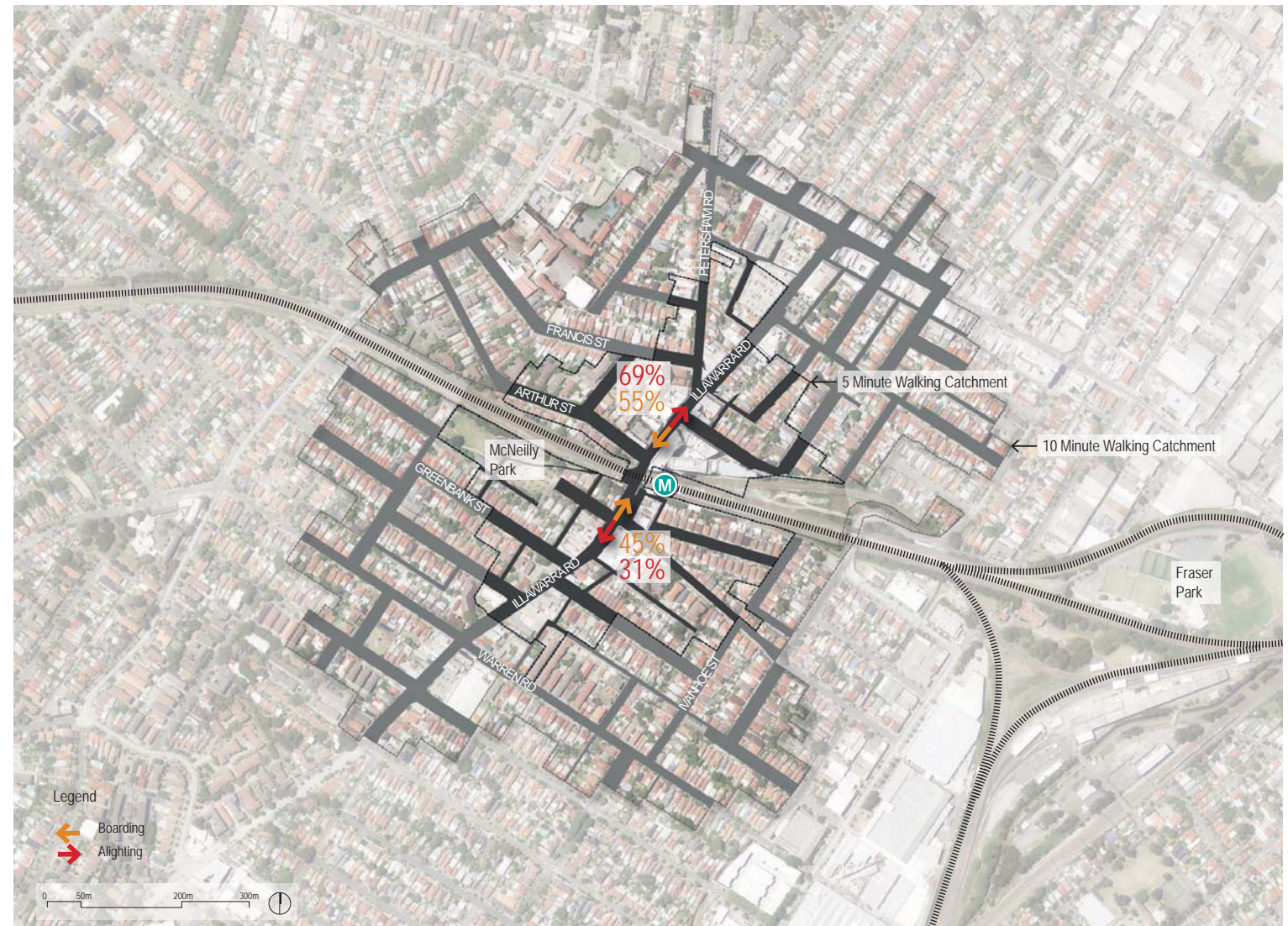


Figure 4-23: 5 & 10 minute isochrones

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.

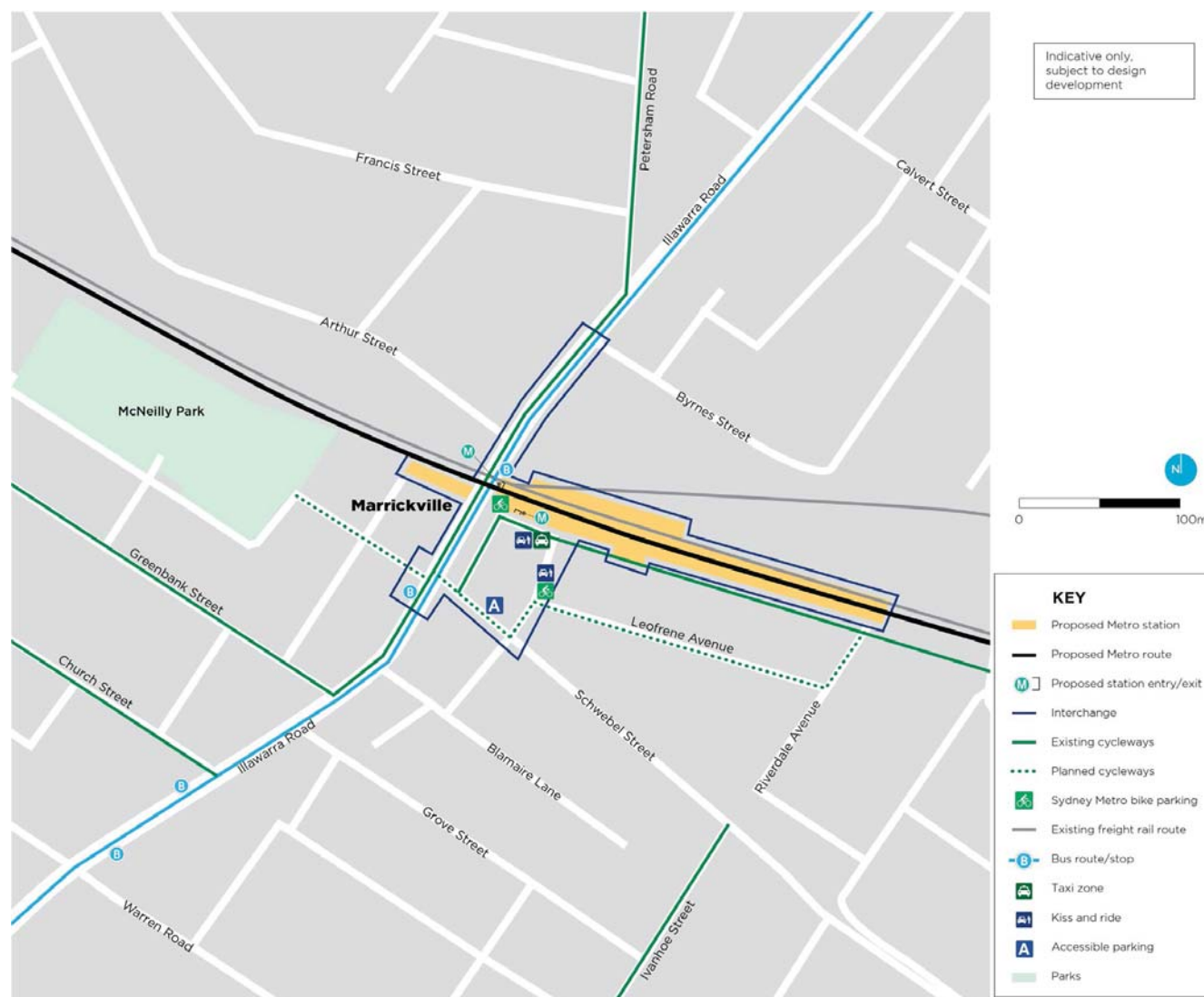


Figure 4-24: Interchange and access diagram

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.

- 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

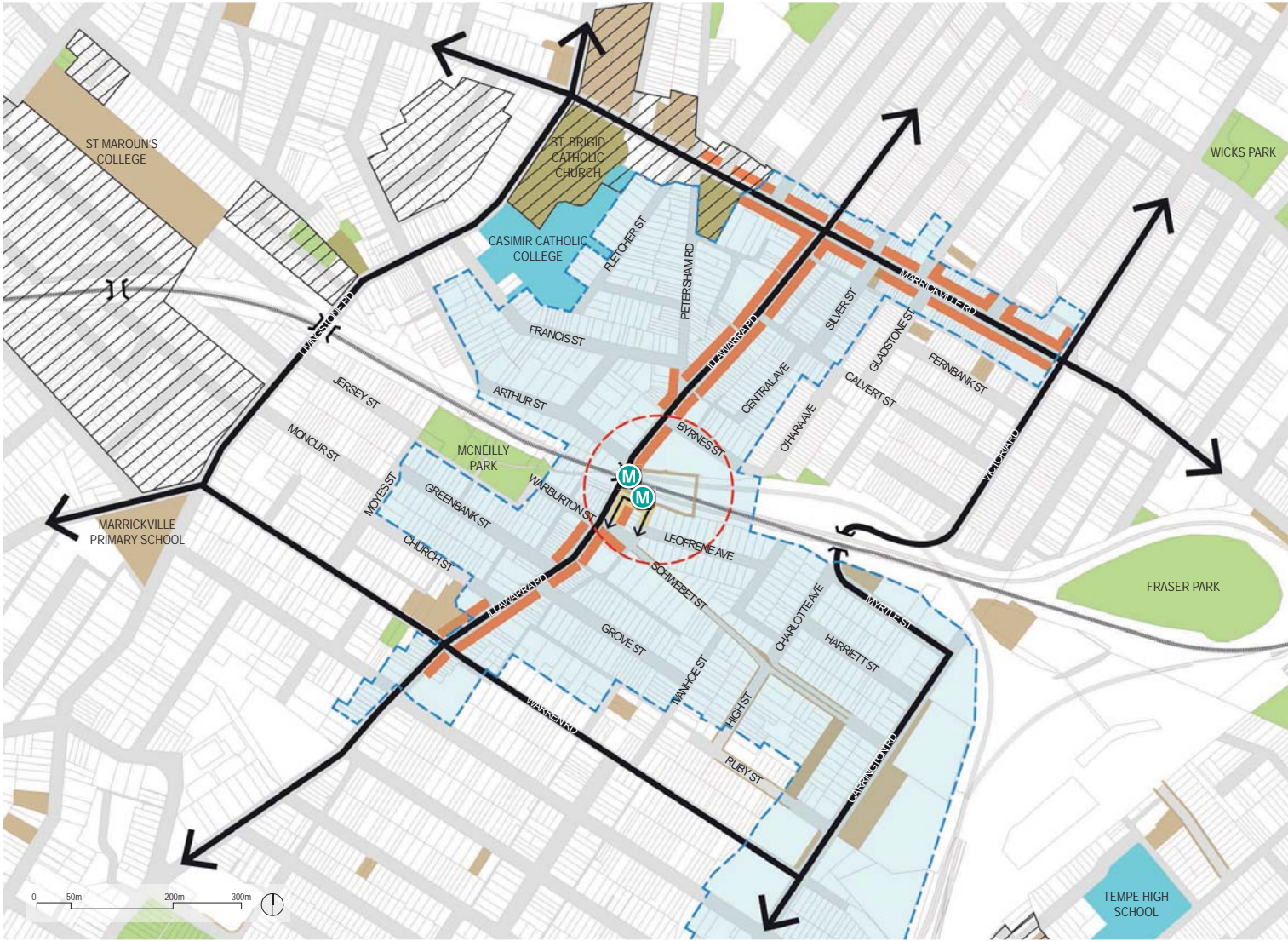


Figure 4-25: Station and precinct opportunities

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 route.
- 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 to remain, 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			
	Platform 1 Building (1895)	Exceptional	Low	 Retain/Reuse
	Platform 2 Building (1911)	High	Some	 Retain/Reuse
	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
	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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> The existing heritage listed platforms would be straightened and extended to the east.
Station buildings	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Loss of one on-street parking space due to new kerbside facilities.

