City of Canada Bay

Tract

RHODES EAST

Public Domain Plan

Prepared by Tract Consultants for City of Canada Bay

Issued 19 August 2024

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Acknowledgement of Country

We pay our respects to the Traditional Custodians of Country throughout Australia, their Elders and ancestors, recognising their rich heritage and enduring connection to Country and acknowledging the ongoing sovereignty of all Aboriginal and Torres Strait Islander Nations.

We recognise the profound connection to land, waters, sky and community of the First Nations peoples, with continuing cultures that are among the oldest in human history. We recognise that they are skilled land shapers and place makers, with a deep and rich knowledge of this land which they have cared for, protected and balanced for millennia.

Our Country, 2022
88 x 119 cm Acrylic on canvas
Original artwork by Alfred Carter Gunaikurnai

Quality Assurance

Rhodes East
Public Domain Plan

Prepared for
City of Canada Bay

Project Number
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Revisions

No.	Date	Description	Prepared By	Reviewed By	Project Principal
01	21 December 2023	Initial Issue - Draft Public Domain Plan (WIP)	TR/ GP	LH	LH
02	03 March 2024	Draft Public Domain Plan 90%	TR/ GP/ JD	LH	LH
03	11 April 2024	Draft Public Domain Plan	TR/ GP	LH	LH
04	15 May 2024	Final Draft Public Domain Plan	TR/ GP	LH	LH
05	31 July 2024	Revised Final Draft Public Domain Plan	TR	LH	LH
06	01 August 2024	Final Public Domain Plan	TR	LH	LH
07	19 August 2024	Final Public Domain Plan Update	TR	LH	LH

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1 Introduction

1.1 Study Area

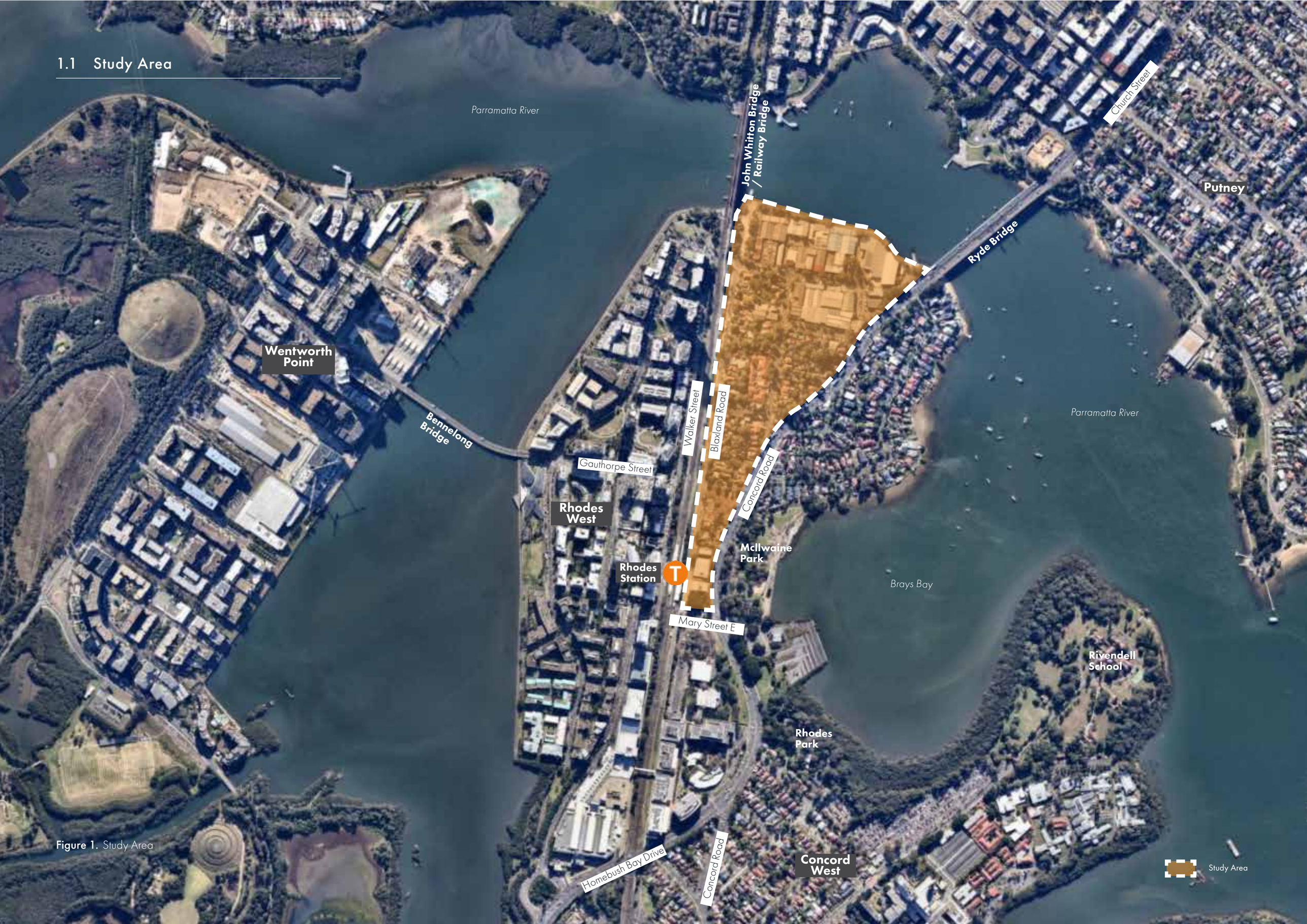


Figure 1. Study Area

1.2 Background

Rhodes was nominated by the City of Canada Bay as an area for renewal in 2015. The Rhodes East Precinct was rezoned in 2021 following the endorsement for the Rhodes Precinct Place Strategy.

This strategy outlines a 20-year vision for the area, transforming it from industrial and low-density residential to a mixed-use, high-density residential zone. The strategy emphasizes new homes, workspaces, public spaces and streets and improved transportation options. Following on from this, Council sought to prepare a Public Domain Plan to further evolve the objectives of the Place Strategy Structure Plan and make further recommendations to the refinement and detail of the public domain.

This Public Domain Plan covers Rhodes East -the land between Rhodes train station and Concord Road. The Parramatta River forms its northern boundary with Mary Street along its southern boundary.

1.3 Aims & Objectives

Through the Public Domain Plan, we aim to achieve:

- A Climate resilient environment through urban greening, bio-diverse plant communities, effective water sensitive urban design, and acknowledgment of natural systems.
- Minimum 25% Tree Canopy Cover in the public domain and streets
- A friendly and comfortable walking and cycling environment which minimises the use and dependency of private vehicles and their impacts to pedestrians and cyclists.
- A welcoming, safe and convenient, evocative and memorable place which supports the needs of a new community while nurturing the cultural history of the precinct.
- Accessible and equitable open spaces, civic connections, community corners and a new public foreshore park that celebrates its connection to Parramatta River.

1.4 Design Philosophy & Process

Creating an outstanding public domain environment is dependent upon the implementation of successful place making. It requires the understanding of the natural environment and ecological values of the peninsula, current cultural heritage of the precinct and its future aspirations to become a high-density human scaled precinct.

It's important to further understand the influences of the public domain on the natural environment, people, and place. Environmental and ecological, physical, cultural, social, and commercial factors need to be considered during the analysis. A synthesis of the issues and a rational and innovative design process needs to result.

The development of the Plan has been undertaken in the following steps:

- Stage 1 Background Research and Analysis
- Stage 2 Understanding of the Vision as outlined in the Rhodes Precinct Place Strategy 2021
- Stage 3 Evolution of Design Principles and Concept Designs
- Stage 4 Draft Public Domain Plan
- Stage 5 Review feedback and finalization of the Rhodes East Public Domain Plan

1.5 Document Structure

The primary document being the Rhodes East Public Domain Plan incorporates the vision, analysis, design principles and strategies. The document is to be used in conjunction with the technical details elaborated in the Street Tree Masterplan and Street Design Guidelines.

The nature of the Public Domain Plan and the supporting documents is such that they are living documents. They address the main challenges and set the framework and tone for future design activities. The development of works for actual construction is an extension of this process and will need to be undertaken on a similar rigorous basis. Nevertheless, this Plan together with Council's initiatives provide a sound platform from which to embark.

2 Background Document Review

2.1 Background Document Review

The primary objective of the Place Strategy was to "generate a human scaled sustainable development outcome, rather than maximizing development potential.'

Canada Bay Council has a suite of documents which guide us in the creation of this public domain Master Plan.

Rhodes Precinct Place Strategy – Urban Design Report

Objectives to consider:

- Plan for a sustainable future – Fostering an urban green canopy with biodiverse planting, water management.
- Prioritise Active Transport – Providing opportunities for people to choose and use public transport method over private vehicles.
- Public access to the waterfront – Protecting views to water and providing safe connection / access to Parramatta River.
- Great public spaces – Enhance liveability and place making, activating public domain with safe, accessible, cool streets and parks to encourage gathering and socializing.
- Better East- West connections – improve accessibility to Train Station and West Rhodes. Encourage safe walking and cycle connections.

Design Principles to consider:

- Open Space for amenity
- Pedestrian experience above all other modes of transport - Developing a network of living streets and active streets.
- Celebration of the peninsula and waterfront – ensuring physical and visual connections to Parramatta River
- Consistent Rhodes Precinct with public realm variances for each sub precinct

Urban Tree Canopy Strategy

- Ensuring protection of existing valued vegetation with new resilient and diverse urban forest
- Right Tree, Right Place
- Tree Canopy target of 25% by 2040 with increase canopy in streets and parks in public land.
- Provisions for adequate space for large tree planting and reduction of conflict with services infrastructure.

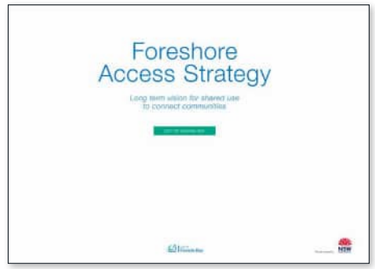
Rhodes Precinct- Traffic and Transport Report

- A transport network that will cater for an estimated 3,000 dwellings.
- A street hierarchy based on movement and place framework.
- New strategic cycle links for both local and regional connectivity
- Improvements to bus, train and ferry services to encourage use of public transport.
- Sustainable transport by reduction of private vehicle demand, increasing mode share of active and public transport use.
-

Foreshore Access Strategy

- Improve access to foreshore along public connections
- Linking public open spaces / paths along Parramatta River ensuring continuous access through different precincts / suburbs
- Supporting, strengthening and expanding existing biodiversity corridors ensuring critical habitats along the foreshore are protected.
- Ensuring future development site are sensitive to the River environs - Rhodes East will deliver the Leeds Street Foreshore Park, connecting Homebush Bay to Brays Bay.

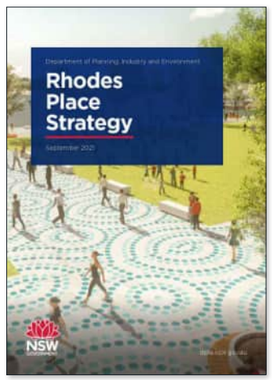
Rhodes Precinct Place Strategy Urban Design Report, NSW Planning, Industry & Environment, 2021



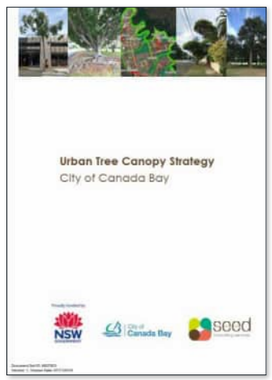
Foreshore Access Strategy

Rhodes Precinct, Traffic and Transport Report, Jacobs, 2021

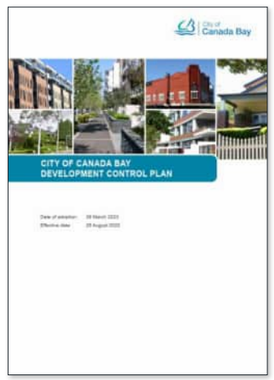
Rhodes East Priority Investigation Area Hydrology and Flooding Report, Jacobs, 2016



Rhodes Precinct Place Strategy Urban Design Report, NSW Planning, Industry & Environment, 2021



Urban Tree Canopy Strategy, City of Canada Bay, 2019



Development Control Plan, City Of Canada Bay, 2022

2.2 Current Illustrative Master Plan

Figure 2. Current Illustrative Masterplan (Rhodes Precinct Place Strategy Urban Design Report, 2021)

2.3 Current Urban Design Structure Plan

The current Structure Plan encompasses a wide range of Urban Design Elements which promotes a human scale public domain prioritizing pedestrian and cyclist movement and comfort.

This Public Domain Plan will examine the key public domain features as outlined in the Structure Plan including:

- The redevelopment of the foreshore into a new public accessible waterfront precinct.
- New East-West streets to increase permeability.
- New North-South pedestrian links to the foreshore.
- Community Corners or local parks and
- Streetscape upgrades to existing streets.

The Structure Plan also identifies key community infrastructure facilities that will support the new population by ensuring ease of travel and connectivity. They include:

- The future school
- The future ferry wharf and
- The future pedestrian bridge between Rhodes Station to McIlwaine Park.

Whilst the design for the future infrastructure is yet to be determined, this Public Domain Plan will address the interface zone with complimentary features.

This Public Domain Plan aims to further test and investigate the principles set out in the Structure Plan with a practical approach. It will provide recommendations and modifications as appropriate to ensure the detail solutions are functional, site responsive, enduring and timeless in its application.

Figure 3. Current Structure Plan (Rhodes Precinct Place Strategy Urban Design Report, 2021)

Figure 013. Rhdoes Precinct Structure Plan

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2.3.1 Current Primary and Secondary Streets

Figure 4. Current Primary and Secondary Streets Diagram (Rhodes Precinct Place Strategy Urban Design Report, 2021)

2.3.2 Current Street Character Hierarchy

Figure 5. Current Street Character Hierarchy Diagram (Rhodes Precinct Place Strategy Urban Design Report, 2021)

2.4 Current Public Domain Framework

2.4.1 Current Public Domain Plan

LEGEND

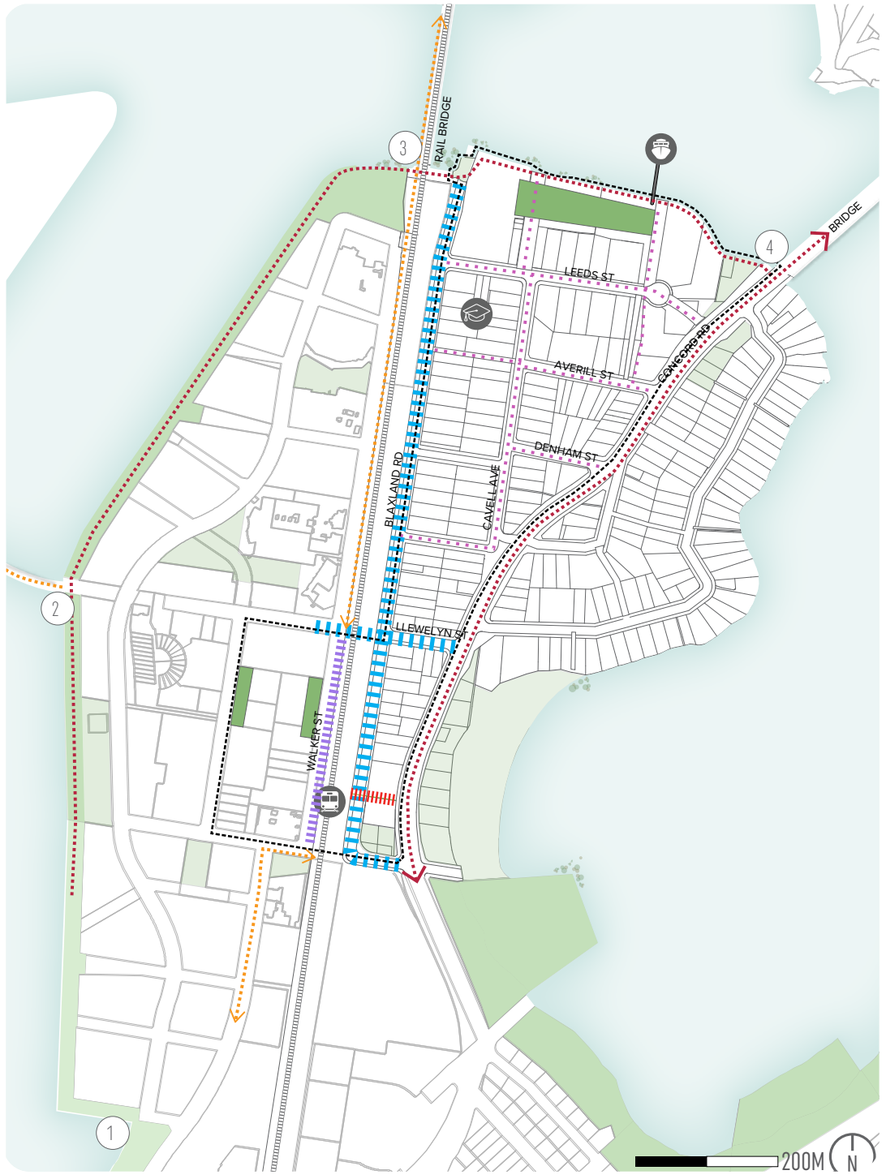
- Precinct Boundary
- Proposed Ferry Wharf Location
- Existing Open Space / Parkland
- Proposed Open Space / Parkland
- Station Bridge Plaza
- Station Bridge Stubs
- Indicative new school site
- Rhodes Station
- Green streets
- Pedestrian only streets
- Existing mangrove / Ecological Habitat
- Community Corners

EXISTING OPEN SPACE

1. Mill Park
2. Leeds St Foreshore Park (Proposed)
3. Uhrs Point Reserve
4. King George V Reserve
5. McIlwaine Park
6. Brays Bay Reserve
7. Churchill Tucker Reserve

Figure 6. Current Public Domain Plan (Rhodes Precinct Place Strategy Urban Design Report, 2021)

2.4.2 Current Cycle and Pedestrian Networks



LEGEND

- Precinct Boundary
- Proposed Ferry Wharf Location
- Existing Open Space / Parkland
- Proposed Open Space / Parkland
- Station Bridge Plaza
- Station Bridge Stubs
- Indicative new school site
- Rhodes Station
- Regional cycleway / pedestrian path
- Separated cycleway / pedestrian path
- Shared cycleway / pedestrian path
- Active transport network
- Cycle connection as part of Walker St development and Bus interchange

GATEWAYS

1. Bicentennial Park
2. Bennelong Bay Bridge
3. Meadowbank Railway Bridge
4. Ryde Bridge

Figure 7. Current Cycle and Pedestrian Networks (Rhodes Precinct Place Strategy Urban Design Report, 2021)

3 Site Analysis

3.1 Existing Elevation & Slope

Rhodes East is part of the Rhodes Peninsular with a high point at approx. 21m elevation between Blaxland Road and Cavell Street.

The site falls towards Parramatta River with the water's edge at approx. 4m elevation. Both Blaxland Road and Cavell Street have gradual inclines with the greatest slope of 10% in parts.

The east-west streets consist of gentle gradients, which are suitable for comfortable walking and cycling.

Currently there is no view corridor to the waterfront from Cavell Street. Blaxland Road, after the crest, offer water glimpses with the boat ramp being the northern terminus of the precinct.

The proposed structure plan creates view lines to the water by introducing the north-south pedestrian links.

Figure 8. Existing Elevation Map

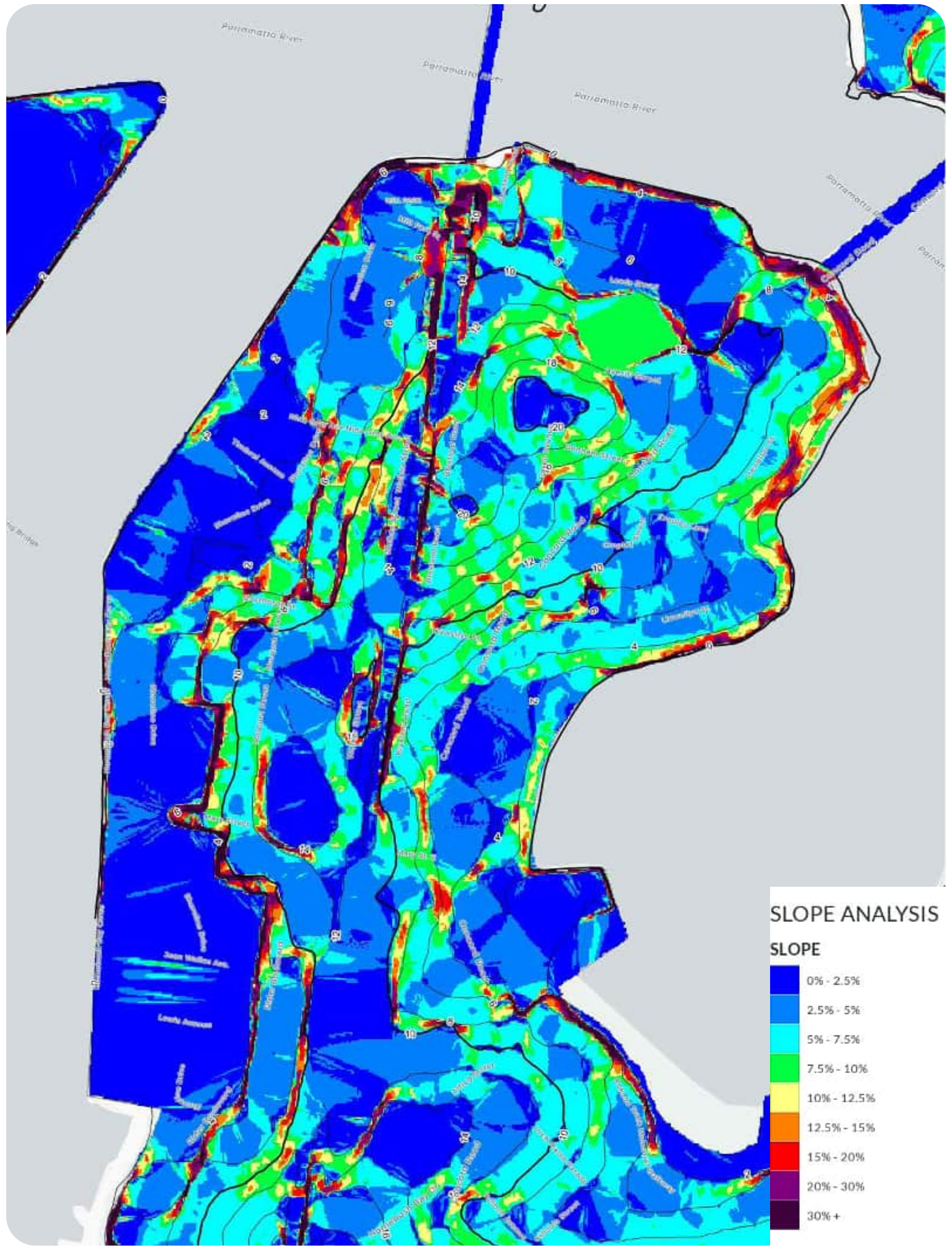


Figure 9. Existing Slope Map

3.2 Existing Trees and Vegetation

City of Canada Bay's Urban Tree Canopy Strategy (by Seed Consulting) 2019 notes that the Rhodes suburb tree coverage was approximately 18% coverage with majority of the tree canopy residing in private property, resulting in less than 20% canopy cover for the suburb.

In the Rhodes East Precinct, the existing tree coverage is a mix of native and exotic species. Mature Ficus trees in Churchill Tucker Reserve forms the southern entry point to the precinct and is well shaded and pleasant in the warmer months.

Blaxland Road trees are irregularly spaced along its eastern verge only. There is a mix of Lophostemon sp. (Brush Boxes), Cupaniopsis anacardioides (Tuckeroos) and Melaleucas sp. (Paperbark).

Leeds Street trees are irregularly spaced on both verges. Tree under powerlines have been pruned and are irregular form. The trees on the southern verge are not impacted by powerlines and consist of good form to provide generous shading to adjacent properties. Trees along Leeds Street consist of Lophostemon sp. (Brush Boxes) and Eucalyptus sp.

Averill Street is similar to Leeds Street with irregularly spaced Lophostemon sp. (Brush Boxes) with trees under powerlines pruned to minimise impact on infrastructure.

Llewellyn and Denham Street trees consist of mature Lophostemon sp. (Brush Boxes) which are consistent in form and provide generous shade to the streetscape.

Cavell Street has a very limited amount of street trees. The existing Phoenix sp. Palms are listed under the Local Heritage Overlay and will remain part of the Cavell Street identity.

Whilst the existing tree network is inconsistent, the opportunity lies in future planting of the new Rhodes East Precinct. To be able to achieve the minimum 25% tree coverage, careful selection of species to cope with the site conditions, generous planting area and ongoing maintenance is required to deliver a healthy network of trees.

Figure 10. Existing Trees and Vegetation Map

3.3 Flooding and Stormwater

City of Canada Bay undertook a hydrology and Flooding study (by others) in 2016 for Rhodes East, which is subject to flooding from several overland stormwater flow paths.

Additionally, the area is also subject to tidal inundation from Parramatta River. The report also concludes with multiple recommendations to improve / reduce the existing flooding behaviour.

A key recommendation is the inclusion of upgrading existing stormwater infrastructure and improving stormwater quality, suggesting Water Sensitive Urban Design (WSUD) elements be interwoven into the public domain and future developments.

All future design work along the foreshore is subject to future detailed flood studies and investigations to ensure they meet the requirements of the Department of Planning's flood planning level of 3m AHD along the water's edge.

All future development interfaces along the foreshore shall consider flood protection measures and to allow a minimum 2.5% cross fall away from private properties.

The proposed drainage layout is indicative only. Further investigations including stormwater assessment and utility services search etc. will be required to validate the drainage design which includes determination of pipe sizes and pit numbers.

Figure 11. Possible Flooding Map

Figure 12. Pits and Pipes Map

3.4 Existing Street Hierarchy and Parking

Rhodes East Precinct lies between two major transport infrastructure - The Railway Corridor and Concord Road, a congested arterial road that will continue to be a key bus and freight corridor. Both act as barriers to the east-west movements for walking and cycling.

The local street network is constrained with on-street parking with limited public bus services.

Blaxland Road is the main local north south street along the railway corridor serving as the main commuter parking street for people using Rhodes Train Station.

Averill and Mary Street are signalised intersections with right turn movements into Rhodes East. All other locals streets intersecting Concord Road are left in/ out only.

Leeds Street is the only local street to connect directly into Rhodes West via Walker Street. This results in a "Z" movement for vehicles entering the precinct from Concord Road. It is also the main bus route and will remain as the primary vehicle movement corridor between east and west, allowing other streets to be dedicated to future cycle and pedestrian networks.

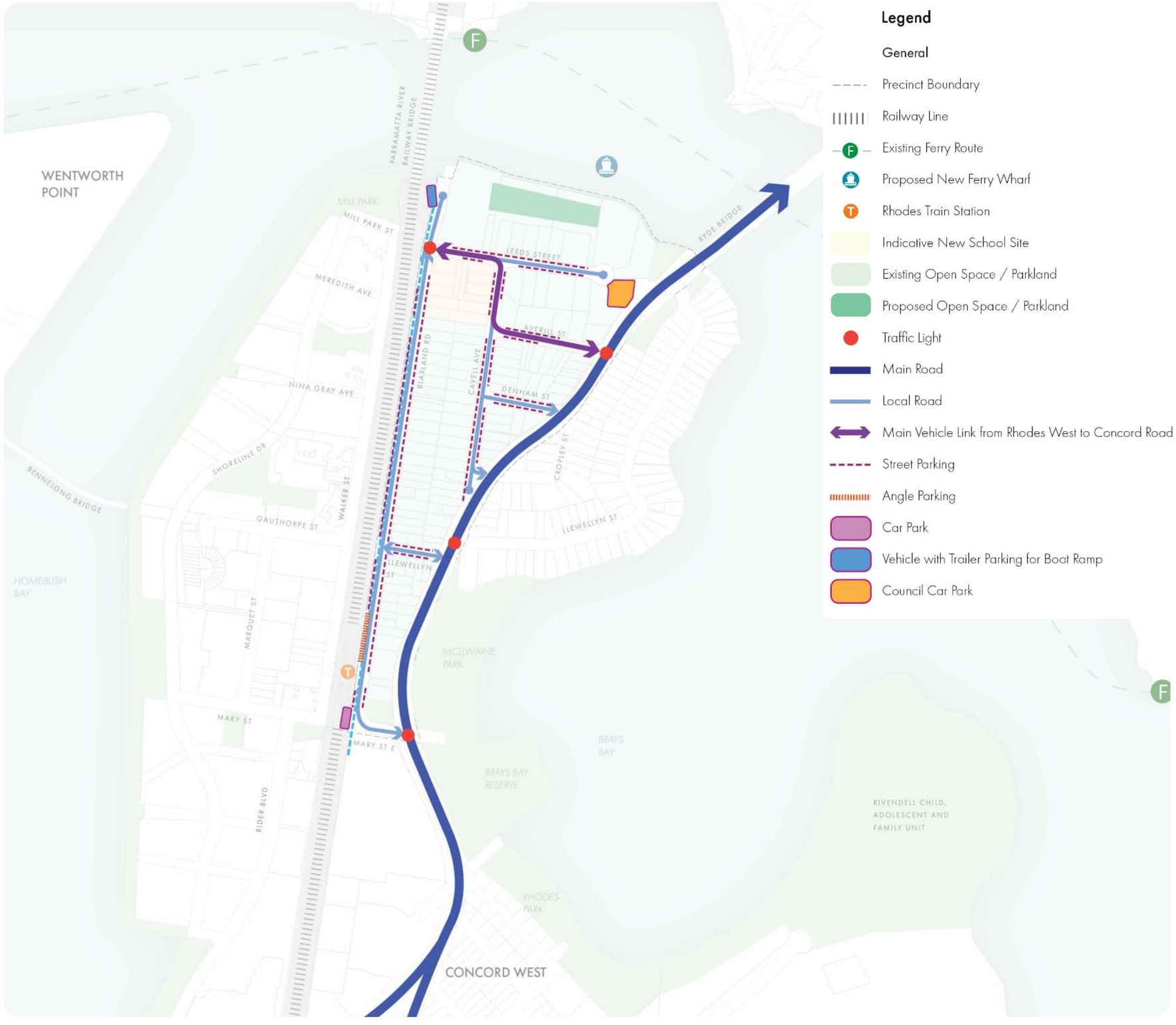


Figure 13. Existing Street Hierarchy and Parking

3.5 Existing Active & Public Transport Networks

Rhodes East has limited bus routes. Bus routes 458/533 utilizes the "Z" movement along Leeds, Cavell Street North, and Averill Street. These are the only bus services to enter / exit Rhodes East Precinct. Other bus routes run along Concord Road and Walker Street, west of Rhodes Station. Currently, rail replacement buses operate along Mary Street East, Blaxland Road and Llewellyn Street. This report assumes the continuation of this arrangement.

The main commuter modal point is Rhodes Train Station with the T9 Northern Line servicing Rhodes peninsular. With future demands, public transport must be managed to support sustainable transport behaviour to ensure reduction of vehicle dependency.

The existing active transport network requires a precinct wide approach to ensure future streets are designed for pedestrian and cycling activities. The existing north-south shared path along Blaxland Road is the main cycle link to Meadowbank via John Whitton Bridge. There is no other cycle infrastructure and cyclists are forced on-road to filter through Rhodes East.

The new Rhodes East Precinct will present a greater range of cycling and walking opportunities for the new community. The new path network will include both shared paths and dedicated cycle lanes and will be generous, clear, safe and well-connected allowing ease of movement within and through the precinct. It is intended these paths create continuity in the public domain, seamlessly linking community facilities and promoting sustainable travel that benefits the health of the community.

Traffic calming will be implemented to support reduction of speed limit in Rhodes in line with Transport for NSW framework for improved outcomes in local and neighbourhood streets.

