

HILL ROAD

MASTER PLAN WENTWORTH POINT

Prepared by:



COMPLETE

HILL ROAD MASTER PLAN

WENTWORTH POINT



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MASTER PLAN REPORT

Prepared by City of Parramatta - Capital Projects - Landscape Architecture

CONTACT

Adam Cook, Supervisor of Landscape Architect, AILA
acook@cityofparramatta.nsw.gov.au

126 Church Street
Parramatta, NSW
Australia, 2150

HILL ROAD MASTER PLAN

WENTWORTH POINT

Transforming Hill Road into a safe and welcoming place for everyone.

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A stylized, light gray map of a coastal area with a teal outline. The map shows a large body of water on the right, a peninsula on the left, and a grid of streets and land parcels. A teal banner is overlaid on the left side.

01

INTRODUCTION

INTRODUCTION

01

This Hill Road Master Plan is a strategic implementation tool intended to help drive future improvement outcomes which have been informed by the community of Wentworth Point. This report is an advocacy piece for the community ensuring the best outcomes and priorities are being realised. The Master Plan aims to guide and inform stakeholders, government agencies and other key decision makers. This report communicates the strategic design direction and key priorities for a coherent and coordinated approach to any future public domain improvements.

Why do we need a Hill Road Master Plan?

The need to undertake a master plan and guide the future improvement of Hill Road is essential. As Wentworth Point continues to transform into a high-density precinct, the role of Hill Road needs to evolve to ensure it is a safe and pleasant place to experience and visit.



OPEN SPACE

TRANSPORT

CONNECTIVITY

SUBURB SPINE

ENVIRONMENT

SAFETY

ACTIVATION

HIGH DENSITY LIVING

POPULATION GROWTH

CYCLING

ADVOCATE FOR LIGHT RAIL

Master Plan Objectives

What does the Master Plan aim to achieve?

The Hill Road Master Plan aims to transform Hill Road into a place for everyone and achieve a rebalancing of streetscape functions, by supporting its primary roles:

1. as an important corridor for a variety of transport modes, and
2. as a place that supports and nurtures local street life that is people-friendly for all residents, workers and visitors who use Hill Road.

The master plan focuses on making Hill Road more environmentally sustainable, contributing to a liveable and resilient precinct.

What does the Master Plan propose?

The master plan includes six key design actions to deliver improvements to Hill Road:

Master Plan Design Actions:

1. Transform Hill Road into a vibrant and identifiable boulevard street;

2. Maximise public domain area for community space and activation;

3. Improve Hill Road to be safer for pedestrians, cyclists and drivers;

4. Promote environmental, green infrastructure and sustainability initiatives;

5. Design for existing and future public transport integration to enhance connectivity to other modes of transport;

6. Improved pedestrian connections and active transport links.



Meeting the needs of the future

Wentworth Point is within a rapidly growing area of Sydney's west. Particularly when combined with the Newington, Silverwater, Carter Street and the Sydney Olympic Park precincts. The Wentworth Point peninsular is bordered by Homebush Bay, Parramatta River and the parklands of Sydney Olympic Park. Wentworth Point has been transformed from an industrial suburb, into a thriving residential precinct. Wentworth Point includes a community library, primary school, community centre, retail hubs and open spaces areas.

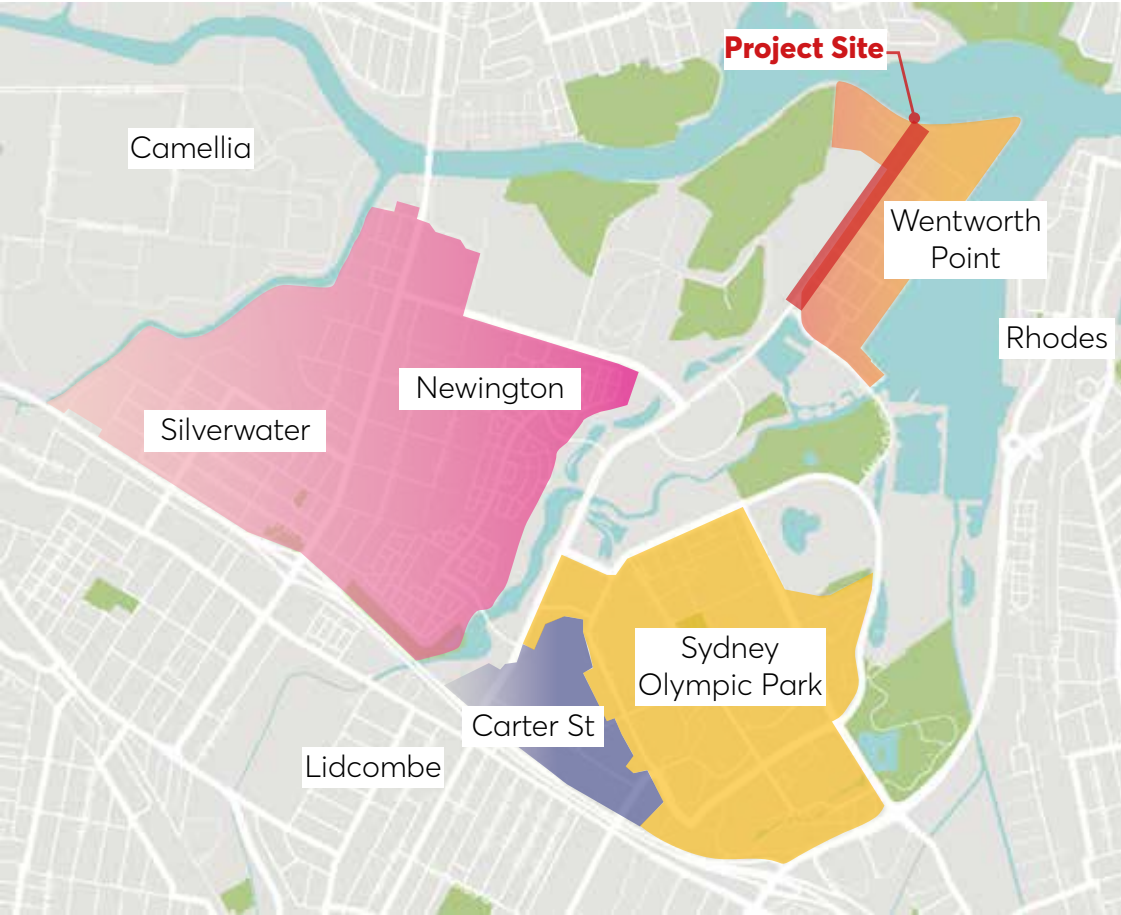
The suburb of Wentworth Point has changed significantly over time, however, the functionality, appearance and safety of Hill Road has not adapted to this change and therefore fails to meet the needs of the local community. The character of the street reflects its industrial past. Hill Road is the main street and gateway into the suburb of Wentworth Point and is the link to the Sydney Olympic Park ferry terminal. Hill Road prioritises the dominant north-south vehicle movement as opposed to safe entries and exits from intersecting streets.

Hill Road is not pedestrian-friendly as it is unsafe, uninviting, noisy and appears as a barrier to the adjoining open space areas. Pedestrian safety and walkability need to be a high priority in any design. This will enhance the street and liveability of Wentworth Point.

This Master Plan aims to:

- Create a street that the local community can be proud of;
- A street that provides comfortable and pleasant experiences where pedestrians, cyclists and drivers feel safe and welcoming;
- Provide a design that reclaims the disused road area to maximise people-focused spaces;
- A street that is characterised by beautiful trees and an active street life through the provision of generous pedestrian space;
- A design that balances the various transport modes, ensuring it enables people to get where they need to go, whether they are walking, cycling, driving or using public transport;
- Provide a streetscape design where the local community are supportive of the outcomes for improvement;
- To meet the community's needs and strive to achieve their aspirations where possible.

PRECINCTS

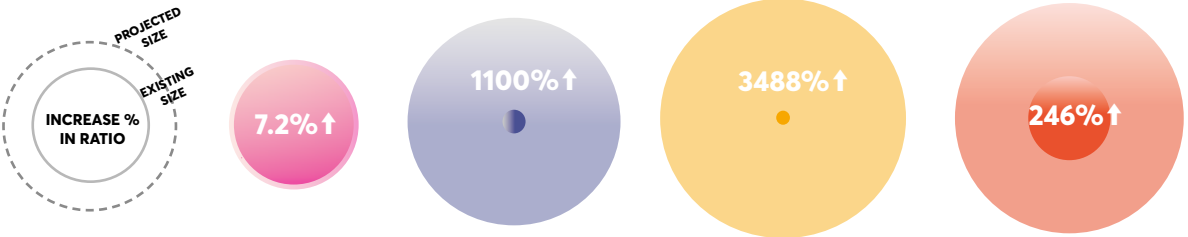


Precinct Population and growth forecasts

KEY

- Newington / Silverwater Precinct
- Carter St Precinct
- Olympic Park Precinct
- Wentworth Point Precinct

POPULATION GROWTH FORECAST



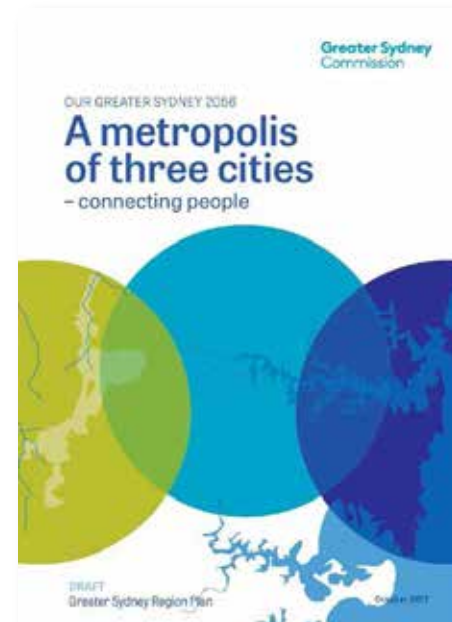
Where the Master Plan fits in

The strategic frameworks and selected driving documents that have guided the Hill Road Master Plan are outlined below:



A Plan for Growing Sydney
2014, NSW Government - Planning and Environment

This document provides an overarching strategic planning framework for the greater Sydney metropolitan area, which outlines a vision for Sydney that supports a strong global city and a great place to live.



The Greater Sydney Region Plan (the Plan), A Metropolis of Three Cities
2016, NSW Government - Planning and Environment

This document is built on a vision where residents live within 30 minutes of their jobs, education and health facilities.

This vision brings new thinking to land use and transport patterns to boost Greater Sydney's liveability, productivity and sustainability by spreading the benefits of growth. Wentworth Point is aligned within the 'Central River City' metropolis.



Greater Parramatta and the Olympic Peninsula (GPOP)
2016, Greater Commission Sydney

This document creates a vision encompassing all the projects and investments within GPOP. The GPOP area is considered the geographic and demographic heart of Greater Sydney.



Greater Parramatta Interim Land Use and Infrastructure Implementation Plan
2017, NSW Government - Planning and Environment

This document outlines a land use and infrastructure implementation plan for the GPOP area ensuring that any future planning process within the priority growth area is considered and consistent.



Hill Road Master Plan Report
2021, City of Parramatta

This document aims to provide a strategic design framework for the embellishment of Hill Road, the main gateway and spine of Wentworth Point.

The Strategic Framework

The master plan sets the strategic vision for the future, decided upon the desired outcomes. The intent is to create strategies, identify actions to realise desired outcomes and allocate resourcing and funding accordingly. Consideration of the social, environmental and safety needs for Hill Road, will lay the foundation for a successful place. The master plan determines the vision of the place and demonstrates the direction and measures for implementation over both a short and long term period.

The benefits of this master plan include:

- The momentum generated as a result of the shared vision;
- A more coordinated approach to the allocation of funding and resourcing;
- Greater certainty about the future outcomes of Hill Road;
- Long term financial planning to save costs;
- To prioritise funding into rectifying immediate issues and find solutions for improved outcomes;
- Have a coordinated approach to sustainability and infrastructure implementation.

"Wentworth Point is a vibrant urban community that forms a key part of the broader Sydney Olympic Park Specialised Precinct, make a significant contribution to providing high quality housing for Sydney's diverse and growing population in an environment that embraces its location adjoining Homebush Bay, the Parramatta River and Sydney Olympic Park, Parklands and represents contemporary, high density sustainable living."

- Wentworth Point Development Control Plan (DCP) 2014



10 Guiding Principles of the Wentworth Point Precinct DCP 2014



Advocating for light rail

Parramatta Light Rail Project Overview

Parramatta Light Rail (Stage 1) is one of the NSW Government's major public transport projects. Stage 1 of the project will connect Westmead to Carlingford via the Parramatta CBD. The previously announced proposed 'Stage 2' of the Parramatta Light Rail Project will connect from Stage 1 via Parramatta CBD to Ermington, Melrose Park, across the Parramatta River to Wentworth Point and Sydney Olympic Park. It is estimated 130,000 people will be living within walking distance of Parramatta Light Rail stops by 2036. The aim is to provide a safe and reliable transport alternative and ultimately reduces the reliance on car use, ownership and traffic congestion on local streets.

A light rail network would link the people of Wentworth Point with the Westmead Health Precinct, the Western Sydney Stadium, the proposed MAAS, Parramatta's Cultural Riverside Theatre precinct, Rosehill Gardens Race Course and three Western Sydney University campuses.