05

Dulwich Hill Station

● *On the ridge, a landscape,
a community place*

Dulwich Hill
Station



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

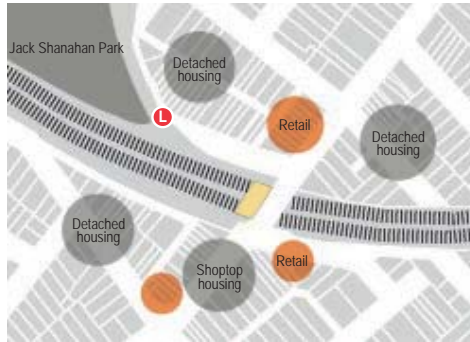
5.1.3. Station Strategy

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

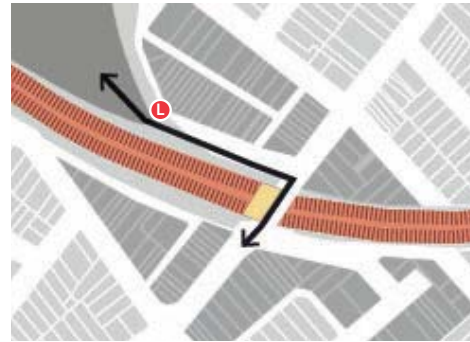


- Small village retail centre
- Evolving multi-storey shop-top housing precinct on Wardell Road
- Wider context largely single-storey detached housing
- Inner West Light Rail terminus on Bedford Crescent
- Jack Shanahan Park, including Dulwich Hill Skate Park is just northwest of the station.



Figure 5-3: Dulwich Hill village - Wardell Road

Transport corridors



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



Figure 5-4: Wardell Road bridge footpath

Public Domain/pedestrian access

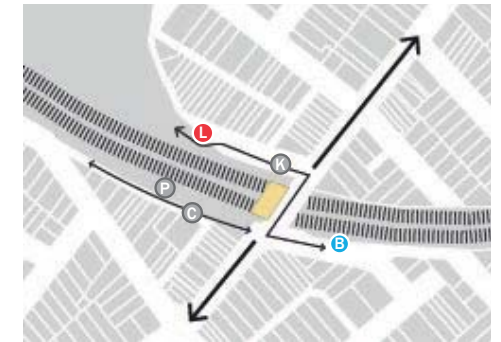


- Overbridge footpaths are very narrow
- Wardell Road approach to overbridge is very steep
- Ewart Lane south of the station is steep and does not have a footpath
- Bedford Crescent north of the station has narrow footpaths.



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

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.

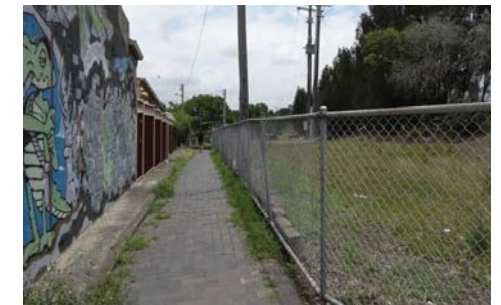


Figure 5-6: Southern side access path (L9 Cycle Route)

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

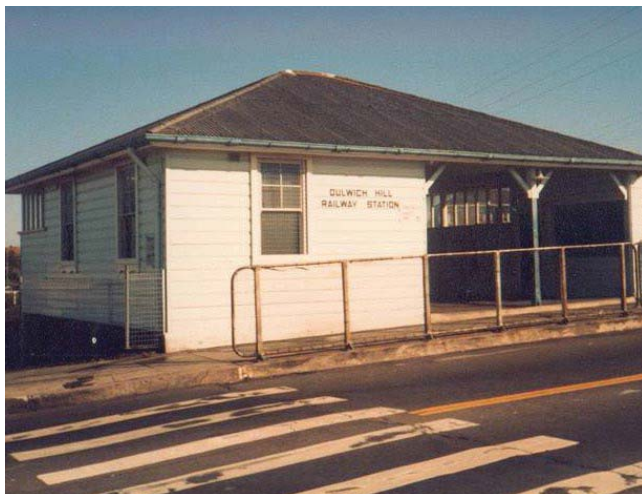


Figure 5-9: Overhead Booking Office, 1985
Source: NSW Government



Figure 5-11: Sir Hugh Dixon, 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

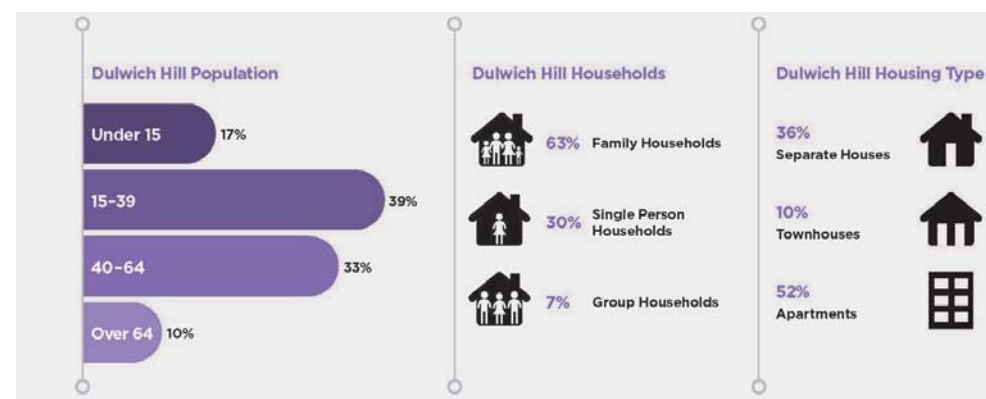


Figure 5-22: Key demographic characteristics for Dulwich Hill Precinct
Source: Department Planning & Environment

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).

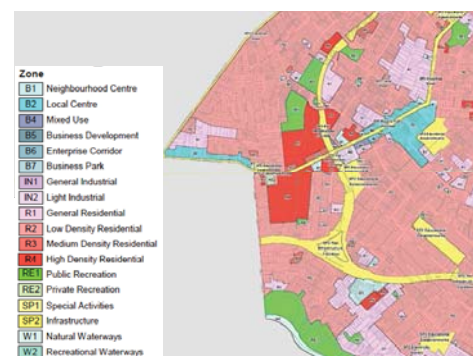
In addition to the LEPs, Marrickville Development Control Plan 2011 (Marrickville DCP) also applies. This DCP provides guidance for the desired future character, heritage conservation, and precinct specific planning controls for Dulwich Hill Station South (precinct 22) and Dulwich Hill Station North (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.

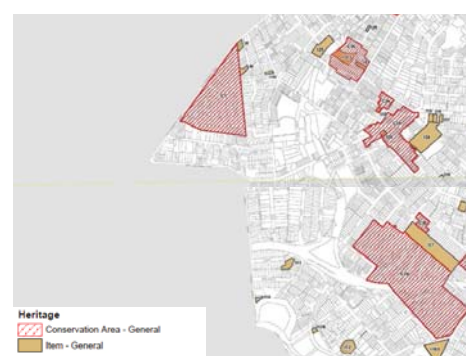
Precinct-specific planning controls include:

- 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).

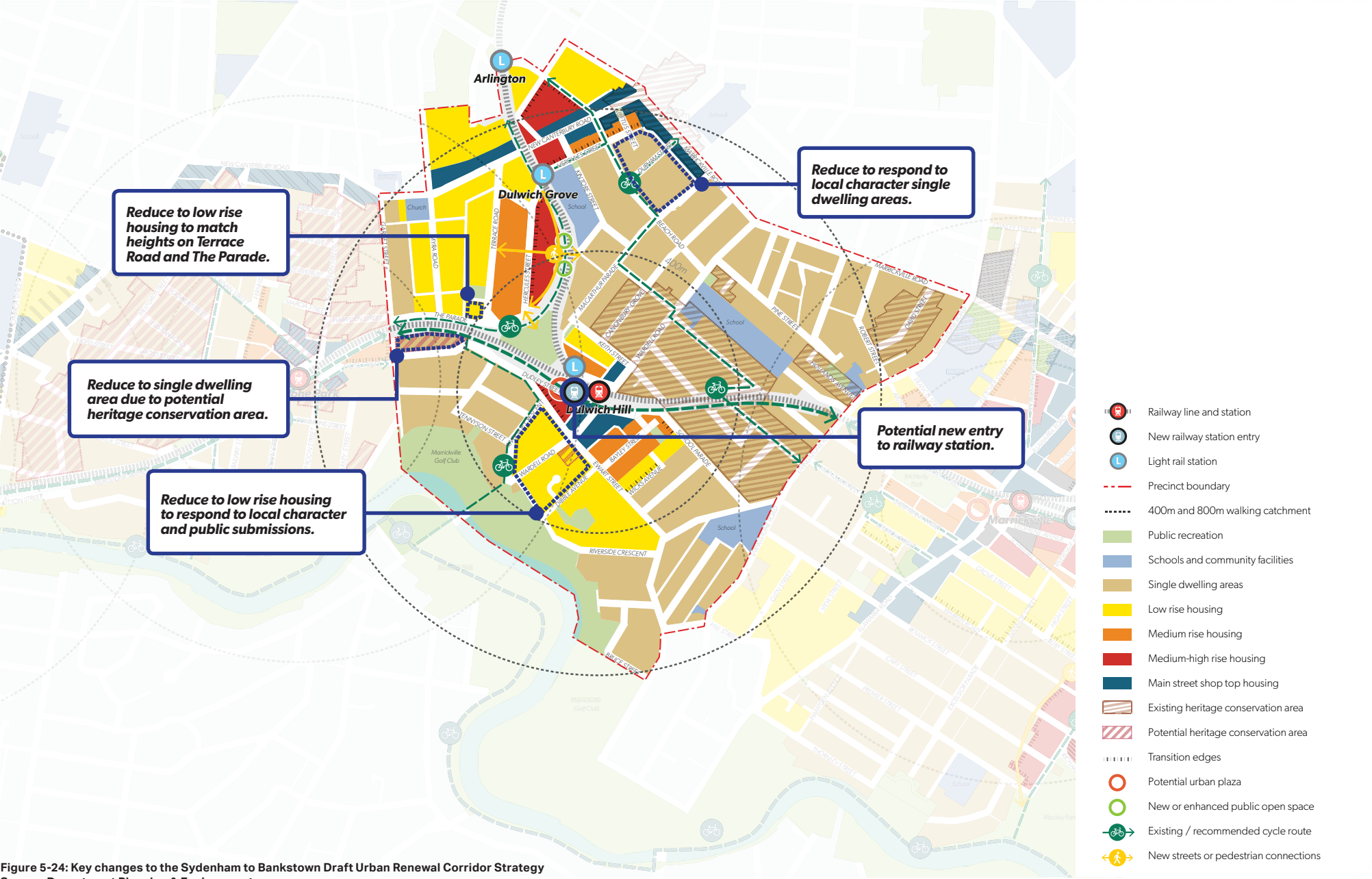


Figure 5-24: Key changes to the Sydenham to Bankstown Draft Urban Renewal Corridor Strategy
Source: Department Planning & Environment

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.