Figure 14. Existing Active & Public Transport

4 Opportunities & Constraints

4.1 Site Constraints

Figure 15. Site Constraints

LEGEND

- Existing Signalised Intersections
- Future pedestrian links to waterfront
- Existing on-road cycle
- Existing Shared-Path
- Existing and Future Local Streets
- Future Traffic Street
- Current Bus Routes
- Railway Line - Physical Barrier
- Existing foreshore currently not accessible

1. Linear waterfront park and edge
2. Future School Site
3. Averill, Cavell and Leeds St to be major east- west traffic through link with buses
4. Existing Leeds / Walker signalised intersection requires upgrade for increase through traffic

4a. Inefficient width of pedestrian/ cycling link under railway bridge

5. Existing shared path along Blaxland Road inefficient / width varies
6. Lack of pedestrian / cyclist permeability in east west movement
7. Concord Road - Arterial Road poor pedestrian amenity.
8. Llewellyn St (East) - Southbound On-road cycle lane / dedicated with northbound cycle shared with vehicles in traffic lane
9. Rhodes Train Station - Lift / Stair Access over railway
10. Gauthorpe Street - absence of cycle amenity

4.1.1 Site Constraints Photos

Railway Line - Physical Barrier

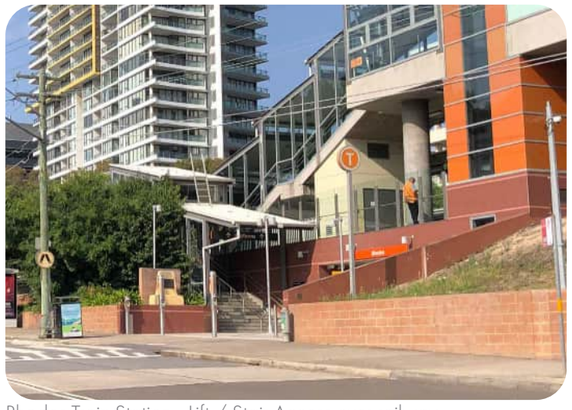
Existing Leeds / Walker signalised intersection requires upgrade for projected traffic increases

Inefficient width of pedestrian/cycling link under railway bridge

Existing shared path along Blaxland Road inefficient / width varies

Concord Road - Arterial Road poor pedestrian amenity

Existing foreshore currently not accessible



Rhodes Train Station - Lift / Stair Access over railway

Poor pedestrian/cyclist link to McIlwaine Park

4.2 Site Opportunities

LEGEND

- Averill, Cavell and Leeds St to be major east- west traffic through link with buses
- Existing Shared-Paths
- Proposed Shared-Paths
- Two Way Separated Cycleway
- Existing On-Road cycle
- Proposed On-Road cycle
- Opportunity to improve pedestrian / cyclist connectivity to existing Leeds / Walker signalised intersection
- Opportunity to provide safe pedestrian / cycling link connecting east - west Rhodes

1. Opportunity to create a dynamic shoreline and waterfront park
2. Future School Site
3. Averill, Cavell and Leeds St major east- west traffic road with buses
4. Leeds / Walker signalised intersection Opportunity to widen underpass to improve pedestrian / cycle connections and provide safe crossing points.
4a. New signalised intersection with safer pedestrian / cyclist connection to foreshore
5. Blaxland Road - Provide Two-Way Cycleway on western verge
6. Opportunity to provide pedestrian / cycling link connecting east - west
7. Concord Road - Opportunity to provide north south shared path western verge / Shared path crosses over at Llewellyn Street and continues along McIlwaine Park
8. Llewellyn Street west - Opportunity to implement separated cycleway
9. Opportunity to provide connection from Rhodes Train Station to McIlwaine Park
10. Opportunity to provide shared path along Gauthorpe Street to connect western foreshore with Rhodes Train Station

Figure 16. Site Opportunities

4.2.1 Site Opportunity - Foreshore Edge and Connectivity

The foreshore along the western Rhodes Peninsula is delineated by a straight hard-edge shared-path providing residents and visitors easy access to the water edge. The water's edge along Brays Bay is predominately restricted due to private residences, though not accessible, it has a more organic shape. The Rhodes East Structure Plan outlines the transformation of the Leeds Street foreshore precinct between John Whitton Bride and Ryde Bridge.

Views from across Parramatta River show a linear concrete seawall with vast turf areas fronting the industrial properties. Vegetation coverage is limited with a small pocket of existing mangroves at the base of John Whitton Bridge adjacent to Rhodes Boat Ramp.

Whilst the design of the foreshore is yet to be determined, Council's DCP clearly outlines a dedicated 15m minimum foreshore promenade with a public domain interface zone before any new development can occur.

This Public Domain Plan makes suggestions to "soften the foreshore edges" to a more organic water interface, where the tidal movement of water can be celebrated and embedded into a new public foreshore park. Similar to the new foreshore park at McIlwaine Park, the existing concrete seawall should be replaced, in parts or full length, with a new "transitional" edge ensuring a natural transition between land and water.

SOFTENING THE EDGES

MICRO-FOREST CORRIDORS / PERMEABILITY

WATER SENSITIVE URBAN DESIGN OPPORTUNITIES

5 Design Principles & Benchmarking

5.1 Public Domain Design Strategies

"Rhodes will encourage residents and visitors to walk further, stay longer, live more happily and take pride in this place."

Rhodes Planned Precinct Urban Design Report (Roberts Day + Turf)

As identified in the Urban Design Report, the Key Design Principles directly related to public domain include:

- Open Space should be designed for amenity.
- Prioritise pedestrian experience above all other modes of transport.
- New Open space should celebrate the peninsula location and amenity of Parramatta River.
- Prioritise views to water.
- Promote fine grain variances in the public realm between character precincts.
- Prioritise pedestrian experience above all other modes of transport.
- Providing a well-connected active transport network for human focused permeability
- Advocating for greater public transport offerings with frequent bus and train services to meet future demands of new population.

In addition, the following principles will also be explored in this report:

- Preservation of heritage items and strengthening their presence and;
- Connection to the land, water and sky.

This Public Domain Plan will provide detailed strategies to strengthen the design principles, by embedding them into the foundational building blocks of:

- Green and Blue Networks;
- Streets for People and;
- Places for People.

GREEN AND BLUE NETWORK

Provide an integrated green and blue network connecting the waterfront to the urban parks, reducing environmental impacts, improving public health and contributing to a beautiful landscape.

STREETS FOR PEOPLE

Create pedestrian and cycle friendly street environments that are easily accessible for all users. Prioritise people by creating a traffic environment where priority is given to pedestrian movement, cycling infrastructure and public activity.

PLACES FOR PEOPLE

Offer places with a diverse range of year-round uses, high public amenity and distinct design quality where the stories of the Rhodes community can be represented, enhanced, nurtured, renewed and created. This will ensure a legacy of community pride and ownership for their streets, parks and waterfront.

5.2 Green Network: Tree Canopy and Landscape

A healthy network of trees and supporting greenery means they are resilient to pests, disease, damage, and a changing climate, which is driving higher floods and hotter temperatures.

Urban greening can provide social, economic and environmental benefits in the public and private space if the right vegetation, including trees, are planted in the right place, and maintained in the right way. While trees and other types of plants can provide 'disservices', such as roots causing footpath damage or dropping fruits and leaves, many of these risks can be moderated by applying strong urban forestry and water sensitive urban design practices. It is these practices that this Public Domain Plan seeks to embed in the Rhodes East Precinct.

Streets can provide a connected green network, with planting and street trees offering a variety of benefits to the environment, people and places within the public realm, including:

- Conserving and enhancing biodiversity and increasing access to nature;
- Improving air quality and filtering pollutants;
- Providing canopy coverage for shade, encouraging pedestrian movement;
- Facilitating adaptation to climate extremes;
- Enhancing 'sense of place', providing distinctive destinations for visitors and residents;
- Providing a buffer between pedestrians and car movement; and
- Providing seasonal interest and natural beauty through foliage, flowers and textures.

Primary north / south streets such as Blaxland Road and Cavell Street and the local east/ west streets combine to provide a full network of green corridors within the precinct. Extending these streets provide further opportunity to connect existing neighbouring green spaces.

In additions to Council's objective to achieve 25% Tree Canopy coverage, Council's DCP outlines the requirements to achieve the 25% Green View Index, a numerical value placed on the amount of "green" landscape area observed by individuals at street level.

The methodology to achieve the 25% Green View Index is clearly defined in the DCP. This Public Domain Plan and Street Design Guideline will test the methodology for all public streets within the precinct and make recommendations to ensure the objectives are achieved.

Figure 17. Green Network

5.3 Blue Network: Water Sensitive Urban Design

A blue network works in conjunction with the green network, with Water Sensitive Urban Design (WSUD) practices, to bring a variety of benefits, including:

- Minimising impervious surfaces to mitigate changes to the water balance.
- Reducing overland storm water runoff by providing temporary rainfall storage and re-use along streets.
- Protecting the sensitive marine environs by filtering pollution out of storm water, including litter, heavy metals and hydrocarbons (oil and grease).
- Supporting wildlife habitats and increasing biodiversity.
- Contributing to the distinctive character and amenity of streets.
- Supporting local fauna, birds and pollinators during temperature extremes.
- Providing seasonal interest and natural beauty through foliage, flowers and textures.

The placement of water sensitive urban design elements into the public domain will be determined on an individual basis – street by street, block by block. This ensures that the stormwater catchment is effectively designed to maximize its functionality. WSUD elements may take the form of open rain gardens, kerb extensions with castellated openings for passive irrigation of garden beds and tree pits and creation of large capacity tree pits in paved areas. Together with an upgraded stormwater system, proper maintenance programs and willingness to adopt new technologies, the management and reduction of overland stormwater is intended to be seamless as possible for the new precinct.

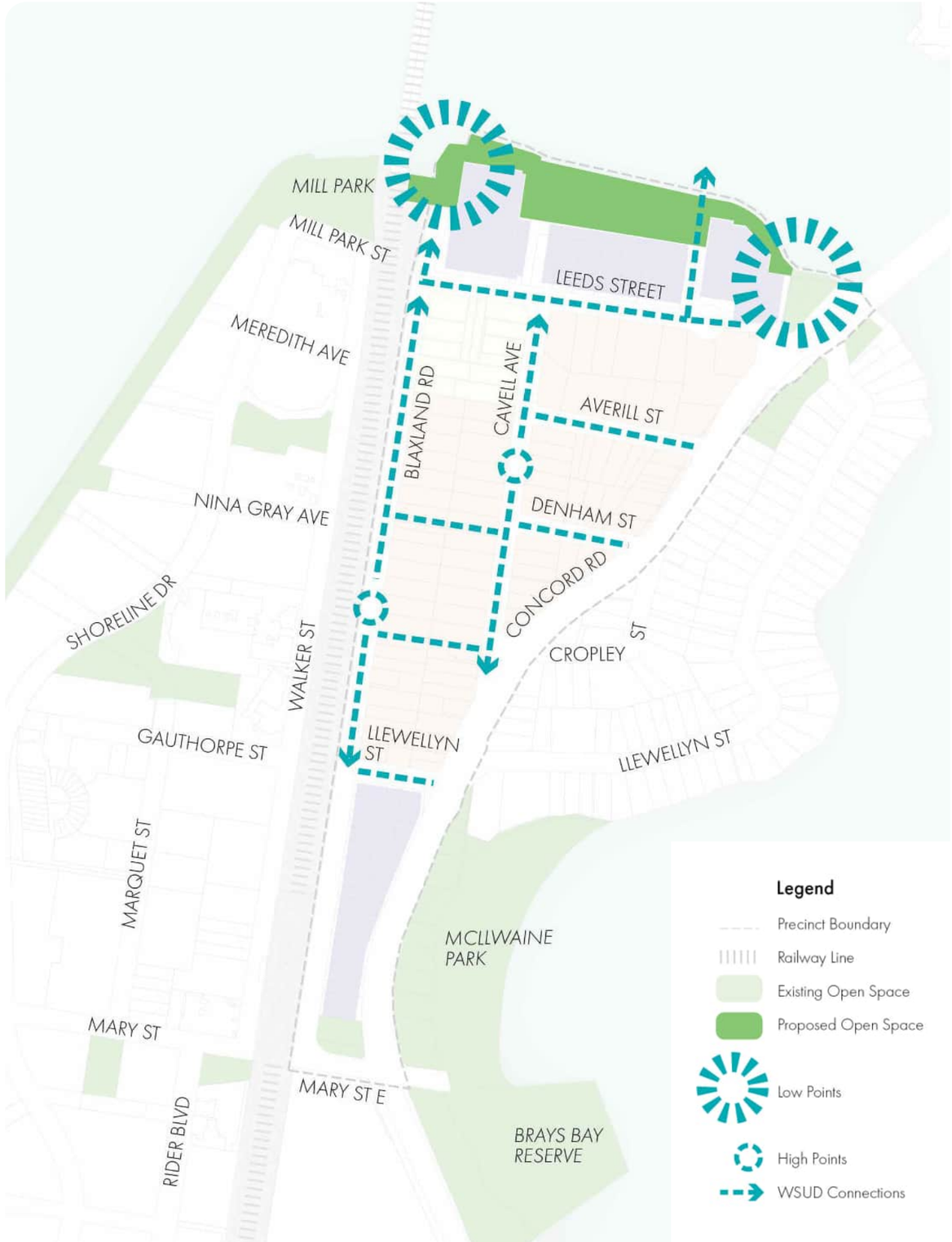


Figure 18. Blue Corridors - WSUD Opportunities

5.4 Streets for People: Cycle Network

Cycling, as a recreational activity and an alternative transit mode, is a low-cost, sustainable and healthy way to travel.

A pedestrian- and cycle-friendly street environments is easily accessible for all users. The environment needs to:

- Ensure streets and intersections are designed for pedestrian priority.
- Improve physical and visual access through safe, activated and well-connected streets and laneways.
- Provide footpath amenity, such as street furniture, lighting, and paving with even grades.
- Provide weather protection for pedestrians.
- Provide clear and informative wayfinding.

All streets (existing and new) in Rhodes East will support walking and cycling infrastructure such as:

- Separated Two-Way Cycleway
- Shared Path (Cycle and Pedestrian)
- On-Road Cycle
- Shared Zones
- Footpaths and
- Pedestrian Links

These will be supported by safe crossing points such as signalised crossings or raised pedestrian crossings at all intersections to ensure a continuous network is provided.

The installation of traffic signals is subject to further investigation, design development and approval from Transport for NSW. Pending factors such as the staging of redevelopment in the area and if/when TfNSW approve traffic signals, alternative interim or permanent arrangements may be required to manage pedestrian, cyclist and traffic movements. This may include alternate treatments such as pedestrian crossings and intersection upgrades.

The pedestrian links between Leeds Street and the Foreshore are required to be suitable for both walking and cycling.

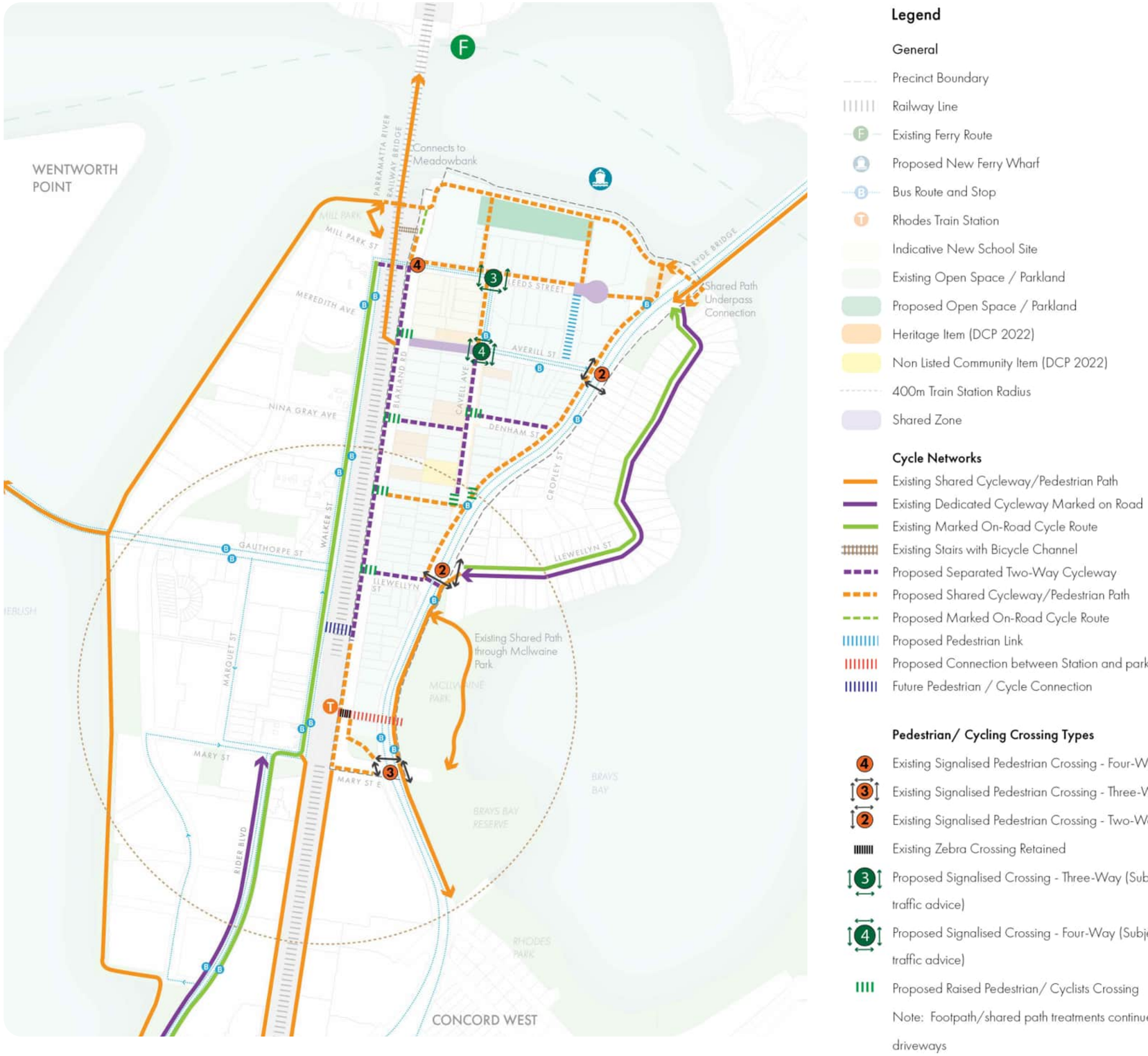


Figure 19. Cycle Network

5.5 Street Typologies

The Rhodes Precinct Place Strategy Urban Design Report identifies a well-balanced selection of Street Typologies and this Public Domain Plan supports the fundamental principles. The main departures from the Structure Plan is the recommendation to formalise the "Z" movement streets to allow east-west vehicle movement to continue from Concord Road to Rhodes West.

Recommendations which depart from the Place Strategy Report Structure Plan includes:

- Averill Street from a Local Street to a Primary commuter street. It serves a high volume of vehicle movement to/ from Concord Road with bus route and bus zone on southern verge.

- Cavell Avenue North from a Community Spine to a Primary Commuter Street. It serves a high volume of vehicle movement to/from Concord Road with bus route and bus zone on eastern verge.

- Leeds Street West from a Destination Street to a Primary commuter street. It serves a high volume of vehicle movement to/from Concord Road, with a signalised intersection at Walker Street / Blaxland Road. It is also a bus route.

- Blaxland Road between Leeds Street and foreshore from a Primary/Commuter street to a Secondary street. With no through traffic and lower volume of vehicle movement, its main purpose is accessing to the existing boat ramp. It may provide vehicle access for future developments located to the east and along the foreshore.

Whilst Averill, Cavell Avenue North and Leeds Street West are considered vehicle commuter streets, they will provide shared paths and footpaths to ensure pedestrian connectivity.

All other street typology remain as per The Structure Plan. All street profiles encourages slow traffic speed to ensure safety of pedestrians and cyclists.

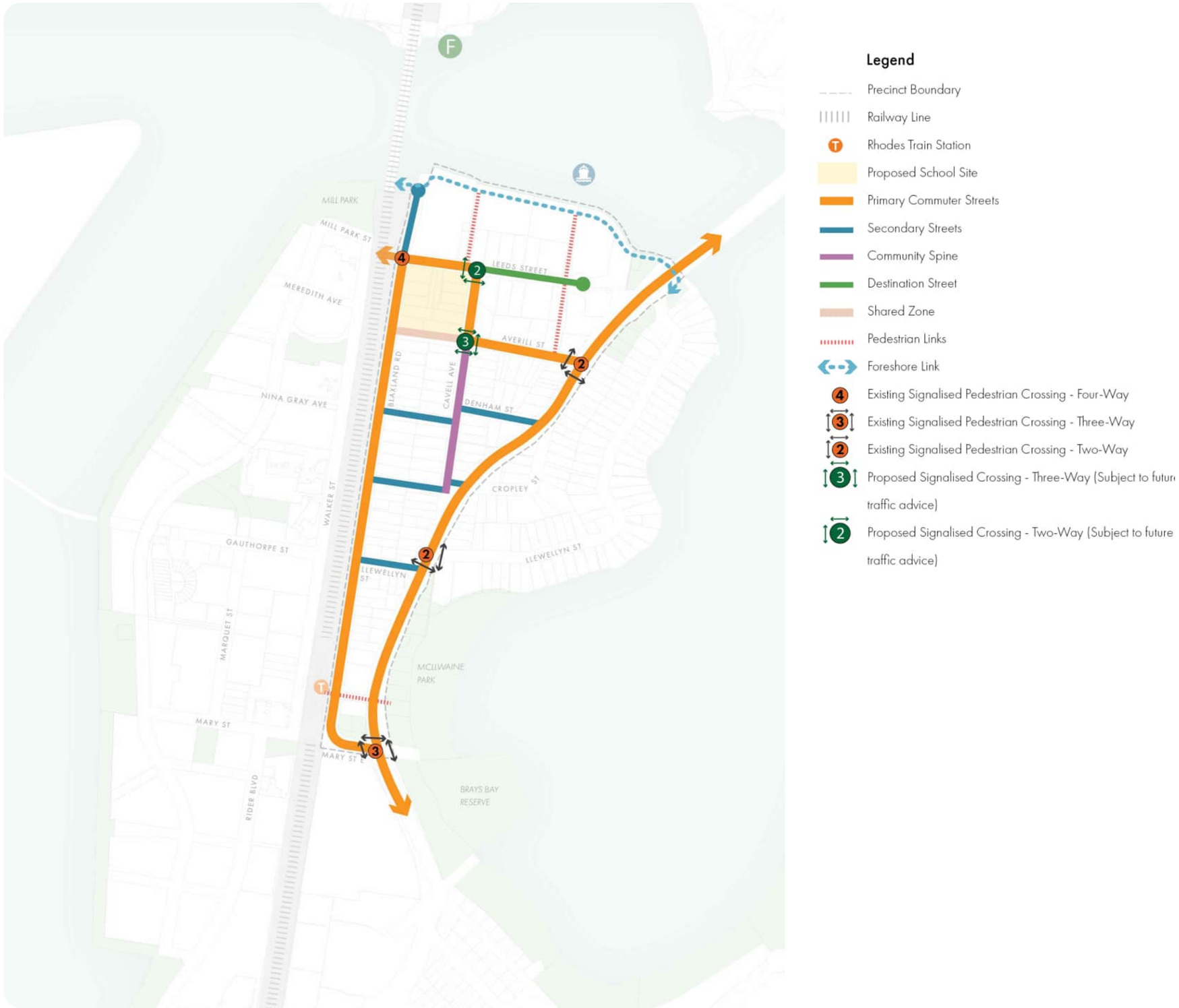


Figure 20. Street Typologies Plan

5.6 Street Lighting

Lighting is a critical piece of public domain infrastructure. It provides illumination to roads, pathways, and public spaces during the night. Lighting provides functionality to streets, creates ambience to urban plazas, promotes security and visibility during night-time use creating a sense of community and promoting a night-time economy.

The existing lighting infrastructure will be upgraded as part of the new development of the Rhodes East Precinct. Concord Road will largely remain as underground supply with assets managed by Service Authority owners. Blaxland Road's western verge will retain most of the existing overhead supply, with the eastern verge to be upgraded as the development occurs.

The selection of lights, variation and lighting level will be critical not only in creating a safer community space but also to the management and impact on fauna. Street lights can impact biodiversity and ecosystems of nocturnal animals, insects, and birds, making choices of light fittings a critical process in balancing a cohesive environment.

Street lights shall be arranged to minimise conflict with street tree canopy whilst providing sufficient illumination to the public domain. (Note: Street light locations shown in this Public Domain Plan are indicative only and are subject to future lighting and electrical design.)

All local streets (new and existing) within Council property will be Council owned assets. All other lights and lighting hardware located within private land or privately own pedestrian links/ easements shall be under the ownership and responsibility of the property owner.

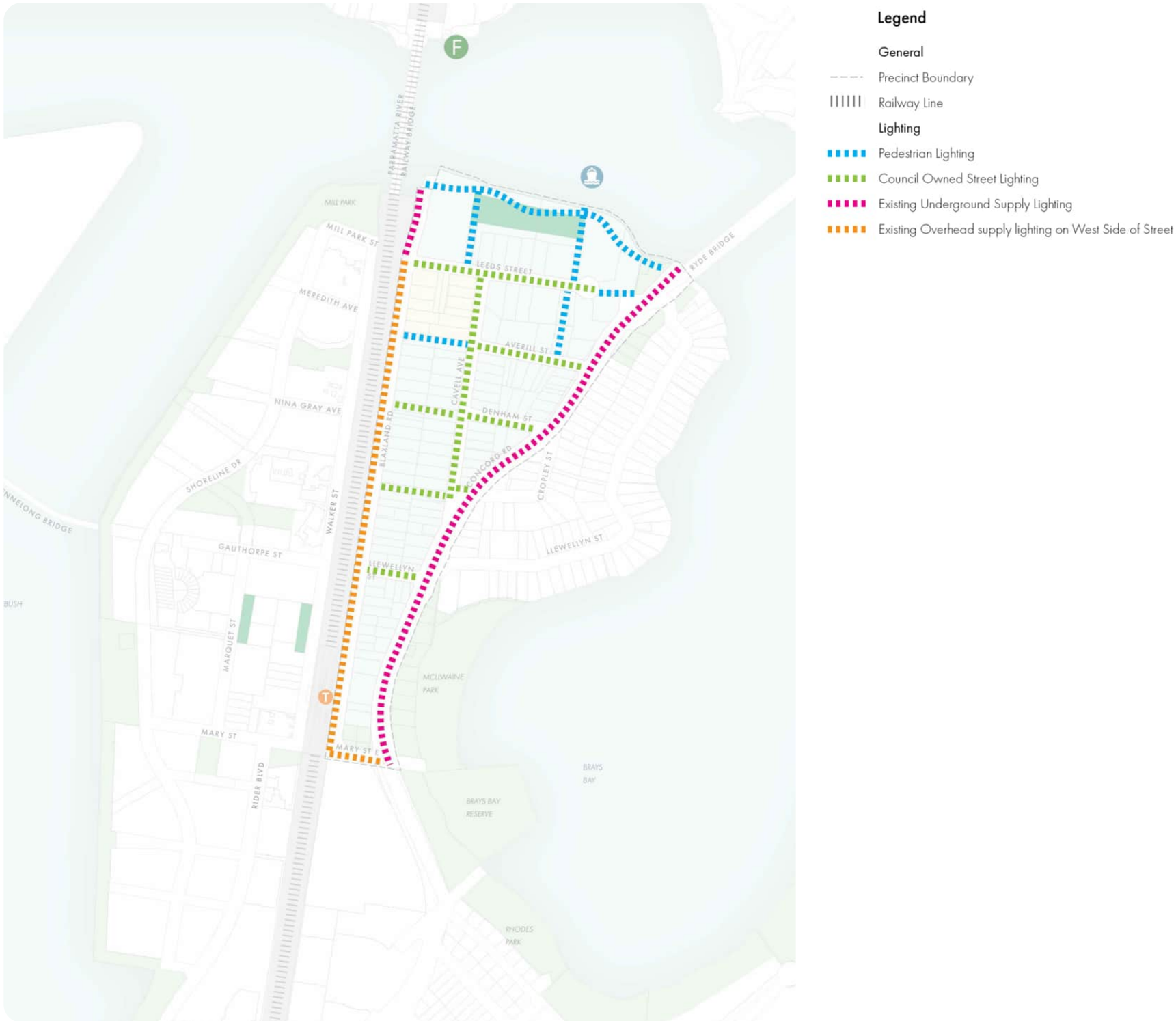


Figure 21. Street Lighting

5.7 Benchmarking - Foreshore Edges

Barangaroo Foreshore, Sydney

Vancouver Waterfront Park, Canada

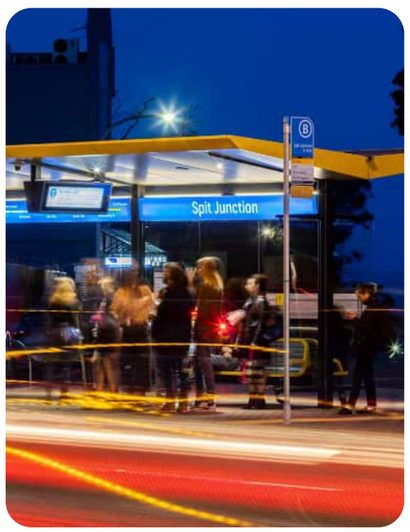
Vancouver Waterfront Park, Canada

Vancouver Waterfront Park, Canada

McIlwaine Park, Rhodes

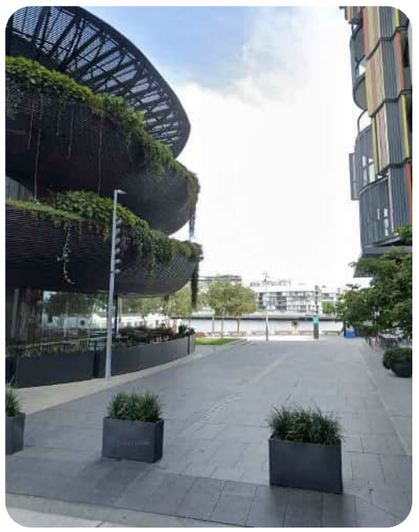
5.8 Benchmarking - Open Space and Activation

Open Space along waters edge - Coal Loader, Sydney

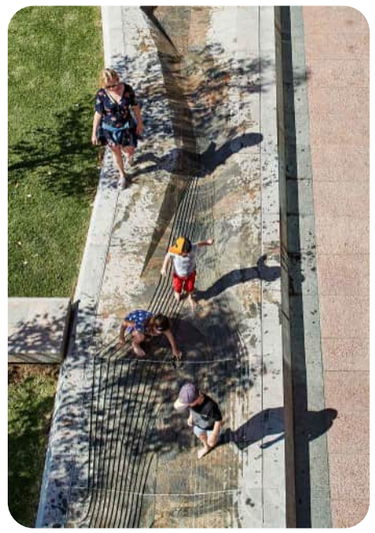


B-Line Northern Beaches Bus Rapid Transport

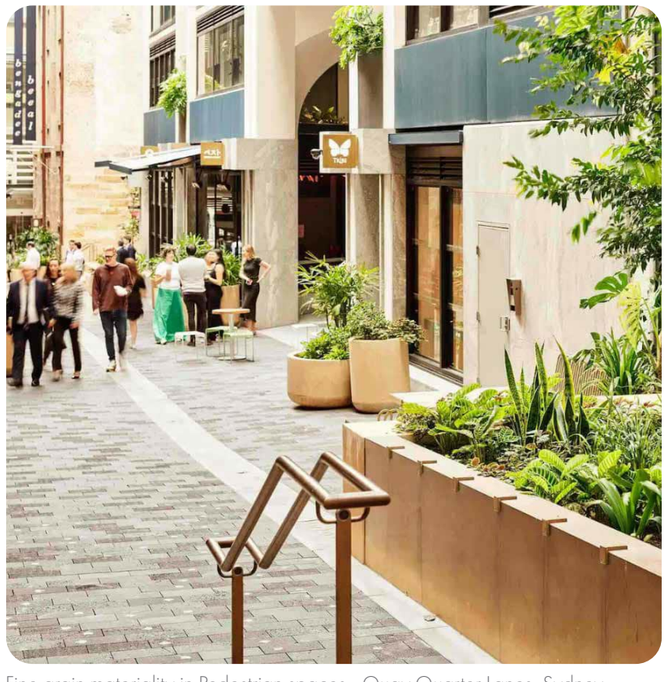
Pedestrian Spine with ground floor activation - Sydney



Pedestrian spine with views to water - Sydney



Water Play / Fun - Yagan Square, Perth



Fine grain materiality in Pedestrian spaces - Quay Quarter Lanes, Sydney

Wide pedestrian promenades with active frontage - Sydney

Shade and seating for respite along promenade - Sydney

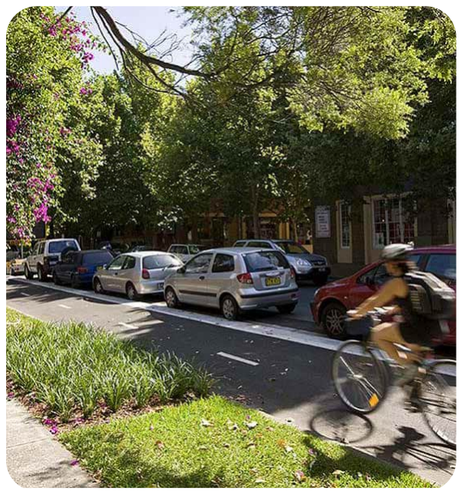
Outdoor passive recreation opportunities - Darling Quarter, Sydney

5.9 Benchmarking - Streets for Walking and Cycling

Surry Hills, Sydney

Zetland, Sydney

Pyrmont, Sydney



Surry Hills, Sydney

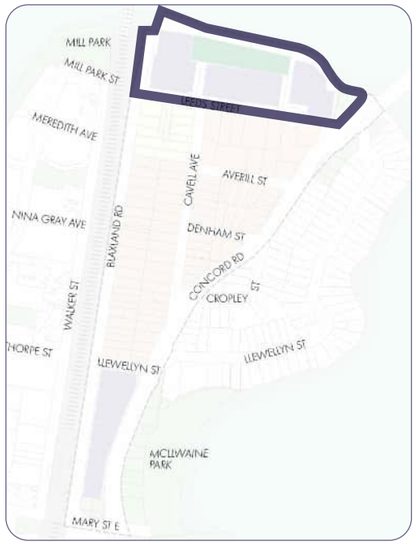
6 Public Domain Plan

6.1 Public Domain Concept Plans

6.1.1 Overall Public Domain Concept Plan

Figure 22. Public Domain Concept Plan

6.1.2 Northern Precinct: Leeds Street Character Area



"The Leeds Street Character Area will provide a multi-modal, water-based destination with high amenity including the ferry wharf, a mix of uses and characterised by extensive public open space and destination retail. It will introduce meaningful visual and physical connections to the water in addition to a vibrant mix of uses. The lifestyle and activities promoted within this Character Area will prioritise pedestrians and facilitate human interaction."

