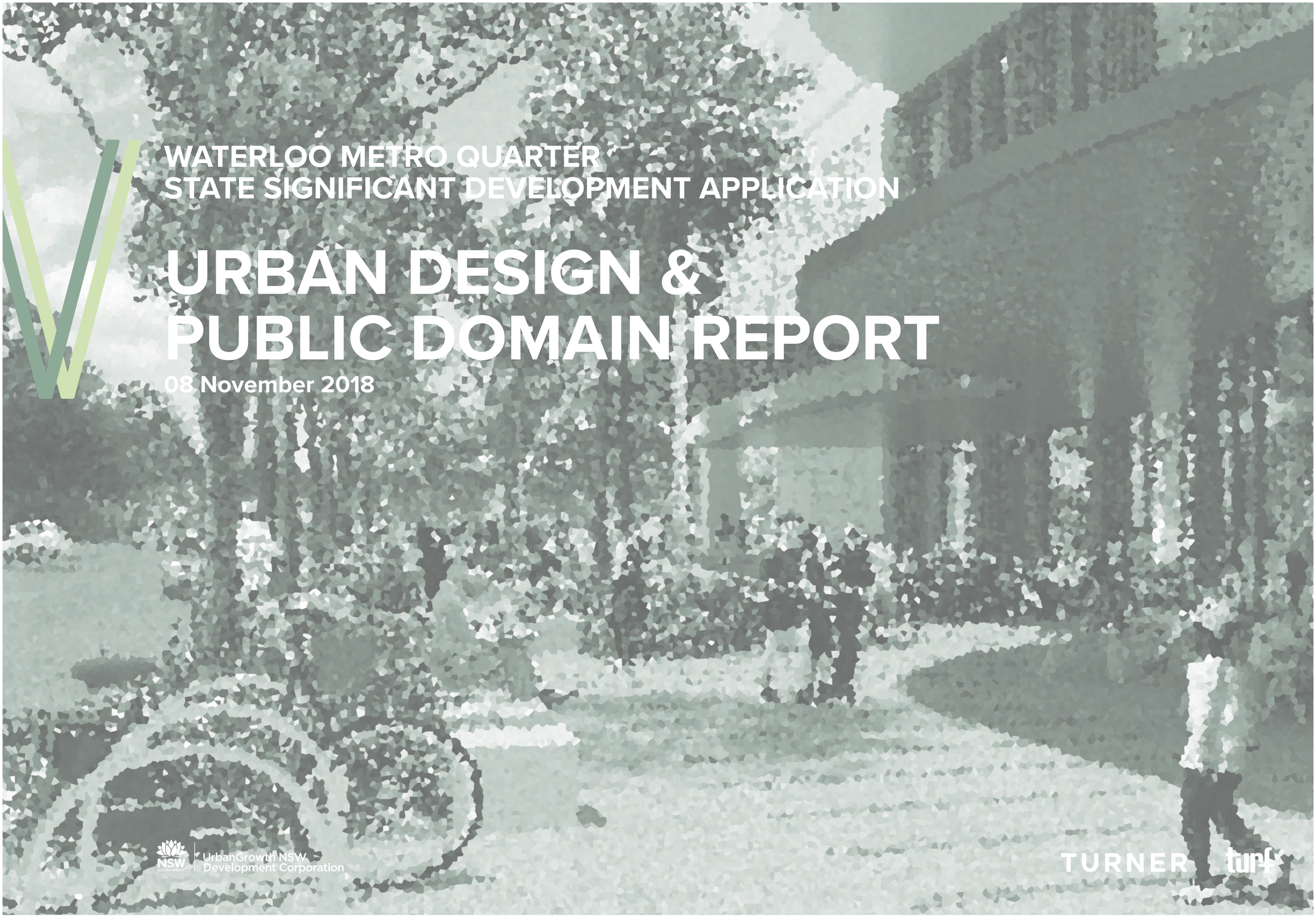
URBAN DESIGN AND PUBLIC DOMAIN REPORT

APPENDIX G

WATERLOO METRO QUARTER
STATE SIGNIFICANT DEVELOPMENT APPLICATION

URBAN DESIGN & PUBLIC DOMAIN REPORT

08 November 2018



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Source: Roberts Day Placemaking Framework - Waterloo Estate Family and Culture Day, 2015

an evolving context

Source: Roberts Day Placemaking Framework - Redfern Street

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Source: Roberts Day Placemaking Framework 40,000 Years mural, Lawson Street bridge

1.0
INTRODUCTION

1.1 PURPOSE OF THE REPORT

This report accompanies a concept State Significant Development Application (concept SSD Application) submitted to the Department of Planning and Environment (DPE) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The concept SSD Application is made under Section 4.22 of the EP&A Act.

This report should be read in conjunction with the Nominated State Significant Precinct (SSP) Study Waterloo, submitted to the Minister for Planning (The Minister) in July 2018. That study proposes new planning controls to facilitate the development proposed.

Sydney Metro is seeking to secure concept approval for over station development (OSD) above and adjacent to Waterloo Station comprising a podium and three taller buildings which include commercial, residential, and community land uses. The concept SSD Application seeks consent for a building envelope and use for residential, retail, commercial, entertainment, community and recreational purposes, maximum building height, maximum gross floor area (GFA), pedestrian and vehicular access, circulation arrangements and associated car parking and the strategies and design parameters for the future detailed design of development.

Sydney Metro proposes to procure the construction of the OSD as part of an integrated station development package, which would result in the combined delivery of the station, OSD and public domain improvements. The station and its public domain elements form part of a separate planning approval for Critical State Significant Infrastructure (CSSI) approved by DPE on 9 January 2017.

As the development is within a rail corridor, is associated with railway infrastructure and is for "commercial premises or residential accommodation" with a Capital Investment Value of more than $30 million, the project is identified as State Significant Development (SSD) pursuant to Schedule 1, 19(2)(a) of the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP).

This report has been prepared to outline the Urban Design & Public Domain Study impacts and specifically respond to the Secretary's Environmental Assessment Requirements (SEARs) issued for the concept SSD Application on 29th June 2018 which states that the Environmental Impact Statement (EIS) is to address the following requirements:

REFERENCE	SEARs REQUIREMENTS	ADDRESSED IN
1.	Address the relevant statutory provisions applying to the site contained in the relevant EPIs, including the State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development & the Apartment Design Guide	Section 3.0
3.	Describe the design process leading to the Concept Proposal including an urban design analysis demonstrating how the proposed building forms, typologies, orientation, height, setbacks, bulk, scale, and massing of the proposed development will fit within the context of the site and the existing and future desired character of the Waterloo State Significant Precincts and the wider Waterloo area. This must include justifications for the proposed building heights and forms.	
	Provide comparative analysis of proposed built forms with respect to applicable development standards and development controls.	Section 8.0 - 10.0
	Demonstrate built forms will facilitate appropriate transition of building scale to surrounding developments and the wider Waterloo area, including heritage conservation areas.	Section 8.0 - 10.0
	Include options analysis of the proposed built envelopes illustrating the consideration of the benefits and potential impacts of each option. This shall include design options to protect solar access on Alexandria Park and neighbouring residential developments, including consideration of any cumulative impacts of the proposal together with the likely future development on the western side of Botany Road.	Section 7.0
	Provide indicative design plans illustrating potential built forms within the proposed building envelopes, including demonstration of feasibility of proposed dwelling density and floor space.	Section 9.0 - 10.0
8.	Demonstrate consistency with the requirements of SEPP 65 and the Apartment Design Guide.	Appendix D
	Solar access analysis report and diagrams to address solar access, acoustic impacts, visual privacy, views and visual impacts, reflectivity, overshadowing and noise and vibration impacts to the surrounding area, including neighbouring properties and the public domain. Include a detailed solar access and overshadowing analysis outlining impacts on adjoining developments and the public domain.	Appendix E
19.	Provide the following: - Site analysis plan - Schedule of proposed gross floor area per land use - Building envelopes showing the relationship with proposed and existing buildings in the locality - Architectural drawings - Architectural and urban design statement - Staging plan - Physical and 3D digital model (in accordance with City of Sydney Council requirements)	Appendix A & B Issued to CoS

1.2 OVERVIEW OF SYDNEY METRO AND ITS CONTEXT

Sydney Metro is Australia's biggest public transport project. A new standalone metro railway system, this 21st century network will deliver 31 metro stations and 66 kilometres of new metro rail for Australia's biggest city — revolutionising the way Sydney travels. Services start in the first half of 019 on Australia's first fully-automated railway.

Sydney Metro was identified in Sydney's Rail Future, as an integral component of the NSW Long Term Transport Master Plan, a plan to transform and modernise Sydney's rail network so it can grow with the city's population and meet the future needs of customers. In early 2018, the Future Transport Strategy 2056 was released as an update to the NSW Long Term Transport Master Plan and Sydney's Rail Future. Sydney Metro City & Southwest is identified as a committed initiative in the Future Transport Strategy 2056.

Sydney Metro is comprised of three projects:

Sydney Metro Northwest — Formerly the 36 kilometre North West Rail Link. This $8.3 billion project is now under construction and will open in the first half of 019 with a metro train every four minutes in the peak.

Sydney Metro City & Southwest — A new 30 kilometre metro line extending the new metro network from the end of Sydney Metro Northwest at Chatswood, under Sydney Harbour, through the CBD and south west to Bankstown. It is due to open in 2024 with an ultimate capacity to run a metro train every two minutes each way through the centre of Sydney.

Sydney Metro West – A new underground railway connecting the Parramatta and Sydney central business districts. This once-in-a-century infrastructure investment will double the rail capacity of the Parramatta to Sydney CBD corridor and will establish future capacity for Sydney's fast growing west. Sydney Metro West will serve five key precincts at Westmead, Parramatta, Sydney Olympic Park, The Bays and the Sydney CBD. The project will also provide an interchange with the T1 Northern Line to allow faster connections for customers from the Central Coast and Sydney's north to Parramatta and the Sydney CBD.

Sydney's new metro, together with signalling and infrastructure upgrades across the existing Sydney suburban rail network, will increase the capacity of train services entering the Sydney CBD – from about 120 an hour currently to up to 200 services beyond 2024. That's an increase of up to 60 per cent capacity across the network to meet demand.

Sydney Metro City & Southwest includes the construction and operation of a new metro rail line from Chatswood, under Sydney Harbour through Sydney's CBD to Sydenham and on to Bankstown through the conversion of the existing line to metro standards.

The project also involves the delivery of six (6) new metro stations, including at Waterloo, together with new underground platforms at Central. Once completed, Sydney Metro will have the ultimate capacity for a train every two minutes through the CBD in each direction - a level of service never seen before in Sydney.

On 9 January 2017, the Minister approved the Sydney Metro City & Southwest - Chatswood to Sydenham application lodged by TfNSW as a CSSI project (reference SSI 15_7400.

The CSSI Approval includes all physical work required to construct the CSSI, including the demolition of existing buildings and structures on each site. Importantly, the CSSI Approval also includes provision for the construction of below and above ground structures and other components of future OSD (including building infrastructure and space for future lift cores, plant rooms, access, parking and building services, as relevant to each site). The rationale for this delivery approach, as identified within the CSSI application is to enable the OSDs to be more efficiently built and appropriately integrated into the metro station structures.

The EIS for the Chatswood to Sydenham alignment of the City & Southwest project identified that the OSD would be subject to a separate assessment process.

Since the CSSI Approval was issued, Sydney Metro has lodged four modification applications to amend the CSSI Approval as outlined below:

- **Modification 1** - Victoria Cross and Artarmon Substation which involves relocation of the Victoria Cross northern services building from 194-196A Miller Street to 50 McLaren Street together with inclusion of a new station entrance at this location referred to as Victoria Cross North. The modification also involves the relocation of the substation at Artarmon from Butchers Lane to 98 – 104 Reserve Road. This modification application was approved on 18 October 2017.

- **Modification** - Central Walk which involves additional works at Central Railway Station including construction of a new eastern concourse, a new eastern entry, and upgrades to suburban platforms. This modification application was approved on 1 December 2017.

- **Modification** - Martin Place Station which involves changes to the Sydney Metro Martin Place Station to align with the Unsolicited Proposal by Macquarie Group Limited (Macquarie) for the development of the station precinct. The proposed modification involves a larger reconfigured station layout, provision of a new unpaid concourse link and retention of the existing MLC pedestrian link and works to connect into the Sydney Metro Martin Place Station. It is noted that if the Macquarie proposal does not proceed, the original station design remains approved. This modification application was approved on 2 March 2018.

- **Modification** - Sydenham Station and Sydney Metro Trains Facility South which incorporated Sydenham Station and precinct works, the Sydney Metro Trains Facility South, works to Sydney Water's Sydenham Pit and Drainage Pumping Station and ancillary infrastructure and track and signalling works into the approved project. This modification application was approved on 1 December 2017.

The CSSI Approval as modified allows for all works to deliver Sydney Metro between Chatswood and Sydenham Stations and also includes upgrade of Sydenham Station.

The remainder of the City & Southwest alignment (Sydenham to Bankstown) proposes the conversion of the existing heavy rail line from west of Sydenham Station to Bankstown to metro standards. This part of the project, referred to as the Sydenham to Bankstown upgrade, is the subject of a separate CSSI Application (Application No. SSI 17_8256) for which an EIS was exhibited between September and November 2017.

A Response to Submissions and Preferred Infrastructure Report was submitted to the DPE in June 2018 for further exhibition and assessment. This application is subject to assessment and determination by DPE, taking into consideration a further Response to Submissions Report which was submitted to DPE in September 2018.

1.3 NOMINATED STATE SIGNIFICANT PRECINCT - WATERLOO

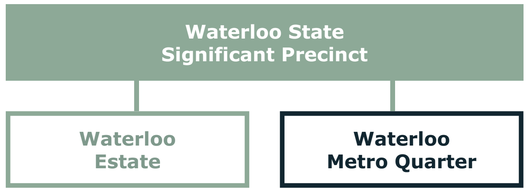
Introduction

Following the decision to locate a metro station in Waterloo, the Minister determined that parts of Waterloo are of State planning significance which should be investigated for urban renewal through the SSP process. SSP study requirements for such investigations were issued by the Minister on 19 May 2017.

Investigation of the Precinct is being undertaken by UrbanGrowth NSW Development Corporation (UrbanGrowth NSW), in partnership with Sydney Metro and the Land and Housing Corporation (LAHC). The outcome of the SSP process will be new planning controls that will enable future development applications for renewal of the Precinct.

The Precinct includes two separate but contiguous and inter-related parts:

- The Waterloo Metro Quarter (the Metro Quarter)
- The Waterloo Estate (the Estate)



A separate SSP Study for the Metro Quarter was lodged in July 2018 in advance of the SSP Study for the Estate to provide a planning framework for the construction of OSD within the Metro Quarter. The staged submission of the Metro Quarter SSP Study also facilitates the proposed development to be delivered concurrently with the metro station, as an integrated station development.

As this concept SSD Application relies upon the planning framework proposed in the Metro Quarter SSP Study, it is anticipated that the SSP Study and the Environmental Impact Statement (EIS) for the SSD Application will be exhibited concurrently.

Legend

Waterloo Precinct
Metro Quarter
Estate

Overall Precinct Objectives

The following are the objectives for renewal of the Precinct:

Housing: A fully integrated urban village of social, private and affordable housing
A place that meets the housing needs of people with different background, ages, incomes, abilities and lifestyles - a place where everyone belongs. New social, affordable and private housing that are not distinguishable and are modern, comfortable, efficient, sustainable and adaptable.

Culture & Design: A safe and welcoming place to live and visit
A place where there is activity day and night, where people feel safe, at ease and part of a cohesive and proud community. A place that respects the land and Aboriginal people by showcasing and celebrating Waterloo's culture, history and heritage.

Open Space & Environment: High quality public spaces and a sustainable urban environment
A place that promotes a walkable, comfortable and healthy lifestyle with high quality, well designed and sustainable buildings, natural features and safe open spaces for everyone to enjoy, regardless of age, culture or ability.

Transport and Connectivity: A well connected inner city location
Integrate the new metro station and other modes of transport in such a way that anyone who lives, works or visits Waterloo can get around easily, safely and efficiently.

Services & Amenities: New and improved services, facilities and amenities to support a diverse community
A place that provides suitable and essential services and facilities so that all residents have easy access to health, wellbeing, community support, retail and government services.

Fig 1.3 Nominated State Significant Precinct - Waterloo

1.4 PLANNING RELATIONSHIP BETWEEN WATERLOO STATION AND THE OSD

While Waterloo Station and the OSD will form an integrated station development, the planning pathways defined under the EP&A Act require separate approval for each component of the development. In this regard, the approved station works (CSSI Approval) are subject to the provisions of Part 5.1 of the EP&A Act (now referred to as Division 5.2) and the OSD component is subject to the provisions of Part 4 of the EP&A Act.

For clarity, the approved station works under the CSSI Approval included the construction of below and above ground structures necessary for delivering the station and also enabling construction of the integrated OSD. This includes but is not limited to:

- Demolition of existing development
- Excavation
- Integrated station and OSD structure (including concourse and platforms)
- Lobbies
- Retail spaces within the station building
- Public domain improvements
- Access arrangements including vertical transport such as escalators and lifts
- Space provisioning and service elements necessary to enable the future development of the OSD, such as lift cores, plant rooms, access, parking, retail, utilities connections and building services.

The vertical extent of the approved station works above ground level is defined by the 'transfer level' (which for Waterloo is defined by approximately RL 33.1 over the northern station box and RL 35.1 over the southern station box), above which would sit the OSD. An example of this delineation is illustrated in Figure 1.4.

Legend

- OSD Residential
- OSD Retail / Office
- OSD Plant / Carpark
- Station / Station Plant
- Loading Dock

It is noted that the structural and service requirements and space provisioning to support OSD vary from station to station. For example, based on the current level of design, Waterloo Station is not expected to provide for OSD lobbies, end of trip facilities and plant rooms. However, the detailed design may be amended to incorporate these elements as part of the integrated station development.

The CSSI Approval also establishes the general concept for the ground plane of Waterloo Station including access strategies for commuters, pedestrians and workers. In this regard, the main pedestrian access to the station would be via an entry located at the corner of Raglan and Cope Streets. The station design has continued to be developed having regard to its integration with the Metro Quarter OSD, and as a result, a second entrance to the station is to be provided from a proposed public plaza adjacent to Cope Street. Retail uses (approved under the CSSI Approval) would be located on the ground floor of the station development along the Cope Street frontage of the site.

Since the issue of the CSSI Approval, Sydney Metro has undertaken design work to determine the technical requirements for the structural integration of the OSD with the station. This level of design work, together with the planning and design undertaken for the remainder of the Metro Quarter has informed the concept proposal for the OSD. It is noted that ongoing design development of the works to be delivered under the CSSI Approval would continue with a view to developing an Interchange Access Plan (IAP) and Station Design Precinct Plan (SDPP) for Waterloo Station to satisfy Conditions E92 and E101 of the CSSI Approval. The detailed design for the Metro Quarter would continue to evolve having regard to the IAP and SDPP.

Public domain improvement works immediately adjacent to Waterloo Station would be delivered as part of the CSSI Approval, together with improvements necessary to support the bus interchange function, while other public domain works within the Waterloo Metro Quarter are proposed as part of the OSD. Final details of public domain works for the OSD will be provided with the detailed SSD Application(s) following finalisation of the SDPP and IAP for the CSSI Approval.

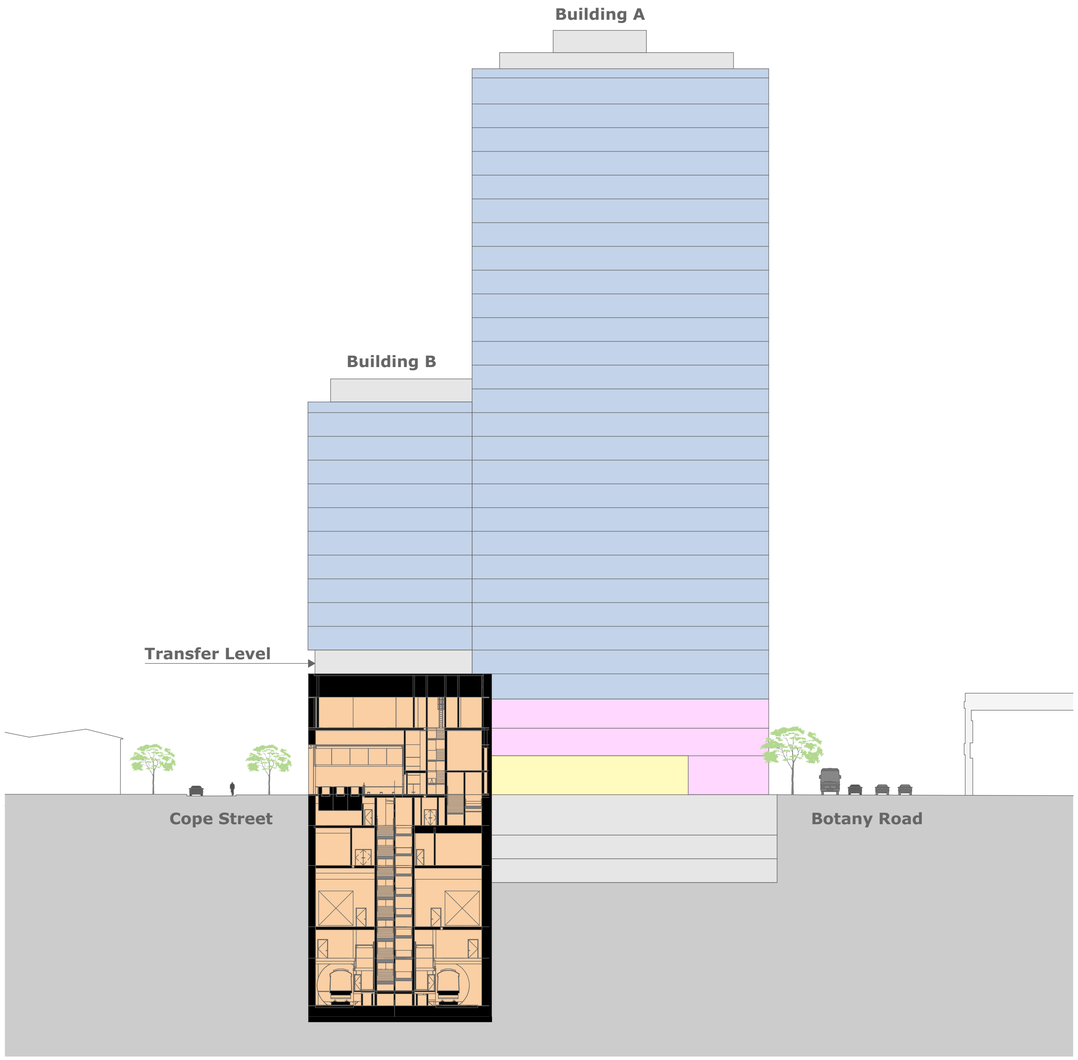


Fig 1.4 Delineation between the metro station and OSD

1.5 LOCATION

The Precinct is located approximately 3.3 kilometres south-south-west of the Sydney CBD in the suburb of Waterloo (refer Figure 1.5.1). It is located entirely within the City of Sydney local government area (LGA).

It is bordered by Phillip Street to the north, Pitt Street to the east, McEvoy Street to the south and Botany Road to the west. It also includes one block east of Pitt Street bordered by Wellington, Gibson and Kellick Streets.

The Precinct has an approximate gross site area of 20.03 hectares (including road reserves) and comprises two separate but adjoining parts:

1. The Waterloo Estate (the Estate); and
2. The Waterloo Metro Quarter (the Metro Quarter).

A map of the Precinct and relevant boundaries is at Figure 1.3.

The Metro Quarter

The Metro Quarter comprises land to the west of Cope Street, east of Botany Road, south of Raglan Street and north of Wellington Street. The heritage listed Waterloo Congregational Church located at 103–105 Botany Road is within this block but is not part of the site.

The site has an approximate area of 1.287 hectares

Approved Metro Rail Infrastructure

The Waterloo metro station will be constructed within the eastern side of the Metro Quarter as part of 'Sydney Metro City & Southwest' - Chatswood to Sydenham. This section of the Sydney Metro project received planning approval in January 2017 (SSI 15_7400), with construction led by Sydney Metro. While most of the metro station will be located beneath finished ground level, two entry/plant structures, with heights equivalent to a 5 storey residential building (up to 20 metres), will protrude above finished ground level; one along the northern end of Cope Street, the other along the southern end of Cope Street.

Demolition of existing buildings has been completed, with the exception of one building which is being used to support construction, and excavation of the Waterloo Station is underway.

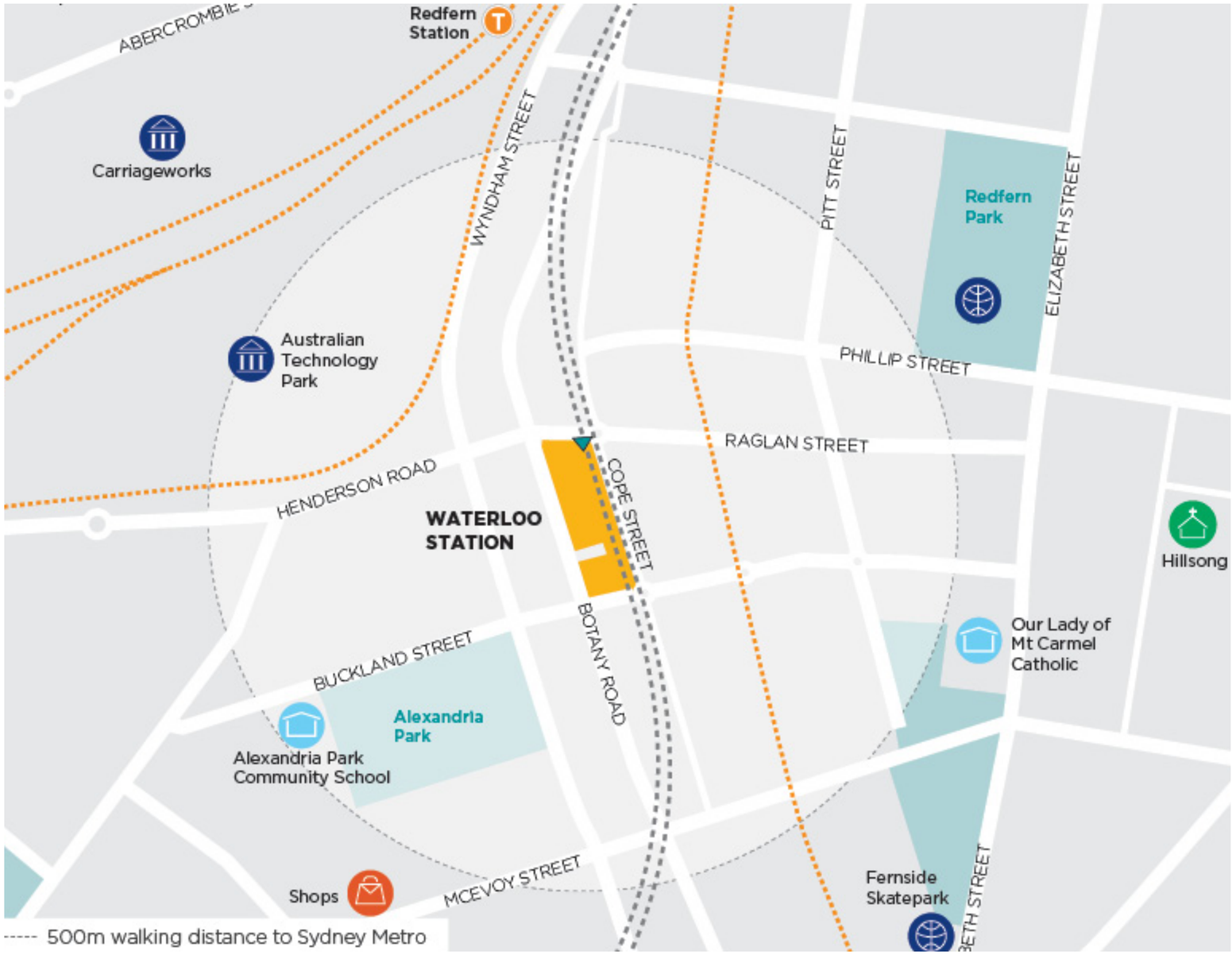


Fig 1.5.1 Waterloo Station location plan

SITE CONTEXT

The Waterloo Metro Quarter is located in Redfern Street Village (see Figure 4) in the City of Sydney LGA approximately 3.3 kilometres south of Sydney CBD, 1 kilometre north of Green Square and less than 1 kilometre south of Redfern Station.

Directly east is the Waterloo Estate, which is owned by the NSW Government and is under the management of NSW LAHC. The Waterloo Estate comprises 2,012 social housing dwellings and a small number of private dwellings in medium and high density forms, ranging from single storey attached dwellings to apartment buildings of up to thirty storeys.

