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Prepared for the **City Of Ryde**

Ryde River Walk

Master Plan Report

City of Ryde

Ryde River Walk

Master Plan Report

PREPARED BY

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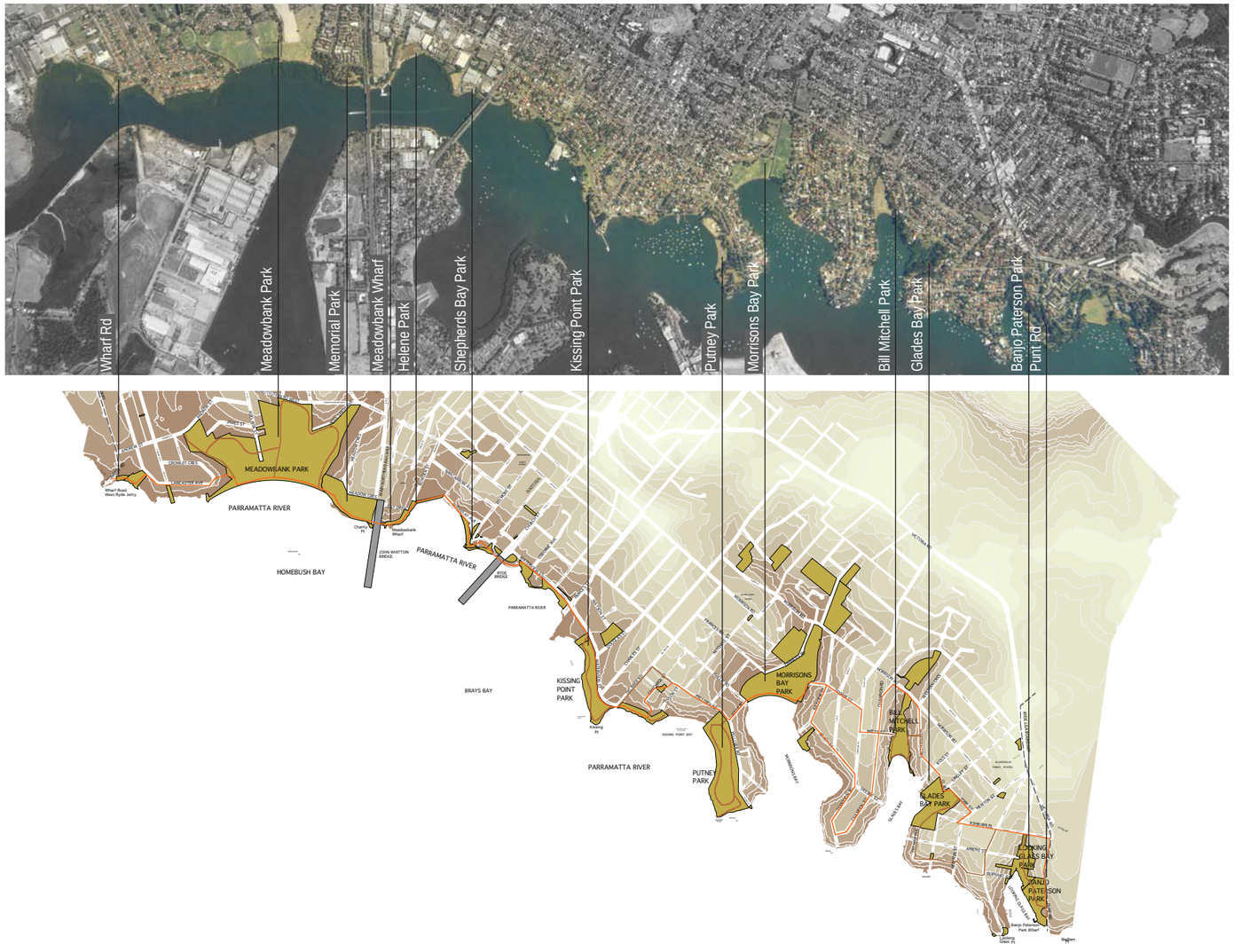



Community Information Day


Ride Ryde Day


Ride Ryde Day

PROJECT OUTLINE

BACKGROUND

The River Walk project undertaken by the City of Ryde, is to provide a vision and working plan for a recreation trail focused along the Parramatta River within the Ryde Local Government Area (LGA). The trail proposes to connect existing foreshore parks and provide an important link in a regional systems of recreation trails. The study develops a strategy for the staged implementation and enhancement of the recreation trail over time. A public art strategy that animates and reveals the landscape and stories of the places of the local area, is also proposed in conjunction with the trail.

Study Area

The study area includes the parks and connecting streets along the northern foreshore of the Parramatta River in the Ryde LGA, from Wharf Road in the west to Punt Road in the east. The River Walk seeks to connect to adjacent recreation trails, public parks, urban centres and public transport hubs.

Wherever possible, the trail is directly along the foreshore edge, with a direct physical and visual connection to the water. In other areas, the trail is set back behind residential properties or steep bushland parks due to topography or limited physical access. These areas seek to enhance the visual connection to the water overlooking the river, adding diversity to the River Walk experience.

Study Team

The preparation of the River Walk Master Plan for the City of Ryde is by a comprehensive team of consultants assembled to address the complex issues and opportunities the River Walk offers. The consultant team includes:

Primary Consultants	
Pod Landscape Architecture	Head Consultant and Landscape Architect
Jamieson Foley Traffic and Transport	Cycle and Traffic Planners
Artlandish Art and Design	Public Art and Historic Research
Supporting Consultants	
Lighting Art and Science	Lighting Review and Assessment
Urban Forestry Australia	Vegetation Impact Assessment
BDA Consultants	Cost Planning

CONSULTATION

The master plan study is also been informed by contributions from local residents and interested groups through the consultation processes listed below.

Community Information Day

A community information day held in Kissing Point Park, was an open community forum to raise awareness and prompt feedback. The information day introduced the scope of the project, provided information on the existing walkways and cycle routes in the area, a summary of local history, and sought feedback on the alignment of the trail based on local understanding of the area.

Ride Ryde Day

An interested group of residents and cycle enthusiasts were taken along the length of the proposed location of the trial route to gain immediate feedback on the connections, quality and practicality of the walkway. Invaluable suggestions were made and have been used to inform the detailed planning of the cycle route.

Public Exhibition

The Draft Master Plan Report was exhibited through the City of Ryde in early 2006. The main submission received was from Bike North. The submission was supportive of the plan, and provided a number of suggestions for the precincts.

CONTENTS

Project Context

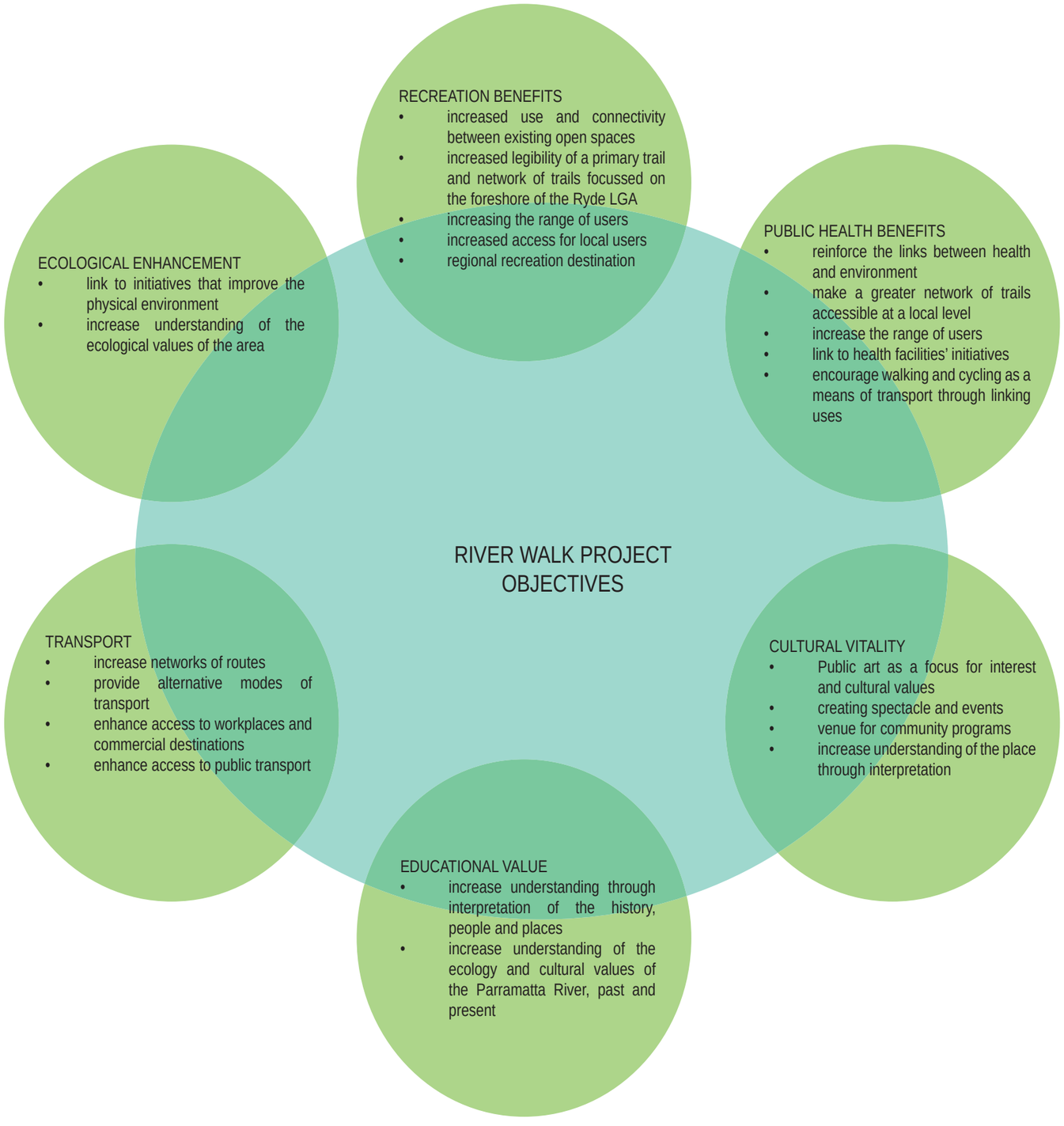


Figure 1
River Walk project objectives

1.0 PROJECT DEFINITION

1.1 PROJECT PURPOSE

The proposed Ryde River Walk presents an opportunity to create an engaging and important regional recreation route along the Parramatta River foreshore. The River Walk project aims to establish a regional mixed-use recreation trail that provides for cycling and walking for a range of users.

The key to establishing the Walk as an integrated and well patronised route, will be to:

- design the walkway as part of the experience of the Parramatta River;
- connect to the surrounding land uses and destinations;
- link to commuter routes and transport nodes;
- create a distinctive and memorable Walk that reveals the landscape and setting;
- value and interpret the character and cultural identity of the place, providing access to points of interest;
- create a vitality to the Walk through site specific public art revealing environment and history;
- ensure the physical pathway meets best practice in the detail design for use by cyclists and pedestrians;
- provide amenity to encourage a wide range of users;

1.2 REGIONAL OBJECTIVES

The objectives for the project are reinforced by State Government initiatives which aim to support increased access to recreation networks. There are a number of cross-over benefits for the development of the Walk as a regional trail including:

- establishing a recreational resource at both regional and local levels;
- establishing viable transport alternatives;
- improving public health and well-being;
- improving education and understanding of the regions' history and environment;
- providing cultural enrichment through public art and community art;

1.3 SCOPE OF THE STUDY

This study is prepared for the City of Ryde to provide a master plan and feasibility for the future implementation of the Walk.

The scope and methodology of this study is to

- Address regional objectives for improving recreation provisions, public health and community well-being;
- Assess the existing provisions for recreational cycling and walking;
- Gain a greater and more detailed understanding of the physical considerations of the route;
- Improve connections ad linkages between existing open space in the study area;
- Plan the route that enhances understanding of the cultural landscape through art and interpretation;
- Provide a culturally stimulating environment with opportunities for community involvement;
- Propose connections to surrounding land uses and destinations;
- Provide guidance on detail design considerations in the realisation of the Walk.

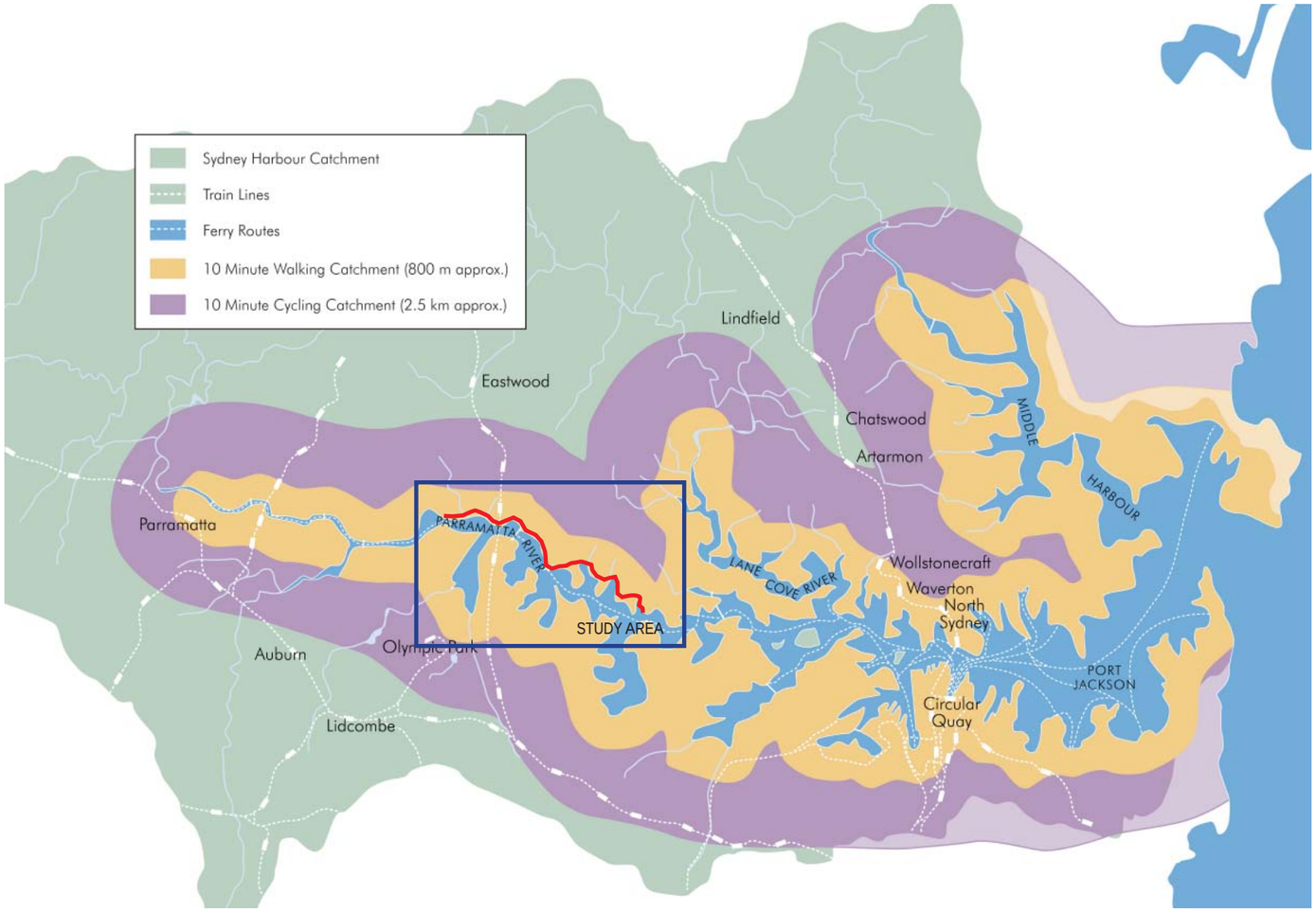


Figure 2
SSHAP Extract: walking and cycling catchments
The harbour is a focus for regional recreation activity, as well as provides for local recreation for those living within walking a cycling distances from the water edge

1.4 RECREATION PLANNING CONTEXT

There are a number of Government planning instruments and guidelines that reinforce the regional objectives for recreation trail networks. These plans also work in tandem with funding mechanisms for project implementation. Key issues from the plans are summarised below.

Sharing Sydney Harbour Access Plan, DIPNR 2003

- The Access Plan has been jointly prepared by the Department of Infrastructure, Planning and Natural Resources (formerly PlanningNSW) and the NSW Waterways Authority, following wide consultation.
- The Access Plan's vision is to improve public access to, and enhance the recreational enjoyment of, Sydney Harbour and its tributaries for the people of Sydney and visitors to the city.
- The Access Plan takes an integrated approach to land and water-based access requirements for Sydney Harbour. Typical projects identified in the Access Plan tend to be within 2.5 kilometres of the harbour foreshore but may go beyond to the catchment boundary. It contains the vision for improving access to the foreshores and waterways and proposes the following publicly accessible (non-commercial) improvements and facilities for a range of recreational users including pedestrians, cyclists and recreational boaters.
- Ten minute walking and cycling catchments (refer Fig. 2) are an important indicator of potential to access the foreshores on foot or bicycle by local communities and those travelling into these catchments by public transport.
- A catchment-wide network of accessways will link metropolitan parklands with urban waterfronts and connect to water access points. Improved boating facilities will provide better public access for recreational craft such as dinghies, canoes, kayaks and sailing boats. (Refer Fig.3).
- The Access Plan identifies strategic projects that may be developed in the short term , over the next 5 years, and over the longer term, over the next 20 years.
- There is scope to increase the existing level of foreshore access by extending existing accessways to and along the foreshores and by providing new accessways in currently inaccessible areas including redevelopment sites.
- Walking and cycling have many similar requirements, e.g. continuity, legibility, directness, low traffic volumes and low speeds, therefore both modes can often share the same access way. Sometimes their requirements may differ, e.g. a steep topography or sensitive natural environment may be better suited to walking than cycling. In some locations, such as waterfront promenades, shared access may be impractical and unsafe. A separate provision for each mode should be made in such instances.

Sydney Harbour Catchment Sydney Regional Environmental Plan, Dept Of Planning 2005

- Sydney Harbour, including Parramatta River and its tributaries, is a major natural, cultural, recreational and commercial asset for both Sydneysiders and visitors alike. The continuing growth and importance of Sydney has resulted in increasing pressures on the harbour and its foreshores. As such, it is critical to have a clear and consistent planning framework to protect and enhance the unique attributes of the Harbour.
- The Harbour REP aims to establish a balance between promoting a prosperous working harbour, maintaining a healthy and sustainable waterway environment and promoting recreational access to the foreshore and waterways.

Sydney Metropolitan Recreation Trails Framework, DIPNR, 2005

- Approx 35% of people in NSW participate in regional trail related physical activities, more than 3 times the number who participate in swimming or aerobics.
- Walking for exercise identified as most popular recreational activity.
- Demand for access to natural areas using existing networks and foreshore greenspace was a common theme.
- The provision of new connecting walking and bike trails is the fourth highest priority among Western Sydney Regional Councils, while a strong demand was identified for the further development of recreation trails along attractive linear corridors and coastlines, which connect open spaces and provide health and fitness benefits. eg Bay Run – 15-20k users per week, Coastal walk (bondi-bronte)
- The study identified the demand for new trails as being closely linked to the demands for better planning of the shared use of these trails or parts of these trails, for improved signs, for the provision of seating, for retaining or extending public access to the coastline, for interpretation opportunities and for extending the links to residential, retail and commerce areas.