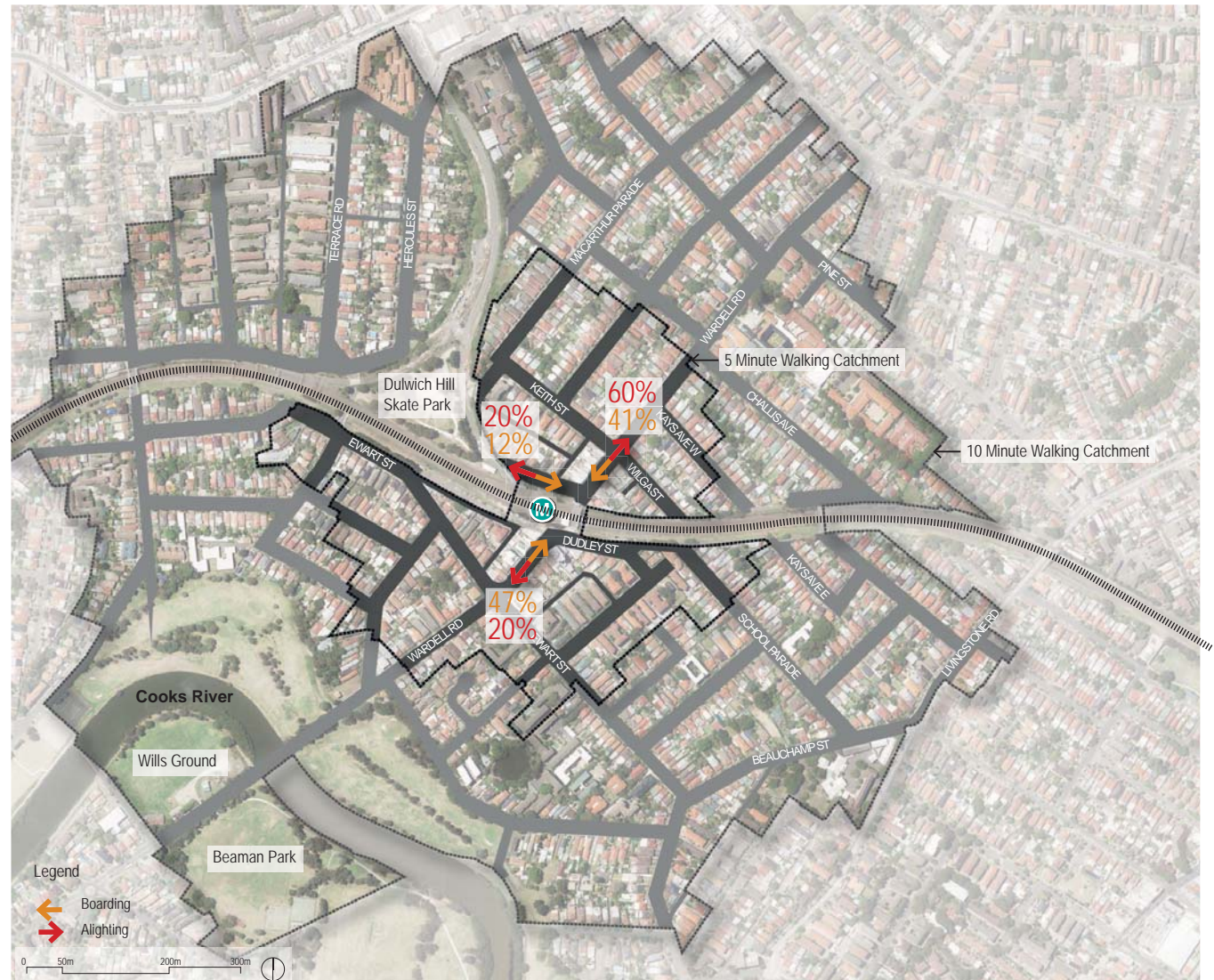


Figure 5-25: 5 & 10 minute isochrones

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.

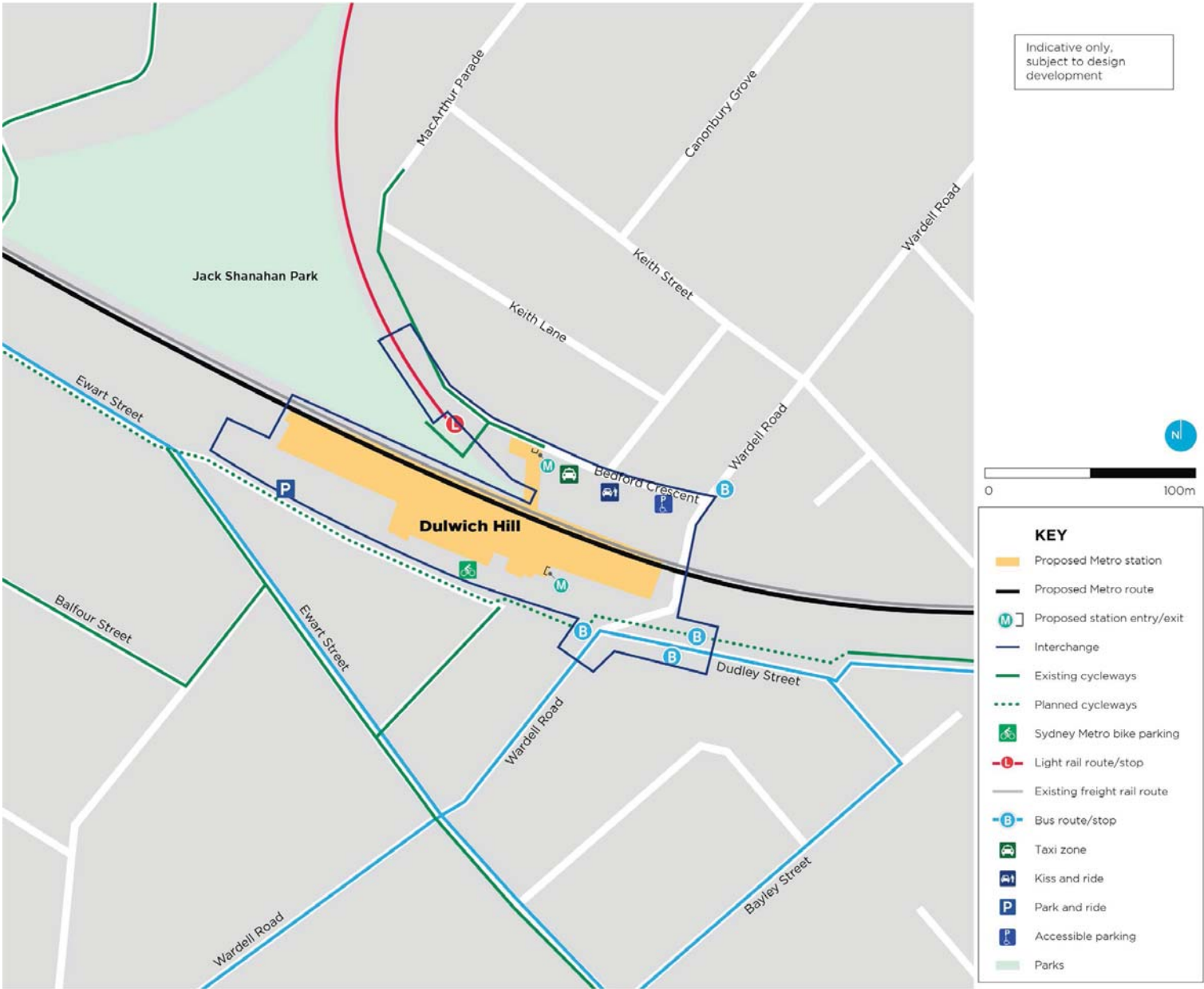


Figure 5-26: Interchange & access diagram

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.