Rhodes Planned Precinct Urban Design Report (Roberts Day + Turf)

As identified in the Urban Design Report, the Key Design Features for the Leeds Street Character Area public domain include:

Visual and physical connections to water

- The northern terminus of Blaxland Road maintains both visual and physical connection to the water with the existing boat ramp and jetty retained. The existing mangrove community shall be protected as an ecological asset.
- The proposed north-south pedestrian links will provide direct access to the foreshore with clear view lines on approach.

Foreshore Park

- A new high quality open space destination with multi-use passive spaces for community programming, gathering and enjoyment.

Continuous and connected Foreshore

- A connected foreshore between East and West Rhodes which promote walking, running, cycling, promenading and casual strolling.
- The new North-South connections provide an alternate, safe pedestrian links integrated with the active transport networks to achieve a well-connected precinct.

Departures from the Urban Design Report include the following:

Leeds Street West

- Leeds Street was identified as a Primary / Destination Street in the Urban Design Report. This Public Domain Plan recommends Leeds Street West (west of Cavell Avenue) becomes a Primary Commuter Street to provide safe through vehicle movement / from Concord Road, into the precinct and connecting to West Rhodes.
- Leeds Street East remains as a Destination Street.

Open Space along waters edge (Coal Loader, Sydney)

Shared path under bridge (Skye Road. Source: Tract)

Pedestrian spine with views to water (Sydney)

Wide promenades with active frontage (Barangaroo Sydney)

Northern Precinct: Leeds Street Character Area Concept Plan

Legend

- Precinct Boundary
- Existing trees to be retained
- Existing heritage palm trees retained
- Proposed Trees
- Proposed Dedicated Cycleway
- Proposed Shared Path
- Proposed Footpath
- Road Speed Hump
- Public Art/ Landscape Feature
- 1 Leeds Street Foreshore Park &Promenade - Refer to page 44
- 2 Proposed Ferry Wharf Location
- 3 Pedestrian Through-site Link
- 4 Shared Path Under Bridge
- 5 Proposed Signalised Crossing

Figure 23. Public Domain Concept Plan - Leeds Street Character Area

6.1.3 Central Precinct: Cavell Avenue Character Area

"The Cavell Avenue Character Area is the critical human scale fabric that binds together the Precinct, providing the attractive walk-able framework for a genuine community and to connect to the destination amenity and services. ."

Rhodes Planned Precinct Urban Design Report (Roberts Day + Turf)

As identified in the Urban Design Report, the Key Design Features for the Cavell Avenue Character Area public domain include:

Continuous Connected Active Transport Network

- Dedicated cycleways, shared paths, shared zone are key features within this precinct. They are supported with safe crossing points at all intersections, ensuring priority movement for people and cyclists.

People Streets

- Cavell Avenue, Blaxland Road and Leeds Streets are defined as people streets in the Urban Design Report, which are optimised for walking, cycling and public transport. They are shaded with tree canopy creating comfortable cooling streets for ease of movement.

Community Spine and Community Corners

- Provide special and intimate open space moments embedded with associated active edges and heritage items.

New Streets and Slow Streets

- New East-West streets provide strengthens the network by providing permeability, human scale variety / options which promote active lifestyles.
- Proposed 30km streets within this precinct to cater for large pedestrian / cyclist volumes.

Departures from the Urban Design Report include the following:

Cavell Avenue North:

- Cavell Avenue was identified as a Primary / Community Spine in the Urban Design Report. This Public Domain Plan recommends Cavell Street North (north of Averill Street) becomes a Primary Commuter Street. The wide footpaths will cater for pedestrian movement to/ from Northern Precinct.

Averill Street:

- Averill Street was identified as a Local / Secondary Street in the Urban Design Report. This Public Domain Plan recommends Averill Street becomes a Primary Commuter Street to provide safe through vehicle movement / from Concord Road, into the precinct and connecting to West Rhodes. It serves as the major bus route with bus stop locations.

People Streets (Missenden Rd, Camperdown, NSW)

People Streets (Bondi Junction, Sydney. Source: Tract)

Community corners (Santana Row, California, US. Source: Google)

Central Precinct: Cavell Avenue Character Area Concept Plan

Legend

- Precinct Boundary
- Existing trees to be retained
- Existing heritage palm trees retained
- Proposed Trees
- Proposed Dedicated Cycleway
- Proposed Shared Path
- Proposed Footpath
- Road Speed Hump
- 1 Active Community Corner
- 2 Proposed School Site
- 3 Proposed One-Way Shared Zone
- 4 Proposed New Street

Figure 24. Public Domain Concept Plan - Cavell Avenue Character Area

6.1.4 Southern Precinct: Station Gateway East Character Area

"Station Gateway East will proudly announce arrival at Rhodes East from the south and guide people to the Station, Mcllwaine Park and to the foreshore.....There will be street level activation and a safe, pedestrian friendly environment will be prioritised to promote connectivity between the Station, across Concord Road, into Mcllwaine Park and link to Parramatta River."

Rhodes Planned Precinct Urban Design Report (Roberts Day + Turf)

As identified in the Urban Design Report, the Key Design Features for the Station Gateway East Character Area public domain include:

Station Gateway East

- Future Station Plaza integrated with mixed use development contributes an active urban gathering platform and a connection to the Mcllwaine Park.
- At street level, the station entry precinct needs to support large volumes of pedestrian, cycling and vehicle activities during peak times. A shared path environment provides a slow speed zone to minimise conflicts between multiple flows.
- Clear, visible signage to support easy wayfinding
- A new Kiss-n-Ride Zone will ensure continuous movements of vehicles to reduce traffic backlog.

Continuous active transport network

- Llewellyn Street will accommodate a new dedicated cycleway connecting Concord Road shared path with the Station Precinct. Mary Street South remains connect with the existing shared path network.

Churchill Tucker Reserve

- An existing open space being activated by new mixed use building frontage. The existing park will be upgraded / refreshed with new planting, public domain furniture, clear shared path environment and restoration of heritage items within the area.

Gateway area, dedicated cycleway, and active frontages (Bondi Junction, Sydney)

Sculpture/element to make Station Gateway distinctive (Brisbane Magistrates Court. Source: Tract)

Existing shared path to Mcllwaine Park from Concord Road

Central Precinct: Station Gateway East Character Area Concept Plan

Legend

- Precinct Boundary
- Existing trees to be retained
- Proposed Trees
- Proposed Dedicated Cycleway
- Proposed Shared Path
- Proposed Footpath
- Road Speed Hump
- Public Art/ Landscape Feature
- T Rhodes Station
- 1 Churchill Tucker Reserve
- 2 Proposed Station Plaza

Figure 25. Public Domain Concept Plan - Station Gateway East Character Area

6.2 Key Places

6.2.1 Leeds Street Foreshore Park Long-Term Vision

Legend

- Precinct Boundary
- Existing Trees Retained
- Proposed Trees
- Footpath
- Shared Path
- Public Art/ Landscape Feature
- Road Speed Hump

1. Existing Boat Ramp + Parking retained
2. Existing mangroves protected
3. 15m Waterfront Promenade includes shared path and dedicated footpath with material treatment for clarity.
4. Legacy Tree Line along foreshore
5. Softening of seawall with terraced sandstone blocks
6. Proposed Ferry Wharf
7. Boat launch for rowing upgraded
8. Activated ground floor edge open to foreshore
9. Foreshore Open space (turf)
10. Accessible and inclusive play space incorporating bespoke natural play elements and water play items
11. Pedestrian Links (required to be suitable for both walking and cycling)
12. Ecological Planting Zone (can be continued along the full foreshore length)
13. Boardwalk and Viewing Platform
14. Viewing Platform
15. Shared Path under Ryde Bridge
16. Uhrs Point Reserve
17. Existing Sea Scouts Group hall & DSA Dragon Boat Club retained and to be upgraded and integrated with the Waterfront Promenade

Note: Future investigations to be undertaken to the detail design of the seawall. The design illustrated in this public domain plan is indicative only.

Facilities & Programs

- Toilet
- Play
- Bespoke/ natural play
- Seating
- Garden
- Urban Forest
- Picnic setting
- Bike facilities
- Event
- Public Art
- Fitness
- Restaurant/ retail

Figure 26. Key Places' Plan - Leeds Street Foreshore Park Long-Term Vision

6.2.2 Leeds Street Foreshore Park Short-Term Vision

Legend

- Precinct Boundary
- Existing Trees Retained
- Proposed Trees
- Footpath
- Shared Path
- Public Art/ Landscape Feature
- Road Speed Hump

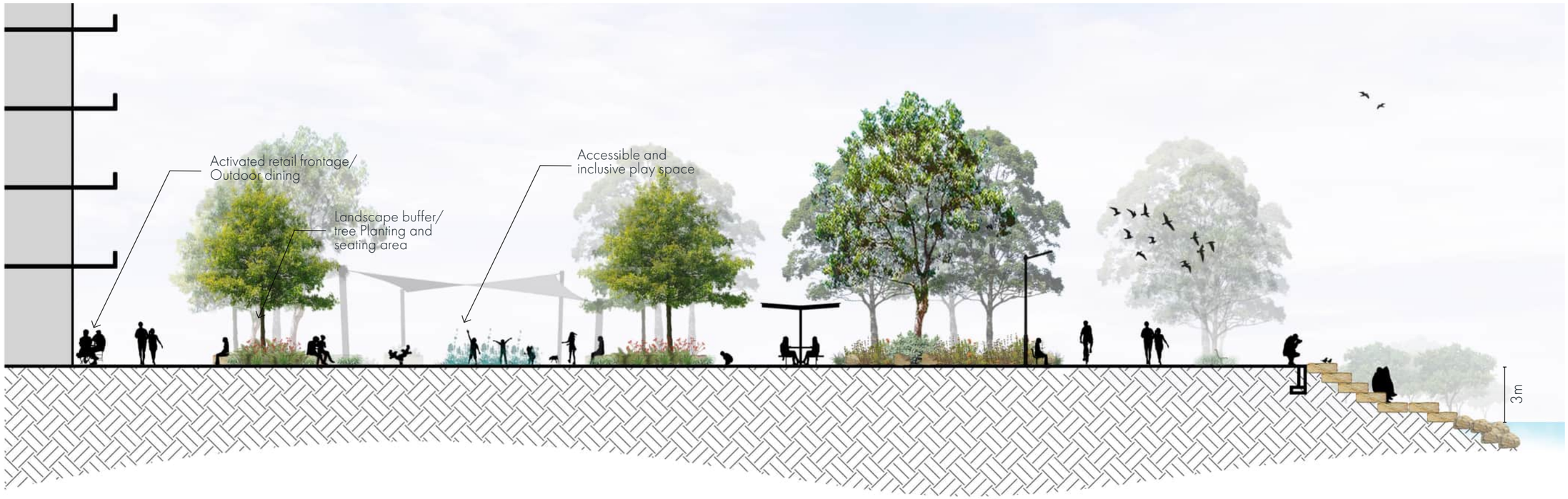
1. Existing Boat Ramp + Parking retained
2. Existing mangroves protected
3. 15m Waterfront Promenade includes shared path and dedicated footpath with material treatment for clarity.
4. Legacy Tree Line along foreshore
5. Softening of seawall with terraced sandstone blocks
6. Proposed Ferry Wharf
7. Existing boat launch for rowing
8. Activated ground floor edge open to foreshore
9. Foreshore Open space (turf)
10. Accessible and inclusive play space incorporating bespoke natural play elements and water play items
11. Pedestrian Links (required to be suitable for both walking and cycling)
12. Ecological Planting Zone (can be continued along the full foreshore length)
13. Boardwalk and Viewing Platform
14. Viewing Platform
15. Shared Path under Ryde Bridge
16. Uhrs Point Reserve
17. Existing Sea Scouts Group hall & DSA Dragon Boat Club retained

Note: Future investigations to be undertaken to the detail design of the seawall. The design illustrated in this public domain plan is indicative only.

Facilities & Programs

- Toilet
- Play
- Bespoke/ natural play
- Seating
- Garden
- Urban Forest
- Picnic setting
- Bike facilities
- Event
- Public Art
- Fitness
- Restaurant/ retail

Figure 27. Key Places' Plan - Leeds Street Foreshore Park Short-Term Vision



8m Building Interface for circulation, retail and dining activity zones.

Foreshore Park - A variety of public open spaces for community use and enjoyment; playgrounds, water play and grassed area for passive recreation and picnics.

Legacy tree line with new tree planting, garden beds and soft landscapes

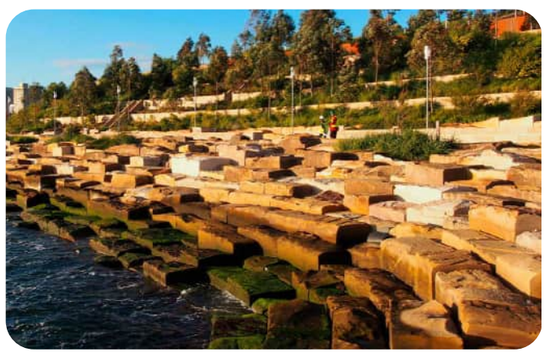
15m Waterfront Promenade with integrated shared path, dedicated footpath and Legacy tree line

Terraced sandstone blocks down to water

Note: As per Department of Planning requirements, flood planning is set at 3m AHD. Future detail design of the foreshore park and adjacent developments is subject to flood studies and investigations to ensure flooding mitigations measures are in place and effective. The foreshore promenade shall allow for minimum 2.5% crossfall away from development interface edge and ground floor levels are set above projected flood levels with sufficient freeboard.

Note: Future investigations to be undertaken to determine safety and viability of water activities along the water's edge. The design illustrated in this public domain plan is indicative only. The stepping down of the sandstone block is an aesthetic feature to reduce the bulk and linear appearance of the vertical concrete seawall.

Figure 28. Leeds Street Foreshore Park Section



Barangaroo, Sydney

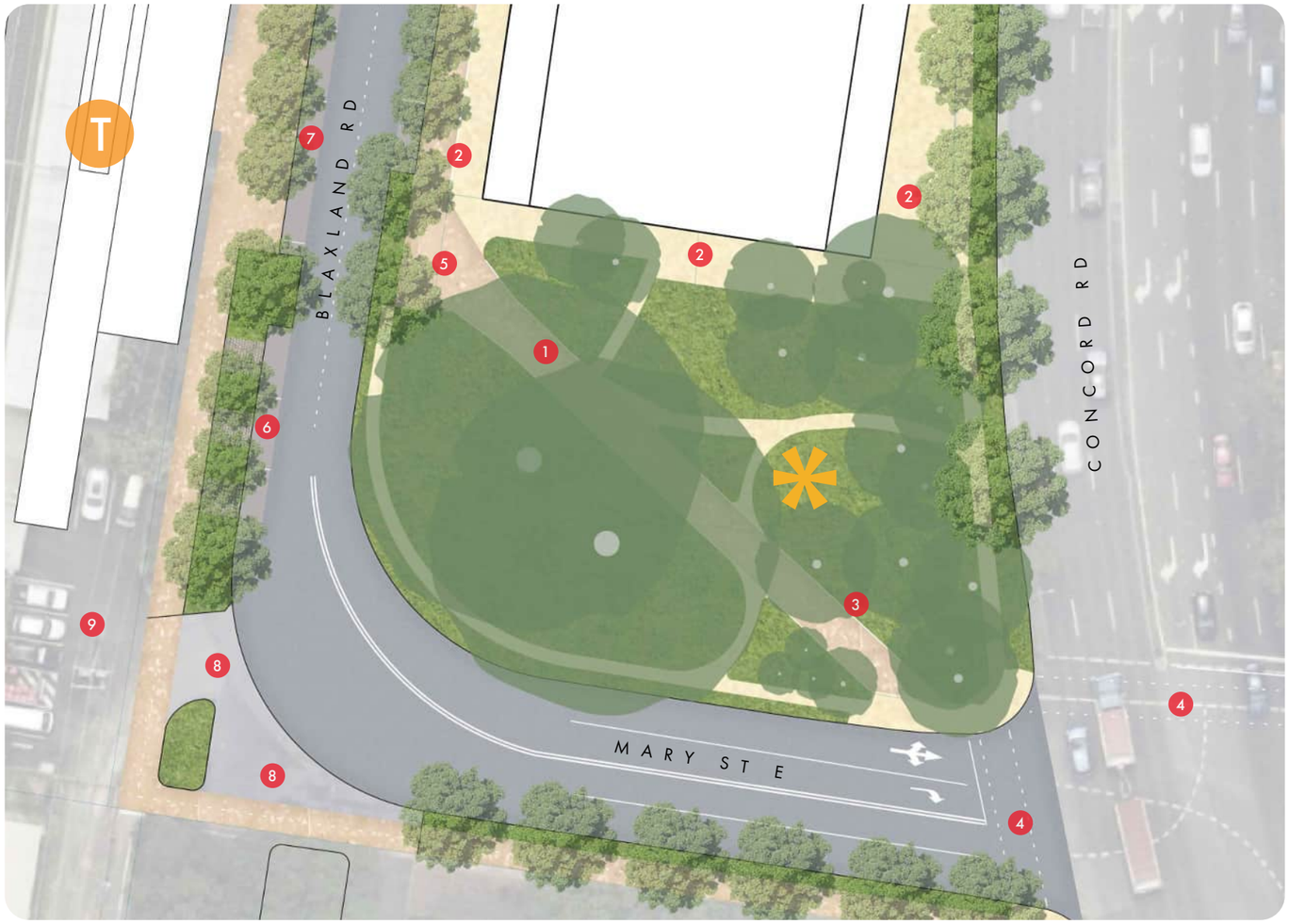
Walter Gors Park, Dee Why, Sydney

Walter Gors Park, Dee Why, Sydney

6.2.3 Churchill Tucker Reserve

Churchill Tucker Reserve existing Ficus trees

Churchill Tucker Reserve existing memorial lamp post



Legend

- Precinct Boundary
- Existing Trees Retained
- Proposed Trees
- Footpath
- Shared Path
- Dedicated Cycleway
- T Rhodes Station
- * Public Art/ Landscape Feature

1. Upgrade existing footpath to a Shared Path with new public lighting
2. Active Frontage / Opportunity for outdoor dining
3. Bike Racks
4. Existing Signalised Pedestrian Crossing
5. Existing Memorial Lamp Post
6. Street Parking
7. Kiss & Ride Zone
8. Existing driveway to private property
9. Existing Car Park retained

Facilities & Programs

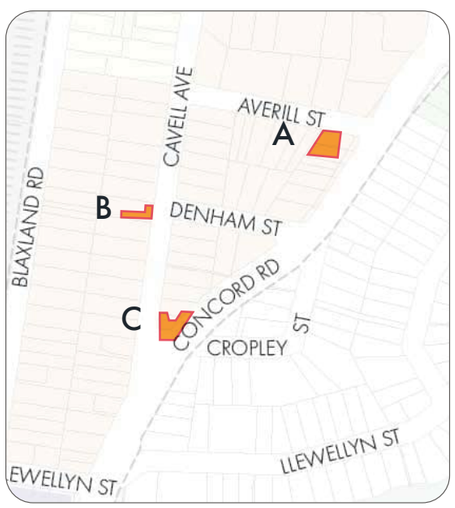
Toilet, Play, Bespoke/ natural play, Seating, Garden, Urban Forest, Picnic setting, Bike facilities, Event, Public Art, Fitness, Restaurant/ retail

SCALE 1:500

0 5 10 25m

Figure 29. Key Places' Plan - Churchill Tucker Reserve

6.2.4 Community Corners



St Kilda Connections (Source: Tract)

Santana Row, California, US (Source: Google)

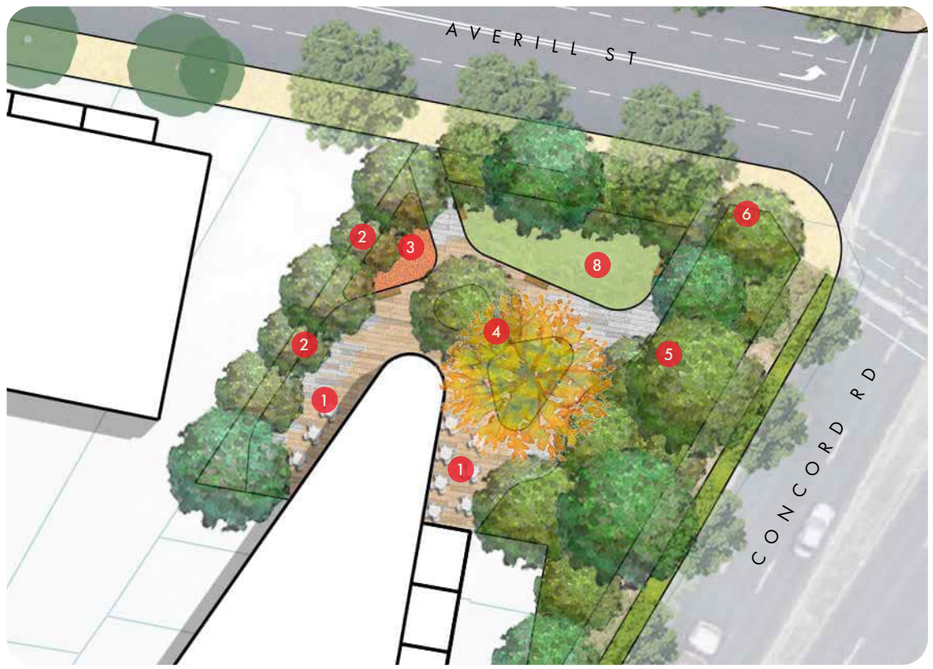


Figure 30. Community Corner A Concept Plan

Figure 31. Community Corner B Concept Plan

Figure 32. Community Corner C Concept Plan

Legend

- Precinct Boundary
- Existing Trees Retained
- Existing Heritage Palm Trees Retained
- Proposed Trees with garden beds
- Pedestrian footpaths
- Shared Paths
- Dedicated Cycleways
- 1 Outdoor Dining
- 2 Sensory Garden
- 3 Mini Playground
- 4 Tree Plaza with integrated seating
- 5 Mini Forest/Green Buffer
- 6 Bike Racks
- 7 Raised Zebra Pedestrian/ Cyclist Crossing
- 8 Grassed area

Facilities & Programs

- Toilet
- Play
- Bespoke/ natural play
- Seating
- Garden
- Urban Forest
- Picnic setting
- Bike facilities
- Event
- Public Art
- Fitness
- Restaurant/ retail

SCALE 1:500
0 5 10 25m

7 Street Tree Master Plan

7.1 Street Tree Masterplan

Streets should prioritise space for trees and vegetation. Green Streets promote healthy environments and strategies include:

- Shading: Increasing shade for pedestrian comfort, promoting walk-ability and livability.
- Connected Green Canopy: Reducing heat island
- Diversity in planting: Promotes and supports biodiversity corridors for fauna, birds and pollinators.
- Place making and Street Character: Trees provide visual structure and a sense of orientation within the precinct.

The following principles will guide successful delivery of Green Streets:

- Utilising deep soil zones in the public domain.
- Under-grounding of overhead power lines to allow for larger canopy trees.
- Bundling of underground service infrastructure to minimise disturbance of future roots.
- Providing generous tree pits (structural soil systems).
- Species selection - Suitable native species should be prioritised over exotic species to ensure adaptability to local conditions.
- Rhodes Precinct should aim for a minimum 25% tree canopy cover by 2040. There will be significant decline in the short term as the precinct is undertaking its evolution, with the loss of trees within private property.
- To ensure the success of new street tree planting, all new street trees to be advance size 200L or above.
- Rhodes Precinct should aim for a minimum 25% Green View Index as set out in Council's DCP.
- The Plant List shown provides a greater selection of plant with focus on native species and differs from the Place Strategy Urban Design Report.
- Plants and trees with fruits/flowers are generally a food source for fauna. In order to promote biodiversity habitat and corridors, a comprehensive range of (indigenous, people-friendly) trees suitable for fauna, birds and pollinators is required, including trees that may drop (small) fruit, leaves or flowers.

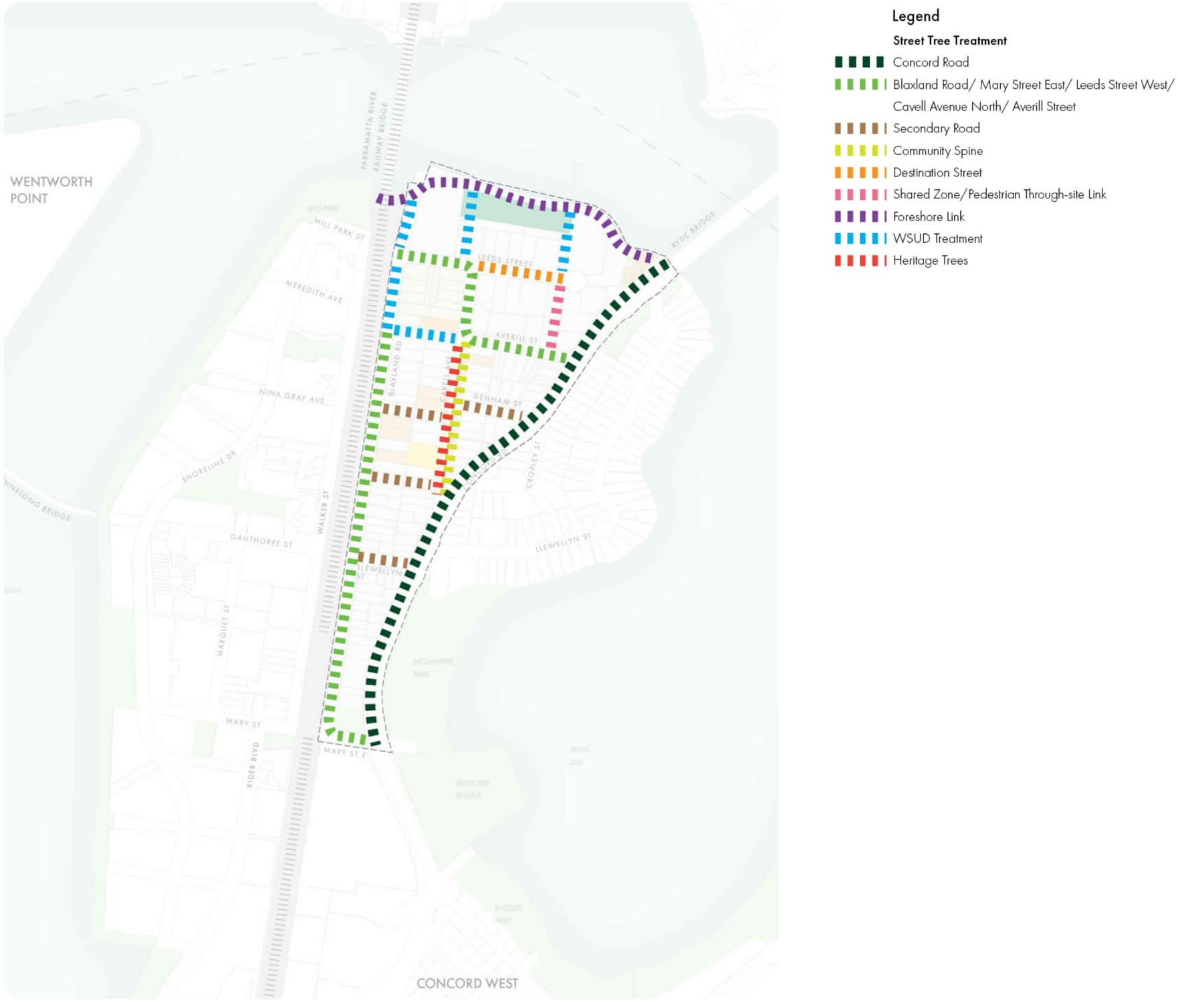
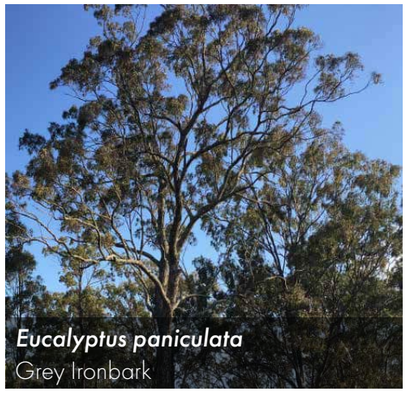


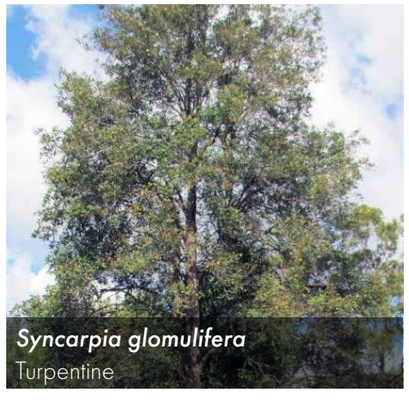
Figure 33. Street Tree Masterplan

CONCORD ROAD		
Dominant Species		
	Eucalyptus paniculata	Grey Ironbark
	Eucalyptus fibrosa	Board Leaved Ironbark
	Syncarpia glomulifera	Turpentine Tree
Large Trees		
	Angophora floribunda	Rough-barked Apple
	Eucalyptus beyeriana	Beyer's Ironbark
	Eucalyptus crebra	Narrow Leaved Ironbark
	Eucalyptus microcorys	Tallowwood
	Eucalyptus robusta	Swamp Mahogany
	Eucalyptus siderophloia	Northern Grey Ironbark
	Ficus rubiginosa	Rusty Fig
Medium Trees		
	Glochidion ferdinandi	Cheese Tree
	Pittosporum undulatum	Sweet pittosporum
	Waterhousea floribunda	Weeping Lilly Pilly
	Syzygium paniculatum	Bush Cherry
	Syzygium oleosum	Blue Lily Pily