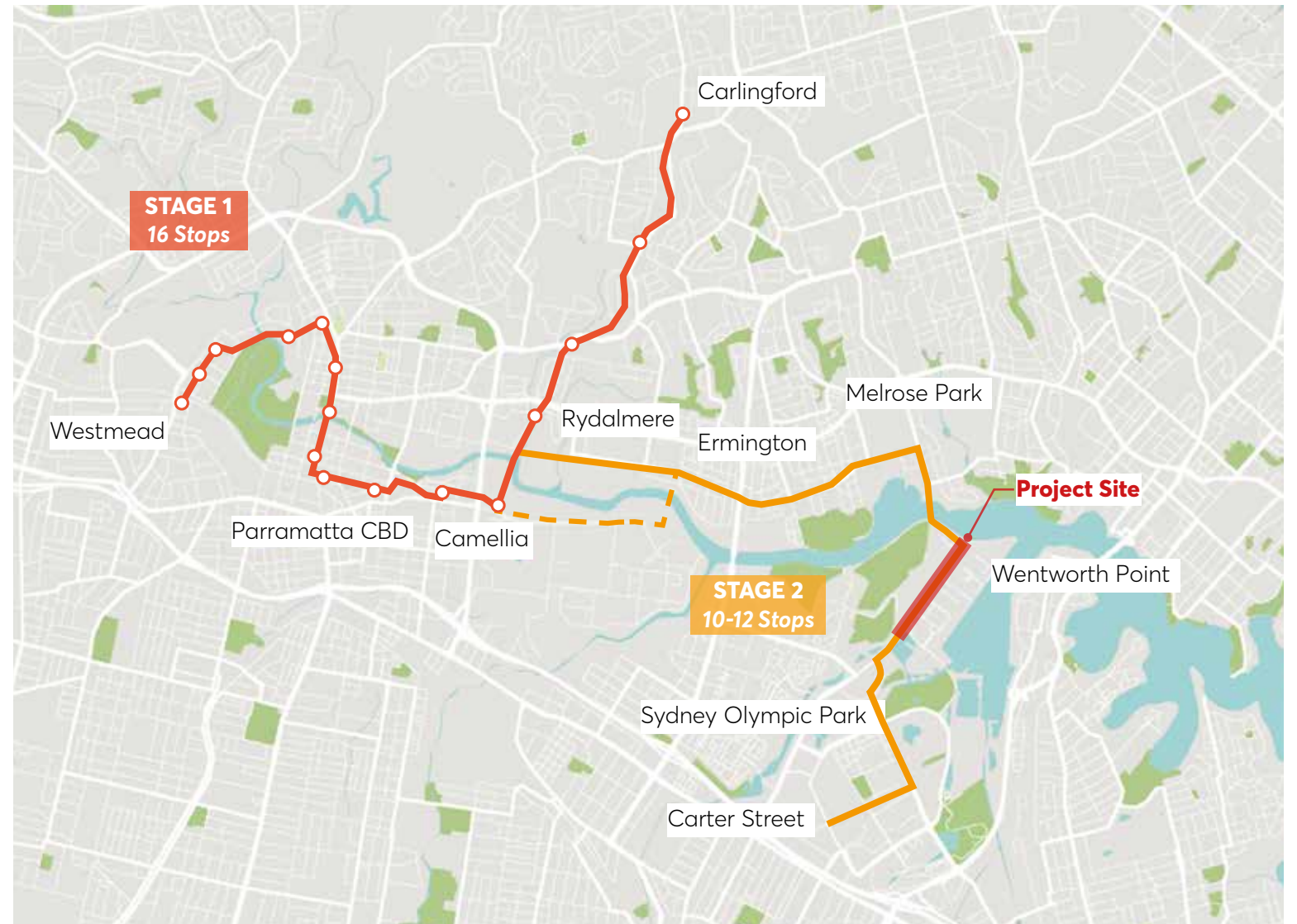
Hill Road forms **9.5%** of the entire Parramatta Light Rail route (Stages 1 and 2 combined) and **21.25%** of Stage 2 (preferred route).

The Current Project Status and the Greater Transport Scheme

At the time of compiling this report, the NSW Government announced it has declined to pursue the Parramatta Light Rail 'Stage 2' project. This has a significant impact on an integrated public transport network for the community of Wentworth Point. Placing greater demand on existing public transport and private car ownership.

Part of the original intention was to link the Parramatta Light Rail network (via Wentworth Point) with the planned Sydney Metro West stops at Sydney Olympic Park, Parramatta CBD and Westmead. This would create a multimodal transport network that connects the community of Wentworth Point with the wider regions of Sydney. The Sydney Metro West would provide efficient links to Sydney CBD, the new Nancy-Bird Walton (Western Sydney International) Airport and Parramatta CBD.

PLANNED ALIGNMENT



Parramatta Light Rail - Preferred routes for Stages 1 and 2

KEY

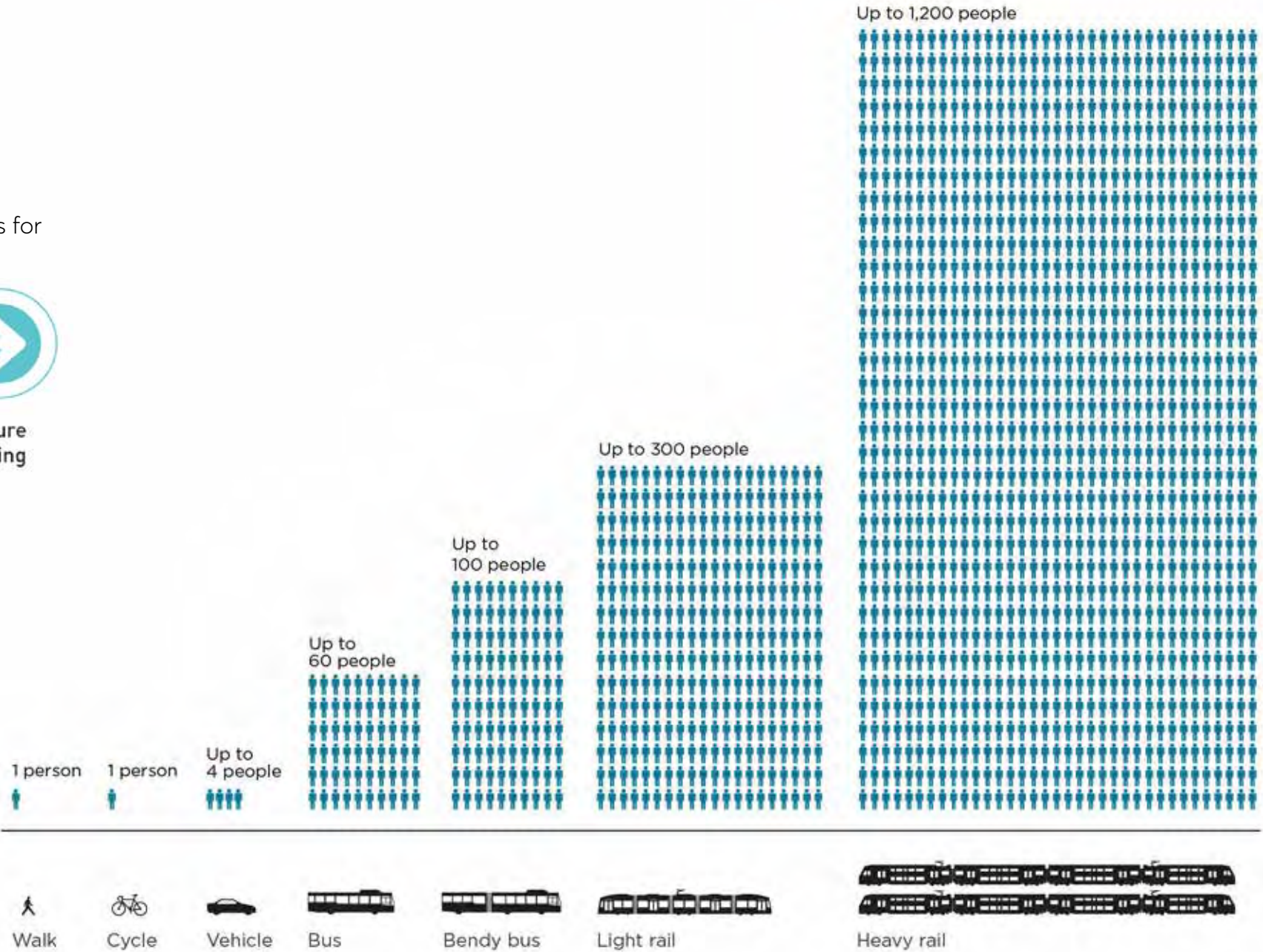
- Stage 1 route
- Stage 2 preferred route
- - - Stage 2 - alternative Camellia alignment previously considered

Benefits of Light Rail

Light Rail, together with other bus and heavy rail networks, can provide an integrated public transport system that is well connected to greater areas of Parramatta and Sydney. A reliable and modern transport system can reduce the reliance on private vehicle use and ownership. Reduced car ownership is ideal for areas of high density living like Wentworth Point that have limited basement and on street parking. An efficient and integrated transport system takes cars off the local street and reduces traffic congestion.

City of Parramatta's Light Rail Vision

Council has established several key priorities when communicating outcomes for light rail projects:



In comparison: the efficiency of light rail us other modes of transport

Light Rail and its Potential Outcomes for Hill Road

The introduction of a light rail network for Hill Road and Wentworth Point is a transformational project that can revolutionise and drive transport integration, placemaking outcomes and be a catalyst for public domain improvement.

This Hill Road Master Plan is an advocacy document for the community and stakeholders that influences and shapes the opportunities and outcomes of a NSW Government led light rail project. This master plan can work harmoniously with any future light rail integration.

Design Considerations for Hill Road & Light Rail

There are several design considerations when integrating a transformation project such as light rail. To enhance the functionality and integration of the light rail with Hill Road there is a list of design considerations and outcomes. These include:

- It is important to integrate other transport modes with light rail;
- An opportunity to enhance the character of the street;
- Provide for improved pedestrian amenity with widened footpaths and tree planting;
- There is an opportunity on the western side of Hill Road to extend into the Sydney Olympic Park Authority (SOPA) Parkland to enable the infrastructure required to accommodate light rail (the likely light rail corridor);
- There is an opportunity to create a landscape response that stitches the interfacing edges together of both projects by creating a continued tree canopy and pedestrian links;
- Create locations of tree planting where possible to ensure canopy cover and shade;
- Improved pedestrian and cycleway connections into and along Hill Road. Connections need to integrate with any light rail design;
- There is an opportunity to link a light rail stop with the existing Parramatta River Ferry Service.

Future Character Statement

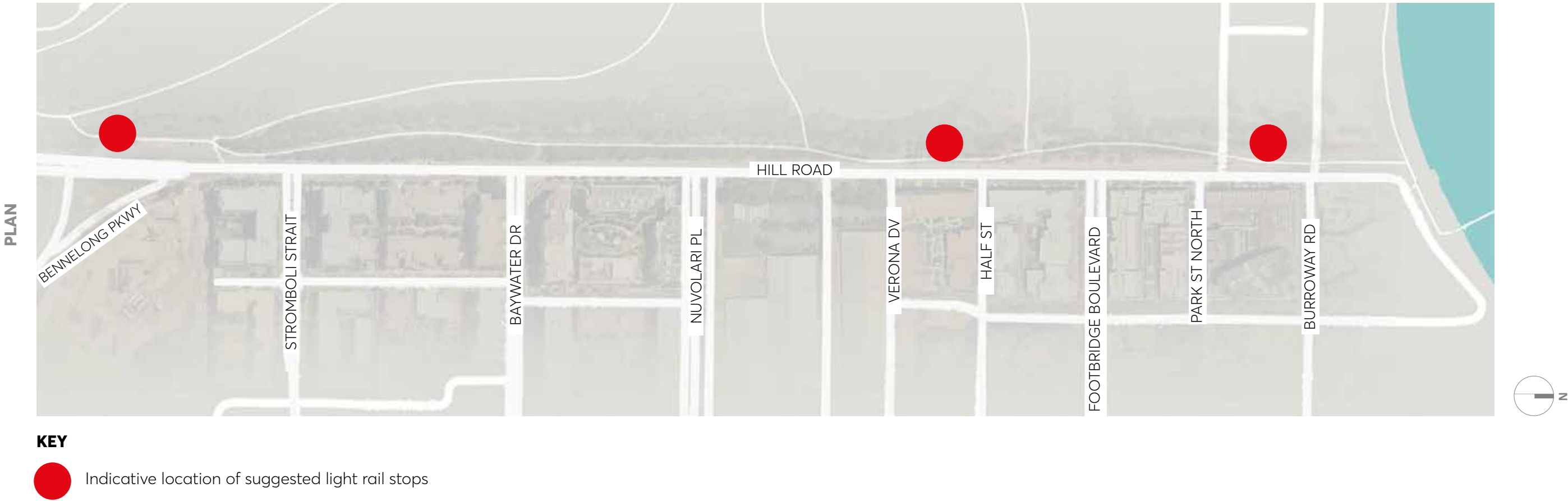
Hill Road is the spine of Wentworth Point, linking people and residential areas with transport and recreational amenities. It is critical to ensure Hill Road is multifunctional and flexible as it evolves and adapts to future needs. This gateway street has an opportunity to be identifiable and iconic as a place the local community can associate with.



Artist's Impression: Parramatta Light Rail at Sydney Olympic Park

Suggested Light Rail Stop Locations

With regards to suggested light rail stop locations, the following plan represents the feedback from participants in the community consultation sessions. The preferred locations for the light rail stops are based on access to the ferry services and other amenities in Wentworth Point (library, community centre, etc). The feedback supported three possibly four stops along Hill Road. The distance between the proposed stops is consistent with other light rail projects in NSW.



The background of the slide is a light gray map of a coastal region. The map shows a coastline with several inlets and a network of roads or property lines. A solid teal horizontal bar is positioned across the middle of the image, containing the text '02 MASTER PLAN PROCESS'.

02

MASTER PLAN PROCESS

MASTER PLAN PROCESS

02

Master Plan Preparation & Methodology

The City of Parramatta led a collaborative research process where data, knowledge and experience informed the direction and prioritised outcomes for the Master Plan.

The primary aim of this Hill Road Master Plan is to be an advocacy piece for the community of Wentworth Point. A master plan that provides the outcomes as prescribed by the community, for the community.

A breakdown of the Process:



Community Consultation Objectives

The City of Parramatta's community consultation objectives were:

- To be respectful of the community and stakeholder's local domain;
- To give the community of Wentworth Point a say;
- To listen to the collective issues;
- To reaffirm the community input is valued;
- To develop positive relationships that will endure for mutual benefit, throughout the design and construction period;
- To educate and provide awareness of the project challenges, opportunities and constraints;
- To nurture, facilitate and incorporate ideas from the community groups;
- To ensure the design direction meets the needs of the community;
- To recognise that most design ideas and solutions will not satisfy everyone in the community but the best possible outcomes are for most;
- To use the Master Plan as an advocacy document and give the community a voice in the outcomes for Hill Road including the residents and businesses of Wentworth Point.



Initial Community Engagement

Some time ago, a community focused engagement process was undertaken to inform this Hill Road Master Plan. The consultation process was undertaken at the beginning of the project before any designs or proposals were established. This was an opportunity to listen, learn and understand the values and challenges, directly from the residents and Wentworth Point community.