The Waterloo Metro Quarter is less than 1 kilometre south-east of the Australian Technology Park (ATP), a technology micro-cluster that currently contains around 3,000 – 3,500 workers with a range of businesses in technology and creative industries; and a start-up/ business incubator hub. It is set to grow into a business park that will soon accommodate new premises currently under construction (i.e. Commonwealth Bank Australia (CBA) has committed to two major office towers).

The site comprises the following properties:

- 136B Raglan Street — Lot 4 DP 215751
- 59 Botany Road — Lot 5 DP 215751
- 65 Botany Road — Lot 1 DP814205
- 67 Botany Road — Lot 1 DP228641
- 124-128 Cope Street — Lot 2 DP228641
- 69-83 Botany Road — SP75492
- 130-134 Cope Street — Lot 12 DP399757
- 136-144 Cope Street — Lots A-E DP108312
- 85 Botany Road — Lot 1 DP27454
- 87 Botany Road — Lot 2 DP27454
- 89-91 Botany Road — Lot 1 DP996765
- 93-101 Botany Road — Lot 1 DP433969 & Lot 1 DP738891
- 156-160 Cope Street — Lot 31 DP805384
- 107-117A Botany Road — Lot 32 DP805384 & Lot A DP408116
- 119-121 Botany Road — Lot 1 DP205942 & Lot 1 DP436831
- 170-174 Cope Street — Lot 2 DP205942

The buildings and structures on the site are now demolished in accordance with the CSSI Approval with the exception of one building which is being used to support construction.

Legend

- SSP
- Redfern Street Village
- City of Sydney Villages
- Strategic Activity Centre
- Sydney Train lines
- Sydney Metro (Proposed)
- Light Rail
- Train Station
- Metro Station

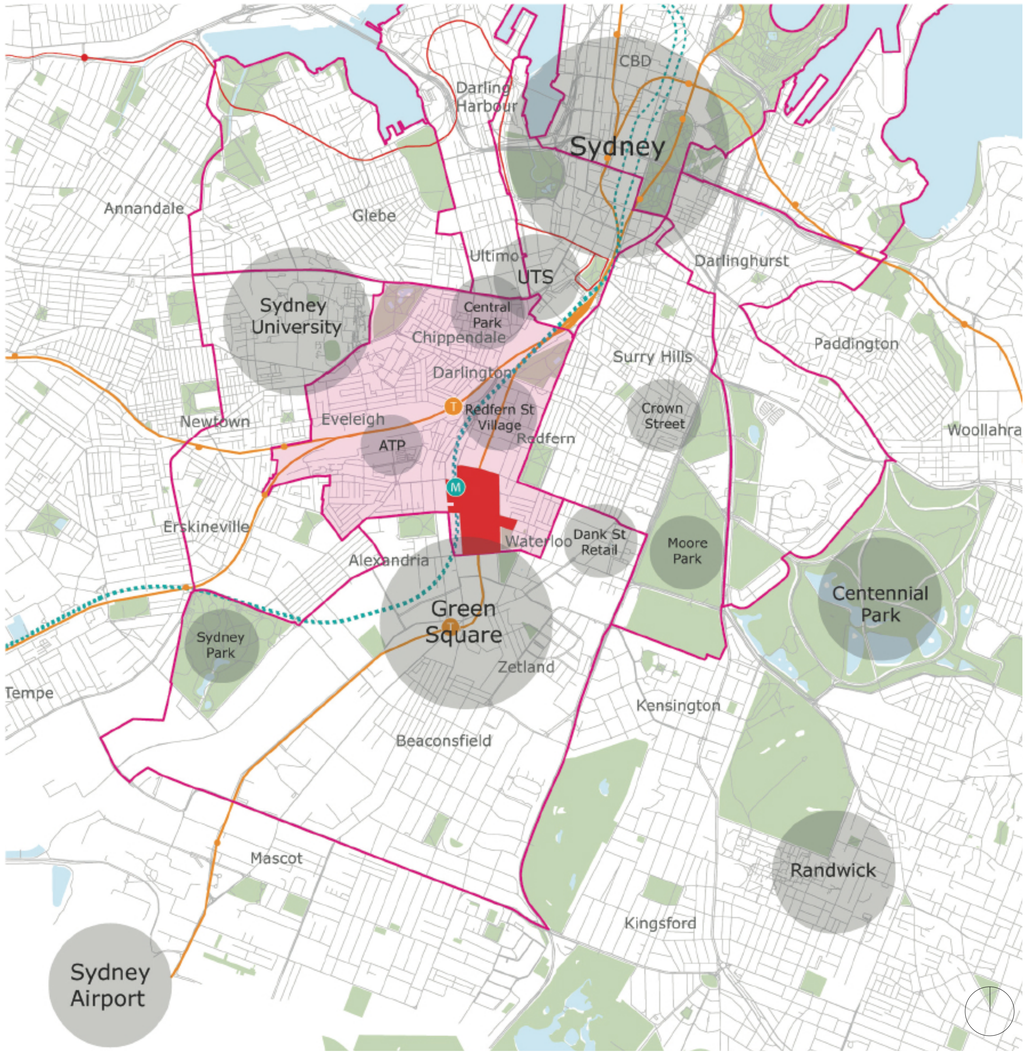


Fig 1.5.2 Location of the Waterloo State Significant Precinct

1.6 OVERVIEW OF THE PROPOSED DEVELOPMENT

This concept SSD Application follows the submission of a SSP Study which supports a proposal to amend existing controls to facilitate the proposed development. The concept SSD Application will in turn comprises the first stage of seeking SSD development consent for the Waterloo OSD project. It will be followed by a future detailed SSD Application(s) for the design and construction of the OSD built form.

This concept SSD Application seeks approval for the planning and development framework and strategies to inform the future detailed design of the OSD. It specifically seeks approval for:

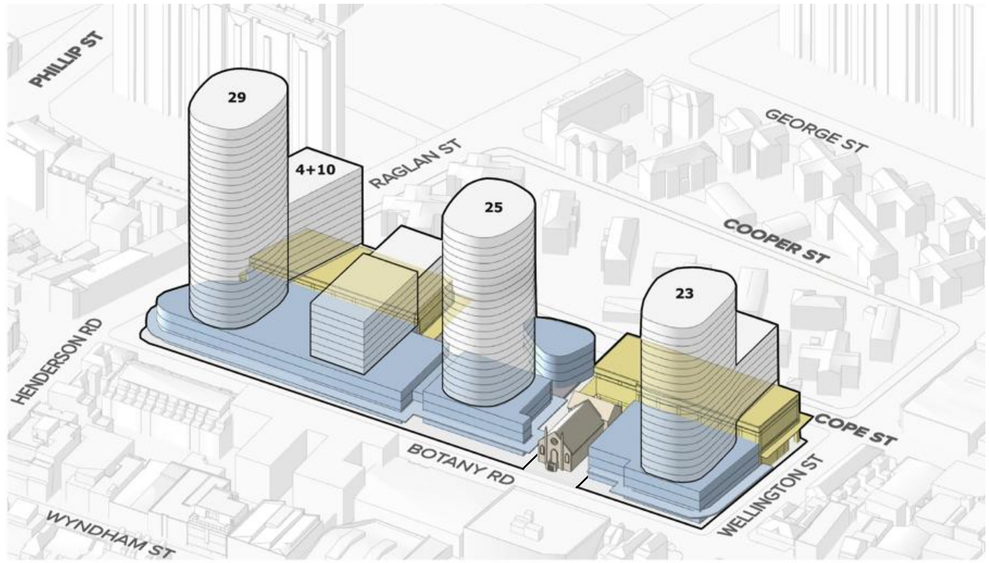
- Maximum building envelopes, including maximum building heights, street-wall heights and ground and upper level setbacks
- A maximum gross floor area (GFA) of 8,7 0 square metres, comprising:
  - Approximately 56,200 square metres GFA of residential accommodation, providing for approximately 700 dwellings, including 5 to 10 percent affordable housing and 70 social housing dwellings
  - Approximately 3,905 square metres GFA of retail premises and entertainment facilities
  - Approximately 8,645 square metres GFA for business and commercial premises and community, health service and recreational facilities (indoor), including at least 2,000 square metres of floor space for community uses
- A three storey podium and a free standing building located within a public plaza, accommodating non-residential land uses
- Residential uses above podium level in various building forms including three taller buildings of 23, 25 and 29 storeys (Reduced Level (RL) 96.9, 104.2 and 116.9 metres AHD respectively)
- Public domain works, including open spaces, through-site links, footpaths, provision for cycle facilities and enhanced pedestrian crossings and roads.
- Car parking for up to 427 vehicles
- Cycle parking to support residential and non-residential land uses and visitors to the Metro Quarter. Approval is also being sought for space within the future basement for a bike hub which would also support future bike parking for Waterloo Station
- Loading, vehicular and pedestrian access arrangements
- Strategies for utilities and services provision
- Strategies for managing stormwater and drainage
- A strategy for the achievement of ecologically sustainable development
- A public art strategy
- Provision for future signage zones
- A design excellence framework
- The future subdivision of parts of the OSD footprint (if required).

It is noted that the Waterloo metro station comprises GFA of approximately 8,415 square metres on the site, approved under CSSI Approval. The total GFA for the integrated station development, including the station GFA is approximately 77,165 square metres, which is equivalent to an FSR of approximately 6:1.

Key parameters of the concept proposal based on the current level of design development are indicated at Figure 1.6.1 and Figure 1.6.2.

The proposal is a significant opportunity to contribute to the urban renewal process for the Waterloo SSP. The objective to deliver the Metro Quarter project as soon as reasonably possible after completion of the station works (earmarked to open 2024) would ensure buildings within the Metro Quarter are occupied to support maximum patronage of the proposed metro station and provide a great place making outcome for the community, with a world class metro system on their doorstep.

The Metro Quarter would contain a mix of uses including residential, commercial, retail, community facilities and services and cultural opportunities sufficient for daily life to be provided for within the wider neighbourhood and to support the activation of the precinct. This will help make Waterloo one of the most connected and attractive inner-city places to live, work and visit.



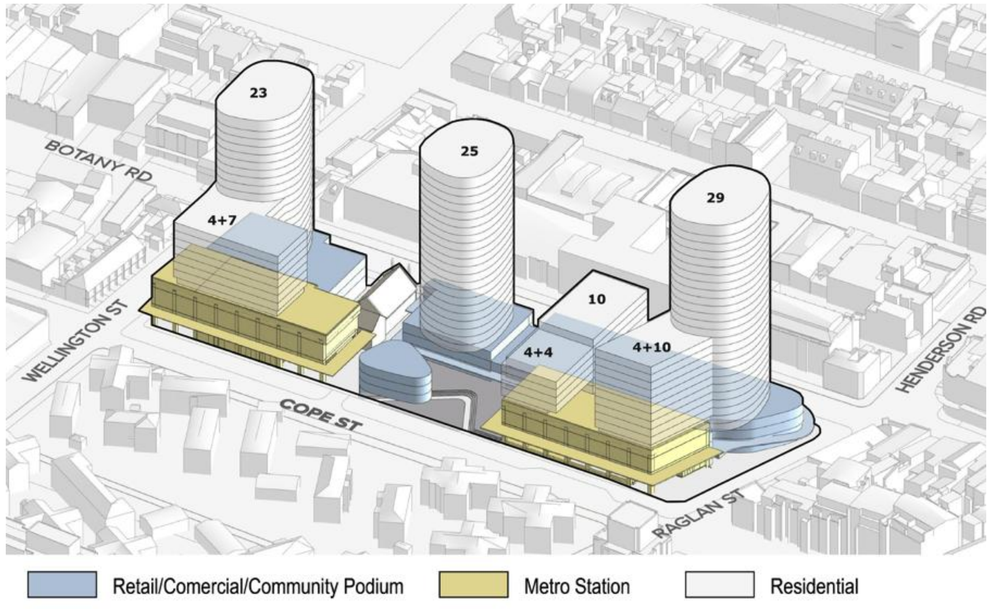


Fig 1.6.2 Proposed massing, viewed from the east

1.7 STAGING & FRAMEWORK FOR MANAGING ENVIRONMENTAL IMPACTS

Sydney Metro proposes to procure the delivery of the Waterloo integrated station development in one single package, which would entail the following works:

- Station structure fit-out, including mechanical and electrical.
- OSD structure fit-out, including mechanical and electrical.

Separate delivery packages are also proposed by Sydney Metro to deliver the excavation of the station boxes/shafts ahead of the integrated station development delivery package, and linewide systems (e.g. track, power, ventilation) and operational readiness works prior to the Sydney Metro City & Southwest metro system being able to operate.

For the purposes of considering construction related impacts, three possible staging scenarios have been identified for delivery of the integrated station development:

1. **Scenario 1**
   The station and OSD are constructed concurrently by constructing the transfer slab first and then building in both directions. Both the station and OSD would be completed in 2024.

2. **Scenario 2**
   The station is constructed first and ready for operation in 2024. OSD construction may still be incomplete or soon ready to commence after station construction is completed. This means that some or all OSD construction is likely to still be underway upon opening of the station in 2024.

3. **Scenario 3**
   The station is constructed first and ready for operation in 2024. The OSD is built at a later stage, with timing yet to be determined. This creates two distinct construction periods for the station and OSD.

The final staging for the delivery of the OSD would be resolved as part of the detailed SSD Application(s).

For the purposes of providing a high level assessment of the potential environmental impacts associated with construction, the following have been considered:

- Impacts directly associated with the OSD, the subject of this SSD Application.
- Cumulative impacts of the construction of the OSD at the same time as the station works (subject of the CSSI Approval).

Given the integration of the delivery of the Sydney Metro City & Southwest metro station with an OSD development, Sydney Metro proposes the framework detailed in Figure 8 to manage the design and environmental impacts, in relation to (INSERT STUDY NAME), consistent with the framework adopted for the CSSI Approval.

This approach would be implemented until such time as completion of the station works (i.e. works under the CSSI Approval) is achieved. Beyond that point, standard construction environmental management practices would be implemented by the OSD developer in accordance with relevant guidelines and any conditions of approval.

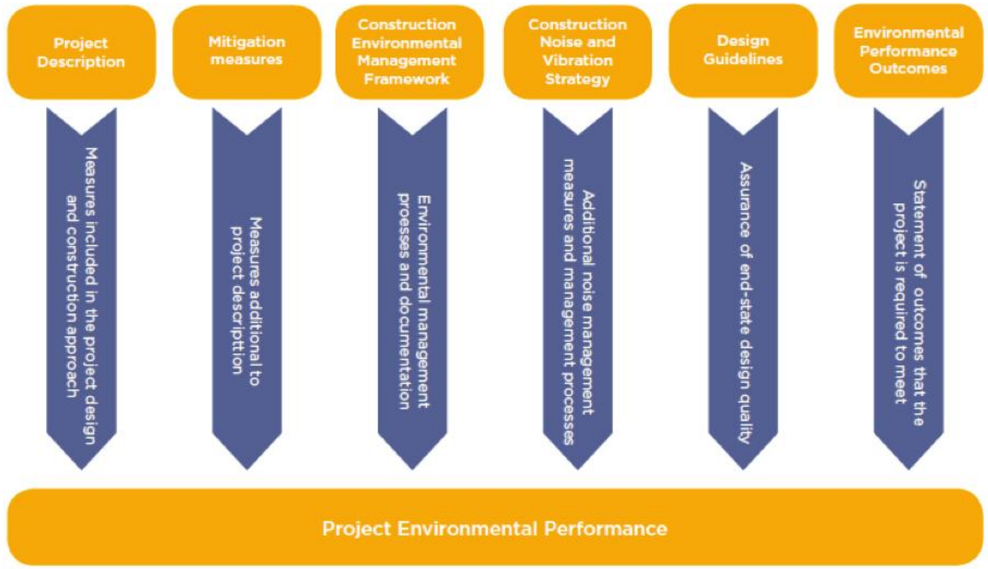


Figure 1.7 Project approach to environmental mitigation and management

new perspectives

Source: Corner of Henderson & Gerard Streets looking towards Waterloo Estate

2.0 STRATEGIC CONTEXT

This chapter provides an outline of the strategic framework within which the Metro Quarter, as part of the Waterloo SSP, is located to understand its future role within Greater Sydney. The role of the Waterloo SSP within Greater Sydney is explored in detail to provide an understanding of the opportunities and challenges in delivering the Metro Quarter Concept Proposal.

Waterloo SSP's unique position within the Greater Sydney vision and the new metro station at Waterloo provides the opportunity to create a new active transport hub at the Metro Quarter, as the first stage of the renewal of the overall SSP. This understanding informs the Metro Quarter response and provides an overview of the vision set by the strategic plans and strategies that have informed the development of the Metro Quarter and outlines how the Metro Quarter Concept Proposal aligns with the vision and key moves.

The key strategic policies relevant to the site include:

NSW Government

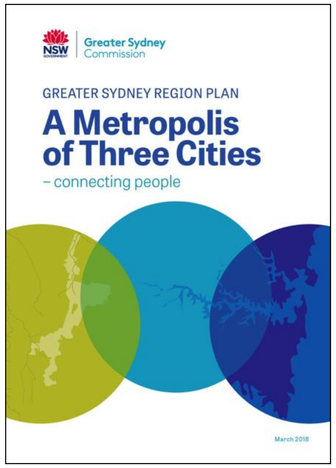
- Greater Sydney Region Plan 2018: A Metropolis of Three Cities, 2018, Greater Sydney Commission
- Our Greater Sydney 2056: Eastern City District Plan, 2018, Greater Sydney Commission
- Future Transport Strategy 2056, 2018, NSW Government
- Central to Eveleigh Urban Transformation Strategy, 2016, Urban Growth NSW Development Corporation
- Apartment Design Guide: NSW Department of Planning and Environment
- Better Placed, 2017, Government Architect of NSW
- Greener Places, 2017, Government Architect of NSW
- Sydney Green Grid, 2016, Government Architect of NSW
- Sydney Local Environmental Plan, 2012, NSW Department of Planning and Environment

City of Sydney Council

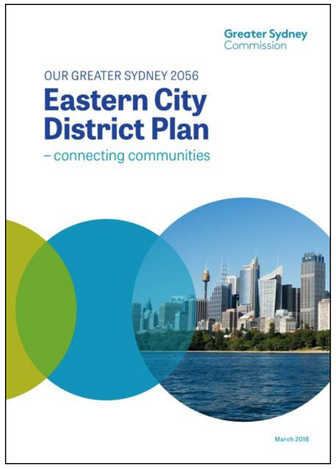
- Central Sydney Planning Strategy, 2018, City of Sydney
- Sydney Development Control Plan, 2012, City of Sydney
- Liveable Green Network, 2011, City of Sydney
- Open Space, Sports and Recreation Needs Study, 2016
- Public Domain Manual, 2017
- Sydney Street Code, 2013
- Sydney Street Technical Specification, 01
- Street Tree Masterplan, 2011
- Urban Forest Strategy, 2013
- Sydney Landcape Code, 2017
- Sydney Lights
- Cycle Strategy and Action Plan. 2007 - 2017
- Legible Sydney Design Manual, 2016

2.1 STRATEGIC ALIGNMENT

The vision and objectives for the Metro Quarter align with the strategies and goals set out across State and Local Policies



A Metropolis of Three Cities, Greater Sydney Commission, 2018



Eastern City District Plan, Greater Sydney Commission, 2018

Future Transport Strategy 2056, Transport for NSW

Central to Eveleigh Urban Transformation Strategy, Urban Growth NSW, 2016

The Metro Quarter plays a key role in delivering the 30 minute city.

The plan sets out the Government's vision of three cities where most residents live within 30 minutes of their jobs, education, health facilities, services and great places.

The plan sets out ten directions:
1. A city supported by infrastructure
2. A collaborative city
3. A city for people
4. Housing the city
5. A city of great places
6. A well-connected city
7. Jobs and skills for the city
8. A city in its landscape
9. An efficient city
10. A resilient city

The Metro Quarter is located within the "Eastern City"

The Waterloo SSP is identified as an urban renewal area. The Metro Quarter is the first stage of the renewal process.

The plan sets priorities and actions to strengthen global competitiveness, increase productivity and continue to provide a high quality of life for residents.

These are:
1. Improving housing supply
2. Improving housing diversity and affordability
3. Coordinating and monitoring
4. Creating and renewing great places
5. Fostering cohesive communities
6. Responding to people's need for services

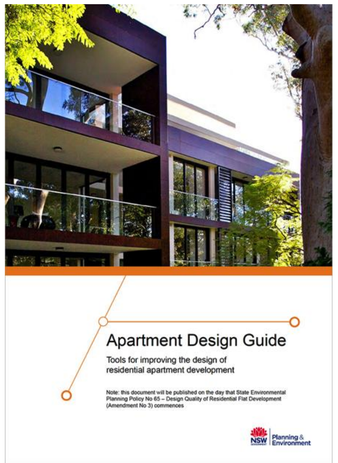
As an integrated station development, the Metro Quarter will be delivered at the same time as Waterloo Station.

This strategy sets the 40 year vision, directions and outcomes framework for connecting Greater Sydney. The strategy is supported by a range of plans to achieve the 40 year vision that focus on delivering connectivity and place outcomes that support the character of places and communities of the future.

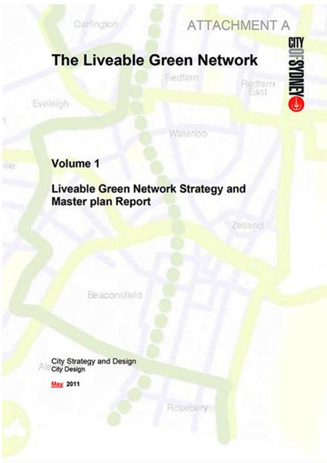
The Metro Quarter has the opportunity to become one of a number of activity centres located at stations.

The strategy sets out the vision for the urban transformation of the Central to Eveleigh corridor to connect Sydney's diverse and vibrant communities, strengthen the global city and make a great place to live.

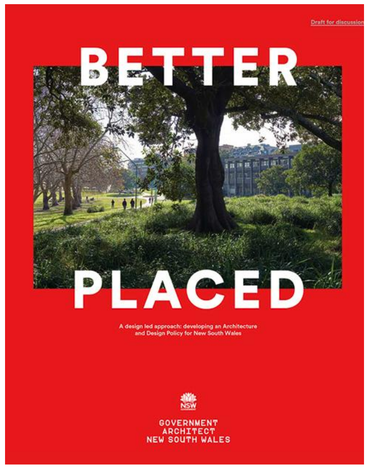
Ten key moves have been developed to achieve the ambition:
1. Renew Redfern Station
2. Create a green network
3. Create connections across the railway corridor for walking and cycling
4. Connect the city with surrounding places
5. Deliver a new metro station at Waterloo
6. Create centres of activity around stations
7. Create a centre for Sydney's growing economies
8. Strengthen arts, culture and heritage
9. Integrate new high density mixed use buildings with existing neighbourhoods and places
10. Deliver a diversity of housing choice and tenure



Apartment Design Guide, NSW Department of Planning & Environment



Liveable Green Network, City of Sydney, 2011



Better Placed, Government Architect, 2017

Greener Places, Government Architect, 2017

Sydney Green Grid, Government Architect, 2016

Draft Central Sydney Planning Strategy 2016-2036, City of Sydney

The nine design quality principles of SEPP 65 inform the design of the Metro Quarter.

The Apartment Design Guide (ADG) provides consistent planning and design standards for apartments across NSW. It provides design criteria and general guidance to achieve the nine design quality principles identified in SEPP :

1. Context and neighbourhood character
2. Built form and scale
3. Density
4. Sustainability
5. Landscape
6. Amenity
7. Safety
8. Housing diversity and social interaction
9. Aesthetics

The Metro Quarter has the opportunity to enhance two liveable green network connections.

The Liveable Green Network is a part of the City of Sydney's plans to make the local area as green, global and connected as possible. The Liveable Green Network supports Liveability, Health, Environment and Fairness.

It aims to create a pedestrian and cycling network that connects people with the city and village centres as well as major transport and entertainment hubs, cultural precincts, parks and open spaces.

It will be important to embed the 7 principles of Better Placed to achieve design quality in the Metro Quarter.

Better Placed defines what design quality is considered to be and the processes to achieve effective design outcomes.

Seven principles are identified:
1. Contextual, local and of its place
2. Sustainable, efficient and durable
3. Equitable, inclusive and diverse
4. Enjoyable, safe and comfortable
5. Functional, responsive and fit for purpose
6. Value-creating and cost effective
7. Distinctive, visually interesting and appealing

The Metro Quarter is well placed to support the objectives for a healthier, more liveable, resilient and sustainable environment.

Greener Places is a draft policy to guide the design, planning and delivery of Green Infrastructure in urban areas across NSW. The aim of the policy is to create a healthier, more liveable, more resilient and sustainable urban environment through:

1. Improving community access to open space and parklands for recreation and exercise
2. Supporting walking and cycling connections
3. Improving the resilience of urban areas

The Metro Quarter provides the opportunity to enhance connections and access to existing major regional open spaces.

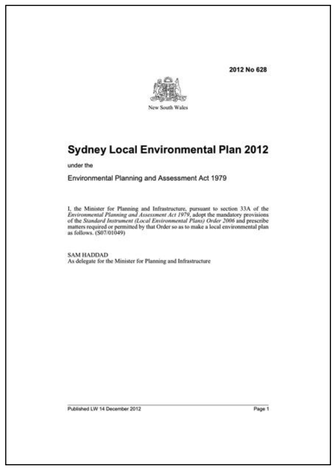
The Sydney Green Grid is a network of high-quality green space that connects town centres, public transport hubs, and major residential areas. Underpinning Greener Places, the Green Grid promotes sustainable development while maximising quality of life and well being.

The Sydney Green Grid's role is to deliver an interconnecting network of open space that will keep the city cool, encourage healthy living, enhance biodiversity and ensure ecological resilience.

The Metro Quarter supports the opportunity for the future growth of Central Sydney.

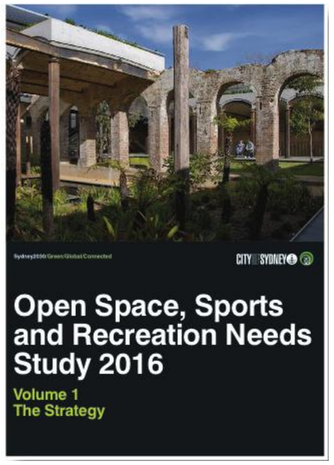
The draft strategy delivers on the City of Sydney's Sustainable Sydney 2030 program for a green, global and connected city. It supports opportunities for additional height and density in suitable locations and sets criteria for excellence in urban design.

Planning priorities include additional public transport links, affordable housing, diverse employment floor space, enhanced local connections and improved local infrastructure.

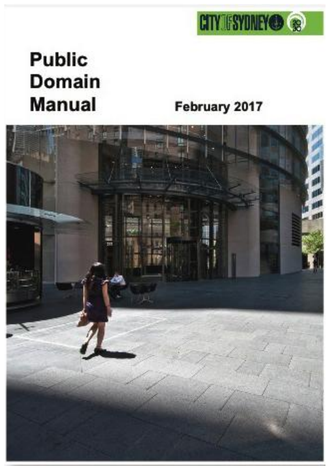


Sydney Local Environmental Plan 2012 (SLEP 2012)

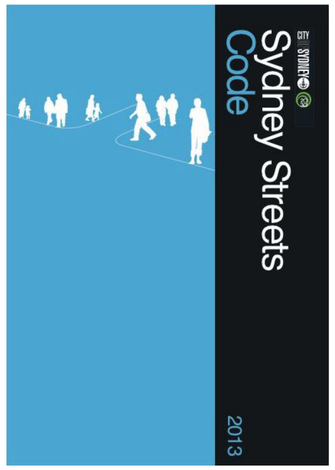
Sydney Development Control Plan 2012, City of Sydney (SDCP 2012)



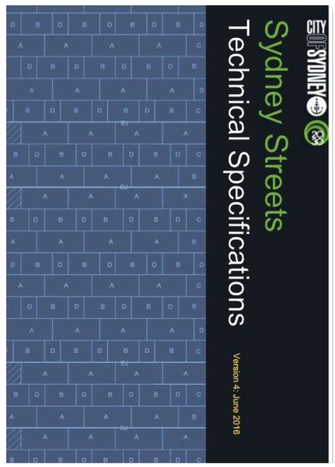
Open Space, Sports and Recreation Needs Study 2016



Public Domain Manual 2017, City of Sydney



Sydney Street Code 2013, City of Sydney



Sydney Streets Technical Specifications 01 , City of Sydney

The Metro Quarter is currently zoned Mixed Use (B4) under the SLEP 2012.

The SLEP 2012 guides the planning decisions for the City of Sydney through zoning, height, FSR, heritage and other key development controls.

Site specific development controls have been developed to achieve the vision for the Metro Quarter guided by the City of Sydney's DCP.

The SDCP 2012 provides detailed planning and design guidelines to support the planning controls in the Sydney LEP.