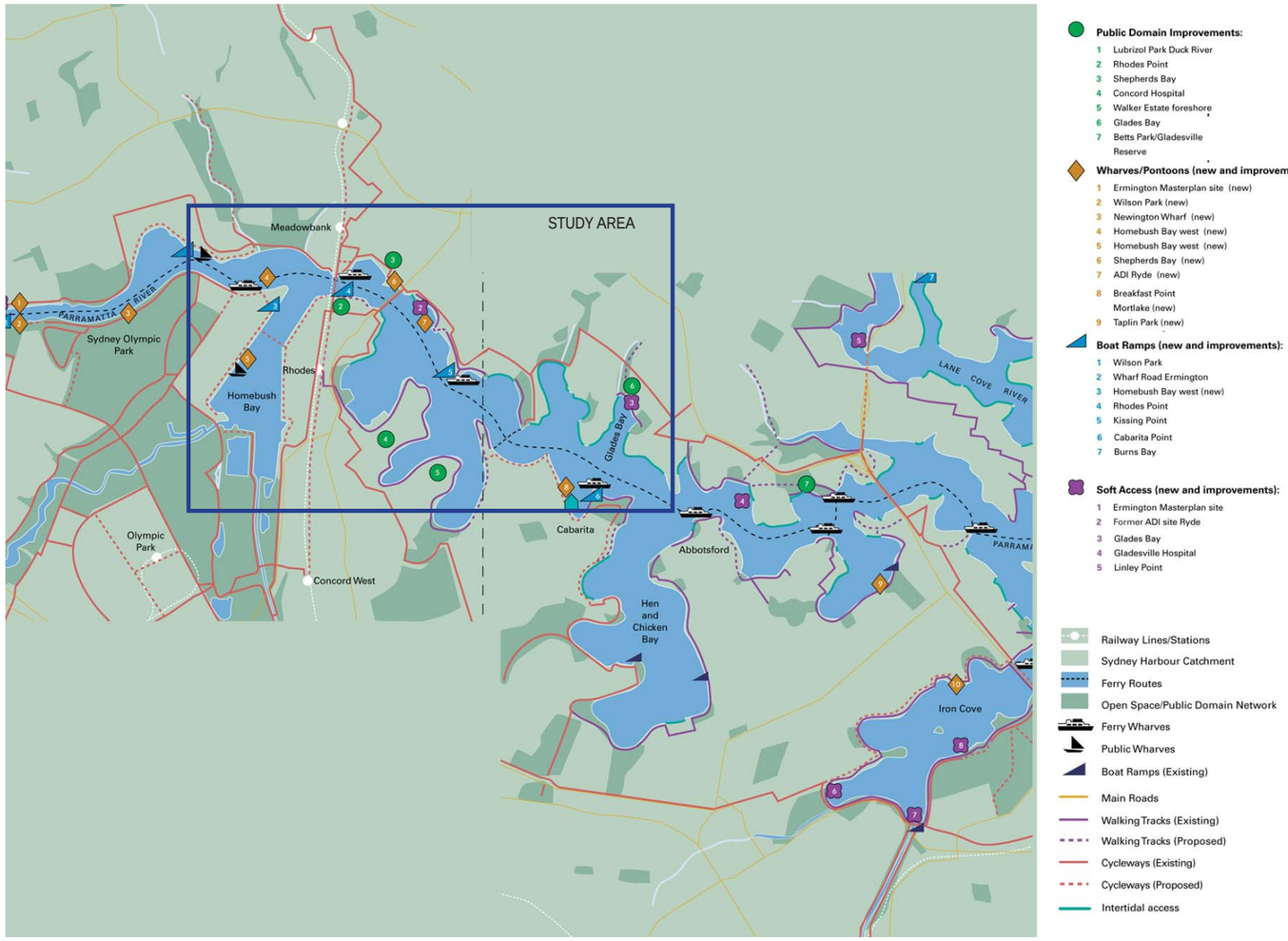


Figure 3
SSHAP Extract: access improvements
Identification of of regional access routes and water access points

- The primary focus of the regional trails framework is off-road connections performing the functions of linking significant areas of Sydney Greenspace, connecting recreational precincts, providing links between major urban centres and public transport nodes and links to other destinations.
- The trails should be an integrated network of walking and cycle trails.
- Demand for shared walkways and cycleways – opportunities exist for continuous foreshore reserves, most areas in Northern Sydney have potential for a network of walking and cycling tracks – ie. Links between Ryde, Meadowbank and Sydney Olympic Park. Northern Sydney Area identified as a short term priority.

Short term priorities and initiatives (0 –5yrs) of the Plan include

- Strategic framework of trails
- Missing links to a regional recreation trail
- Trails connecting residents from a wide region to a major regional destination
- Trails connecting to a major urban centres
- Developing as a resource for regional populations
- Serving existing demand for regional recreation trail facilities

Walking Sydney Harbour

Walking Sydney Harbour is a partnership project between community walking volunteers, the State Government, Local Government and other relevant authorities. These partners share the vision to improve public access to, and enhance the recreational enjoyment of Sydney Harbour and its tributaries for the people of Sydney and visitors to the city. The 26 km walk focuses on the Harbour west of the Harbour Bridge linking foreshore edges, bays, headlands, bridges and historic streets.

A walking map is available through downloading form the internet along with notes on points of interest and historic information that accompany the route. There are a number of magnificent additional loop walks (marked in green on the map), to explore scenic and historic areas in more detail. The Ryde River Walk is located near the west corner of the main walk and could be marked as another alternative loop walk linking through Gladesville Hospital and Betts Park.

Metro Strategy, Dept Planning 2005

Aims outlined in the Metro Strategy seek to continue to develop the framework for an integrated network of regional recreation trails as part of the overall open space system in partnership with local government, National Parks and Wildlife Service and the Roads and Traffic Authority.

Regional recreation trails meet the growing community demand for informal healthy activities, for recreation and active transport across Sydney. Trails are a corridor or pathway, mainly off–road, used for recreational walking or cycling and pass through or connect landscapes, facilities or sites of regional or metropolitan significance.

Department of Planning will work in partnership with other Government agencies — such as Department of Tourism, Sport and Recreation, NSW Health and Department of Environment and Conservation — to develop a comprehensive communications package, to ensure Sydneysiders are aware of the trails network. The package will provide signage and maps showing links to facilities such as railway stations, shops, picnic areas and playgrounds

The Australian National Cycling Strategy 2005-2010, Austroads 2005

Australia currently faces a multitude of transport, health and environmental challenges. There is a need to:

- Provide for the safe, affordable and enjoyable movement of people and goods
- Reduce the environmental and health impacts of transport, for instance by reducing motor vehicle tailpipe (including greenhouse gas) and noise emissions
- Increase physical activity by Australian people
- Combat rising traffic congestion, which is increasing travel times and industry costs.
- In order to meet these needs, we need to:
- Reduce our dependence on the private motor vehicle
- Increase the use of ‘active transport’ (walking, cycling and public transport)
- Providing a transport system that offers attractive choices for travel other than by the private vehicle – including cycling.

1.5 PHYSICAL AND SOCIAL INFRASTRUCTURE

The River Walk will connect to the existing regional networks and infrastructure. Through developing the relationships between physical and social infrastructure, the relevance and benefits of the River Walk will be embedded into local and regional patterns of use. (Refer Fig.4).

Cycle And Walking Trail Provisions

Major Regional Cycle Routes

- Connecting north to M2, Macquarie University, Lane Cove River; south to Strathfield, Cooks River, Botany Bay; east to the city; west to Parramatta.
- Meadowbank is an important node for the meeting of the east and west regional routes.
- Bicentennial Park and Olympic park are major drawcards for recreational cyclists.

Ryde Bicycle Strategy and Masterplan 2007

The City of Ryde is preparing a new cycle plan for the LGA addressing commuter and recreational cycling. The plan should be referred to for cycle focussed recommendations, strategies and networks.

Western precinct of the study area (west of Kissing point)

- Generally gentle topography.
- Foreshore pathway of width sufficient for shared pedestrian and cycle access.
- Linking large scale parklands including Meadowbank Park, Setllers Park and Kissing Point Pk.
- Poor connection west to Parramatta route.

Eastern precinct of the study area (east of Kissing Point)

- Areas of steep topography.
- Cycle access mostly on road / limits user range.
- Walking trails located in parks with difficult topography and dense bushland.

Public Transport Access and Connections

The study area is well served by public transport routes. These are important to the River Walk in establishing regional connections that allow flexibility of use in recreation patterns as well as important in encouraging commuter use for public transport / cycle / walking modal combinations.

Railway Access

- Northern railway line - connection to the CBD and Strathfield transport nodes
- Trail loops need to connect to encourage this eg. trails between Meadowbank and Homebush Bay

Ferry Access

- Connections east and west
- Trail loops need to connect to encourage this eg. trails focused along both sides of the Parramatta River

Putney Punt

- Connections across Parramatta River
- Facilitates trail loops involving connection to Public Transport stops

Connection To Facilities and Land Uses

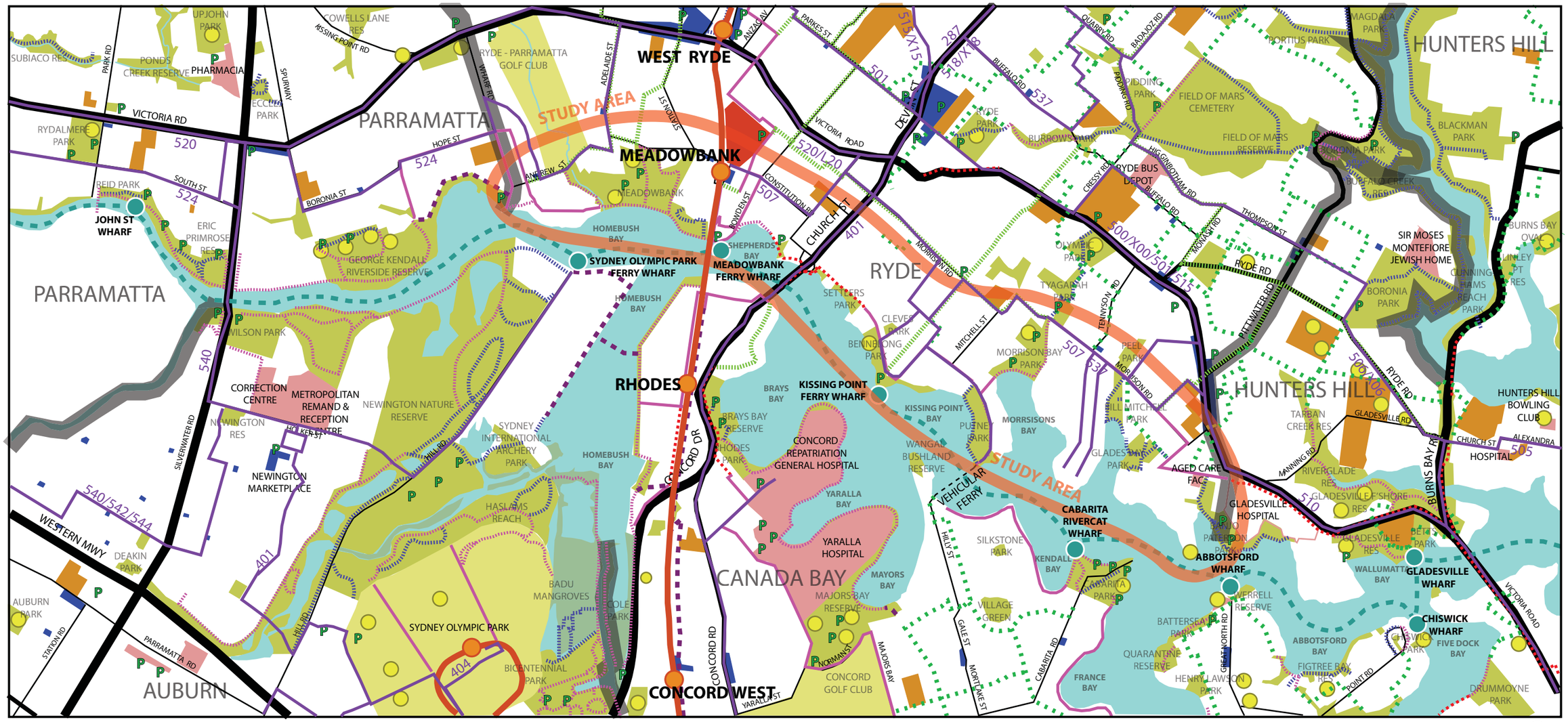
The connection to surrounding land uses is important in increasing the effective benefits to the local residents through increasing recreation use as well as establishing walking and cycling as alternative transport to these destinations.

- Urban Centres - shops used by recreation cyclists as well as encouraging cycling walking to shops
- Schools - encouraging student to cycle to school
- TAFE - encouraging local access
- Open Space / Recreation - encouraging local access and connection between parks

Health And Community Programs

Programs for public health encourage participation in a variety of recreation possibilities for physical and social well being. The potential for the River Walk is to link into programs and initiatives in realising the connection between public domain improvements and increasing accessibility and user participation. Programs and groups may include:

- public health programs
- hospital and rehabilitation programs
- schools
- social groups / community groups / sports groups



PARKS
RECREATION AREA
URBAN CENTRES
SCHOOLS
SPECIAL PLACES
LGA BOUNDARY

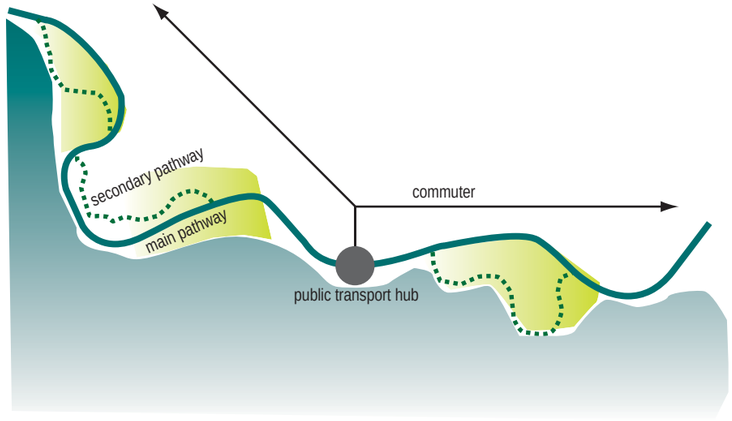
ROADS
TRAIN CONNECTION
FERRY CONNECTION
404 BUS CONNECTION
P P PARKING

EXISTING CYCLE ROUTES ON-ROAD (City of Ryde 2003, Sydway 2005)
EXISTING CYCLE ROUTES OFF-ROAD ON FOOTPATH (City of Ryde 2003, Sydway 2005)
EXISTING CYCLE ROUTES OFF-ROAD IN PARK (City of Ryde 2003, Sydway 2005)
UNMARKED USEFUL CYCLE ROUTES (City of Ryde 2003)
BIKE-IT-ROUTES (Sydney Bike-it! Guide 2005)
EXISTING WALKING TRAILS (City of Ryde 2003, Sydway 2005)
PROPOSED CYCLE ROUTES

BUSROUTES
278 RYDE - MILSONS POINT
401 SYDNEY OLYMPIC PARK - LIDCOMBE
404 OLYMPIC PARK STATION - LIDCOMBE
458 RYDE - BURWOOD
459 RYDE - STRATHFIELD
461/501 RYDE - CITY
500/506/507/510/515/520 RYDE - CIRQULAR QUAY
502/505/508 RYDE - DRUMMOYNE
540 5420 5440 RYDE - AUBURN
520 523 524 RYDE - PARRAMATTA
534 RYDE - CHATSWOOD

250m 500m 750m 1000m 2000m

Figure 4
Ryde River Walk Study Area and Context
Existing cycle and walking trail provisions, access, connections and social infrastructure



Indicative Diagram of the River Walk trail system
The main pathway links parks, transport hubs and commuter routes.
Minor paths run concurrently to provide a diverse walking experience and access to sensitive areas.

Existing shared path past mangroves in Meadowbank Park

Kissing Point Bay

Banjo Paterson Park

Helene Park, Meadowbank

View to Ryde Bridge

Putney Park

2.0 OBJECTIVES FOR THE TRAIL

2.1 PROVIDING FOR A RANGE OF USERS

One of the main aims of the River Walk as a regional recreation trail is encourage a wide range of recreation users in terms of age, fitness and physical ability. This is to be achieved through establishing flexible and diverse recreation provisions. There are however, some inherent conflicts between some user groups such as commuter cyclists, high speed recreation cycling / walking / jogging, and slow speed walking. User groups have different expectations and ways of using the trail infrastructure in terms of speed, connections and compatibility.

Commuter and Long Distance Recreation Use

Considerations for commuter cyclists include:

- ability to travel at relatively fast and consistent speeds 30 km/hr +,
- routes to be well lit, to enable night use,
- connection to transport hubs for access to work,
- connection to urban facilities such as shops,
- prefer less interaction and conflict with slow speed walkers and gathering areas,
- are tolerant and confident of travelling on road conditions, providing that provisions for on-road cycling are adequate.

High Speed Recreation Use

Considerations for major recreational paths:

- preference for consistent cycling speeds of up to 20 km/hr as well as jogging,
- heavy and concurrent use provides some congestion between users and therefore reduced speed,
- routes to be well lit, to enable night use,
- connection to transport hubs for regional access,
- connection to urban facilities such as shops,
- rest stops with water and toilets.

Low Speed Recreation Use

Considerations for recreational paths:

- allowance for a variety of walking speeds, ages and recreation abilities,
- regular rest spots with seating, shelter and facilities,
- path widths to allow groups walking together,
- potential for greater variety in path experience with topography, layout of path, and materials

The River Walk will provide for a variety of recreation users and this will be achieved through a variety of recreation pathways in different areas. The pathway condition will not be the same all the way along the route. At times the recreation users will be combined into a wide shared path system, and at times will be separated into different paths for different types of users. These different typologies will be informed by landscape setting, topography and expected use rates, with the overarching emphasis on highlighting the River experience.

2.2 INTEGRATING THE TRAIL INTO THE PLACE

Linking the Existing Park Network

The River Walk will provide enhanced connections between the existing network of parks along the foreshore in Ryde. These parks have existing recreation uses including a variety of sports fields and internal path systems. The River Walk route links into these existing pathway systems, provides enhanced entries into parks, and raises opportunities for improvements to the internal loop paths for recreation purposes.

The park systems are not contiguous along the foreshore, which requires the River Walk to negotiate between park, street and footpath conditions. The route selection develops off-road paths as much as possible, whether this be through parks, or on footpaths. On road connections are considered appropriate where streets are of a quiet, slow speed condition. Footpaths are to be of adequate width for increased pedestrian use in these areas.

Revealing the Landscape Character / Sensitive Integration

In recognition of the River Walk passing through a variety of types of parks, the detailed planning of the route aims to sensitively integrate the paths into the park settings. The integration into the parks will influence:

- how wide the paths should be, and whether the paths should be separated to disperse users,

- whether a variety of paths would be appropriate for providing cycle recreation, walking and jogging options,
- the use of a variety of materials, and selection of materials that are responsive to the immediate context,
- where 'slow speed' pathways should be developed,
- where moments of quietness and reflection are possible such as bushland and waterfront areas.

Variety of Experiences

The River Walk value the variety of experiences along the route created by

- parks with different scale and character,
- streets with architectural and historic interest,
- identifying areas of cultural importance,
- variety of land and water interfaces,
- topography providing different recreation challenges,
- views to water that change according to topography.

2.3 PUBLIC ART

In parallel to the objectives of access and recreation for the River Walk, this study establishes a strategy for public art along the route. The content of the public art has a strong focus on both:

- the social history of the area due to the significance of the Parramatta River for the indigenous people and in the development of the settlement of Sydney, as well as
- the natural environment due to the ecological significance of the river, mangroves and changes in the estuarine landscape in the past, present and future.

The opportunities for public art along the Walk are to increase appreciation, awareness, understanding, challenge and reveal qualities of the local environment through responsiveness to landscape, environment, people and histories. Potential for art include:

- gateway and iconic - contributes to the identity of the place and operates at the scale of River
- historic interpretation - reflective and responsive to the layers and stories of the local area
- site responsive - integrated into the landscape, revealing understanding of the place
- ecological - increases awareness and understanding of the relationships of flora, fauna and habitat
- event based and temporary - cultural festivals and events

Refer to Section for the Art Strategy.

2.4 INTERPRETATION

Interpretation of the local area histories is most relevant when undertaken in the appropriate context. The River Walk provides the opportunity to interpret the story of the Parramatta River through a variety of themes. A further heritage and interpretation study shoud be undertaken for whole of the foreshore area. This research may also inform the content of relevant Public Art works, with potential collaboration between heritage interpretation and public art consultancies to develop engaging and informative installations.

Heritage Interpretation methods along the River Walk may include:

- Signage and wayfinding: Interpretation can occur along the route with signage, information panels.
- Information Packages: Information can be made available to visitors interested to undertake self-guided walks. Information can be made available through Council offices, libraries and through relevant internet sites.

The Master Plan

3.0 PLANNING THE ROUTE

3.1 THE OVERALL ROUTE

The land and water relationship in Ryde LGA varies considerably due to geology and landform. The western study area has generally gentle undulating slopes with wide bays fronting the river. The eastern study area has a more convoluted landform with steep ridges extending to the river.

The experience of the River Walk route in the western section is largely at the lower levels, whilst the experience of the route in the eastern section is more varied, requiring climbing over ridges, affording views down to the water and along the river.