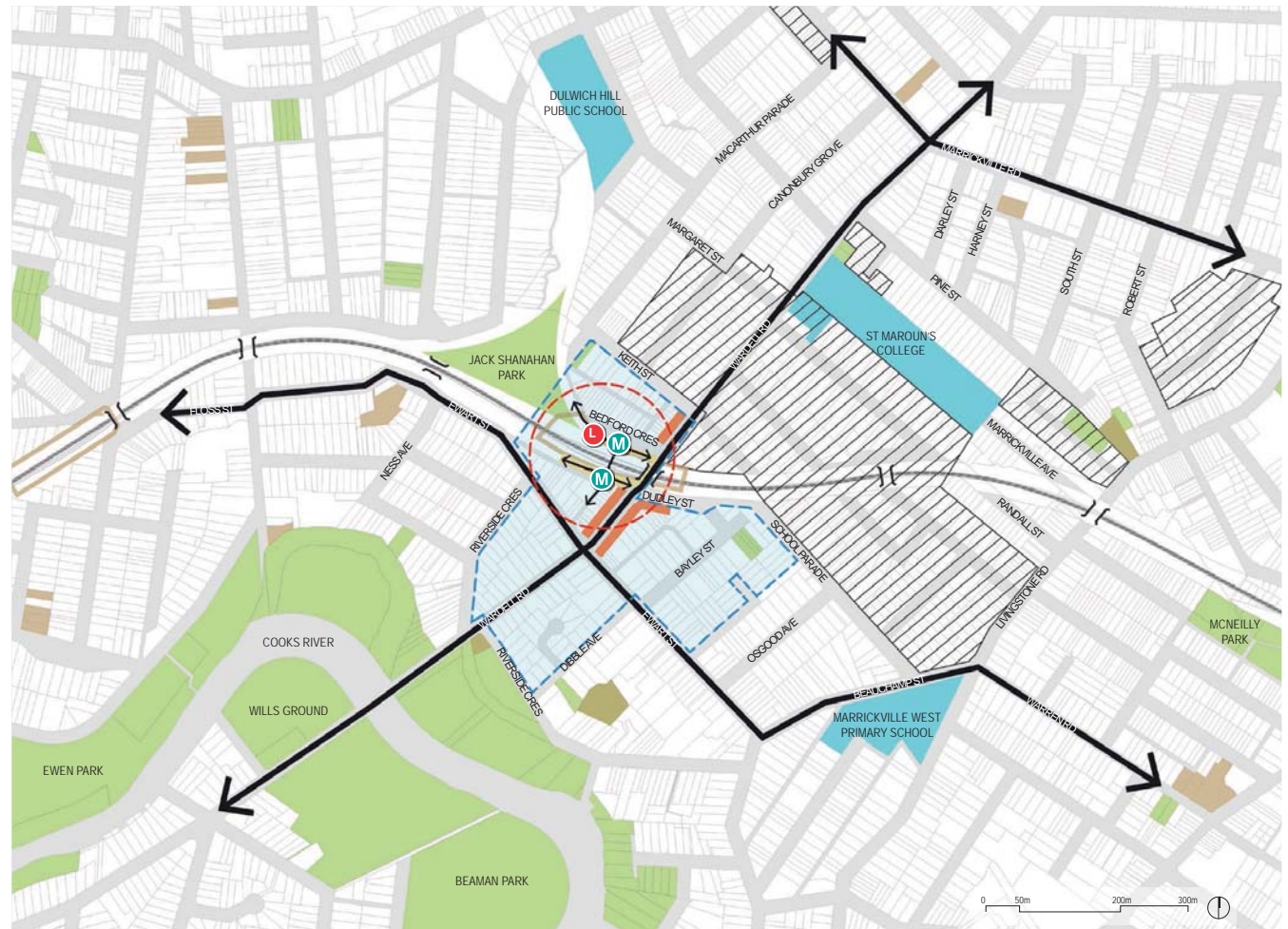


Figure 5-27: Station and precinct opportunities

Legend

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

5.4.3. Place Making Opportunities

Public Domain

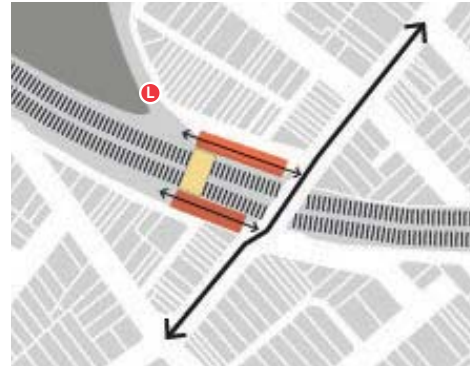


- Generous pedestrian / interchange zone north of station on Bedford Crescent serving both the Metro station and the Inner West Light Rail stop
- Terraced plaza and shared zone to south of station connecting Wardell Road to Ewart Lane.



Figure 5-28: Southern plaza site

Connectivity and Access

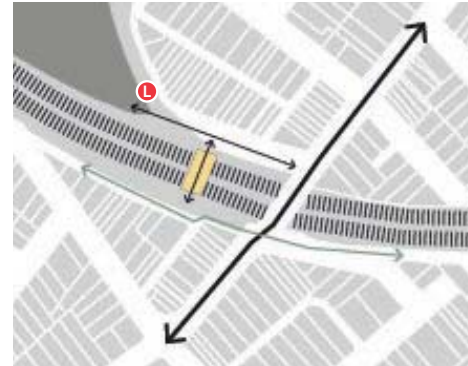


- New unpaid cross corridor connection
- Accessible approaches to station
- Improved link to light rail terminus and Jack Shanahan Park
- Upgrade of L9 Route cycleway through station precinct.



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

Catalyst

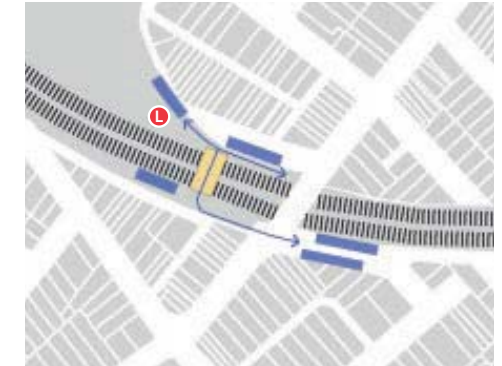


- Broad public connections to the new station concourse
- Improved public domain has the potential to generate wider urban improvements in collaboration with others
- Southern plaza as catalyst for adjacent north facing development sites.



Figure 5-30: Jack Shanahan Park

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 5-31: 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			
	Platform 1/2 Building (1935)	High	Some	 Retain/Reuse
	Overhead Booking Office (1935)	High	Some	 Remove
	Overbridge (c1930, c1975)	Moderate	Moderate	 Retain/Reuse
	Platform 1/2 - 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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).

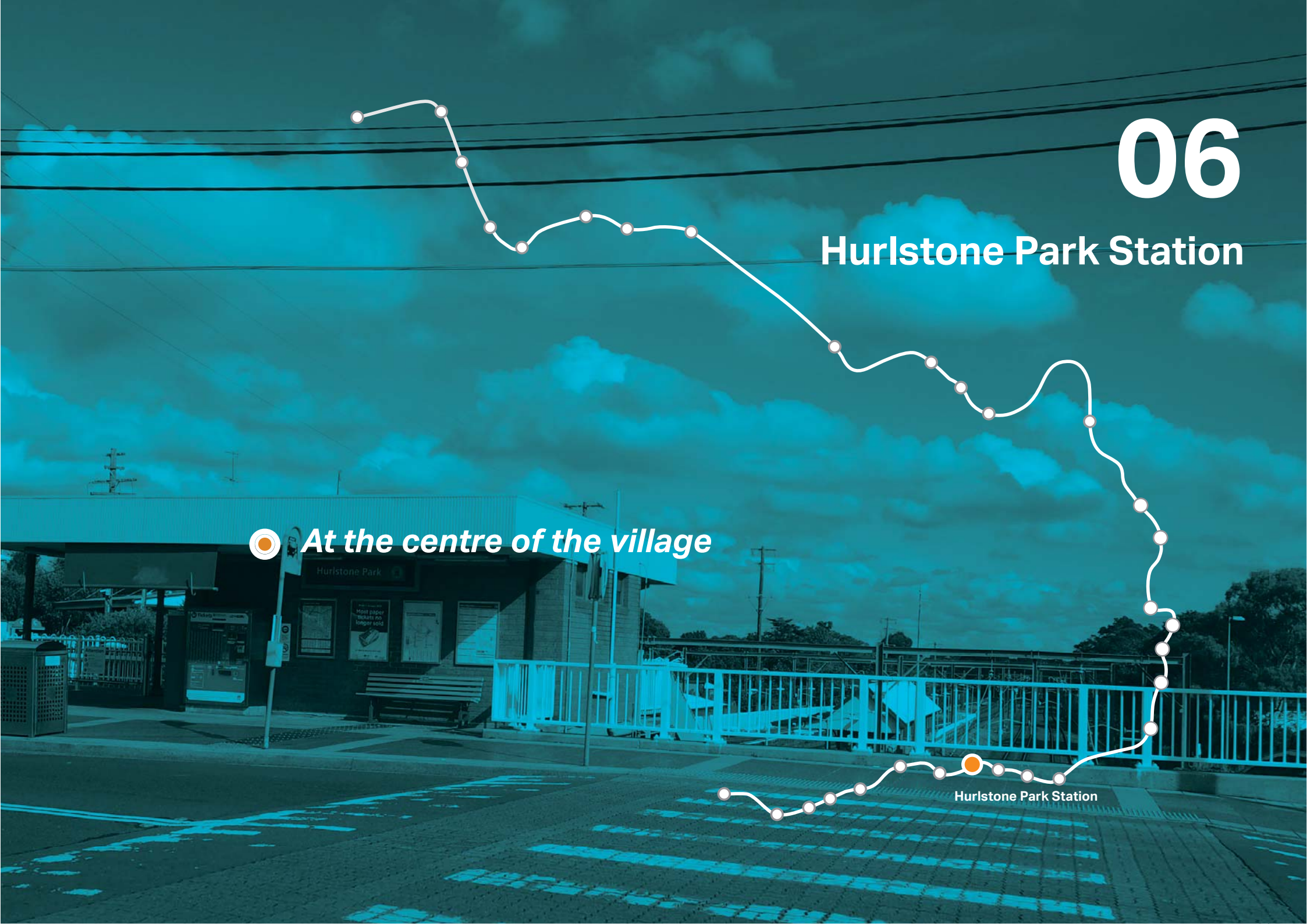
Feature	Description
Station area	
Public transport integration	<ul style="list-style-type: none"> The existing bus stops located in Dudley Street and Wardell Road would be retained. The new concourse would connect the existing lift and stairs to the Dulwich Hill light rail stop.
Access	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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*

Hurlstone Park Station



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

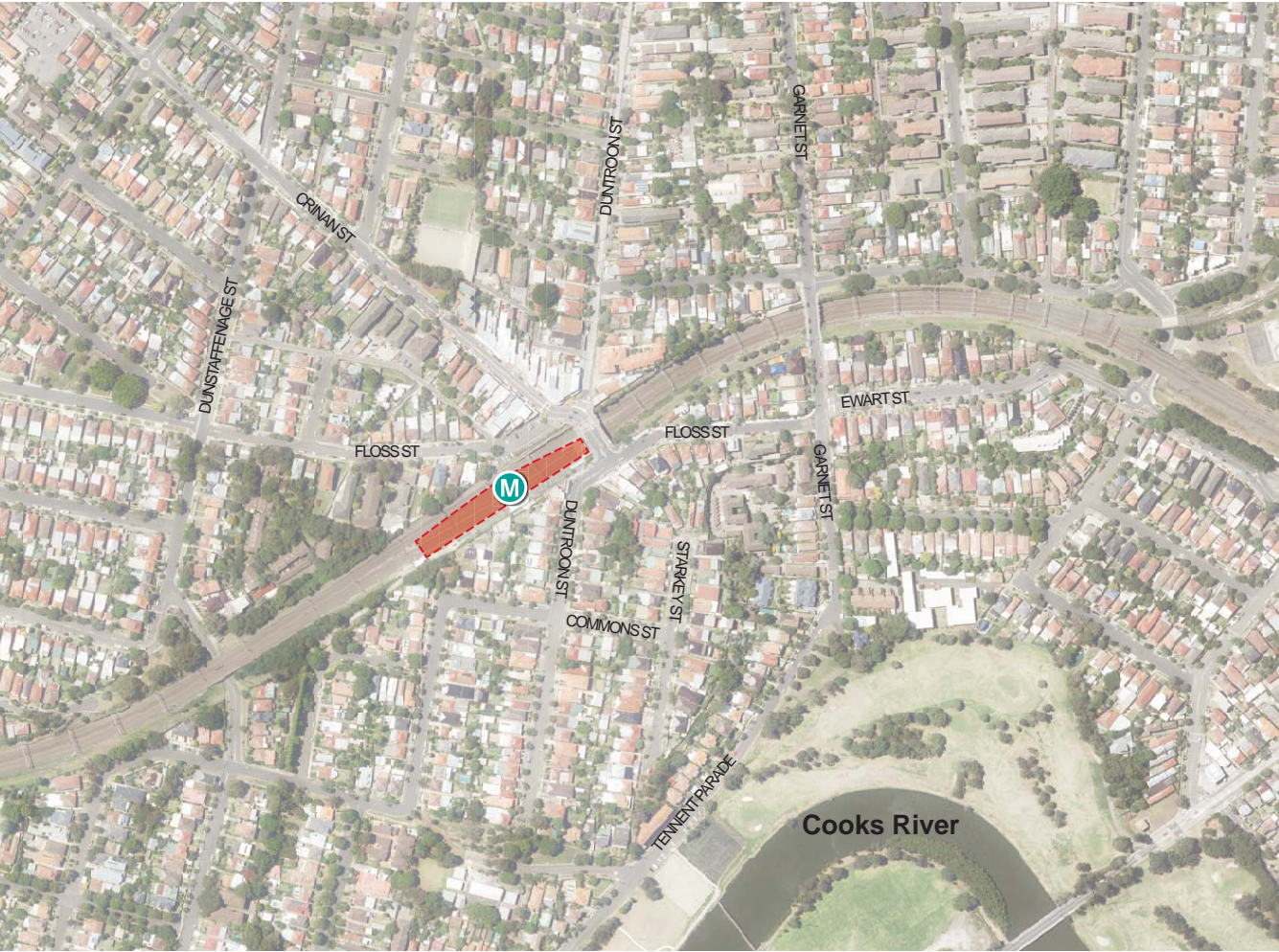


Figure 6-2: Location Plan

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

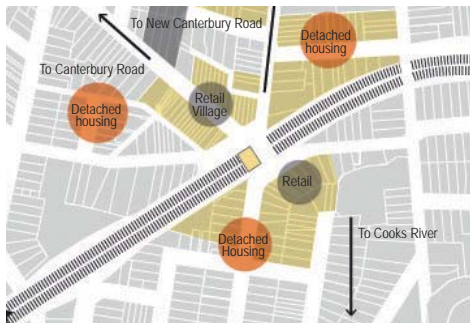
6.1.3. Station Strategy

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.