The Metro Quarter has the opportunity to add to the existing network of open space to increase local amenity.

The study details the objectives, directions and recommendations for the future planning provisions, development and management of the city's public open space and recreation facilities.

Section 4.4 of Volume 1 provides specific guidance for various urban renewal areas, including Waterloo.

The Metro Quarter has the opportunity to provide high quality finishes and materials for an enhanced public domain.

The Public Domain Manual provides information on the process of submission, management and responsibilities of works undertaken in the public domain.

The document applies to works during Construction Certificate, construction and Occupation Certificate stages.

The Metro Quarter has the opportunity to provide streets that are responsive, connected and sustainable when delivered.

The Sydney Streets Code details the guidelines, design coordination and material palettes for works undertaken in the city's public domain.

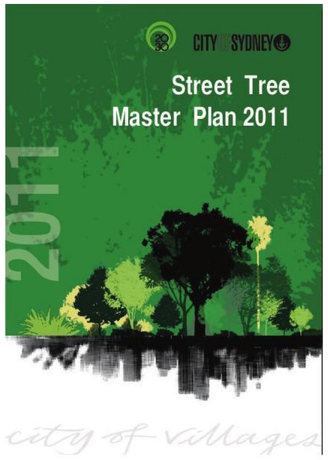
The code details five key design principles:

1. Public space, public life.
2. Promote sustainability.
3. Promote inclusive design.
4. Promote active transport.
5. Respect distinctiveness and place.

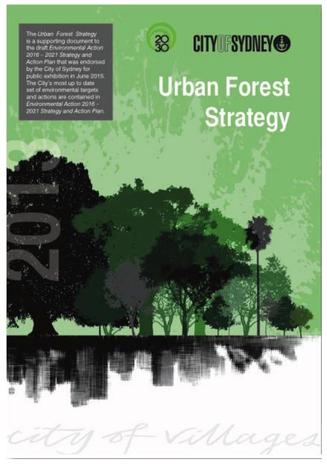
The Metro Quarter has the opportunity to provide streets that meet the requirements of the technical specifications.

The Sydney Streets Technical Specifications sets out the technical requirements for streets and footpaths in the City of Sydney LGA.

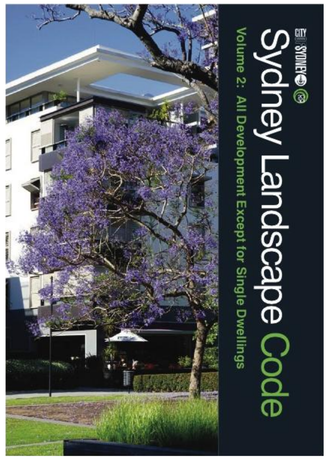
The document is an accompaniment to the 'Sydney Streets Code 2013.' The specifications draw on the Sustainable Sydney 2030 objectives, with the new standards intending to produce long-term maintenance benefits.



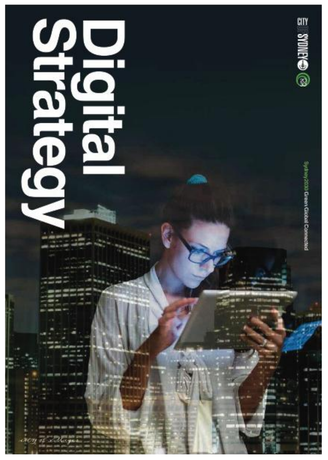
Street Tree Master Plan 2011, CIty of Sydney



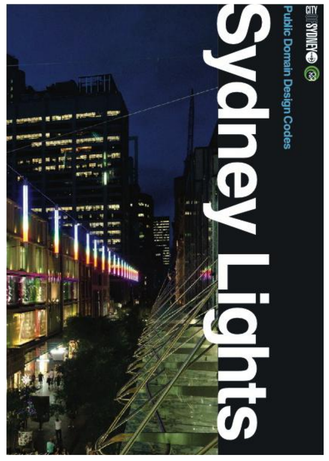
Urban Forest Strategy 2013, City of Sydney



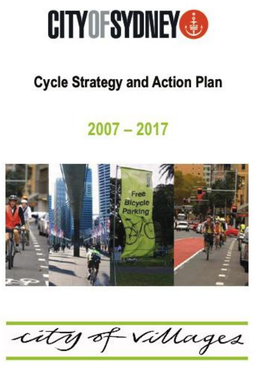
Sydney Landscape Code, City of Sydney



Digital Strategy 2017, City of Sydney



Sydney Lights Design Code, City of Sydney



Cycle Strategy and Action Plan, 2007 - 2017, City of Sydney

Legible Sydney Way finding Strategy 2016, City of Sydney

Part of Precinct 11, the Metro Quarter will help drive more sustainable and complete decisions on new planting and how it may better respond to its context.

The plan recognises that trees are one of the most significant factors in making a street a 'place.' With this resource, a co-ordinated and strategic approach to street trees will emerge.

The plan details the street tree arrangements for the city by understanding the city as a series of unique precincts. The plan also details the species selection process and the technical guidelines for planting, establishment and maintenance.

The strategy quantifies the existing canopy (as of 2008) of Waterloo to be 16 percent and sets an increased future target canopy of 20 percent.

The strategy acknowledges the need to protect and maintain existing trees, aims to increase the average total canopy by 23.25% by 2030, increase species diversity and engage and educate.

The strategy names 4 fundamental objectives:

1. Protect and maintain the existing urban forest
2. Increase canopy cover
3. Improve urban forest diversity
4. Increase community knowledge and engagement

The Metro Quarter has the opportunity to support the Sustainable Sydney 2030 vision for Sydney as a green, global and connected city.

The Code's purpose is to guide the creation of high quality and sustainable spaces within private developments in the City of Sydney.

5 landscape design principles are set out:

1. Promote responsive landscape environments
2. Promote sustainability
3. Create beautiful and comfortable places for people
4. Contribute to and enhance the natural environment and urban ecology
5. Promote and improve water quality

The Metro Quarter has the opportunity to support the new digital approach to place-making by engaging the community.

The document sets out a strategy for a digital city, being one that allows increased accessibility to technology, economic engagement and provides the amenities and services for the growing residential population.

Six key priorities are identified. All priorities are community driven, aiming to increase skills, participation, amenity and engagement for all members of the community.

The Metro Quarter has the capacity to meet the principles of the code, particularly those relating to safety, active transport and spatial distinctiveness.

The code sets out the approach for lighting the city's public domain to ensure safety, engagement and legibility. It also recognises the shift toward a more sustainable lighting strategy and lightings' role in creative and artistic expression.

Five key principles are identified:

1. Promote safety and inclusive design
2. Enhance public spaces, public life
3. Promote sustainability
4. Promote active transport
5. Respect distinctiveness and place.

Rethinking how cycling infrastructure is built into existing and proposed urban fabric is key for the Metro Quarter to make it a highly accessible active transport hub.

The plan sets out the infrastructure requirements needed to make cycling a safer, more comfortable experience for current and potential commuters. It has specific and measurable targets, including increasing the number of bicycle trips from less than 2% in 2006 to 10% by 2016.

The importance of social initiatives is also outlined to promote an awareness of cycling as a transit method, the benefits of cycling for community and personal and generally shift the occasionally negative behavioural responses that are aligned with cycling.

The Metro Quarter must adopt contemporary way finding strategies to ensure it is easily accessible for locals, workers and visitors.

The strategy is aimed at creating a more legible public domain that will begin to encourage people to walk with comfort and confidence around the City of Sydney.

Delivering a communicable streetscape at both day and night is also highly important to ensure the space remains active and safe for users.

2.2 DRIVERS FOR RENEWAL

Waterloo is well positioned to deliver the Government's vision for more housing, employment and increased connectivity

The Metro Quarter's close proximity to Central Sydney provides the opportunity to support the vision set out in the Greater Sydney District Plan to provide housing, employment opportunities and services close to transport. As Sydney continues to grow, existing zoning patterns will need to be revised to better reflect the renewal of inner-city areas that include the Metro Quarter. The Metro Quarter, as part of the Waterloo renewal precinct, will contribute to the development of the 30-minute city as an emerging centre providing essential access to day-to-day goods and services close to where people live.

680,000

NEW HOMES NEEDED BY 2036

Fig 2.2.1 **STRATEGIC LOCATION**

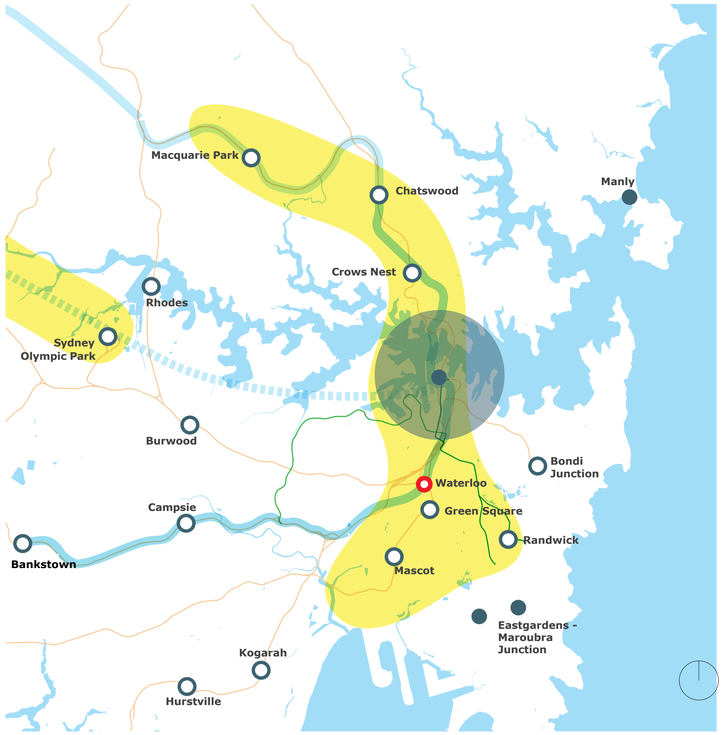
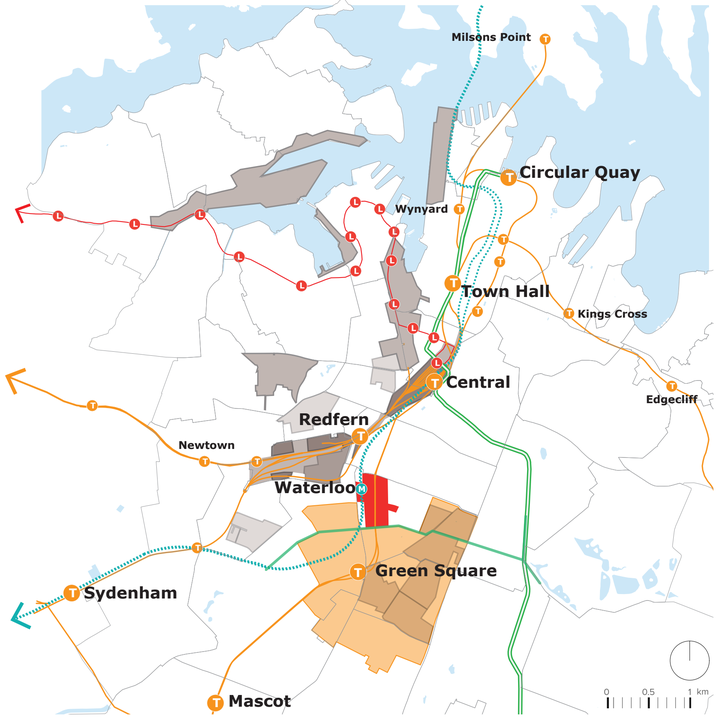


Fig 2.2.2 **KEY SITES**



Waterloo is strategically located in the State's greatest economic growth corridor

By 2036, Sydney will grow by 1,740,400 people, support an additional 840,000 jobs and will need 680,000 new homes. This will fundamentally change the city's fabric.

As Sydney continues to grow, the provision of high quality and affordable housing, connecting new jobs and educational opportunities closer to homes, will be key to meeting the needs of the growing and changing population and increasing liveability.

The Metro Quarter is within the Eastern Economic Corridor that connects from Macquarie Park through Central Sydney to the airport. The Metro Quarter can deliver additional housing and employment opportunities at the same time that Waterloo Station provides increased connectivity.

Legend

- Economic Corridor
- Metropolitan Centre
- Waterloo Metro Quarter
- Strategic Centre at station
- Strategic Centre
- Metro Line
- Metro Investigation Line
- Lightrail
- Train Line

Waterloo is one of the key sites close to Central Sydney with the opportunity for growth in housing and employment

The Central Sydney Planning Strategy 2016-2036 identities the Central to Eveleigh and Bays Precinct urban renewal projects as the natural long term extensions to Central Sydney as growing employment centres.

As part of the Redfern Waterloo Growth Area, the Metro Quarter is located within a context that is set to fundamentally change over the next 40 years. A new Sydney metro station at Waterloo, and proposed development opportunities around other stations (such as Green Square to the south) and areas close to Central Sydney, presents an opportunity to create activity in areas where the current provision of housing and jobs is relatively low and where growth can be accommodated without impacting Heritage Conservation Areas.

Legend

- Waterloo SSP
- Train Station
- Metro Line
- Lightrail
- Train Line
- Green Square Urban renewal area
- Major development

Fig. 2.2.3 **METRO AS A CATALYST**

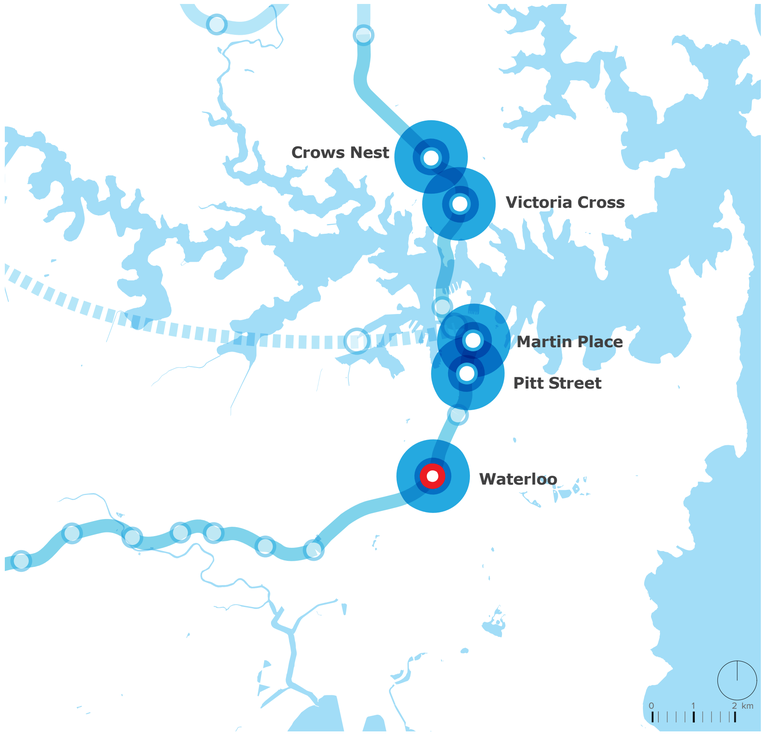


Fig. 2.2.4 **THE 30 MINUTE CITY**

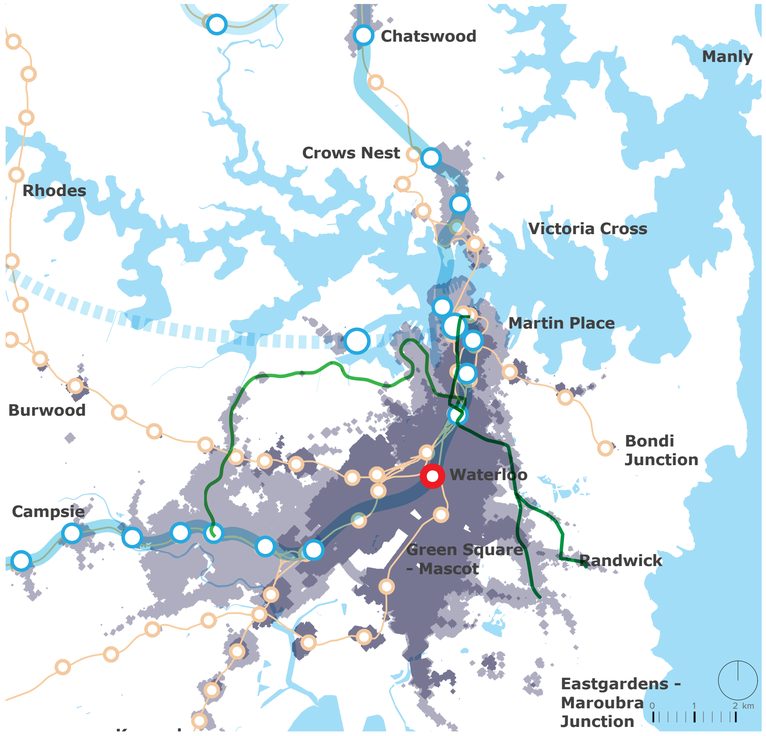


Fig. 2.2.5 **SYDNEY'S FRAMEWORK OF CENTRES**

Waterloo Station is the catalyst for unlocking Waterloo's unique growth and renewal potential

The Metro Quarter re-development will be the first stage of the renewal of the Waterloo SSP to support the diverse and vibrant community into the future and provide a choice of highly liveable housing options, as well as new community facilities, retail, services and public domain.

Legend

- Integrated Station Development
- Waterloo Metro Quarter
- Metro Line
- Metro Investigation Line

The Metro will connect Waterloo to the 30 minute city, increasing opportunities for jobs, services and recreation

Waterloo Station, as part of the Sydney Metro City & Southwest project, is a key part of delivering the increased connectivity that is part of the Greater Sydney Region Plan 2018.

The vision for a 30 minute city is one where people can conveniently access jobs and services within 30 minutes by public or active transport, 7 days a week. Integration of land use, transport and infrastructure planning will be required to achieve this. Co-location of jobs and services, better access to education and greater housing choice and affordability will provide opportunities for people to live closer to their jobs and improve liveability.

Legend

- 15 Minutes Travel
- 30 Minutes Travel
- Waterloo Metro Quarter
- Train Station
- Metro Line
- Metro Investigation Line
- Lightrail
- Train line

The Metro Quarter has the opportunity to become a new centre of activity within Sydney's framework of centres.

Located in the existing Redfern Waterloo Growth Area as part of the Central to Eveleigh Urban Transformation Strategy, the Metro Quarter will deliver transformative urban renewal.

With the new metro station acting as a catalyst, the Metro Quarter has the opportunity to emerge as a new centre of activity within the Eastern District's framework of metropolitan, strategic and local centres.

Place-based planning and design excellence that builds on local characteristics is required to create great centres that improve the city's liveability. Improving liveability involves creating and renewing great places, neighbourhoods and centres.

Legend

- Metropolitan Centre
- Waterloo Metro Quarter
- Local Centre
- Local Centre at Station
- Strategic Centre
- Strategic Centre at Station
- Metro Line
- Metro Investigation Line
- Lightrail
- Trainline

2.3 A STRATEGIC RESPONSE

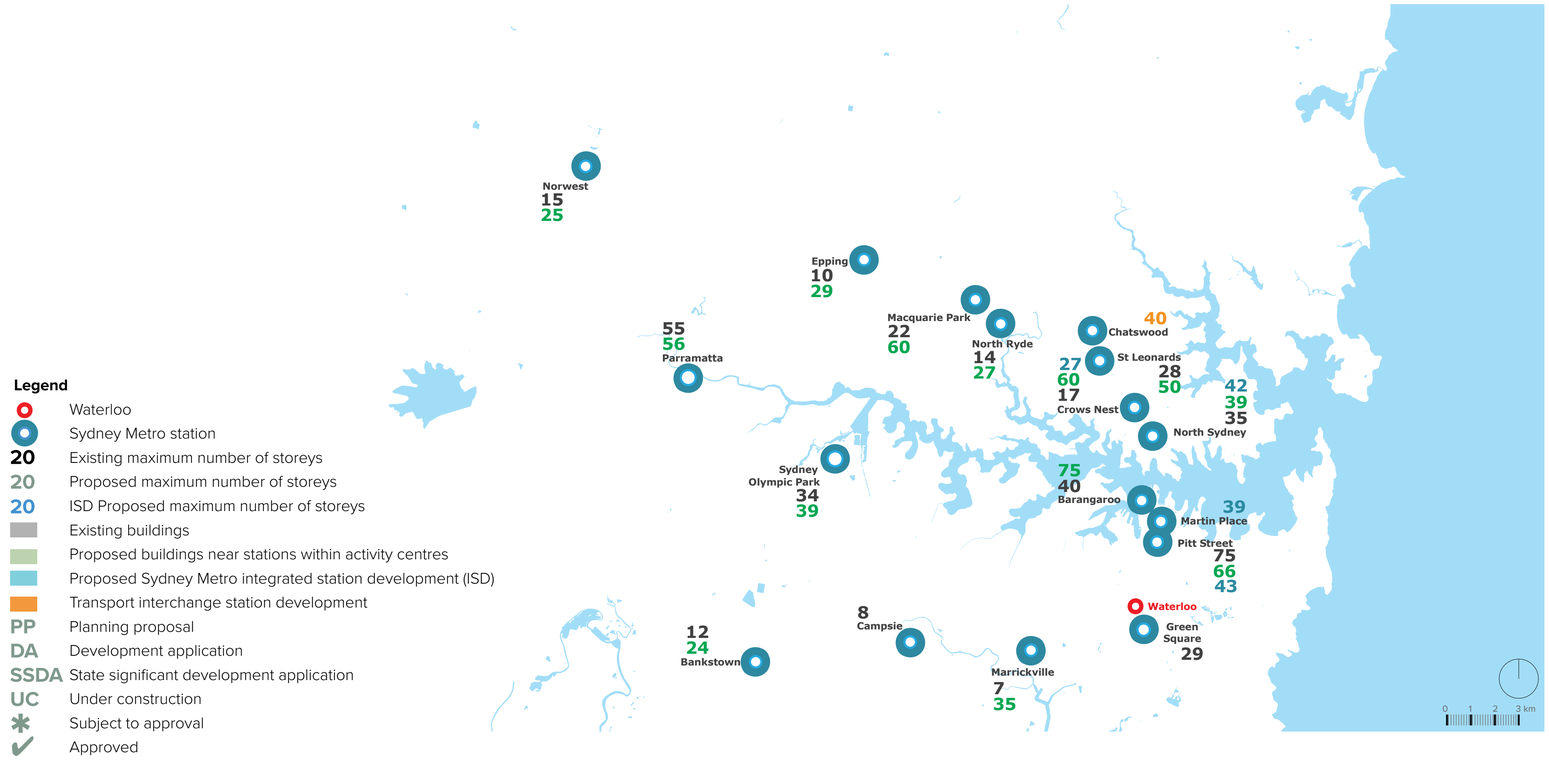
The height for transit corridors outside of Central Sydney and Parramatta ranges from 25 to 60 storeys

With the projected population and employment growth in Sydney over the next 40 years, well-located housing, public spaces, transport, local infrastructure and planning that is people and place focused will be key to ensuring that the liveability of the city is enhanced.

The emerging activity centres sit within Sydney's framework of metropolitan, strategic and local centres. The highest density and heights are focused in the Sydney and Parramatta CBD's as the key metropolitan centres. In planning the location of Sydney metro stations, consideration is given to the locations and objectives of these metropolitan, strategic and local centres. Sydney Metro will provide Sydney with more connected and liveable centres.

The strategy for higher densities in well-connected centres will bring greater vibrancy, reduced travel times and increased economic opportunities by locating people closer to jobs and education. Changing the heights and densities along transit corridors supports this growth strategy, with heights at or around stations (outside of Central Sydney and Parramatta CBD) ranging from 25 to 60 storeys.

Fig. 2.3.1 **EXISTING & FUTURE HEIGHTS ALONG TRANSIT CORRIDORS**



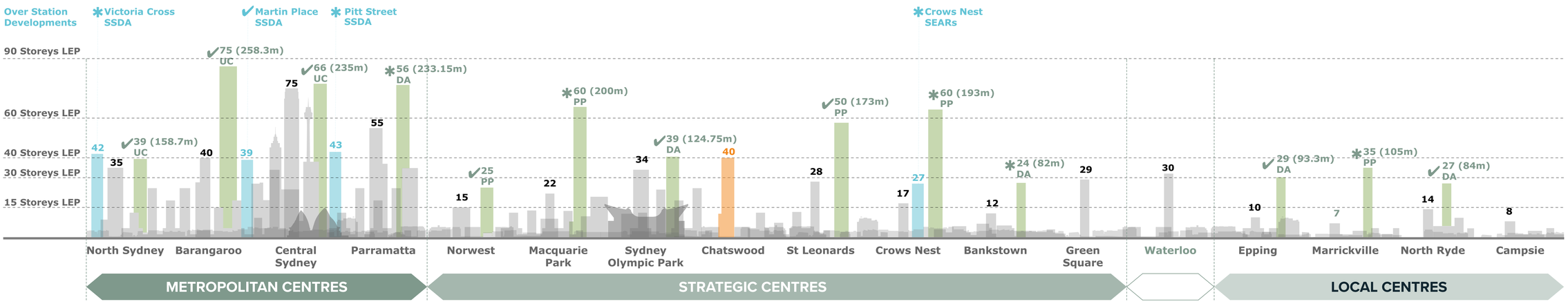


Fig. 2.3.2 Comparison of existing and future heights within activity centres along transit corridors

2.4 A NEW ACTIVITY CENTRE FOR WATERLOO

Encouraging growth in inner city areas like Waterloo provides retail, jobs and educational opportunities close to home

The Waterloo SSP is identified in the Central to Eveleigh Urban Transformation Strategy as a desirable inner-city precinct only a few minutes from the major transport hubs of Redfern and Green Square. The proximity to public infrastructure will be further enhanced with the new metro station and make Waterloo an easy commuting distance to Central Sydney, emerging employment centres and globally recognised universities. As an emerging centre of activity, the Metro Quarter has the opportunity to become a focal point of the existing neighbourhood, providing essential access to day-to-day goods and services close to where people live and as an important part of the 30 minute city. The Metro Quarter will serve both local and global Sydney.