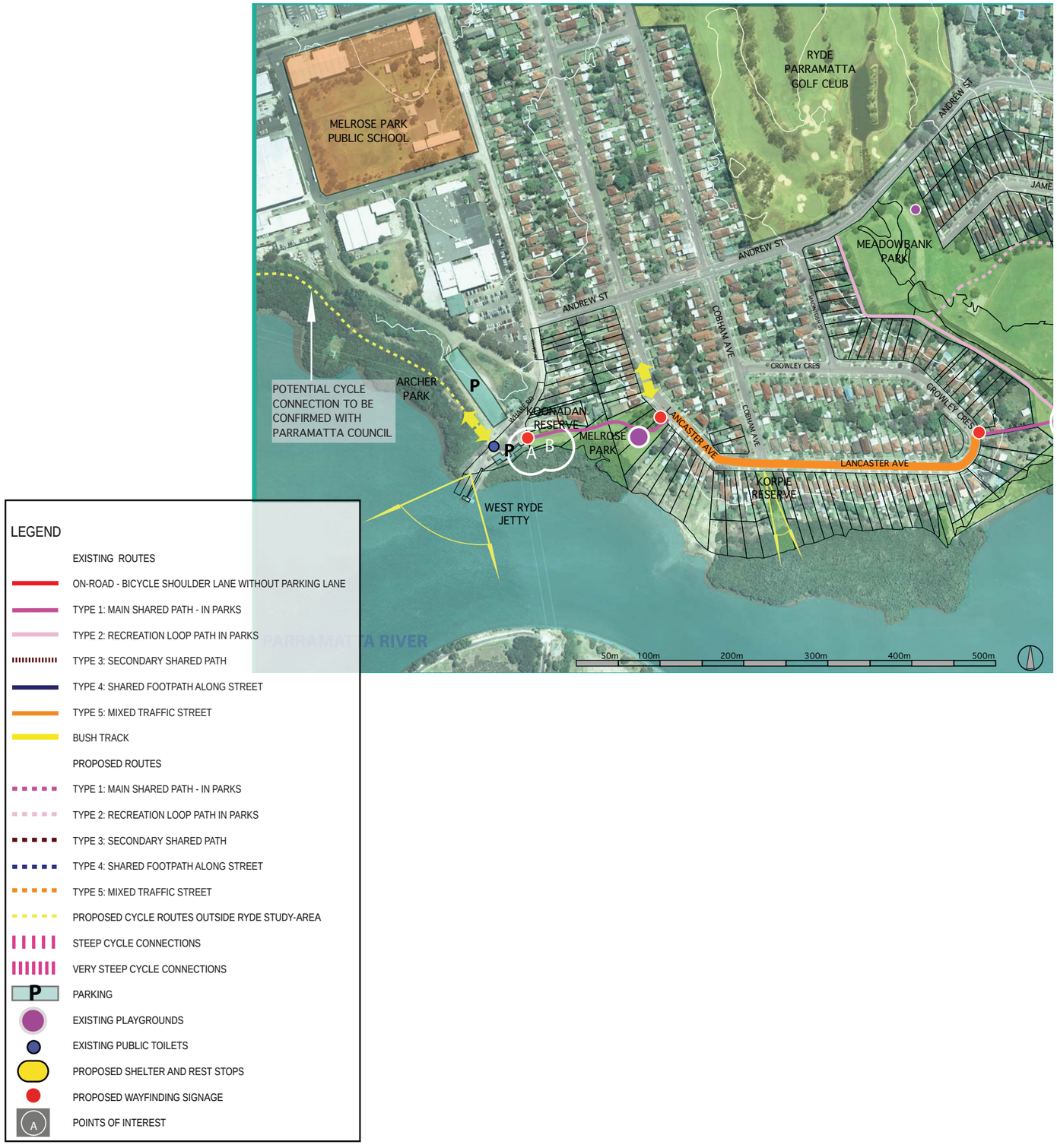
The pattern of open space along the foreshore edge also varies due to the landform and the histories of filling bays as well as former land uses located on the water which are now public parks. The Figure below indicates the relationship between landform, street pattern and open space along vicinity of the foreshore.

Trail Typologies

The pathways are described as a number of typologies based on use and form. The typologies include:

Type 1	Main shared path	2.5 - 3.5m wide	Main route off-road located within parks
Type 2	Shared loop path	2.0 - 2.5m wide	Secondary route, located within parks
Type 3	Secondary shared path	2.0m average	Highly varied, interpretive pathways
Type 4	Segregated footpath	2.5m min total	Along footpaths with high usage
Type 5	Mixed Traffic street	1.5m min footpath	Cycle use on quiet streets

Ryde River Walk Study Area Topography and Street Structure
Main Route and Open space areas indicated.



LEGEND

- EXISTING ROUTES
- ON-ROAD - BICYCLE SHOULDER LANE WITHOUT PARKING LANE
- TYPE 1: MAIN SHARED PATH - IN PARKS
- TYPE 2: RECREATION LOOP PATH IN PARKS
- TYPE 3: SECONDARY SHARED PATH
- TYPE 4: SHARED FOOTPATH ALONG STREET
- TYPE 5: MIXED TRAFFIC STREET
- BUSH TRACK
- PROPOSED ROUTES
- TYPE 1: MAIN SHARED PATH - IN PARKS
- TYPE 2: RECREATION LOOP PATH IN PARKS
- TYPE 3: SECONDARY SHARED PATH
- TYPE 4: SHARED FOOTPATH ALONG STREET
- TYPE 5: MIXED TRAFFIC STREET
- PROPOSED CYCLE ROUTES OUTSIDE RYDE STUDY-AREA
- STEEP CYCLE CONNECTIONS
- VERY STEEP CYCLE CONNECTIONS
- P PARKING
- EXISTING PLAYGROUNDS
- EXISTING PUBLIC TOILETS
- PROPOSED SHELTER AND REST STOPS
- PROPOSED WAYFINDING SIGNAGE
- A POINTS OF INTEREST

3.2 PRECINCT 1: WHARF RD TO LANCASTER AVE

Landscape Appreciation

- Parkland dominated by dense mangroves at edge
- Limited views, limited visual connection to the river
- First view of water when heading from the west
- Access and experience predominately on-road, through car park

Trail Provisions

- Marked cycleway through Melrose Park
- On road cycleway on Lancaster Ave. Quiet street with limited traffic.
- Laneway link to Meadowbank Park

Facilities / Amenities

- Wharf & boating facilities
- Toilet facilities at boat ramp area
- Parking facilities

Connections

- Melrose Park Public School
- Potential for improved temporary connection west through 'Reckitt Benckies' industrial site
- Future foreshore connection in Parramatta LGA west to George Kendall Riverside Reserve

Public Art Opportunities

A Route marker

B Saltmarsh area – potential environmental interpretation

3.3 PRECINCT 2: - MEADOWBANK PARK TO RHODES BRIDGE

Landscape Appreciation

- West Entry – along culvert, closed pathways from Andrew st, connects to foreshore pathway, secluded
- Main foreshore path – dense mangroves, key areas where views open up to the south, views north over sports fields, wire fences separate path from sports fields
- Movement through Meadowbank park – pathways through open grassed areas, over bridges etc, loop back to main pathway- also closer to the bridge, steeper topography, some remnant bushland, opens up, good views to the water and bridge : open, very much part of the park
- Memorial Park offers shaded and secluded park experience with water glimpses
- Views to Homebush Bay

Trail Provisions

- Continuous foreshore cycleway between sports fields and mangroves
- Develop Loop recreational paths
- Potential mangrove boardwalk

Facilities / Amenities

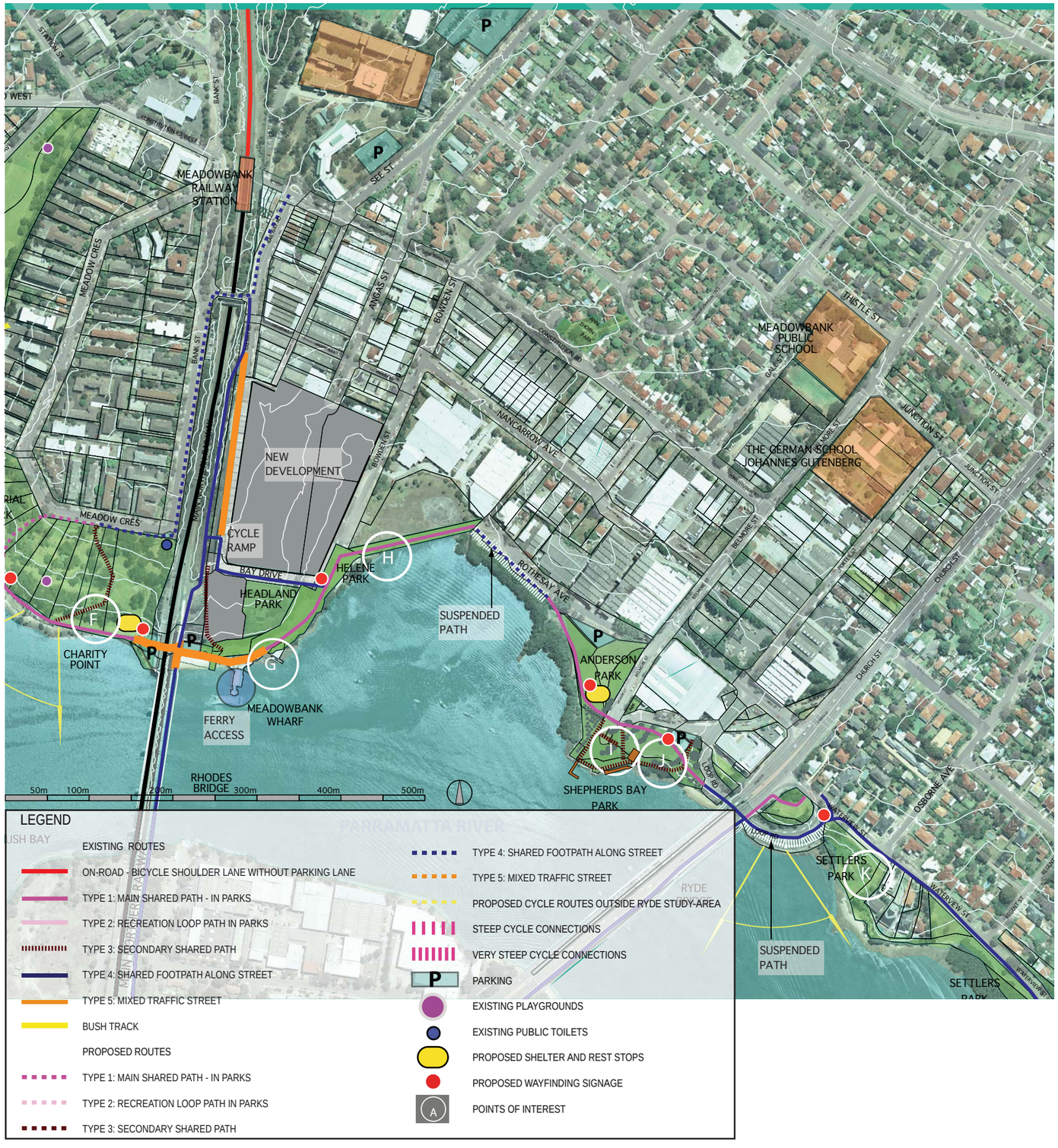
- Structured sporting – fields, amenities
- Toilet facilities
- Playgrounds
- Sheltered picnic and BBQ facilities in Memorial Park

Connections

- Potential long distance connections along channels to Ryde – golfcourse connections, consider ‘restoring the waters’ approach for key drainage channels that may improve connections between pathway system and park
- Through Memorial Park to Meadowbank Station

Public Art Opportunities

C Potential rehabilitation of stormwater channel - interpret urban habitat values
D Mangroves - habitat value and environmental rehabilitation
E Meadowbank Baths - former location of recreation destination
F Iconic marker



3.4 PRECINCT 3: - RHODES BRIDGE TO RYDE BRIDGE

Landscape Appreciation

- Very open, level transit, good visual connection to water – potentially fast speed cycle connection
- Waterpoint development – new high density development – important connection to Ryde bridge cycleway
- Shepherds Bay new park - level, open, no remnant vegetation

Trail Provisions

- Connection to Rhodes Bridge - major north-south cycle route, connection to Rhodes and Homebush Bay across Parramatta River
- Continuous cycleway off-road pathway
- Connection to Ryde Bridge

Facilities / Amenities

- Ferry access - Meadowbank
- Bicycle Lockers near ferry wharf
- Access to Meadowbank urban centre
- Water access point at Shepherds Bay

Connections

- Key entry point to the route –good connections to railway and bridge, ferry etc
- Interpretation and information on regional cycle connections, transit times, topography, public transport connections etc
- Enhance connection to Meadowbank urban centre and TAFE

Public Art Opportunities

G Ferry and river use - Parramatta River as a vital transport route in the early settlement
H Row boat ferry service from 1794
I Route Marker
J Location of Ryde Wharf and fomer punt

3.5 PRECINCT 4: - RYDE BRIDGE TO KISSING POINT PARK

Landscape Appreciation

- Consistent, gentle slope from Waterview crescent parklands down to water. Good visual connection to water
- Well-established trees in both parks – mainly open grassed areas with groups of trees
- Potentially fast speed cycle connection – some existing footpath cycleway, breaks across private properties and forces cycles onto roads. Meanders through some parts of the parks.
- Panoramic views across to Yaralla House from KPP
- Pleasant, well-protected, sheltered area

Trail Provisions

- Existing off-road (footpath) cycleway along part of Waterview St
- Existing on-road cycle route along Waterview St and Delange Rd in Kissing Point Park precinct
- Proposed continuation of path along Waterview St within Kissing Point Park
- Proposed slow speed path along foreshore edge
- Path options along Delange Rd or Chadwick St

Facilities / Amenities

- Ferry access - Kissing Point
- Toilet facilities
- BBQs, picnic areas
- Playgrounds
- Cycle lockup area at Ferry wharf
- Water access identified in SHHAP at ADI development site

Connections

- Good 'rest-point' along system - aspect, facilities and amenities support this
- Charles Street commuter route
- Need to investigate future use of the ADI site for access issues

Public Art Opportunities

K Route Marker
L Bennelong - burial nearby and friendship to James Squire
M Interpretive trail
N James Squire - Malting Shovel first brewery for the Colony. Stop over point for ferry and travellers
O Ferry and boating activity
P Route Marker
Q Boat building - Iconic marker

LEGEND

- EXISTING ROUTES
- ON-ROAD - BICYCLE SHOULDER LANE WITHOUT PARKING LANE
- TYPE 1: MAIN SHARED PATH - IN PARKS
- TYPE 2: RECREATION LOOP PATH IN PARKS
- TYPE 3: SECONDARY SHARED PATH
- TYPE 4: SHARED FOOTPATH ALONG STREET
- TYPE 5: MIXED TRAFFIC STREET
- BUSH TRACK
- PROPOSED ROUTES
- TYPE 1: MAIN SHARED PATH - IN PARKS
- TYPE 2: RECREATION LOOP PATH IN PARKS
- TYPE 3: SECONDARY SHARED PATH
- TYPE 4: SHARED FOOTPATH ALONG STREET
- TYPE 5: MIXED TRAFFIC STREET
- PROPOSED CYCLE ROUTES OUTSIDE RYDE STUDY-AREA
- STEEP CYCLE CONNECTIONS
- VERY STEEP CYCLE CONNECTIONS
- P PARKING
- EXISTING PLAYGROUNDS
- EXISTING PUBLIC TOILETS
- PROPOSED SHELTER AND REST STOPS
- PROPOSED WAYFINDING SIGNAGE
- A POINTS OF INTEREST

3.6 PRECINCT 5: - KISSING POINT PARK TO PUTNEY PARK

Landscape Appreciation

- Local streets, low-key off road connections adjacent to private properties from Delange to Pellisier Place
- Harbour beach/foreshore area to Putney Park - gently sloping, good connections to water, good views and aspect
- Putney Park – regional park – well-vegetated, varying topography, circuit to punt and back to Pellisier road

Trail Provisions

- Pelliser Rd on road cycle route.
- Internal recreation loop trails for recreation use. Connection to existing regional recreation facility.
- Jetty Rd - gentle gradient down to Morrisons Bay Park
- Access to Putney Punt for River crossing

Facilities / Amenities

- Toilet facilities
- BBQs, picnic areas
- Playground (regional)
- Punt connection for vehicles and cycles

Connections

- Kissing Point Bay missing connection in foreshore access. Potential connection identified in SHHAP.
- Enhance connections to southern end of point - punt access.

Public Art Opportunities

R Rowing course - international event

S Fishing - living on the river

3.7 PRECINCT 6: - MORRISONS BAY PARK TO GLADES BAY PARK

Landscape Appreciation

- Parks located in the previously filled bays
- Open and level ground, good aspect over water, easy walk and cycle through.
- Local street connections to parks – steep but short
- Glades Bay Park – pocket of remnant bushland – scenic with Wallaba walking trails, unique secluded area

Trail Provisions

- Cycle paths through Morrisons Bay Park. Enhance recreation loop path system
- On road cycle routes along Morrison Rd. Cycle route in parking lane. Busy traffic street.
- Alternate path routes on street Teemer Street - more direct, or
- On road route through Bayview, Beach, Tennyson, Champion Streets with interpretation focus
- Shared footpath link between Western and Champion Rd along Morrison Rd

Facilities / Amenities

- Morrisons Bay Park – sports facilities
- Pigeon Club – Bill Mitchell Park

Connections

- North from Morrson Bay Park to Tyagarah Park through open space corridor
- Access to Bill Mitchell Park for increased accessibility
- Alternate route between Bill Mitchell and Glades Bay Parks along foreshore for walkers only
- Cantilevered platform/boardwalk desirable at harbour edge of GBP - Desirable future connection if can be achieved

Public Art Opportunities

T Route marker

U Contemporary response to Aboriginal rock carvings in the area

3.8 PRECINCT 7: - GLADES BAY PARK TO BEDLAM BAY

Landscape Appreciation

- Street connections set back from foreshore edge. Shallow to reasonably steep in sections.
- Looking Glass and Banjo Paterson Park – some areas level, some increasingly sloped, good vegetation cover, establish trees, very scenic with glimpses to water.
- Picnic areas in grassed, sheltered positions amongst trees.

Trail Provisions

- On road cycle route along Ashburn. Constrained street width with parking and traffic.
- Pathway along rear of Glades Bay Park
- Alternate route York St to Ashburn St, or
- Minor path through Glades Bay Park.
- On road alternate route through Delmar, Pile and Wharf Rd
- Widen footpath along Ashburn for off-road cycle route.
- Walking paths located in Looking Glass and Banjo Paterson Park.
- Connection to Bedlam Bay walking trail (National Parks).

Facilities / Amenities

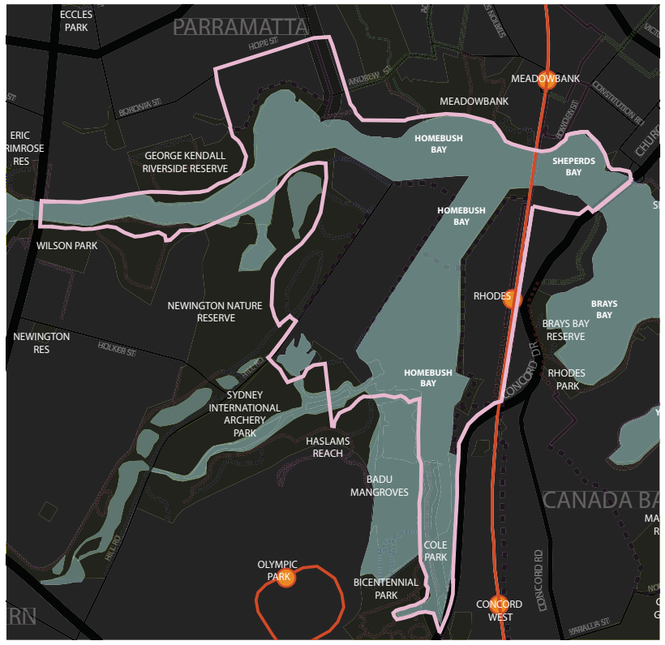
- Picnic and BBQ facilities in Banjo Paterson Park
- Car parking

Connections

- Punt Rd connection between the existing cycle route along the ridge and Banjo Paterson Park.
- Potential future connection through Gladesville Hospital. Links to parks and Ferry Wharf.

Public Art Opportunities

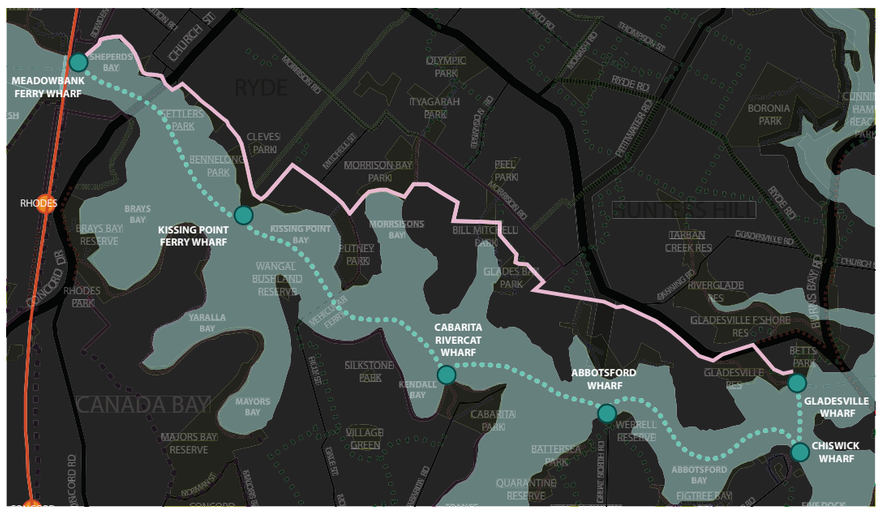
V Habitat values of the area
W Route marker
X Banjo Paterson - descriptions of the local area and life on the river



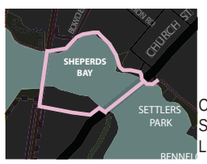
Circuit Trail
Meadowbank - Homebush Bay - Syd Olympic Park - Silverwater Rd - George Kendall Reserve
Linked to Railway Stations or Ferry Service

Circuit Trail
Meadowbank - Homebush Bay - Syd Olympic Park
Linked to Railway Station or Ferry Service

Circuit Trail
Kissing Point - Putney - Canada Bay
Linked to Punt Service



Circuit Trail
Meadowbank to Gladesville
Linked to Ferry Service



Circuit Trail
Shepherds Bay - Leeds St Rhodes
Linked to Bridge Crossings

3.9 LOCAL AREA CIRCUITS

The River Walk provides effective connections and linkages that enhance existing recreational provisions in the surrounding local areas, on either side of the River. The circuit systems options provide understanding as to how people may use the trails for recreation purposes. Cyclists may travel around 20km for a significant recreation experience, joggers may travel around 8km and walkers around 4km. Paths that can provide a return loop offer a more interesting travel experience for the recreation user.