The research was undertaken to inform the development of the master plan. The objectives of the consultation was:

- To gain a better understanding of the existing conditions of Hill Road;
- To identify the issues and establish priorities for change;
- To share people's experiences of Hill Road;
- To understand what is working well and what is not;
- To identify and discuss how the challenges could be rectified or mitigated;
- To explore the community's openness to solutions and design ideas for Hill Road.

Community focus groups and consultation

A series of five focus groups were conducted, in addition to phone interviews and an online community survey. Each focus group was made of up to 10 people from the local community (chosen at random for people who registered their interest).

Divided into three topics, the groups were structured in the following order:

- Two focus groups covered the topic of 'Traffic and Public Transport';
- Two focus groups covered the topic of 'Pedestrians and Cycling';
- The final focus group covered the topic of 'Environment and Activation'.

The online survey

An open-link online survey was established, in conjunction with the distribution of an information flyer promoting the community engagement process. The survey collected feedback on the current situation on Hill Road and what participants would like to see in the future. The flyer was distributed to key community groups, letter box drops to residents and via social media channels.

A total of 951 people completed the survey in full. Similar to the demographic profile of the area, the younger age groups were well-represented as respondents to the survey. Two in five of those who completed the survey were aged between 25 and 34 years.

General Findings

Overall, participants expressed there are many issues with Hill Road, currently. Safety is a major concern due to the large amount of traffic and congestion on Hill Road. Parked cars along Hill Road (including illegally parked cars) contribute to the lack of safety.



Initial Community Engagement Findings

Hill Road Vehicular Usage

The consultation found that close to three in four participants drive on Hill Road daily. Traffic congestion is a major concern for participants, with most participants mentioning a need for better pedestrian access and safer conditions. Many found it difficult and dangerous to turn into or off Hill Road.

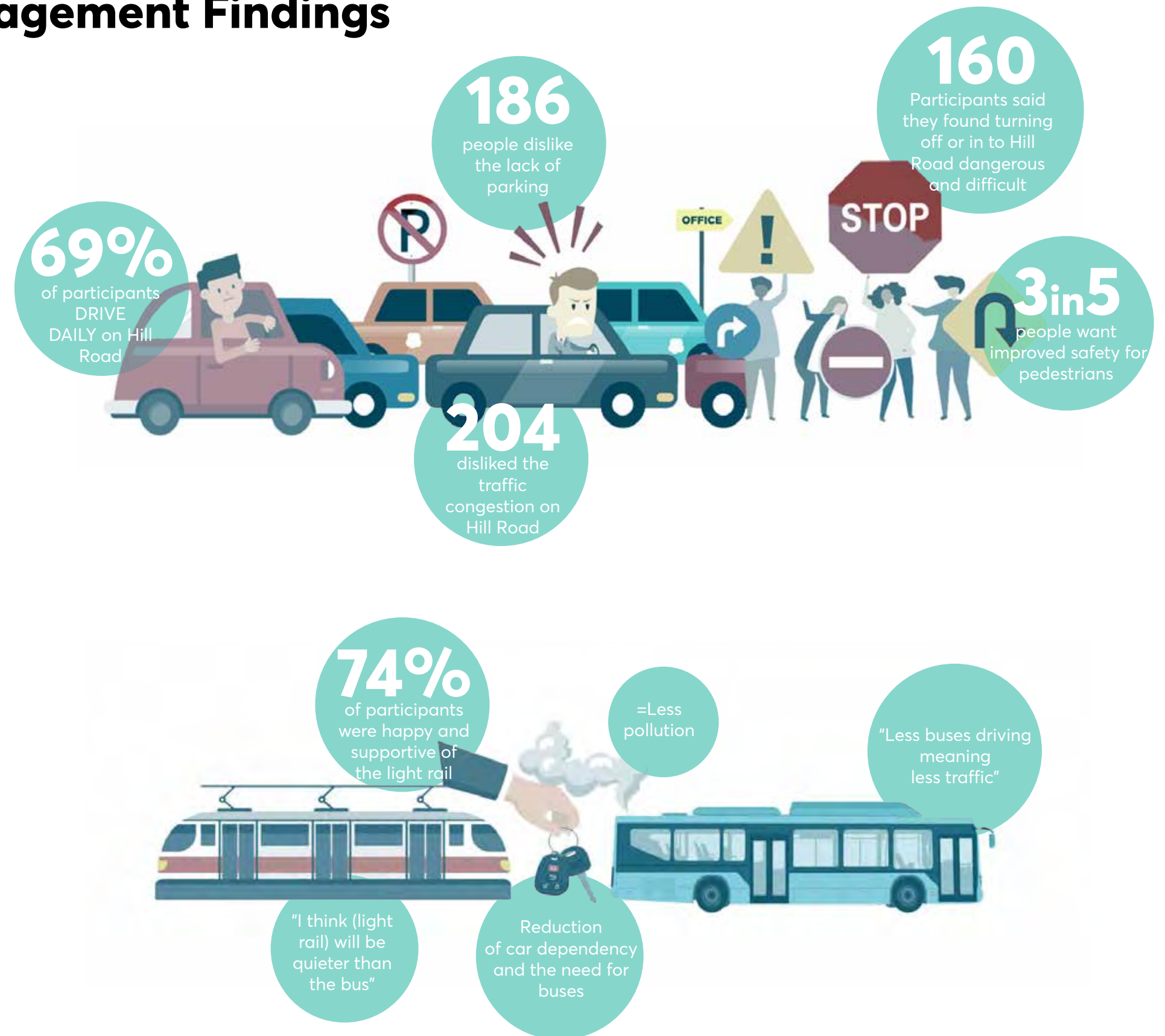
Light Rail

Overall, participants were largely supportive of light rail being used adjoining Hill Road. The reasons given for this were that it could replace their own need for using buses up and down Hill Road and may encourage less car usage. Most residents were happy with the idea of light rail, with three in four saying they would use it. Furthermore, the Sydney Olympic Park Authority (SOPA) also advocate for light rail through the Sydney Olympic Park Precinct should the project be pursued by the NSW Government.

General Findings

Local residents were very passionate about the issues currently facing Hill Road and how they could be fixed or improved. The major issues they identified were:

- Significant safety concerns related to driving, walking and cycling on Hill Road;
- It is felt the road is unable to cope with the volume of traffic using it.



Public Exhibition Engagement

Summary of Public Exhibition Engagement

During the Public Exhibition Engagement period for the master plan a total of 110 comments were received. The comments were able to be grouped into a number of key themes. From the themes, a typical comment has been identified. A response has been provided for each.

Theme of Feedback	Comment Example		Masterplan Response
Traffic Flow	1. "Could Hill Road not be widened to two lanes both directions with parking added on western side, while having also dedicated cycle lanes separated from vehicle and pedestrian traffic."	2. "New Traffic lights at bennelong parkway/ hill road will not increase vehicle flow. Build a roundabout instead therefore traffic will flow better at quieter or congested times."	1. The available width of Hill Road is limited and therefore squeezing multiple lanes of traffic is impossible without removing the existing on street parking, existing bus stops and the proposed cycleway. The design of Hill Road retains all the existing on street parking and reduces opportunities for illegal parking which impacts safety for all road users. 2. Due to the pedestrian and cyclist activity within the area on the existing shared path network, there is a need to cater for both pedestrians and cyclists in the design. Traffic signals are better in this situation as they give priority to the pedestrian and/or cyclists at specific intervals, increasing safety considerably. Additionally, pedestrian crossing cannot be installed in this location as some directions of traffic have more than one travel lane.
Planted Median Strips	1. "After all this important infrastructure is in place can we then look at beautification measures such as trees, scrubs etc, however please ensure they do not obscure drivers vision as is the fashion today."	2. "I am against the planted median along Hill Road as the plants will block the angle of sight causing accidents to occur."	Trees are important part of any streetscape improvement and have several benefits. With regards to the sight lines, the TfNSW (RMS) guidelines determine the positioning of trees shall have a clear length of 30 metres to ensure sightlines are not impeded for all road users. This includes trees on approaches to intersections and pedestrian crossing points. This is to provide clear sightlines for both pedestrians and drivers.
Pedestrian Safety	"I would like to see more ways to slow down the traffic on hill road and more marked pedestrian crossings on hill road."		Speed limits and associated signage are under the care and control of Transport for NSW. Requests regarding the speed limit of Hill Road can be made directly to them. Furthermore, TfNSW have a web link (https://www.saferoadsnsw.com.au/haveyoursayspeedcameras.aspx) that enables members of the general public to nominate a location for the installation of a speed camera. Once a site is nominated, the Centre for Road Safety will then review the request. It is noted that as per the Australian Standards, speed humps are not suitable for roads that have significant collector road functions. Furthermore, there is an existing crash pattern for rear-end collisions in Hill Road. Installation of any form of traffic calming that may cause vehicles to rapidly slowdown is likely to add to the existing crash patterns. Accordingly, this is not supported by Council.
Parking	"Due to the limited parking in the area it would be good to see parking more regulated - such as by permit - on Hill and adjoining roads."		This comment regarding increased regulation is noted. Residential permit parking schemes are not installed in high density areas such as Wentworth Point, as Council would end up issuing more permits than the number of on-street parking spaces available. This would go against the provisions within the Road Transport (Safety and Traffic Management) (Road Rules) Regulations 1999. In Wentworth Point, only Hill Road, Bennelong Parkway and Burroway Road are Council owned with the remaining roads owned by the respective Stratas. Accordingly, any concerns regarding parking in the privately owned roads, need to be raised with the respective strata managers.
Transport	"We need the light rail. Public transport is completely inadequate for how dense the population is in this area."		This master plan has advocated the inclusion of light rail for Wentworth Point. A light rail servicing Wentworth Point will be extremely beneficial as outlined in this report. It will also reduce the emphasis on car ownership and reduce pressures on parking and traffic volumes within the suburb.



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03

CONTEXT AND ANALYSIS

CONTEXT & ANALYSIS

03

Wider Site Context

Located 20 kilometres from the Sydney CBD and 13 kilometres from the Parramatta CBD, Wentworth Point is a peninsular bordered by Parramatta River and Homebush Bay. Wentworth Point is in close proximity to the Sydney Olympic Park precinct (Sydney's premier sporting hub), including the ANZ Stadium, Qudos Bank Arena, the aquatic and tennis centres. Suburbs that neighbour Wentworth Point includes Rhodes, Newington, Silverwater and Meadowbank.

Wentworth Point's existing transport services include a ferry service to Sydney and Parramatta and bus services to Sydney Olympic Park, Rhodes and Parramatta. Buses also stop at Rhodes train station with links to Strathfield and Sydney CBD. In addition, buses stop at the Sydney Olympic Park train station, with a link to Lidcombe and beyond.

An important feature of Wentworth Point for residents is the provision of and accessibility to cycleways and walkways. There are over 30 kilometres of path network to discover. The path network winds its way through natural and environmentally protected areas featuring Parramatta River, Haslams Creek and a series of wetlands that are home to a diverse range of birds, reptiles and frogs.

Completed and Upcoming Projects

Wentworth Point has a number of completed and upcoming community infrastructure projects that will benefit and complement Hill Road and the liveability of Wentworth Point, including:

- Bennelong Bridge: Provides bus and active transport access to Rhodes
- Wentworth Point Public Primary School
- Wentworth Point Library
- Peninsula Park (within Urban Activation Precinct lands)
- Upgrade of M4 Motorway / Westconnex access from Hill Road
- Improved active transport connection over Haslams Creek adjoining Bennelong Bridge
- Homebush Bay Circuit Path Master Plan
- Sydney Metro West (Sydney CBD to Westmead via North Strathfield, Sydney Olympic Park and Parramatta CBD).



KEY

- | | | |
|------------------------|-------------------|--------------------|
| Major Precinct | Parklands | Public Ferry Wharf |
| Priority Precinct | Rail Network Line | Open Space |
| Major Sport Facilities | Major Road | |
| Sports Stadium | | |

Local Site Context

Existing Site Character

The peninsula of Wentworth Point has had a long industrial past and since the early 2000s has transitioned into a high density residential precinct. The newly built residential buildings have modern and contemporary designs, whilst Hill Road has remained a legacy of the industrial past. Hill Road has served the development and progress of Wentworth Point well. Now is the time to plan for Hill Road's transformation that will serve the community of Wentworth Point into the future.

Existing Pedestrian Experience

The experience of Hill Road for pedestrians is highly difficult and hostile. In particular, pedestrians having to navigate broken, discontinuous footpaths and dangerous crossing points. The existing footpath is difficult to navigate for prams, wheelchairs and a range of people with varying abilities. Pedestrians find it hard to safely cross Hill Road.

The growth and development of Wentworth Point have prompted an increase in vehicle volumes. The straightness of the road contributes to increased vehicle speeds that are perceived to be unsafe for pedestrians. With the projected growth of Wentworth Point and the current reliance on cars, a huge emphasis is placed on the available on-street parking along Hill Road. This is due to the limited on-street and underground parking. Therefore, this results in people parking illegally and thus contributing to an unsafe pedestrian experience.