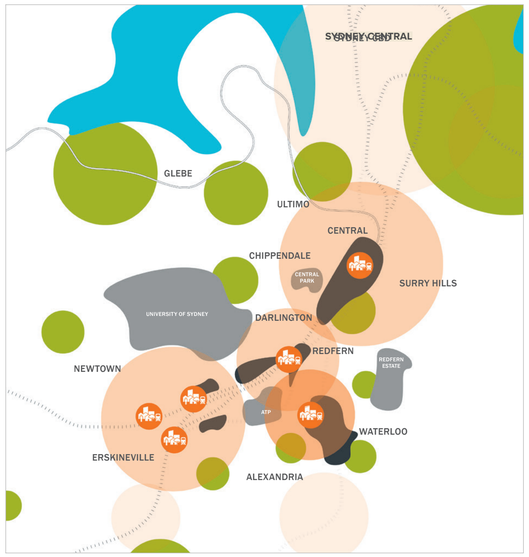


Fig. 2.4.1 Centres of Activity around Stations, Central to Eveleigh Urban Transformation Strategy, 2016

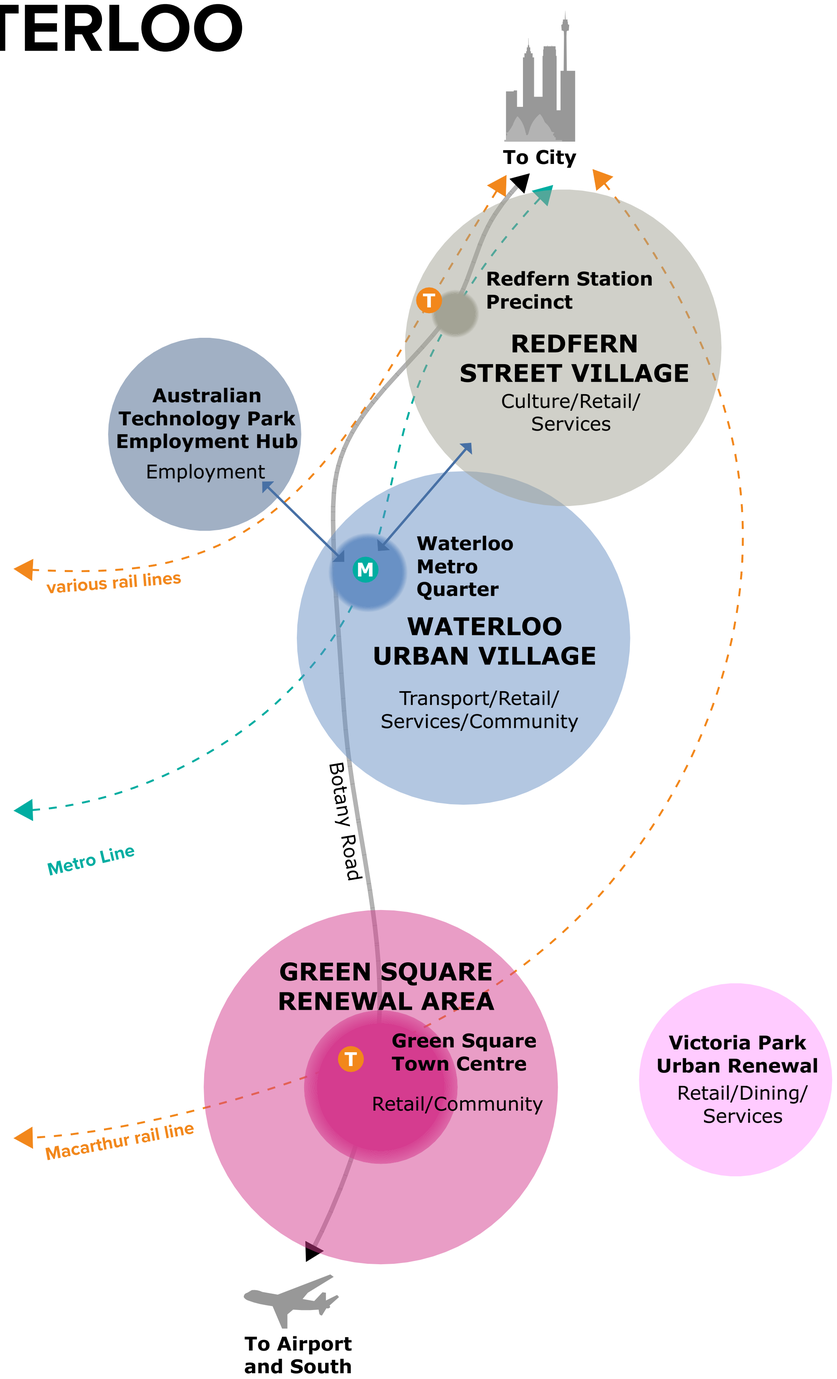


Fig. 2.4.2 Waterloo and adjacent Activity Centres

2.5 COMPLEMENTARY URBAN RENEWAL

Waterloo is well placed to deliver a vibrant urban village, complementary to surrounding precincts

Fig. 2.5.1 **HERITAGE CONSERVATION AREA**

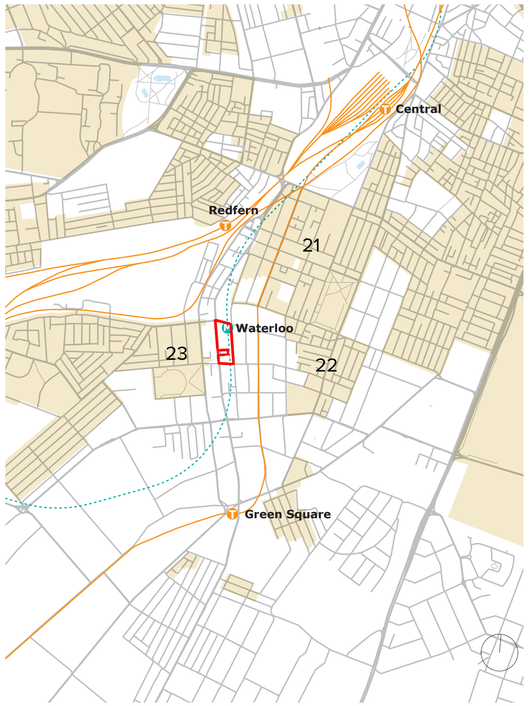


Fig. 2.5.2 **STATE SIGNIFICANT PROJECTS**

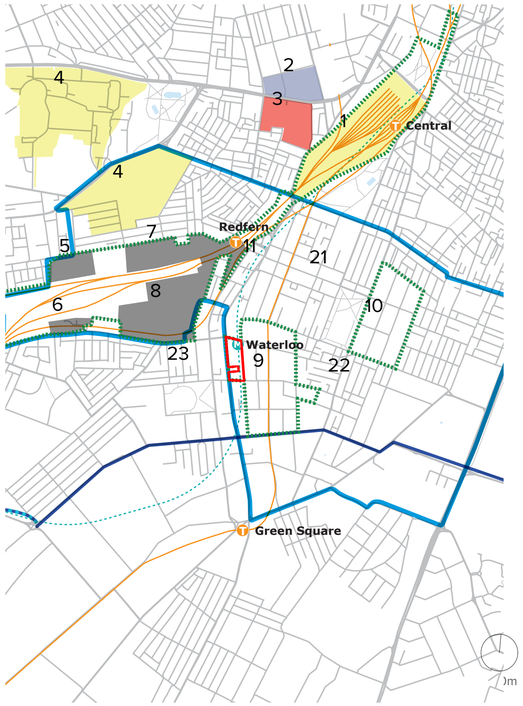
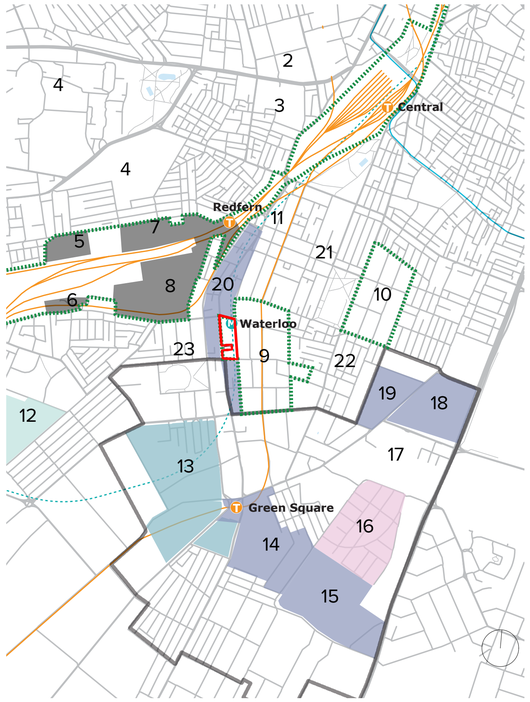


Fig. 2.5.3 **URBAN RENEWAL**



Key

1. Central Station Precinct
2. University of Technology Masterplan
3. Central Park
4. University of Sydney Campus Improvement
5. North Eveleigh West
6. South Eveleigh
7. Redfern Station Precinct
8. Australian Technology Park
9. Waterloo SSP
10. Elizabeth Street Area
11. Pemulwuy Precinct
12. Ashmore Estate
13. Enterprise Corridor, Green Square Urban Renewal
14. Green Square Town Centre
15. Epsom Park Precinct
16. Victoria Park
17. Lachlan Precinct
18. Crown Square
19. Young Street Precinct
20. Botany Corridor Investigation Area
21. Redfern Estate Heritage Conservation Area
22. Waterloo Heritage Conservation Area
23. Alexandria Park Heritage Conservation Area

The potential for growth and renewal is limited within the surrounding Heritage Conservation Areas

The Heritage Conservation Area (HCA) status of land to the north, east and west of the Metro Quarter means that the immediately adjacent urban fabric is not expected to significantly change over the coming years. Their current redevelopment potential is limited.

Legend

- Sydney Train Line
- Sydney Metro Line
- Train Station
- Metro Station
- Waterloo Metro Quarter
- Heritage Conservation Area

There has been significant investment in delivering employment, educational and cultural opportunities close to Waterloo

State Significant projects and developments around the Metro Quarter are focused on delivering increased employment, enhanced educational facilities, student accommodation, cultural and work-related spaces, community and open spaces, with some residential development. These precinct strategies support the City of Sydney's long term plan to extend Central Sydney's growth south.

Legend

- Sydney Train Line
- Sydney Metro Line
- Train Station
- Metro Station
- Waterloo Metro Quarter
- SP2 Infrastructure
- Central to Eveleigh Precincts
- Central to Eveleigh Corridor
- Redfern-Waterloo Growth Centre
- WestConnex Alexandria 2
- Moore Park road corridor

The potential for densification of adjacent local precincts and urban renewal areas is limited to sites that are still undeveloped.

The City of Sydney Precincts and Urban Renewal Areas around the Metro Quarter are focused on delivering increased employment, community and open spaces alongside residential developments. Most of these areas have been recently developed.

Legend

- Sydney Train Line
- Sydney Metro Line
- Sydney Light Rail
- Train Station
- Metro Station
- Waterloo Metro Quarter
- B2 Local Centre
- B4 Mixed Use
- B5 Business development
- R1 General Residential
- Central to Eveleigh Precincts
- Central to Eveleigh Area
- Green Square Town Centre

2.6 A NEW TRANSPORT HUB

Serving four diverse catchment areas, Waterloo is well placed to realise the area's local and strategic value

The new Sydney metro station at Waterloo will serve four primary catchment areas that include Eveleigh / ATP, Redfern, Alexandria and Waterloo.

Eveleigh / Australian Technology Park

Providing employment, cultural uses and open space, the ATP is the nearest employment hub. The re-development of the ATP will increase employment opportunities, provide additional open space, as well as new cultural and retail opportunities. Eveleigh as part of the Central to Eveleigh Corridor is also set to become a cultural and innovation hub.

Redfern

The nearest strategic centre providing retail, employment, educational and living opportunities.

Alexandria

A HCA with mainly low rise residential uses, parts of Alexandria are also set to be renewed as part of the Green Square urban renewal.

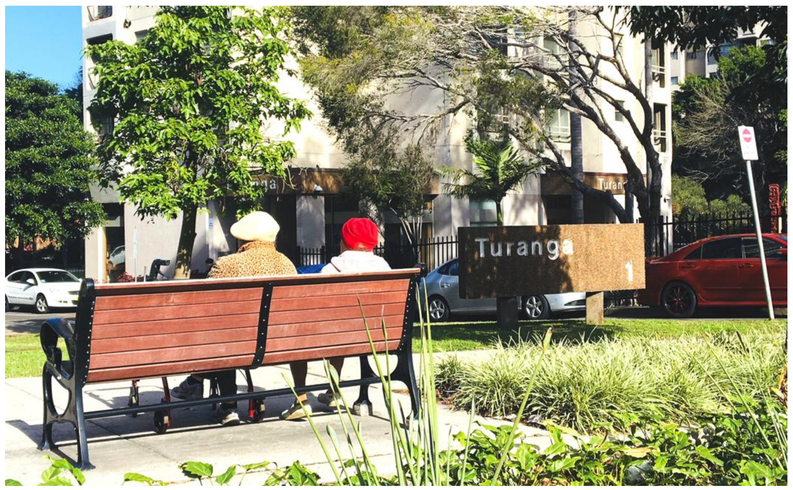
Waterloo

A largely residential area with local services, community and cultural facilities, with urban renewal planned for Waterloo Estate and the Metro Quarter.

EVELEIGH / ATP

REDFERN

ALEXANDRIA



WATERLOO

Fig 2.6.1 Waterloo Station Catchment Area

2.7 CONNECTING A GROWING POPULATION

The new Sydney metro station at Waterloo will connect the growing resident and worker population and bring new visitors to the area.

Residents

Historically a working class neighbourhood, the resident population is characterised by a mix of low income residents, Aboriginal and Torres Strait Islanders, ageing citizens who have been long-term residents to the area, young professionals, students and families. The residents come from a wide range of socio-economic status and diverse backgrounds including Chinese, English, Russian and European.

The current residential population is set to grow with the redevelopment of precincts around Green Square and Alexandria and the future urban renewal of Waterloo Estate.

Workers

Employment hubs around Waterloo such as ATP contain a large population of workers that comprises white collar, pink collar, new blue collar and creatives. This is set to increase with the redevelopment of ATP and Central to Eveleigh as a creative and innovation corridor.

Visitors

The connectivity provided by the new metro station and urban renewal of Waterloo Estate will bring a wide range of visitors to the area.

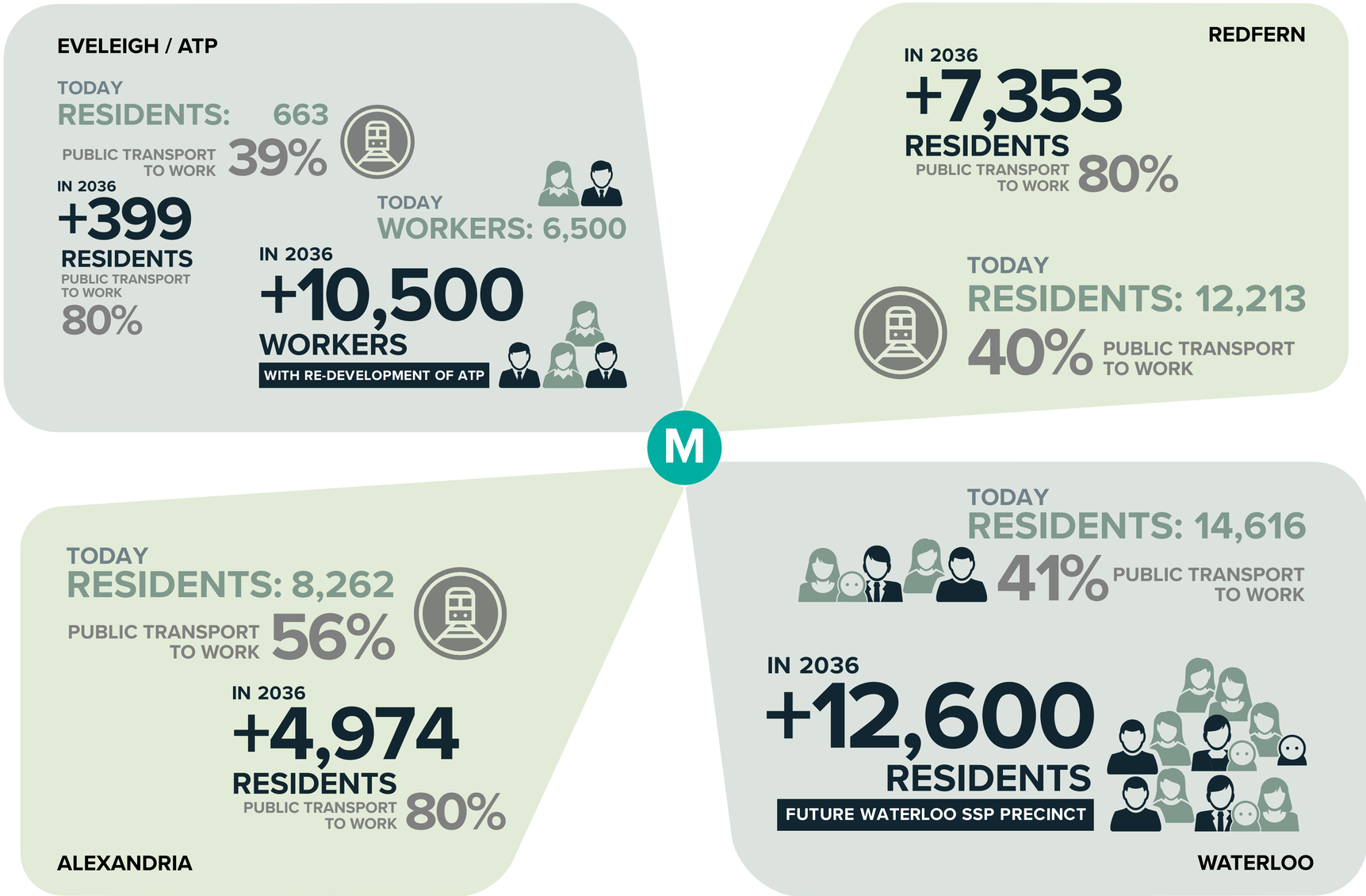


Fig. 2.7.1 Waterloo Station Catchment Areas: Residents and Workers
Notes: Population figures are sourced from Census 01 data, Australian Bureau of Statistics
2036 population numbers are calculated using 2016 Annual Population Growth Rates, Department of Planning

2.8 OPPORTUNITIES & CHALLENGES FOR COMPLEMENTARY URBAN RENEWAL

The arrival of Waterloo Station provides the opportunity to create an active interchange hub

An understanding of the Waterloo SSP position within the vision for Greater Sydney and the opportunities and challenges is key to the delivery of the Metro Quarter as the first stage of the overall Waterloo SSP urban renewal.

OPPORTUNITIES

Design Led and Place Focused SSP
To deliver the state and local policy for the renewal of Waterloo SSP.

Cultural Heritage & Diversity
To respect the precinct's special Aboriginal and European heritage with the design process.

Renewal Context
To grow Waterloo as an emerging centre that is connected to and complements the surrounding special-use districts, including the global economic corridor.

Active Transport Hub
To leverage major new public transport capacity in support of the renewal of the precinct.

Community Connection and Cohesion
To build on the strengths of the Waterloo community and its neighbouring context.

Integrated Grid Strategies
To embed the strategic Ochre and Green Grid principles within the design process.

CHALLENGES

Complementary Uses
To define a new centre that does not compete with but complements surrounding centres.

Urban renewal
To address uncertainty within the community through the design and engagement process.

Social and Community Support Facilities
To ensure the needs of the current community are met alongside those of the future residents of Waterloo.

Balanced Development
To ensure the right balance between density, liveability and financial feasibility.

a unique landscape

Source: Waterloo Park North looking towards Waterloo Estate

3.0
UNDERSTANDING WATERLOO

This chapter provides an understanding of Waterloo through placemaking. Placemaking is a lens to understand the richness that can be found in Waterloo. It recognises the attributes that make Waterloo unique, its past and current strengths and defines the qualities and characteristics that make it distinctive, welcoming and authentic. These characteristics will help guide both the tangible and intangible, including future programs, activation, public art, landscaping, facilities and building design. Placemaking tells Waterloo's unique story, to help strengthen and build on the current and future communities' attachment to the area, for improved economic, health and well-being benefits.

Waterloo's people and place have been shaped by cycles of change and renewal, reflected in the diversity of both the community and built form that is still in place today. The place story for Waterloo describes the key events that have shaped both the community and the place. The place character of Waterloo is outlined, describing the elements of its' past and present that make it special and give it its inherent character. The place character is expanded to provide an understanding of how it has shaped various social, economic, cultural and environmental aspects that define Waterloo as a place today. This understanding will provide place specific guidance to inform future development.

3.1 WATERLOO'S PLACE STORY

Waterloo has a strong history of change and renewal, creating a rich tapestry evolved over time

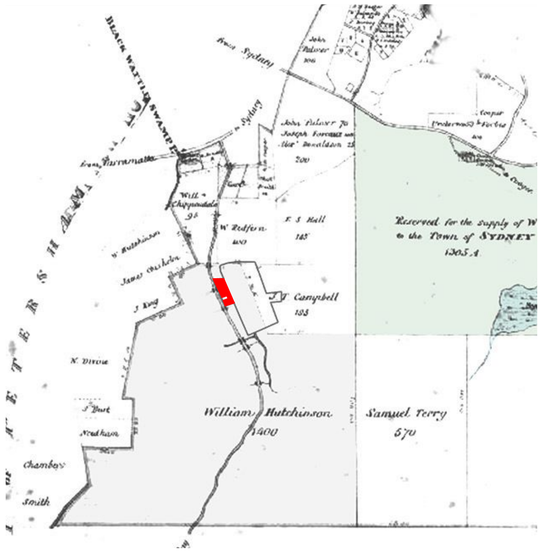
Waterloo's place story is grounded in a historic understanding of the area and its' surroundings and how it has changed over time. The place story explores the people that lived in Waterloo, the uses, landscape and buildings and the events that have shaped its' character. The place story provides a contextual understanding of Waterloo that can be used to celebrate and acknowledge the narrative of the past as well as influence future development.

Fig. 3.1.1 **A THRIVING WETLAND**
Pre 1788 - Aboriginal habitation

A place for hunting and gathering.

Before settlement, Waterloo consisted of a network of dunes, swamps, pools and creeks. For the Gadigal people, Waterloo was a thriving marshland that provided food, medicinal remedies and the raw materials required for daily life, and was used as a cultural hub and place for hunting and gathering. The environment, in turn, was shaped by the Gadigal through pro-active and deliberate land management.

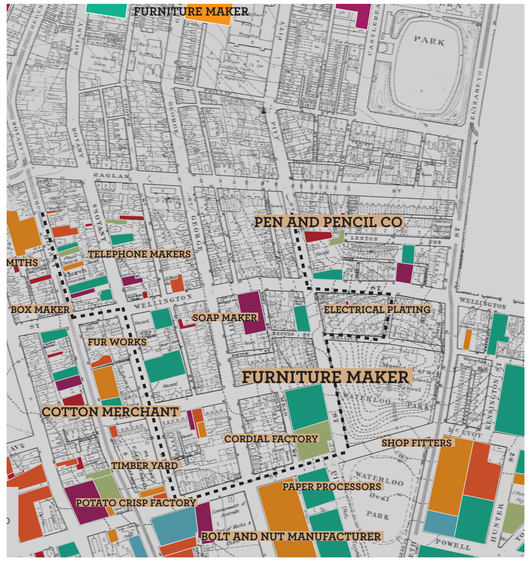
Fig. 3.1.2 **SETTLEMENT & EXPLORATION**
Early European Settlement



Waterloo sees the start of mill based industry.

With European settlement from 1788, the marshlands of Waterloo became a refuge for the Gadigal, displaced from their traditional camping grounds along the harbour for the expansion of the colony. In 1823, 566 acres of land that included Waterloo was granted to William Hutchinson, a former convict. Botany Road, which followed the original tracks used by the Gadigal for trade and movement, ran through the centre of the land. Waterloo was later used to house water powered industrial operations such as local mills and the natural run-off from Waterloo Swamp was treated as the city's waste drain.

Fig. 3.1.3 **CULTURAL CLUSTERS**
1840 onwards

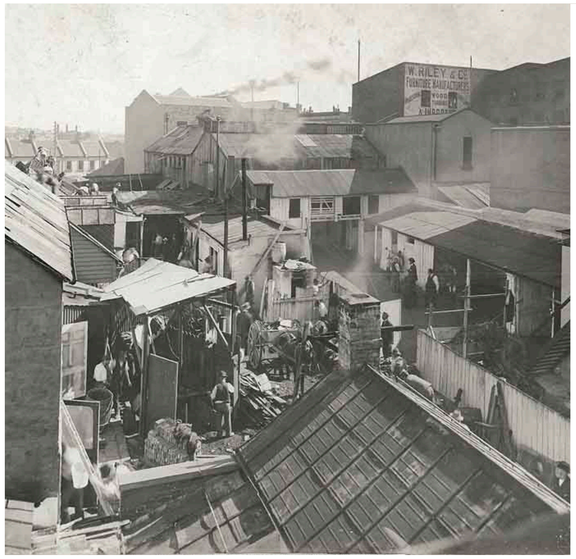


Ad hoc growth of clustered communities with residents living next to employment.

From the 1840s, Waterloo's context saw rapid change. Rural lands developed into strips of terraced housing for the working class and villas for the emerging professional and merchant classes. 1850 saw the construction of Australia's first railway in Redfern. Pubs became social gathering spaces and gave rise to a distinct 'pub culture'. Chinese immigrants working as market gardeners arrived from 1870 onwards. Clustered communities of dwellings emerged next to tanneries, glass works, wool washing establishments and soap and candle factories.

Source: Placemaking Framework, Roberts Day, 2017

Fig. 3.1.4 **UNIFIED IN ADVERSITY**
Early 20th Century



Strength through community.

Waterloo's unplanned and chaotic development epitomised Sydney as the 'accidental city', with Waterloo labelled a slum. The influx of immigrants to the area gave rise to a range of ethnically diverse businesses such as Lebanese merchants, Greek cafes and Chinese grocers. The Aboriginal population also increased as work became scarce in rural areas and many sought refuge with relatives in Redfern. Despite this, strong communities were formed by the working class and Waterloo became fertile ground for the Aboriginal Civil Rights movement in the 20s and 30s.

Fig. 3.1.5 **INDUSTRIAL BOOM AND RENEWAL**
1940s onwards

Erosion of fine grain urban pattern with the start of urban renewal.

By the 1940s Waterloo was the largest centre for industry in Sydney with an immigrant workforce that continued to grow. The emergence of social housing as a social service saw terrace houses in Waterloo demolished to make way for construction of new low rise walk-up apartments. This pattern continued for the next 30 years. The fine grained urban pattern established earlier in the century began to be eroded as blocks were selected for slum clearance and flat development.

Fig. 3.1.6 **NEW LIVING APPROACHES**
1970s onwards

Shift in housing typology and scale to campus style with high rise building in open parklands.

By the 70s, the focus for social housing shifted to providing high density along with light and air through new high rise buildings set in open parklands such as the existing towers Matavai and Turanga. The new approach required reworking of the street pattern, with Phillip Street extended and widened and a series of older streets and lanes closed. The densely built nineteenth century suburb was transformed to a modern, high rise neighbourhood.

Fig. 3.1.7 **PROUD AND DIVERSE**
The last 20 years

Respecting the past, building for the future, Waterloo Urban Village.

The last 20 years have seen the urban renewal and redevelopment of areas around Waterloo. This includes the establishment of community markets and development of ATP, the transformation of Redfern Public School into the National Centre for Indigenous Excellence and the urban renewal of Green Square to include new residential flat buildings housing up to 53,190 residents as well as office and retail areas for an estimated workforce of 22,000.

3.2 PLACE DRIVERS

The influences that have shaped Waterloo over time set the context for change going forward.

Waterloo's place drivers are the contextual influences that affect the place across the past and present.

Fig. 3.2.1 **A SUPPORTIVE & CO-OPERATIVE SOCIAL NETWORK**

Re-cycle Bike Workshop, Waterloo

The infrastructure and relationships which support and serve the community

Influences:
Friendships and informal neighbourly bonds
Local centres and services (e.g. The Factory Community Centre, Re-cycling workshop)
Formal health and social facilities (e.g. FACS)
Community events (e.g. Pets Day)
Provision of social housing

Opportunities:
Ensure that the social infrastructure and social networks are supported and celebrated as a driver of Waterloo's future identity. Sustain the strong informal connections and strengthen them with inclusive and accessible spaces.

Fig. 3.2.2 **CYCLES OF RENEWAL**

Protest over death of local resident T.J. Hickey

Provision of rail, electricity, improved housing and amenity over time

Influences:
Catalysed by a demand for safe and appropriate living conditions
Historically triggered public unrest
Waves of change - social composition and built form

Opportunities:
Understand and learn from the implications of the renewal process in the past. Be 'future forward' in considering the timely delivery of services and infrastructure associated with a growing population.

Fig. 3.2.3 **DIVERSE & HANDS-ON PEOPLE**

'Locally Made' markets at COMMUNE, Waterloo

Culturally diverse community bonded through adversity, resilience and active engagement

Influences:
Independent yet inclusive groups
Diverse in age and culture
Connected through stories
A legacy of grassroots activity

Opportunities:
Celebrate the people-driven community and the unique stories of people at Waterloo.
Provide tangible and intangible opportunities to maintain expression, authenticity and ownership as the place changes.

Source: Placemaking Framework, Roberts Day, 2017

Fig. 3.2.4 **A CULTURE OF MAKING**

Market Day, Waterloo

Embedded in industry, craftsmanship, business and production

Influences:
The 'original incubator'
Entrepreneurial spirit
Trade-based
Historic production of products
Resurgence of crafts, creative making and innovation

Opportunities:
Capitalise on Waterloo's culture of making as a guiding theme for the provision of employment, education and cultural expression.

Fig. 3.2.5 **ABORIGINAL SIGNIFICANCE**

Counterpoint Community Services

Historic custodianship, contemporary practice, and an active population

Influences:
50,000 years of continuous association with land and country
Fluctuating population over time
Customs and living traditions

Opportunities:
Deeply embed Aboriginal culture and the needs of the Aboriginal population into the planning and design for the area. Acknowledge and share the strong Aboriginal influence on the place's identity.

Fig. 3.2.6 **A PRODUCTIVE & ADAPTIVE LANDSCAPE**

Community Garden, Waterloo

Layered elements of water, green, topography and productive land uses.

Influences:
Historic swampland
Tradition of growing and making
Distinct East West topography
Contemporary urban forest

Opportunities:
Reinterpret the environmental qualities of the place over time. Enhance the identity of the existing 'greenscape' as productive and hyper functional open space

3.3 WATERLOO'S PLACE CHARACTER

Waterloo is layered, proud, distinct and resilient.

Waterloo's Place Character is defined by the specific, fundamental qualities that make it special. These qualities are drawn across the social, economic, cultural and environmental aspects that define the area as a place today and relates them to the vision going forward. The place character will provide place specific guidance to inform future development.

Waterloo today is a diverse, inclusive and eclectic community. It is facing a major change with the renewal of the Metro Quarter and Estate that will bring more people, activity, facilities and experiences to the area. Waterloo is a complex and layered place and understanding Waterloo's place character will influence the design of future development to create an authentic and diverse environment that supports Waterloo's community.

LAYERED
A Rich Tapestry

Waterloo is the legacy of many hands and many stories.