The circuit paths illustrated are potential options for connecting circuits along the length of the river as well as across the river at different lengths. Factors that influence recreation circuits anchored from the River Walk include:

- Connection to Homebush Bay and Sydney Olympic Park as a well patronised cycle recreation destination.
- Sydney Olympic Park has been developed with a comprehensive public art and interpretation network which contributes to the River Walk public art program.
- The southern foreshore of the Parramatta River in the Canada Bay area is being established as an important recreation trail.
- The cycleway on Rhodes Bridge provides an effective crossing to the south side of the river and is located on a major north south cycle route.
- The railway stations in the local area provide an important entry point to the River Walk route. Meadowbank Station is an important entry point and allows users to reconnect to the rail service at Rhodes or Concord West as part of a recreation circuit route.
- The ferry wharves are located along the length of the river and provide opportunities for reconnection at a number of points, generating a variety of options for the recreation circuits.
- The punt service from Putney Park allows connection across the river (albeit restricted times), and facilitates access to the Canada Bay area.

Recreation Loop Path
Meadowbank Park

3.10 RECREATION LOOP PATHS

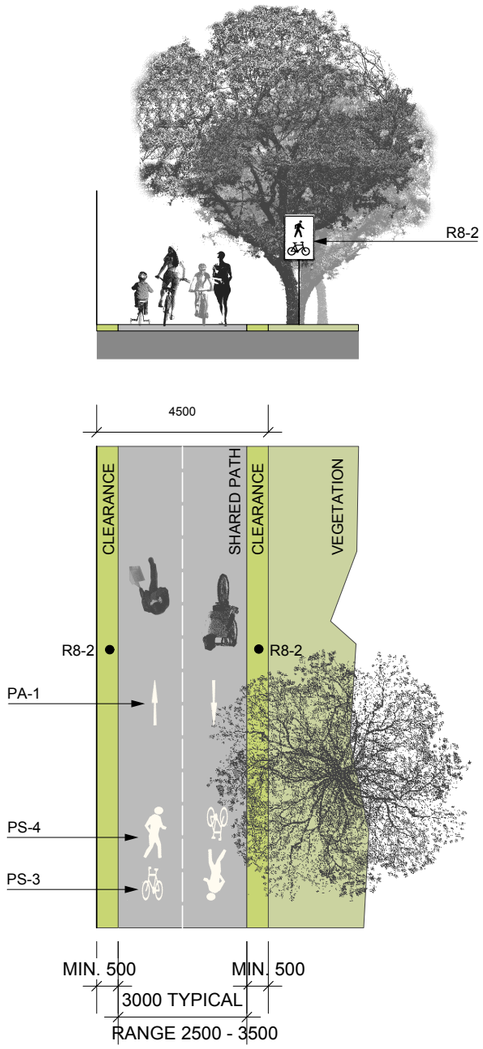
At a local recreation level, the River Walk can provide for internal recreation loop paths within the large parks on the foreshore. These paths should be seen as supporting the recreation provision of the existing parks, as well as providing diversions to places of interest along the River Walk route. The loop paths are well suited for children using the parks and learning to cycle, as well as for smaller walking and jogging routes.

Recreation Loop Path
Putney Park

Recreation Loop Path
Morrison Bay Park

Minor Recreation Loop Path
Bill Mitchell Park

Minor Recreation Loop Path
Banjo Paterson Park



TYPE 1:
MAIN SHARED CYCLE AND PEDESTRIAN PATH IN PARK

NOTE:
CLEARANCE TO WALLS,FENCES AND PLANTING.
LANE PAVEMENT SYMBOLS AND REGULATING SIGNS IN INTERVALS OF 75 M.

4.0 PATH TYPOLOGIES

4.1 TYPOLOGY 1: MAIN SHARED CYCLE AND PEDESTRIAN PATH - OFF ROAD

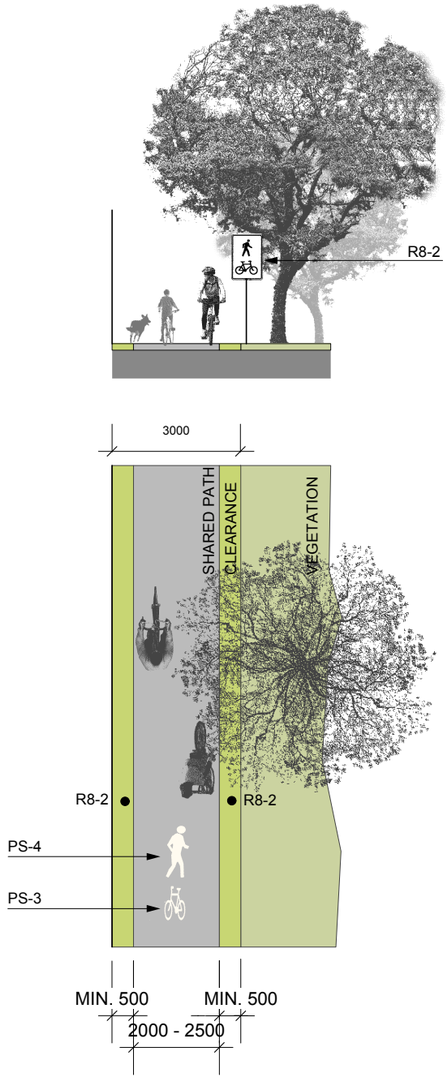
Use
- Main recreation and commuter pathway
- Adequate width and pavement quality for high use cycling and pedestrian shared use

Form
- New paths to be 3.5m width
- Existing paths of 2.5m width should be assessed for appropriateness
- Ensure clearances either side of path for passing of cycles and pedestrians in peak usage. If side clearances not achievable, then additional width may be required.
- Markings on path should reinforce the understanding of shared pedestrian and cycle use

Materials
- Concrete path
- Asphalt path with edging
- Crushed sandstone / decomposed granite: for additional widths to paths

Signage
- Divided path reinforces understanding of potential for high speed users
- Shared path symbols as per NSW Bicycle Guidelines including pavement markings and pole signs

Precedent Image of Main Pathway
Pathway used for commuting and recreation purposes with painted linemarkings (Swan River, Perth)



TYPE 2:
SHARED RECREATION LOOP PATH IN PARK

NOTE:
CLEARANCE TO WALLS,FENCES AND PLANTING.
LANE PAVEMENT SYMBOLS AND REGULATING SIGNS I
INTERVALS OF 75 M.

4.2 TYPOLOGY 2: SHARED RECREATION LOOP PATH IN PARKS

Use
- Subsidiary recreation pathway with connections to the main path route
- Internal path within parks for recreation use
- Adequate width and pavement quality for cycling and pedestrian shared use

Form
- New paths to be 2.5m width
- Existing paths of 2.0m width should be assessed for appropriateness
- Ensure clearances either side of path for passing of cycles and pedestrians in peak usage. If side clearances not achievable, then additional width may be required.
- Markings on path should clarify the shared pedestrian and cycle use, however need not be as dominant

Materials
- Concrete path
- Asphalt path with edging
- Crushed sandstone / decomposed granite: for additonal widths to paths

Signage
- Non-divided path to reinforce shared slow speed behaviour
- Shared path symbols as per NSW Bicycle Guidelines including pavement markings and pole signs

Precedent Image of Recreation Loop Pathway
Recreation pathway within parkland (Meadowbank Park, Ryde)

TYPE 3: OPTION A
SECONDARY SHARED PATH

SHARED PATH SIGNAGE AT ENTRIES TO PATH ONLY

TYPE 3: OPTION B
SECONDARY SHARED PATH

4.3 TYPOLOGY 3: SECONDARY SHARED PATHWAY - INTERPRETIVE TRAIL

Use

- Subsidiary recreation pathway with connections to the main path
- Slow speed path that has a pedestrian focus, however still allows cycle use
- Adequate width and pavement quality for cycling and pedestrian shared use
- Integrated to park setting

Form

- Varied widths according to the design of the park, with an average minimum width 2.0m and 1.5m at pinch points at restricted areas.
- Rest stops, seating areas and plaza spaces are located along the length of the path.
- The horizontal alignment of the path is varied to reinforce pedestrian walking speed. Viewing distances to be ensured for cycle and pedestrian safety.
- Grade and finish of the path ensure accessibility.
- Ensure clearances either side of path for passing of cycles and pedestrians in peak usage. If side clearances not achievable, then additional width may be required.

Materials

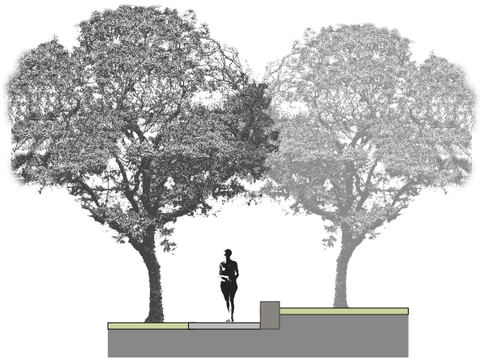
- Potential for variety of pavement surfaces, whilst still ensuring general accessibility along the pathway.
- Concrete path
- Asphalt path with edging
- Concrete detail treatments
- Crushed sandstone / decomposed granite
- Sandstone / unit pavement
- Artworks integrated with pavement

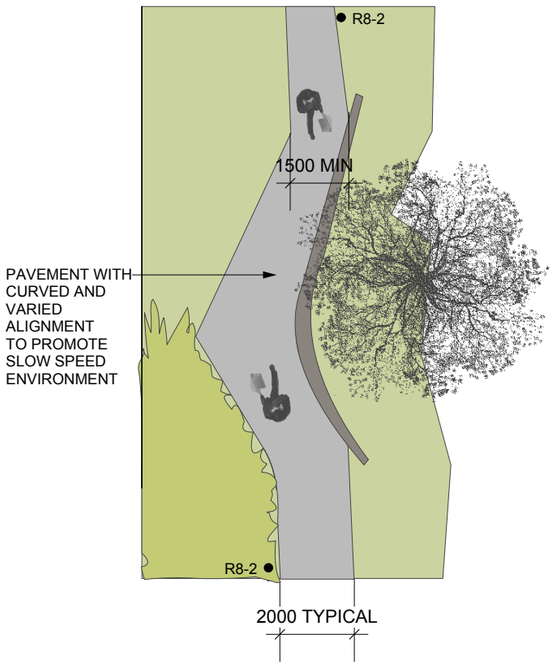
Signage

- Non marked path to reinforce shared slow speed behaviour
- Shared path symbols as per NSW Bicycle Guidelines using pole signs at path entry only

Precedent Image of Secondary Pathway
Narrow meandering pathway within parkland (Glades Bay Park, Ryde)

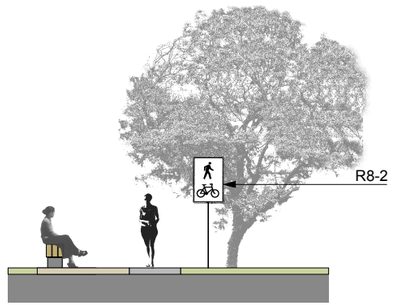
Precedent Image of Secondary Pathway - Interpretive Path
Pathway with integrated art - text bands (Botanic Gardens Perth).

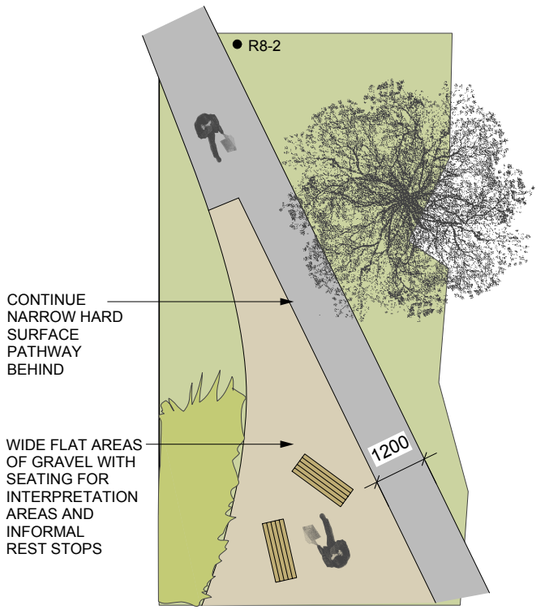




TYPE 3: OPTION C
SECONDARY SHARED PATH

SHARED PATH SIGNAGE AT ENTRIES TO PATH ONLY





TYPE 3: OPTION D
SECONDARY SHARED PATH

SHARED PATH SIGNAGE AT ENTRIES TO PATH ONLY

Precedent Image of Secondary Pathway - Interpretive Path
Pathway with artworks and historic interpretive information set in gravel alongside the pathway (William Harvey Reserve - Phillips Marler with Jane Cavanough).

Precedent Image of Secondary Pathway - Boardwalk
Boardwalk sections along secondary pathway to access areas of sensitive environment (West Syd Regional Park - Govt Arch Office).

Precedent Image of Secondary Pathway - Gathering Area
Widened pavement with seating and interpretation opportunities. (Swan River, Perth).

4.4 TYPOLOGY 4: OFF ROAD - SEGREGATED FOOTPATH

Use

- Pathway located on footpath in key connections along the main recreation and commuter route where unfavourable traffic conditions otherwise impact the use,
- Pedestrian and cycle use separated to allow cyclists to be located furthest distance from driveway entries due to potential conflict

Form

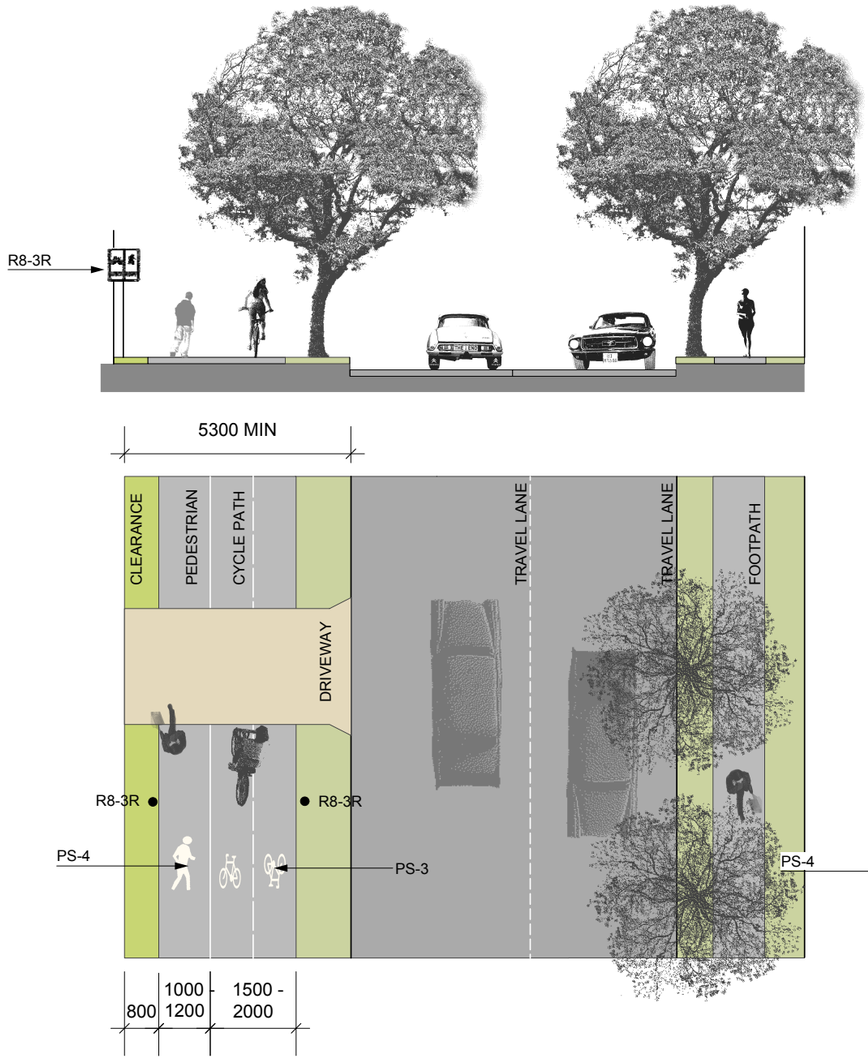
- Minimum 1.5m cycle path (1.0m width in Ashburn Place due to width constraints) and,
- Minimum 1.0m pedestrian path
- Change of pavement material at driveway locations to private property
- Clearance on road edge where car parking on street to allow door opening

Materials

- Concrete path
- Asphalt path with edging

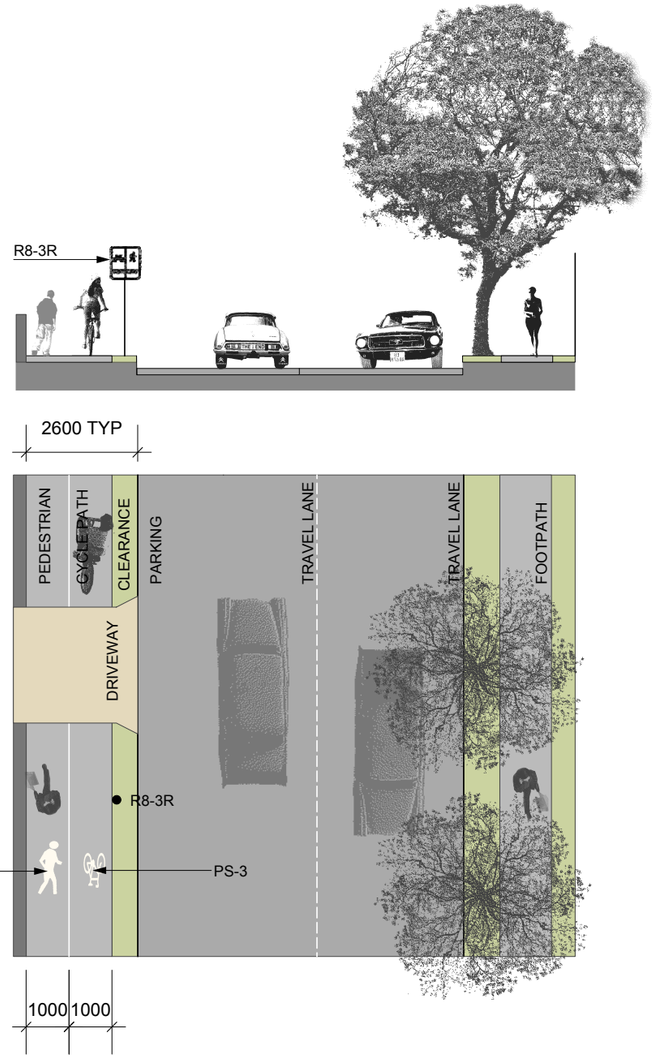
Signage

- Segregated path signage as per NSW Bicycle Guidelines including pavement markings and pole signs



TYPE 4: MORRISON ROAD / DELANGE ROAD
OFF ROAD - SEGREGATED FOOTPATH

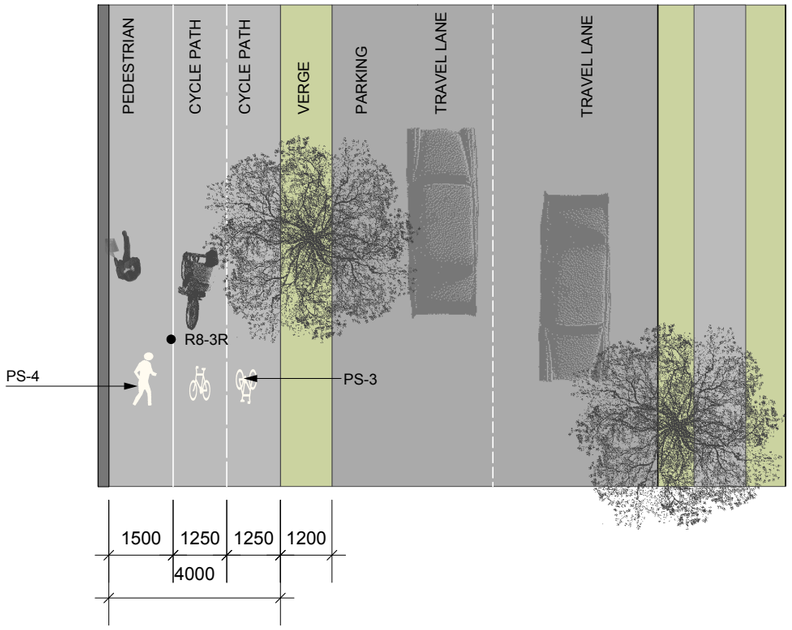
NOTE:
LANE PAVEMENT SYMBOLS AND REGULATING SIGNS IN INTERVALS OF 75 M.