Configuration of Hill Road



- **Orientation:** North-east to South-west
- **Western edge:** Vegetation and open space
- **Eastern edge:** Typical six to eight storey residential with two metre setbacks
- **Length:** 1.1 km
- **Typical width:** 14m
- **Number of side streets entering to Hill Road:** 8
- **Area of road surface:** 18700 m²
- **Length of existing shared path:** 650m
- **Number of bus stops:** 8
- **Number of existing crossing points:** 2
- **Parking types:** Non-restricted along full length (eastern side only)

Local Site Context



KEY

--- Project Site boundary

Destinations

Ferry Wharf - Sydney Olympic Park

Ferry Passage

School

Sports facility

Industrial development

Residential / Mixed Use development

Viewing vantage points

Major road barrier

Secondary feeder road

Open Space Provision

Local Open Space

Internal Courtyard Parks / Playspaces

Natural Open Space / Corridor

Wetland

Existing Site Character



50 k/ph speed limit in project site



Varying pedestrian footpath condition and width on eastern side



No pedestrian footpath on western side



Under utilised small open space at Hill Road and Bennelong Parkway intersection



Wide industrial road



Residential typologies (looking east)

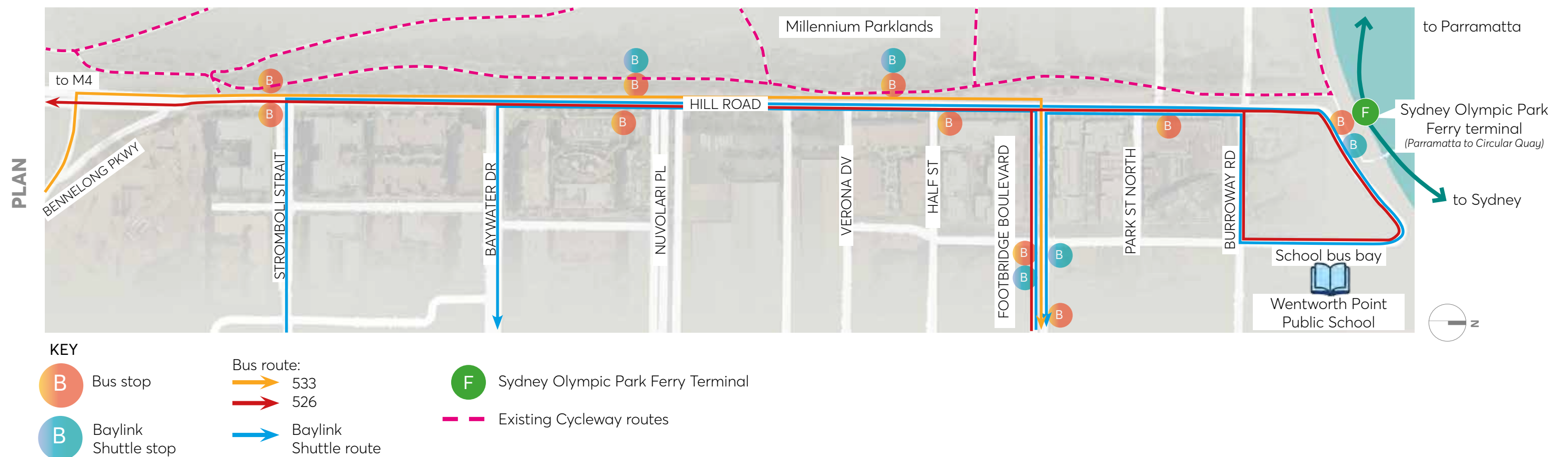


Vegetated corridor (looking west)

Public Transport Network & Active Transport Links

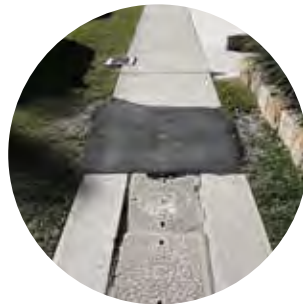
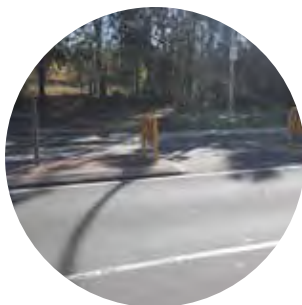
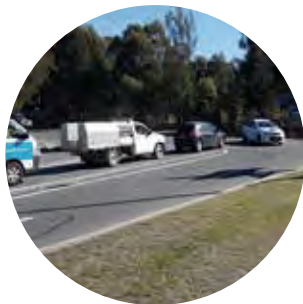
Existing Public Transport Network

The existing public transport system in Wentworth Point is often unreliable and overcrowded. The northern end of Hill Road is well served by ferry services to Sydney and Parramatta. However, buses often arrive late due to traffic congestion in the local area. The lack of bus frequency and the limiting number of bus stops contribute to overcrowding. Community members feel that public transport options are undesirable and therefore place greater emphasis on private car reliance. A free bus shuttle service provided by an incumbent developer has helped alleviate the current demands.



Existing Site Conditions & the Human Experience

PHOTO



OBSERVATION

A need to address traffic volumes and safety at the intersection of Hill Road and Bennelong Parkway.

Under utilised and disconnected green space. Opportunity for a passive pocket park and suburb 'gateway' location.

Available car parking (1P and 4P) x 25 spots in total.

Pedestrians to cross here are unsafe due to limited gaps in traffic and vehicle speeds.

Existing bus stop with narrow waiting area for users.

Narrow pedestrian footpaths on eastern side of Hill Road. Varying building setbacks.

No pedestrian footpath provision on western side of Hill Road.

PLAN



KEY



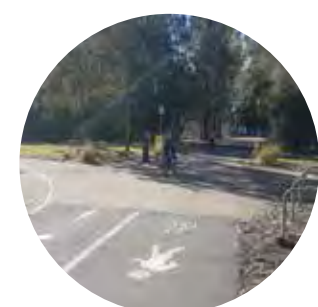
KEY

- Pedestrian refuge island
- Bus stop
- Baylink Shuttle stop
- Key local intersection
- Key gateway / landmark opportunity
- Parking Bay
- On-street parking

0 6 12 18 24 30m



PHOTO



OBSERVATION

Poor permeability through dense tree plantings.

Oversized signage on pedestrian path.

Pedestrian footpath and desire lines not aligned at crossing points for intersecting streets.

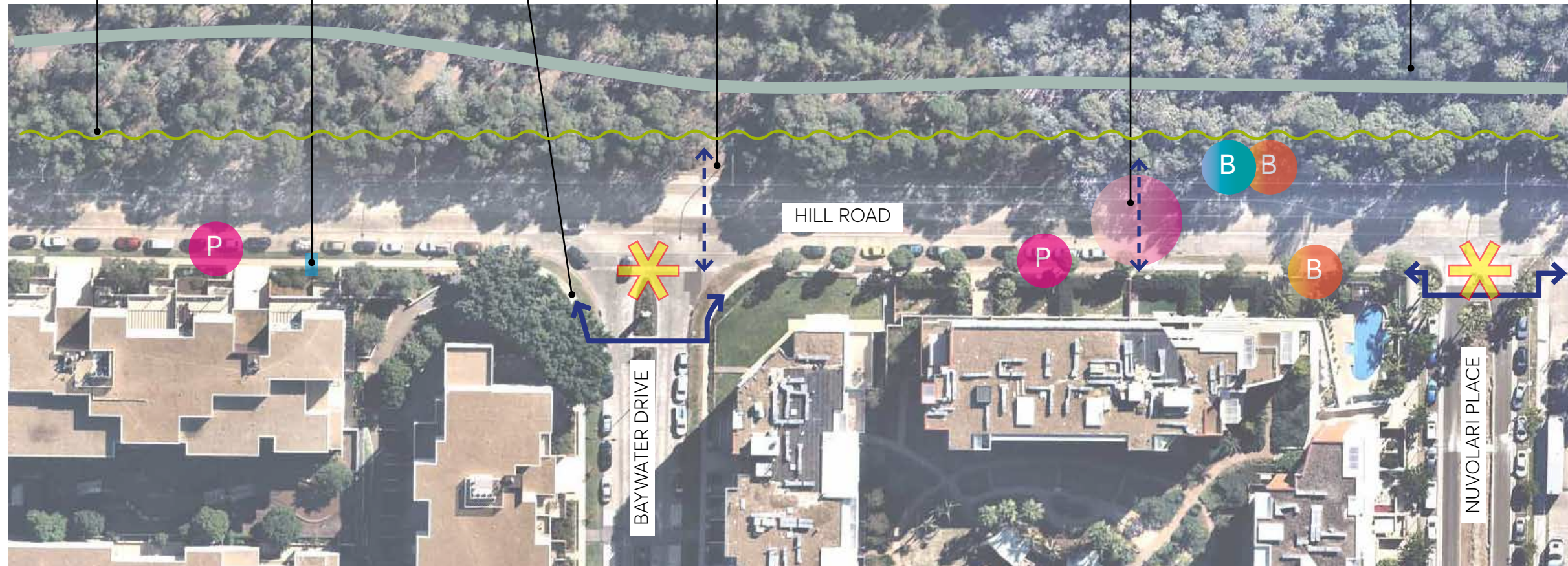
Pedestrian desire line from shared path across road evident.

Pedestrian refuge island and limited waiting area at bus stop.

Existing asphalt shared path (cyclist & pedestrian) in nature corridor.

PLAN

ADJOINS PREVIOUS PLAN



KEY

- Pedestrian refuge island
- Bus stop
- Baylink Shuttle stop
- Key local intersection
- On-street parking

0 6 12 18 24 30m



KEY



PHOTO

OBSERVATION

PLAN

KEY



Poor condition of existing pedestrian asphalt path. Safety concerns due to vegetation and lack of lighting.



Large uneven driveway with poor sight lines.



A number of service / utility cabinets and pits cluttering pedestrian area.

Challenging pedestrian and driver sightlines at intersection.

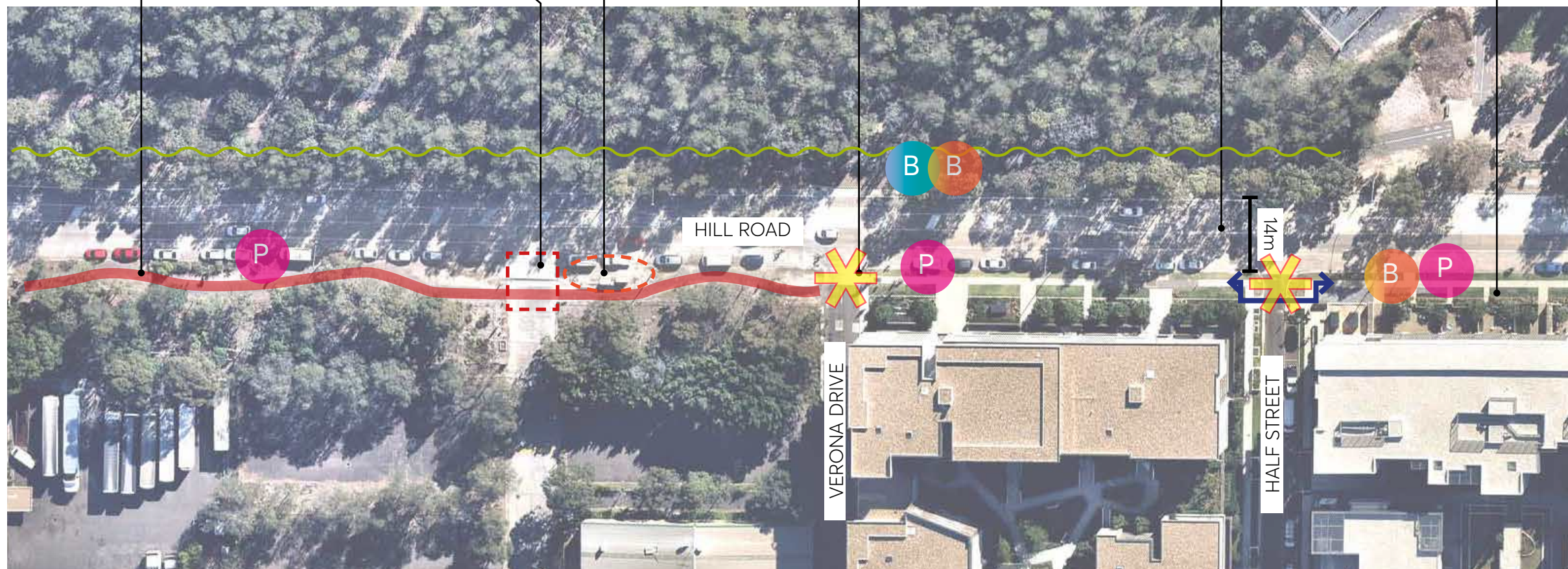


Wide road width remnant of the industrial past.



High quality building frontages with well maintained garden beds.

ADJOINS PREVIOUS PLAN



KEY

- Pedestrian refuge island
- Bus stop
- Baylink Shuttle stop
- Key local intersection
- On-street parking

0 6 12 18 24 30m



PHOTO

OBSERVATION



Pedestrian footpath and desire lines not aligned at crossing points for intersecting streets.



Bridge over drainage channel to access shared path. Crossing Hill Road does not accommodate desire line.



Desire line tracks from pedestrians / cyclists evident through tree corridor.



Generous building setback.



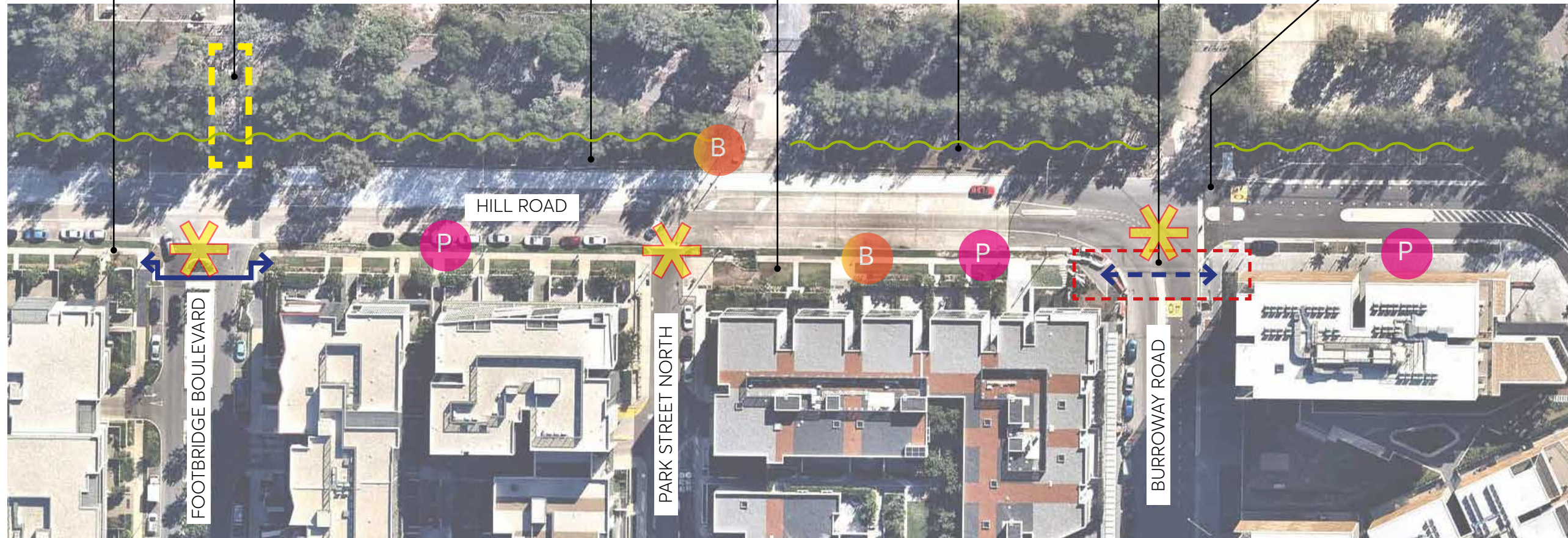
Poor pedestrian crossing point to retail area and Ferry terminal.