Eucalyptus fibrosa
Broard Leaved Ironbark

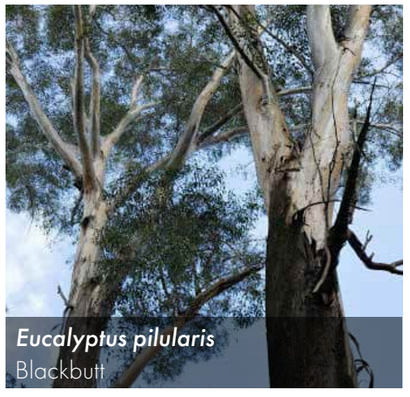


Eucalyptus paniculata
Grey Ironbark



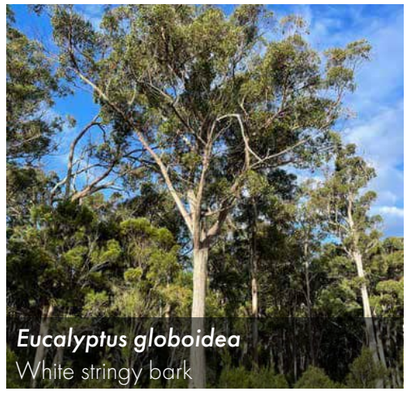
Syncarpia glomulifera
Turpentine

BLAXLAND ROAD/ MARY STREET/ AVERILL STREET		
Dominant Species		
	Eucalyptus globoidea	White stringy bark
	Eucalyptus pilularis	Blackbutt
	Eucalyptus resinifera	Red Mahogany
Large Trees		
	Angophora costata	Sydney Red Gum
	Corymbia gummifera	Red Bloodwood
	Corymbia maculata	Spotted Gum
	Corymbia variegata	Spotted Gum
	Eucalyptus haemastoma	Scribbly gum
	Eucalyptus punctata	Grey Gum
	Eucalyptus tereticornis	Forest Red Gum
	Ficus rubiginosa	Rusty Fig
Medium Trees		
	Corymbia eximia	Yellow Bloodwood
	Elaeocarpus reticulatus	Blueberry Ash
	Pittosporum undulatum	Sweet pittosporum
	Tristaniopsis laurina 'Luscious'	Water Gum
	Waterhousea floribunda	Weeping Lilly Pilly
Small Trees		
	Acacia falcata	Sickle wattle
	Backhousia myrtifolia	Grey Myrtle
Station Frontage Feature Tree		
	Corymbia 'Summer Red'	



Eucalyptus pilularis
Blackbutt

Eucalyptus paniculata
Grey Ironbark



Eucalyptus globoidea
White stringy bark

SECONDARY ROAD

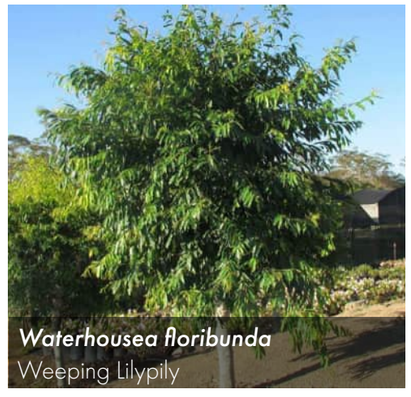
Dominant Species		
	Lophostemon confertus	Brush Box
Medium Trees		
	Glochidion ferdinandi	Cheese Tree
	Pittosporum undulatum	Sweet pittosporum
	Waterhousea floribunda	Weeping Lilly Pilly
	Syzygium paniculatum	Bush Cherry
	Syzygium oleosum	Blue Lily Pily

Phoenix canariensis
Phoenix Palm

COMMUNITY SPINE

Large Trees		
	Eucalyptus globoidea	White stringy bark
	Eucalyptus pilularis	Blackbutt
	Eucalyptus resinifera	Red Mahogany
Medium Trees		
	Acmena smithii	Lily pilly
	Glochidion ferdinandi	Cheese Tree
	Pittosporum undulatum	Sweet pittosporum
	Waterhousea floribunda	Weeping Lilly Pilly
Small Trees		
	Syzygium paniculatum	Bush Cherry
	Syzygium oleosum	Blue Lily Pily

Pittosporum undulatum
Sweet pittosporum



Waterhousea floribunda
Weeping Lilypily

HERMITAGE TREES

	Phoenix canariensis	Phoenix Palm

Glochidion ferdinandi
Cheese Tree

Lophostemon confertus
Brush Box

DESTINATION STREET

Large Shade Trees		
	Angophora costata	Sydney Red Gum
	Corymbia gummifera	Red Bloodwood
	Eucalyptus pilularis	Sydney Peppermint
Medium Tree		
	Acacia decurrens	Early Green Wattle
	Angophora hispida	Dwarf Apple Gum
	Banksia integrifolia	Coastal Banksia
Feature Tree		
	Corymbia 'Summer Red'	Flowering Gum


Pittosporum undulatum
Sweet Pittosporum


Corymbia 'Summer Red'
Flowering Gum


Elaeocarpus reticulatus
Blueberry Ash

SHARED ZONE/ PEDESTRIAN THROUGH LINK

Medium Trees		
	Corymbia eximia	Yellow Bloodwood
	Elaeocarpus reticulatus	Blueberry Ash
	Glochidion ferdinandi	Cheese Tree
	Pittosporum undulatum	Sweet pittosporum
	Tristaniopsis laurina 'Luscious'	Water Gum
	Waterhousea floribunda	Weeping Lilly Pilly
Small Trees		
	Acacia falcata	Sickle wattle
	Backhousia myrtifolia	Grey Myrtle
	Cupaniopsis anacardioides	Tuckeroo
Feature Tree		
	Corymbia 'Summer Red'	


Angophora costata
Sydney Red Gum


Corymbia gummifera
Red Bloodwood

FORESHORE LINK

Large Trees		
	Allocasuarina littoralis	Black She-oak
	Eucalyptus fibrosa	Broard Leaved Ironbark
	Eucalyptus globoidea	White stringy bark
	Eucalyptus paniculata	Grey Ironbark
	Eucalyptus pilularis	Blackbutt
	Eucalyptus resinifera	Red Mahogany
	Ficus rubiginosa	Fig Tree
	Syncarpia glomulifera	Turpentine Tree
Medium trees		
	Glochidion ferdinandi	Cheese Tree
	Pittosporum undulatum	Sweet pittosporum
	Waterhousea floribunda	Weeping Lilly Pilly
Small Trees		
	Acacia falcata	Sickle wattle
	Backhousia myrtifolia	Grey Myrtle
	Syzygium paniculatum	Bush Cherry
	Syzygium oleosum	Blue Lily Pily
Ecological Planting		
	Avicennia marina	Grey Mangrove

WSUD TREATMENT

Large Trees		
	Allocasuarina littoralis	Black She-oak
	Casuarina glauca	Swamp oak
	Melaleuca styphelioides	Prickly Paperbark
Medium Trees		
	Melaleuca linariifolia	Snow in Summer
Small Trees		
	Allocasuarina verticillata	Drooping sheoak
	Melaleuca viridiflora	Broad leaved tea-tree

7.2 Plant Palette for Rhodes East Precinct

SOFT EDGE PLANTING ALONG FORESHORE

Species selection inspired by native Tidal Mudflat Saltmarsh/Mangrove Forest

SHRUBS	
Acacia myrtifolia	Red-stemmed Wattle
Acacia terminalis	Sunshine Wattle
Acacia ulicifolia	Prickly Moses
Banksia marginata	Silver Banksia
Banksia serrata	Old-man Banksia
Banksia spinulosa	Hairpin Banksia
Bauera rubioides	River Rose
Beronia ledifolia	Showy Boronia
Callicoma serratifolia	Black Wattle
Callistemon cirtinus	Crimson Bottlebrush
Ceratopetalum gummiferum	NSW Christmas-bush
Correa alba	White Correa
Dillwynia retorta	Heathy Parrot Pea
Dodonaea triquetra	Large-leaf Hop-brush
Doryanthes excelsa	Gymea Lily
Grevillea linearfolia	Linear-leaf Grevillea
Grevillea sericea	Pink Spider Flower
Hakea teretifolia	Needlebrush
Hakea dactyloides	Finger Hakea
Leptospermum juniperinum	Prickly Tea-tree
Melaleuca nodosa	Prickly-leaved Paperbark
Notelaea longifolia	Large Mock-olive
Olearia tomentosa	Toothed Daisy-bush
Westringia fruticosa	Coastal Rosemary
Tecticornia pergranulata	(rare- only known from homebush bay area)

GROUNDCOVERS	
Atriplex australasica	Saltbush
Atriplex cinerea	Grey Saltbush
Carpobrotus glaucescens	Pigface
Enchylaena tomentosa	Ruby Saltbush
Samolus repens	Sea primrose
Sarcocornia quinqueflora	Glasswort
Spergularia marina	Sand Spurry
Suaeda australia	Seablite
Tetragonia tetragonioides	New Zealand beach spinach
Wilsonia backhousei	Narrow-leaved wilsonia

RUSHES AND GRASSES	
Triglochinstriata	Streaked Arrow-grass

WSUD TRANSITION PLANTING

Species selection inspired by native Swamp Oak Forest

SHRUBS		
	Myoporum insulare	Boobialla
	Melaleuca (Callistemon) sieberi	River bottlebrush
	Leptospermum liversidgei	Olive tea-tree
SEDGES AND GRASSES		
	Carex Appressa	Tall Sedge
	Ficinia nodosa	Knotted club rush
	Juncus Kraussii	Salt marsh rush
	Juncus usitatus	Common Rush
	Lomandra hystrix	River mat-rush
	Microlaena stipoides var. stipoides	Weeping grass
	Poa labillardieri	Common tussock grass

STREETSCAPE PLANTING

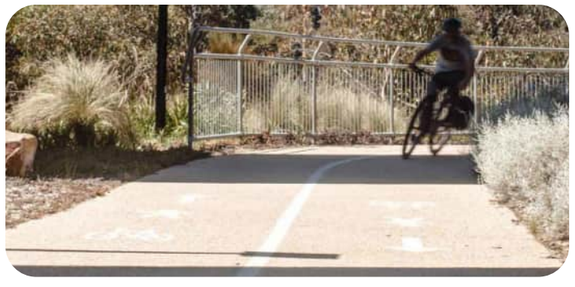
Species selection inspred by native Eucalyptus woodland and Sydney Turpentine Ironbark Forest

SHRUBS *to be used in street setbacks. Not suitable for verge planting	
Acacia longifolia	Acacia
Acacia myrtifolia	Red stemed wattle
Atriplex semibaccata	Australian saltbush
Acmena Smithii 'Allyn Magic'	Lilly Pilly
Banksia marginata	Silver Banksia
Banksia spinulosa 'Honey Pots	Banksia
Callistemon 'Little John'	Weeping Bottlebrush
Dichondra Repens	Kidney Weed
Dodonaea triquetra	Common hop bush
Grevillea sericea	Silky Grevillea
Grevillea 'Flamingo'	Grevillea
Grevillea rosmarinifolia 'Crimson Villea'	Grevillea
Kunzea ambigua	White kunzea
Leptospermum polygalifolium	Copper Glow Tea Tree
Melaleuca nodosa	Prickly-leaved paperbark
Pittosporum revolutum	Wild yellow jasmine
GRASSES AND GROUNDCOVERS	
Billardiera scandens	Apple Berry
Bursaria spinosa	Sweet bursaria
Centella asiatica	Indian pennywort
Dianella caerulea	Blur Flax-Lily
Hibbertia aspera	Rough guinea flower
Lomandra glauca	Spiny-head mat-rush
Lomandra longifolia	Spiny-headed Mat-rush
Lomandra longifolia 'Tanika'	Mat Rush
Myoporum parvifolium	Creeping boobialla
Themeda triandra	Kangaroo grass
Viola hederacea	Native Violet
Zieria smithii	lanoline bush

8 Street Typologies

8.2.1 Concord Road North

Planting buffer to development side (Source: Google)



Shared path at Skye Road (Source: Tract)

Key design features:

1. 2.5m Shared path proposed along property boundary to western side
2. Maximised landscape verge for larger tree planting.
3. Existing kerb lines and eastern side footpath retained

Legend

- Property Boundary
- Existing Kerb Line

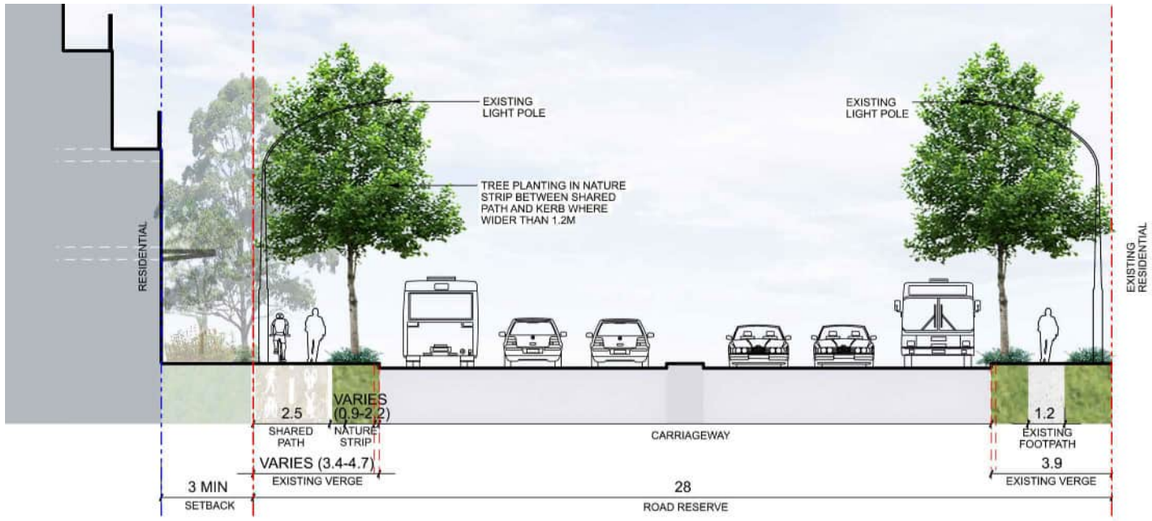


Figure 34. Concord Road North - Typical Section

Figure 35. Concord Road North - Typical Plan

8.2.2 Concord Road South (McIlwaine Park)

Planting buffer to development side (Source: Google)

Shared path along street and park, Bowen Foreshore (Source: Tract)

Key design features:

1. 1.5m Footpath proposed along property boundary to western side. Footpath meanders around existing street light poles at localised pinch points.
2. Maximised landscape verge for continuous tree planting.
3. 2.4m Existing shared path retained along McIlwaine Park.
4. Existing trees retained along McIlwaine Park.

Legend

- Property Boundary
- Existing Kerb Line

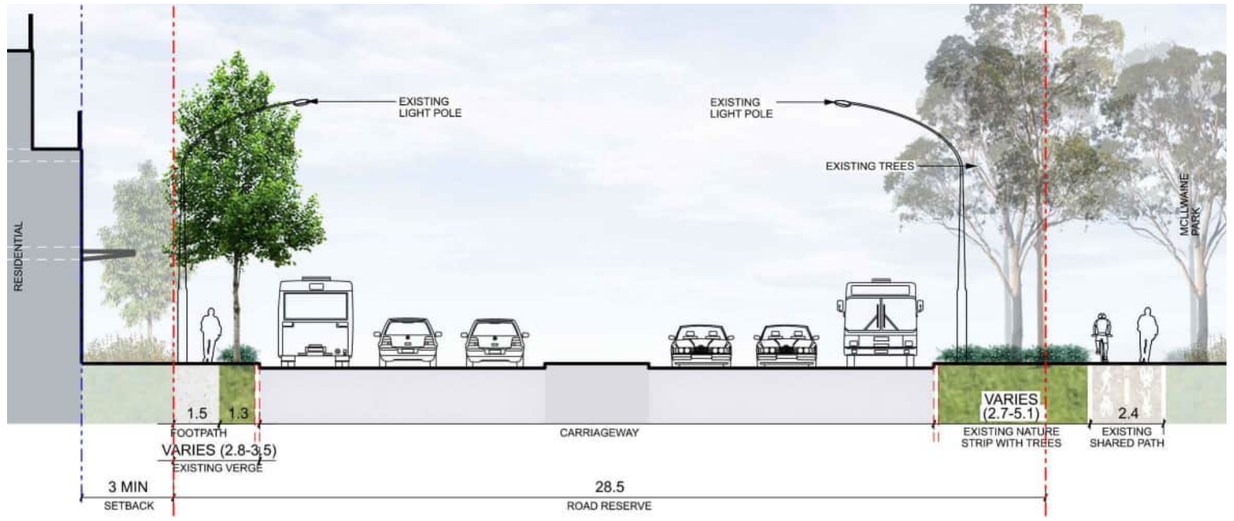


Figure 36. Concord Road South (McIlwaine Park) - Typical Section

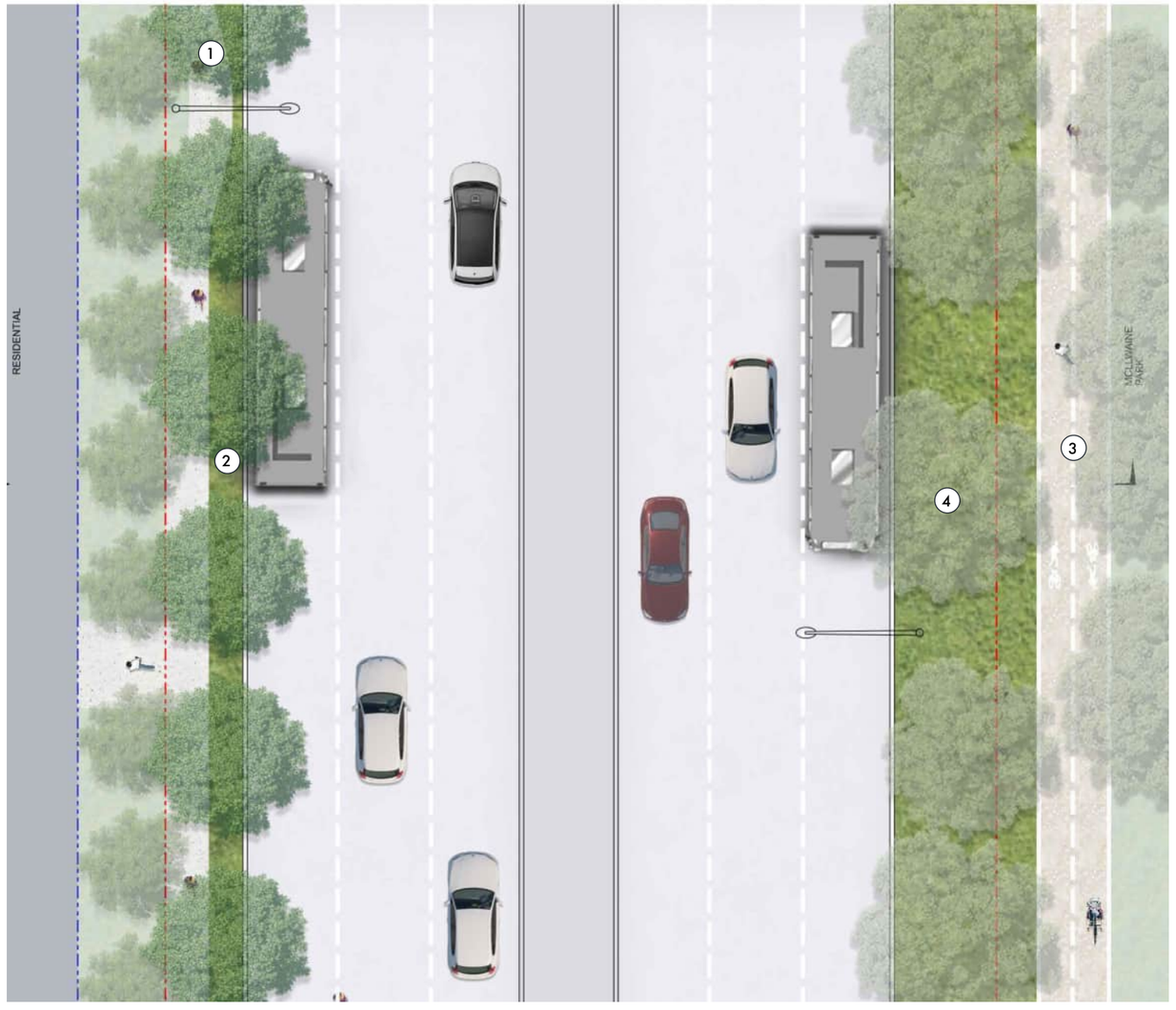
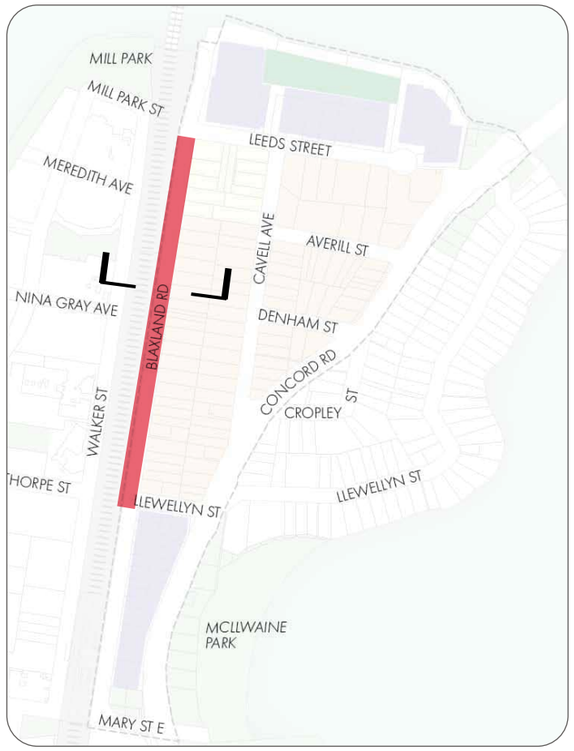


Figure 37. Concord Road South (McIlwaine Park) - Typical Plan

8.2.3 Blaxland Road North of Llewellyn Street - Typical



Dedicated Two-way Cycleway, Surry Hills, Sydney

Verge planting, Missenden Rd, Camperdown, NSW

Key design features:

1. 2.5m dedicated cycleway on western verge.
2. Landscape planted buffer zone provides separation between pedestrians and cyclist. Existing powerlines retained and protected within this landscape buffer where possible.
3. Landscape planted buffer zone provides separation between cyclist and vehicles. Street trees within this zone to be provided with continuous tree pits.
4. Wide generous footpaths along eastern verge with street tree planting and new street lights.
5. Kerb blisters provide opportunities for WSUD features such as:
   - Slotted kerbs to maximise collection of surface water run-off
   - Raingardens between parking bays
   - Large capacity tree pits in paved area

* Notes:

- Blaxland Road full length existing on-street parking approximately 151. Proposed on-street parking approximately 85. Loss is approximately 66 spaces.
- Existing overhead powerlines within council road reserve subject to separate process for undergrounding services.
- Locations of the street light poles are indicative only and are subject to the lighting and electrical design.

Legend

- Property Boundary
- Existing Kerb Line
- Line of Awnings (Indicative)
- Overhead Powerlines (Indicative)

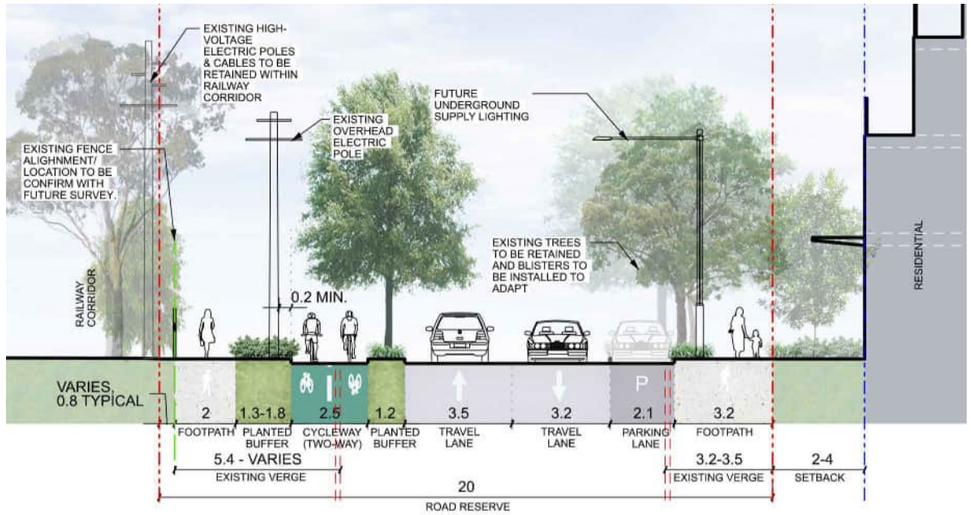


Figure 38. Blaxland Road North - Typical Section

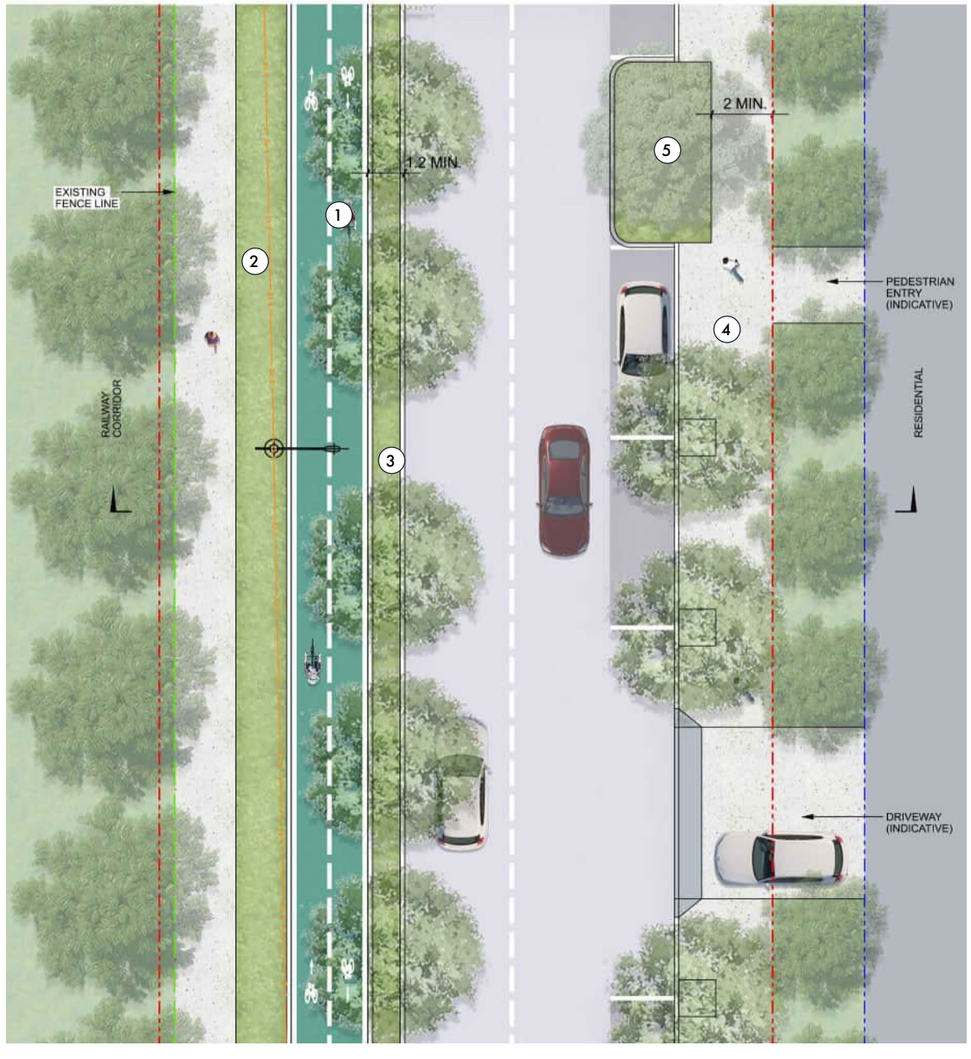
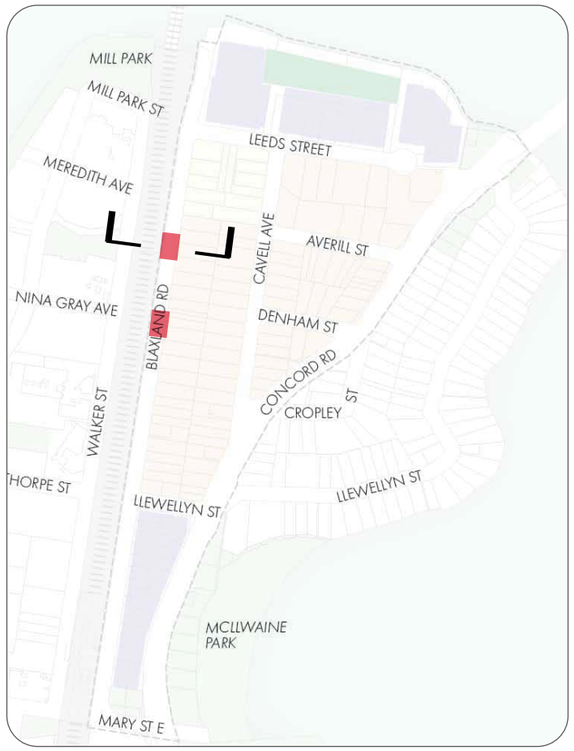


Figure 39. Blaxland Road North - Typical Plan

8.2.4 Blaxland Road North of Llewellyn Street with localised pinch points



Key design features:

1. 2.5m dedicated cycleway on western verge. Cycleway alignment to avoid existing light posts.
2. Typical 2m footpath to be narrowed to 1.8m at pinch points along western verge.
3. Wide generous footpaths along eastern verge with street tree planting and new street lights.
4. Existing trees retained where possible
5. Kerb blisters provide opportunities for WSUD features such as:
   - Slotted kerbs to maximise collection of surface water run-off
   - Raingardens between parking bays
   - Large capacity tree pits in paved area
6. Tree planting clear of overhead powerlines

* Notes:

- Existing overhead powerlines within council road reserve subject to separate process for undergrounding services.
- Locations of the street light poles are indicative only and are subject to the lighting and electrical design.