Waterloo is made up of layers which are distinctly different but weave together to form a rich and layered tapestry. Waterloo has been shaped by layers of physical and environmental change (the juxtaposition of victorian terraces with warehouse buildings and 20th century social housing), of people over time (from Chinese market gardeners through to Soviet migrants) and of meaning embodied into Waterloo itself. The area's history has a distinct Indigenous culture that has evolved over time and a large Indigenous community still exists today.

PROUD
A Place that is Home

Waterloo is a place deeply embedded in its locality.

Waterloo is a deeply embedded community that has civic and local pride across time, celebrated through festivals, gatherings and happenings. There is also pride in its diversity of cultures and communities that is celebrated by the community. The area is characterised by the cluster of communities that are distinctively different from each other but share a common bond through shared experiences.

DISTINCT
An Unmistakable Place

Waterloo is different and that difference is worth celebrating.

Waterloo is shaped by the unique characters who have left their mark and its distinct environmental features like the topography, fig trees and tall buildings. This is captured in anecdotes and historic sources that describe the area by its distinct environmental and built features and in the naming of streets after people who lived there like O'Riordan Street, which is named after an Irish businessman.

RESILIENT
An Enduring Place

Waterloo is grounded by its perseverance over time.

Waterloo has remained resilient through opportunity and united through change over time. This can be seen through its history, as a place where Aboriginal people found work in the construction of the first railway, a place for disadvantaged families to access shelter, a place of industrial innovation and of activism. The resilience of the natural landscape can also be seen in the trees that can be found throughout Waterloo.

Source: Placemaking Framework, Roberts Day, 2017

3.4 WATERLOO'S PEOPLE

Waterloo's diverse community of cultural clusters has led to a deep and complex identity.

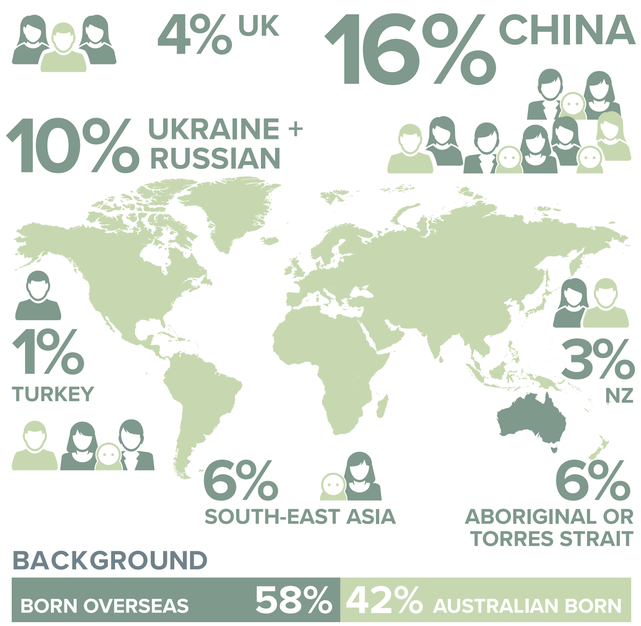


Fig. 3.4 Waterloo Precinct's Cultural Diversity

The complex character that defines Waterloo today is shaped by many aspects. The social attributes that inform the place character of Waterloo is based on the diverse population:

The layered character of Waterloo's community has been shaped by the convergence of diverse demographic backgrounds and 'waves' of people over time (Aboriginal peoples, British and Irish, Chinese, Lebanese, French Canadian, German, Italian, Russian, Ukrainian) and displaced people from other areas (e.g. Aboriginal peoples from rural NSW to Waterloo). These shared experiences have developed into complex social networks and longstanding bonds.

The distinct character is defined by the concentrations of specific demographic groups (such as 7% residents aged over 50, more than 50% under 18s in the Dobell building), the concentrations of high levels of social disadvantage and the multicultural and multilingual population (with 31% of the residents speaking a language other than English at home).

The proud character of Waterloo can be seen in the deeply embedded local community and the high proportion of long-term residents (with 63% at the same address for 5+ years). There is a higher proportion of residents requiring assistance due to mobility (5.6% compared to 2.5% in the City of Sydney), as well as more frequent access to medical treatment and a generally poor perception of safety.

Waterloo's resilient character has been built up from the brave migrants arriving to find work and a better life (e.g. the migrant influx of the 80/90s after the Soviet Union break up) and the clusters of demographic groups in residences and meeting places (e.g. the elderly residents in the existing towers, Russian women in the playgrounds, Aboriginal peoples in Waterloo Green).

Sources: Waterloo Population and Employment Profile 017, id, 017 & Waterloo Retail Vision & Strategy, Right Angle Studio, 2017 Placemaking Framework, Roberts Day, 2017

3.5 WATERLOO'S NEEDS

There is an existing and future demand for social services, community facilities, affordable retail and employment opportunities.

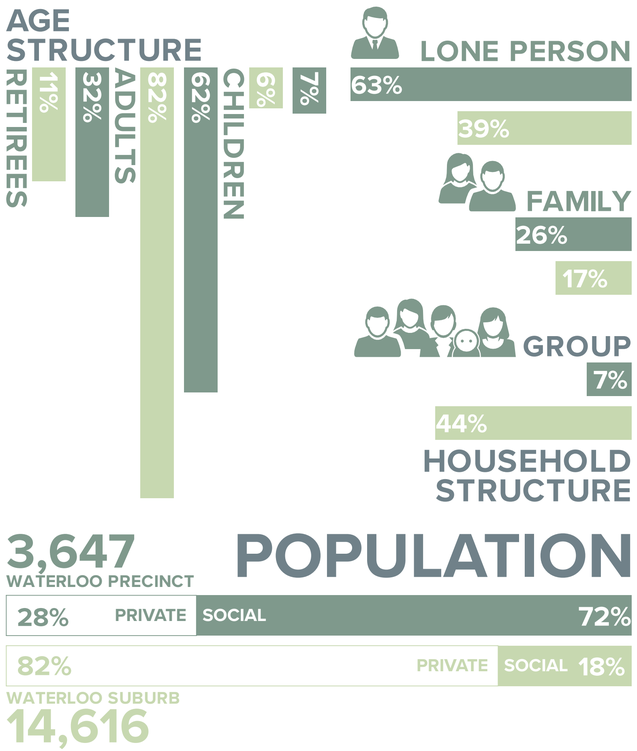


Fig. 3.5 Demographic Comparison between Waterloo & Waterloo Precinct

Legend
- Waterloo SSP
- Waterloo Suburb

The complex character that defines Waterloo today is shaped by many aspects. The cultural attributes that inform the place character are:

There are many cultural layers that shape Waterloo such as the strong local creative and collaborative groups focused on the arts, Aboriginal culture, recycling, making and activism. The convergence of community groups, forums and events. The embedded Aboriginal significance of the place and the plurality of different cultures co-existing but retaining strong internal ties (Ukrainian, Russian, Chinese, Vietnamese).

Waterloo's distinct character is shaped by the thriving cultures (e.g. longstanding community gardening groups - founded in 1990s), creative groups and talent (e.g. National Centre of Indigenous Excellence (NCIE), Creative night at Hillsong Church), the history of resistance (Resident Action Movement and Green Bans) and the distinct stories and characters who lived there (e.g. Father Sylvanos Mansour, the Zetland Monster, Michael O'Riordan).

Waterloo's proud character can be seen from demonstrations of civic and local pride across time (Rallying, Resident Action Groups, South Sydney Community Aid...), the range of events (Pets Day, Summer on the Green, Tai Chi, Recycling Markets...). The presence of the Gadigal people of the Eora Nation who are the traditional land owners and how the social housing residents have appropriated and embodied the space with meaning (e.g. planting banana trees).

The resilient character is reflected in its role as a centre of politics, resistance and advocacy. The Aboriginal narratives of resilience such as the movement to the city from the 1900 onwards, family reunions, finding work.... The rise of technology as a cultural disruptor, the car-free culture with 70% of residents not owning cars and how the area is woven into the wider cultural fabric of Central to Eveleigh and Redfern that are rich in resources such as Carriageworks, COMMUNE, aMBUSH gallery, etc.

Source: Placemaking Framework, Roberts Day, 2017

3.6 WATERLOO'S ECONOMIC & CREATIVE INDUSTRIES

Waterloo has a diverse community of cultures, ages and financial means that make it unique.

The complex character that defines Waterloo today is shaped by many aspects. The economic attributes that inform the place character of Waterloo are:

The layering of industrial employment opportunities over time - from mills, tanneries, glass works, wool washing, soap, jam and car factories, and warehouses. The localised industries of small shops and cafes, light industrial and automotive repair along Cope Street. Waterloo's role as part of an economic corridor and emerging cluster of centres (that includes Green Square, ATP, Mascot) and its' past role as the third largest centre for industry in the metropolis by mid 40s.

The distinct character is seen in the different socio-economic status between the Waterloo Estate and surrounding areas. Other influences are the locally growing industries and specialisms (creative industries, tourism, cultural, leisure, education and research) and the sharing economy that is on the rise in Sydney (transport, services, products and education).

The proud character of Waterloo can be seen in how people still choose to live close to employment: workers predominantly traveling to Waterloo within 1-5 kilometre radius and to some of the nation's leading universities. It is also reflected in the local lifestyle - residents currently shop in the inner west (e.g. Marrickville Metro by bus) and invest time in the place.

The resilient character is shaped by how closely linked economic prosperity was to advances in technology (e.g. rail construction in 1850s, mechanisation and overseas production in 1970s), the provision of affordable and social housing catered to traditional working classes and disadvantaged and geographic access to local and wider economic networks.

Source: Placemaking Framework, Roberts Day, 2017

3.7 WATERLOO'S ENVIRONMENT

Waterloo today is defined by its distinct open spaces, topography, existing trees and mix of built form.

The complex character that defines Waterloo today is shaped by many aspects. The environmental attributes that inform the place character are:

Waterloo has been shaped by the historic layers of development (1840s, Victorian era, 1940s slum clearance, 1970s tower blocks), the modified and changing landscape over time from a wetlands to an urban and industrial water source, then later an exposed grassy parkland and now established figs and eucalyptus trees. The public domain as a 'third place' that embodies collective meaning and has hosted historic and social events such as Waterloo Green, playgrounds and community gardens.

Waterloo's proud character is built upon being 'Local' to the heart of the city (with access to Central Station a 20 minute walk). The mix of building types including housing and working buildings: brick terraces, industrial sheds, warehouses and the concrete Brutalism of the existing towers. The unique topography provides views through and into Waterloo.

The distinct topographic variation as a result of the cycles of renewal has led to the current campus style with the strongly defined edges to the Estate and the existing towers within Waterloo Green as a contrast to the adjacent terraces in the heritage conservation areas. Waterloo is also characterised by the abundance of mature trees (Figs and Eucalypts) and trees in landmark positions. All these elements make Waterloo distinct within the Sydney skyline.

Waterloo's resilient character can be seen in the cultural and environmental value that the original wetlands which have been modified, exploited and polluted over time, now hold. The campus style parkland setting was designed for the improved health and wellbeing of residents. The local industrial buildings have been adaptively reused as cultural and commercial venues. The existing street pattern still reflects the historic grid.

Source: Placemaking Framework, Roberts Day, 2017

3.8 LANDSCAPE, URBAN GRAIN & BUILT FORM

Waterloo's place character is reflected in the eclectic lot structure and built form that has evolved over time.

The urban fabric of Waterloo and surrounding areas comprises a network of open spaces and streets with a range of building types and sizes that is mixed and reflects its' history of ad hoc growth over time.

The existing open spaces and trees within the Estate were established as part of the Endeavour Estate. Vegetation within the estate has been cleared as part of the early subdivision of the late 19th century and the 'slum clearance' of the 1940s.

The street network reflects the original street network established with the first systematic development of the area, circa 1880s. The major changes to the street network were undertaken with the 'slum clearance' program undertaken with the construction of the Endeavour Estate, north of Raglan Street. As part of the re-development, a number of the original streets were closed off.

The built form is a mix of building typologies. Low rise typologies define the pedestrian scale of the street. They comprise the terraces in the heritage conservation areas, victorian townhouses and warehouses. Medium rise typologies define the street wall edge. They comprise the new residential flat buildings and commercial / retail buildings of the adjacent urban renewal and employment hubs. High rise typologies mark the location of key activity centres. They comprise new residential flat buildings and commercial towers.

Fig. 3.8.1 **1943 LOT STRUCTURE**

Source: Arterra Consulting Arboriculture

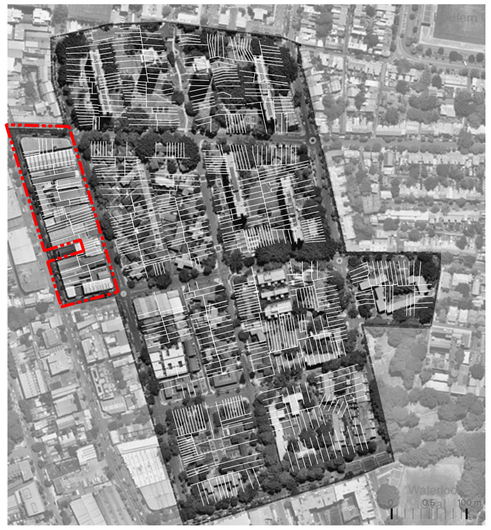
1943 aerial clearly indicating the trees in the nearby parks, there appears to be no significant trees within the Estate.

Fig. 3.8.2 **1975 LOT STRUCTURE**

Source: Arterra Consulting Arboriculture

1975 aerial indicating the trees in the nearby parks. Note there appears to be very few trees within the Estate. Some young trees are noted along George Street, John Street and the corner of Pitt Street and Philip Street.

Fig. 3.8.3 **2017 LOT STRUCTURE**



Source: Arterra Consulting Arboriculture

2017 aerial of the site illustrating the relatively dense tree canopy, dominated primarily by Hill's Weeping Figs, Tallowoods and some other scattered Eucalyptus (Nearmap, February 2017)

Fig. 3.8.4 **URBAN FABRIC ELEMENTS**

Tree canopy and open space + **Low density heritage streetscape** + **Medium density urban renewal and employment hubs** + **Tall building clusters at key centres** = **A layered urban fabric**

LANDSCAPE, URBAN GRAIN & BUILT FORM

Adjoining neighbourhoods are composed of a layered urban fabric

REDFERN

Fig. 3.8.5 Redfern Street Village low density retail strip with towers at Redfern Station

Fig. 3.8.6 Low rise character strip next to Redfern Waterloo Commercial Zone towers, view from Raglan Street

The area of Redfern is largely residential. The civic and commercial centre is Redfern Street, which cuts across the area and contains major civic, religious and commercial buildings. The Redfern Estate HCA to the north of the Metro Quarter has single storey cottages, Victorian terraces and recent medium rise developments. Factories and warehouses are scattered throughout.

ALEXANDRIA

Fig. 3.8.7 The Alexandria Park HCA from Henderson Road, with Waterloo Estate beyond

Fig. 3.8.8 Medium density residential development on Botany Road, with low scale building between

Alexandria is largely an industrial suburb with medium to high density residential areas. Distributed within this fabric are pockets of industrial buildings and terrace housing that are part of the Alexandria Park HCA to the west of the Metro Quarter.

GREEN SQUARE

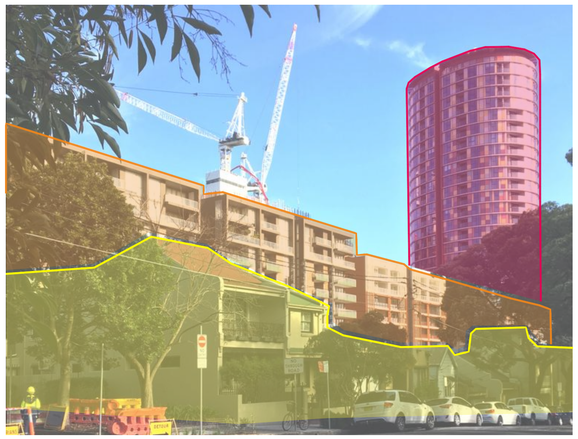


Fig. 3.8.9 Green Square HCA, directly adjacent to new high density residential development

Fig. 3.8.10 Low density dwellings in Elizabeth Street adjacent to urban renewal residential development

One of Sydney's oldest industrial lands, Green Square is evolving into a new town centre, with a mix of low, mid and high rise buildings. It is part of an overall masterplan that sets out the built form structure and grain that connects to, and integrates with the surrounding residential Green Square HCA.

WATERLOO

Fig. 3.8.11 Terrace houses adjacent to urban renewal precinct at the corner McEvoy and Elizabeth Street

Fig. 3.8.12 Redfern Estate HCA near Redfern Oval with Waterloo Estate beyond; view from Phillip Street

Waterloo's urban fabric has been shaped by a history of growth and renewal, with the resulting diverse mix of housing typologies reflecting evolving models for living. This narrative is reflected in the environment and comprises a diverse mix of built form, grain and uses adapted over time to meet changing housing demands.

3.9 RESPONDING TO EXISTING & FUTURE LOCAL CONTEXT

Height defined in response to local context and amenity

Waterloo's urban fabric has been shaped by a history of growth and renewal, with the resulting diverse mix of housing typologies reflecting evolving models for living. This narrative is reflected in the environment and comprises of a diverse mix of built form, fine grain and mix of uses adapted over time to meet changing housing demands.

The Metro Quarter straddles zones of differing density and height, with Alexandria Park and the Alexandria Park HCA to the west and the Waterloo Estate - future urban renewal - to the east.

The Alexandria Park and Redfern Estate HCAs are characterised by 1, 2 and 3 storey, low scale residential dwellings and similarly low scale industrial warehouse typologies with heights comparable to the surrounding residential scale.

In contrast, the Waterloo Estate currently houses medium to high rise buildings ranging from 4 to 29 storeys. The future character of the Estate is yet to be determined, however, urban renewal is anticipated with the arrival of the new metro station.

Tall buildings are clustered around the existing railway stations at Redfern and Green Square. The Estate also has a grouping of tall buildings to the northern portion, with the tall buildings forming a gateway at the bottom of George Street.

Likely future development along Botany Road - running between the Redfern and Green Square Station Precincts - serves as a "transition zone" between Waterloo Estate to the east and the Alexandria Park HCA to the west, beyond Wyndham Street.

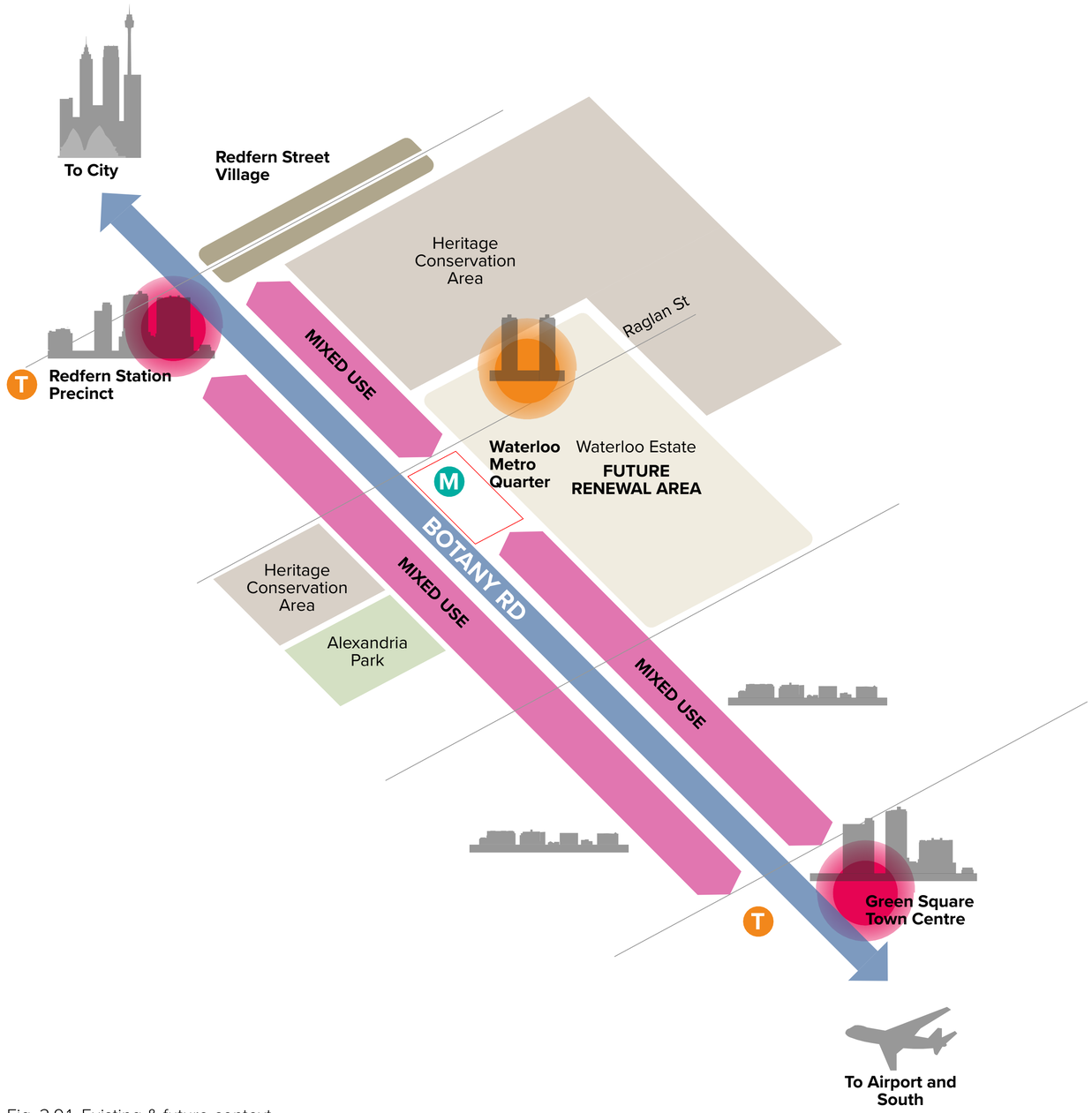


Fig. 3.9.1 Existing & future context

Waterloo's urban fabric has been shaped by a history of growth and renewal. We can learn from and incorporate this past while contributing a new layer that responds to existing and future needs and builds upon Waterloo's unique character.

The nearest centres of activity to the Metro Quarter have heights ranging from 18 storeys in Redfern (TNT building) and 29 storeys at Green Square (Ovo building). Although the surrounding context is a mix of built form typologies and densities, the pre-dominance of HCAs with low rise buildings and the PANS OPS modifies the height range. In response to these considerations, appropriate heights for the Metro Quarter are in the range of 25-32 storeys.

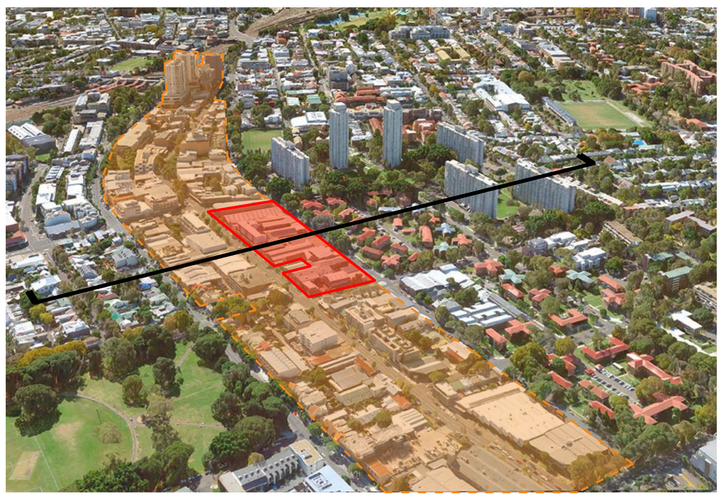


Fig 3.9.2 Botany Road buffer to Alexandria Park HCA

Fig. 3.9.3 **EXISTING CONDITION**

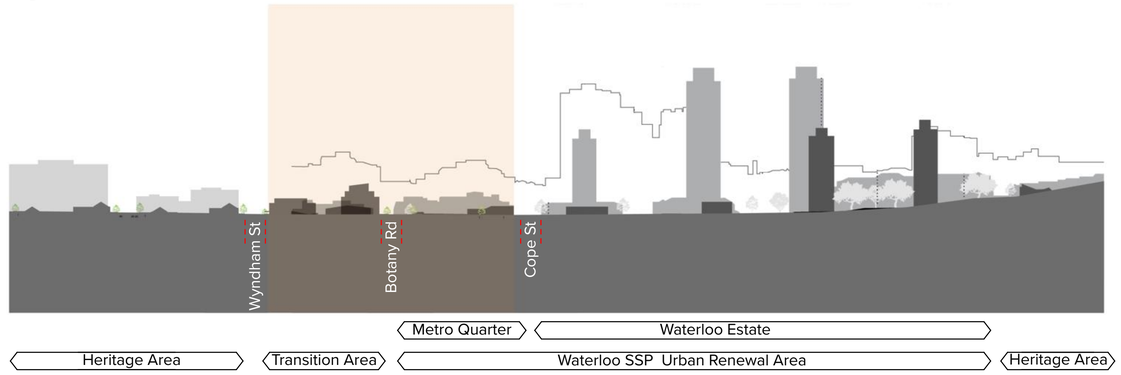


Fig. 3.9.4 **METRO QUARTER RENEWAL**

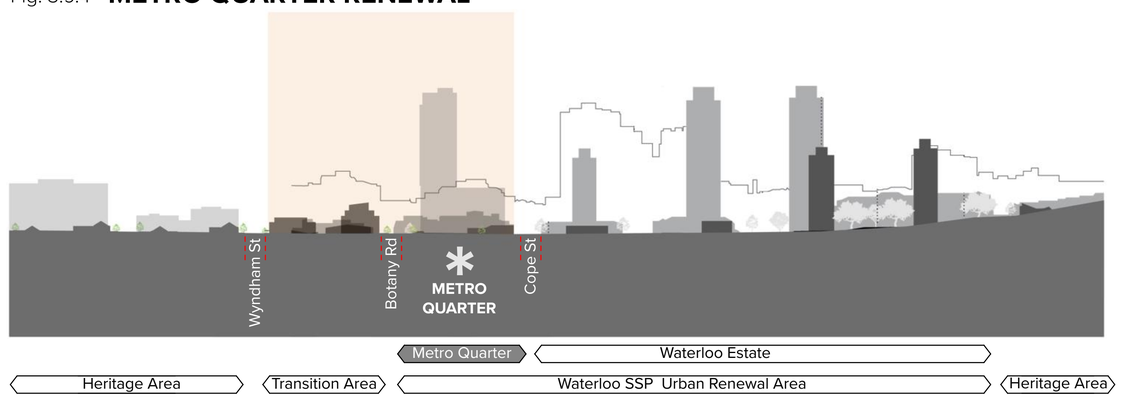
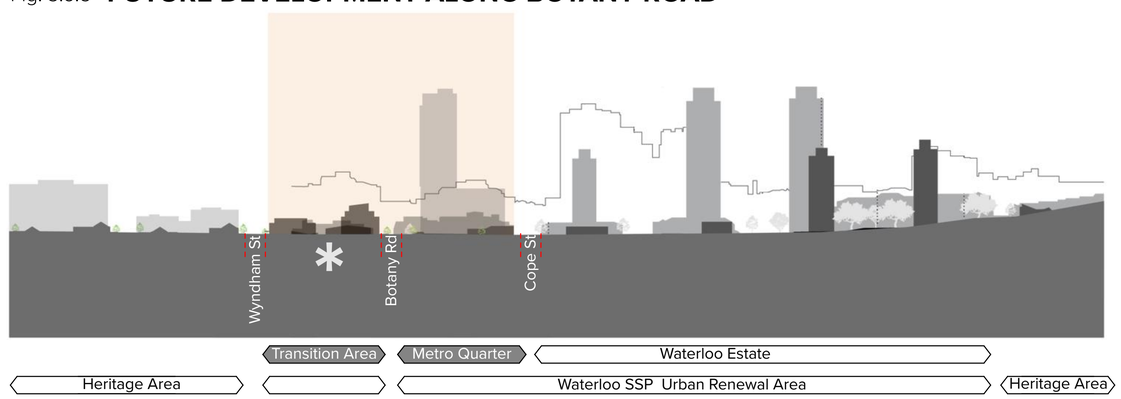


Fig. 3.9.5 **FUTURE DEVELOPMENT ALONG BOTANY ROAD**



3.10 OPPORTUNITIES AND CHALLENGES TO ENHANCE WATERLOO'S PLACE CHARACTER

Waterloo's place character will help create an authentic and diverse place that supports its community

To deliver Waterloo as a liveable and loveable place, it is important to understand the people who live there, how they engage with the place, their stories, needs and aspirations. Waterloo's place character provides the qualities that make it unique so that they can be celebrated and enhanced, and to allow for the evolution of Waterloo. Waterloo is layered, proud, diverse and resilient. This defined sense of identity for Waterloo will inform design, programming, partnership and governance decisions to ensure Waterloo is an authentic, special and hyper-local place with the Metro Quarter as the first stage of the re-development process.