Figure 6-3: Crinan Street village

Transport corridors divide the precinct



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



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

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.



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

Circulation and interchange environment



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



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 in 1799 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

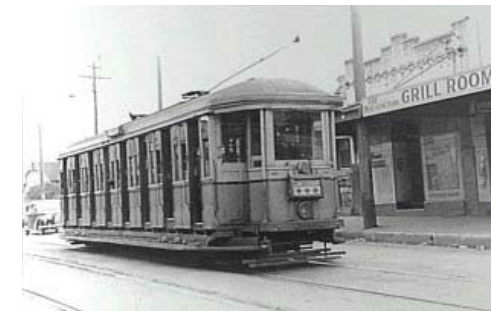


Figure 6-8: Tram Canterbury Road Hurlstone Park
Source: Canterbury Commons



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: Crinan Street
Source: Realestateview.com.au



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

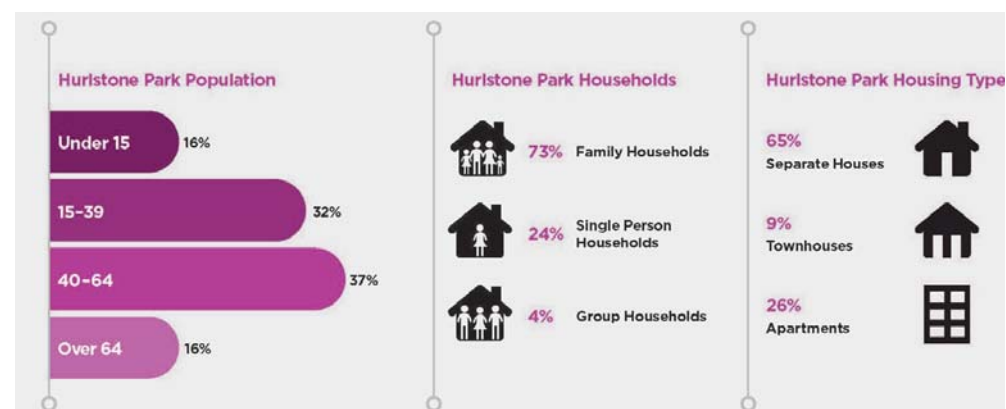


Figure 6-18: Key demographic characteristics for Hurlstone Park Precinct
Source: Department Planning & Environment

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.

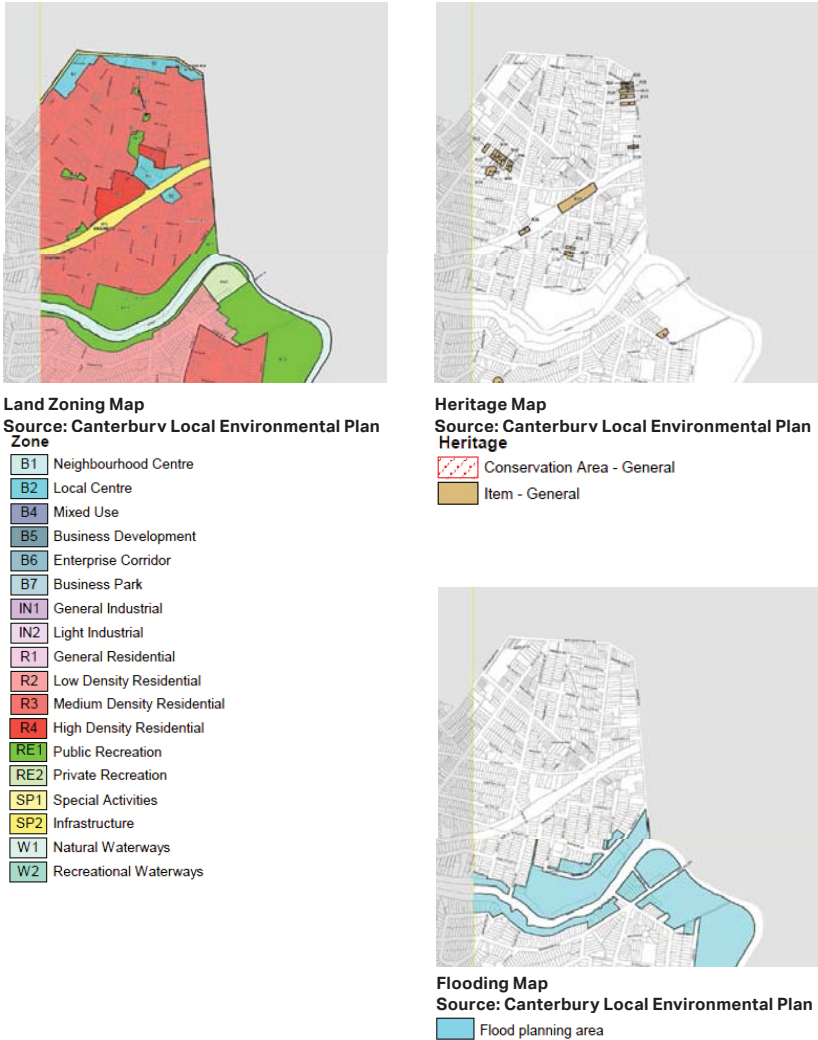


Figure 6-19: Land use zones, heritage curtilage and flood mapping for areas surrounding Hurlstone Park Station



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.

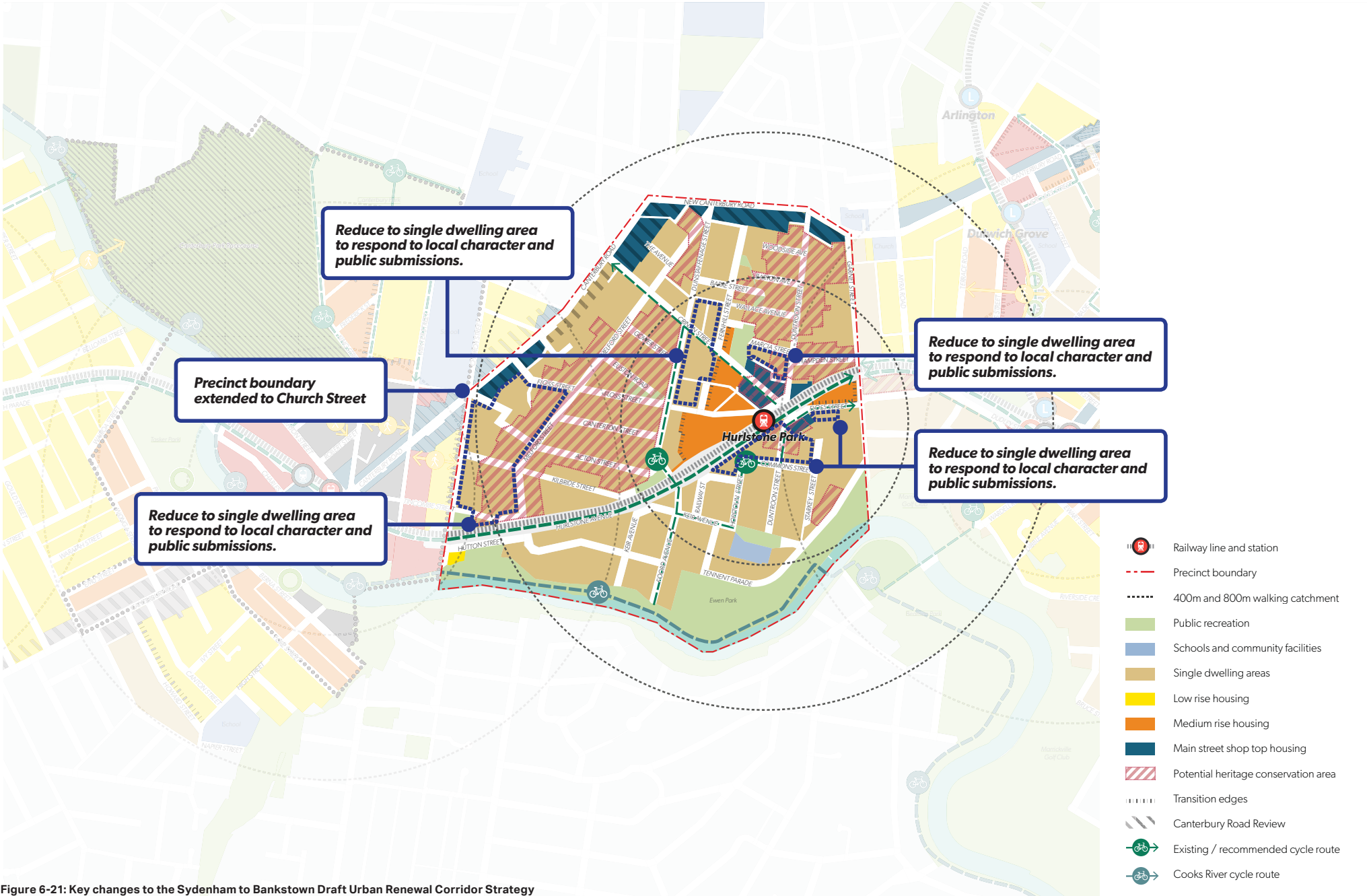


Figure 6-21: Key changes to the Sydenham to Bankstown Draft Urban Renewal Corridor Strategy
Source: Department Planning & Environment

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.