Dedicated Two-way Cycleway, Surry Hills, Sydney

Verge planting, Missenden Rd, Camperdown, NSW

Legend

- Property Boundary
- Existing Kerb Line
- Line of Awnings (Indicative)
- Overhead Powerlines (Indicative)

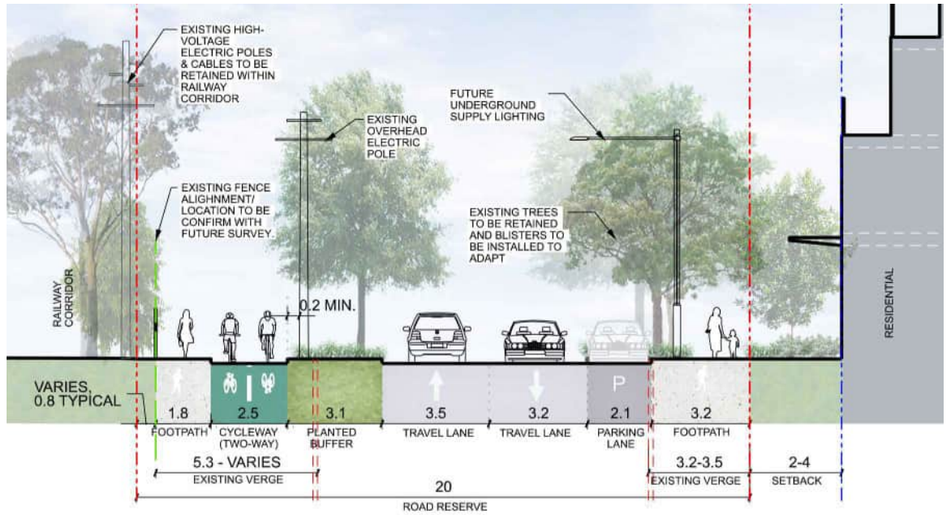


Figure 40. Blaxland Road North with localised pinch points - Section

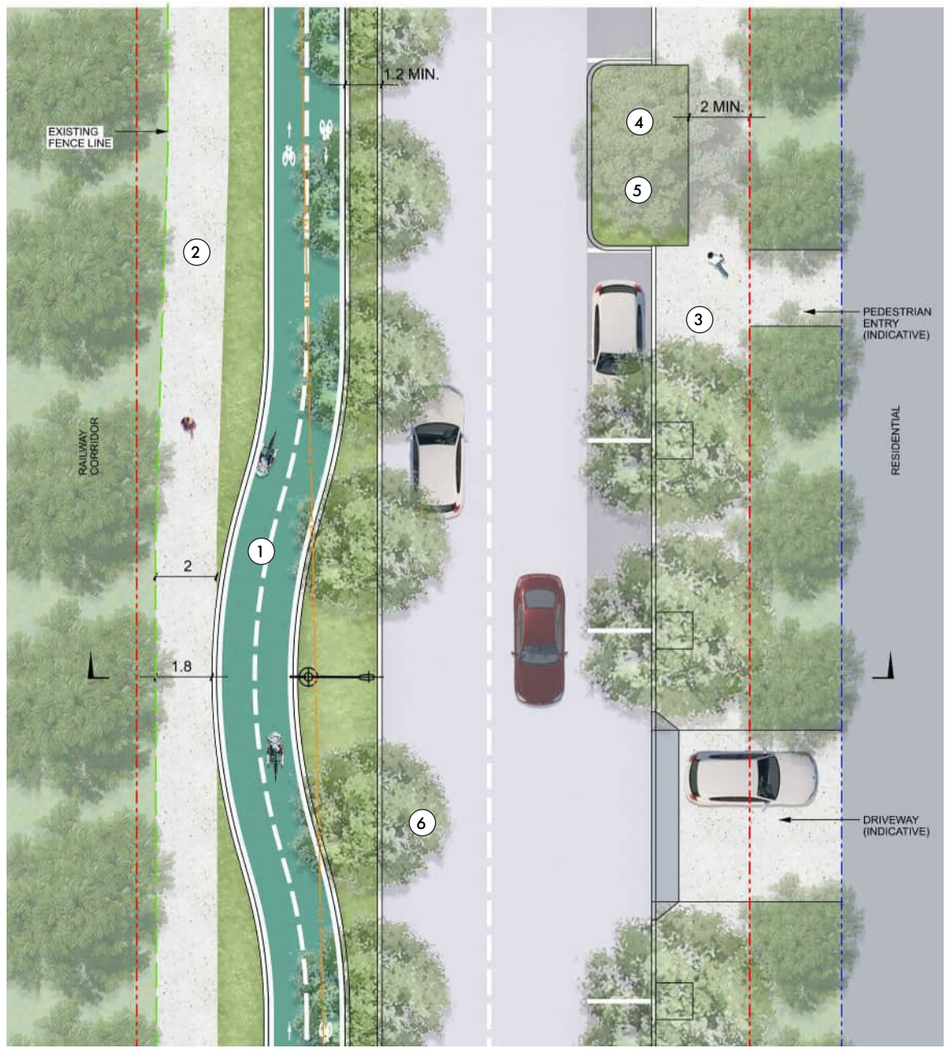
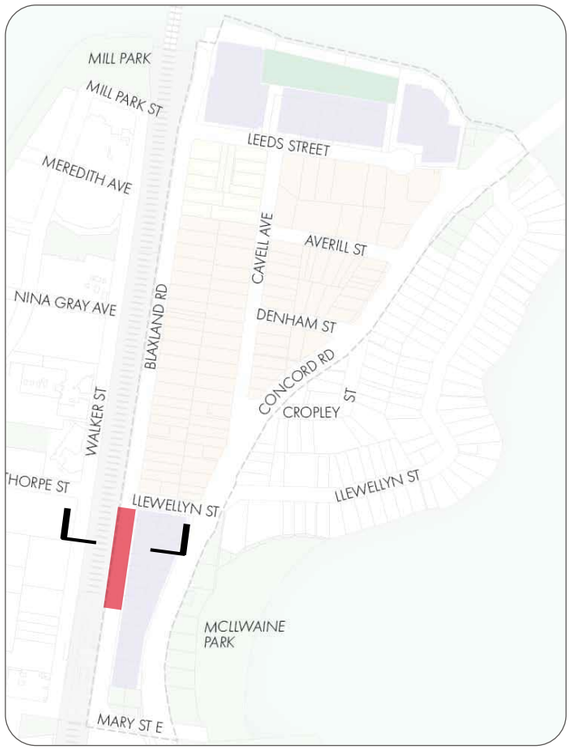


Figure 41. Blaxland Road North with localised pinch points - Plan

8.2.5 Blaxland Road South (Between Llewellyn Street and Train Station)



Dedicated Two-way Cycleway, Surry Hills, Sydney

Verge planting, Missenden Rd, Camperdown, NSW

Key design features:

1. 2.5m dedicated cycleway on western verge. Cycleway alignment to avoid existing light posts.
2. Parallel parking lane to both sides
3. 1m Landscape/ permeable paving buffer between cycleway and parking lane to ensure cyclist / pedestrian safety. Tree pits to be continuous and extend under cycleway with engineered strata cell or structural soil to provide greater growing area for new street trees.
4. Wide generous footpaths with street tree planting and new street lights.
5. Existing trees retained where possible
6. Kerb blisters provide opportunities for WSUD features such as:
   - Slotted kerbs to maximise collection of surface water run-off
   - Raingardens between parking bays
   - Large capacity tree pits in paved area
7. Active frontage - opportunity for outdoor dining

* Notes:

- Existing overhead powerlines within council road reserve subject to separate process for undergrounding services.
- Locations of the street light poles are indicative only and are subject to the lighting and electrical design.

Legend

- Property Boundary
- Existing Kerb Line
- Line of Awnings (Indicative)
- Overhead Powerlines (Indicative)
- Permeable Paving

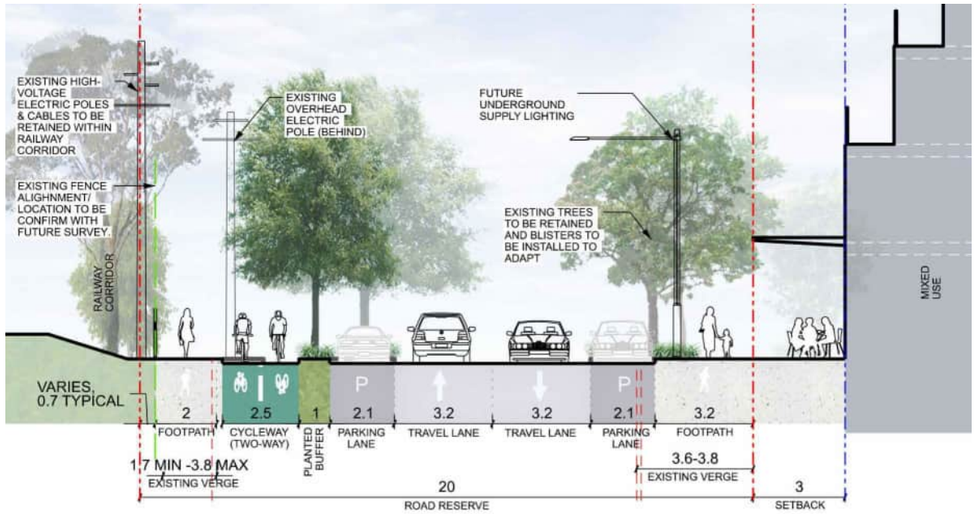


Figure 42. Blaxland Road South (Between Llewellyn Street and Train Station) - Section

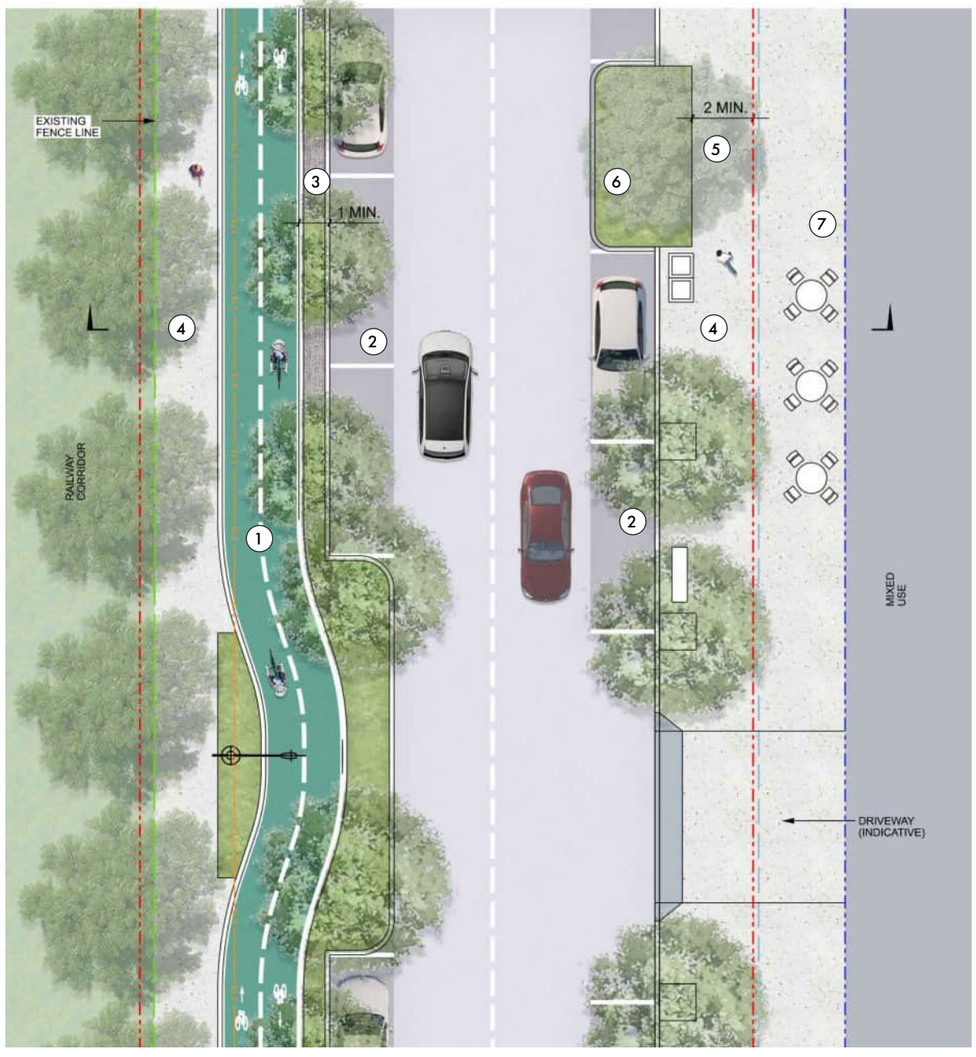
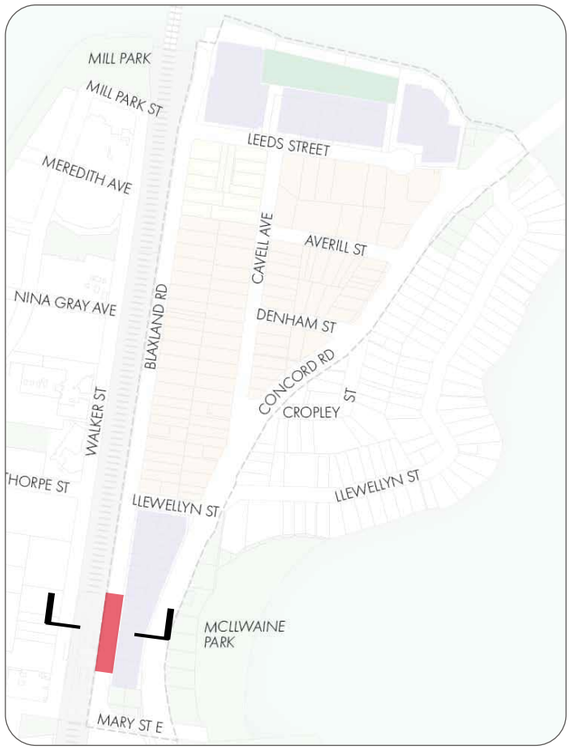


Figure 43. Blaxland Road South (Between Llewellyn Street and Train Station) - Plan

8.2.6 Blaxland Road South - Station Frontage



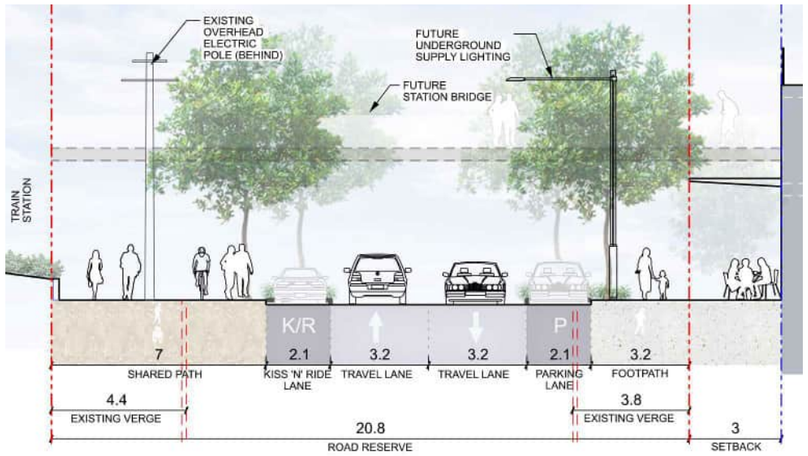


Figure 44. Blaxland Road South Station Frontage - Section

Key design features:

1. Kiss & Ride adjacent Station Entry
2. Shared Path zone to Station frontage providing priority to pedestrians. Minimise conflict between users during high activity peak times.
3. Wide generous footpaths with street tree planting and new street lights along active frontages.
4. Raised pedestrian / cyclist crossing
5. Future Station Bridge
6. Kerb blisters provide opportunities for WSUD features such as:
   - Slotted kerbs to maximise collection of surface water run-off
   - Raingardens between parking bays
   - Large capacity tree pits in paved area

Missenden Rd Streetscape, Camperdown, NSW

* Notes:

- Existing overhead powerlines within council road reserve subject to separate process for undergrounding services.
- Locations of the street light poles are indicative only and are subject to the lighting and electrical design.

Legend

- Property Boundary
- Existing Kerb Line
- Line of Awnings (Indicative)
- Overhead Powerlines (Indicative)

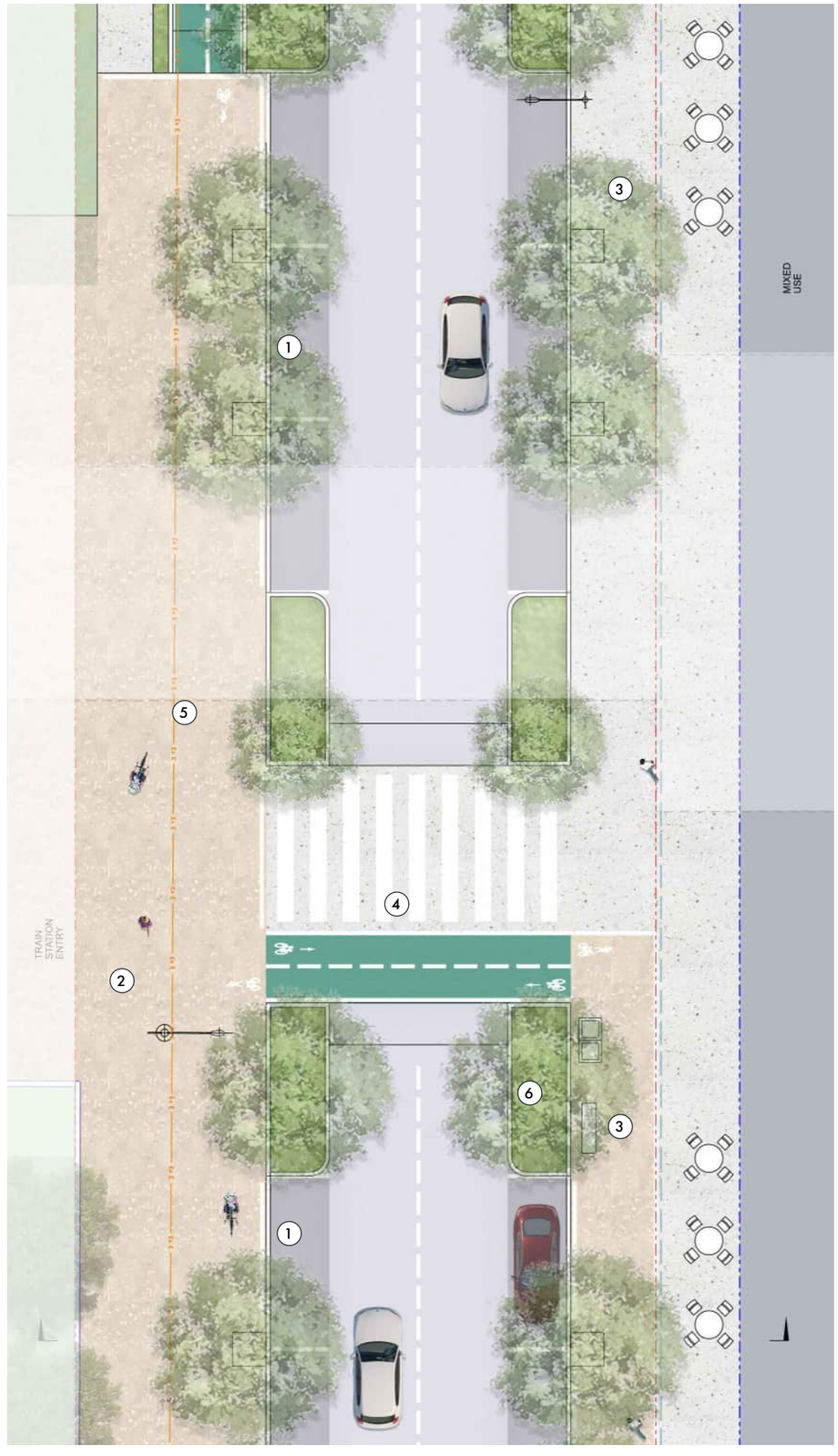
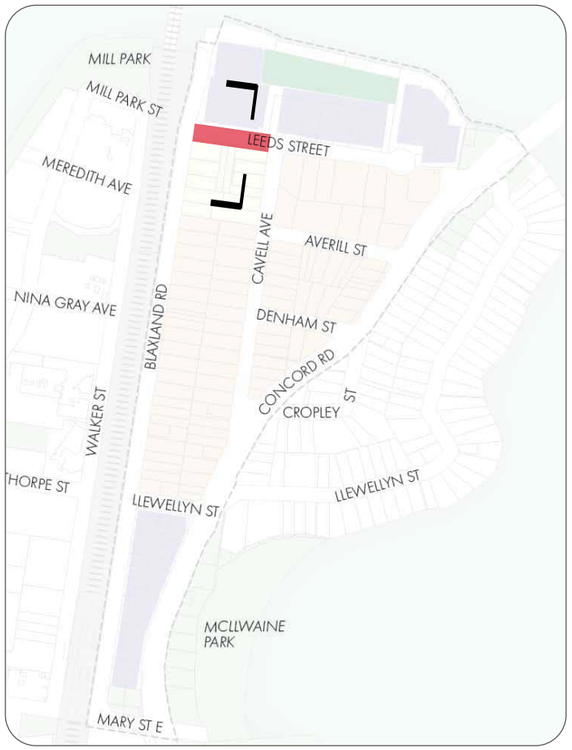


Figure 45. Blaxland Road South Station Frontage - Plan

8.2.7 Leeds Street West



Verge planting, Missenden Rd, Camperdown, NSW

Active frontage, Barangaroo South, Sydney

Key design features:

1. Northern verge - 3m Shared path with 1m continuous planting zone with street lights, street trees and furniture placement. Tree pits to be continuous and extend under shared path with engineered strata cell or structural soil to provide greater growing area for trees.
2. 2m footpath to southern side with continuous landscape verge and tree planting.
3. 4x traffic lanes to accommodate large traffic volumes.
4. Active frontage - opportunity for outdoor dining

WSUD features have opportunities for:

- Large capacity tree pits in verge/ paved area

* Notes:

- Locations of the street light poles are indicative only and are subject to the lighting and electrical design.

Legend

- Property Boundary
- Existing Kerb Line
- Line of Awnings (Indicative)

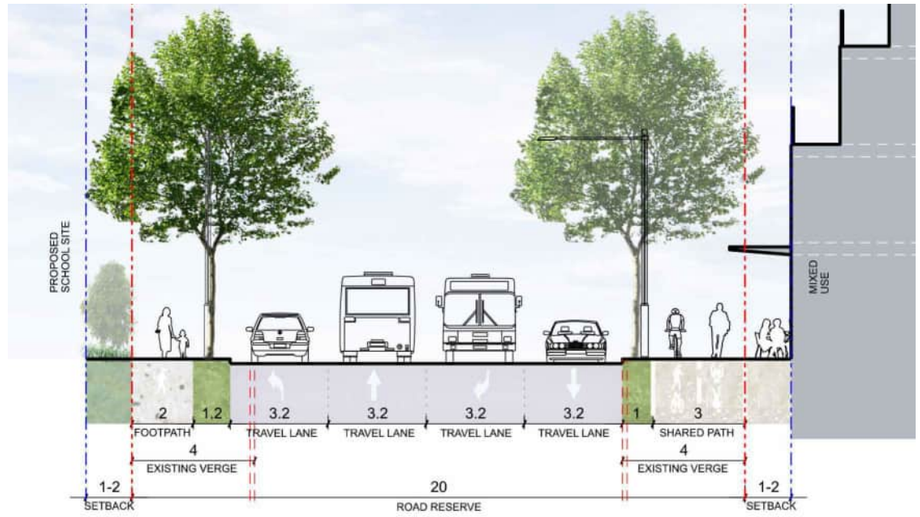


Figure 46. Leeds Street West - Typical Section

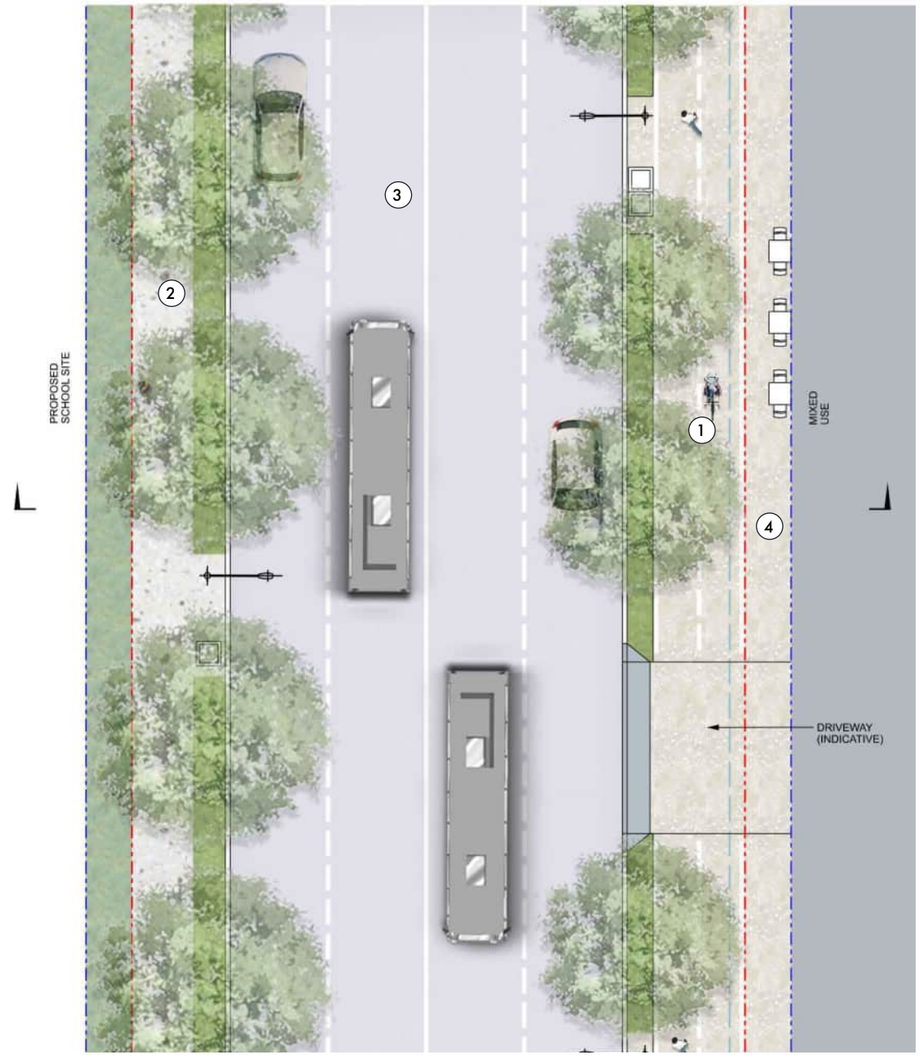
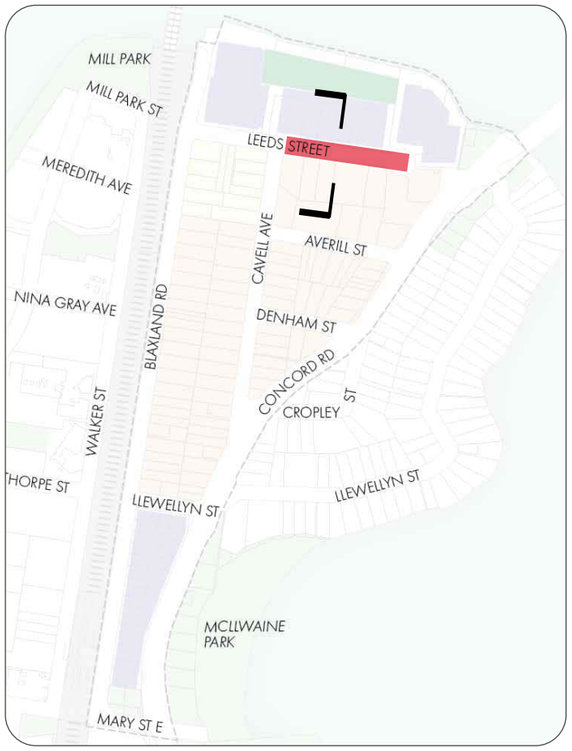


Figure 47. Leeds Street West - Typical Plan

8.2.8 Leeds Street East



Verge planting, Missenden Rd, Camperdown, NSW

Active frontage, Barangaroo South, Sydney

Key design features:

1. Northern verge with 3m Shared path, with 1.5m street tree planting zone.
2. 3m footpath to southern side with 1.5m zone for street lights, street trees and furniture placement.
3. Parallel parking to both sides.
4. Kerb blisters provide opportunities for WSUD features such as:
   - Slotted kerbs to maximise collection of surface water run-off
   - Raingardens between parking bays
   - Large capacity tree pits in paved area
5. Active frontage - opportunity for outdoor dining

* Notes:

- Locations of the street light poles are indicative only and are subject to the lighting and electrical design.

Legend

- Property Boundary
- Existing Kerb Line
- Line of Awnings (Indicative)
- WSUD

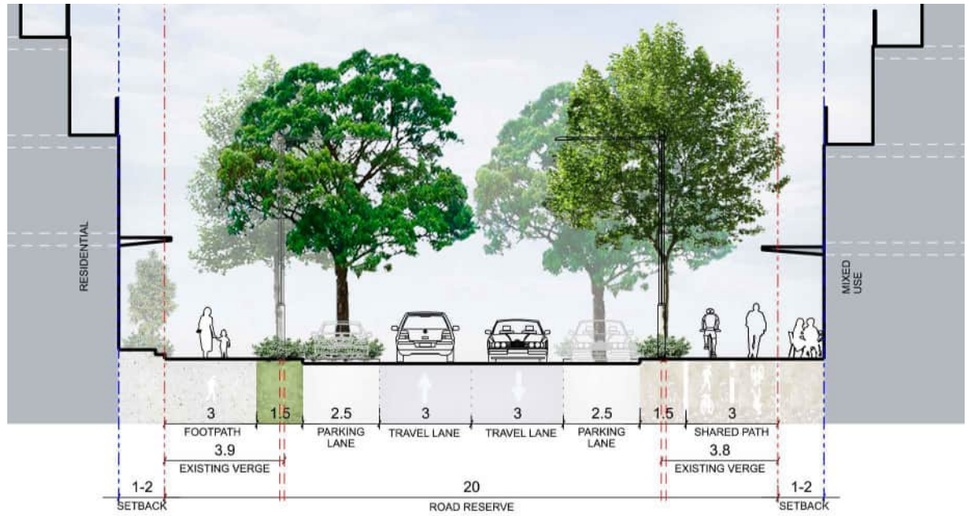


Figure 48. Leeds Street East - Typical Section

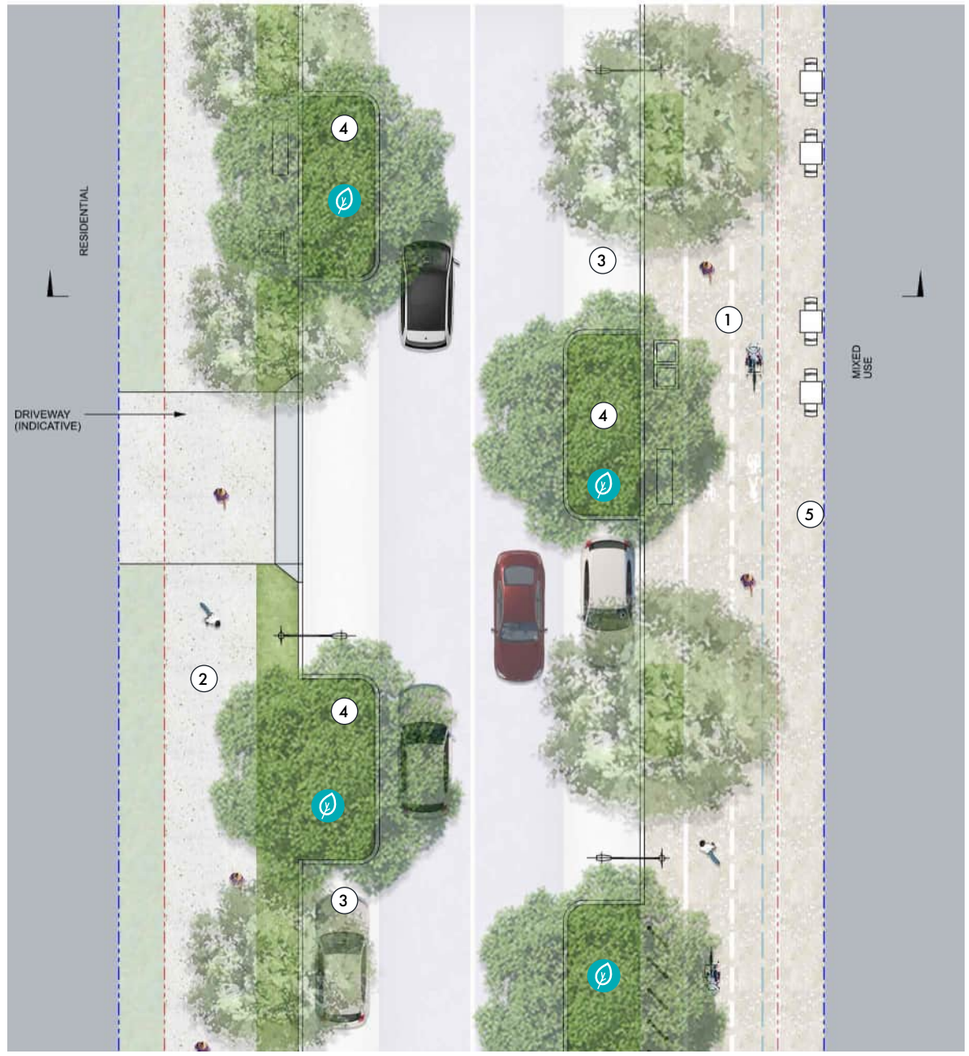
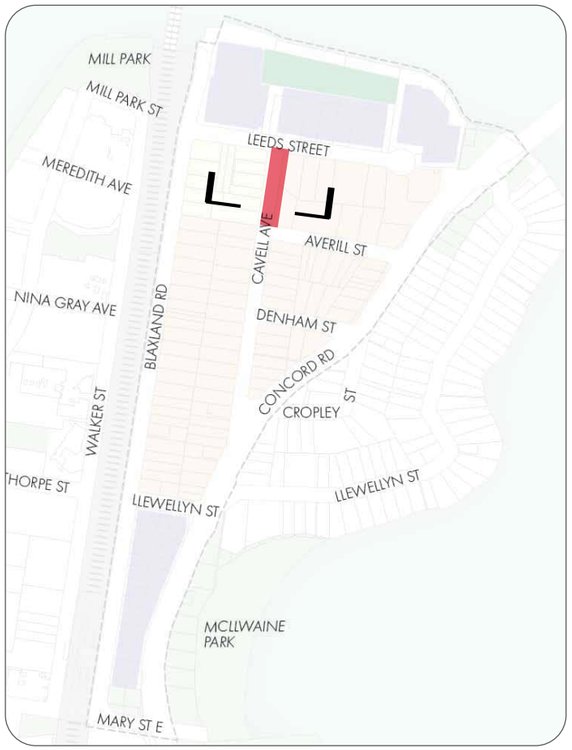


Figure 49. Leeds Street East - Typical Plan

8.2.9 Cavell Avenue North



Verge planting, Missenden Rd, Camperdown, NSW

Shared Path, Howard Ave, Dee Why (Source: Tract)

Key design features:

1. Western verge - 3m Shared path with 1m continuous planting zone with street lights and street trees. Tree pits to be continuous and extend under shared path with engineered strata cell or structural soil to provide greater growing area for trees.
2. Eastern verge - 2m footpath with 1.2m continuous landscape verge and tree planting.
3. Existing bus stop location to be reviewed as part of future intersection upgrade of Cavell Street and Averill Street.
4. 4x traffic lanes to accommodate large traffic volumes.