KEY FINDINGS

OPPORTUNITIES

To Enhance the Layered Character
The new metro station will bring in new layers of visitors and provide connections to new destinations. The Waterloo SSP 20 year re-development process will form new layers of built form and potentially reveal existing ones (such as the old street grid) and provide the opportunity to layer residential uses with commercial, educational, community, recreational and more. The Metro Quarter will be the first stage of the overall Waterloo SSP urban renewal and provide a new layer of uses to complement existing uses.

To Enhance the Proud Character
The increased density will bring more residents who will form their own personal attachments to the place. The re-housing process will reveal hyper-local social bonds that can be supported, celebrated and considered in delivering future services. Delivering an inherently walkable place can support neighbourliness and a village 'vibe'.

To Enhance the Distinct Character
The re-development process will provide the opportunity to pioneer density done well, space for emerging and growing industries, innovation and specialism (creative, tourism, research, digital sector). The retention or reinterpretation of distinct elements and the promotion and sharing of distinct place-based stories will help to retain the authenticity of Waterloo. The Metro Quarter will provide these opportunities and amenities before the urban renewal of the Estate.

To Enhance the Resilient Character
Retelling the place story through events, public art and programming will ensure Waterloo's historic narrative endures. The introduction of younger generations will be essential for social sustainability. Providing a diverse housing mix will encourage interactions and mutual support between a mix of people. The re-development process will provide the opportunity for creation of jobs and economic self-sustainability, to offer community programs to support cohesive community integration between existing and new residents and to integrate education as a tool for social resilience. Future buildings and open spaces can be designed with the aim to improve physical and mental wellbeing. Integrated technology, environmentally sustainable and 'smart' features will future proof the urban fabric.

CHALLENGES

To the Layered Character
To address the impact of perceived gentrification within the community and to build in diversity of built form and uses.

To the Proud Character
To address the community's need for a safe, walkable place.
To create the new activity centre as a desired destination.

To the Distinct Character
To build in adaptability and flexibility within the public and private domain to avoid homogeneity.
To support day-night uses.

To the Resilient Character
To connect the activity centre to the community to ensure the development is integrated.

4.0
LOCAL CHARACTER

This chapter provides an analysis of the existing context to form an understanding of the existing site and to identify the key opportunities and challenges. The analysis covers the five thematic areas of investigation that affect the Waterloo Estate and the Waterloo Metro Quarter.

Environment and open space considers the key elements that define the existing urban fabric, these include the network of open space, the existing trees and HCAs and heritage items.

Transport, streets and connectivity considers pedestrian connectivity, public transport and cycle routes and the existing street hierarchy. These are the key elements for an active transport hub.

Housing diversity and liveability considers land ownership patterns and the existing housing typologies to understand the existing building mix across the Precinct.

Economics, retail, services, arts and culture addresses the Metro Quarter's relationship to adjacent activity centres and maps location of existing non-residential uses in and around the Precinct. This will assist in providing a new activity centre that complements what is already existing.

Sustainability and infrastructure addresses the environmental matters that will need to be considered for the Metro Quarter. This includes topography, flooding, wind, air quality, noise and aeronautical constraints.

Ten key design insights are drawn from the analysis that inform the development of the Metro Quarter Concept Plan.

4.1 ENVIRONMENT & OPEN SPACE

The Metro Quarter has the opportunity to connect to the liveable green network

The Metro Quarter is well serviced by the existing network of open spaces (within 800 metres) that includes district, local and pocket parks. The opportunity to connect to the City of Sydney's liveable green network along Raglan and Wellington Streets would allow the Metro Quarter to link into the wider green grid district network for enhanced health and well being.

The trees within the Waterloo Metro Quarter have been classified based on their retention value (very low, low, moderate and high) and on the quality of the tree as low value.

The HCA's to the east and north of the Metro Quarter comprise largely of terrace houses. The Metro Quarter Concept Proposal considers solar access impacts as well as appropriate transitions to these areas.

Fig. 4.1.1 **OPEN SPACE**

Fig. 4.1.2 **TREES**

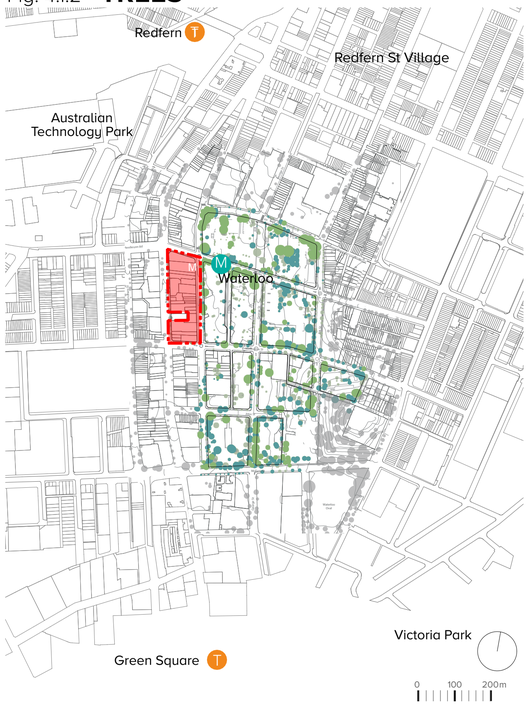
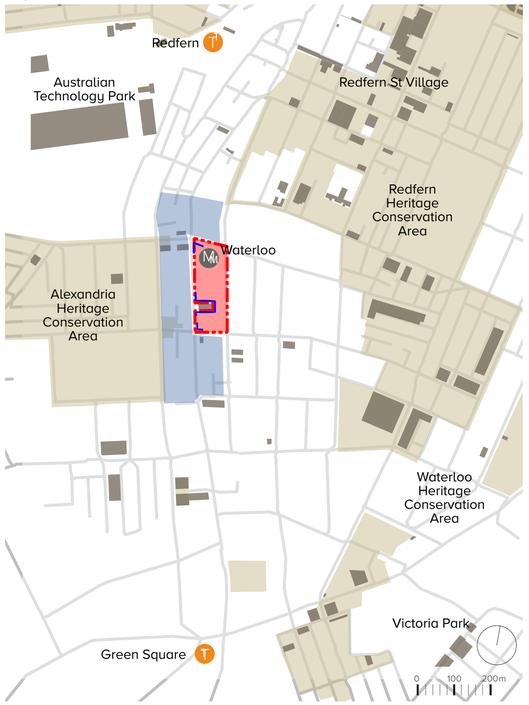


Fig. 4.1.3 **HERITAGE**



The Metro Quarter provides the opportunity to add to the existing network of open spaces that includes district, local and pocket parks

Within an 800 metres walking radius there are three district parks, Alexandra Park, Waterloo Park (north and south) and Redfern Park that range in size between 2.2 to 4.8 hectares. Alexandria Park is within 400 metres walking distance from the Estate and requires two signalised intersections to access. The liveable green network along Raglan and Wellington Streets would connect the Metro Quarter with the surrounding network of open spaces.

Legend
- District Park
- Local Park
- Pocket Park
- Private Sports Facility
- Public Sports Facility
- Existing Trees
- CoS Future Provision
- Main Green Corridor
- Harbour to The Bay
- Liveable Green Network
- Central Spine
- Walking Line

The Metro Quarter provides the opportunity to add to the existing urban canopy

As the majority of the trees were planted as the Estate was developed from the late 1950s to 1980, the existing large trees (such as Figs and Eucalyptus) within the Estate today are less than 45 years old. The trees within the Precinct are comprised of 111 endemic, native exotic and invasive species that have been classified based on their retention value.

The City of Sydney's Street Tree Masterplan proposes a palette for the precinct and surroundings area that aims to respect the established street tree character and reinforce the existing character through a mix of deciduous and evergreen planting.

Legend
- Endemic
- Native

Potential future re-development along Botany Road provides the opportunity for transition between the Metro Quarter and the adjacent HCAs.

There are heritage areas to the north, east and west. The block between Botany Road and Wyndham Street provides a buffer between the Alexandra Park HCA and the Metro Quarter. Existing heritage items opposite the Metro Quarter define a critical street level interface at the threshold of the site. The Waterloo Congregational Church is located mid block along Botany Road. Future development will consider the scale and character of heritage buildings and consideration will be given to setback and street wall heights.

Legend
- Heritage Conservation Area
- Heritage Item
- Critical Interface
- Potential Transition Zone to Alexandria Park and to Heritage Conservation Area

4 PARKS WITHIN 400 METRES

KEY FINDINGS

OPPORTUNITIES

Connectivity to the Regional Open Space Network
To provide new through site links that build on the existing strategic green grid and open space network to create a new public domain that is the basis of a world class urban precinct.

New Open Space Assets
To provide new open spaces to build on the existing open space network which underpins the area in order to support the health and well being of residents as well as meet the active and passive needs of the future community.

Enhancement of Urban Ecology and Green Network Values
To improve ecological and social resilience through landscaping that enhances the urban forest, providing character, diversity and abundance of plant and animal species, and climatic benefits to the public realm.

Traditional Stories
To work with the aboriginal history and stories that are embedded in the existing landscape and open space, including the importance of water to the area.

Provision of Green Infrastructure
The inclusion of future built form that is green and adopts innovative means of achieving open space, e.g. green walls, trees on podiums, vertical forests etc.

Leverage existing Open Space
Re-allocating land within the Metro Quarter to create connections with adjacent public open space, fostering increased accessibility for community members and a more considered zoning of land uses through a new pedestrian link and open space.

Sustainability
Align with Greater Sydney Commission's objectives for productive, liveable and sustainable precincts through smart and sustainable planning, which aims to protect cultural and Indigenous heritage, enhance and extend the urban canopy and biodiversity and support initiatives for a low carbon future.

CHALLENGES

Retail Assets and Open Space to Co-exist
Developing retail assets to create active street frontages and ground level activation that promotes seamless integration with other community, ancillary non-retail facilities and public open space.

Open Space Program
To deliver the appropriate quality and quantity of open space within an inner city urban renewal context.

Flood Management
To manage existing flood issues where possible while maintaining the quality and performance of public open space and providing appropriate street level interfaces for ground level activation.

Effective Landscape Management
To deliver a high performing, quality public domain with increased infrastructure and programming requirements.

Urban Forest
To intensify the urban forest where appropriate within a constrained urban context to meet City of Sydney targets.

Enhancement of Urban Ecology and Green Network Values
To provide strong green connections to and from the wider open space network.

Community Engagement
To engage and educate the local community on maintenance and custodianship of local ecology.

4.2 TRANSPORT, STREETS & CONNECTIVITY

Promoting walking and cycling will be key to the delivery of the Metro Quarter as an active transport hub

Located approximately 3.3 kilometres from the city centre (a 45 minute walk or 15 minute cycle), the Metro Quarter is highly connected to Central Sydney and Green Square to the south.

There is an existing local and district pedestrian and cycle network through Waterloo that connects Central Sydney and Green Square. The main barriers to pedestrian movement near the Metro Quarter are Botany Road as a major road corridor and the Eveleigh rail corridor.

Waterloo is already well serviced by public transport, with Redfern Station located to the north and an existing bus network. North-south routes connect the Metro Quarter to Central Sydney, Redfern, Waterloo, Alexandria, Green Square, Mascot and Botany. East-West routes connect the Metro Quarter to Randwick, Coogee, Bondi Junction, Moore Park, Kingsford, Glebe, Newtown, Marrickville and Sydenham.

The existing street network comprises east-west streets that provide local connections and north-south streets that provide district connections.

Fig. 4.2.1 **PEDESTRIAN CONNECTIVITY**

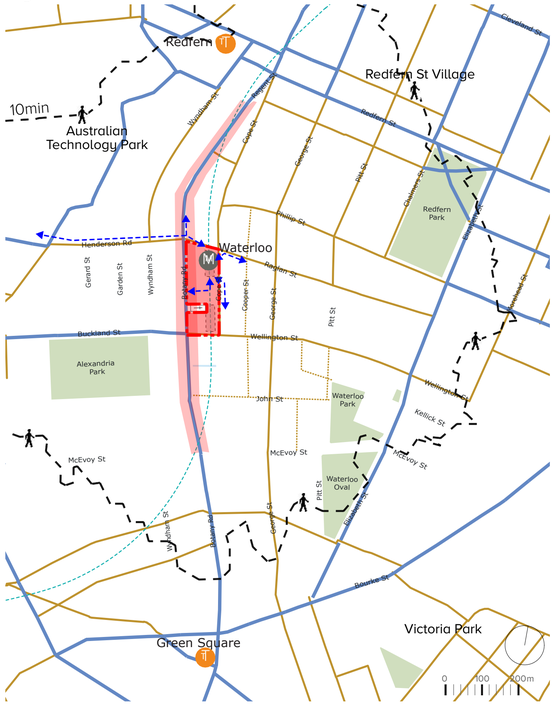


Fig. 4.2.2 **PUBLIC TRANSPORT & CYCLE**

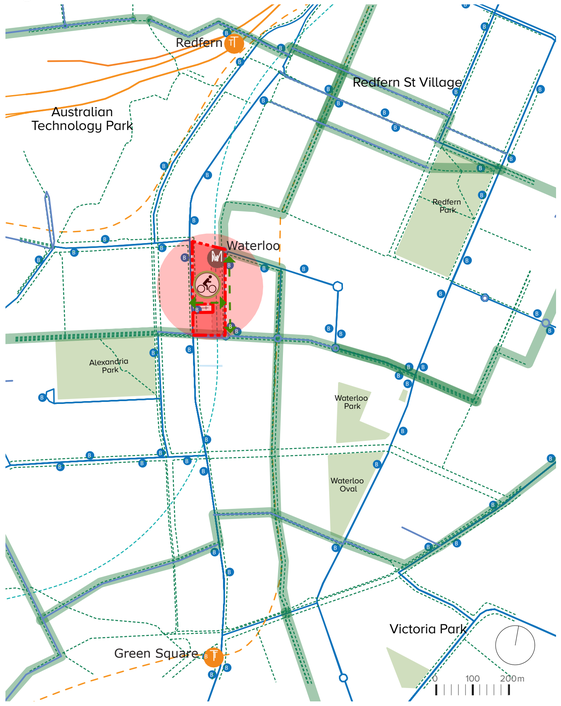


Fig. 4.2.3 **STREET HIERARCHY**

The Metro Quarter has the potential to increase the quality, connectivity and safety of the pedestrian network

The walking catchment for Waterloo Station includes Alexandria Park, ATP, Redfern Village and Redfern Park, the adjoining Waterloo Estate - an area of future urban renewal - and the communities within the HCAs to the east and west.

The primary barrier to movement to and from the site is Botany Road - which restricts movement to the west - most significantly at the intersection of Botany Road and Raglan Street. While Botany Road is identified as a primary walking route, the street is heavily trafficked, currently lacks cover, greening and surveillance, and has limited activation and visual interest immediately adjoining the Metro Quarter.

Legend
- Primary Walking Network
- Local Pedestrian Network
- Future Peak Hour Pedestrian Flows
- Isochrone (10min walk catchment from Waterloo Metro Station)

The Metro Quarter provides the opportunity to promote active transport options at the junction of two key cycle corridors with Sydney Metro and bus routes

The Metro Quarter sits at the junction of two key cycle corridors within the City of Sydney's priority regional cycle network. The north-south cycle network along George Street provides strong connections to employment, retail and leisure activities in Central Sydney and Green Square. This path currently diverts around Waterloo Green, warranting further consideration during the Waterloo SSP re-development process.

Waterloo Station provides the opportunity to further promote active transport options with the provision of prioritised active transport paths, bicycle parking and end of trip facilities within the interchange hub, next to the metro station and bus stops.

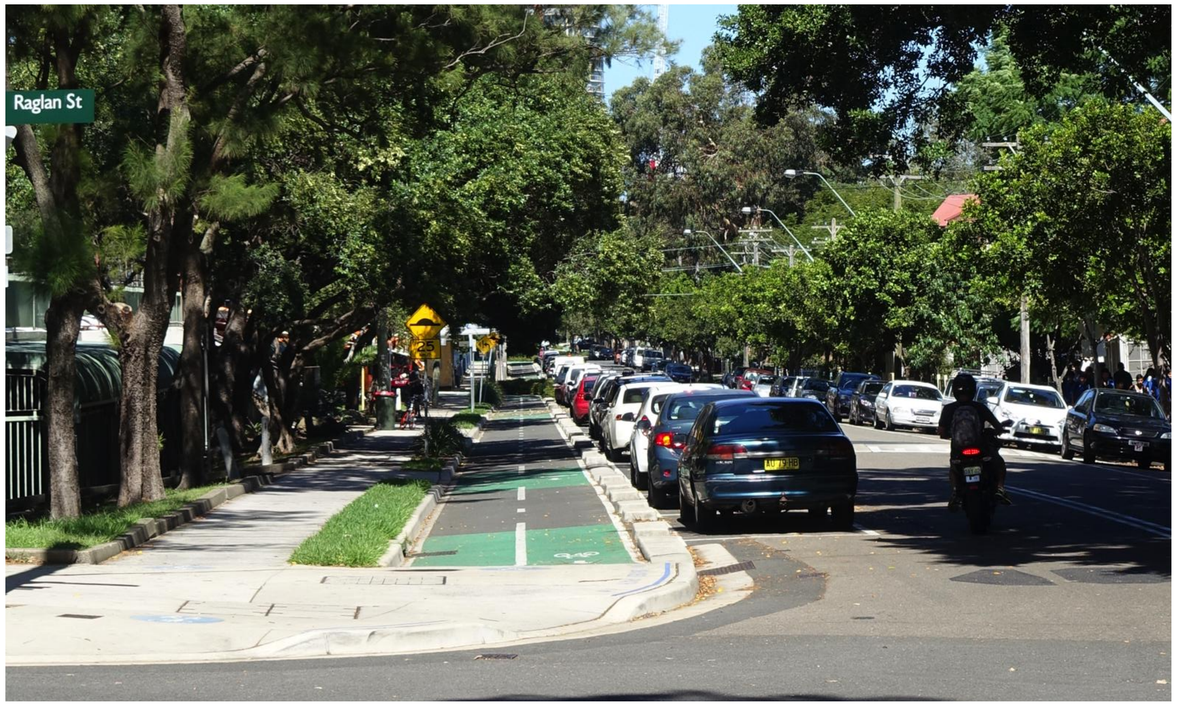
Legend
- Existing Cycle Routes
- Existing Cycle Path
- Sydney Metro
- Sydney Train Lines
- Bus Routes
- Mixed Traffic / On Road Traffic
- Regional Cycle Routes
- Future Bike Hub
- Metro Station
- Train Station
- Bus Stop

The Metro Quarter has the potential to promote a pedestrian priority precinct through the use of slow streets at key interfaces

Botany Road is a significant transport corridor that carries light and heavy vehicles in and out of the city. Noise and amenity issues will be addressed through considered planning along with the limited opportunities for vehicular access into the site from Botany Road.

Legend
- State Road
- Regional Road
- Local Road
- Closed-off Street
- Intersection Points
- Botany Road Noise
- Constrained pedestrian crossings

15 MINS CYCLE
MINS WALK **45**
TO THE CITY CENTRE



KEY FINDINGS

OPPORTUNITIES

People Oriented Streets
To increase the quality, connectivity and safety of the walking and cycling network.

30 Minute City
To connect Waterloo Station to the surrounding community to unlock the 30 minute city/regional Sydney Metro connections.

Connectivity
To support transport interchange between bus and metro services to meet the transport needs of the new community, facilitating regional connections to surrounding neighbourhoods.

Active Transport Hub
To prioritise active transport links to local public transport, services, amenities and jobs, reducing the requirement for private car journeys.

Road Corridors
To implement strategies that manage vehicle travel demand to, from and within Waterloo to minimise impacts on the surrounding road network.

Reduced Private Car Use
Plan for the adoption of autonomous vehicles and community shared bikes and cars.

Active Transport Crossing
To provide a new active transport crossing in the vicinity of the ATP, facilitating movement from east to west and connecting Waterloo with a direct route to Carriageworks and the University of Sydney.

Self-Containment
To enable a greater level of trip self-containment within Waterloo through a considered balance and mix of land uses providing more opportunities to work, shop, and engage in recreational pursuits.

Parking
To provide parking for residential, commercial and retail uses from maximum parking rates permitted under the Sydney LEP 2012 (SLEP 2012) to align with Waterloo's inner city location, proximity to Central Sydney and increased accessibility provided by Sydney Metro.

CHALLENGES

Connectivity
To ensure that the movement system has sufficient capacity to address the demands from the urban renewal.

Increased Links and Connections
To ensure prioritisation of walking, cycling and recreation within the urban renewal.

Noise & Air Quality Mitigation
To ensure micro climate impacts of noise and air quality is managed and mitigated.

Walkability and Cycling
To ensure high quality pedestrian and cycle experience in context of the urban renewal.

Parking and Loading
To address parking and servicing so as not to negatively impact the public domain, street scape, built form outcomes and primary transport movement functions (traffic, bus, pedestrian and cycle).

Future Proofing
To properly plan for and adapt to future disruptions in urban mobility.

Sustainable Strategies
To plan for the convergence of solar energy, electric vehicles and battery storage.

4.3 HOUSING DIVERSITY AND LIVEABILITY

The Metro Quarter has the opportunity to provide a mix of housing types for increased choice and affordability

Addressing liveability and social sustainability is fundamental to enhancing health and well being. The Metro Quarter has the opportunity to increase social sustainability and liveability by providing a more diverse mix that includes social, affordable and private dwellings. This will provide more equitable access to resources and better quality of life for all.

Fig. 4.3.1 **LAND OWNERSHIP**

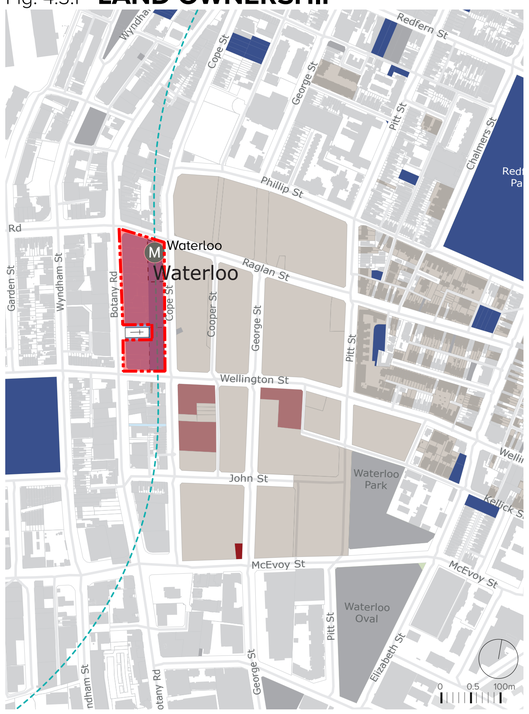


Fig. 4.3.2 **HOUSING TYPOLOGIES**

The Metro Quarter will need to address liveability and social sustainability issues as part of delivering a mixed tenure development - for enhanced health and well being

The Metro Quarter sits between land that is predominantly privately owned (comprising largely low rise typologies) to the west and land that is owned by NSW LAHC (Waterloo Estate). People on low incomes cannot afford to rent within Central Sydney. The housing affordability gap is increasing with only the more affluent being able to afford to live in Central Sydney, which will lead to less socially and economically diverse communities.

Legend

- Sydney Metro
- Urban Growth NSW (Metro Quarter)
- Other Private
- Ausgrid Substation
- Land and Housing Corporation
- Waterloo Congregational Church

The Metro Quarter has the opportunity to add to the diversity of built form that already exists in Waterloo

There are a range of existing building typologies across Waterloo for residential and non-residential uses. The HCAs to the north and west of the Metro Quarter comprise of low rise terrace houses ranging in height from 1-3 storeys. Non-residential typologies include the Waterloo Congregational Church, the IGA Xpress supermarket and other small retailers. Low rise walkups ranging in height from 3-4 storeys are to the south and west. Medium density buildings ranging in height from 5-7 storeys are to the south and east. Four 16 storey slab buildings are located to the north next to the two 30 storey buildings, Matavai and Turanga.

Legend

- Tall Buildings
- Slab
- Medium Rise
- Low Rise
- Terrace Housing
- Non Residential

70 SOCIAL DWELLINGS

5-10% AFFORDABLE

KEY FINDINGS

OPPORTUNITIES

Best Practice - To set a global precedent for dynamic mixed-tenure urban revitalisation.

Social Housing - To deliver new and additional social housing that addresses contemporary standards and lifestyles.

Liveability & Well-Being - To deliver outcomes that lead to greatly improved housing liveability, health and quality of life outcomes for owners and tenants.

Mixed-Tenure Community - To deliver a sustainable, mixed-tenure community that can improve social outcomes through a balanced offering of social, affordable and private housing, supporting a broad and diverse range of people.

Mix of Housing Typologies - The opportunity to explore a range of long life & flexible housing typologies that are flexible and adaptable to changing generational needs and circumstances.

Housing Affordability Mechanisms - To explore the delivery of housing affordability mechanisms that can provide mixed community outcomes, including use of existing policies and programmes.

Community Safety and Well-Being - To plan for the integration of housing and social infrastructure that promotes community safety, well-being and social cohesion.

CHALLENGES

Sustainable Community - To achieve a balanced and sustainable community.

Renewal Process - To provide a welcoming environment for new residents into the Metro Quarter.

Adaptable Mix and Use - To provide adaptable places and buildings that can evolve over time.

Affordability - To support a range of affordable housing and retail options in the context of increased market value.

Community Cohesion - To ensure desired social bonds and the cultural significance of the existing community remain intact throughout the renewal process.

4.4 ECONOMICS, RETAIL, SERVICES, ARTS & CULTURE

Due to its location, the Metro Quarter has the opportunity to connect and complement Redfern and Green Square

Waterloo is located between the two growing commercial centres of Green Square and Redfern and the employment and urban services land of Green Square-Mascot. The proposed urban renewal will complement and act as a link between the two.

The future mix of retail and ancillary non-retail will need to consider uses that are appropriate for the local community (including social housing residents in the adjacent Waterloo Estate, the local Aboriginal community, existing and future residents).

Within a 1 kilometre catchment (considered to be the maximum distance most people will walk to reach a local destination) of the Metro Quarter there are a range of social services that include emergency, youth and elderly services, childcare, health, education, libraries, cultural facilities, community centres and spaces. However, the majority of these services are located outside the Estate.

While Waterloo possesses few cultural facilities, it is rich in community culture. This can be seen through its cultural organisations, civic facilities, art networks, public art and memorials. Other things that contribute to its cultural identity include the existing Aboriginal cultural heritage, buildings and natural features including topography and trees.

Although Waterloo's night time economy is limited to the small number of local pubs in the area, it is in close proximity to Redfern. Redfern has been identified by the City of Sydney as part of an emerging evening economy centred on Redfern and Regent Streets. The new Sydney metro station will provide the opportunity to create a day/night economy to improve the amenity of the area.

Fig 4.4.1 **ACTIVITY NODES**

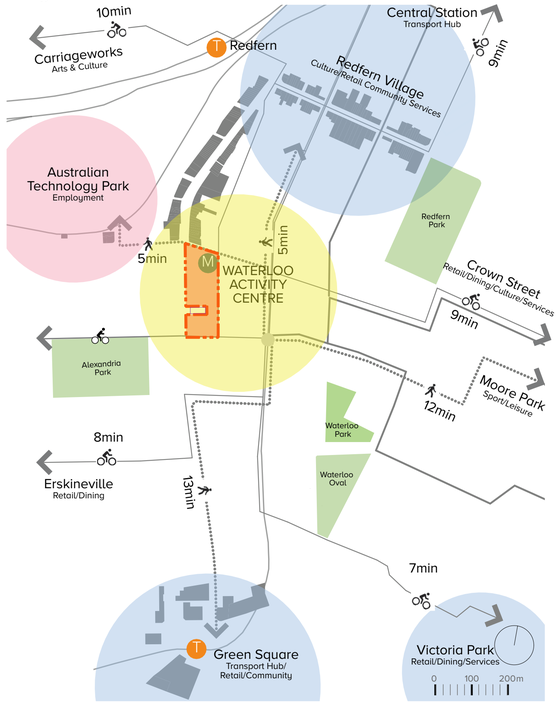
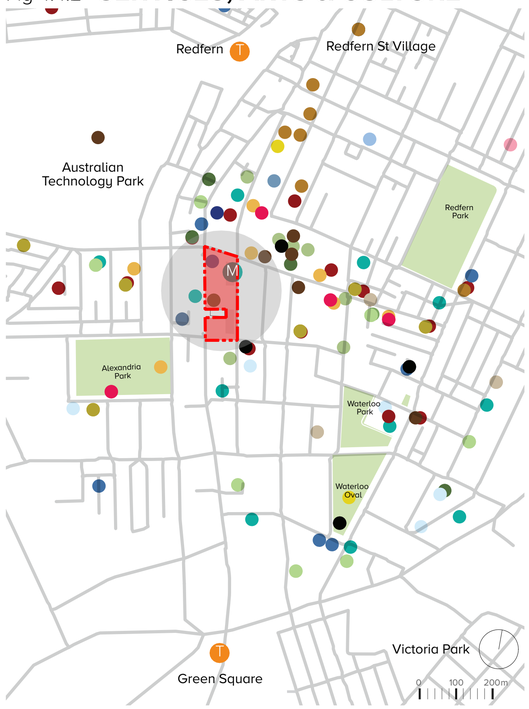


Fig 4.4.2 **SERVICES, ARTS & CULTURE**



The Metro Quarter provides the potential to link to nearby activity centres and to support and strengthen the local precinct

The Metro Quarter is located in close proximity to a cluster of activity centres. To the south of the site are the economic centres of Redfern and Green Square Town Centre and Victoria Park, connected along the Botany Road commercial corridor (zoned B4 Mixed Use). To the north-west, is the ATP employment hub. The Redfern Village retail street is located to the north.