TYPE 4: ASHBURN ROAD
OFF ROAD - SEGREGATED FOOTPATH

NOTE:
LANE PAVEMENT SYMBOLS AND REGULATING SIGNS IN INTERVALS OF 75 M.

Precedent Image of Segregated Footpath
Defined pedestrian and cycle lanes within path to reduce conflict in key areas. (Canada Bay Trail).



SEGREGATED FOOTPATH - ALONG STREET
SUSPENDED PAVEMENT

NOTE:
LANE PAVEMENT SYMBOLS AND REGULATING SIGNS IN INTERVALS OF 75 M.

4.4 TYPOLOGY 4b: OFF ROAD - SEGREGATED FOOTPATH - SUSPENDED PAVEMENT

Use

- Main recreation and commuter pathway located on footpath
- Footpath on steep sloping road verge requiring suspended pavement to achieve adequate widths
- Location of suspended paths (such as Loop Rd) have views over water. Path width to be adequate to allow pedestrians to stop and watch, or provide viewing deck areas along the pathway.
- Pedestrian and cycle use separated to allow pedestrians or cyclists to stop and watch the view out of the flow of cycle movement.

Form

- Paths to be 4.0m width total
- Minimum 2.5m width cycle path (2-way)
- Minimum 1.5m width pedestrian

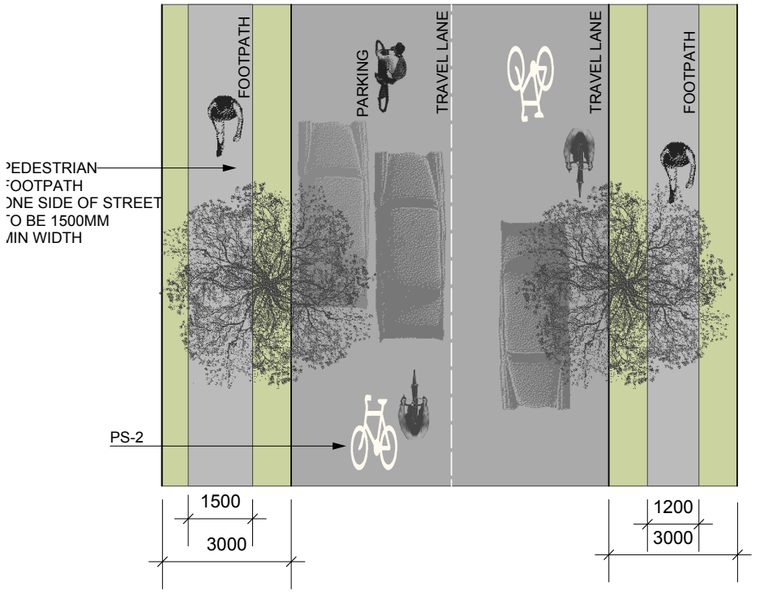
Materials

- Concrete 'bond deck' with topping to match pathway in connecting pathways

Signage

- Segregated path signage as per NSW Bicycle Guidelines including pavement markings and pole signs

Precedent Image of Suspended Pavement
Elevated concrete pavement on road verge to maintain consistent pathway widths. (Canada Bay Trail).



TYPE 5
ON ROAD - MIXED TRAFFIC STREET (TIGHT PROFILE, QUIET STREET)

NOTE:
PREFERRED ONLY FOR DISTANCES UP TO 300M. OPERATING SPEEDS AT OR BELOW 40 KM/H.

LANE PAVEMENT SYMBOLS AND REGULATING SIGNS IN INTERVALS OF 75 M.

4.5 TYPOLOGY 5: MIXED TRAFFIC STREET

Use
- Quiet residential streets where cyclists can be accommodated on the road pavement
- Pedestrians and children (under age of 12) cyclists the footpaths

Form
- Cyclists share travel lane with cars (road pavement width generally not sufficient width for marked cycle lanes)
- New pedestrian path to be 1.5m width
- Existing pedestrian path to be minimum 1.2m width and assessed for appropriateness

Materials
- Concrete path to Council standard

Signage
- Painted pavement symbols as per NSW Bicycle Guidelines
- Note: Children up to 12 years of age and accompanying adults are permitted to use footpaths. No signage needed.

Precedent Image of Mixed Traffic Street
Cyclists travel on quiet streets with pedestrian and children cyclists on footpath (Meadowbank area).

Concrete Pathway
Standard plain concrete pathway with line marking (George Kendall Reserve Parramatta).

Asphalt Pavement
Coloured asphalt cycleway with concrete edging and line marking (Swan River Perth).

Unit Pavement
Concrete unit pavement used to define threshold to car park and high use pedestrian area (Swan River Perth).

Unit Pavement
Sandstone pavement to define threshold to secondary pathway.

Unit Pavement
Porphyrystone pavement to define separation of seating area off the recreation pathway.

Detail Concrete Treatment
Colour and texture to in-situ concrete pavement (Botanic Gardens Perth).

Detail Concrete Treatment
Colour and texture to in-situ concrete along interpretive pathway.

Detail Concrete Treatment
Colour and texture to in-situ concrete with shot blast patterns for habitat based artworks (Roma St Parklands Brisbane).

Suspended Concrete Pavement
Concrete pavement elevated on pier footings to maintain level of footpath in an area otherwise restricted due to embankment (Canada Bay Trail).

5.0 DETAIL CONSIDERATIONS

5.1 MATERIALS AND FINISHES

Pavements

Concrete

Concrete pathways are a durable material, suitable for high volume use and a variety of recreation users. Constriction techniques should seek to minimise excessive joints, which can be problematic for in-line skaters and some cyclists. The concrete can be coloured if desirable and for detailed areas.

- Advantages: Strength and durability.
- Disadvantages: Marginal additional cost up front.
- Recommended for: Main pathways, recreation loop paths, secondary paths .

Asphalt

Asphalt pavements are also suitable for high volume areas and for a variety of recreation users. Preferred by some cyclists and skaters as a smoother finish. The asphalt can be coloured if desirable.

- Advantages: Marginal cost benefit up front.
  Ability to patch and repair.
  May be more appropriate for areas of subsidence.
  Low reflectivity
- Disadvantages: Less durable in the long term.
  Susceptible to uplift and damage from tree roots.
  Edges become unstable without proper edging.
- Recommended for: Main pathways, recreation loop paths, secondary paths where no damage likely from tree roots.

Detailed Concrete Treatments

Selected areas can be enhanced with colour and texture, whilst maintaining the strength and durability of concrete.

There are opportunities for integrated details, art works, textures.

- Advantages: Flexibility and diversity of finishes.
  Strength and durability.
- Disadvantages: Marginal additional cost up front.
  Specialist installation
- Recommended for: Secondary paths and interpretive trails.

Unit Pavements

Selected areas can be enhanced with colour and texture, whilst maintaining the strength and durability. Unit pavements include natural stone and concrete. There are opportunities for varying materials use integrated details, art works, and textures. A change in materials and surface texture can be used to indicate a change in recreation path type from high speed to slow speed environments or to signal intersections.

- Advantages: Highlight pavement to special areas
- Disadvantages: Proper installation required in order to prevent settlement and rough joints
  Marginal additional cost up front
- Recommended for: Selected areas on secondary paths and interpretive trail

Suspended Concrete Pavement

Suspended concrete pavement is valuable for achieving pathways with consistent widths and surface finishes to adjacent pathways in areas with restricted width.

- Advantages: Achieves a contiguous and cohesive path surface finish
- Disadvantages: High cost and difficult construction
- Recommended for: Main pathway located on embankment

Timber Boardwalk
Elevated boardwalk through rehabilitated wetland environment (Swan River Perth).

Gravel Pavement
Stabilised decomposed granite provides additional trafficable area along main pathway (Meadowbank, Ryde)

Park Seating and Benches
Standard park furniture designed for comfort and ease of maintenance and replacement.

Custom Seating
Simple large scale timbers reflect maritime heritage of the area (Bedlam Bay Interpretive Trail)

Custom Seating
Sandstone blocks define an informal rest stop along recreation pathway and integrate to pavement materials (Castle Hill Heritage Park).

Custom Seating
Custom concrete seats integrated to colour, pavement and form of the riverside promenade (New Farm Waterfront, Brisbane River)

Boardwalks and Decking
Boardwalks are valuable in allowing access through sensitive environments such as water edges and bushland areas. Boardwalks may be constructed with timber, precast concrete sleepers, recycles plastic decking or steel mesh.

- Advantages: Access to special areas where standard pathway construction would cause undue disturbance.
- Disadvantages: Decking materials can be slippery for cyclists.
  High cost for installation
  Maintenance required
- Recommended for: Selected areas on secondary paths and interpretive trail.

Gravel
Stabilised gravel such as crushed sandstone and decomposed granite are suitable for informal use areas and are preferred by some joggers as a soft pathway alternative. The gravel surface may be more in character with informal park settings, where hard surfaces would seem inappropriate.

- Advantages: Low cost up front.
  Soft and informal character suitable for park settings.
  Low reflectivity
- Disadvantages: Unsuitable to high use areas, or sloped sites.
  Susceptible to erosion, with need for patch and repair.
- Recommended for: Selected areas on secondary paths and interpretive trails

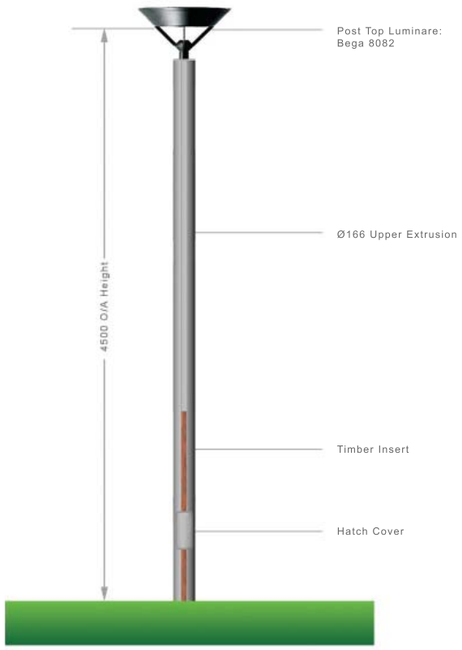
Seating
Seating along the River Walk needs to cater for a variety of ages and physical abilities, whilst be responsive to the park setting in which it is located.

Standard Park Furniture
Standard park seating, benches and picnic settings are designed for accessibility and comfort.

- Advantages: Standard maintenance regimes
- Disadvantages: Not responsive to site character
- Recommended for: Main gathering areas along the route

Informal and Custom Seating Alternatives
There are opportunities to create informal seating opportunities using materials and scale of objects that are responsive to site and settings, such as large timber pieces that are in keeping with maritime character. There are also opportunities for including details and artworks within the customised seating.

- Advantages: Flexibility to suit character of sites
  Modify heights and positions for variety of ages
  Integration of artworks
- Disadvantages: Does not always meet access and mobility standards
- Recommended for: Secondary paths and interpretive trails



Light Pole Standard
Standard pole light (Bega) for parks in the Ryde LGA.

5.2 LIGHTING PROVISION

The provision of lighting along the River Walk is integral to the use as a regional recreation trial as well as a commuter route. Regional trails are used for recreation purposes at different times of the day, including before and after work hours.

The varied context and form of the River Walk require different lighting approaches in different areas such as:

- areas of high recreation use to be well lit
- areas such as near Railway and Ferry stops, the path will need to be lit for pedestrian commuters,
- pathways for cycle commuter use to be well lit,
- parks with poor surveillance should not be lit to discourage night access,
- pathways that directly back on to residential areas may need to have modified lighting,
- pathways next to sensitive habitat areas should have little or no lighting,
- pathways on and adjacent streets may need minimal or no additional lighting.

Standards

There are several standards and guides that have application to the site. These are not mandatory; however they are useful as a guide. The primary standards are:

- AS1158.3.1:2005 Lighting for roads and public spaces Part 3.1: Pedestrian area (Category P) lighting- Performance and design requirements.
- Austroads Guide to Traffic Engineering Practice Part 13 Pedestrians.
- Austroads Guide to Traffic Engineering Practice Part 14 Bicycles.

General Recommendations

- The lighting should be site specific and not be a consistent treatment along the length of the River Walk.
- If the section of the River Walk will be used as a primary route from a station or ferry wharf then the path should be lit to the appropriate category of AS1158.3.1.
- Lighting key intersections, crossings and junctions.
- If the river walk passes along a residential street then the lighting of the residential street is considered adequate provided the street is illuminated to at least P4 category.
- Isolated paths through bushland areas where there is little or no opportunity for natural surveillance should either not be lit at all or at most a row of small marker lights. People should be encouraged to go around the area via the streets at night.
- Lighting of signage and important artwork elements

Lighting of Artworks

There is an opportunity to light artworks as part of the overall lighting strategy, and will increase the night time appreciation of the River Walk. The lighting will depend on the nature and location of the artwork.

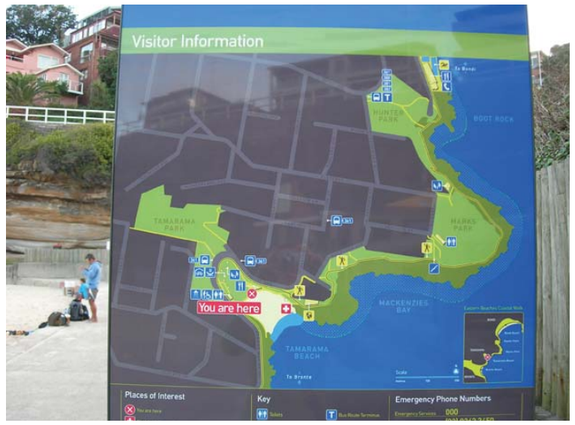
The primary works to be lit include:

- route markers, to assist in wayfinding.
- iconic artworks in focal locations that can be visible from a distance.

Identity Signage Precedent Cooks River Corridor
(Anne Gordon Design)
Signage concept design for identity markers along the Cooks River recreation corridor. The signage and branding provides an identity for the corridor as a whole. Individual places and parks along the corridor are also marked.

Route Marker Concept
(Jane Cavanough)
The proposed route markers integrate a cohesive range of interpretive sculptural elements to achieve a cohesive identity to the signage markers.

Wayfinding Signage Precedent Cooks River Corridor
(Anne Gordon Design)
Signage concept design for mapping and directional signage along the Cooks River recreation corridor.



Wayfinding Signage Precedent Waverley Coastal Walk
Mapping and Information Signage
Signage includes mapping of entire route and route in the context of the local area Local area mapping information includes park facilities and amenities, parking, public transport connection points. Information on signage also includes park regulations.

Wayfinding Signage Precedent - North Sydney Council
Directional signage integrated to street signs. Wayfinding information includes destination, distance or route. Separate sign panel and colour to differentiate from street name sign.

5.3 SIGNAGE AND WAYFINDING

Signage and wayfinding is important for both cyclists and pedestrians using the River Walk. Systems of wayfinding need to respond differently to conditions of urban centres, street corridors and parks. The signs should be integrated with other signage types and posts to minimise clutter where possible, yet be distinctive enough to allow differentiation from vehicular streets signage.

Regulatory signage also needs to be incorporated along the route to identify cycling shared pathways. These regulatory signage requirements have been included in Path Typologies.

Identity Signage

The River Walk is a series of interconnected parks, streets and pathways. To reinforce the connections between these places, a system of Identity Signs is beneficial for raising awareness of the route and to mark key entry points. River Walk identity signage has the purpose of:

- providing a recognisable identity to points along the route for users to be able to understand the continuity of the pathways,
- working in conjunction with park signage to reinforce the character of the places along the route, without overbearing the identity of the park or immediate setting.

The potential for the River Walk is to integrate the identity signage as a system of route marker artworks. Refer Section 8.0 Art Strategy.

Wayfinding Signage

Wayfinding is important for existing cyclists and pedestrians to be aware of efficient and safest routes for travel, and to raise awareness for new cyclists in trialling cycling as a means of transport. The approach to the location of wayfinding signage is to position the signs at key decision points, to identify connections and destinations, and at rest stops. Signage for wayfinding needs to communicate:

- long distance routes,
- local connections and destinations to railway, ferry and urban centres, and
- connection to the main River Walk route from other areas in the parks or local centres nearby.

The wayfinding for local connections also has benefit for general pedestrian wayfinding. The detailed connections used by cyclists and pedestrians is often different to vehicular traffic, such as through one-way streets, through parks and street closures. The system of wayfinding needs to consider the legibility of the signage to the cycle and pedestrian users, without confusion to the vehicular traffic.

Types

There are two main types of wayfinding signage:

1. Mapping based signage: provides information on the route and other facilities and amenities.
2. Directional signage: provides guidance along the route and denotes decision points.

Locations

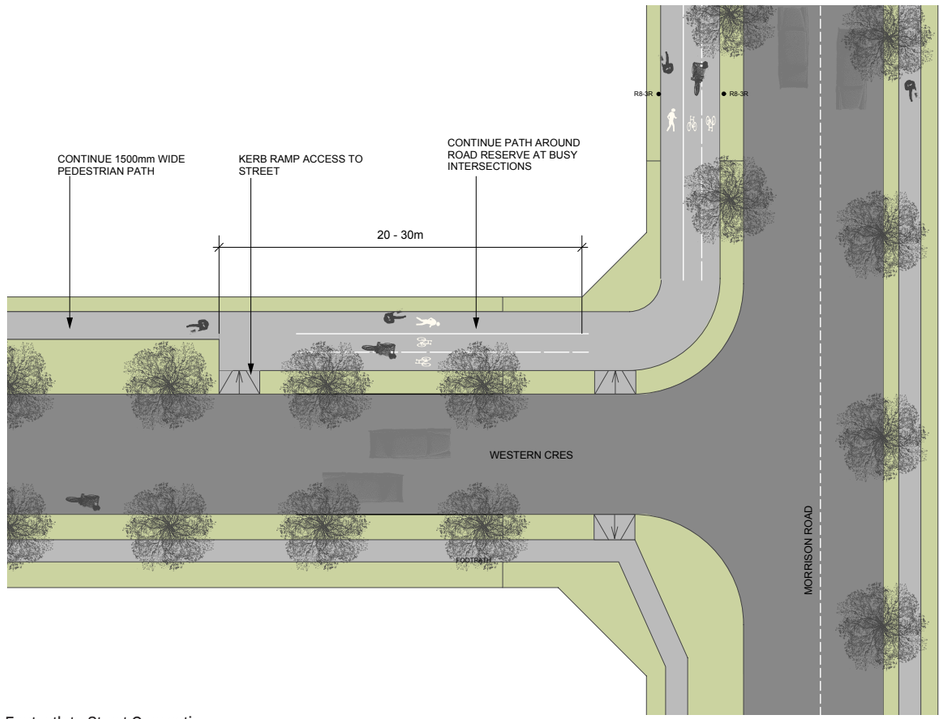
The wayfinding signage shown on the precinct plans (Section 3.0 Planning the Route) are located at the following positions:

- main entry points such as car parks and ferry wharves (mapping and information),
- decision points and junctions along the route (directional signage),
- junctions to alternate routes, used to identify value such as easy gradients, scenic value, cycle preference (directional signage),
- rest stops and shelters (mapping and information).

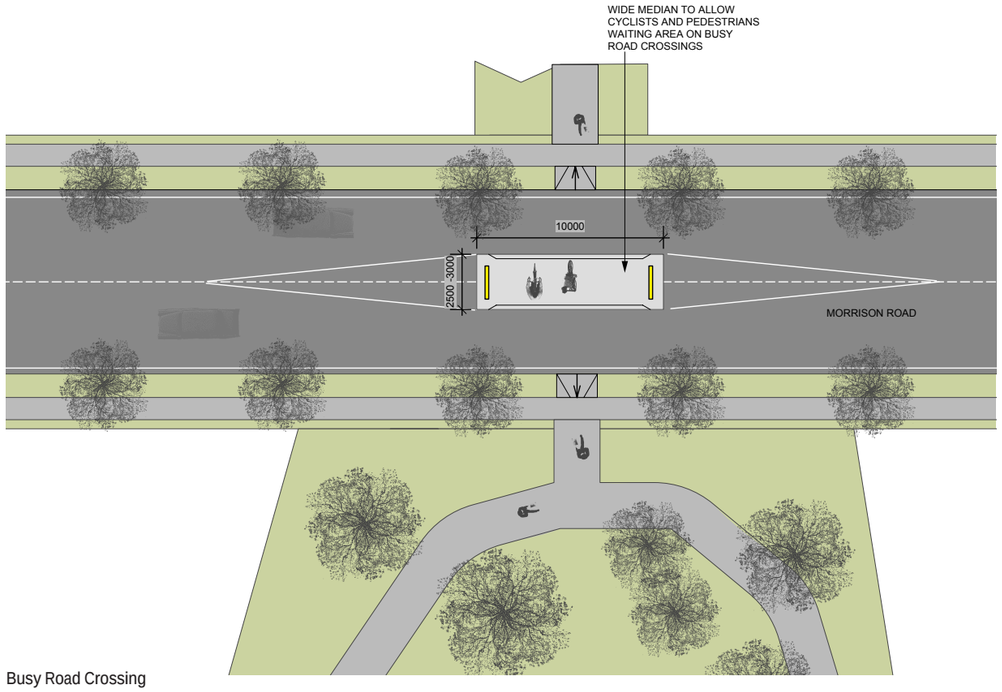
Additional Mapping Information

To assist people to explore the length of the River Walk and use alternative loops and transport connections, the following supporting information should also be available at key areas.