Bus entrance point to ferry terminal and school.

PLAN

ADJOINS PREVIOUS PLAN



KEY

-  Pedestrian refuge island
-  Bus stop
-  Baylink Shuttle stop
-  Key local intersection
-  On-street parking

KEY



Key Connectivity Links

PHOTO



Under utilised green space bound by major road barriers with no safe connection into the space.



Stromboli Strait junction to Hill Road.



Baywater Drive junction to Hill Road. Large road widths and vehicle turning space.



Nuvolari Place to Hill Rd. Feature planting and median island planting.



Shared path closely adjoins Hill Road on western side.



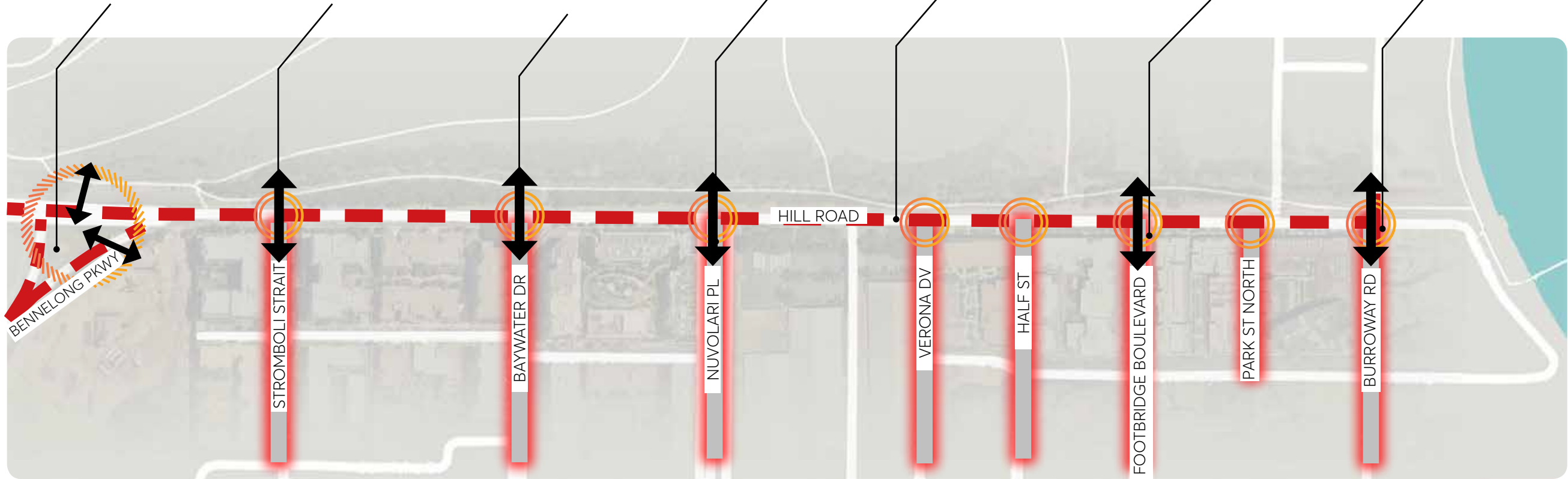
No Hill Road crossing point at end of bridge over drainage channel linking Footbridge Blvd.



No road crossing point at the turn into Burroway Road for pedestrians.

OBSERVATION

PLAN



KEY

- Primary Road - Major road barrier
- Secondary Road



- Gateway intersection - key landmark feature opportunity
- Secondary intersections - key crossing points



- Opportunity to create safer connections across major road barrier

Tree canopy coverage

PHOTO
OBSERVATION



Dominant casuarina tree planting corridor adjoining western edge of Hill Road.



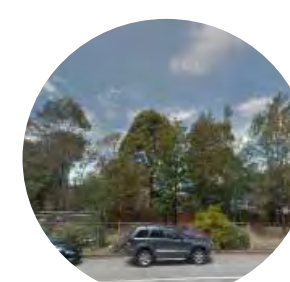
Mature Ficus feature trees at the intersection.



Shade provision for pedestrians through verge tree planting



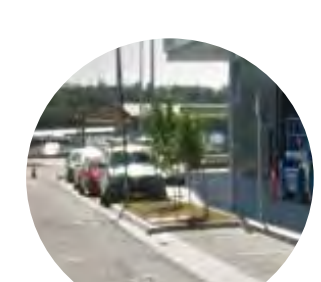
Livistona feature palm tree planting on entry to side street.



Remnant shrub and tree planting on front verge of industrial land use.



Feature tree planting within formal private gardens to the front of apartments.



Tree planting within parking lane.

PLAN



KEY



Natural vegetated corridor - mix of Casuarina, Melaleuca and Eucalypts



Mixed shrub and tree planting on verge in front of industrial complex



Tree planting in parking lane



Verge tree planting



Tree planting within formal private garden beds



Mature Ficus tree planting



Livistona feature palm tree planting



04 VISION

VISION

A Vision for Hill Road

Objectives and Principles

Streets are typically regarded as movement corridors, particularly for private vehicles, however, streets offer and can perform a far greater role. The Master Plan looks to rebalance priorities within a limited and competing space. A Street can be a destination rather than a means of moving from A to B as quickly as possible. Streets provide a space to socialise, sit, relax, connect, and exercise.

This report has a number of principles and outcomes to be realised. Six 'Design Principles' are identified to support the overall vision for the public domain:

1. Transform Hill Road into an identifiable boulevard with a high quality public domain;
2. Provide a safer place for pedestrians, cyclists and road users;
3. Maximise public domain for activation, community space, social interaction and inclusion;
4. Promote environmental outcomes, urban ecology and facilitate green infrastructure;
5. Design for the integration of the public transport to enhance liveability and sustainability;
6. Improve pedestrian connections and active transport links.

04

“To create a high quality streetscape that is people focused, which nurtures positive and safe experiences. An urban environment that is modern, active, functional and sustainable. A transformational design that enhances identity, is sympathetic to the environment and supports diverse transport modes and connections.”

Vision Statement

Design Principles

1



TRANSFORM HILL ROAD INTO AN IDENTIFIABLE BOULEVARD STREET WITH A HIGH QUALITY PUBLIC DOMAIN

- Create a sense of identity and character for Hill Road by featuring an iconic element or landmark feature that is grand and recognisable to an appropriate scale;
- An opportunity to include an artwork piece that reflects the heritage or identity of Wentworth Point;
- Create a people focused, vibrant main street that provides a sense of community and activation;
- Establish a tree lined boulevard that frames the geometry of the street;
- A street design that considers scale and the experience for all users;
- Reclaimed disused road space and provide for people focused outcomes;
- Use of contemporary and hard wearing urban materials, that are legibility, coherent and consistent;
- Install high quality public domain finishes, fixtures and furnishings that provide a vibrant streetscape;
- Create an enduring and engaging public domain through the spatial arrangement and careful integration of the existing fabric of the street;

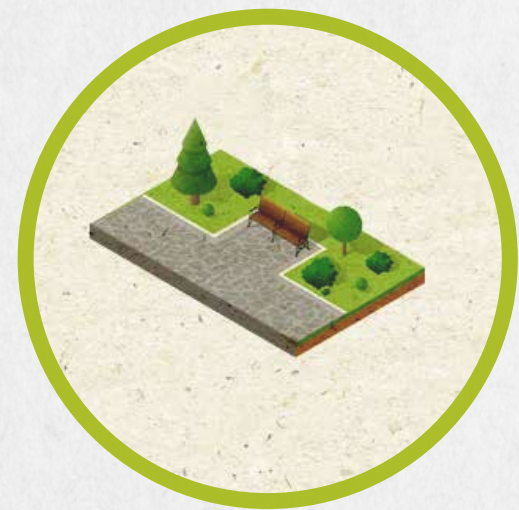
2



PROVIDE A SAFER PLACE FOR PEDESTRIANS, CYCLISTS & ROAD USERS

- Create a people centric design providing universal compliant access, safety, comfort and easy mobility between destinations and places;
- Provide safe crossing points with seamless transitions and connections;
- Implement traffic calming devices to slow down vehicles and promote a safe pedestrian friendly environment;
- Reduce vehicle speeds to retain and promote pedestrian activity;
- Provide easy to use environments that are free of clutter, safe and maximise the consistent use of material and features;
- Determine a balance to address the needs of pedestrians, cyclists, vehicular and public transport;
- Ensure sight lines for pedestrians, cyclists and drivers are considered to encourage a safe active street;
- Provide equal access for all users throughout the public domain;
- Emphasise visual connections necessary for orientation and wayfinding;
- Implementation of CPTED (Crime Prevention Through Environmental Design) measures.

3



MAXIMISE PUBLIC DOMAIN FOR ACTIVATION, COMMUNITY SPACE, SOCIAL INTERACTION & INCLUSION

- Create social settings and spaces to occupy and linger longer;
- Facilitation gathering hubs for street activation and social integration complemented and protected buffered areas away from elements of a busy streetscape. These places have seating, surrounding landscaping and shade / winter sun.
- Design that responds to the needs of the local businesses, provides safe places for the community and builds social capacity (interaction and inclusion);
- Facilitate vibrant business and economic development opportunities that create diverse employment opportunities and services available to the community;
- Encourage temporary activation opportunities such as pop up markets and community focused events;
- Provide a public domain that is DDA (Disability & Discrimination Act) compliant;
- Create a design that moves beyond physical interventions and influences social and behavioural outcomes.

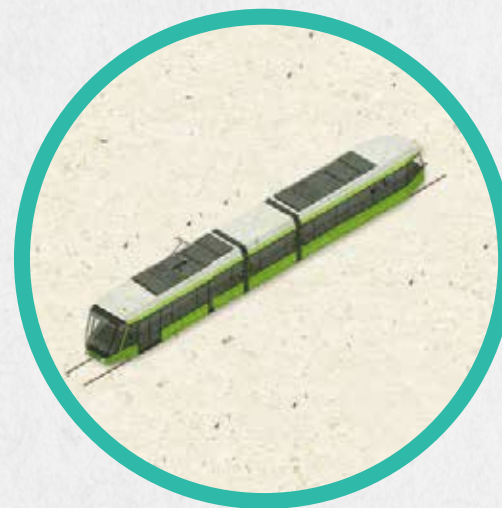
4



PROMOTE ENVIRONMENTAL OUTCOMES, PROMOTE URBAN ECOLOGY & FACILITATE GREEN INFRASTRUCTURE INITIATIVES

- Provide areas of shade and vegetation that support fauna diversity as part of nurturing urban and waterway ecology.
- Provide a design that promotes and encourages urban ecology and provides habitat for local fauna;
- To promote local diversity;
- Provide trees and planting that considers local climate;
- Provide street trees for shade, amenity, and to enhance the natural elements of the street;
- Introduce tree and under-story planting to soften expanses of paving along footpaths, whilst maintaining pedestrian desire lines and clear paths of travel
- Improve drainage, mitigate localised flooding and consider Water Sensitive Urban Design (WSUD) principles where possible;
- Explore innovative flood mitigation measures to treat urban water runoff before entering the Parramatta River;
- Treat urban water runoff through landscaped solutions;
- Continue a strong link to nature and promote biodiversity and natural links.

5



DESIGN FOR PUBLIC TRANSPORT INTEGRATION TO ENHANCE LIVEABILITY & SUSTAINABILITY

- Provide safe and efficient connections to public transport options;
- Create a seamless integration of transport modes and links to residential areas and active transport;
- Provide a high quality public domain within streetscape of Hill Road;
- Ensure connections to public transport are accessible for all;
- Provide comfortable environments that have shade, shelter, resting points, seats, options for accessible seating, protection from extreme weather during all seasons;
- Provide a welcoming, pleasant and enjoyable streetscape and walking experience;
- To maintain the number of on-street car parking where possible;
- To ensure a continuous slow traffic flow to allow safe entry and exit to and from all side streets;
- Create access to more transport options to reduce reliance on car use and reduce overall traffic volumes.

6

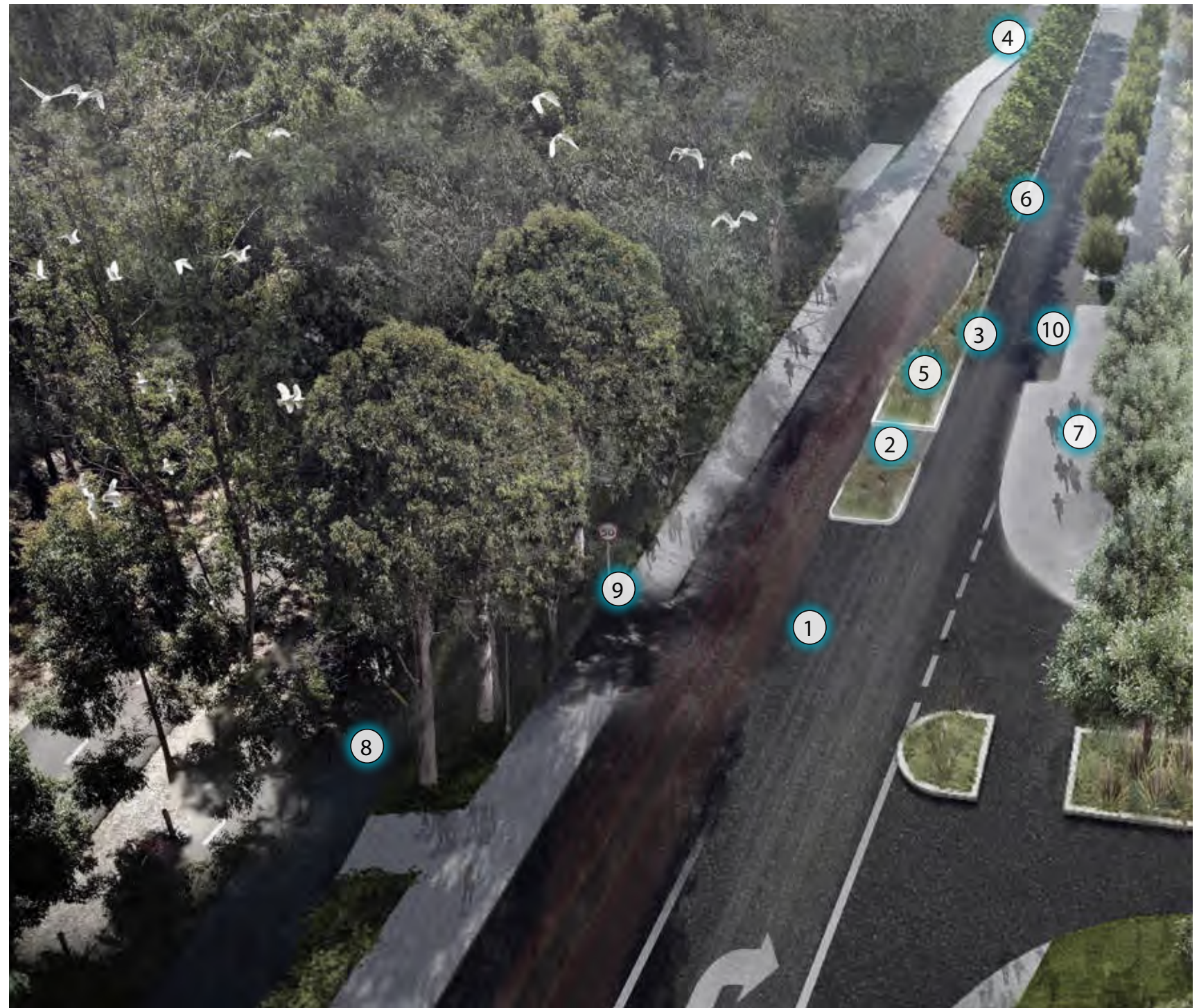


IMPROVE PEDESTRIAN CONNECTIONS & ACTIVE TRANSPORT LINKS

- Create safe and inviting active transport links to promote health, fitness and active living;
- Improve connections and accessibility to existing connections, shared paths and cycleway;
- Providing appropriate infrastructure that promotes active walking, running and cycling;
- Promote accessibility to a wide variety of transport modes;
- Integrate infrastructure so that active transport is encouraged and facilitated;
- Improved pedestrian and cyclist amenities, facilitating connections across Hill Road to bus stops, path networks and possible light rail stops;
- Provide improved links to and from Hill Road that ensure integration with the Homebush Bay Circuit;
- Provide map based wayfinding and directional signage that is legible, easy to read and follow.