Legend

- Cycle Route
- Pedestrian Route
- Active Nodes
- Metro Station
- Train Station
- District Parks

As the first stage of the wider Precinct renewal, the Metro Quarter has the opportunity to deliver a balanced activity centre that supports the needs of a diverse and growing community

The Metro Quarter provides the opportunity to celebrate and integrate the rich cultural heritage of the area to create an identifiable and unique commercial centre. It should address the differing needs of the community and deliver diverse and flexible retail, service and cultural activities. This includes developing a vibrant evening economy to align with the metro hours of operation and pedestrian footfall through the station. The Metro Quarter will complement the function of surrounding centres and establish links with these hubs - including ATP, Danks Street and Redfern Village - and the wider community.

Legend

- Arts & Cultural Mapping
- Community Services
- Aboriginal Community Services
- Key Events

NEW METRO STATION

Fig 7.2.2 Artist Impression (Source: Metron, April 2018) of the Waterloo Station entry

KEY FINDINGS

OPPORTUNITIES

Cultural Heritage
To celebrate and integrate the rich cultural heritage of the area in the planning, delivery and management of the urban renewal.

New Centre
To deliver a balanced new centre that supports the different needs of a diverse community and provides adequate access to services and employment activities for existing and future residents.

Complementary Uses
To deliver the retail and services functions required, complementing the use of surrounding centres.

Day and Night Economy
To create a vibrant evening economy and local experience.

Enhanced Social Infrastructure
To provide new and improved social infrastructure with stronger local service and community networks.

Co-location of Uses
To deliver increased physical, mental health and education benefits, by co-location of social infrastructure with high quality new public spaces.

Increased District Connectivity
To create links to established centres including employment, retail, services, creative industries and arts and culture hubs such as the ATP, Danks Street and Redfern Village.

Sharing Economy
To explore innovative new retail and community use facilities predicated on the sharing economy (based on trading for goods and services) to reduce the overall cost of living for residents.

Indigenous Employment
To provide for the local employment and business needs of Aboriginal and Torres Strait Islander peoples and the future community beyond just retail assets.

Variety of Uses
To facilitate a broad range of economic/employment uses including retail, commercial and services to meet the needs of the incoming community and support neighbouring centres.

CHALLENGES

Contributing to and Maintaining a Sense of Place
To establish retail and commercial ventures without impinging upon the existing cultural character of Waterloo. To ensure that creative place making initiatives animate both public open spaces and private spaces to improve local business viability, public safety, and bring diverse people together to celebrate, inspire and be inspired by the use of the arts to reinforce Waterloo as a vibrant place.

Addressing Needs
To ensure that the new activity centre will address the differing needs of the community, including providing amenities and services for the portion of the population with higher needs.

Balanced Mix of Uses
To ensure a range of retail services are provided that are balanced across the range of customers within the Metro Quarter.

Programming for Flexibility and Adaptability
To deliver flexible service, retail and cultural activities that can adapt to and support the needs of the community over time and trend shifts.

Staging
To ensure the staging of the urban renewal delivers social infrastructure and services at the right time in order to support the transitioning and incoming community.

Day and Night Economy
To create a vibrant evening economy within a predominantly residential environment.

4.5 SUSTAINABILITY & INFRASTRUCTURE

Flooding, wind, air quality and noise are key environmental considerations for the Metro Quarter.

The main constraint limiting height on the Metro Quarter is the PANS OPS height of 126.4 metres.

A range of environmental considerations impact the Metro Quarter, including flooding, wind, air quality and noise. Flooding strategies will need to consider probable maximum flood (PMF) and the 1 percent average exceedance period (AEP) flood levels, with the worst flooding located at the corner of Wellington and Cope Streets. Wind strategies will need to be considered for the eastern side of the Precinct, impacting the Metro Quarter.

Air quality and noise mitigation are important considerations in the detailed design of buildings for the Metro Quarter due to the close proximity of Botany Road as the main emission and noise source. Developments higher than 5-10 storeys will be further impacted by noise from the railway and surrounding road network and will require noise mitigation and air quality strategies to be considered in the future design of the Metro Quarter.

Fig. 4.5.1 **TOPOGRAPHY + FLOODING**

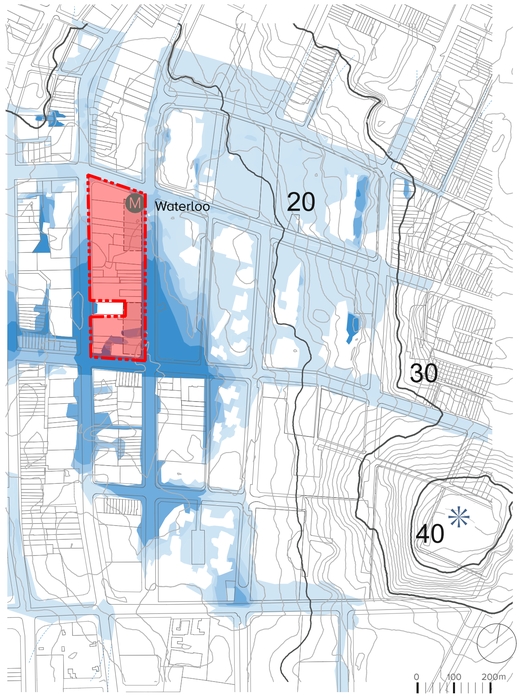


Fig. 4.5.2 **WIND, AIR QUALITY AND NOISE**

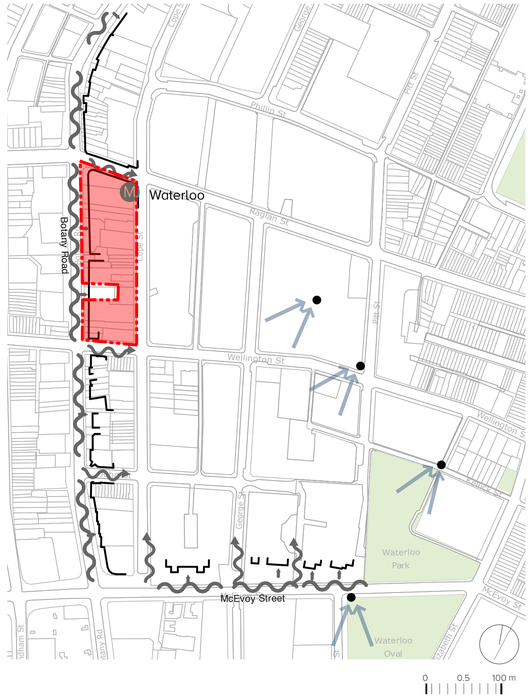
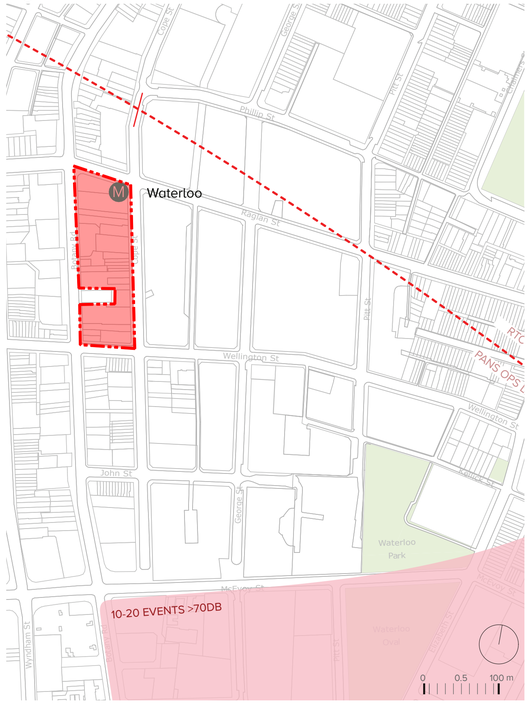


Fig. 4.5.3 **AERONAUTICAL**



Development within the Metro Quarter adjacent to Cope Street, Wellington Street and Botany Road will need to be designed in relation to the PMF levels.

Waterloo is identified as an area that requires flood management measures to be implemented. The flooding that affects the Metro Quarter is considered to be 'flash' flooding, with a duration of between 1-3 hours and peak flood levels reached 30 minutes to 1 hour after the start of the storm. The Metro Quarter will provide 5% grassed area, to acts as informal flood storage during major storm events. The area that presents the highest hazard is the Cope and Wellington Street intersection.

Legend

- Contour line peak
- Flood level

Wind, air quality control and noise mitigation strategies will need to be used.

Southerly winds are the most common and strongest for Sydney, westerly winds are more common in winter and can cause discomfort for outdoor areas. North-easterly winds are the most common during warmer months. Wind testing for the Metro Quarter has identified areas, predominantly to the east, with undesirable characteristics. Noise and air quality in the Metro Quarter is mainly influenced by emissions from vehicles on highly congested roads like Botany Road. Properties close by will potentially be the most affected by air quality reduction and increased noise, with developments higher than 5-10 storeys further impacted by noise from the railway . As a result noise mitigation and air quality strategies will need to be considered.

Legend

- Noise Source
- Prevailing Wind

The 126.4m PANS OPS is a consideration in the development of the Metro Quarter.

There is one height limitation identified for the Metro Quarter. The 126.4 metres PANS OPS Circling Surface for Category A & B aircraft covers the majority of the Metro Quarter and is the maximum building height (including crane heights) that would be approved by the relevant aviation authorities.

Legend

- Height Limit - Pans Ops limit contour
- Air traffic noise. 10-20 event >70db

KEY FINDINGS

OPPORTUNITIES

Green Star Community
Implement strategies in the Metro Quarter to create a green star rated community aligned to the Greater Sydney Commission's objectives for a productive, liveable and sustainable Sydney.

Carbon Reduction & Climate Change Strategies
To explore strategies that deliver carbon reduction outcomes and plan for long term reduction of the impacts of climate change.

Landscape Management
To integrate water management systems with open spaces and streetscapes that mitigate the risk of flooding.

Best Practice
To develop best practice design, delivery and management of urban green infrastructure within a predominantly residential precinct.

Sustainable Strategies
To explore and adopt where appropriate new technologies and trends that can benefit energy and carbon footprint reduction over time.

Traditional Knowledge and Connection to the Land
To leverage traditional knowledge systems and the practice of custodianship to support a culture of sustainability.

CHALLENGES

Flexibility and Adaptability
To retain the flexibility to adapt to new technologies and innovations within the context of large scale urban renewal.

Integration with Existing Infrastructure
To deliver precinct wide infrastructure in the context of an existing urban infrastructure system.

Flood Management
To balance the quality and performance of the uses proposed for the Metro Quarter with flood management strategies.

new perspectives

Source: Roberts Day Placemaking Strategy - Chophouse Row, Seattle

4.6 KEY DESIGN INSIGHTS

Key design insights are drawn across the five thematic areas of investigation that affect the precinct and the Metro Quarter.

1. WATERLOO NEEDS TO WORK FOR GLOBAL AND LOCAL SYDNEY

Waterloo will support Sydney's growth as set out in 'A Metropolis of Three Cities'. The study analysis shows how significant emerging employment areas are walkable or within 30 minutes on public transport from Waterloo. Connecting the Waterloo community to local and global opportunities is vital.

- Connections to surrounding employment areas can be reinforced to help increase access to opportunities for Waterloo residents and those who reside in surrounding neighbourhoods. In fostering such connections with and around Waterloo, new opportunities for employment, retail, services, infrastructure etc. can emerge.
- Social infrastructure is required to support increased and healthy access to opportunities, and the education and health needs that a diverse community requires for people to take advantage of them.
- Celebrate the heritage of 'productive' Waterloo.

2. WATERLOO WILL NEED NEW AND HARDER WORKING PUBLIC SPACES

The Waterloo community will grow significantly over time. The study analysis sets out the needs for new public domain as part of this growth.

- Enhanced connections can be made to surrounding parks like Alexandria Park and Redfern Park.
- New urban places and green spaces can be integrated.
- New and existing trees and landscape features can give character to the public spaces and support the areas' important ecology.
- The design of streets and spaces can adapt over time to the changing needs of the community.
- The integration of art and culture through the public domain can reflect the identity of Waterloo and assist in developing a sense of place for residents.

3. WATERLOO'S STREETS WILL NEED TO BE EASY TO MOVE THROUGH AND TO ENJOY

The study shows how the existing streets, although varied in character and use, are primarily residential, with little active frontage. In urban renewal areas, the streets need to be both legible and safe for movement, as well as active places for people to use. With a larger community, the existing streets will need to adapt to balance these roles

- Streetscape design can support people using the street and those moving through it.
- Integrated movement systems for pedestrians, cyclists and public transport can help to reduce reliance on and use of private cars.
- Streets can support public use by incorporating places to sit, meet and play.
- Integrated infrastructure can support the programming of the public domain for art, cultural and community activities.
- New public open space can be connected with regional walking and cycling paths.
- Traditional public space offerings can be complemented by vertical green spaces that utilise innovative approaches.

4. WATERLOO NEEDS TO BE A MORE WALKABLE PLACE

Waterloo is already well connected for walking, to local amenities, centres and activities. A larger Waterloo community will require enhanced walkability with new connections and a finer grain network. Increased walkability will help create healthy communities where the things you need and use will be closer and more accessible

- Better walking environments help reduce private car usage, with good walkable connections to local transport including the Sydney metro, bus links and car share schemes
- Trees and landscape elements can create shade and cover for walking routes all year round
- Routes and loops can be made legible and clear with good way-finding, places of interest and activities at key points
- Active frontages and a diversity of uses can create interest at ground level

5. WATERLOO'S GROUND LEVEL WILL NEED TO WORK HARD

Over time, the size of the Waterloo community will increase, but the area of the precinct will not change. The Metro Quarter provides the opportunity to deliver the increased services the community needs, both at ground plane and within the podium. The renewal will require the ground plane to balance safety and accessibility with activity and enjoyment

- Community spaces and community buildings can be flexible and multi-functional. They can adapt to the needs of a growing community over time
- Achieve 'activation ready' spaces
- Streets and public spaces can be programmed with uses and activities that help create safe, vibrant and interesting places throughout the day and night
- Local shops, schools, health centres and public spaces can be integrated with residential buildings

6. WATERLOO NEEDS TO INTEGRATE SUSTAINABLE DESIGN

The renewal of urban areas requires new buildings and spaces to meet sustainability targets throughout the process. Waterloo has existing natural assets and increased connectivity that provide opportunities for planning and design by integrating the natural environment from the outset

- To reduce the cost of living and provide energy efficient spaces and places
- The urban forest can be enhanced to enrich the cultural, ecological and social importance of the canopy
- Contribute to the Sydney 'Green Grid'
- Design can integrate climate change mitigation and adaptation for more extreme weather, specifically flooding and heat waves
- Design can integrate green walls, green pavements and roofs, and bio-retention systems
- Planning can be adaptable to new technologies that create opportunities for cleaner and more efficient living, such as electric vehicles
- The community can learn from traditional knowledge systems and practice of custodianship to instil a culture of sustainability
- Streetscape design can use the natural topography and integrate water sensitive urban design (WSUD) strategies to assist with flood mitigation
- Biophilic design can help contribute to health and productivity through access to nature

7. WATERLOO WILL CELEBRATE AND RESPECT ITS ABORIGINAL HERITAGE

The analysis shows Waterloo, and the Redfern area, has significant meaning for the Aboriginal and Torres Strait Islander people. This important history must be respected. Aboriginal culture should be incorporated into the design of the future Metro Quarter from the outset

- To recognise and acknowledge the key events in Aboriginal and Torres Strait Islander history that have taken place within Waterloo's buildings and public spaces, and in adjoining areas
- To recognise the history of the Aboriginal community's displacement, and their part in the creation of a diverse and inclusive community through including support and employment services specifically geared towards Aboriginal peoples
- To embed Waterloo within Sydney's emerging Ochre Grid
- To celebrate the Gadigal landscape features such as Mount Carmel, that has strong physical connections to the use of the landscape as a 'place of abundance' and as a strategic lookout connecting Sydney Harbour to Botany Bay
- To incorporate the Aboriginal seasons when designing spaces and buildings
- To appreciate, learn from and support contemporary urban aboriginal lifestyles through the inclusion of facilities and services that cater to the needs of the Aboriginal population in the area

8. WATERLOO'S BUILT FORM WILL NEED TO BE ADAPTABLE TO CHANGE OVER TIME

Analysis shows how the plots and buildings have adapted through cycles of renewal – today the overlay of terrace streets and campus buildings give the Waterloo a distinctive residential character. In the coming cycle, the increase in the size of the community will require flexible plots, flexible buildings and flexible dwelling typologies

- To plan for the range of housing types, tenures and providers that will help create a mixed community
- To build adaptable accommodation that meets the specific needs of the diverse communities
- To design buildings that are suitable for the changing needs of occupants, throughout their lifetime
- To recognize the Aboriginal concepts of kinship and extended family that require homes to be flexible to accommodate regular temporary guests

9. WATERLOO NEEDS A BALANCED NEW ACTIVITY CENTRE

Communities of renewal areas require increased retail services to support daily needs. The study analysis shows Waterloo's community will require new activity centres with new retail, culture and leisure services. Although there are clusters of existing services surrounding, and adjoining centres in Redfern Village and Green Square, Waterloo doesn't currently have a defined centre

- To address the under provision of services within the precinct and deliver the policy requirements for retail, social infrastructure and amenity
- To support the valuable existing retail and cultural places that the community already enjoys
- To strengthen walkable links to adjoining centres such as Green Square and Redfern Village
- The metro station can be a centre of activity and meeting place for the community
- Activity centres need to be adaptable to future trends in retail and social infrastructure including the growth of community-run co-operatives

10. WATERLOO WILL NEED TO PROMOTE HEALTH AND WELLBEING ACROSS THE DIVERSE COMMUNITY

Waterloo is a community of diverse cultures, facing similar social challenges. As Waterloo changes – bringing people with different backgrounds together – new social, creative and cultural infrastructure is required to address these challenges and promote physical and mental well being for all

- The existing cultural diversity of Waterloo can be an important part of its future
- New social infrastructure can promote the wellbeing of the existing and future residents within a diverse community
- New cultural and creative infrastructure to support the social cohesion and wellbeing of the diverse community
- To address the shortage of community facilities and increase access to services that target people's physical and mental wellbeing
- To provide new amenities that increase access to health and learning and connect Waterloo to the opportunities of its surroundings

old traditions, new beginnings

Source: Alexandria Park Heritage Conservation Area

5.0
SITE CHARACTER

This chapter provides an analysis of the existing site to form an understanding of and to identify the key opportunities and challenges that inform the development of the Metro Quarter Concept Proposal. A snapshot of the existing open spaces and built form surrounding the Metro Quarter is provided to place the site within its context.

The physical and environmental constraints are investigated to provide the opportunities and challenges that inform the built form approach. These include the lot subdivision; topography and flooding; wind and solar access; noise and environment, the Metro interface, the Metro limitations; movement patterns; solar access; views and vistas and density and scale.

5.1 SITE CHARACTER

The existing character of the area reflects its ad-hoc growth over time.

Fig. 5.1.1 Waterloo SSP and surrounding context

1. Cricketers Arms Hotel
2. Former CBC Bank
3. Abbotts Hotel
4. Existing Trees Raglan Street
5. Waterloo Estate
6. Existing Trees Cope Street
7. Wellington Street Warehouse Building
8. Wellington Street Terrace Houses
9. Cauliflower Hotel
10. Alexandria Park
11. Alexandria HCA
12. Australian Technology Park
13. Waterloo Congregational Church

Fig. 5.1.2 **Corner Botany Road and Raglan Street**
Cricketers Arms Hotel (Heritage Item I4) is an example of a federation free style hotel
Former CBC Bank (Heritage Item I5) is an example of Victorian Italianate architectural style
Abbotts Hotel

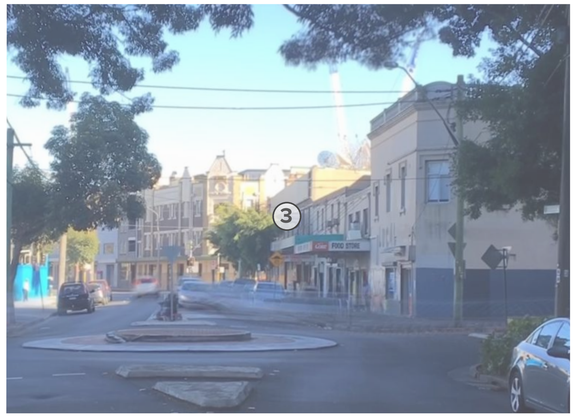


Fig. 5.1.3 **Corner Raglan Street and Cope Street**
Retail on the north side of Raglan Street

Fig. 5.1.4 **Corner Cope Street and Wellington Street**
Terrace houses on the south side of Wellington Street

Fig. 5.1.5 **Corner Botany Road and Wellington Street**
The Cauliflower Hotel (Heritage Item) is an example of a mid-Victorian hotel in the Georgian style built c1862.

Fig. 5.1.6 **Botany Road**
Waterloo Congregational Church (Heritage Item I2069) is an example of a Victorian Gothic style church

Fig. 5.1.7 **Alexandria Park**

Fig. 5.1.8 **Garden Street, Alexandria**
Terrace houses in the Alexandria Park HCA

Fig. 5.1.9 **Australia Technology Park (ATP)**
Currently under construction

5.2 SITE ANALYSIS

The Metro Quarter site has a series of physical and environmental constraints that provide opportunities and challenges in the built form approach

Fig. 5.2.1 **ONE SITE, TWO PARCELS**

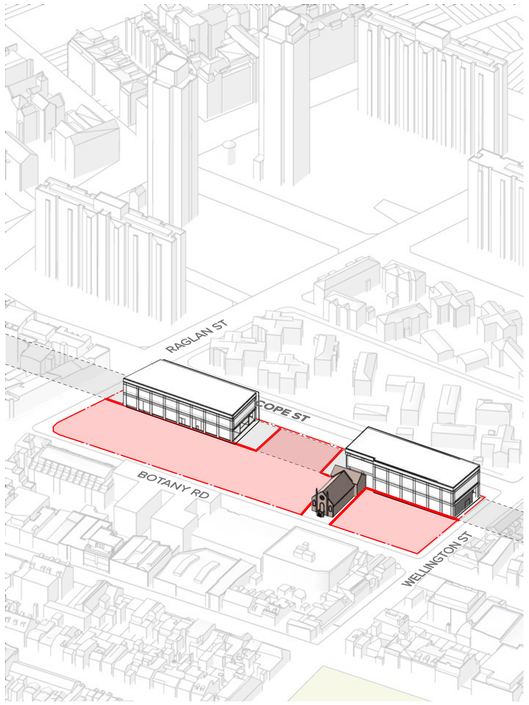


Fig. 5.2.2 **TOPOGRAPHY & FLOODING**

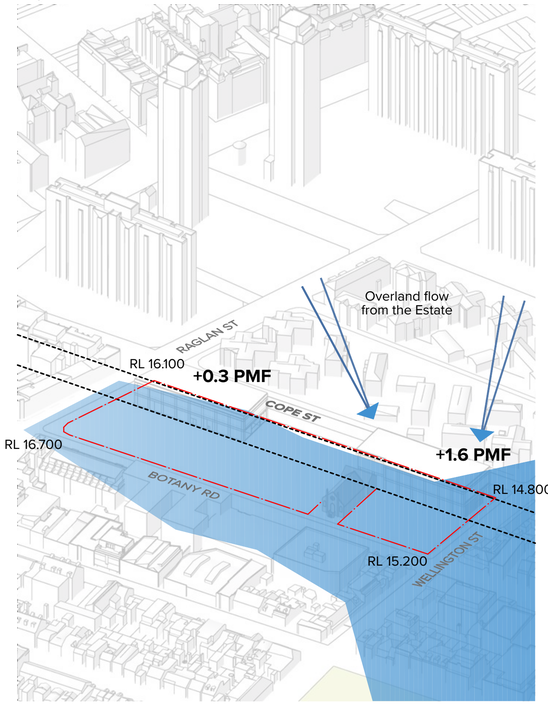
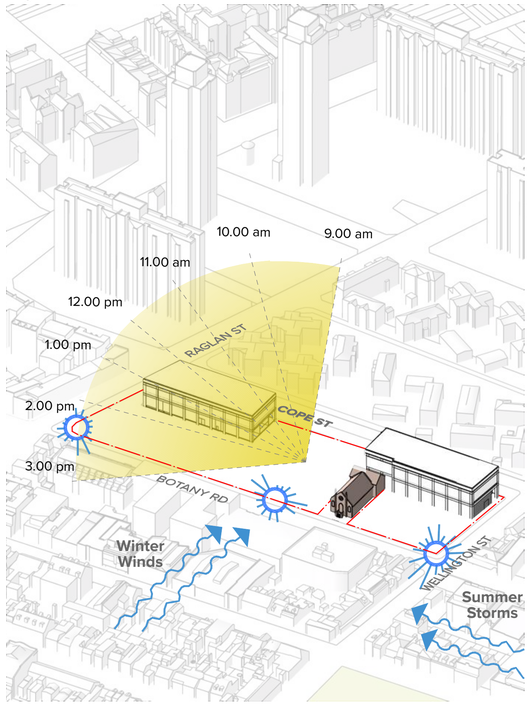


Fig. 5.2.3 **WIND & SOLAR ACCESS**



The metro station boxes and church split the site into separate parcels

The location of the Waterloo Congregational Church and proposed metro station boxes (and station below) effectively bisect the site into two development parcels.

As there is no link between these separate parcels - either at grade or below - each requires separate servicing and site access points.

Legend

Site Area

The site is located in a local depression and prone to flooding

The site is located at a local depression and is subject to flooding.

The site falls approximately 1.5 metres from north to south though, given the site length of 220 metres, this fall is subtle in perception with a gradient 1 : 150.

The PMF levels across the site range from +0.3 metres at Raglan Street to +1.6 metres along Wellington Street. These levels dictate the required floor level of habitable uses across the site and the resultant transitions required to the entry points of the buildings.

The highest flood level that affects the Metro Quarter is at the junction of Wellington and Cope Streets, with flood levels of up to 0.7 metres.

Legend

PMF levels

The site is affected by wind, most notably from the west at high level

The site has a north-south axis with the potential for solar access throughout the day, from Cope Street in the morning to Botany Road in the afternoon.

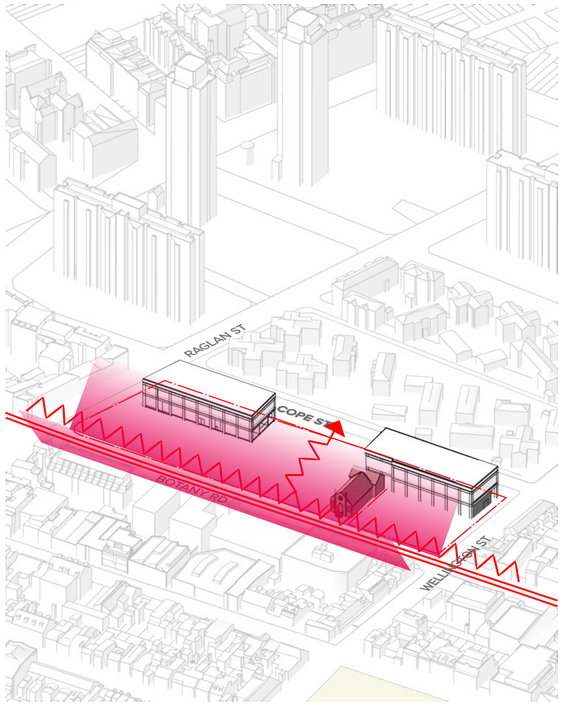
The site is prone to predominantly westerly and, to a lesser extent, southerly winds. These wind impacts may be perceivable at both ground and upper levels, with the potential for downdraft from proposed buildings with significant unarticulated facades to these orientations.

Future built form will need to reduce the flat façade area to the west, with built form articulated to respond to wind paths.