- walking maps of the route available at key entries, local centres and via the internet
- history information for self-guided walks,
- public transport links and timetables.



Footpath to Street Connection



Busy Road Crossing

5.4 CROSSINGS AND JUNCTIONS

The connections along the length of the River Walk such as road intersections, road crossings, park to street linkages conditions are important to ensure a safe and cohesive route. The connections need to consider the variety of users along the trail in terms of age and physical ability, as well as potential for large groups.

Footpath to Street Connection

The connection between shared footpaths and street may create conflict for cyclists due to turning traffic from the main road to the quieter street. The proposal as indicated on the Figure for footpath to street connections, is based in the principles of:

- Continuing the shared footpath around the corner of the street to allow cyclists to manoeuvre from street to the footpath clear of the intersection,
- Pedestrian ramp to allow access to shared footpath (ensure no parking in front),
- Pedestrian and children cyclists can continue along the footpath.

This situation occurs on the following intersections:

- Corner of Delange Rd and Pellisier Rd,
- Corner of Champion Rd and Morrison Rd,
- Corner of Western Cres and Morrison Rd,
- Corner of Ashburn and York St,
- Corner of Ashburn and Punt Rd.

Investigations should be undertaken to assess the vehicle volume for theses streets and the detail resolution with consideration of widths of pavements, driveways and potential obstacles.

Road Crossings

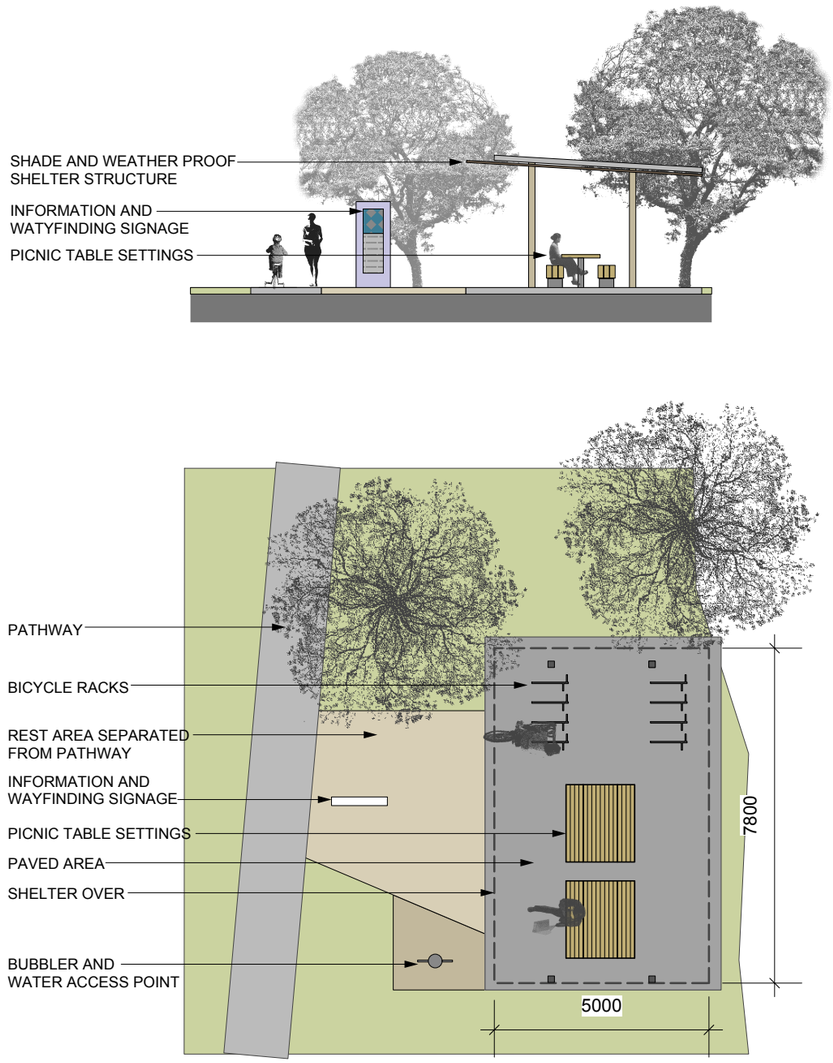
The crossing of busy roads is a potential risk for cyclists and groups of pedestrians. There are no direct crossings along the Rover Walk route, however there are a number of connections to the River Walk from adjacent streets and parks to be considered. The proposal as indicated in the Figure for Busy Road Crossing, is based on the principles of:

- Establishing a safe wide median as a half-way crossing area,
- The width allows cyclists to cross and wait without stacking bikes in line,
- Clear visibility from the footpath to check there is enough room to wait,
- Length of median to allow groups / families to wait.
- Narrowing of traffic travel lane to encourage slow vehicle speeds.

Potential busy road crossing points are along:

- Constitution Road West - to Meadowbank Park
- Waterview Street - to Kissing Point Park
- Morrison Rd - to Morrison Bay Park and Bill Mitchell Park.

Investigations should be undertaken to assess the potential crossing points along with road widths, and impact on parking arrangements.



REST AREA AND SHELTER

5.5 REST AREAS

Rest stops should be provided at key areas along the length of the River Walk. The rest areas should include shade and shelter for people usng the trail, as well as being places of orientation and meeting. The size and facilities should respond to the park setting where they are located. The rest areas would also provide for park users.

The River Walk has the potential to be used for social and community groups, so the rest areas should be of a scale that large groups can gather and meet. These facilities could be provided in a large single structure or in a cluster of smaller shelters.

Use

- Rest areas located at points along the main route.
- Shelter for shade and weather protection.
- Water and bubblers provided.
- Information and wayfinding signage to be provided.

Form

- Locate adjacent but separated from the main pathway
- Size of shelter to be adequate for groups to meet and gather.
- Picnic table settings provided.
- Cycle racks provided.

Rest shelter Rouse Hill Regional Park (Phillips Marler)
Generous pavilions with BBQs and seating for large groups. Simple open style in character with park setting.

Rest shelters Castle Hill Heritage Park (Spackman and Mossop)
Clusters of pavilions with BBQs and seating provide flexibility for small or large groups.

Art Strategy

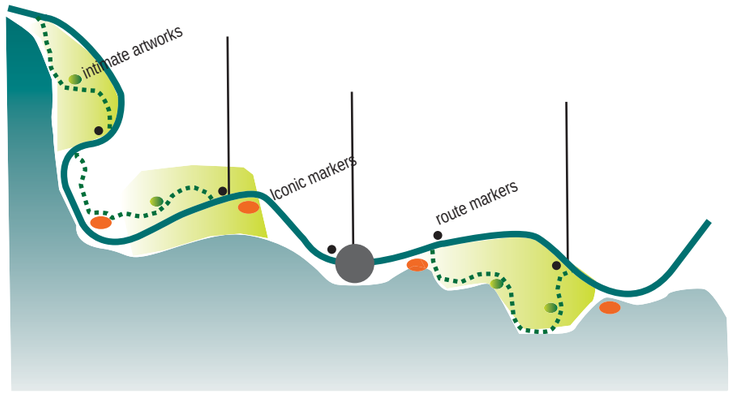


Diagram of the River Walk public art system
Three levels of artwork placement responding to path type, location and scale.

Precedent Images of Artworks
The artworks contributes to the experience of the site through the form of the work, revealing environmental conditions and rasing awareness of local fauna.

Precedent Image of Iconic Markers
Abstract scupture by R.W. Van der Wint.

6.0 ART STRATEGY

6.1 AIM

The River Walk is a recreation route that engages with the Parramatta River as a place of beauty, with a deep and rich history, as well as offering the amenity of contemporary parks in their current form.

Artists' interpretation of the Parramatta River and its history will contribute to the perception and experience of the River Walk, by creating artworks that are woven into the fabric of the landscape, that celebrate, educate, and acknowledge key project themes in an unfolding series of dramatic and subtle sculptural experiences.

6.2 BENEFITS

The benefits of implementing a public art program will be:

- Increased sense of place
- Community cohesion
- Higher quality environment
- Heritage awareness
- Greater usage of public space
- Enhance a spirit of cultural investment and innovation for the municipality

6.3 GUIDELINES

Proposed artworks need to:

- Respond to the research themes from the history and environment,
- Show understanding, engagement and relevance to the specific site of installation,
- Consider placement and scale, for visibility and engagement of the viewer.

Site interpretation

The River Walk's interesting history and riverside environment suggests that artwork subject matter to concentrate on site specificity and historic interpretation.

Permanent Artworks

The public art strategy recommends commissioning of permanent works so that building blocks of creativity and innovation are established to attract funding opportunities.

The Viewer

At some points of the River Walk, the majority of users will be cyclists and joggers, and the artworks therefore should respond to the speed of the viewer. Artworks could also be used to measure distances ie: milestones. Other areas of the River Walk will be slower speed and quieter, and therefore the artworks have potential for greater detail or depth of information.

Indigenous

There are opportunities for indigenous artists to be commissioned for artworks particularly in Bennelong Park and Glades Bay.

Site specificity

The form and scale of the artworks need to respond to the location and setting within the landscape.

Environment

Artworks could utilise environmental conditions such as wind and tides, and naturally occurring materials such as sandstone.

Precedent Image of Route Markers
Artist designed way finding totems located on the Sustrans Network, U.K

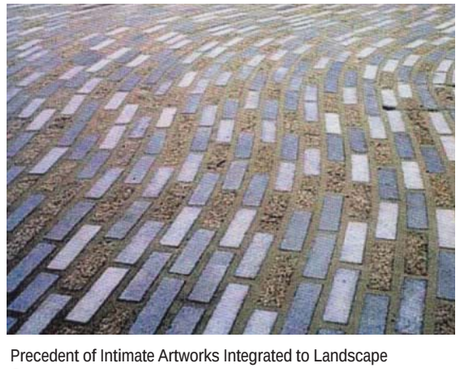
Precedent Image of Route Markers
Fairfield Cycle Way

Route Marker Precedents
The wayfinding totems provide a distinctive and site responsive element along the trail. The totems are visible at a distance and have a repeating materials and construction methods, therefore providing a legible consistency to the markers. The detail design of the markers refers to the history and stories of the site they are located, as well as a repeating cyclist motif for the River Walk.

Precedents of Intimate Experience Artworks

Precedent of Intimate Artworks Integrated to Landscape
Shelter along Sustrans Cycleway in the UK

Precedent of Ephemeral Artwork (J.Cavanough)
Cooks River corridor



Precedent of Intimate Artworks Integrated to Landscape
Change in pavement materials

Scale

Some artworks would be able to be viewed from the water or other side of the river and should address the scale of the river as well as the land. The variety of scale and placement considerations include the following:

Route Markers
The route markers are a system of artworks that have a similarity of form and scale, and are located at strategic points along the route. They establish a visual language of artworks that act as totems along the route, at entries and nodal points. The design of the individual markers should respond to the immediate context.

Iconic Markers
The larger scale iconic artworks are to be located within view of the main recreation path, at a scale appropriate to the river foreshore. They provide engagement for the passer by on land at near and far distances, as well as potentially from the river or opposite shore.

Intimate Experience Artworks
Small scale works that offer opportunity for more detailed exploration and engagement. Potential for integration with interpretation. These are be located along slower speed recreation paths, integrated with the walking route. The artworks can acknowledge this through offering a more intimate experience in the form and content as well as the placement of the work.

Urban elements

Artists can provide an inventive and probing link when working collaboratively with a design team to upgrade existing parks and playgrounds, planning interpretation routes, and elements such as signage, seating, and fencing.

Event Based and Temporary

Cultural festivals and events. If Council wanted to invest in a program of temporary works, it may wish to seek a partnering program with adjoining agencies such as Parramatta Council in the George Kendall Riverside Reserve, or Meadowbank TAFE.

Precedent of Interpretive Walk (Jane Cavanough)
Artwork illustrating history of land grants and impact on native flora and fauna in north west Sydney.

Precedent of Intimate Artworks Integrated to Playground
Playground at Abbotsford by Jane Canavough and Philippa Playford referencing the maritime and boat building history of the site

Precedent of Interpretive Artwork
Edge of the Trees by Janet Laurence and Fiona Foley, 1995
The sculptural installation symbolises the first encounter between the Cadigal people and the First Fleet. The artwork includes embedded materials and text to evoke layers of memory. people and place.

Precedent of Intimate Artworks Integrated to Built Structure
Industrial remnants integrated into shelter walling

Precedent of Interpretation Panels (J.Cavanough)
Interpretation information panel in custom art frame.

8.4 INTERPRETATION METHODS

As a separate yet integrated process, the overall interpretation strategy of the route needs to be further investigated. The historic interpretation needs to be considered as part of a design and information package across the length of the cycle route and linked with landscape, public art and signage considerations. An interpretation strategy should be linked to a Cultural Interpretation Plan.

Public Art and Interpretation

Public art has the opportunity to enhance awareness of the local history, it's natural environment and culture through animation, representation and interpretation. The role of public art is not to formally document the history of the area, however through referencing the history of the Parramatta River and local environment, the public art will be more relevant and site specific. There is potential for public artists to work in conjunction with interpretation consultants to explore means of representation and story telling with the aim of engaging the public.

8.5 COMMISSIONING ARTISTS

Artists can be commissioned separately through the City of Ryde, or be included on a design team. There are opportunities for a range of artists to be involved in the development of artworks along the cycle route, and this will provide variation of styles, materials and approach. There are also advantages in engaging one artist, or a lead artist to design and make a suite of works that are thematically and stylistically linked – for example it would be appropriate for one artist to make a series of way finding totems/signs.

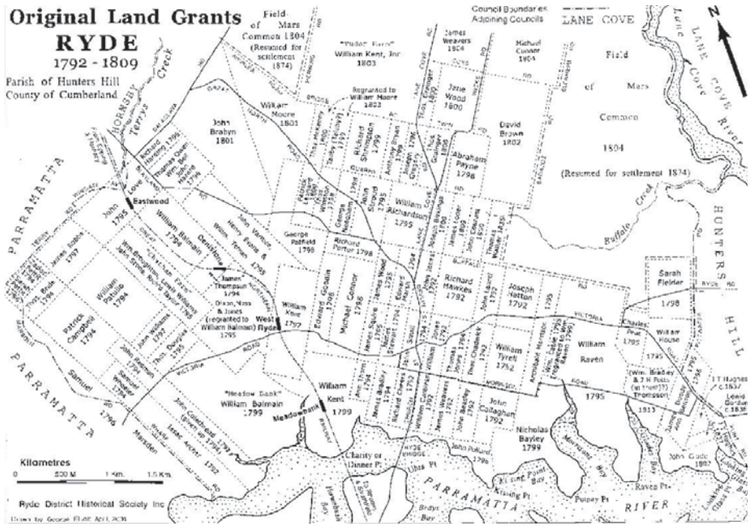
8.6 COMMUNITY INVOLVEMENT

Keeping the local community involved in the process of developing the Ryde River Walk will generate enthusiasm and support for the project. Key stakeholder groups and specialists such as the Ryde District Historical Society should be consulted with each project.

Workshops with school children are advantageous across the range of projects. This can be a valuable forum for kids to become familiar with their local history and natural environment, to become acquainted with working artists and the processes of making an artwork, and a great way for parents to get to know what is happening in their area.

- A variety of specialists can be introduced to the students to layer the workshops, such as historians, indigenous artists, park rangers, scientists and other artists such as writers. For example, if the focus of an artist's involvement was for making a work for Banjo Paterson Park, a scientist could talk about water quality and pollution in the Parramatta River, indigenous performers could discuss indigenous way of life, an historian could cover the landing of Governor Phillip and naming of Looking Glass Bay, transport on the Parramatta River and establishment of the punt, the building of the Great North Road by convicts, artists and writers who frequented Banjo Paterson's Grandmother's house, life on the river, and the move towards the Parramatta River becoming a waste dump for industry. A writer could take the students through works of Banjo Paterson and the students could learn how to construct a poem.

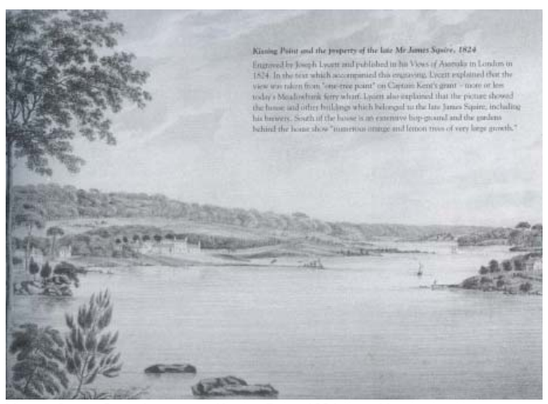
- A project where community involvement encouraged designs by students for example, would be a wayfinding project, whereby students could illustrate particular aspects of historical information.



Source: Philip Geeves. A Place of Pioneers, the Centenary History of the Municipality of Ryde, Ryde Municipal Council, 1970

Gentlemen's Marine Villas on the shore of the Parramatta River between Looking Glass Bay and Glades Bay 1879
Megan Martin, A Pictorial History of Ryde, Kingsclear Books, 1998, p21

Parramatta River 1798
M.C.I Levy, Wallumeta, A History of Ryde and its District, 1792-1945



View to James Squire's property, Kissing Point. 1824 (from Meadowbank)
Megan Martin, A Pictorial History of Ryde, Kingsclear Books, 1998, p7

Original bushland in the Ryde area

Bennelong Portrait
M.C.I Levy, Wallumeta, A History of Ryde and its District, 1792-1945

8.7 A BRIEF HISTORY

The Parramatta River and its foreshore is significant for its' indigenous heritage and to the colonial development of Sydney. Every bay has an interesting past, and there are wonderful stories to be told. Artworks located along the route of the River Walk are a perfect medium to tell some of those stories. (Please refer to Appendix A for a detailed historical account including references).

Indigenous past

The history of Wallemetta – the indigenous name for Ryde - is still visible, with both rock carvings and stencil paintings at Glades Bay. The Wallumedegal or the Wallumede clan lived between Lane Cove and Parramatta on the northern side of the river .

Food included "kangaroo, opossum, flying-squirrels, wallabies, koalas, goannas; and birds, -bronze wing pigeons, ducks, parrots, gill-birds, which, at times, abounded in the forests of huge trees that grew along the river banks and stretched, inland, to, and beyond the Hawkesbury." Aborigines collected oysters and molluscs, caught fish with spears, hand lines and nets. Women caught fish with hand lines made from inner bark of shrubs and trees. String bags made from inner bark or aerial roots of fig trees, and strips of leaves woven into baskets. Spears made from flower spike of Xanthorea resinifera (grass tree). Resin from grass trees glued sharp implements onto the spear, made from hardwood, stone, bone or shark's tooth. Ripe fruit, edible roots, birds, eggs and animals were eaten. They would not eat plants or animals of their own totem.

Bennelong was from the Wangal clan, whose traditional lands were on the south side of the river. Bennelong was taken to England by Governor Phillip to showcase how the aborigines could be civilized. He lived between cultures, and succumbed to the disastrous impact of white mans alcohol. His death notice described him as a drunk prone to public disorder. James Squire, the ex convict brewer befriended Bennelong and buried him in his garden which is close to Bennelong Park. Nanbaree is also buried in the same vicinity as Bennelong; he accompanied explorer Mathew Flinders on his voyage that circumnavigated Australia in the Investigator in 1803.

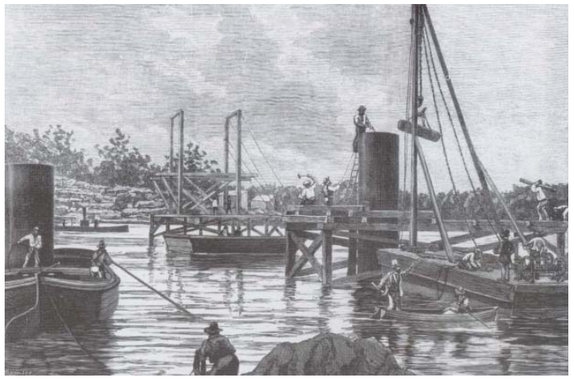
Many of the local aborigines died from smallpox and other white man's diseases soon after the Europeans settled in the area.