Key Design Moves

- 1.** Provide a street layout framework that reclaims under utilised road space, ensuring traffic and parking lane widths are adequate for vehicle movements;
- 2.** Provide safer crossing points for pedestrians and cyclists linking parklands and bus stops;
- 3.** Provide drainage improvements to alleviate flooding;
- 4.** Maximise the available road corridor by integrating a separated cycleway on the western side of Hill Road;
- 5.** Provide a planted median within the un-used road space to promote water sensitive urban design measures, sustainability, tree planting and stormwater treatment before runoff water enters the Parramatta River;
- 6.** Plant trees for improved amenity, shade and street identity;
- 7.** Provide widened pedestrian pavement areas to create generous public domain space;
- 8.** Provide an allocation of space for the intended light rail corridor;
- 9.** Reduce vehicle speeds and make Hill Road safer and more inviting by providing more crossing points, trees and narrower traffic lane widths;
- 10.** Retain on street parking numbers and formalise to prevent illegal parking.



Improving Runoff Water Quality from Hill Road

Hill Road is significantly flat with minimal fall to existing drainage pits and infrastructure. It is important to consider how the drainage levels relate to the tidal waters of Parramatta River. In the worse case scenario, a high tide combined with a significant rainfall event can cause stormwater to surcharge back through the pipe network and temporarily flood Hill Road.

Several flood mitigation measures can be applied to reduce the impacts of flooding over Hill Road. Below are design solutions that can be applied within a combination of treatments. The suggested solutions are subject to the site conditions, constraints, and further detailed design. These solutions can go a long way in mitigating the frequency of flood events that impact on Hill Road and the Wentworth Point community.

1. Collect water runoff from the road surface into:

Option A: directly into the kerb drainage pits;

Option B: directly into the proposed planted median.

2. Water collected in a planted median is harvested and stored. The garden bed median is a way of being able to hold stormwater within a landscape solution. Stormwater collected can be treated and cleansed through the soil medium. The soil can remove pollutants and improve the quality of the water runoff before any excess stormwater runs into the Parramatta River.

3. Overflow pits positioned within the planted median can remove excess stormwater once the soil reaches saturation. This excess water would then enter the drainage system and into the river.

4. Running parallel to Hill Road is an existing 900mm diameter pipe which moves stormwater to the river. A proposed duplication of this stormwater pipe will assist in removing and storing water more efficiently.

5. Rethinking where two pipes intersect at 90 degrees and changing this to 45 degree angles to assist in moving stormwater more efficiently.

6. Regular sediment cleaning of drainage pipes to prevent debris build up and ensure the pipe network is operating efficiently.

Stormwater Drainage Improvements

Improvements to broaden and enhance the drainage system at Hill Road will be examined in detail as part of the proposed Hill Road Flood Study. The Flood Study seeks to investigate the drainage data, infrastructure and current systems at Hill Road.

In order to help minimise the effects of heavy rainfall and flood related scenarios at Hill Road, the study will aim to provide a model that incorporates drainage elements to target key areas for improvements within the drainage network.

The options for water harvesting and treatment shown opposite are subject to change following the outcomes of the Flood Study modelling and investigative works.



1. **Option A:** Directly into the kerb drainage pits.



1. **Option B / 2:** Directly into the proposed planted median.



3: Overflow pits within the planted median.



4: Duplicating the parallel stormwater pipe.

The background of the slide is a light gray map of a coastal region. The map shows a network of roads and property boundaries. A prominent teal-colored bar, semi-transparent and horizontal, spans across the middle of the image. The text '05 THE MASTER PLAN' is written in white on this bar. The map features a coastline with several inlets and a large body of water on the right side. The overall style is clean and professional, typical of a planning or architectural presentation.

05

THE MASTER PLAN

THE MASTER PLAN

05

Materials, Furnishings and Planting palette

Pedestrian pavement (Standard)

Main body - in-situ concrete for high durability and easy maintenance. Subject to location and site conditions, full width pavement may be required.

Vehicle crossing, kerb ramp - insitu concrete to suit grades and vehicle load.



Pedestrian pavement (Specialised)

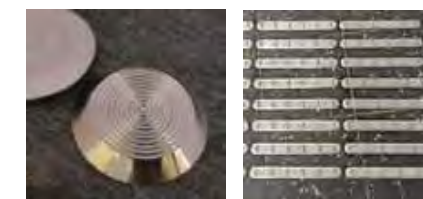
Main body - continued use of concrete pavers for consistency of appearance, high quality finish and durability.

Vehicle crossing, kerb ramp - concrete pavers to match the footpath treatment. Use smaller unit sizes on vehicle crossing.



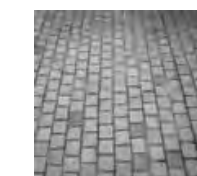
Tactile Surface indicators

Type - 316 Standard Stainless Steel Discrete Tactile Ground Surface Indicators (TGSi) and Directional Indicators to be manufactured and installed to AS1428: Design for Access and Mobility. Minimum slip resistance of R12.



Traffic devices

Type: Sufficient visual contrast between the road and edge of the traffic devices, and use comparable materials for the infills to the surrounding footway finishes.



Seats

Type: mild steel frame and hardwood slats
Finish: powdercoated and oiled



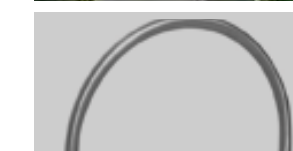
Bins

Type: Material: mild steel frame, Rimex metal panels and stainless steel chute
Capacity: 120L



Bike rack

Type: Semi Hoop
Polished stainless steel



Entry Wall

Function - to enhance the arrival experience into the precinct and provide a sense of place and identification.



Street Shade trees

Species - trees that will provide ample shade for pedestrians and enhance the street identity of Hill Road.



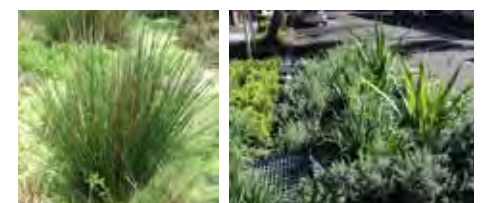
Street Median trees

Species - trees that will easily withstand wet conditions and perform well within the raingarden median.



Street rainwater median planting

Species - plants tolerant to a range of conditions from periods of standing water to extended drought.



Tree grate

Type: Cast aluminium
Finish: shot blast
Size: 1.5 x 1.5m



Street Tree Planting at Hill Road

Benefits of street trees for Hill Road and the Wentworth Point community

Street trees play a critical role in maintaining the health and liveability of Wentworth Point by:

- Providing character and a 'sense of place';
- Improving and maintaining the health, well-being and happiness of the residents and the community of Wentworth Point;
- Providing an attractive streetscape that promotes walkability and active living;
- Providing environmental, economic and social benefits that contribute to creating a resilient and sustainable suburb.

Environmental benefits of street trees include:

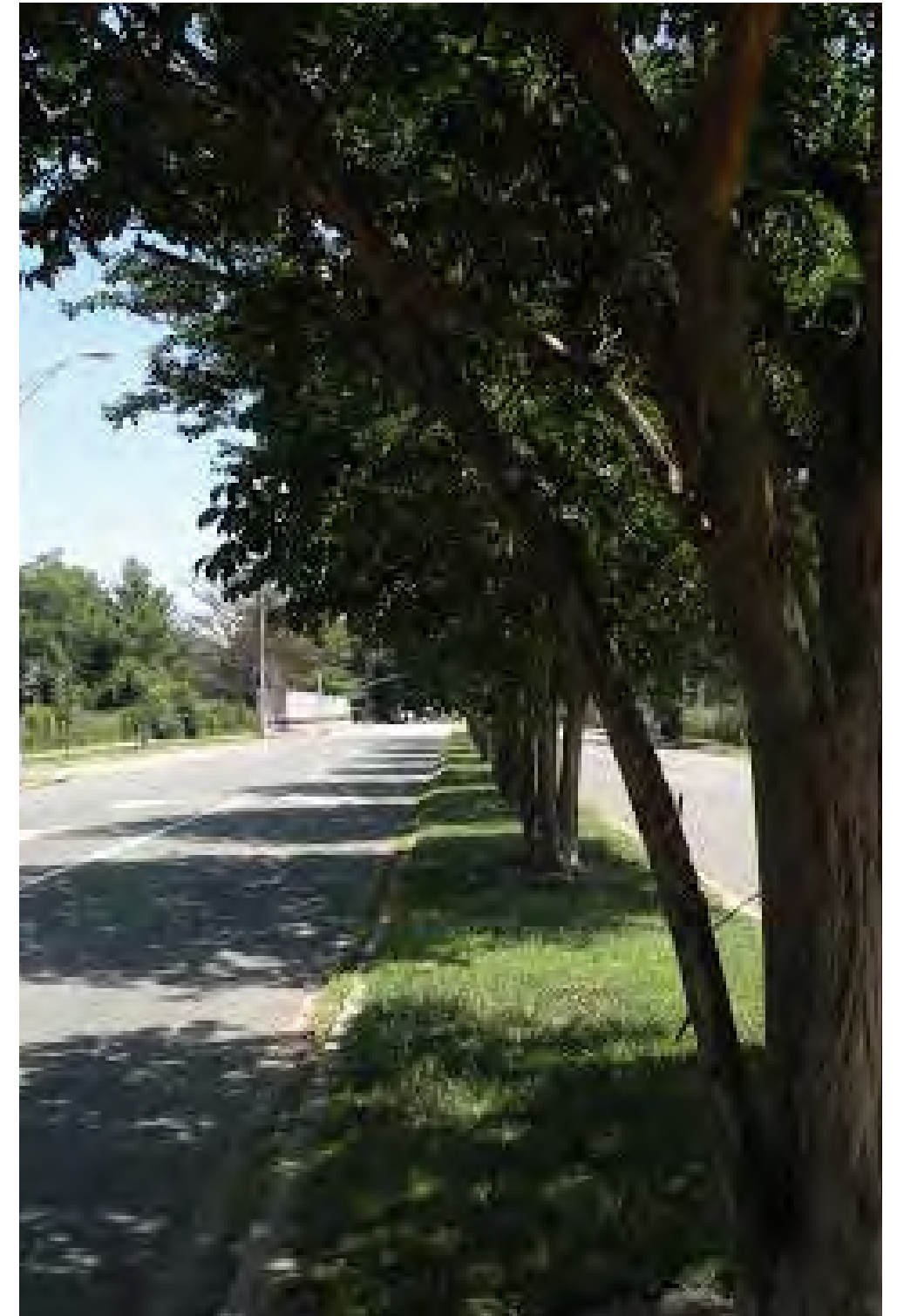
- A single mature tree can absorb carbon dioxide and release enough oxygen back into the atmosphere to support two people;
- Shading of pavement and buildings reduces energy consumption;
- Shading of road pavements can extend its asset life;
- Removing gaseous pollutants by absorbing them through tiny pits (stomates) in the leaf surface;
- The leaf surface also captures and removes dust from the air acting of natural pollution filters;
- Promoting urban ecology by providing habitat and food sources for urban native fauna.

Economic benefits of street tree plantings include:

- Streets with well planted trees have shown to attract higher property rents and sale prices;
- Trees provide shade and cooling that reduce hard surface temperatures and the heat island effect. As a result, trees reduce radiating heat and cooling costs for dwelling occupants.

Social benefits of street tree plantings include:

- Trees can provide orientation, suburb identity and contribute to urban form;
- Trees create a feeling of relaxation and well-being;
- Providing shade for pedestrians, reduces glare, soften the built environment and diminishes noise;
- Trees calm traffic - slowing speeds, and providing a buffer between pedestrians and cars.
- Provide a link to nature and living within a 'leafy' suburb;
- Provides seasonal foliage colour that are visually pleasing;
- Provides contrast in leaf colours, patterns, flower, bark and tree form.



Street tree planting provides a variety of benefits including environmental, social and economic improvements.

Street trees and the urban environment

Every tree species has its genetic and growth characteristics. The tree is a dynamic organism and growing limitations imposed on the trees determine the trees growth habits. The limitations include structures, pavements, kerb and gutters and existing utilities. All limitations contribute to the growth constraints of street trees. These limitations are considered when establishing a selection criteria for appropriate tree species and location of planting.