WSUD opportunities may include:

- Large capacity tree pits in verge
- Passive irrigation from stormwater run-off from adjacent footpaths.

* Notes:

- Locations of the street light poles are indicative only and are subject to the lighting and electrical design.

Legend

- Property Boundary
- Existing Kerb Line

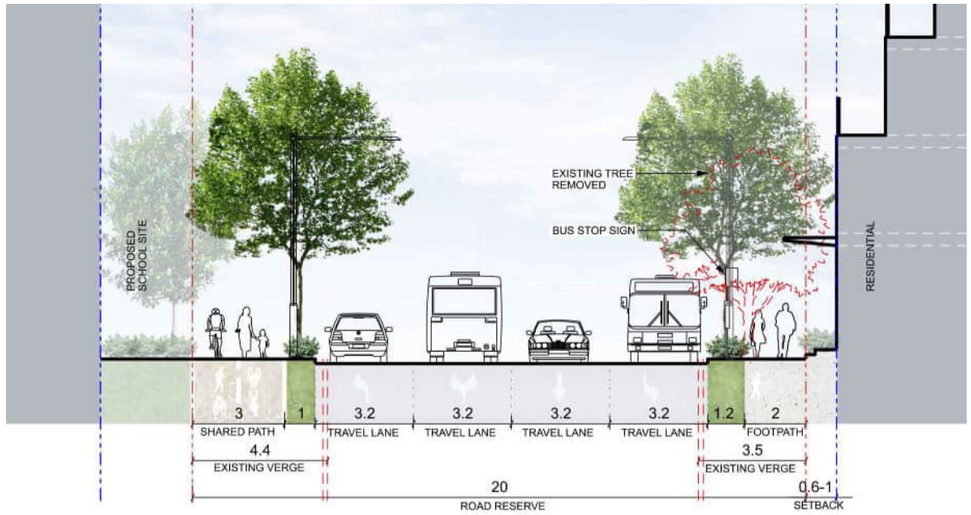


Figure 50. Cavell Avenue North - Typical Section

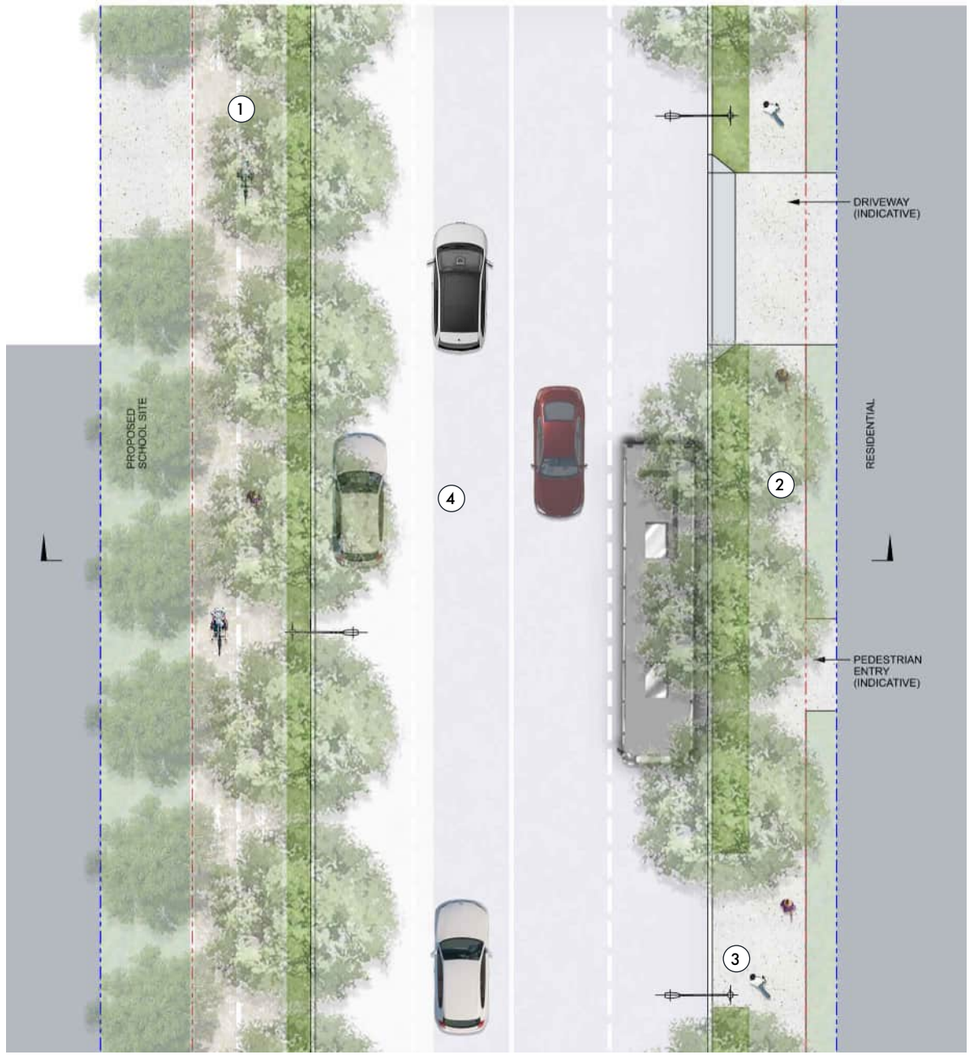
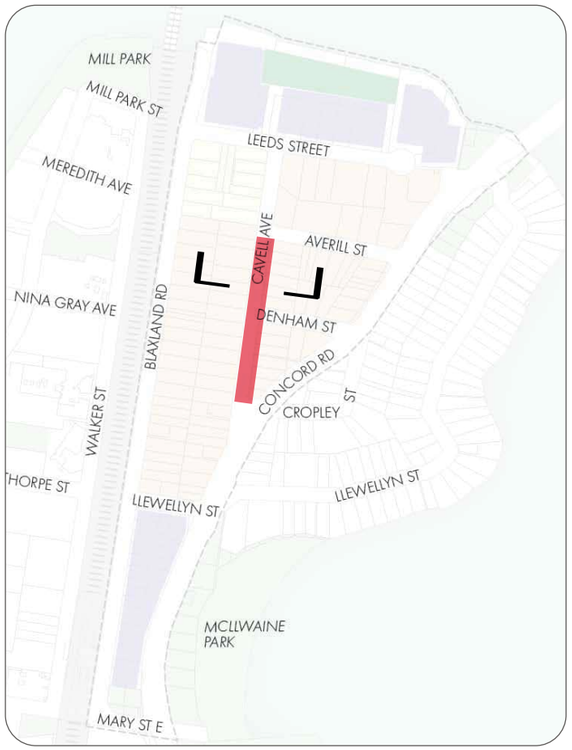


Figure 51. Cavell Avenue North - Typical Plan

8.2.10 Cavell Avenue South - Typical



Tree planting blisters, Footbridge Bvd, Wentworth Point (Source: Google Maps)

Key design features:

1. Western verge - 2.5m dedicated cycleway with 1m planted verge and street trees. Permeable paving sections to allow access to parked cars. Tree pits to be continuous and extend under cycleway with engineered strata cell or structural soil to provide greater growing area for trees.
2. Eastern verge - 2m footpath with 1.5m landscape verge, planting, street trees and permeable paving.
3. Parallel parking to both sides
4. Kerb blisters provide opportunities for WSUD features such as:
   - Slotted kerbs to maximise collection of surface water run-off
   - Raingardens between parking bays
   - Large capacity tree pits in paved area

* Notes:

- Locations of the street light poles are indicative only and are subject to the lighting and electrical design.

Legend

- Property Boundary
- Existing Kerb Line
- Permeable Paving
- WSUD

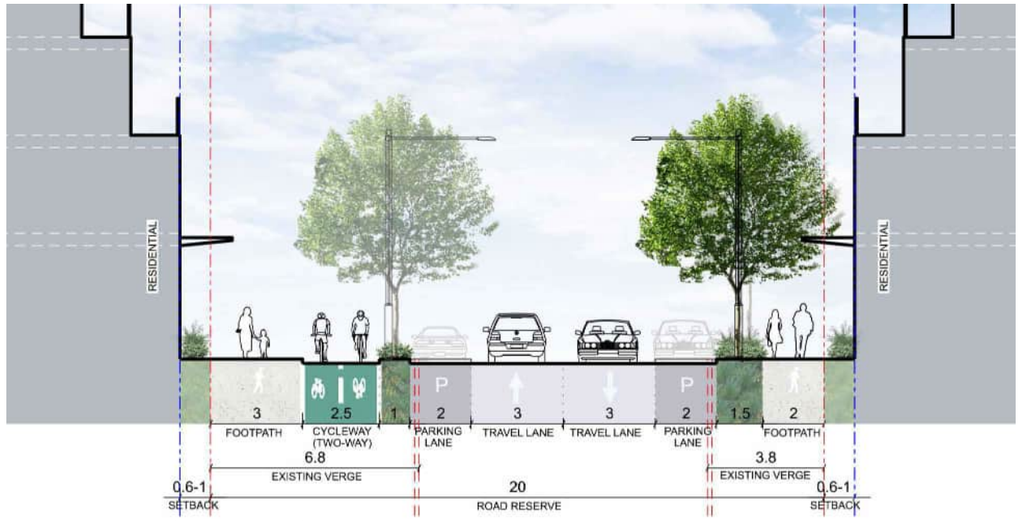


Figure 52. Cavell Avenue South - Typical Section

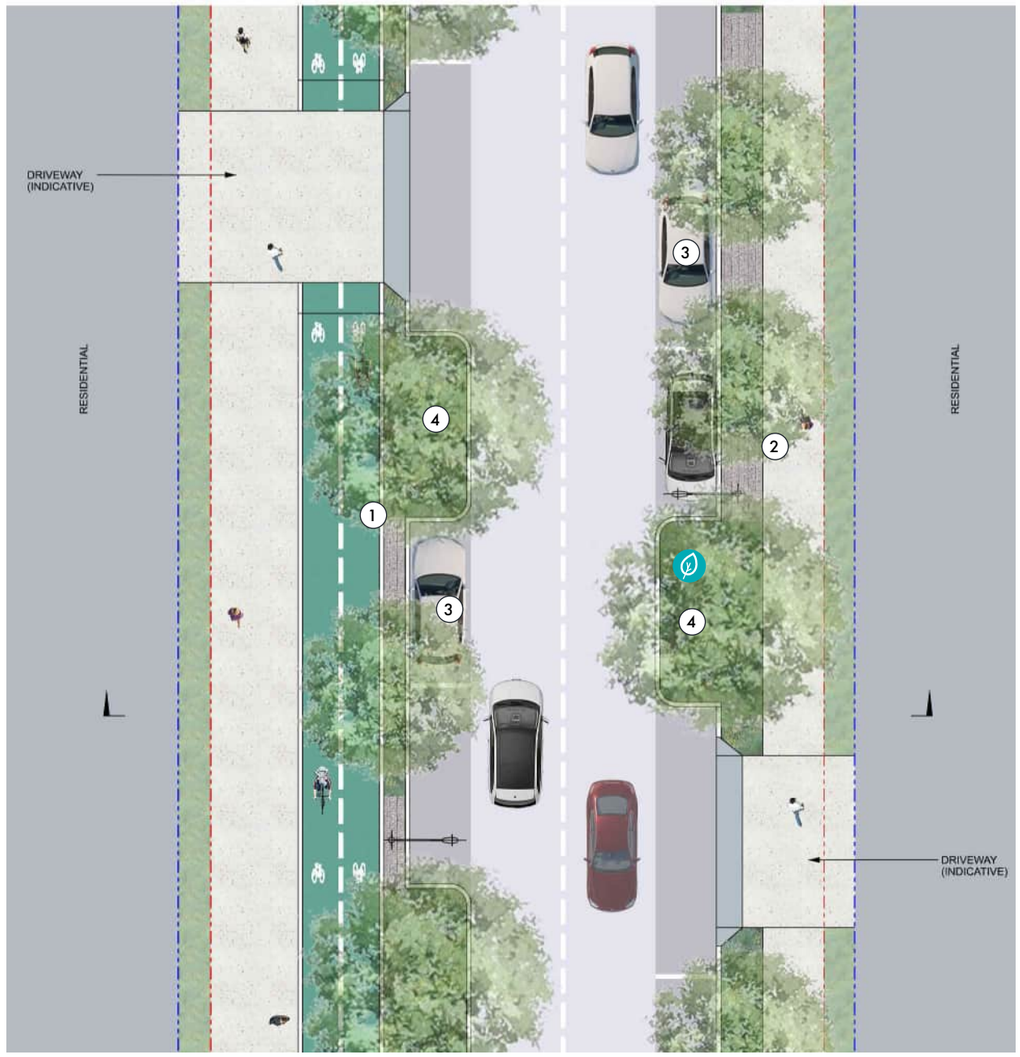
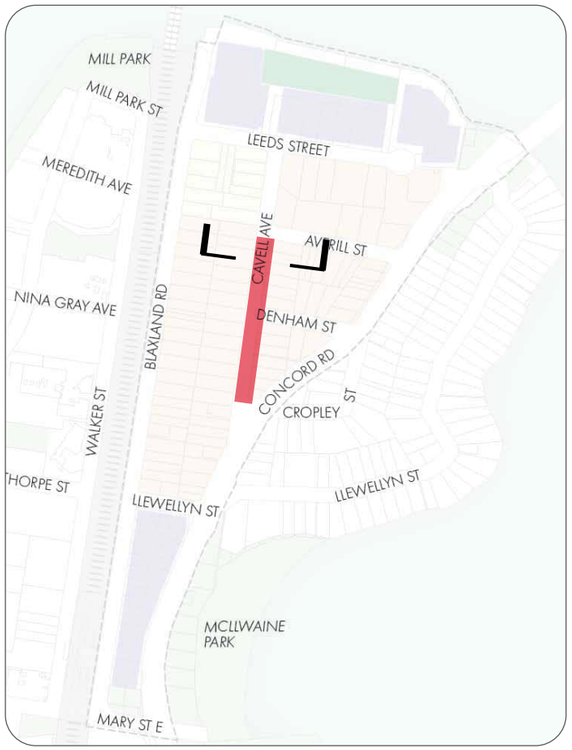


Figure 53. Cavell Avenue South - Typical Plan

8.2.11 Cavell Avenue South with Heritage Trees - Scenario 1

Separated Cycleway left of Heritage Trees



Tree planting blisters, Footbridge Bvd, Wentworth Point (Source: Google Maps)

Existing heritage palm trees and church

Key design features:

1. Western verge - 2.5m dedicated cycleway. Cycleway alignment to avoid existing heritage trees. Permeable paving sections to allow access to parked cars. Tree pits to be continuous and extend under cycleway with engineered strata cell or structural soil to provide greater growing area for trees.
2. Existing Heritage trees retained and integrated with new tree blisters.
3. Eastern verge - 2m footpath with 1.5m landscape verge, planting, street trees and permeable paving.
4. Parallel parking to both sides
5. Kerb blisters provide opportunities for WSUD features such as:

   - Slotted kerbs to maximise collection of surface water run-off

   - Raingardens between parking bays

   - Large capacity tree pits in paved area

* Notes:

- Locations of the street light poles are indicative only and are subject to the lighting and electrical design.
- Scenario 1 and 2 are to be selected based on the position of heritage trees (to be retained) relative to kerb.

Legend

- Property Boundary
- Existing Kerb Line
- Permeable Paving
- WSUD

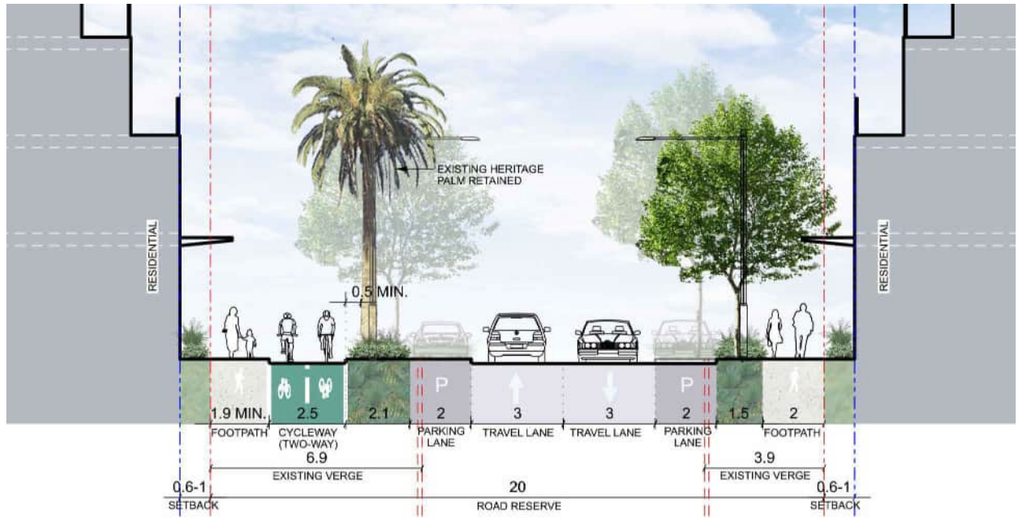


Figure 54. Cavell Avenue South - Scenario 1 Section

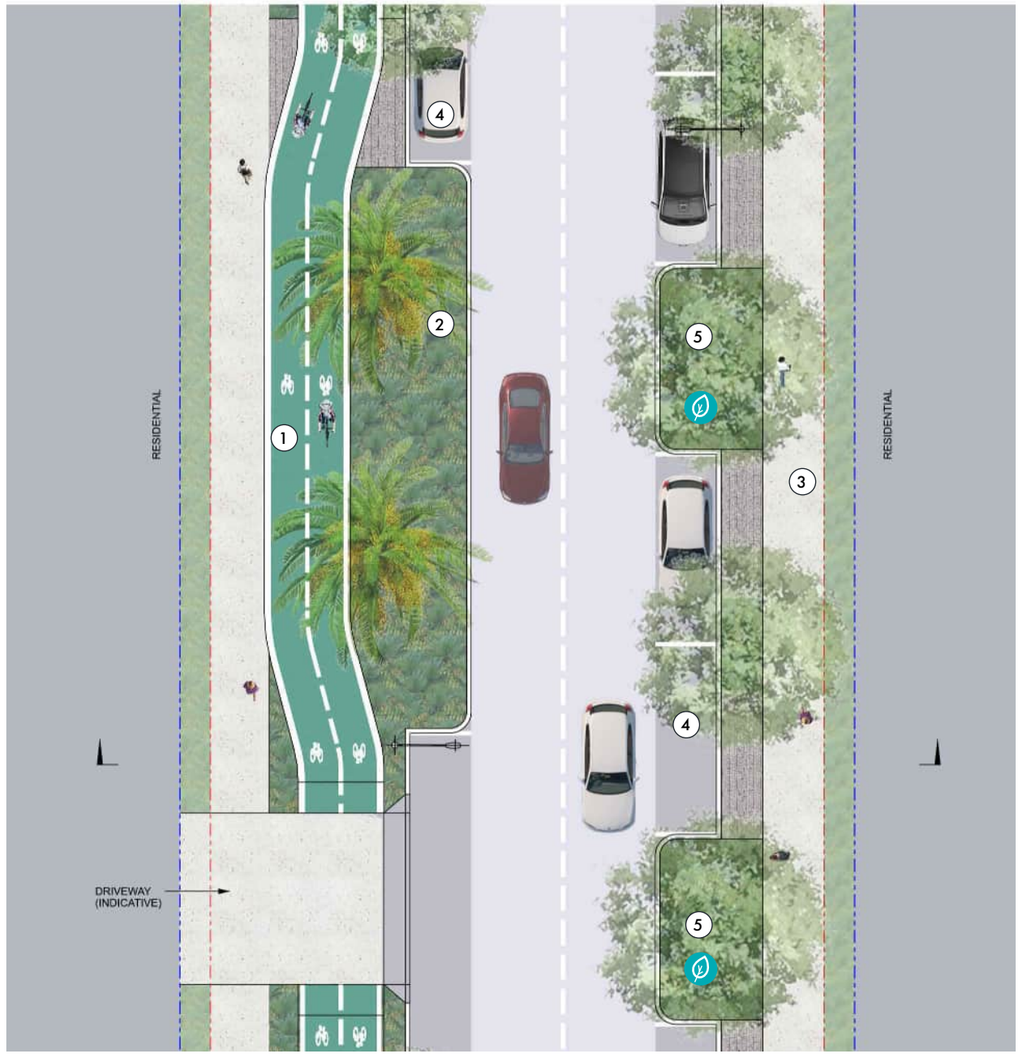
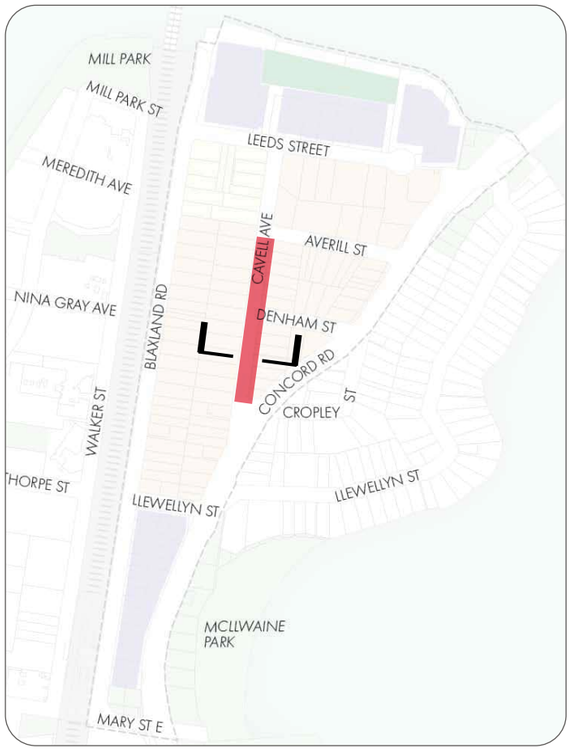


Figure 55. Cavell Avenue South - Scenario 1 Plan

8.2.12 Cavell Avenue South with Heritage Trees - Scenario 2

Separated Cycleway right of Heritage Trees



Tree planting blisters, Footbridge Bvd, Wentworth Point (Source: Google Maps)

Existing heritage palm trees and church

Key design features:

1. Western verge - 2.5m dedicated cycleway. Cycleway alignment to avoid existing heritage trees. Permeable paving sections to allow access to parked cars. Tree pits to be continuous and extend under cycleway with engineered strata cell or structural soil to provide greater growing area for trees.
2. Existing Heritage trees retained.
3. Eastern verge - 2m footpath with 1.1m landscape verge, planting, street trees and permeable paving.
4. Parallel parking to eastern sides
5. Kerb blisters provide opportunities for WSUD features such as:

   - Slotted kerbs to maximise collection of surface water run-off

   - Raingardens between parking bays

   - Large capacity tree pits in paved area

* Notes:

- Locations of the street light poles are indicative only and are subject to the lighting and electrical design.
- Scenario 1 and 2 are to be selected based on the position of heritage trees (to be retained) relative to kerb.

Legend

- Property Boundary
- Existing Kerb Line
- Permeable Paving
- WSUD

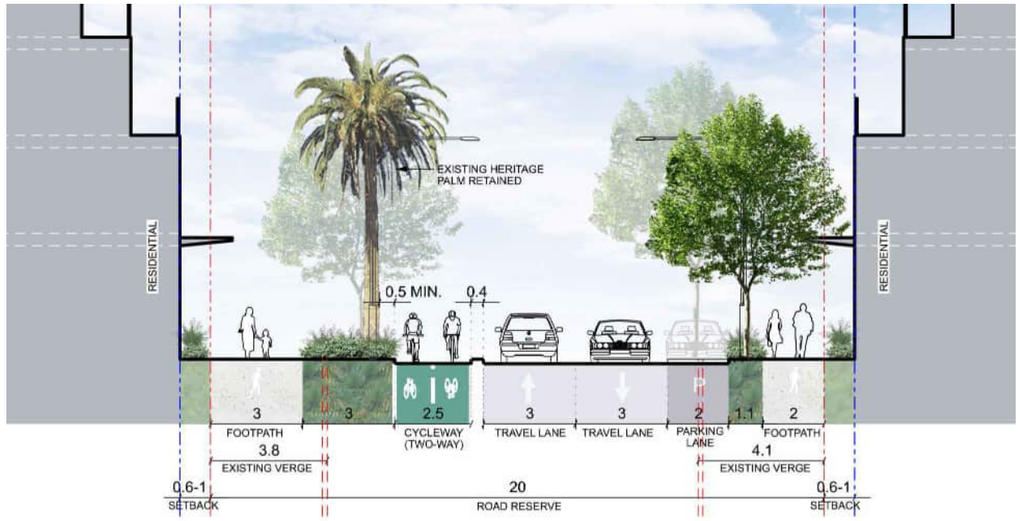
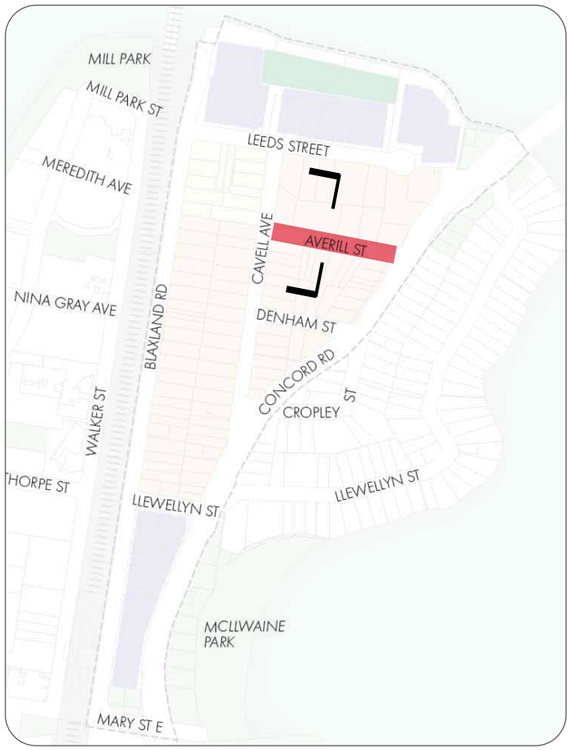


Figure 56. Cavell Avenue South - Scenario 2 Section

Figure 57. Cavell Avenue South - Scenario 2 Plan

8.2.13 Averill Street



Key design features:

1. 2.4m wide footpath to both sides with 1.2m continuous landscape verge and tree planting.
2. Existing bus stop to southern side.
3. 4x traffic lanes to accommodate large traffic volumes.

* Notes:

- Locations of the street light poles are indicative only and are subject to the lighting and electrical design.

Howard Ave, Dee Why (Source: Tract)

Legend

- Property Boundary
- Existing Kerb Line

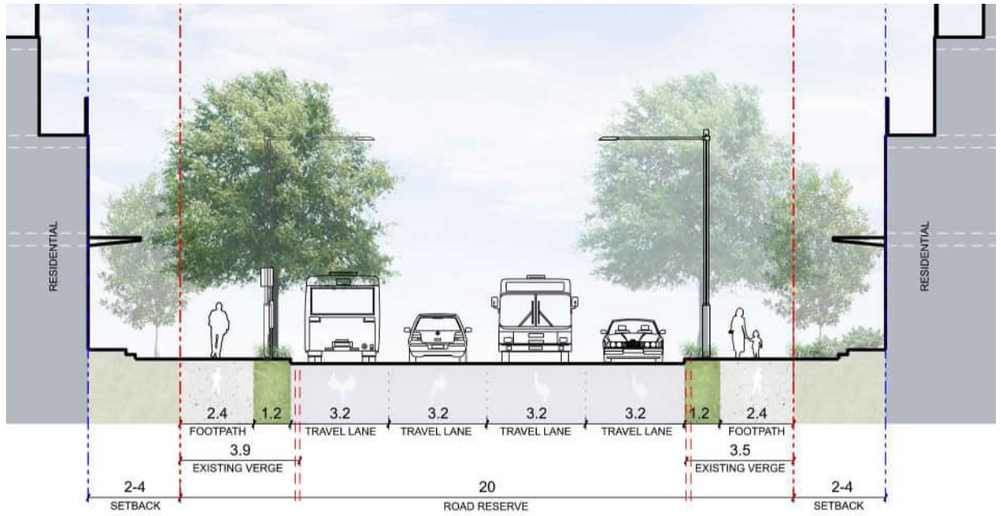


Figure 58. Averill Street - Typical Section

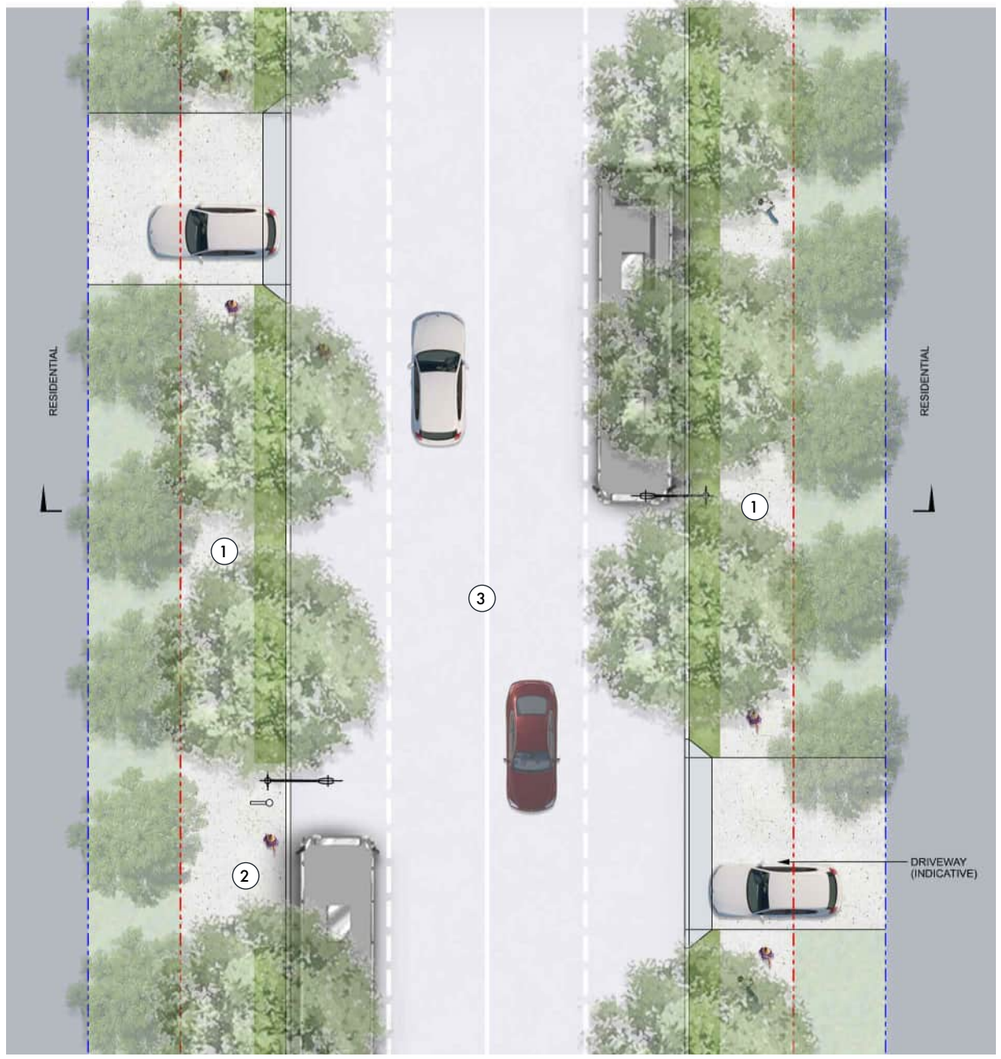


Figure 59. Averill Street - Typical Plan

8.2.14 Denham Street, Denham Street Extension (New Street), Llewellyn Street

Surry Hills, Sydney

Key design features:

1. Northern verge - 2.5m Dedicated two-way cycleway
2. Parallel parking on both sides.
3. Generous 2m wide landscape buffer between cycleway and parking lane to ensure cyclist safety, street planting and pedestrian access to parked cars.
4. Eastern verge - 2.5m footpath
5. Kerb blisters provide opportunities for WSUD features such as:
   - Slotted kerbs to maximise collection of surface water run-off
   - Raingardens between parking bays
   - Large capacity tree pits in paved area

* Notes:

- Locations of the street light poles are indicative only and are subject to the lighting and electrical design.