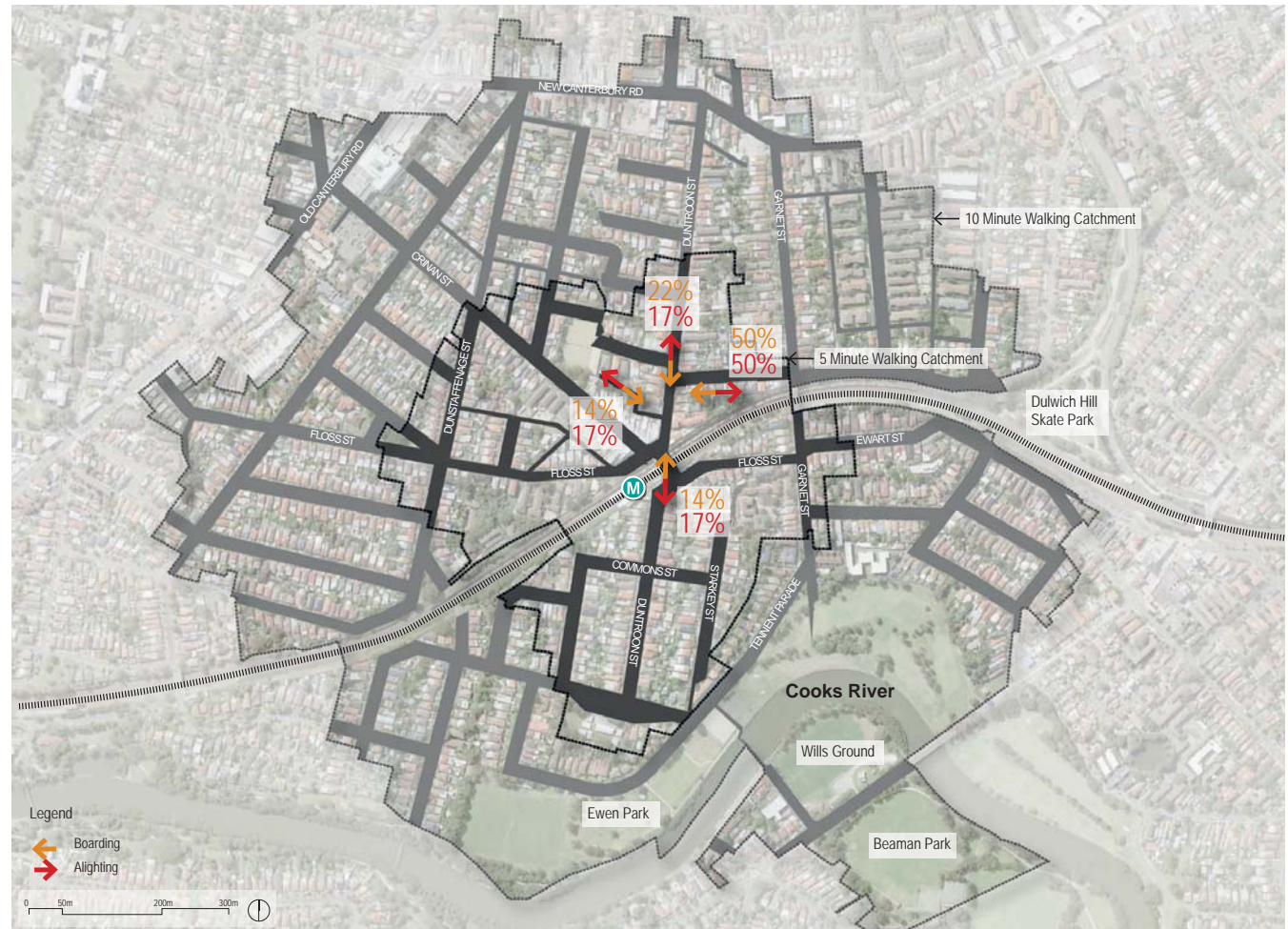


Figure 6-22: 5 & 10 minute isochrones

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.

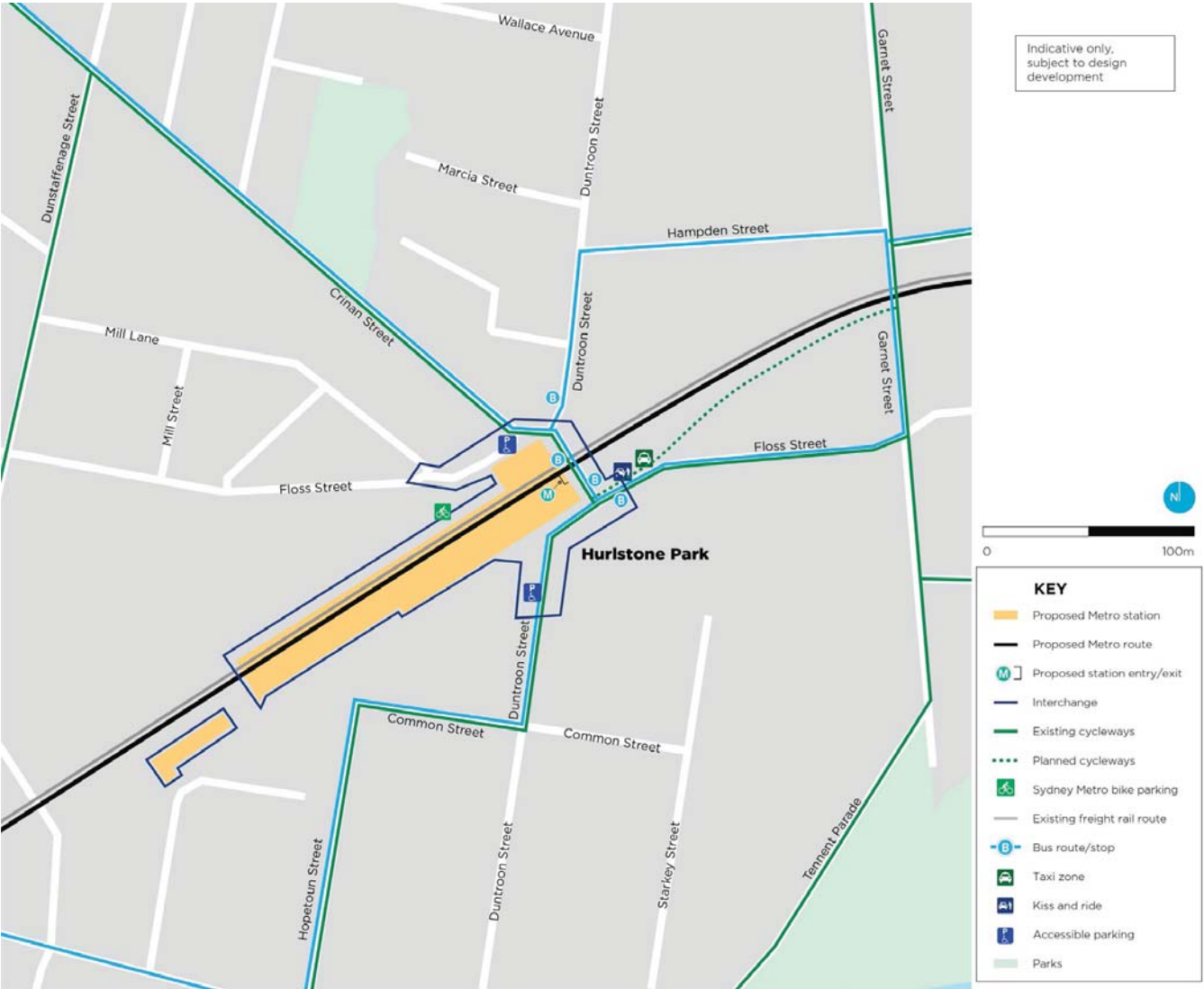


Figure 6-23: Access & interchange diagram

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.

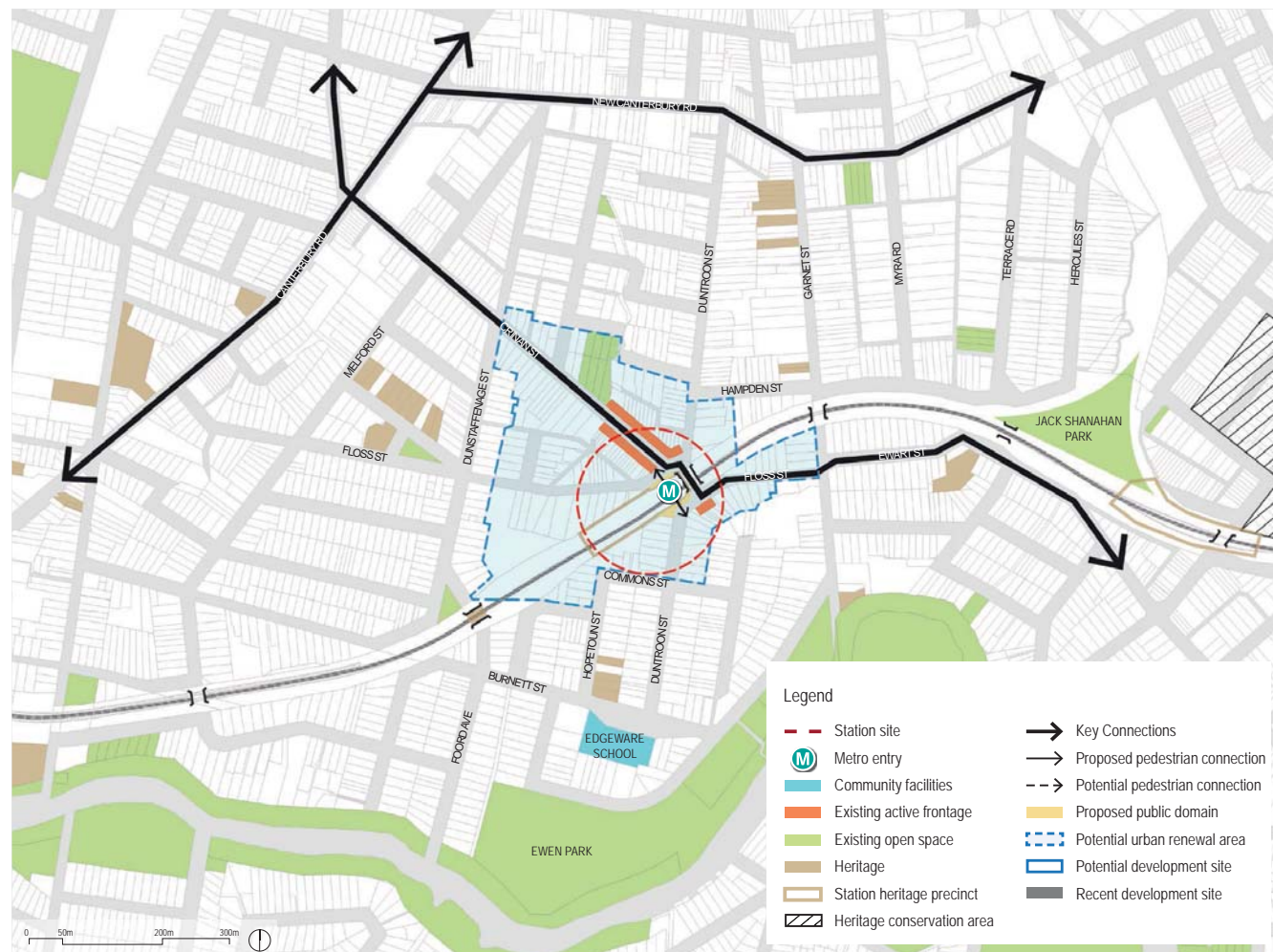


Figure 6-24: Station and precinct opportunities

6.4.3. Place Making Opportunities

Local Public Domain

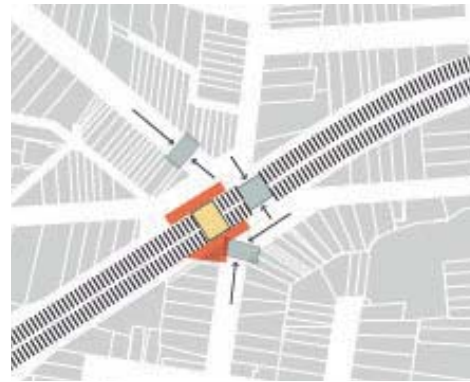


- Widened approaches to new concourse
- Kerb extension at overbridge crossing to improve sightlines
- New crossings on Duntroon Street (south) and Crinan Street (north).