There is no such thing as the 'perfect' street tree that will fulfil all aspects of a selection criteria. Each tree species planted within a street can present different growth forms and rates dependant on the growing conditions. A goal is to create an environment for consistent tree growth. Trees planted within the streetscape are far removed from their natural environments. It is generally considered that the benefits of trees to the community far outweighs the negative aspects.

Trees and driver sightlines

Trees planted with a median in a road offer several environmental benefits (as outlines previously). However, when planting trees it is critical to consider driver and pedestrian sightlines to ensure safety for all road users. The following safety considerations have been applied when positioning trees in this master plan:

- Provide a clear line of sight to traffic signage which might warn users of pedestrians ahead;
- Provide a clear line of sight for drivers approaching pedestrian crossing points. It is important to have a 30m clear approach distance to the crossing points.
- Ensure street and pedestrian lighting is not obstructed and safety is prioritised;
- Provide a sense of safety and deter undesirable activities through greater exposure at night.

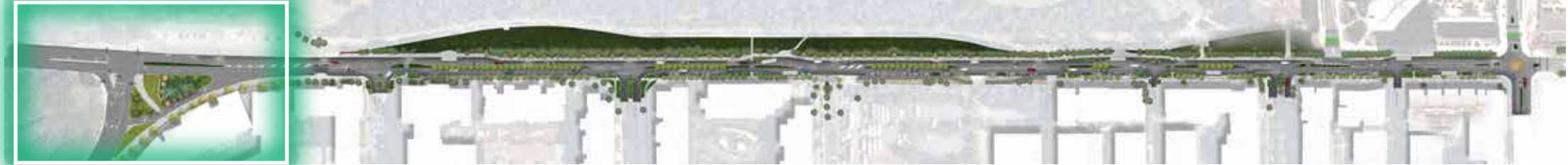
Median tree planting and User Perceptions of Speed and Safety

Appropriate design, placement and spacing between trees and other types of planting within the road landscape can assist in modifying driver speeds and behaviours. When trees are spaced in specific arrangements (such as close together), it can give a perception of travelling at high speed as opposed to having the trees spread further apart. Attempting to reduce vehicle speeds will improve pedestrian safety.

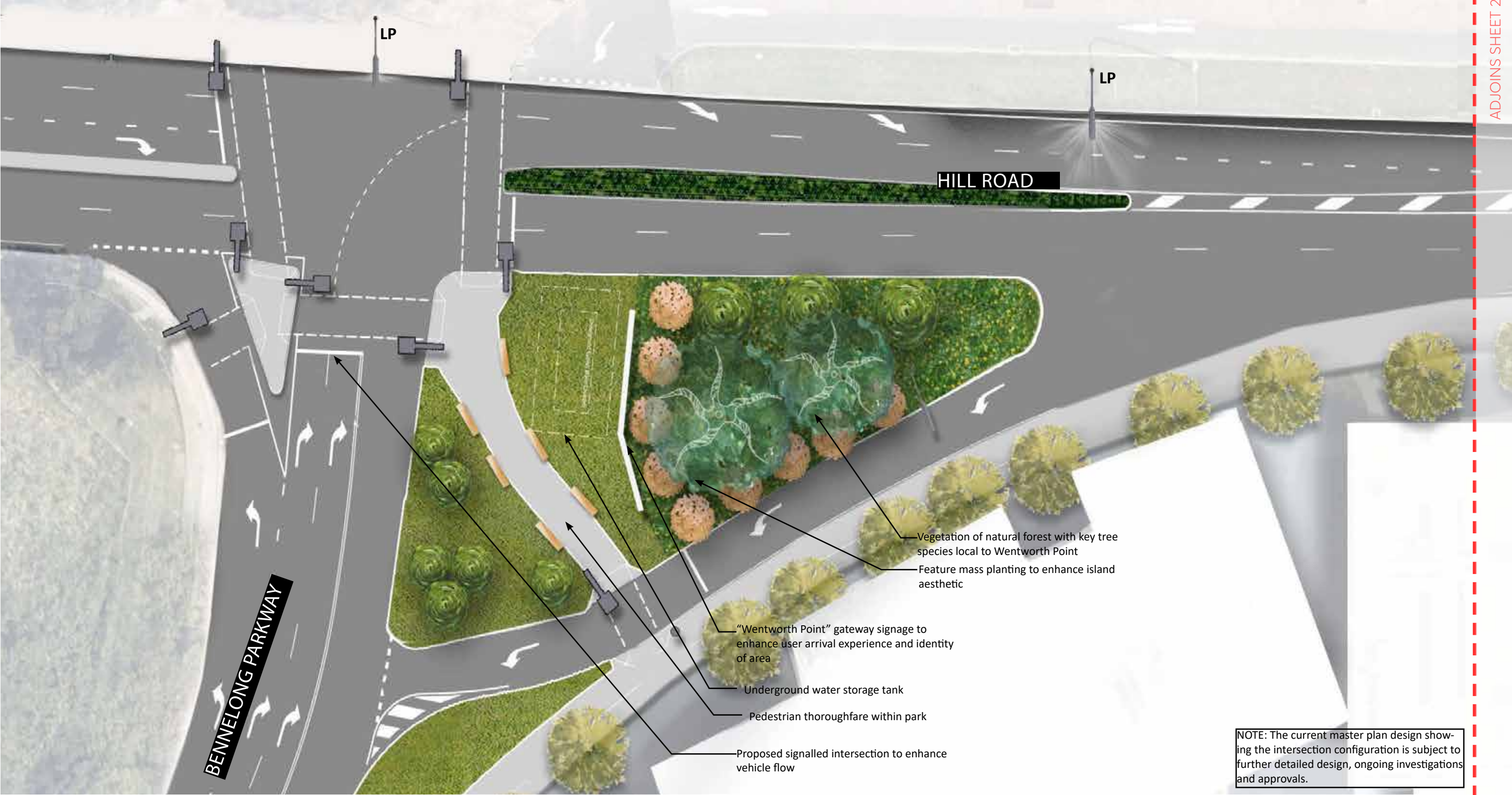


Tree selection for median planting with clear trunk and pronounced crowns allow for enhanced sightlines and visibility for pedestrians and road users.

KEY PLAN



CONCEPT PLAN



ADJOINS SHEET 2

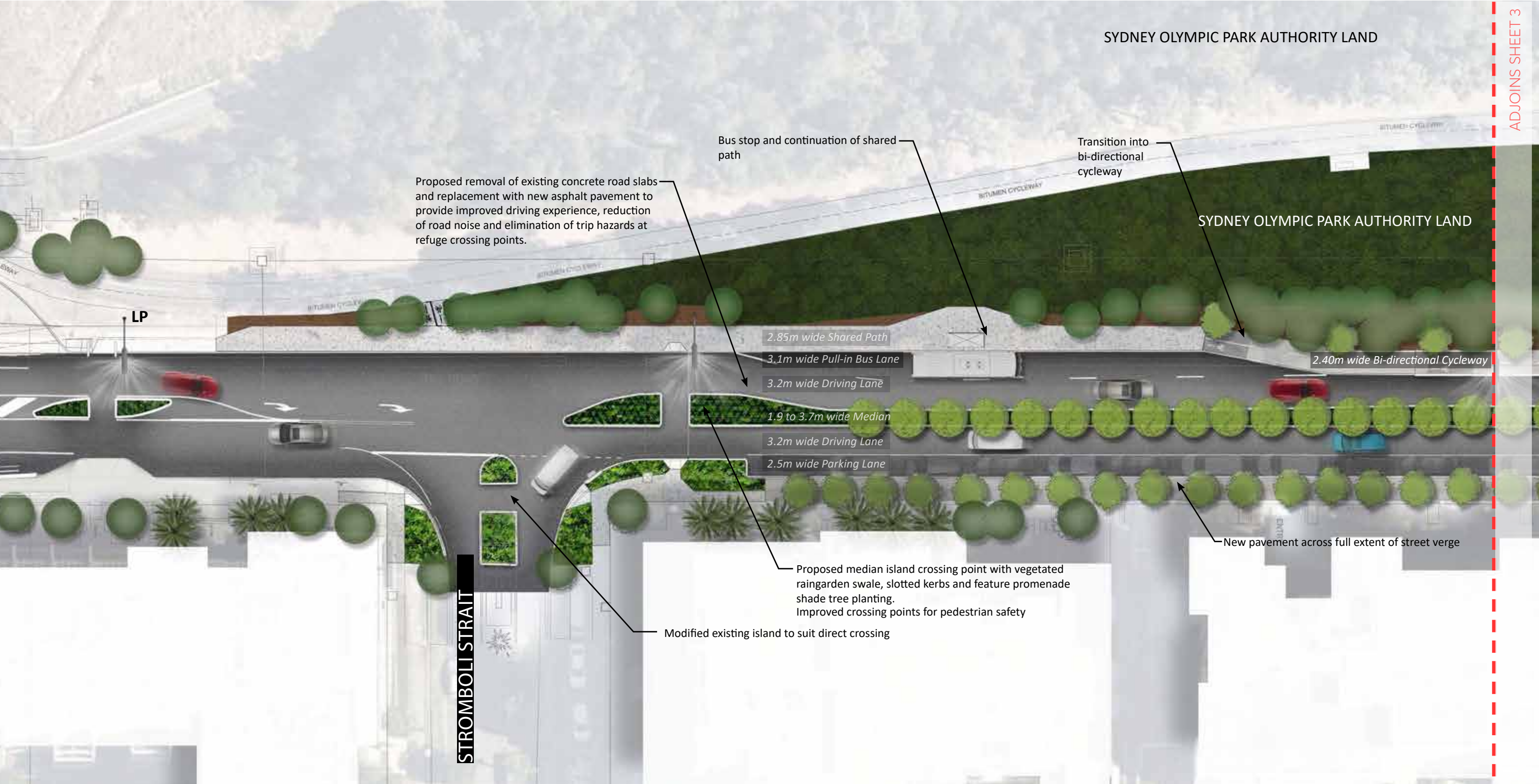
NOTE: The current master plan design showing the intersection configuration is subject to further detailed design, ongoing investigations and approvals.



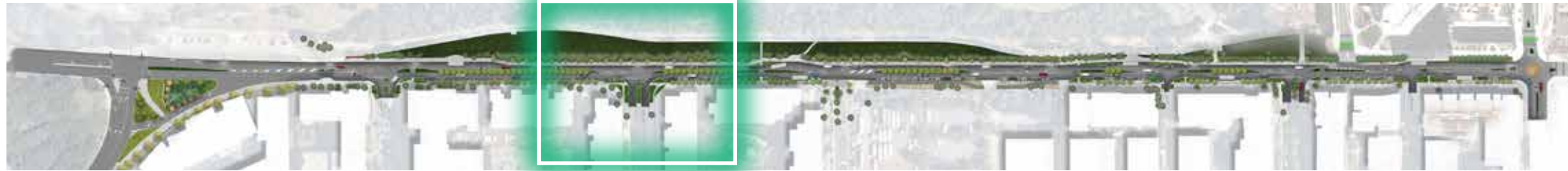
KEY PLAN



CONCEPT PLAN



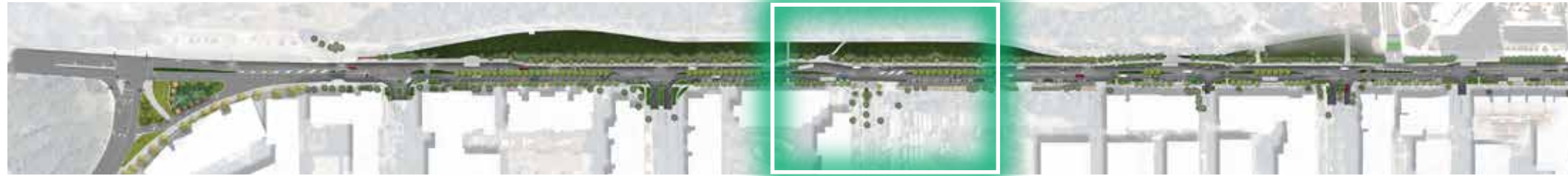
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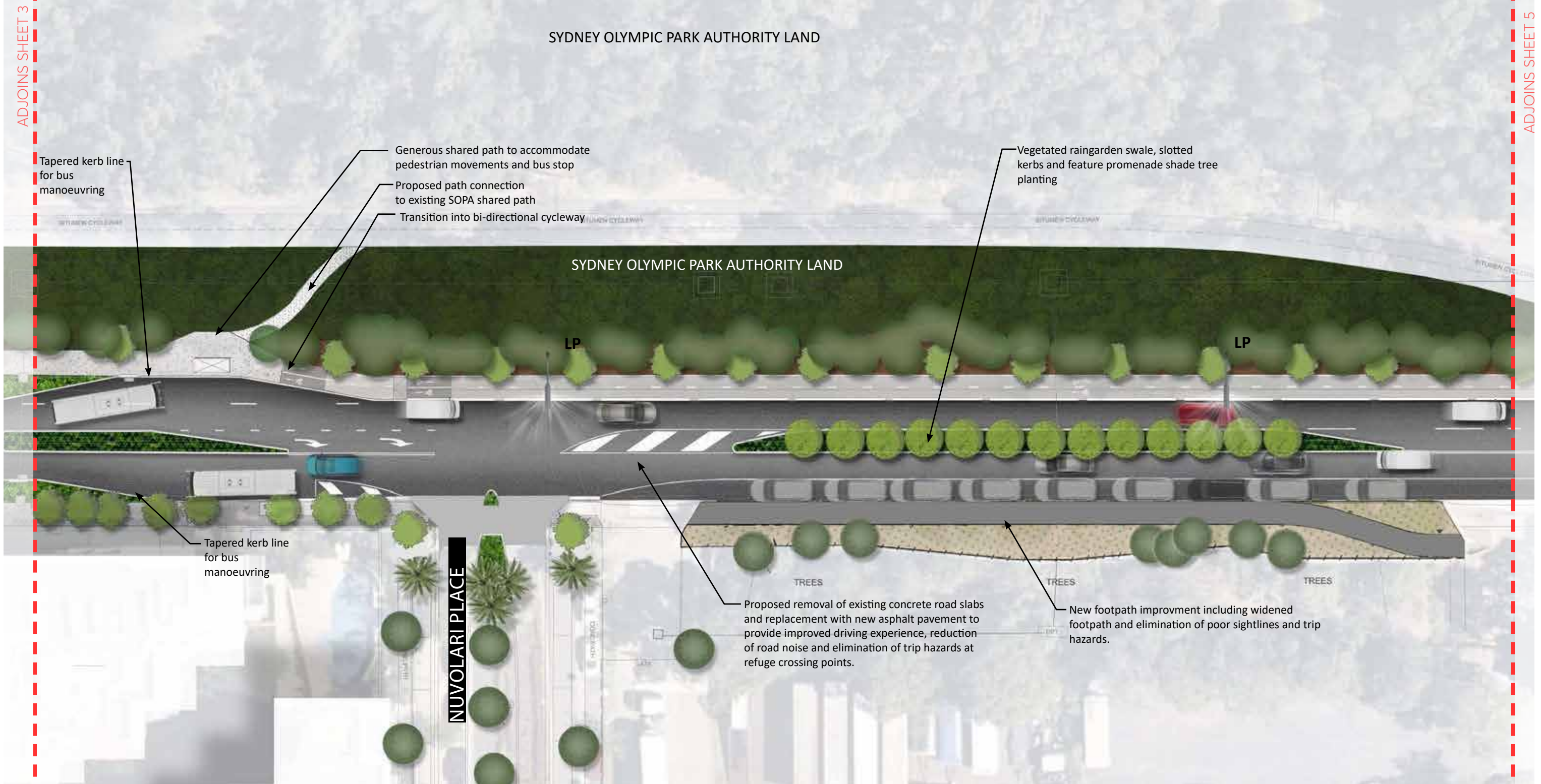
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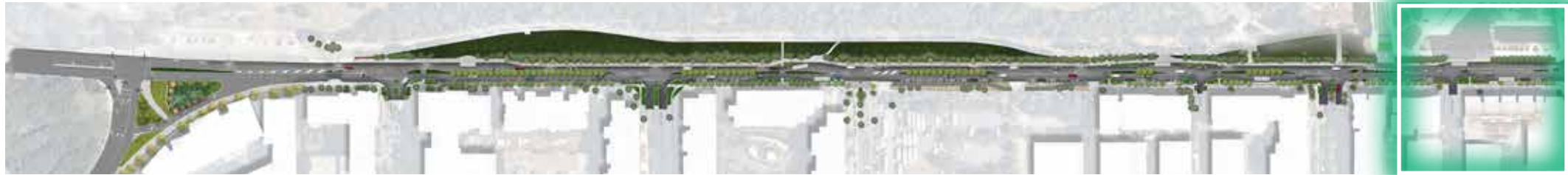
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CONCEPT PLAN