Colonial Settlement

Kissing Point (later named Ryde) was the third settlement in New South Wales, after Sydney and Parramatta. The name refers to a naval term, where the keel of a boat kisses the riverbed in shallow water. Land grants were awarded to ex-marines and ex-convicts from the 1790's. The first settlers planted maize and wheat. They had very few farming implements and scant agricultural knowledge.

James Squire was an entrepreneurial ex-convict who took advantage of struggling farmers, and purchased many of the land grants between Rhodes Bridge and Putney (formerly the Eastern Farms). He grew hops on his 1000 acre farm, and established the first brewery in the settlement at Kissing Point. Consequently, Kissing Point was a popular ferry stop to quench the thirst with beer, the production of which was supported by the Governor to help quell the monopoly of rum as a form of currency and the conduit for disorder and corruption. By 1798, James Squire was licensee of the "Malting Shovel", the first brewery and public house in the colony, located on the foreshore adjacent to his wharf at Kissing Point. By 1812, 5 acres of hops were grown at Kissing Point. His operation expanded and by 1817, he multiplied his original grant of 30 acres to 1000 acres

Kissing Point supplied both Sydney and Parramatta with much needed food supplies, which proved easy to grow in Ryde's rich soil, and easy to transport up and down the Parramatta River. In addition, the Parramatta River was abundant with fish. Many people made nets to catch fish, using a netting needle, or from fruit bags. Snapper, red bream, flathead, blackfish, mullet and garfish were plentiful. The white settlers ate the native fruits, which were collected and sold at the Sydney Markets. Oysters were gathered from the mudflats at Shepherds Bay and Bedlam Bay. The shells were used to make mortar for buildings. Orchards flourished - by the 1880's, the Ivanhoe orchard grew Siletta and St Michael oranges, Lisbon lemons, Briggs' Red may Peaches, apricots, pears, plums, nectarines, guavas, loquats, passion fruit and black Hamburg grapes.



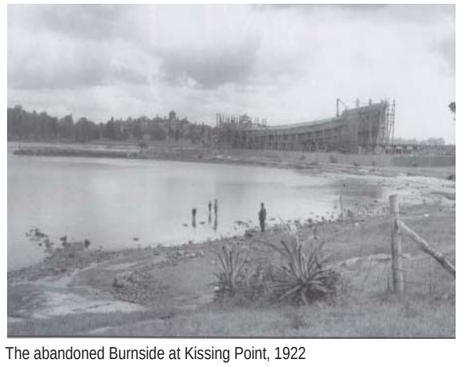
Constructing the Gladesville Bridge, 1879.
Illustration by George Collingridge published in Illustrated Sydney News 22 Feb 1879

The SS Bronzewing
M.C.I Levy, Wallumeta, A History of Ryde and its District, 1792-1945

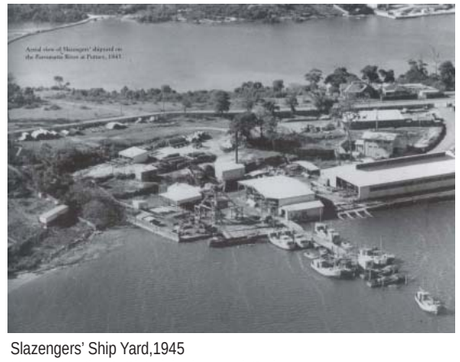
Ryde Wharf c.1900
M.C.I Levy, Wallumeta, A History of Ryde and its District, 1792-1945

Barrier Gate on the Northern approach to the Ryde Punt
Megan Martin, A Pictorial History of Ryde. Kingsclear Books, 1998, p100

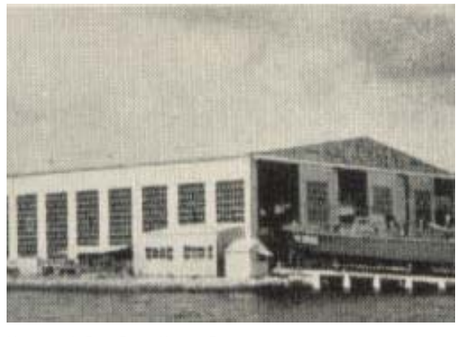
Meadowbank Rhodes Railway Bridge c1920
Source: Focus in Ryde, a local studies resource. 1992.



The abandoned Burnside at Kissing Point, 1922
Megan Martin, A Pictorial History of Ryde. Kingsclear Books, 1998, p78



Slazengers' Ship Yard,1945
Megan Martin, A Pictorial History of Ryde, Kingsclear Books, 1998, p 109



Halvorsen's Boat Shed, Kissing Point
M.C.I Levy, Wallumeta, A History of Ryde and its District, 1792-1945 .

River Transport

The Parramatta River was the major transport route for the first fifty years of the colony, and was consequently a highway for every type of vessel, including boats and punts which frequently lost cattle down river. The Parramatta River was a vital source of communication between the two white settlements at Sydney Cove and Parramatta. By 1794, ferries were carrying food produced in Kissing Point and other agricultural districts in the west of Sydney, to the Sydney markets.

The first boat built in Australia in 1879 was for the Parramatta River. The Rose Hill Packet , was known locally as The Lump. The boats that sailed the river remained the main form of transport for almost 60 years up until 1855 when the railway was built, as roads remained difficult to build due to the many creek crossings between Sydney and Parramatta.

Crossing the River

Shepherds Bay Rowing Boat service was established as early as 1794, taking passengers to the Concord shore. The Meadowbank - Rhodes bride was completed in 1886, to carry trains on the Strathfield to Hornsby train line which opened the same year. Several punts operated at Bedlam Bay, Putney and Ryde. The Ryde to Rhodes punt operated between 1898 to 1935. The Ryde Bridge took 2 years to build, and opened in 1935.

Industry

Meadowbank Manufacturing Company Works was established on 95 acres of land in 1890 with frontage to the Parramatta River and easy access to the railway. Other industry followed - at Morrison's Bay the Tennyson Textile Mills were established, and at the location of Banjo Paterson Park, Halmeg manufactured linseed oil.

In 1919, the Darling Flour mills established on the Rhodes Peninsula on the opposite side of the river was later to become Allied Feeds. The foreshore mudflats and mangroves were reclaimed from the 1940's, and filled with dioxins, heavy metals and ground pesticides. The Timbrol site was established in 1928, next to Allied Feeds. The company manufactured creosote - a timber preservative, and xanthes for the mining industry. During World War 11, they manufactured organo – chlorines, and by the late 1940's, the produced the pesticide DDT and herbicides 2 4-D and 245-T, an ingredient in Agent Orange. In 1957, Timbrol was purchased by Union Carbide. Waste products were dumped into the land reclamation area, and discharged as effluent into Homebush Bay. In 1970, it was established that the production of organo-chlorine produced highly toxic dioxin. Between 1970-1976, waste products were stored in drums on site.The plant closed in 1886, and sold to the government for $1. The state government was responsible for remediation. South of Union Carbide, was ICI Chemicals, who manufactured phthalic anhydrides and plasticisers. These products were used in Berger paints and polyester resins. In 1986, and explosion at the factory killed five workers and injured fourteen others. ICI Chemicals closed in 1997. The site was contaminated with lead from paint production, and other volatile organics. The site has been remediated

Boat Building

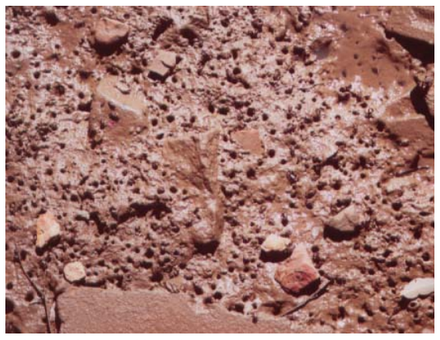
Kidman and Mayoh's Shipyard was located at Kissing Point in 1918, to construct 2 new wooden freight ships. The Braeside, when launched, was found to be faulty in both deign and construction. The ship was eventually burnt at sea. The Burnside never sailed; it was sold for salvage to the Union Box and Timber Company.

The Halvorsen boat building shed located in Kissing Point. During World War 2, the Halvorsen company made timber 34 metre submarine –chasers, and following the war, its famous motor cruisers. In 1943, Slazengers (Australia) Pty Ltd established a ship building yard on Pellisier Road, Putney. The company manufactured wartime equipment during the Second World War.

Meadowbank baths 1925
Megan Martin, A Pictorial History of Ryde, Kingsclear Books, 1998, p83

Rowing Regatta on the Parramatta River
Megan Martin, A Pictorial History of Ryde, Kingsclear Books, 1998, p 50

Mangrove habitat area in Meadowbank Park. Mangroves have been regenerating and adapting to the changing landform over time. Ducks in canal outflow.



Soldier Crabs in muddy sediment.

Regeneration of bush habitat areas in Glades Bay Park.

Baths

The Meadowbank Baths, opened in 1895, and the Ryde Swimming Baths were opened in 1905. Mixed bathing was not permitted. Other baths were opened in Glades Bay in 1908/9, Tennyson in 1918/19, and in the Putney Pleasure Grounds (Putney Park). They were eventually closed down because of pollution.

Rowing

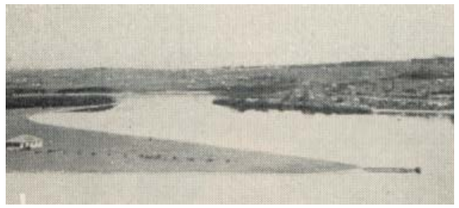
The river is also famous for championship rowing – from the late 1800's to 1930's, Sydney - siders would gather along the river to watch world champions skull the river between Gladesville and Ryde. The first regatta was held in 1847 at Kissing Point. By the 1880's the river was a focus for thousands watching the world championship sculling races. The course ran between Kissing Point and Uhr's Point.

People

The old stone building in Banjo Paterson park was formerly owned by Banjo's grandmother. Banjo lived at the cottage for several years with his extended family whilst he attended Sydney Grammar School. Many descriptions exist written by Banjo of the activity on the River.

Ecological

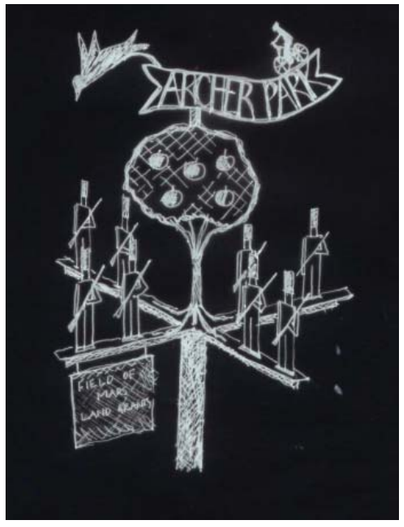
- Increased awareness and understanding of the relationships of flora, fauna and habitat in an urban environment.
- Changing habitat values and attitudes to the environment of the area over time - mangroves regrownsince the 1970s.
- Environmental rehabilitation and restoration past and present.



Mudflats, Field of Mars
M.C.I Levy, Wallumeta, A History of Ryde and its District, 1792-1945

Wharf Rd jetty
Lookout to water with potential interpretive signage integrated to balustrade

Entry to Archer Park
River Walk entry point from Wharf Rd, site for Route Marker



Route Marker Concept (J. Cavanough)
Referring to history of land grants to returned soldiers and agricultural land use

8.8 PLACEMENT ALONG THE ROUTE

The following sections illustrate the public art opportunities along the length of the route for each of the precincts.

Precinct 1: Wharf Rd to Lancaster Ave

History

- Meadowbank was granted to William Balmain, surgeon of the first fleet in 1794. The name is derived from the River Thames, as is Putney, Rhodes and Henley.
- The “Field of Mars” was granted in 1792 to eight marines. Governor Philip named the district the “Field of Mars” to honour the former soldiers occupation, as mars was the Roman god of War. Two of the original grants are where the Ryde-Parramatta Golf Course stands today. The Field Of Mars extended from the western side of Meadowbank to Ermington.
- Agriculture flourished
- Transportation of materials from former jetty

Environment

- Saltmarsh regeneration in Melrose Park

Existing Site Conditions

- Route Marker at starting point of cycleway at Wharf Rd
- Existing bronze plaque about Field of Mars located near Wharf Rd toilet block

Public Art Opportunities

Wayfinding

- Identify cycle way with interpretative way finding sign/totem

Intimate Scale

- Display the original Land Grants map 1792 – 1809
- Detail naming of Meadowbank and the “Field of Mars”

Mangrove habitat area in Meadowbank Park.
Mangroves have been regenerating and adapting to the changing landform over time. Ducks in canal outflow.

Bridge crossing channel in Meadowbank Park.
Potential to link bridge into recreational loop paths. Modify handrail to include integated artwork.

Stormwater channel in Meadowbank Park.
Existing channel with potential to intepret changes in landform, water flow and ecology. Selective rehabilitation potential.

Precedent of Intimate Experience Artworks
Forged steel panels illustrating duck habitat by Jane Cavanough

Precedent of Intimate Artworks Integrated to Landscape
Balsustrade to pedestrian bridge in Fairfield by Susan Milne and Greg Milhouse

Precedent of Iconic Artworks Integrated to Landscape
'Restoring the Waters - Memory Line' J.Turpin and M.Crawford
Ephemeral artwork representing the former creek alignment prior to channelisation. Project was a catalyst for the future creek restoration

Precinct 2: Meadowbank Park to Rhodes Bridge

History

- Charity Point is attributed to early Settler William Bennet, who was both a farmer and south sea trader. When his ships need repairing, a large number of south- sea islander crew camped on the shore. His kind treatment to them earned the names Charity Creek and Charity Headland
- Meadowbank Public Baths established in 1895 - former recreation destination. They were closed in 1943 due to pollution from Homebush Bay.

Environment

- Potential rehabilitation of stormwater channel
- Ecological and habitat value of the mangroves. Formerly removed when bay was filled, and has undergone natural regeneration in recent history.

Existing Site Conditions

- Route Marker in Meadowbank Park
- Path crosses existing canal and runs adjacent to mangroves.
- This is a high activity area on the weekends with sporting matches attended by many families
- A site of natural interest for kids looking at crabs, ducks and exploring the mangroves

Public Art Opportunities

Wayfinding

- Identify cycle way with interpretative way finding sign/totem

Iconic Marker

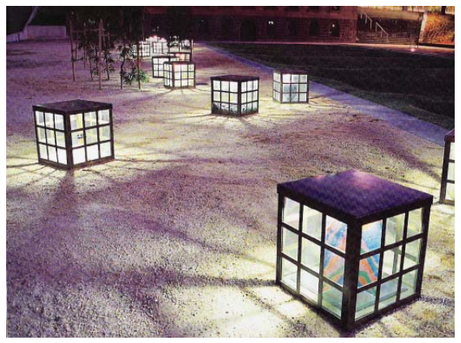
- Grassy area at bottom of Memorial Park is an appropriate location for environmental artwork

Intimate Scale

- Replace existing bridge railings with interpretative railings
- Explore themes of habitat and ecology of canals and Parramatta River

Charity Point
Location of former baths and open views to Homebush Bay.

Precedent of Intimate Experience Artworks
Beachside installation in Adelaide



Precedent of Iconic Artworks
Geelong Waterfront - Cargo Boxes M.Fooke and I.Pengilly
Representing maritime and trading history

Precedent of Iconic Artworks
The Domain Sydney - Dual Nature Woolloomooloo Bay by Nigel Helyer
Large scale objects reflecting the maritime, natural and social history of the site and animated by sound

Lookout at Meadowbank Ferry wharf.
Location for signage integration to balustrades.

Precedent Images of Balustrades
Artwork integrated to site specific barriers.

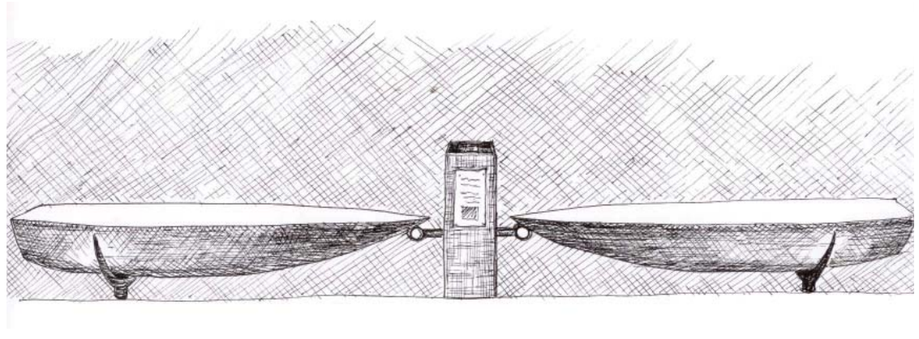
Route Marker Concept (J. Cavanough)
Referring to history of row boat ferry service.

Former Ryde Bridge 1935
Megan Martin, A Pictorial History of Ryde, Kingsclear Books, 1998,

Ryde Bridge tolls:

Motor cars, motor cycles with side cars	6d
Motor cycles without side cars, bicycles and tricycles	3d
Sulkies, 4 wheeled buggies, hand carts	3d
Vans, empty or loaded, lorries, drays, wagons	
Tare weight not exceeding 2 tons	1/-
Trade vehicles of 2 wheels, horse drawn	6d
Vans, empty or loaded between 2 and 3 tons	
Vehicles not otherwise specified	3/-
Horse and rider	3d
Horses and cattle –livestock	2d
Sheep and pigs, per head	1d

Helene Park
Existing pathway lining between Rhodes Bridge and Ryde Bridge



Intimate Artwork Integrated to Landscape (J.Cavanough)
Rowing boat benches located in position of rowing boat ferry service

Precinct 3: Rhodes Bridge to Ryde Bridge

History

- The Meadowbank - Rhodes bride was completed in 1886, to carry trains on the Strathfield to Hornsby train line which opened the same year.
- River ferries – Parramatta River a vital source of communication between white settlements of Sydney and Parramatta.
- Row Boat ferry services from 1794 from Schooner Wharf (Belmore Rd, near Helene Park)
- Meadowbank Manufacturing Company location. This was the first industry in Meadowbank and produced agricultural equipment for the local area and throughout the country . The existing seawall is made from the remnants of the original sandstone.
- Shepherds Bay is named after early settler James Shepherd, transported as a convict in 1791. Vineyard terraces were located on the upper slopes
- Former Ryde Wharf and punt located in Shepherds Bay Park. Remants of wharf walling visible at low tide.
- The Ryde to Rhodes punt operated between 1898 to 1935. Passengers included employees of the State Timber yards at Rhodes, and cattle. The punt was unreliable; “the cable continually gave way and cargoes of cattle went sailing downstream”.
- Ryde Baths In 1877, Ryde Council investigated potential sites and the desirability of having public baths. Ten years later, when a man was killed whilst bathing at Ryde Wharf, the issue was raised again. In 1904, a site was chosen at the bottom of Waterview Road. The Ryde Swimming Baths were opened in 1905. Mixed bathing was not permitted.
- Ryde Bridge - the bridge took 2 years to build, and opened in 1935. A series of tolls were applied, and were ceased to be collected in 1949.
- State Timber Yards were opposite on Rhodes Peninsula

Existing Site Conditions

- Route Markers are located at Meadowbank Ferry Wharf, and Shepherds Bay Park.
- Helene Park - Existing sculptural markers at entry, a narrow linear corridor with seating, sea wall is made from sandstone from original Meadowbank Works

Public Art Opportunities

Wayfinding

- Identify cycle way with interpretative way finding sign/totems

Iconic Marker

- Shepherds Bay depot site - former wharf location revealed through martime interpretive artwork

Intimate Scale

- Helene Park - Upgrade existing seats with artist designed seats that interprets original rowing boat service

Settlers Park
View to park from Loop Road pathway

Settlers Park
Existing signage at Settlers Park alongside pathway.

Route Marker Concept (J. Cavanough)
Referring to history of land grants and agricultural land use

Precinct 4a: Ryde Bridge to Bennelong Park

History

- The Wallumedegal or the Wallumede clan lived between Lane Cove and Parramatta. on the northern side of the river
- Bennelong - burial nearby and friendship with James Squire.
- Eastern farms - renamed Kissing Point in 1794. Third settlement in NSW after Sydney and Parramatta,
- Former agricultural productivity in the area - orchards included peaches, lemons, nectarines, plums, guavas, loquats, passionfruit, grapes, quinces
- Fomer baths location in Settlers Park,

Existing Site Conditions

- Route Marker in Settlers Park.
- Existing interpretation plaques in Settlers Park and walling remnants.