Figure 6-25: Crinan Street village

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.



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



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

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 6-28: 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			
	Platform 1/2 Building (1915)	High	Low	 Remove
	Platform 1/2 Building (1915)	High	Low	 Retain/Reuse
	Overhead Booking Office (1980)	Little	Some	 Remove
	Platform 1 – brick (1894)	High	Some	 Platform Removed
	Platform 2 – brick(1894)	High	Some	 Platform Removed
	Overbridge (heavily modified 1961)	Little	High	 Remove

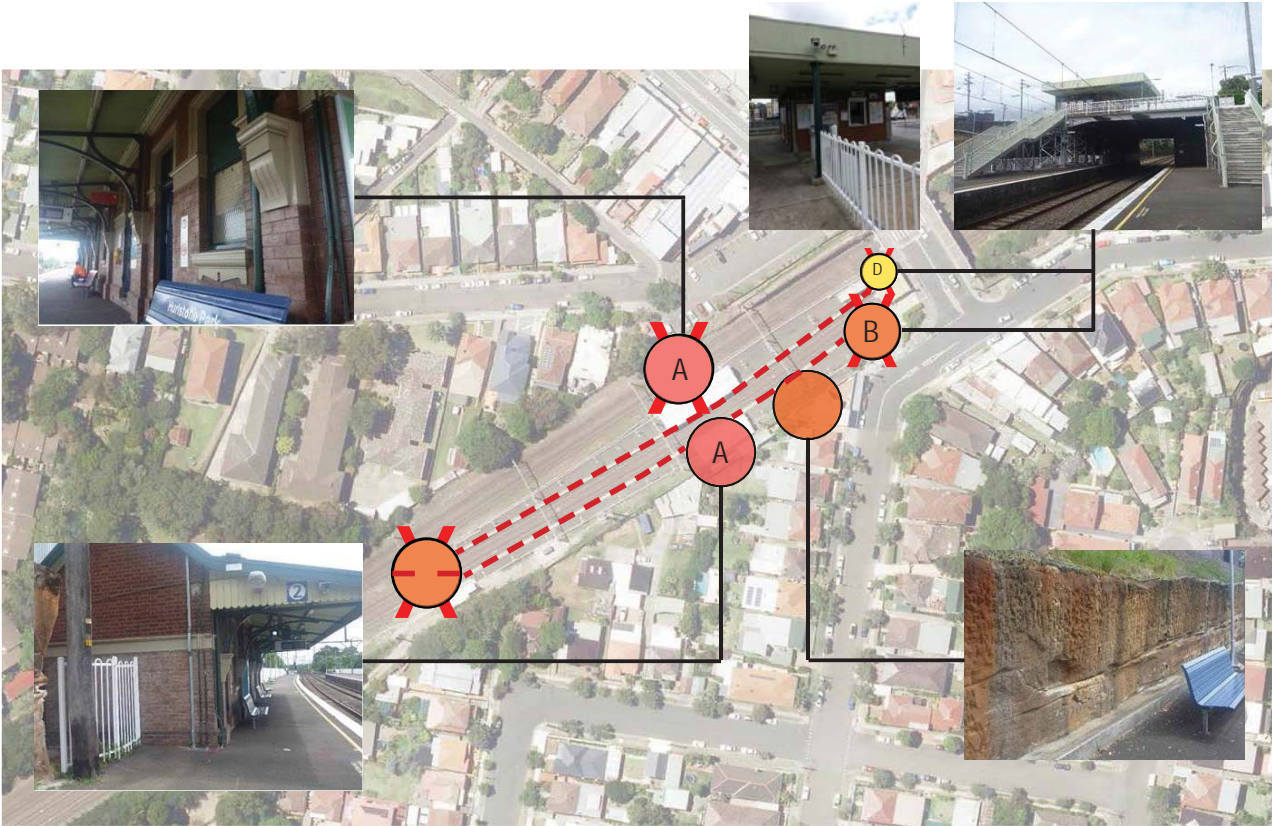


Figure 6-29: Summary of heritage elements

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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Heritage listed platforms would be rebuilt, straightened, and extended to the southwest along the rail corridor, generally in their existing locations.
Station buildings	<ul style="list-style-type: none"> 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	

Feature	Description
Public transport integration	<ul style="list-style-type: none"> The existing bus stops on the overbridge would be retained.
Access	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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*

Canterbury Station

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

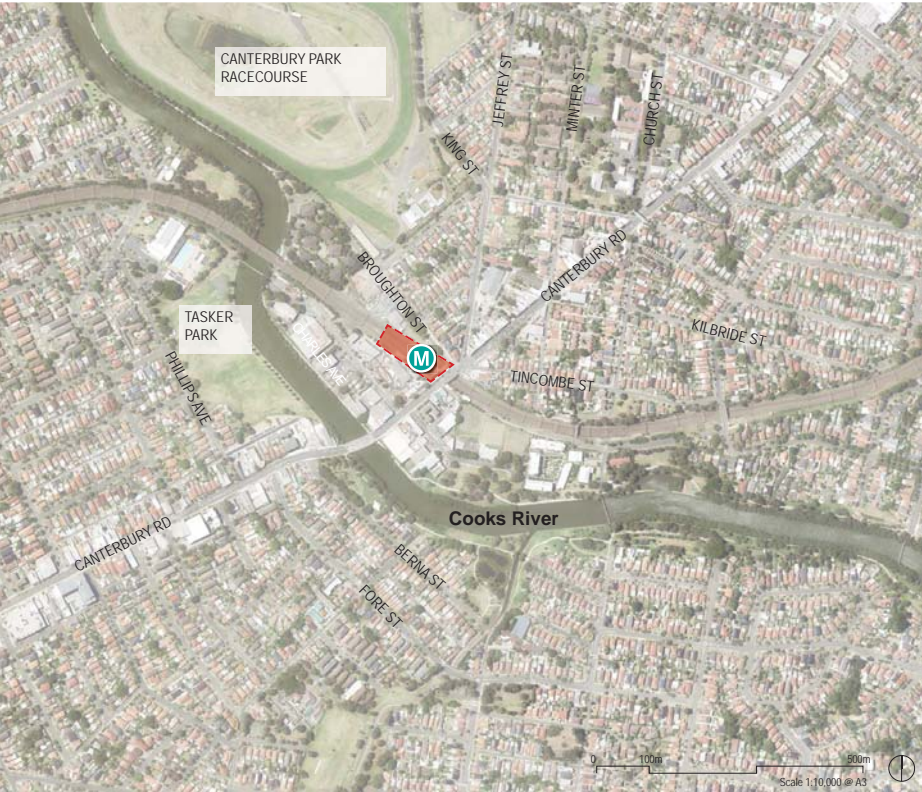


Figure 7-2: Location Plan

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

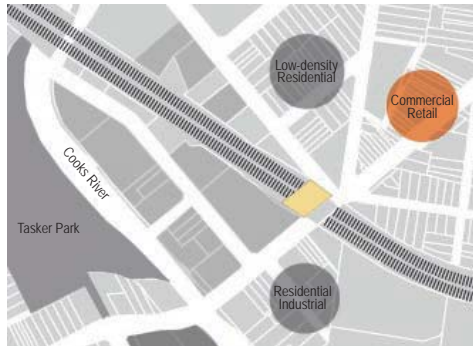
The Metro station proposed at Canterbury moves the station entry to a position approximately 150 metres west, aligned with the potential future town centre and connected to the urban renewal area north of the alignment. A northern entry and interchange/entry plaza is proposed on Broughton Street with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



Figure 7-3: Canterbury Road station entrance

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

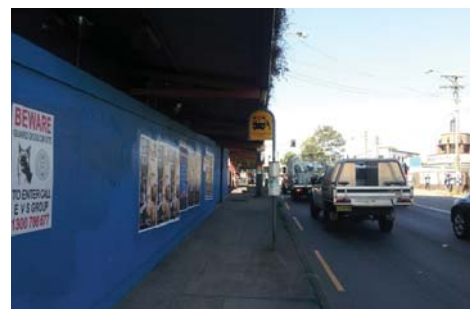


Figure 7-4: Canterbury Road bus stops

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.



Figure 7-5: Canterbury Signal Box

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 7-6: 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 twentieth 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 7-9: Canterbury Station Signal Box
Source: NSW Government



Figure 7-11: Canterbury Racecourse
Source: Unknown



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



Figure 7-10: Canterbury Postcard
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.

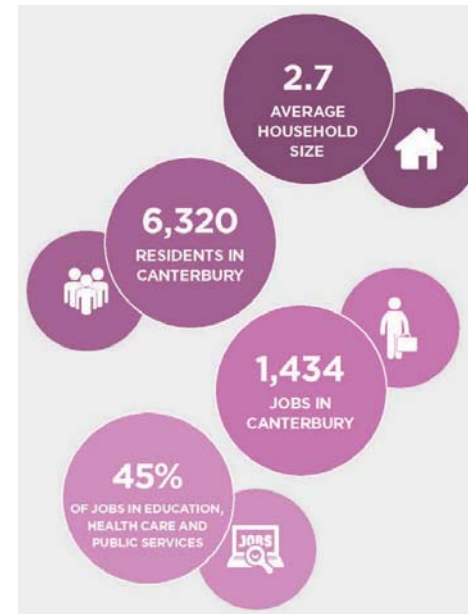


Figure 7-19: Key demographic facts for Canterbury Precinct
Source: Department Planning & Environment

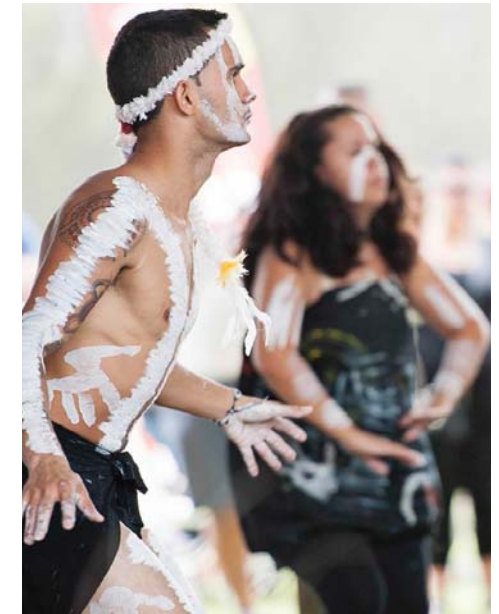


Figure 7-20: Australia Day Celebrations, Tasker Park Canterbury
Source: City of Canterbury Bankstown