Legend

- Property Boundary
- Existing Kerb Line
- Permeable Paving
- WSUD

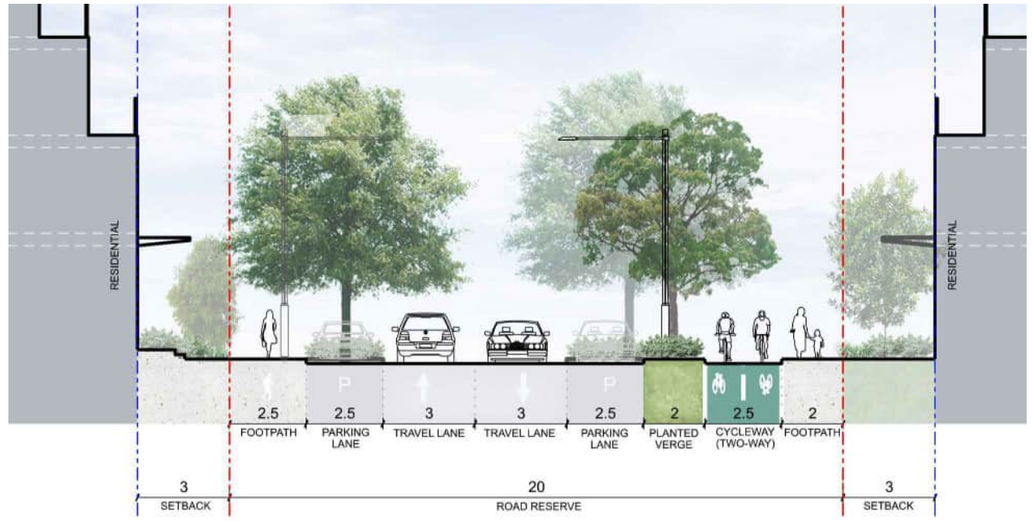


Figure 60. Denham Street, Denham Street Extension (New Street) and Llewellyn Street - Typical Section

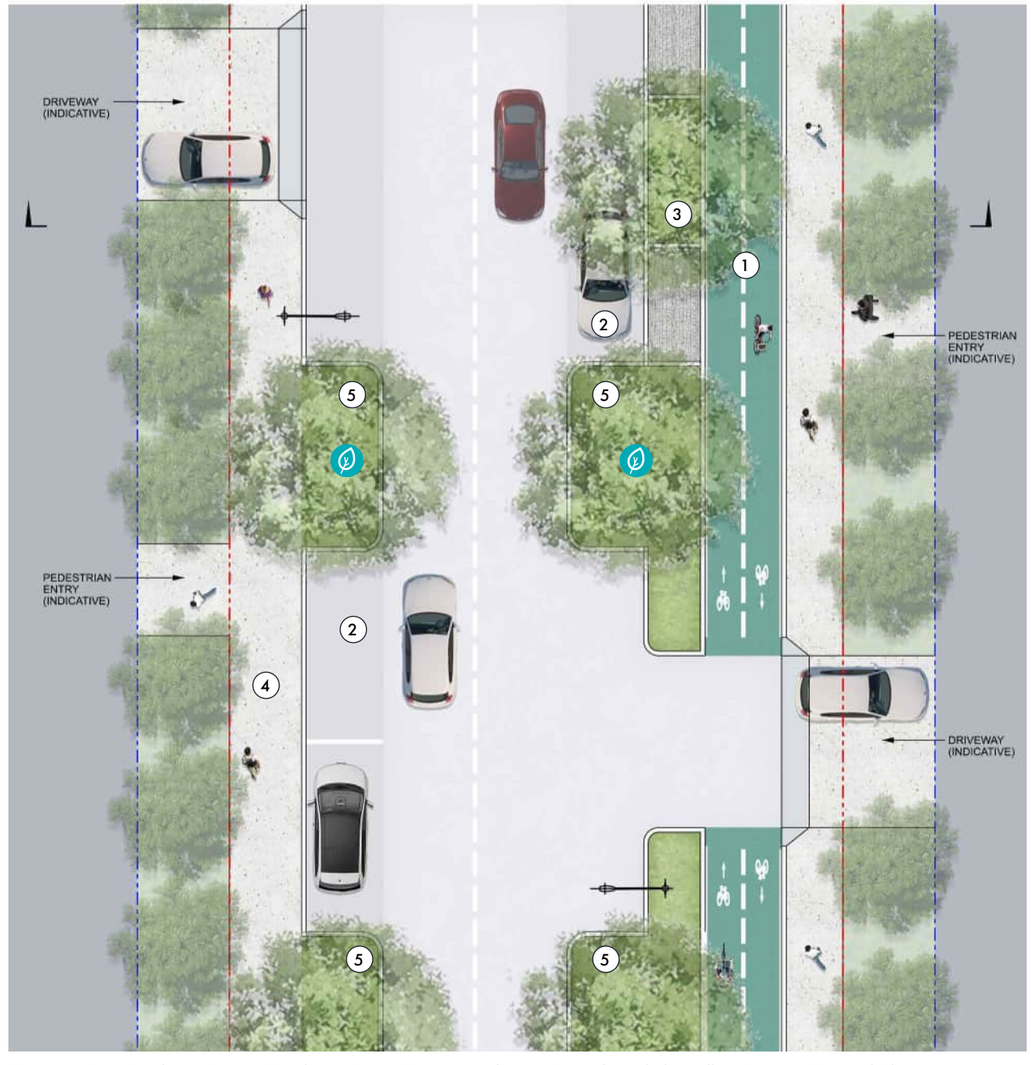


Figure 61. Denham Street, Denham Street Extension (New Street) and Llewellyn Street - Typical Plan

8.2.15 New Street with Shared Path

(Source: Google)

Key design features:

1. Southern verge - 3m shared path with 1.5m landscape zone for street tree planting, street lights and permeable paving to access parallel parking.
2. Northern verge - 2m footpath with 2.5m wide landscape zone for large street trees.
3. Parallel parking to both sides.
4. Kerb blisters provide opportunities for WSUD features such as:
   - Slotted kerbs to maximise collection of surface water run-off
   - Raingardens between parking bays
   - Large capacity tree pits in paved area

* Notes:

- Locations of the street light poles are indicative only and are subject to the lighting and electrical design.

Legend

- Property Boundary
- Existing Kerb Line
- Permeable Paving
- WSUD

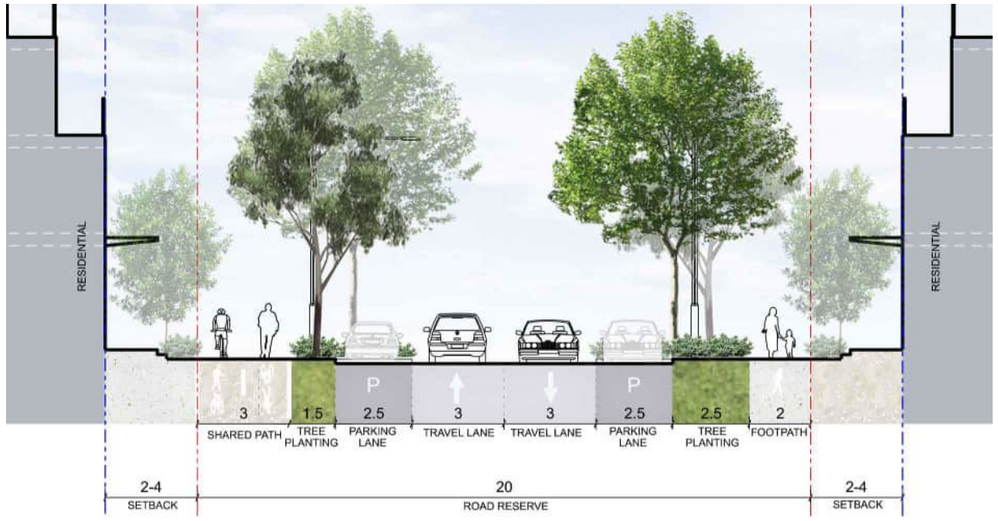


Figure 62. New Street with Shared Path - Typical Section

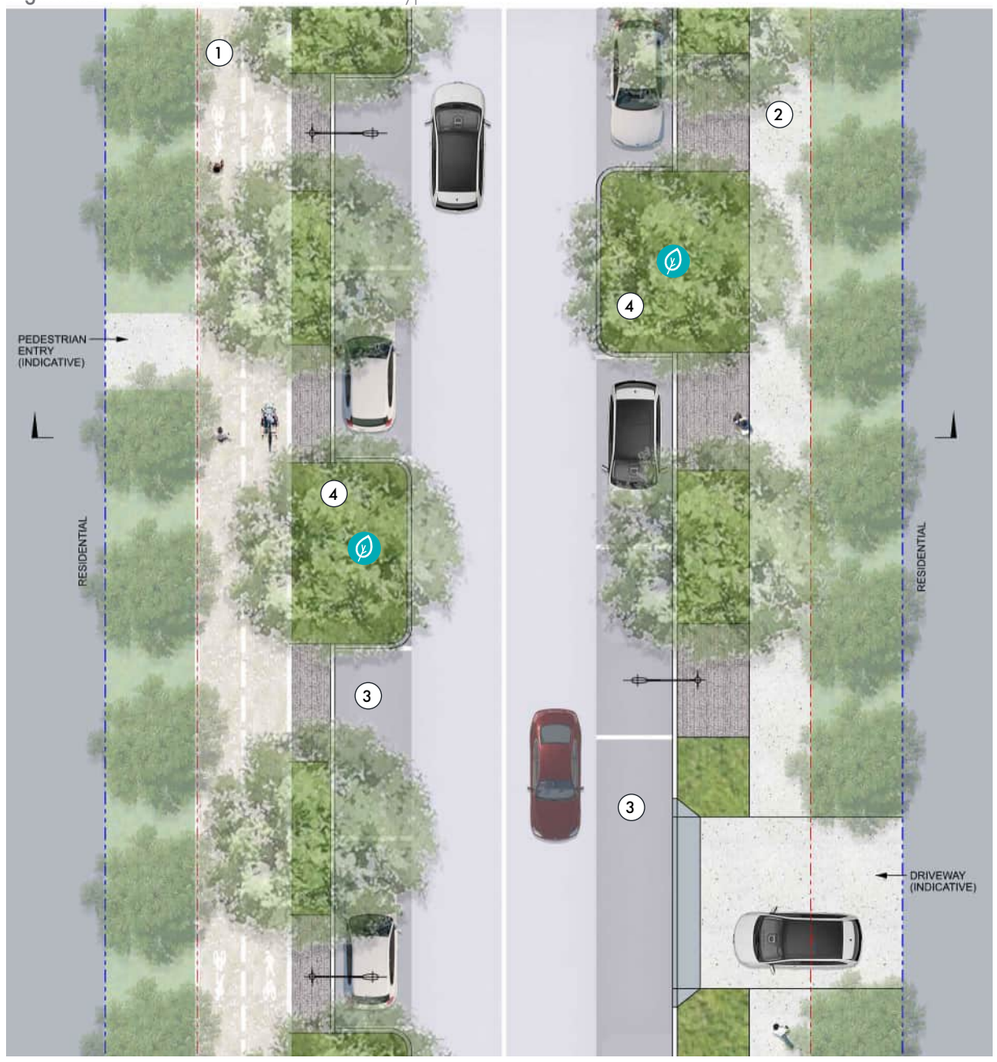
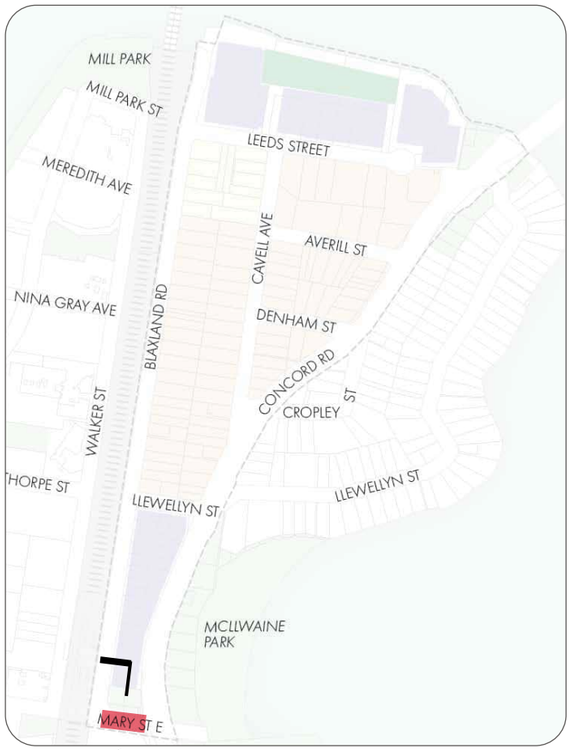


Figure 63. New Street with Shared Path - Typical Plan

8.2.16 Mary Street East



Skye Road (Source: Tract)

Mary Street East (Source: Google Maps)

Key design features:

1. Existing width of carriageway retained to accommodate large traffic volumes
2. Shared path proposed to southern side
3. Upgrade of pedestrian footpath and parklands to the north.

* Notes:

- Locations of the street light poles are indicative only and are subject to the lighting and electrical design.

Legend

- Property Boundary
- Existing Kerb Line

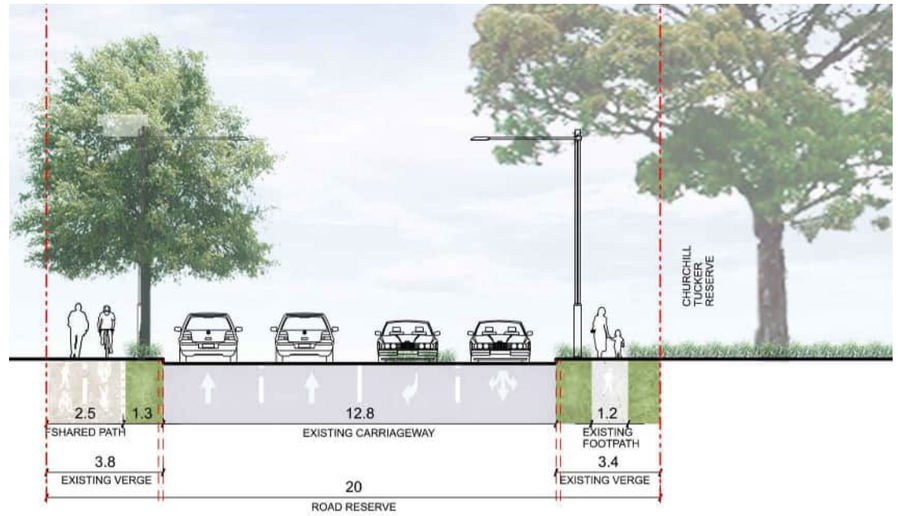


Figure 64. Mary Street East - Typical Section

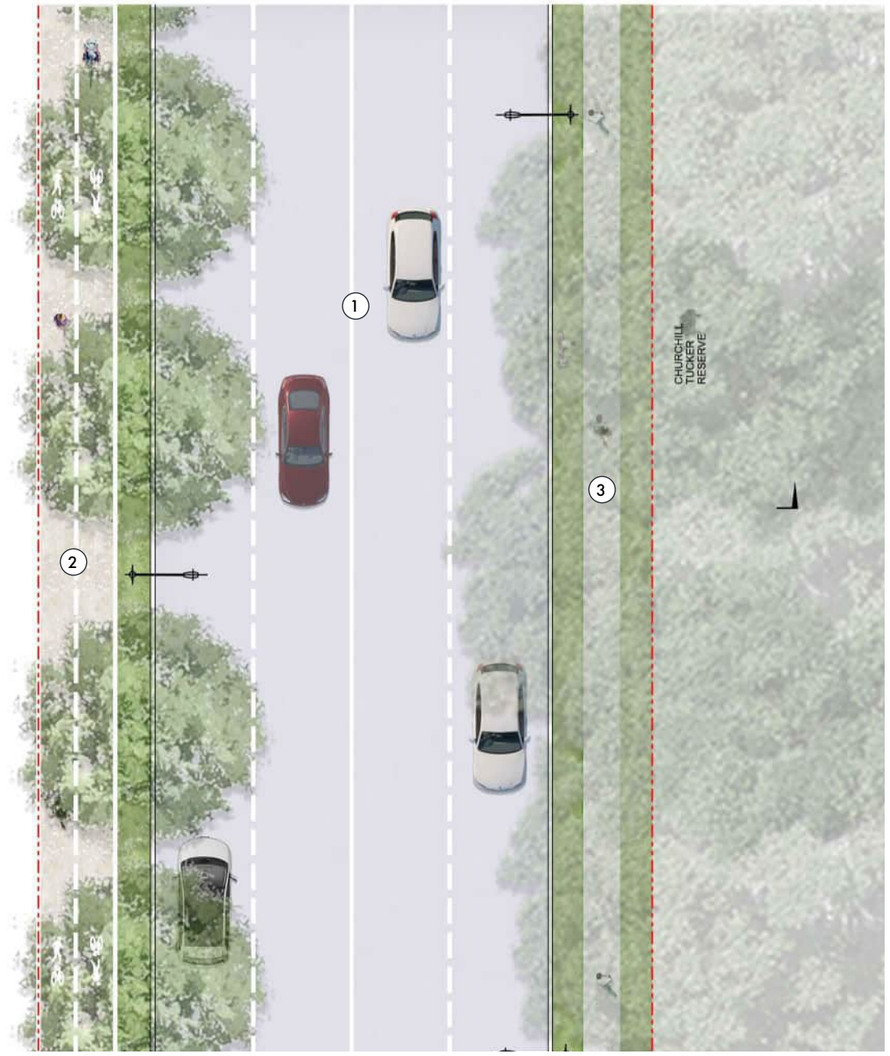


Figure 65. Mary Street East - Typical Plan

8.2.17 Shared Zone - Averill Street Extension

Key design features:

1. 6m one-way paved shared zone*
2. Potential school entry / frontage
3. Frontage of potential shared community facilities with school i.e. library

* Notes:

- The proposed school interfaces with Blaxland Road, Leeds Street and Cavell Avenue. These streets will be catering large volumes of traffic and may not be suitable for school pick up / drop off.
- The new street, shown as a Shared Zone, may provide a low speed environment complimentary for school movements.
- Shared zones are subject to assessments to ensure the meet the requirements for a Shared Zone. Shared Zones are either Category 1 or Category 2 both applying 10km speed limit.
- Category 1 allows for kerb and gutter arrangement and may be suited for drop off / pick up activities. For extra protection, safety bollards may be introduced.
- Category 2 is a flush treatment which will require safety protection elements such as bollards to ensure vehicle movement is restricted.
- Shared zone are subject to future traffic studies and assessment. Designs illustrated in this Public Domain Plan are indicative only. Alternate solutions may be determined as part of future detail design process.

Kensington Street, Sydney (Source: Google)

Legend

Property Boundary

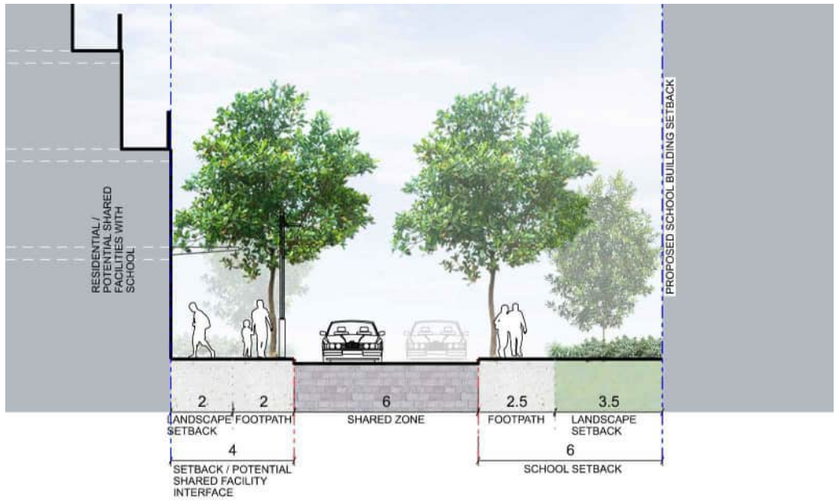


Figure 66. Shared Zone - Typical Section

Figure 67. Shared Zone - Typical Plan

8.2.18 Through-site Pedestrian Link

Somerville, MA, US (Source: Google)

Key design features:

1. 9m Pedestrian link - Tree placement critical to ensure continuous visual / physical connection to waterfront. High quality, fine grain paving to reflect human scale materiality.
2. Planting beds / WSUD Rain gardens and trees integrated with seating and lighting along retail frontage.
3. Active/retail frontage for outdoor dining and activities.

Notes:

- Designs shown are indicative only. Final design, layout, elements and levels are subject to future detail design. Existing levels within this area may be steep in sections and will require future grading studies to ensure compliant grades are achieved.

Legend

- Property Boundary
- Line of Awnings (Indicative)
- Permeable Paving
- WSUD

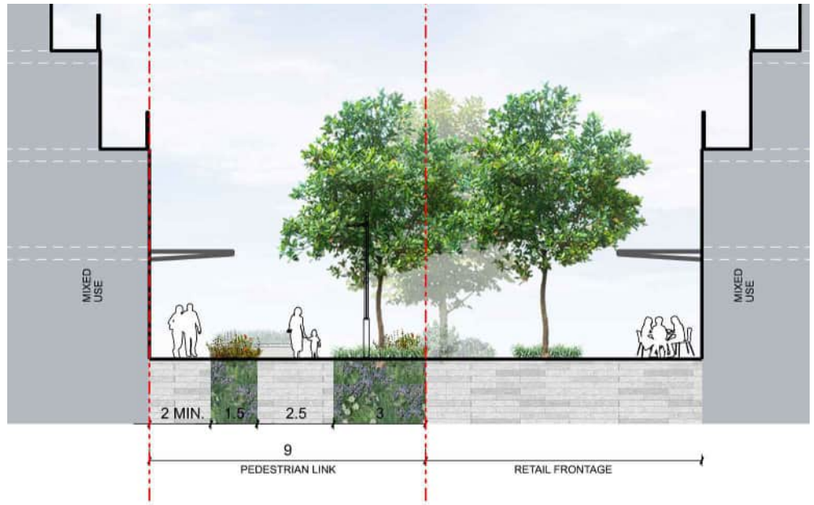


Figure 68. Pedestrian Link - Typical Section

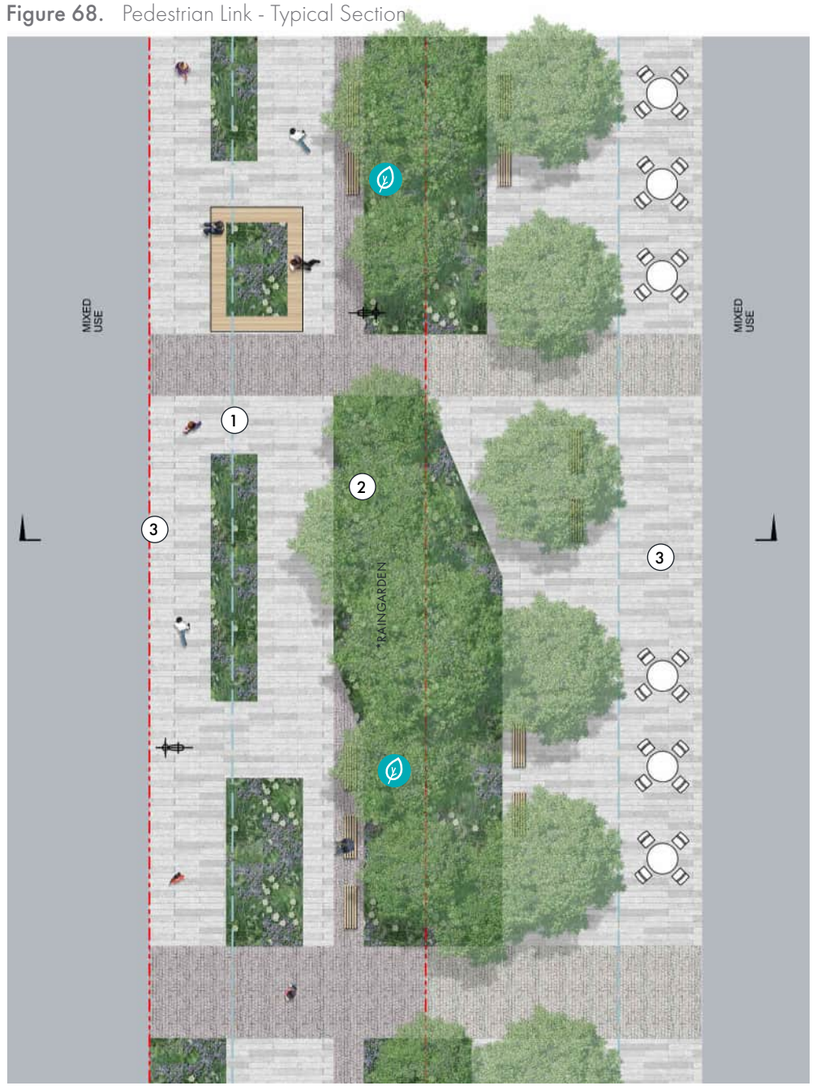


Figure 69. Pedestrian Link - Typical Plan

Appendices

Appendix A Cycle Network Options Study

A.1 Current Cycle Network Options Review

Current Cycle Network Options - Traffic and Transport Report (Jacobs,2021)

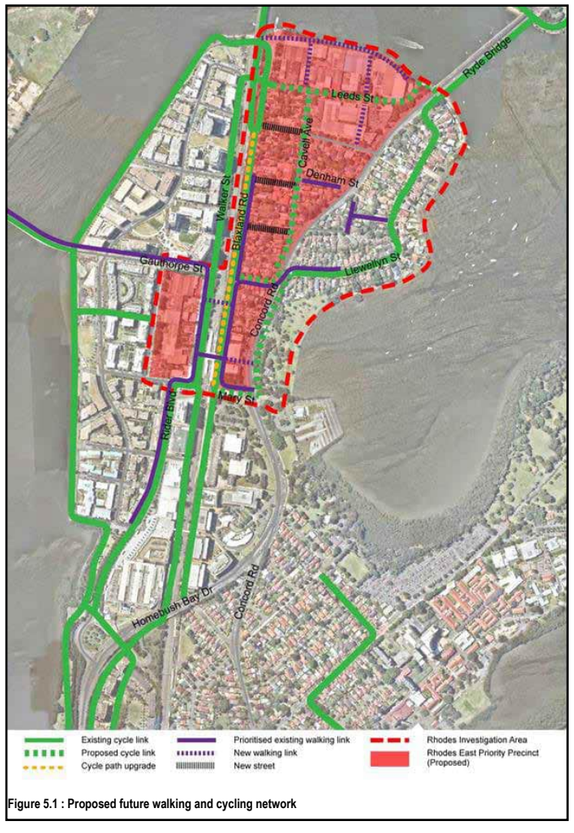


Figure 5.1 : Proposed future walking and cycling network

Cycle Network Considerations

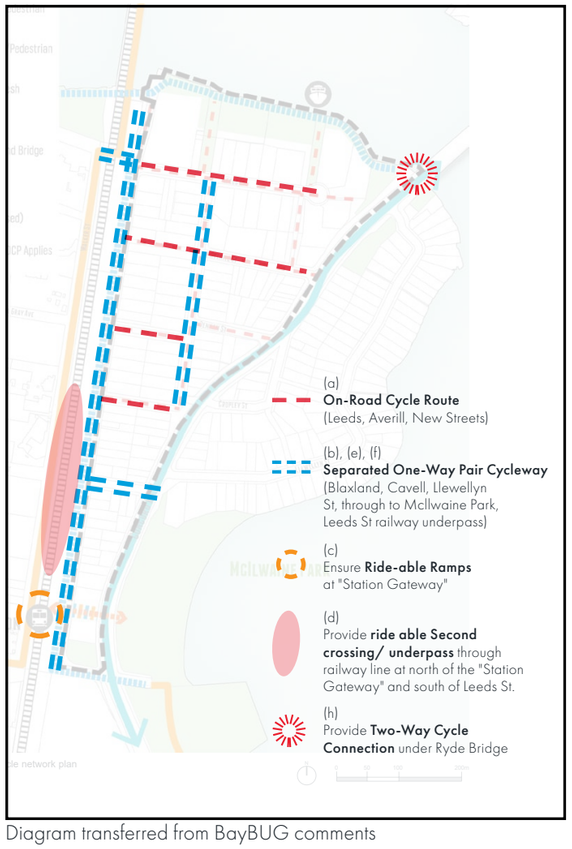
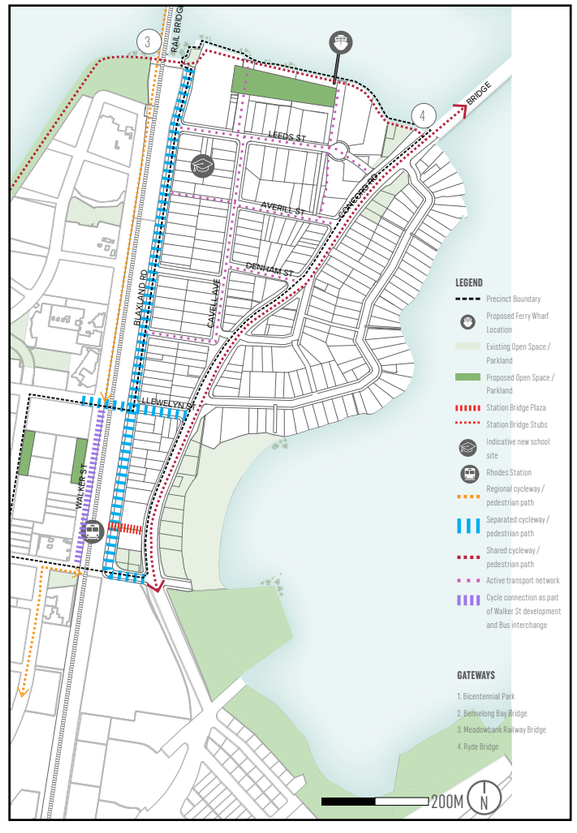


Diagram transferred from BayBUG comments

Current Cycle Network Options - Urban Design Report (Roberts Day) 2021



Current Cycle Network Options - DCP 2022

gure K16-15 Pedestrian and cycle network plan

A.2 Proposed Cycle Network Options

A.1.1 Proposed Cycle Network Option 1 - Based on Urban Design Report (Roberts Day) 2021

A.1.2 Proposed Cycle Network Option 2 - Based on alternate cycling typologies such as One-Way Pair

A.1.3 Proposed Cycle Network Option 3 - Recommended Network

Legend

General

- Precinct Boundary
- Railway Line
- Existing Ferry Route
- Proposed New Ferry Wharf
- Bus Route and Stop
- Rhodes Train Station
- 400m Train Station Radius

Active Networks

- Existing Signalised Pedestrian Crossing - Four Way
- Existing Signalised Pedestrian Crossing - Three Way
- Existing Signalised Pedestrian Crossing - Two Way
- Existing Pedestrian Zebra Crossing
- Existing Shared Cycleway/Pedestrian Path
- Existing Separated Cycleway Marked on Road
- Existing Marked On-Road Cycle Route
- Existing Cycle/Pedestrian Underpass
- Existing Cycle/Pedestrian Connection
- Existing Informal On-Road Cycle Connection
- Existing Stairs with Bicycle Channel
- Proposed Separated One-Way Pair Cycleway
- Proposed Separated Two-Way Cycleway
- Proposed Shared Cycleway/Pedestrian Path
- Proposed Marked On-Road Cycle Route
- Proposed Pedestrian Link
- Proposed Connection between Station and park
- Future Pedestrian / Cycle Connection