Legend

Sun Path

Fig. 5.2.4 **NOISE & ENVIRONMENT**



Botany Road presents a noise source to the immediate frontage and further into the site

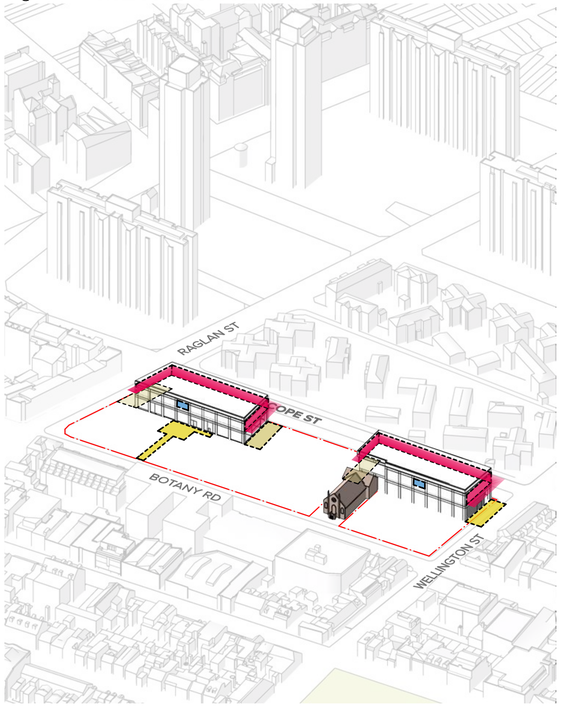
Botany Road is a significant transport corridor that carries light and heavy vehicles in and out of the city. It generates a background noise source of 70dB, which is higher than the 55dB and 45dB levels required within apartment living and bedrooms respectively. This noise level has the potential to permeate through the site to Cope Street and beyond without the introduction of suitable built form barriers.

The existing public domain to the Botany Road streetscape provides poor pedestrian amenity with no shelter, planting or urban furniture. On the opposite side of Botany Road a deep building setback limits the potential for activation with a large number of vehicle crossings and parking areas posing a barrier to pedestrian safety and amenity. The public domain for the Metro Quarter would enhance the Botany Road experience and the built form to actively reduce noise penetration both to the apartments and through/within the site itself.

Legend

Noise source

Fig. 5.2.5 **METRO INTERFACE**



Sydney Metro service systems require clearance zones at the interface with the over station development

The perimeter of the upper level metro station box facade houses mechanical grilles to assist ventilation to below ground air circulation. There are also air supply louvres to the common wall with the Metro Quarter site. From these louvres there are required clearance zones to openings or fire-rated construction on the adjacent development.

There is a requirement for service vehicle access to the northern box through the common wall, resulting in a service and manoeuvring zone within the Metro Quarter site.

The design and location of buildings near this curtilage must satisfy the required setbacks and clearances.

Legend

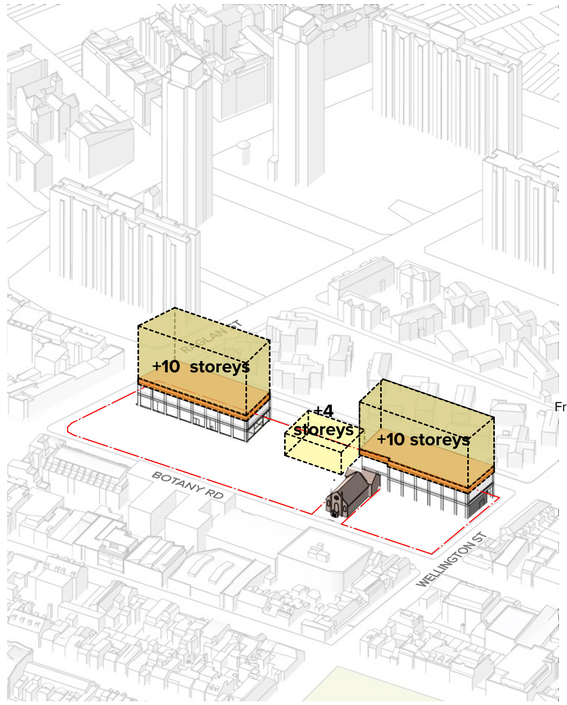
Clearance zones at entries

Servicing zone

Mechanical Exhaust

Mechanical Intake facing site

Fig. 5.2.6 **METRO LIMITATIONS**



The structural loading capacity of the metro station boxes constrains development above

The loading capacity of the metro station box structural system at Waterloo constrains development to a maximum building height of +10 storeys over the boxes and +4 storeys over the ground plane, assuming a conventional concrete structure.

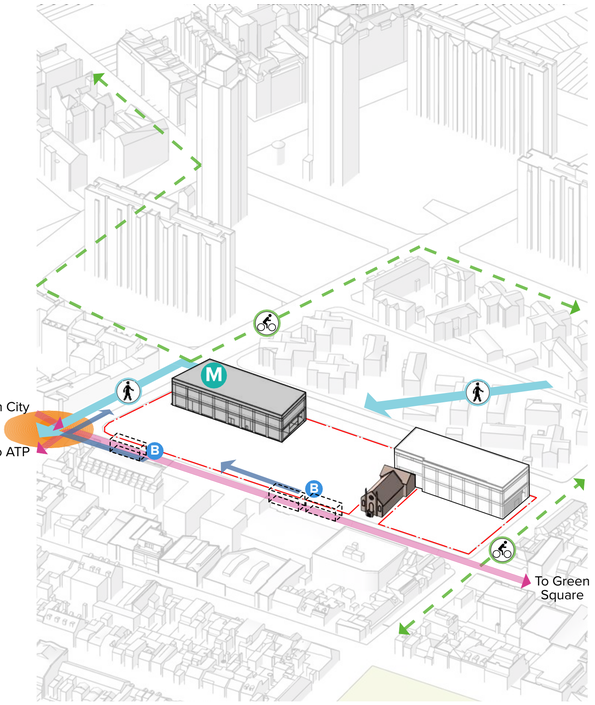
The height and loading of proposed buildings must respect these limitations. Consideration needs to be given to how the over station buildings bear onto the transfer slab at the top of the box and how these loads are transferred.

Legend

Maximum limit building height

Transfer slab to top of Metro box

Fig. 5.2.7 **MOVEMENT**



The interchange between transport modes requires direct connectivity, safe movement paths and clear sightlines

The new metro station will deliver high pedestrian flows throughout the site and across the greater precinct. These are expected to connect with bus services along Botany Road and Wellington Street.

The site is flanked to the south and west by a significant cycling corridor that continues on to Central Sydney and Green Square.

These transport modes shall be seamlessly integrated through a new intermodal interchange that provides clear, direct, sheltered, safe movement between modes.

Legend

Pedestrian movement

Cycle movement

Bus movement

Vehicular movement

Fig. 5.2.8 **SOLAR ACCESS**

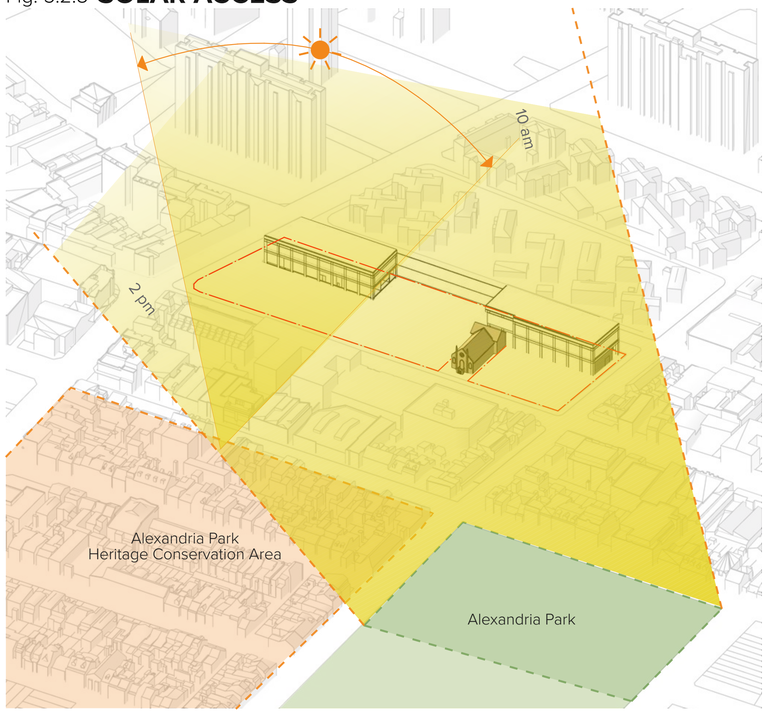


Fig. 5.2.9 **VIEWS & VISTAS TO THE SITE**

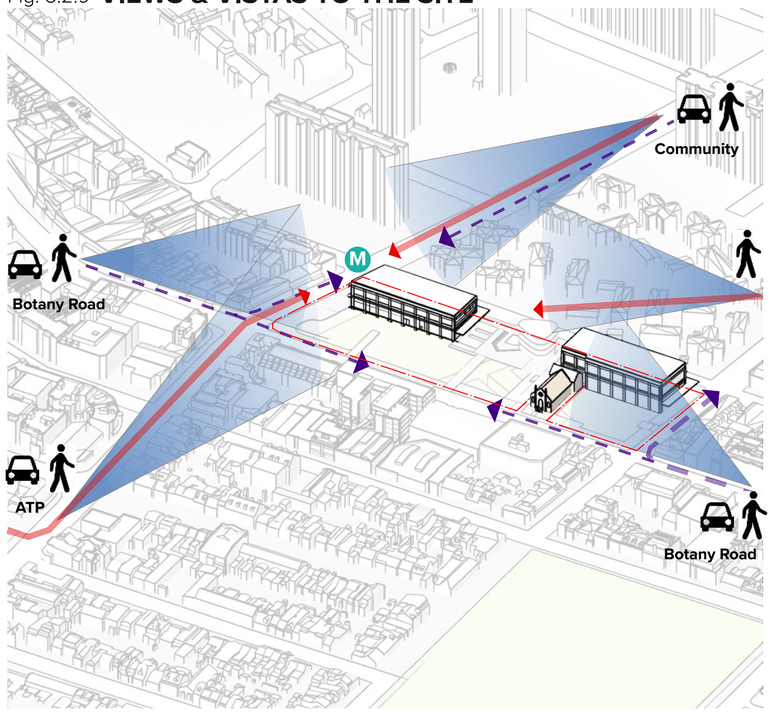
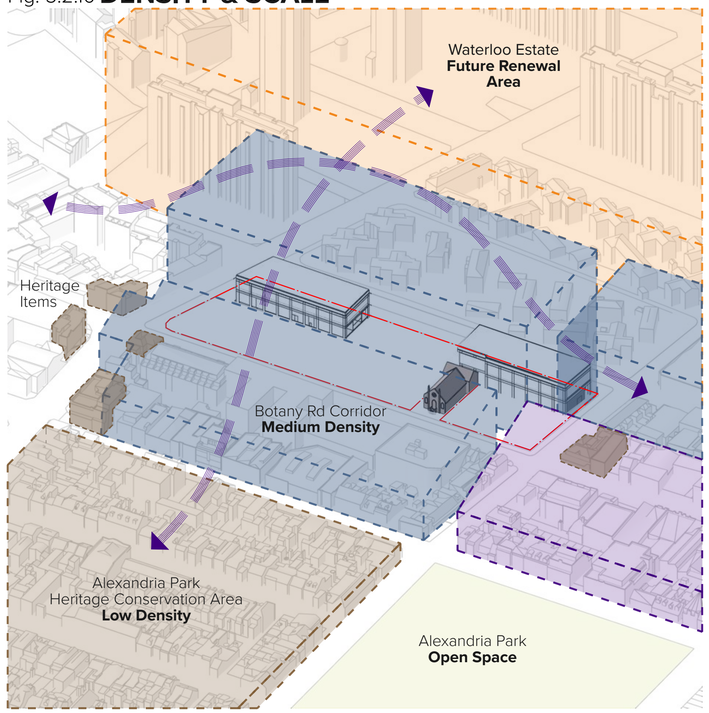


Fig. 5.2.10 **DENSITY & SCALE**



Solar access requirements to Alexandria Park and the Alexandria Park HCA will influence the built form

Alexandria Park and the Alexandra Park HCA are located to the west of the Metro Quarter. Solar access to these areas is to satisfy Council's requirements for public open space and neighbouring dwellings.

Legend

Sun Path

The site has prominent vantage points along key approach routes, with potential for the built form to provide a visual marker for the Waterloo Station

The new built form shall provide a visual marker to the location of the station entry within the local context. This form shall be visible from the key pedestrian routes to the metro station, namely from ATP to the west, Raglan Street from the east and Wellington Street and Cope Street from the south-east. The site also presents the opportunity to maximise district views from the site.

Legend

Main views to the site

Future development along Botany Road has the potential to provide a transition to adjacent varied height

The Metro Quarter site is within the Botany Road transport corridor, between the low scale Alexandria Park HCA and the future Waterloo Estate renewal.

The site, along with the blocks adjoining and opposite as part of the Botany Road corridor, can serve as a transition to mediate the differing heights and scale.

Legend

Waterloo Estate Future urban renewal area
Medium Density Area
Low Density Area

5.3 SITE OBSERVATIONS

KEY FINDINGS

OPPORTUNITIES

Density & Scale
To respond positively to the existing and future context through the built form approach.

Public Domain
To provide an enhanced public domain that promotes walking and cycling.

Movement
To provide clear, direct, sheltered and safe connections between transport modes.

Solar Access to Adjacent Sites
To maintain solar access requirements to adjacent open spaces and context.

Solar Access
To maximise solar access through the built from response.

Views & Vistas
To respond positively to view corridors from adjacent areas towards the site and to optimise the views from the site.

CHALLENGES

One Site, Two Parcels
To provide separate utilities, servicing and site access points for the two development parcels.

Topography & Flooding
To incorporate required PMF flood levels without compromising access, operation and uses across the site.

Wind
To respond positively to wind impacts (particularly from westerly winds) through the built form approach.

Noise
To provide appropriate noise mitigation measures without compromising open space or building amenity.

Metro Interface
To respond to the setbacks and clearance zones required by the metro interface and to achieve an integrated design outcome across different approvals, e.g., wind.

Metro Limitations
To work with the loading limitations on the metro station boxes.

for the community

Source: Roberts Day Placemaking Strategy

6.0

URBAN DESIGN PRINCIPLES & BUILT FORM STRATEGIES

This chapter defines the urban design principles underlying the built form strategies for the Metro Quarter. The urban design principles have been developed through an understanding of the precinct at various scales - strategic, neighbourhood, context and local - as well as the inherent characteristics that make Waterloo unique. These urban design principles are further refined into a design approach that responds to the specific site constraints of the Metro Quarter.

The built form strategies developed from the Metro Quarter design approach respond to the key design insights, opportunities and challenges identified in the previous chapter. Although there is an existing approval for the station, there is a need to ensure that the Waterloo Station and the Metro Quarter design achieves an integrated design outcome.

new horizons

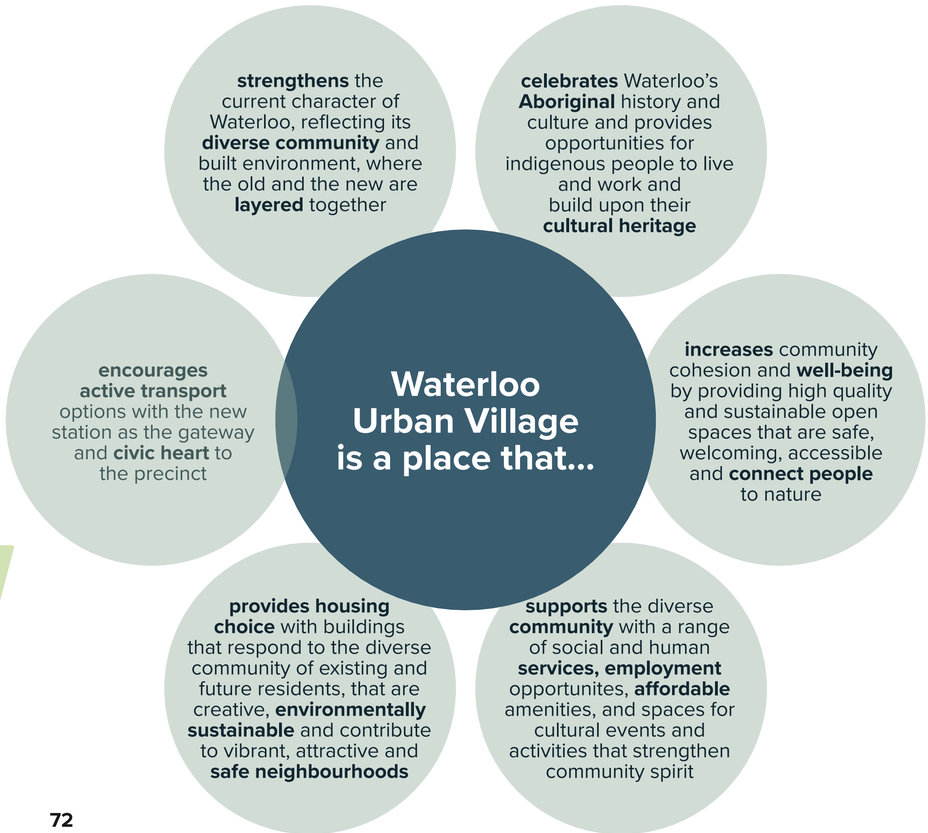
Source: Roberts Day Placemaking Strategy - Big Yard, berlin

6.1 PRECINCT URBAN DESIGN PRINCIPLES

Delivering a new urban village for Waterloo

The Waterloo SSP Precinct urban design principles were developed to guide the design process and fulfil the objectives and project proposition to deliver the vision for the Precinct.

The principles fall under 5 thematic groups, aligned with the Technical Innovation Working Groups (TIWGs) that were convened throughout the research and design process. Each group comprised key stakeholders and technical consultants working collaboratively to identify, develop and recommend best practice and innovative approaches to achieving the vision and objectives and to guide the design development of the Concept Proposal.



Housing: A fully, integrated urban village of social, private and affordable housing

Locally responsive, distinctive and adaptable buildings, homes and spaces.

Diversity of homes and living choices underpinned by innovative delivery and tenure models.

Emphasise Waterloo's character areas and neighbourhoods.

A variety of indoor and outdoor shared spaces that support resident needs and wellbeing.

Culture & Design: A safe and welcoming place to live and visit

A significant place shaped by the community for gathering in Waterloo.

Activated and engaging places for all.

Aboriginal people are intrinsic to Waterloo.

Embed local stories of people and place.

Open Space & Environment: High quality public spaces and a sustainable urban environment

Celebrate Waterloo's unique green attributes including topography, water and trees.

Promote a sense of wellbeing and connection to nature.

A high performing resilient environment.

Transport and Connectivity: A well connected inner city location

An active transport hub and local centre working as one.

Highly connected neighbourhood that prioritises walking and cycling for all.

Services & Amenities: New and improved services, facilities and amenities to support a diverse community

Local services to meet every day and everyone's needs.

Flexible and adaptable land uses, infrastructure and buildings that are responsive to opportunities and needs over time.

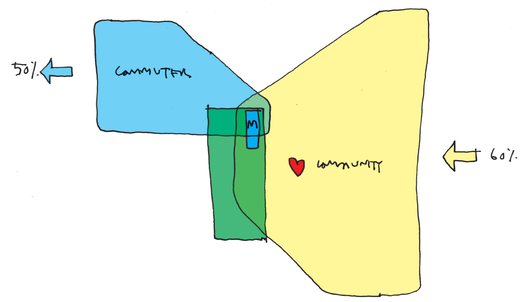
Foster local economies and productive environments to create, learn and share.

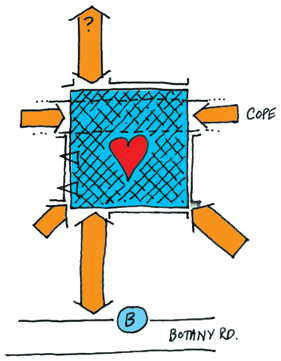
6.2 METRO QUARTER DESIGN RESPONSE

Defining the response to the key opportunities and challenges for the Metro Quarter

Following the Precinct urban design principles, six core responses have been established specific to the vision, objectives, principles, opportunities and challenges identified for the Metro Quarter.

These six responses guide the indicative Concept Proposal for the Metro Quarter to achieve optimum integration between the metro station and adjacent urban context, whilst supporting the re-development of the overall Waterloo SSP.





INTEGRATED

An active transport hub with seamless interchange within an active, pedestrian priority ground plane

A place that stitches into surrounding neighbourhoods on all sides via pedestrian routes designed for inclusive accessibility, movement and connectivity.

Safe and direct pedestrian links between bus stops and the station entrance, and kiss-and-ride, taxi rank and cycle parking conveniently located close to the station entrance in a way that supports Cope Street and the arrival space.

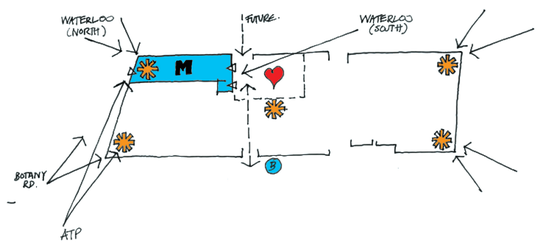
Service vehicle entries minimised and conflicts with pedestrian priority areas avoided. Low parking levels and minimal traffic movement within the site.

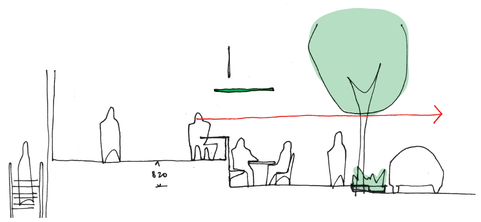
INCLUSIVE

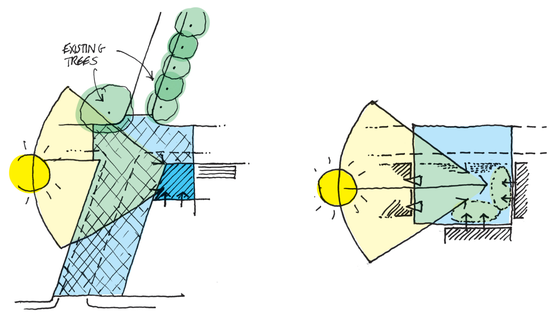
A station-in-the-round, drawing community and commuters into a shared democratic space

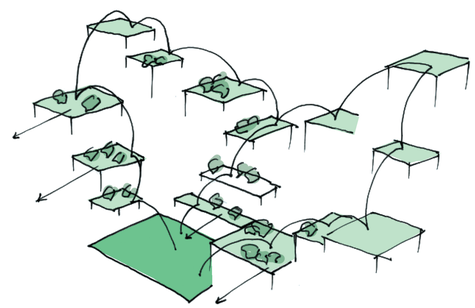
An enhanced customer experience that recognises both commuter and community users.

Station entrances orientated towards the Raglan Street and the Cope Street Plazas, with direct links to Botany Road, and a concourse leading toward an arrival space framed by active ground floor functions that provide places for meeting and social interaction.









CONNECTED

Legible and safe way-finding across a connected precinct

A Metro Quarter that acts as a gateway to the Waterloo SSP. Provide clear sightlines, including a strong visual connection, to reinforce the pedestrian link between the concourse and Cope Street through the western side of the concourse.

Station building as marker for commuters and community alike. Clear wayfinding based on urban spaces and form.

DIVERSE

A commercially thriving mix of diverse non-residential uses to support both current and future communities

A place that supports the communities of Waterloo, Redfern and Alexandria, as well as the workers at ATP, by providing a range of facilities and services lacking in these areas and offering local employment opportunities.

Fine-grained street edges that maximise activity on the ground plane are promoted, with particularly active frontage projected onto Raglan Street and Cope Street, and with potential internal laneways introduced creating a safe and vibrant hub that includes potential for night uses.

LOCAL

Two complementary arrival spaces - grounded in place - marking the entry to Waterloo

Entry and arrival experiences reflected in spaces that reflect Waterloo's richness and diversity.

The north station box creates an arrival space on Raglan Street as a pedestrian-orientated activity centre, while the introduction of an active community square on Cope Street has provided a meeting and arrival space at the heart of the site.

An improved public domain and positive character to Botany Road, with urban forms that are respectful of context, and architectural language and finishes that reflect local identity.

LIVEABLE

A high quality living environment, promoting wellbeing and offering a diversity of typologies

A new residential quarter that forms part of the wider Waterloo community and provides a high quality living environment, with a mixture of homes that satisfy the principles and objectives of the ADG.

This includes an appropriate built form and scale, with apartments capable of accommodating diverse lifestyle needs, and incorporating a range of sustainable design measures. This includes promoting levels of solar access, cross-ventilation and the creation of a variety of positive landscaped spaces.

Careful design of buildings and uses adjacent to Botany Road taking full account of noise, pollution and wind considerations; exploring non-residential uses that are not sensitive to noise.

PUBLIC DOMAIN AND BUILT FORM STRATEGIES

Key moves for the Waterloo Metro Quarter

The findings of the site analysis and urban design principles have been distilled to inform a series of built form strategies. These strategies identify the key moves across the site to deliver the vision for the Metro Quarter to deliver an integrated OSD design that responds to the current Waterloo Station parameters.

Fig. 6.3.1 **COMMUTER & COMMUNITY FLOW**

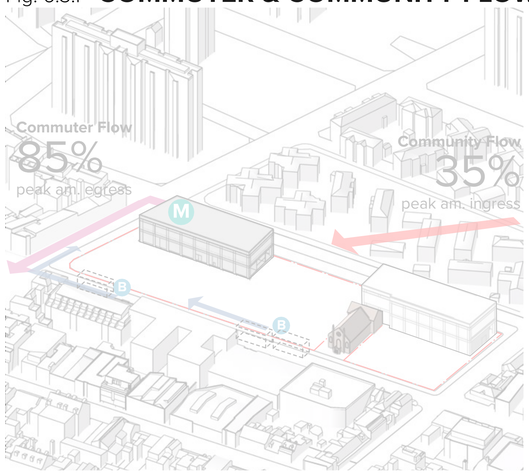


Fig. 6.3.2 **STATION ENTRIES**

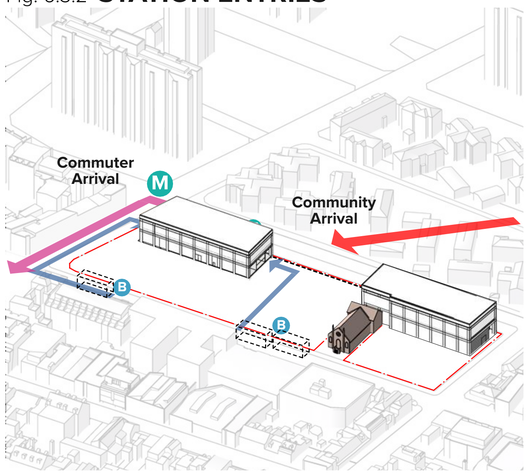
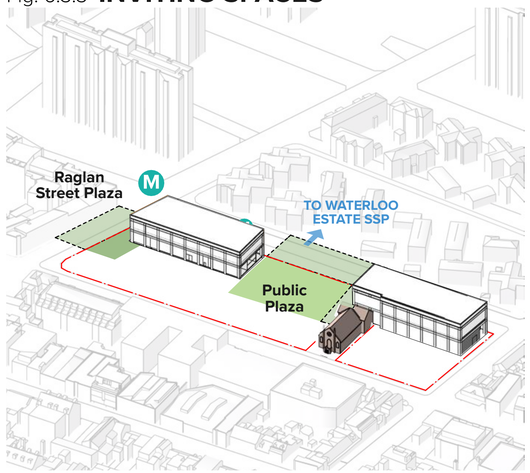


Fig. 6.3.3 **INVITING SPACES**



Enhancing the Sydney Metro arrival and interchange experience

Respond to the pedestrian modelling projected by Sydney Metro which depicts a strong pattern of movement to and from the station.

The vast majority of morning exit movement flows toward the Raglan and Botany Road corner in the direction of the ATP while the peak morning entry movement to the station approaches up Cope Street from the east and south catchment area.

In the evening these patterns are naturally mirrored, with peak flow to the station along Raglan and out of the station to the south and east.

The design for the Metro Quarter will respond to these movement patterns.

A new station entry to capture the existing and future community flow

Working with the dynamic movement flow to create two separate and unique arrival experiences, distilled as the "Commuter" and "Community" arrivals. This proposed shift in approach for the Metro Quarter changes the nature of the station from a hole-in-the-wall to a station in the round, opening the station and engaging with the public domain beyond.

Delivering two complementary public spaces at the 'arrival' to Waterloo

Creating a pair of unique and complementary public spaces, each referential to the local context in accordance with the principles outlined in the City of Sydney design codes.

The Raglan Street plaza to the north engages with the existing retail strip opposite and the Cope Street plaza at the heart of the precinct that engages with the Waterloo Estate and Waterloo Congregational Church.