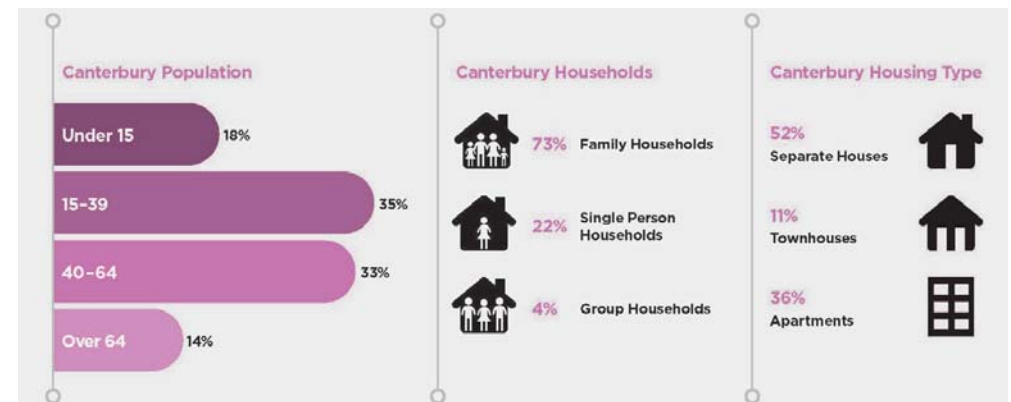


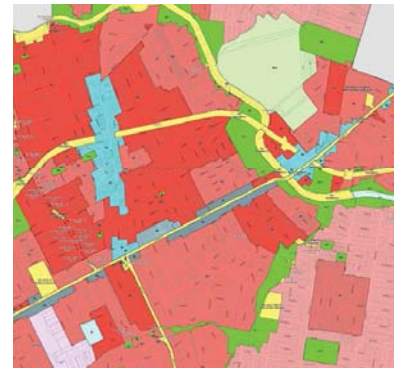
Figure 7-21: Key demographic characteristics for Canterbury Precinct
Source: Department Planning & Environment

7.2 Land Use Integration

7.2.1. Planning Controls

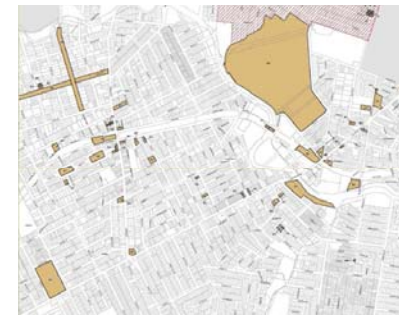
Under the provisions of Canterbury Local Environmental Plan 2012, the land surrounding the station is zoned (B2) Local Centre, (R4) High Density Residential in the residential area to the north, (R3) Medium Density Residential in the residential area to the south, (RE1) Public Recreation to the west, 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

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	(dashed line)
Item - General	(solid line)



Flooding Map
Source: Canterbury Local Environmental Plan 2012

Flood planning area	(blue)
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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

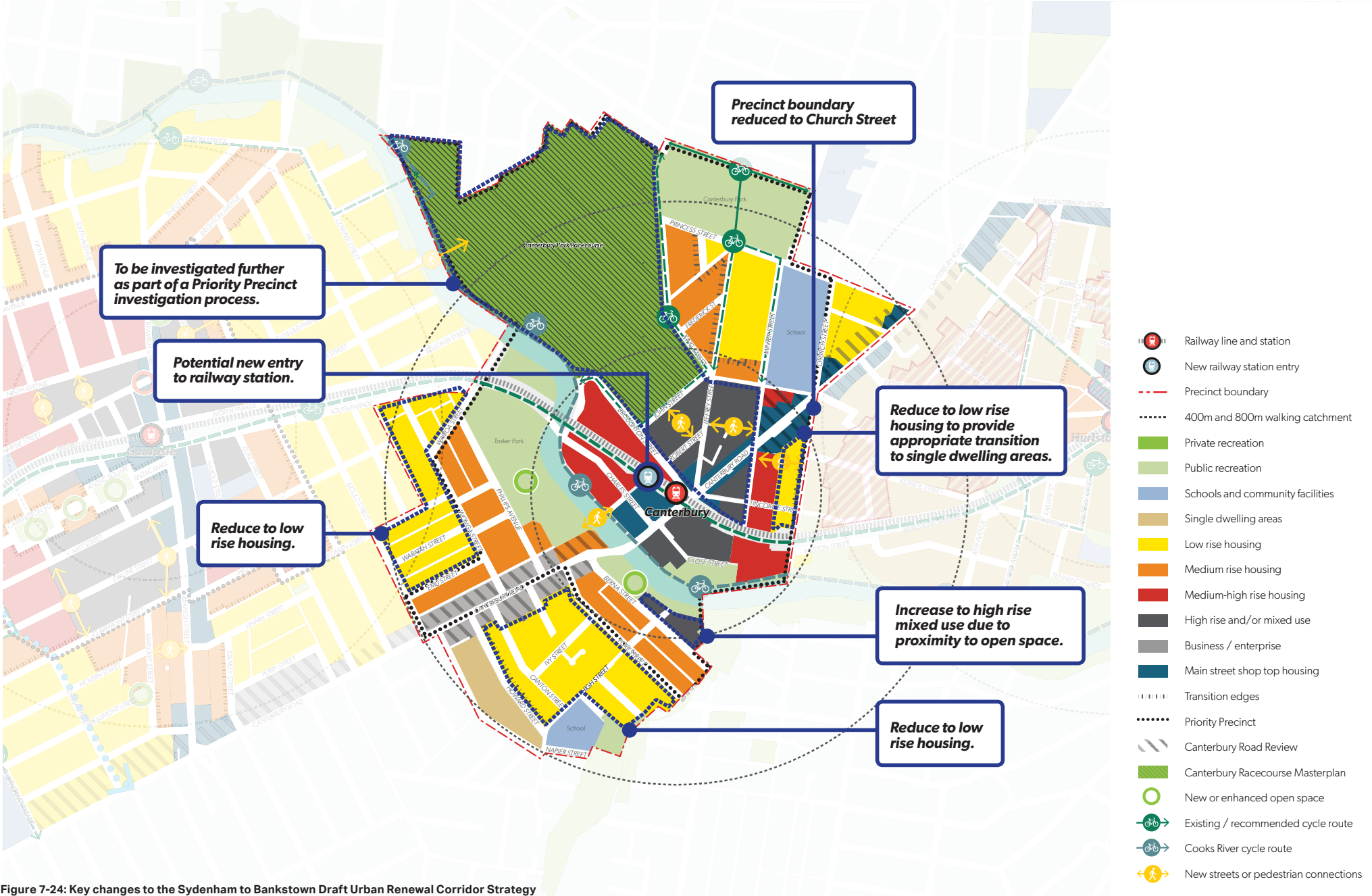


Figure 7-24: Key changes to the Sydenham to Bankstown Draft Urban Renewal Corridor Strategy
Source: Department Planning and Environment

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.

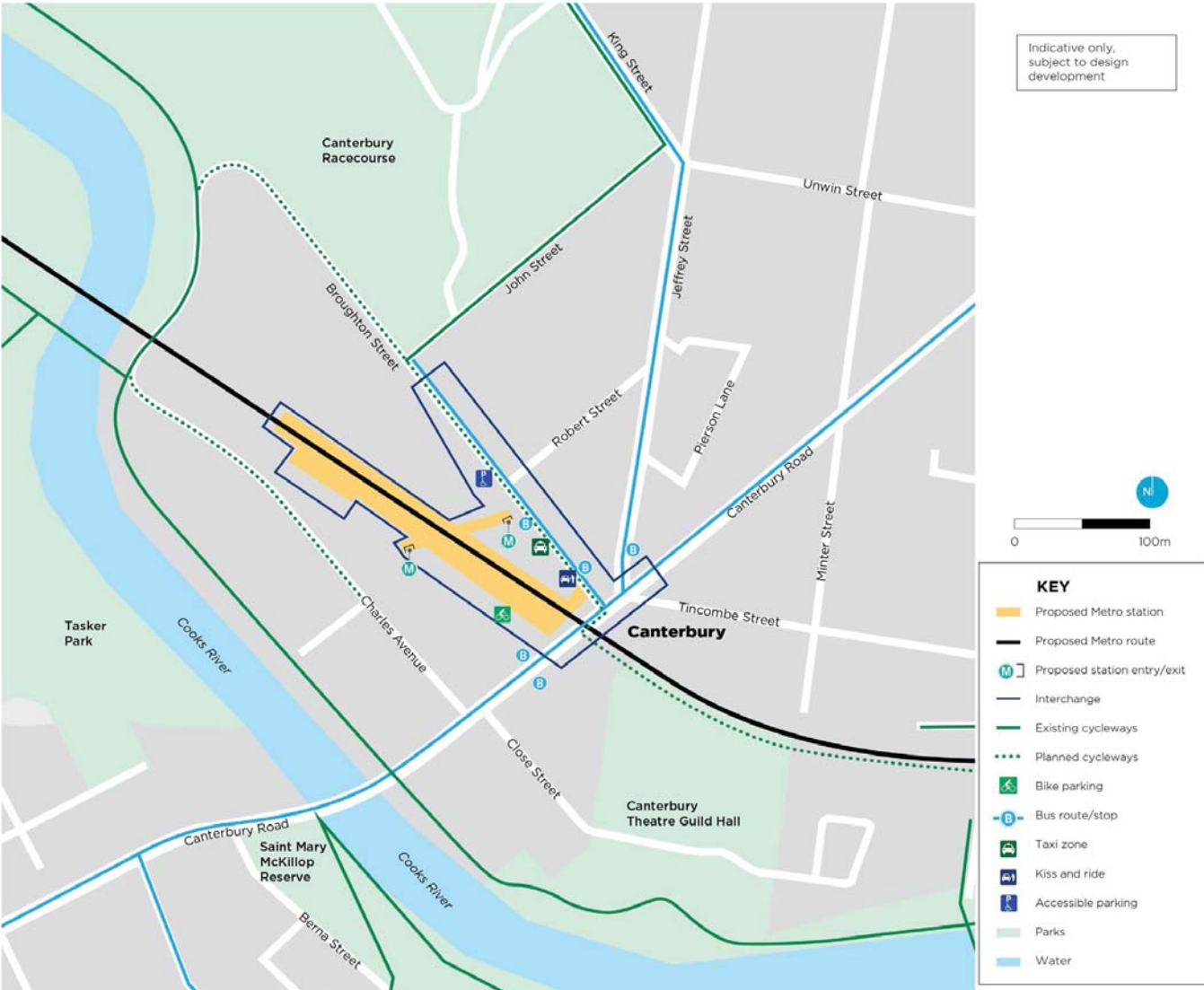


Figure 7-26: Access & interchange diagram