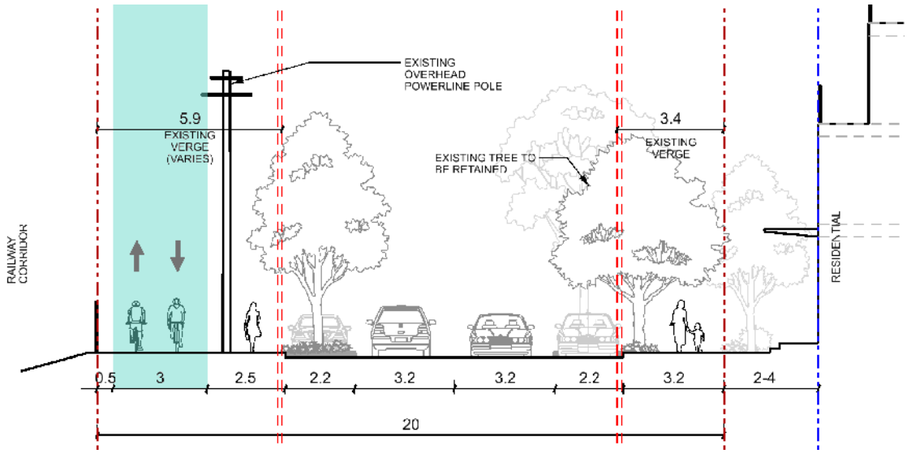
Pedestrian/ Cycling Crossing Types

- Existing Signalised Pedestrian Crossing - Four-Way
- Existing Signalised Pedestrian Crossing - Three-Way
- Existing Signalised Pedestrian Crossing - Two-Way
- Existing Zebra Crossing Retained
- Proposed Signalised Crossing - Three-Way (Subject to future traffic advice)
- Proposed Signalised Crossing - Four-Way (Subject to future traffic advice)
- Proposed Raised Pedestrian/ Cyclists Crossing

A.3 Street Cross Sections

A.3.1 Street Cross Sections - Blaxland Rd

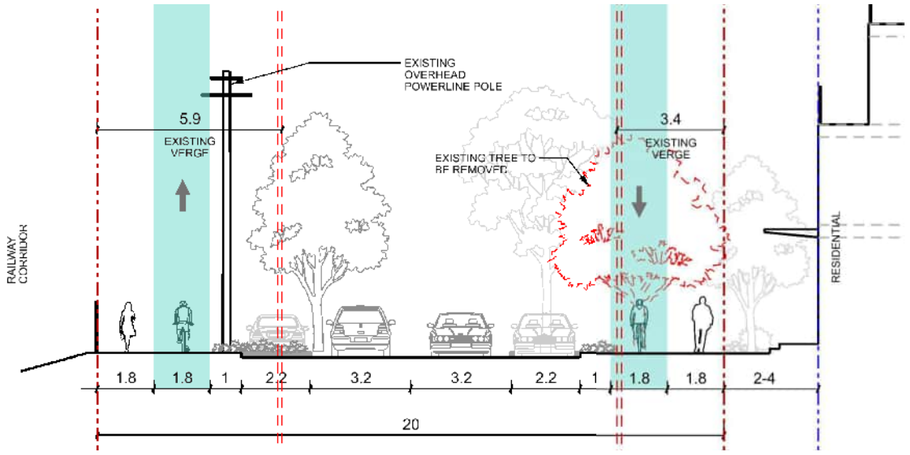
Opt 1: Two-Way Cycleway adjacent fence-line



Two-way Cycleway adjacent rail corridor fencing

- Two-way Cycleway on western verge along railway corridor fencing to minimise crossing at vehicle driveways on eastern verge.
- Reduced conflict between cyclist and pedestrians accessing parked cars.
- Connects to existing shared path north and south of precinct.
- Localised pinch points at overhead powerlines (poles)

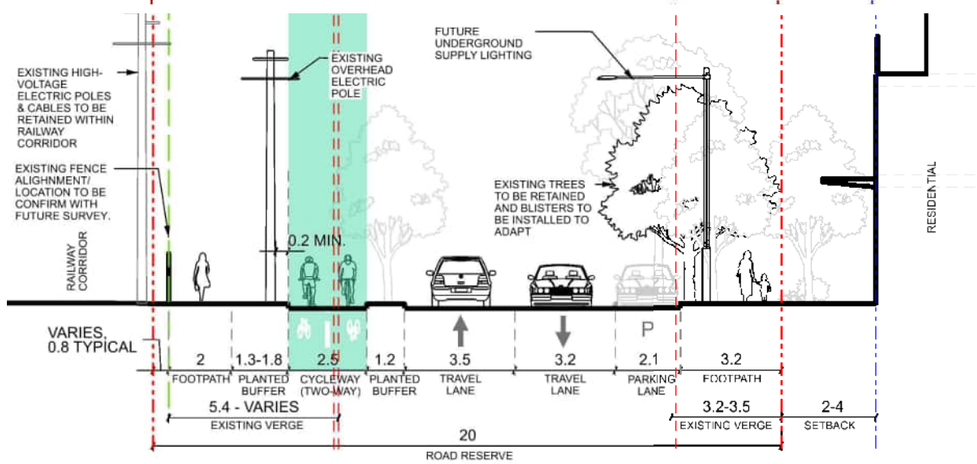
Opt 2: One-Way Pair Typology



One-way Pair

- Reduces pedestrian footpath width on both verges.
- Existing trees removed to accommodate cycle lane on eastern verge.
- Approx 5 road intersection crossing (2 existing + 3 future roads) required to ensure connectivity to future and existing shared paths / cycle lanes.
- Cycle lane on eastern verge conflicts with future crossing vehicle driveways

Opt 3: Two-Way Cycleway adjacent travel lane

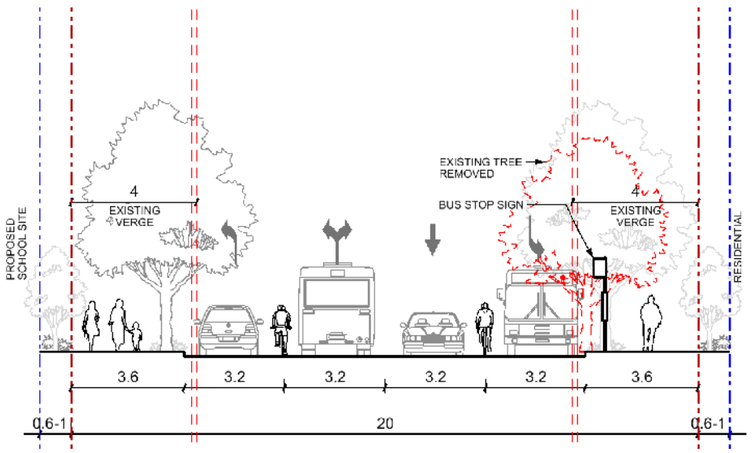


Two-way Cycleway between footpath and travel lanes to western side

- No parallel parking on western verge i.e. no conflict with pedestrians accessing parked cars.
- Two-way cycleway on western verge with 1.2m landscape buffer between cycleway and traffic lane to ensure cyclist safety.
- Landscape buffer zones for planting and new street trees.
- Existing overhead power poles are accommodated in the landscape buffer zone.
- Generous footpath to both sides.

A.3.2 Street Cross Sections - Cavell Ave (North between Averill St and Leeds Street)

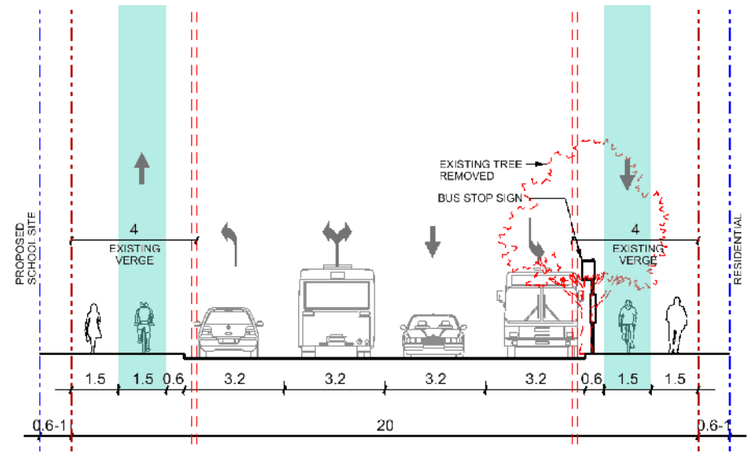
Opt 1: On-Road Cycle



On-Road Cycle

- Future east west connector road, large traffic volumes.
- Bus Route - 3.2m wide traffic lanes impact on existing trees
- Cyclist forced to share road with traffic
- No Parking Lanes

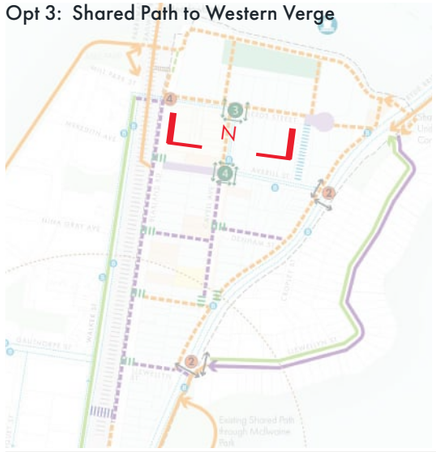
Opt 2: One-Way Pair

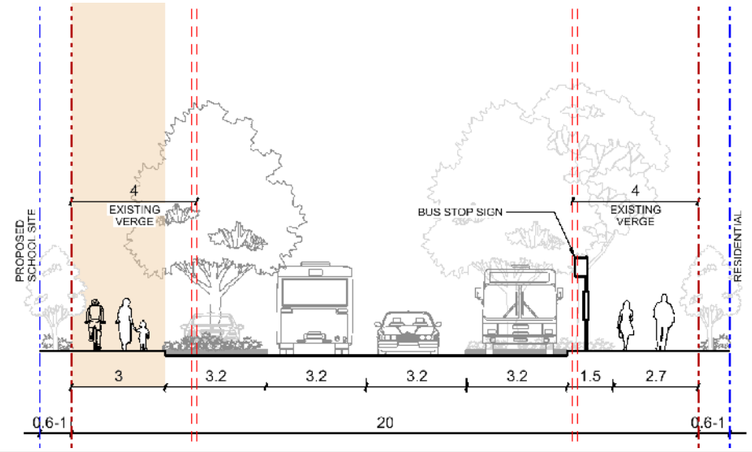


On-Way Pair

- Future east west connector road, large traffic volumes.
- Bus Route - 3.2m wide traffic lanes impact on existing trees
- Reduced pedestrian footpaths
- Insufficient space for landscape and tree planting
- No Parking Lanes

Opt 3: Shared Path to Western Verge



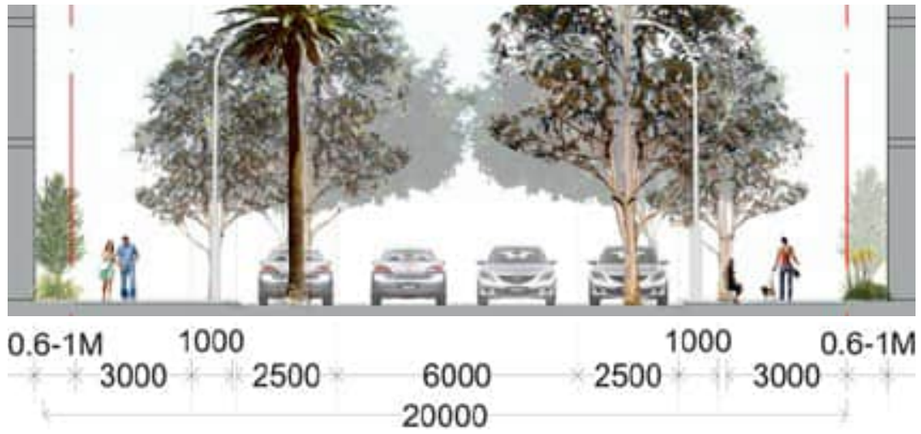


Shared Path on Western Verge

- Future east west connector road, large traffic volumes.
- Bus Route - 3.2m wide traffic lanes impact on existing trees
- Generous pedestrian footpaths
- Space for landscape and tree planting
- Cyclist must slow adjacent school
- No Parking Lanes

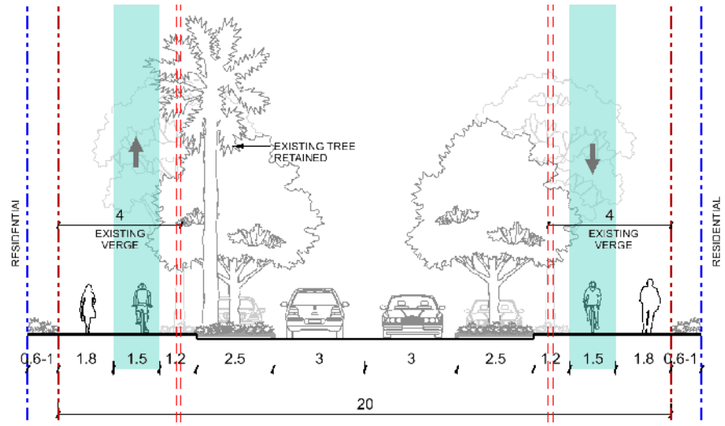
A.3.3 Street Cross Sections - Cavell Ave (South between Averill St and Cropley Street)

Opt 1: On-Road Cycle Route



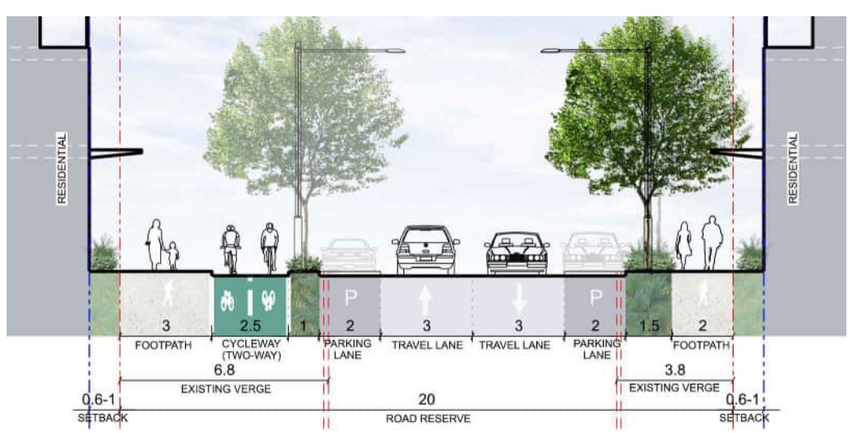
On-Road Cycle
- Existing Heritage trees retained
- Slow speed road - 30km
- Cyclist forced to share road with traffic

Opt 2: One-Way Pair



On-Way Pair
- Existing Heritage trees retained
- Slow speed road - 30km
- Reduced pedestrian footpaths

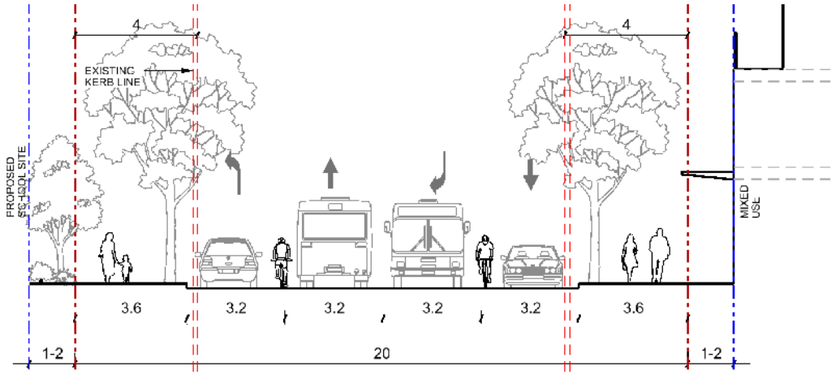
Opt 3: Separated Bi-Directional Cycleway



Separated Bi-Directional Cycleway
- Existing Heritage trees retained
- Slow speed road - 30km
- Dedicated cycleway for north -south connections
- Generous pedestrian footpaths for safe walking
- Safer for students to ride/ walk to/ from school

A.3.4 Street Cross Sections - Leeds Street (West between Blaxland Rd and Cavell Ave)

Opt 1: 4x Traffic Lanes, On-Road Cycle Route



4X traffic lanes according to Traffic and Transport Report (Jacobs) 2021

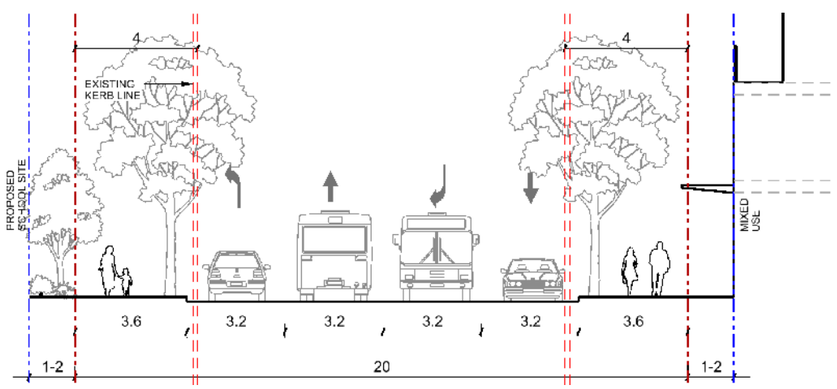
On-Road Cycle

- Future east west connector road, large traffic volumes.
- Bus Route - 3.2m wide traffic lanes
- Cyclist forced to share road with traffic
- No Parking Lanes

Opt 2: Same as Opt 1

Same as Opt 1

Opt 3: 4x Traffic Lanes, No Cycle Route



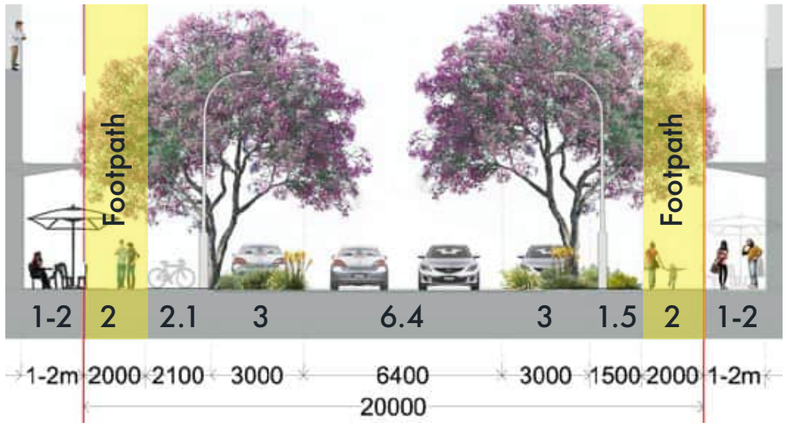
4X traffic lanes according to Traffic and Transport Report (Jacobs) 2021

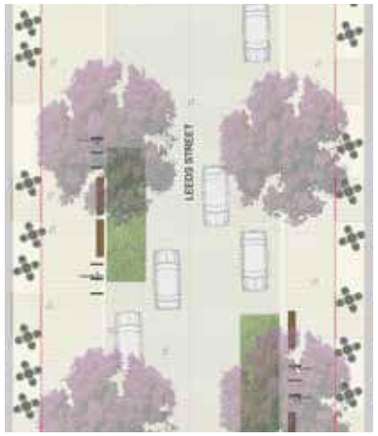
No Cycle Route

- Future east west connector road, large traffic volumes.
- Bus Route - 3.2m wide traffic lanes
- No cyclist in this section.
- Future Opportunity to upgrade Blaxland Road / Leeds St intersection, widen under rail tunnel to facilitate cycle route to improve connection between East and West Rhodes.
- No Parking Lanes.

A.3.5 Street Cross Sections/Plans - Leeds St East

Opt 1: On-Road Cycle Route (DCP/UD Report)

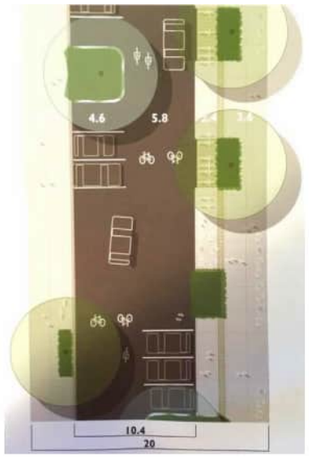




On-Road Cycle Route

- Slow speed road - 30km
- Cyclist forced to share road with traffic

Opt 2: On-Road Cycle Route (Slow speed 15km/h, or 30km/h)



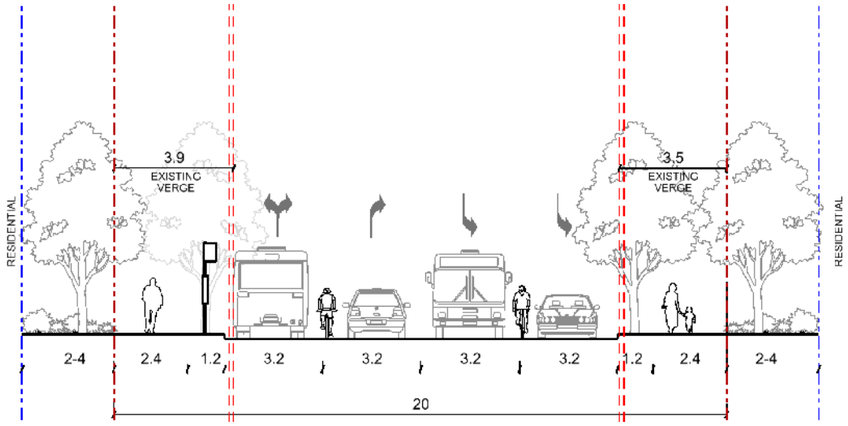
Opt 3: Shared path to Northern Verge

Shared path to Northern Verge

- Upon further review, this section of Leeds Street should be a Shared path treatment connecting the surrounding shared paths from Ryde Bridge, Cavell Street and Foreshore Links

A.3.6 Street Cross Sections - Averill St

Opt 1: 4x Traffic Lanes, On-Road Cycle Route



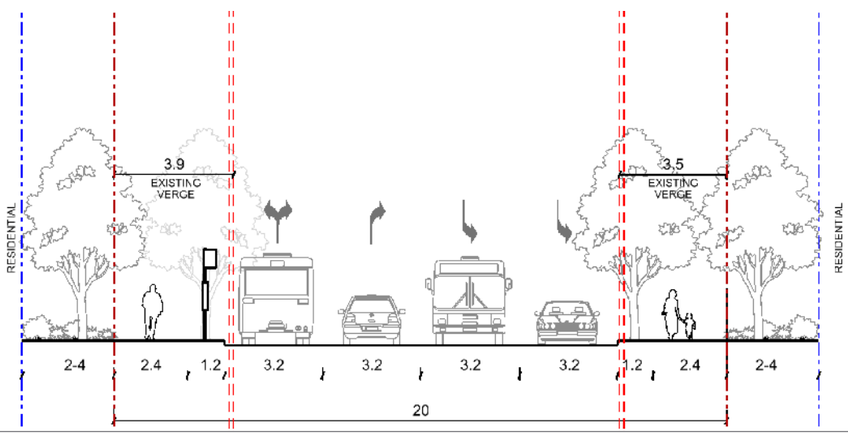
On-Road Cycle

- Future east west connector road, large traffic volumes.
- Bus Route - 3.2m wide traffic lanes
- Cyclist forced to share road with traffic
- No Parking Lanes

Opt 2: Same as Opt 1

Same as Opt 1

Opt 3: 4x Traffic Lanes, No Cycle Route

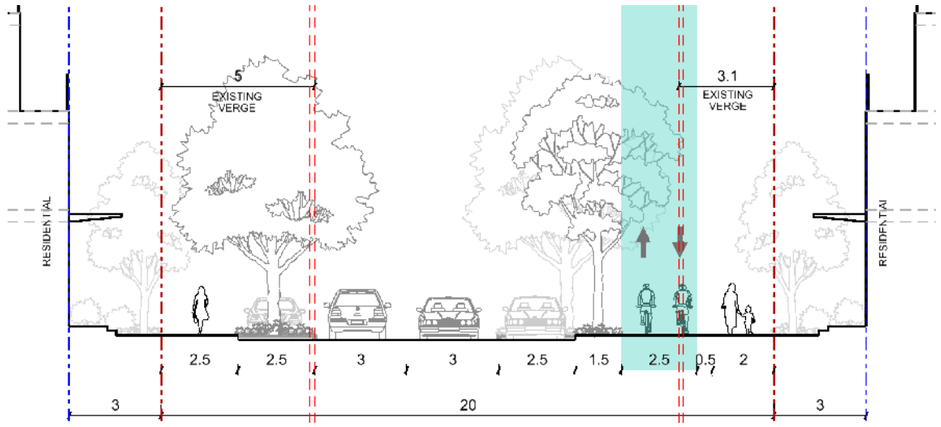


No Cycle Route

- Future east west connector road, large traffic volumes.
- Bus Route - 3.2m wide traffic lanes
- No cycle route in this section.
- Cyclist can use Leeds Street Shared Path or Denham Street Separated Cycle
- No Parking Lanes

A.3.7 Street Cross Sections - Llewellyn St

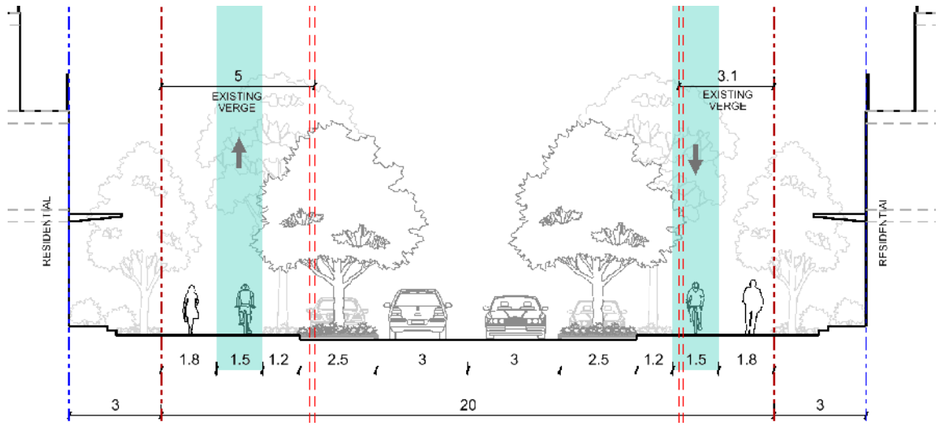
Opt 1: Opt 1: Two-Way Cycleway



Two Way Separated Cycleway

- Northern Verge to ensure logical connection through signalised intersection to existing cycle paths to McIlwaine Park and Llewellyn Street East
- Connects to Blaxland Road Two-Way Separated Cycleway (north - south bound)
- Slow speed road - 30km

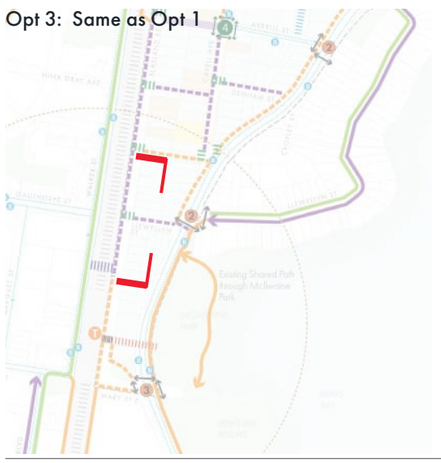
Opt 2: One-Way Pair



On-Way Pair

- Reduced pedestrian footpaths
- Cycle lanes conflicts with vehicle crossings on both side of street - impacting consistent flow of cycle lanes.
- Increase number of crossing points

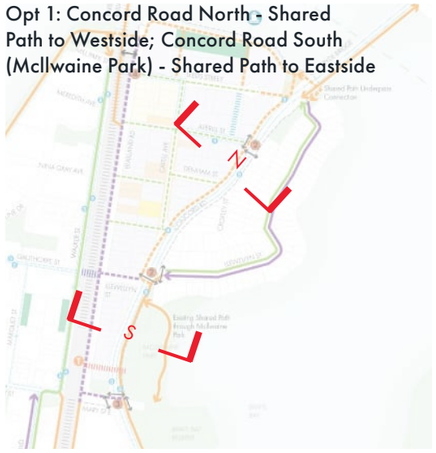
Opt 3: Same as Opt 1



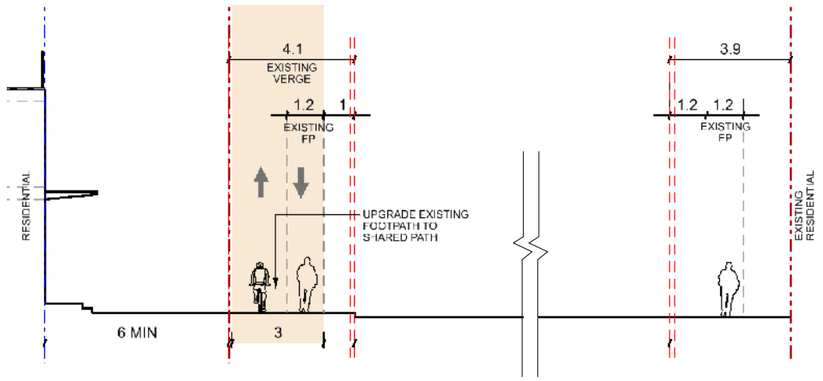
Same as Opt 1

A.3.8 Street Cross Sections/Plans - Concord Rd

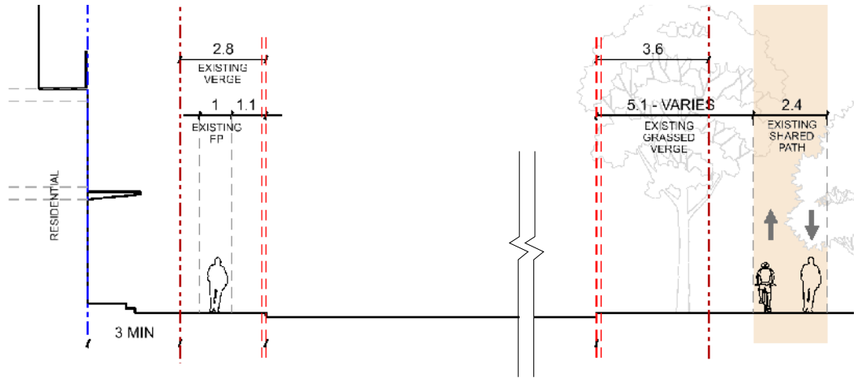
Opt 1: Concord Road North - Shared Path to Westside; Concord Road South (McIlwaine Park) - Shared Path to Eastside



CONCORD RD NORTH
Shared Path to Westside



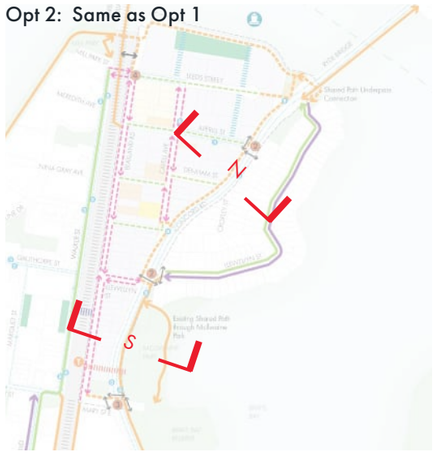
CONCORD RD SOUTH (McIlwaine Park)
Shared Path to Eastside



Shared Path on Western Verge

- Consider utilising 6m setback for shared path to:
  1. Ensure impact to existing trees / lights along Concord Road are minimised.
  2. Provide sufficient clearances for new landscape zone and canopy street planting

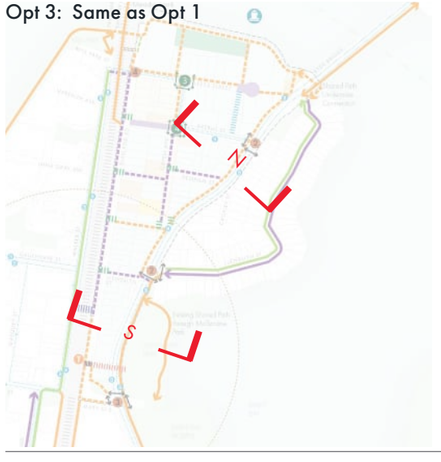
Opt 2: Same as Opt 1



Same as Opt 1

Same as Opt 1

Opt 3: Same as Opt 1



Same as Opt 1

Same as Opt 1

Tract

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