KEY PLAN



CONCEPT PLAN

ADJOINS SHEET 6







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06

IMPLEMENTATION STRATEGY

IMPLEMENTATION STRATEGY

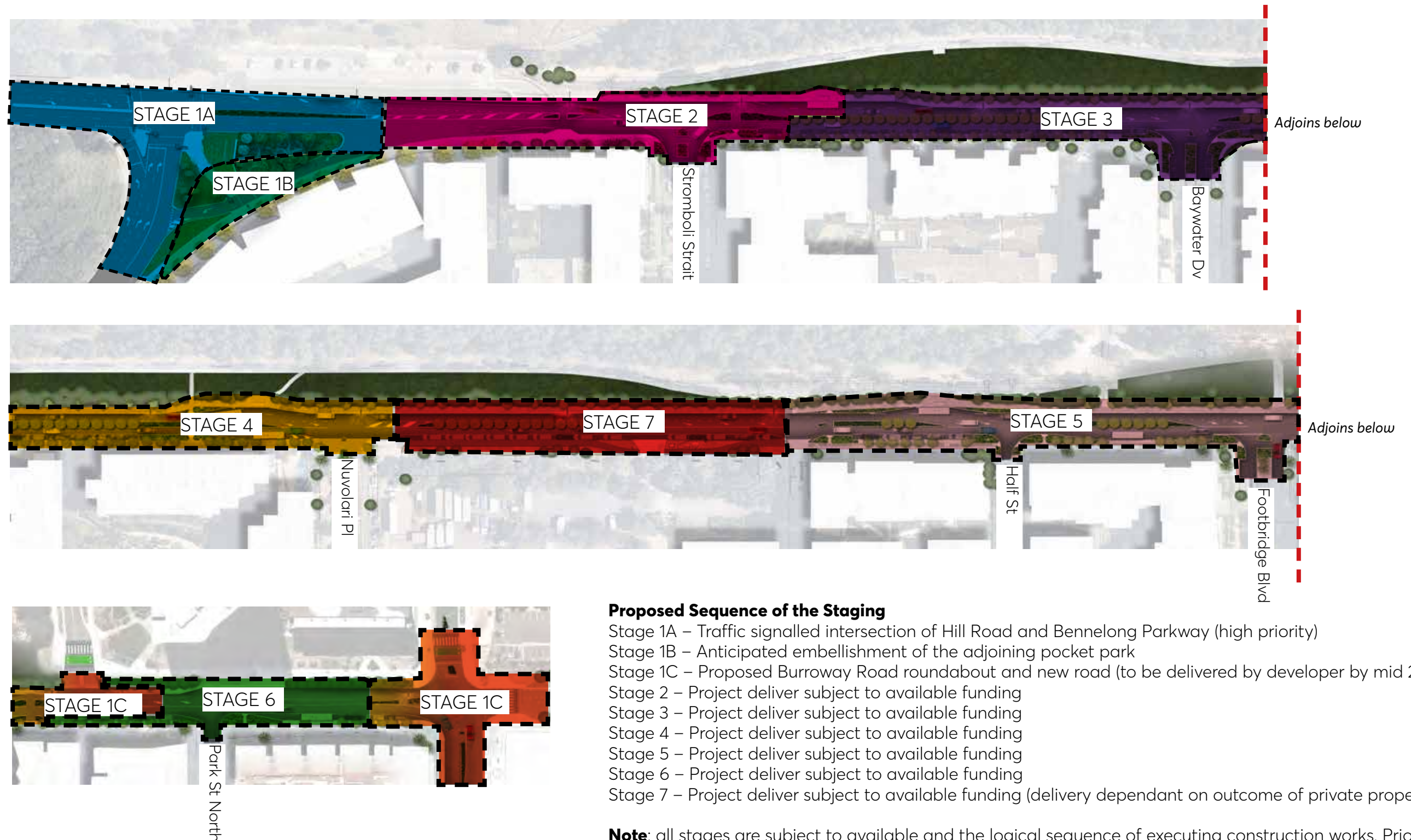
06

As potential funding opportunities arise, it is essential to approach the delivery of capital works in a considered and thought out manner. The below is a list of suggestion phases of implementation. It is important to note the delivery of this master plan will be a coordinated staged approach subject to available funding and contributing factors at the time.

- 1.** Implement identified pedestrian refuge islands and safe crossing points along Hill Road and at intersecting streets;
- 2.** Both eastern and western kerb line improvements to set up the street framework. This could be undertaken block by block;
- 3.** Undertake the delivery of the proposed signalled traffic intersection at the intersection of Hill Road and Bennelong Parkway;
- 4.** Consider the implementation of the pocket park and gateway entry project in line with the proposed intersection works;
- 5.** Nominated pedestrian pavement upgrades prioritised by existing pavement condition, level of usage, other related projects. These public domain works include new pavement, street trees, urban furniture, street lighting, etc.
- 6.** Align new crossing points with upgraded bus stop locations with widened shared paths, improved accessibility, kerb works and relocated bus shelters (as required);
- 7.** Progressively construct a drainage infrastructure upgrade including the planted median island as part of the overall drainage improvements for the street;
- 8.** Construct separated cycleway and shared path works progressively as road dimensioning is modified and accommodate accordingly.

STAGING OF WORKS

With consideration of priority works and short-term resolution of safety, pedestrian and traffic issues - the implementation of works are proposed to be undertaken in the following stages:



Proposed Sequence of the Staging

- Stage 1A – Traffic signalled intersection of Hill Road and Bennelong Parkway (high priority)
- Stage 1B – Anticipated embellishment of the adjoining pocket park
- Stage 1C – Proposed Burroway Road roundabout and new road (to be delivered by developer by mid 2021)
- Stage 2 – Project deliver subject to available funding
- Stage 3 – Project deliver subject to available funding
- Stage 4 – Project deliver subject to available funding
- Stage 5 – Project deliver subject to available funding
- Stage 6 – Project deliver subject to available funding
- Stage 7 – Project deliver subject to available funding (delivery dependant on outcome of private property)

Note: all stages are subject to available and the logical sequence of executing construction works. Priorities may shift to respond to future opportunities.

ESTIMATE OF PROJECT COST

ESTIMATED COSTS BREAKDOWN OF STAGED WORKS (As at February 2021)		
Stage 1B		
1	Intersection of Hill Road & Bennelong Parkway Pocket Park	\$1,700,000
Total Estimated Cost		\$1,700,000
Stage 2 - Bennelong Parkway to Stromboli Straight		
1	Project Preliminaries	\$256,238
2	Concrete Pavement area (west)	\$58,500
3	Granite Pavement area (east)	\$243,500
4	New Trees	\$120,000
5	Light poles, 'Smart' infrastructure, CCTV	\$840,000
6	Kerb length (western side)	\$48,000
7	Kerb length (eastern side)	\$57,000
8	Road pavement	\$870,000
9	Drainage infrastructure	\$735,000
10	Signage / Wayfinding	\$10,000
11	Furniture allowance	\$50,000
12	Services and Utilities	\$122,500
13	Softworks (median planting)	\$189,000
14	Irrigation	\$50,000
15	As built survey	\$10,000
16	Maintenance	\$13,000
Stage 2 Subtotal		\$3,672,738
Project Contingency		\$512,475
Total Estimated Cost		\$4,185,213
Stage 3 -Stromboli Straight to Baywater Drive		
1	Project Preliminaries	\$384,821
2	Concrete Pavement area (west)	\$70,500
3	Granite Pavement area (east)	\$415,000
4	New Trees	\$490,000
5	Light poles, 'Smart' infrastructure, CCTV	\$1,468,000
6	Kerb length (western side)	\$46,750
7	Kerb length (eastern side)	\$136,750
8	Road pavement	\$740,100
9	Drainage infrastructure	\$1,284,500
10	Bike lane kerb	\$45,600
11	Signage / Wayfinding	\$10,000
12	Furniture allowance	\$50,000
13	Services and Utilities	\$157,500
14	Softworks (median planting)	\$128,250
15	Bus stop	\$15,000
16	Irrigation	\$50,000
17	As built survey	\$10,000
18	Maintenance	\$13,000
Stage 3 Subtotal		\$5,130,950
Contingency		\$769,643
Total Estimated Cost		\$6,285,414

The following is an anticipated estimate of cost (as of February 2021) for the various stages of proposed works. Please note: These estimates are for the purpose of uture project planning.

ESTIMATE OF PROJECT COST

Stage 4 - Baywater Drive to Nuvolari Place		
1	Project Preliminaries	\$268,238
2	Concrete Pavement area (west)	\$67,200
3	Granite Pavement area (east)	\$275,500
4	New Trees	\$210,000
5	Light poles, 'Smart' infrastructure, CCTV	\$1,020,000
6	Kerb length (western side)	\$37,250
7	Kerb length (eastern side)	\$90,250
8	Road pavement	\$526,500
9	Drainage infrastructure	\$892,500
10	Bike lane kerb	\$34,000
11	Signage / Wayfinding	\$10,000
12	Furniture allowance	\$50,000
13	Services and Utilities	\$150,500
14	Softworks (median planting)	\$109,800
15	Bus stop	\$30,000
16	Irrigation	\$50,000
17	As built survey	\$10,000
18	Maintenance	\$13,000
Stage 4 Subtotal		\$3,576,500
Contingency		\$536,475
Total Estimated Cost		\$4,381,213

Stage 5 - Verona Drive to Footbridge Boulevard		
1	Project Preliminaries	\$266,415
2	Concrete Pavement area	\$42,900
3	Granite Pavement area	\$275,500
4	New Trees	\$210,000
5	Light poles, 'Smart' infrastructure, CCTV	\$1,020,000
6	Kerb length (western side)	\$37,250
7	Kerb length (eastern side)	\$90,250
8	Road pavement	\$526,500
9	Drainage infrastructure	\$892,500
10	Bike lane kerb	\$34,000
11	Signage / Wayfinding	\$10,000
12	Furniture allowance	\$50,000
13	Services and Utilities	\$150,500
14	Softworks (median planting)	\$109,800
15	Bus stop	\$30,000
16	Irrigation	\$50,000
17	As built survey	\$10,000
18	Maintenance	\$13,000
Stage 5 Subtotal		\$3,552,200
Contingency		\$532,830
Total Estimated Cost		\$4,351,445

Stage 6 - Footbridge Boulevard to Burroway Road		
1	Project Preliminaries	\$260,449
2	Concrete Pavement area (west)	\$0
3	Granite Pavement area (east)	\$401,500
4	New Trees	\$330,000
5	Light poles, 'Smart' infrastructure, CCTV	\$920,000
6	Kerb length (western side)	\$34,500
7	Kerb length (eastern side)	\$80,500
8	Road pavement	\$524,400
9	Drainage infrastructure	\$805,000
10	Bike lane kerb	\$0
11	Signage / Wayfinding	\$10,000
12	Furniture allowance	\$50,000
13	Services and Utilities	\$136,500
14	Softworks (median planting)	\$92,250
15	Bus stop	\$15,000
16	Irrigation	\$50,000
17	As built survey	\$10,000
18	Maintenance	\$13,000
Stage 6 Subtotal		\$3,472,650
Contingency		\$520,898
Total Estimated Cost		\$4,253,996

Stage 7 - Nuvolari Place to Verona Drive		
1	Project Preliminaries	\$258,484
2	Concrete Pavement area (west)	\$0
3	Granite Pavement area (east)	\$463,500
4	New Trees	\$230,000
5	Light poles, 'Smart' infrastructure, CCTV	\$892,000
6	Kerb length (western side)	\$36,500
7	Kerb length (eastern side)	\$75,000
8	Road pavement	\$550,800
9	Drainage infrastructure	\$780,500
10	Bike lane kerb	\$58,400
11	Signage / Wayfinding	\$10,000
12	Furniture allowance	\$50,000
13	Services and Utilities	\$133,000
14	Softworks (median planting)	\$78,750
15	Bus stop	\$15,000
16	Irrigation	\$50,000
17	As built survey	\$10,000
18	Maintenance	\$13,000
Stage 7 Subtotal		\$3,446,450
Contingency		\$516,968
Total Estimated Cost		\$4,221,901

TOTAL ESTIMATE OF PROJECT COST

\$30,541,033