Public Art Opportunities

Wayfinding

- Identify cycle way with interpretative way finding sign/totems

Iconic Marker

- Locate indigenous artwork amongst existing trees in Bennelong Park

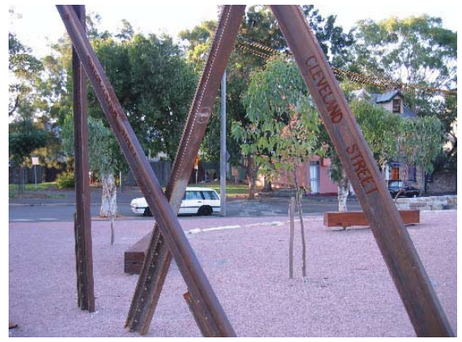
Intimate Scale

- Interpretive trail from Bennelong Park to inform the viewer about indigenous population and interactions during European settlement

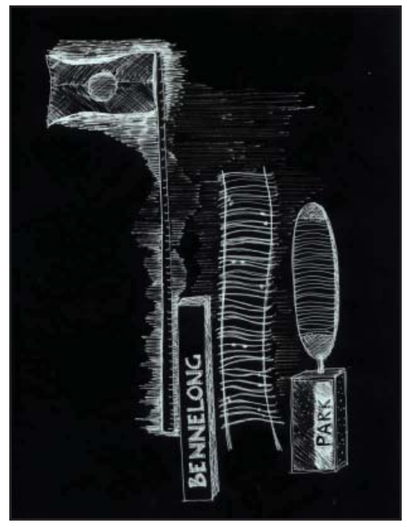
Bennelong Park
Potential for new interpretive pathway within the park linking to Kissing Point

Precedent Artwork
Warali Trail Fairfield. Work by Joe Hirst.

Precedent Artwork - Interpretive Trail
Perth Royal Botanic Gardens.



Precedent Artwork
Representation of contemporary indigenous meeting place at Redfern Communtiy Centre by Jonathan Jones.

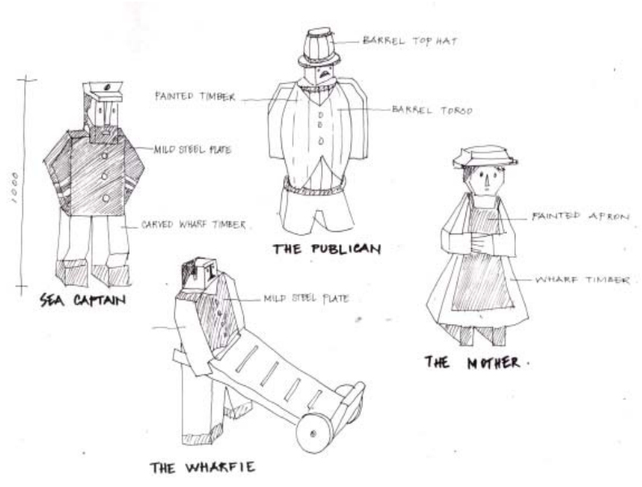


Interpretive and iconic artwork concepts (J.Cavanough)
Interpretation of Bennelong

Kissing Point ferry access
Entry point to the River Walk

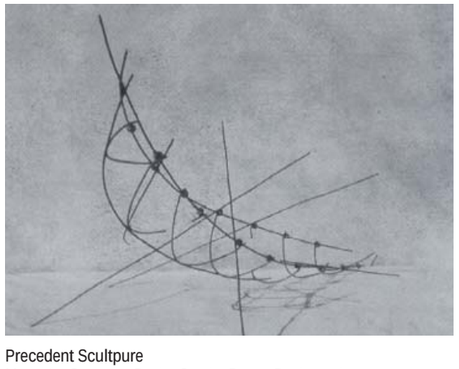
Route Marker Concept (J.Cavanough)
Kissing Point Park marker referring to boating history

Precedent of Artworks
Playful artworks along the Yarra River in the City of Melbourne



Intimate Artwork Concept (J.Cavanough)
Caricature bollard scultpures of James Squire and wharf workers

Kidman and Mayoh's shipyard at Kissing Point.



Precedent Scultpure
Model for Sculpture By the Sea by Bruce, Benita and Lee Tunks

Kissing Point tidal flats
Possible location for artwork evoking history of boat building on the site.

Iconic Markers Concepts (J.Cavanough)
Plasma cut coreten steel ribs located in the tidal flats echo the ribs of the ships that were built at Kissing Point yet never used.

Precinct 4b: Kissing Point Park

History

- Kissing Point named in 1794 – refers to a naval term, where boat keel kisses shallow riverbed
- Site of James Squire's brewery – first for the colony. Original land grant of 30 acres, expanded into extensive acreage, as he purchased the original Eastern Farms, resulting in 1000 acres to grow hops
- The Malting Shovel public house was located on the foreshore, adjacent to a wharf, and was a very popular stop for ferrymen and travellers.
- Brewing of Beer encouraged by Governor King to challenge the monopoly of rum held by military officers.
- James Squire not class bound – friends of many poor and working class setters, as well as aborigines (Bennelong and Nanbaree buried in his garden
- Kidman and Mayoh's Shipyard established to build freight ships to replace freight fleet post WW1. A disastrous outcome, as the two ships built here were not commissioned, and were burnt and sold for salvage.
- Halvorsen's ships located where James Squire's original wharf stood. Havlorsen's made ships for WW2.

Existing Site Conditions

- Route Marker in Kissing Point Park, near Ferry wharf as entry point to the River Walk.
- Existing plaque in Kissing Point poorly located near the car park
- Access to water's edge limited by shoreline planting
- Playground equipment quite old
- Ferry, wharf and ramp
- Picnic tables located within car park
- Yarralla - view to across river.

Public Art Opportunities

Wayfinding

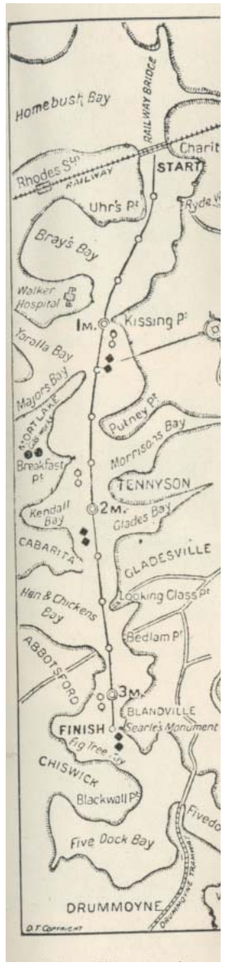
- Identify cycle way with interpretative way finding sign/totem

Iconic Marker

- Locate sculptural work exploring the history of boat building on tidal flat

Intimate Scale

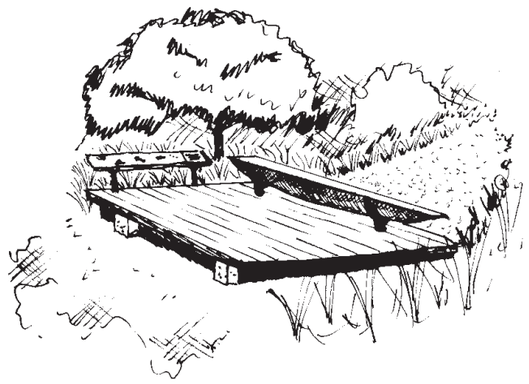
- Interpretive trail from Bennelong Park to Kissing Point to inform the viewer about the importance of James Squire
- Upgrade of play area with boat building theme artist designed elements
- Opportunity for interpretative seating



Championship Rowing Event
Megan Martin, A Pictorial History of Ryde, Kingsclear Books, 1998,p50

Putney Park lookout
A vantage point for viewing the races up the river

Precedent of Intimate Artworks Integrated to Landscape
Customised furniture in Tasmania by Peter Adams



Intimate Artwork Integrated to Landscape (J.Cavanough)
Rowing skiff bench located on platform with interpretation of the championship rowing

Precinct 5: Putney Park

History

- Putney was part of a land grant to Nicholas Bayley The land was sold to Eugene Delange, and when subdivided, was called Eugenie. After the sale, the name was changed to Putney, after Putney on the River Thames.
- In 1943, Slazengers (Australia) Pty Ltd established a ship building yard on Pellisier Road, Putney. The company manufactured wartime equipment for the United States Army and the Australian Government during the Second World War. During the war, the Putney shipyard built scows and landing craft; however Slazengers also built military huts, houses for munition workers, military canteens, hospitals, small arms, ammunition boxes and gas masks. Ship contracts included trawlers, tugboats, landing craft, life boats, scows and high speed work boats.
- Mid Point for watching World Championship rowing races from the 1880's to 1930's. The first regatta was held in 1847 at Kissing Point. The following decade, Sydneysiders were mad about rowing, and lucrative prizes were given to local and national championships. By the 1880's the river was a focus for thousands watching the world championship sculling races. The course ran between Kissing Point and Uhr's Point (south east side of Ryde Bridge). The local addiction to sculling fever was called "water on the brain". World Championships were contested on the course, results eagerly awaited in both Britain and America. Men and women alike discussed water conditions, racing times, and technicalities of boats. Most of the champions trained at Ryde. Local, national, and international races were held on the Parramatta River. Inter-varsity and GPS schools also had their annual regattas on the river between 1893 – 1935.
- Banjo Paterson recalled;

  "from twenty-five to thirty men could be seen on any fine morning swinging along in their sculls at practice – and such men! From riverside farms, and from axe men's camps in the North Coast timber country, from shipyards and fishing fleets, they flocked to the old river as the gladiators flocked to Rome in the last days of the Empire."

Existing Site Conditions

- Route Marker at top of Putney Park along Pellisier Rd.

Public Art Opportunities

Wayfinding

- Identify cycle way with interpretative way finding sign/totem

Iconic Marker

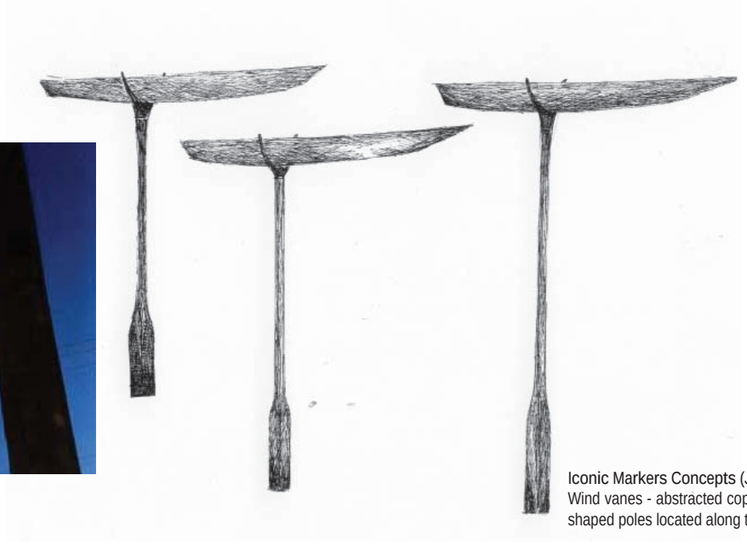
- Locate artwork that celebrates the history of rowing adjacent to water's edge

Intimate Scale

- Locate interpretative seat on the high point of the park overlooking the Parramatta River, referring to the importance of rowing on the Parramatta River

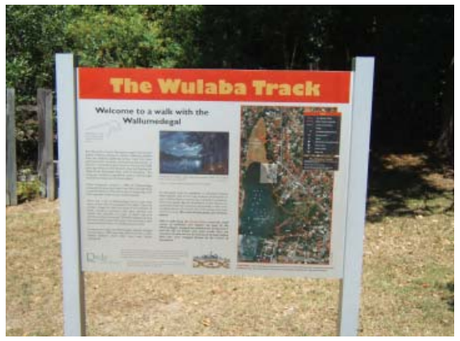
Putney Park water edge
Protected area on the water edge

Iconic Markers Precedent Image (J. Cavanough)
Wind vanes in Albion Park.

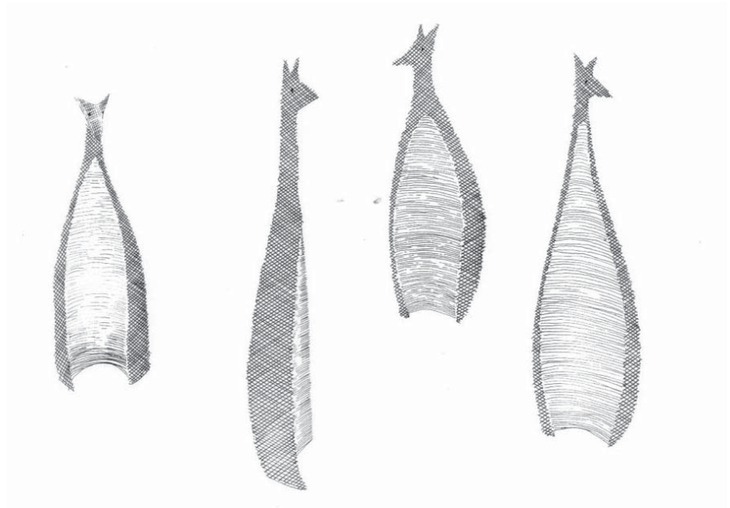


Iconic Markers Concepts (J. Cavanough)
Wind vanes - abstracted copper rowing skiffs and bronze oar shaped poles located along the water's edge at Putney Park.

Glades Bay Park Aboriginal Rock Carvings
Possible location for artwork that provides a contemporary response to the rock carvings



The Wulaba Track
Existing interpretive track in the Glades Bay area



Intimate Artwork Concept (J.Cavanough)
Wallaby sculptures could be located in the clearing near the rock carving interpretation area

Precedent Detail Artwork with Environment Theme
Representation of former wildlife in Roma Street Parklands Brisbane.

Precinct 6: Morrisons Bay Park to Glades Bay Park

History

- Evidence of the Walumedegal clan remains around the bays, with 4 distinct sites:
  - Shelters amongst the sandstone overhangs
  - Open rock engraving site
  - Sheltered stencil – art site
  - Axe grinding site
- Glades Bay and Gladesville are named after John Glade, a convict who was transported to Australia on the Atlantic to serve a seven year sentence in 1791.
- Morison's Bay is named after Archibald Morrison, a soldier who received a land grant in 1795 of 55 acres.
- One of the Colony's wealthiest settlers, Captain William Raven, owned 100 acres that ran between Glades Bay to Morison's Bay. The land was subdivided in 1887. Named after Lord Alfred Tennyson, the Tennyson Estate was promoted as having front seat views to the Championship rowing course. Two world Champion rowers, Beach (1884) and Kemp (1887) have streets named after them.
- Eastern side of Morrison's Bay was a textile mill
- Head of bay reclaimed mangrove flat
- River baths established 1918

Environment

- Bushland regeneration and habitat in Glades Bay Park and Looking Glass Bay Park

Existing Site Conditions

- Existing interpretation trail in Bill Mitchell Park and Glades Bay Park with signage on indigenous inhabitants
- Route Markers in Morrisons Bay Park. and Glades Bay Park.
- Glades Bay is physically interesting for its access to the water's edge, mangroves, steep topography, pathways and indigenous interpretation

Public Art Opportunities

Wayfinding

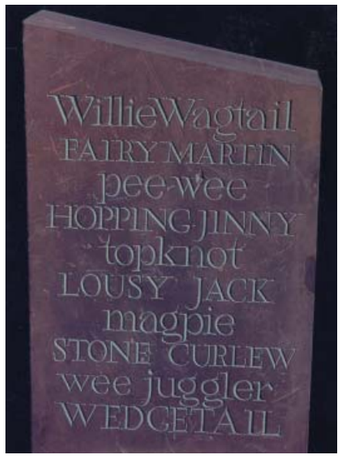
- Identify cycle way with interpretative way finding sign/totems

Intimate Scale

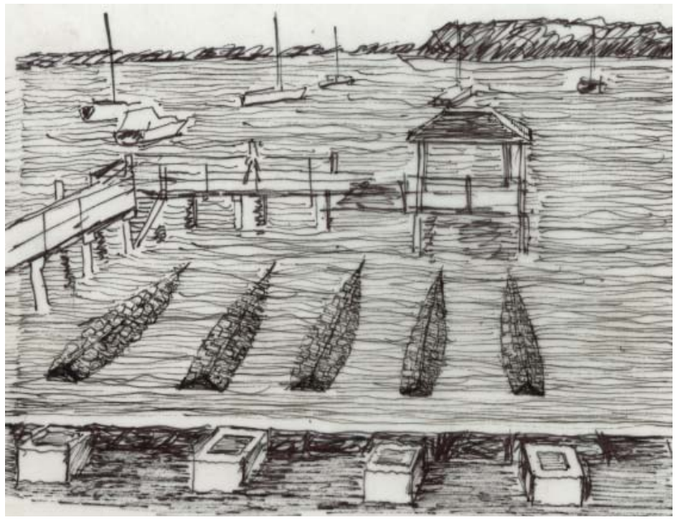
- Locate artwork that provides a contemporary reflection of the rock carvings and other physical remains of the Walumedegal clan

Artwork Precedent
Submerged artwork by Andy Goldsworthy

Ferry wharf at Banjo Paterson Park
Potential location of artwork



Precedent of Intimate Experience Artworks
Letter carving on slate by Ian Marr



Iconic Markers Concepts (J. Cavanough)
Submerged boat shapes created in stacked sandstone, at Banjo Patterson Park between sea wall and jetty, referring to the boating transport use of the river as documented by Banjo. Interpretation opportunites on land. The artwork offer physical animantion of the stories included in the interpretation.

Harold Meggit's Linseed Oil Mill, Punt Rd, Gladesville, 1924
Megan Martin, A Pictorial History of Ryde, Kingsclear Books, 1998, p84

Precinct 7: Banjo Paterson Park

History

- The site joins the Bedlam Bay walk, where remnants of the Great North Road exists and the walls of the Bedlam Bay Ferry
- Banjo Paterson lived in the sandstone house (now a restaurant) whilst attending Sydney Grammar School. The house was owned by his Grandmother and was frequented by many artists and writers. Banjo Paterson recalled in his radio interview in 1935 the river had declined and was now lined with factories. However he could still remember when;

  > "the wood-boat and the fruit boats, something like 7 ton yachts in size and capacity, would hoist mainsail and jib in the early morning, and come howling down the river with the westerly wind behind them, hoping to get far enough down to meet the north-easter before the wind failed. If the wind died away and they were left in the doldrums – well, they didn't worry. They anchored and caught themselves feeds of fish which they cooked on their little galley fires, the scent of frying re-bream mixing not unhappily with the aroma of guavas, grapes, and the big hautboy strawberries which now seem to have gone out of fashion. Then, when the tide turned, they would up with the anchor and drift down till they opened up to the harbour where there was always some sort of breeze. They would strike Sydney some time or other, and would deliver their cargo into horse-drawn carts and then point the boat's nose up river again, back to the gardens and the spitting of fire wood with wedges and American axes.
  > (On the river…by A.B. Paterson, broadcast 14 July 1935", in The Ryde Recorder, Vol 7 No. 1, 1st February 1973, p4)
  > Source: Focus on Ryde, a local studies resource, Ryde Bicentenary Schools and Youth Task Force, May 1992

- Halmeg Linseed oil was manufactured on a 5 acre Mill located at the end of Punt Road, overlooking Looking Glass Bay. The linseed oil was used in the manufacture of lead paint and varnish, as well as putties, caulking compounds, printing inks and linoleum. The production plant was established in 1923. The revolutionary extraction process did not work at first. Despite this, one hundred guests toured the new mill at its official opening. Harold Meggit, owner of the plant, increased employees wages, also advising that there would be no jobs, no wages if a new solution to distil the oil could not be found. The employees put forward hundreds of suggestions, and two were implemented, producing the finest linseed oil in the industry. In later years, Halmeg was the first to produce Safflower Oil in Australia. It also introduced a profit sharing scheme for its employees. The site closed in 1974.

Environment

- Bushland regeneration and habitat in Glades Bay Park and Looking Glass Bay Park

Existing Site Conditions

- Route Marker in Banjo Paterson Park.

Public Art Opportunities

Wayfinding

- Identify cycle way with interpretative way finding sign/totems

Iconic Marker

- There are many evocative recollections in 1935 by Banjo Paterson in radio interviews, of the Parramatta River. The content of these interviews could be interpreted into an artwork in conjunction with representation of description.

Intimate Scale

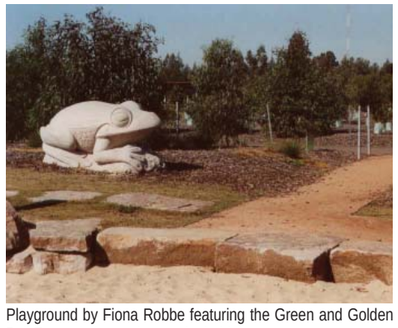
- Detail artwork on the habitat values of the area


Mist fountain by Janet Lawrence


Walkway out to wreck using mirrors and telescope to focus attention and to enhance appreciation of existing remnants


Entrance to brick pit using cogs from former brickworks


Olympic Totems


Playground by Fiona Robbe featuring the Green and Golden Bell Frog relating to the nearby habitat area


Sculpture by Imants Tiller


Pedestrian bridge by Suan Milne and Greg Stonehouse


Eel fence by Ruth Downes


Flood pavement


Bush Tucker track by Jamie Eastwood

Interpretation panels at ferry wharf

6.9 PUBLIC ART PRECINCTS WITHIN THE REGION

Public art precincts in the local area should be acknowledged, as these attract visitors to the area who are interested in a cultural recreation experience. The River Walk project can build upon the visitation to these precincts and expand the cultural capital of the area.

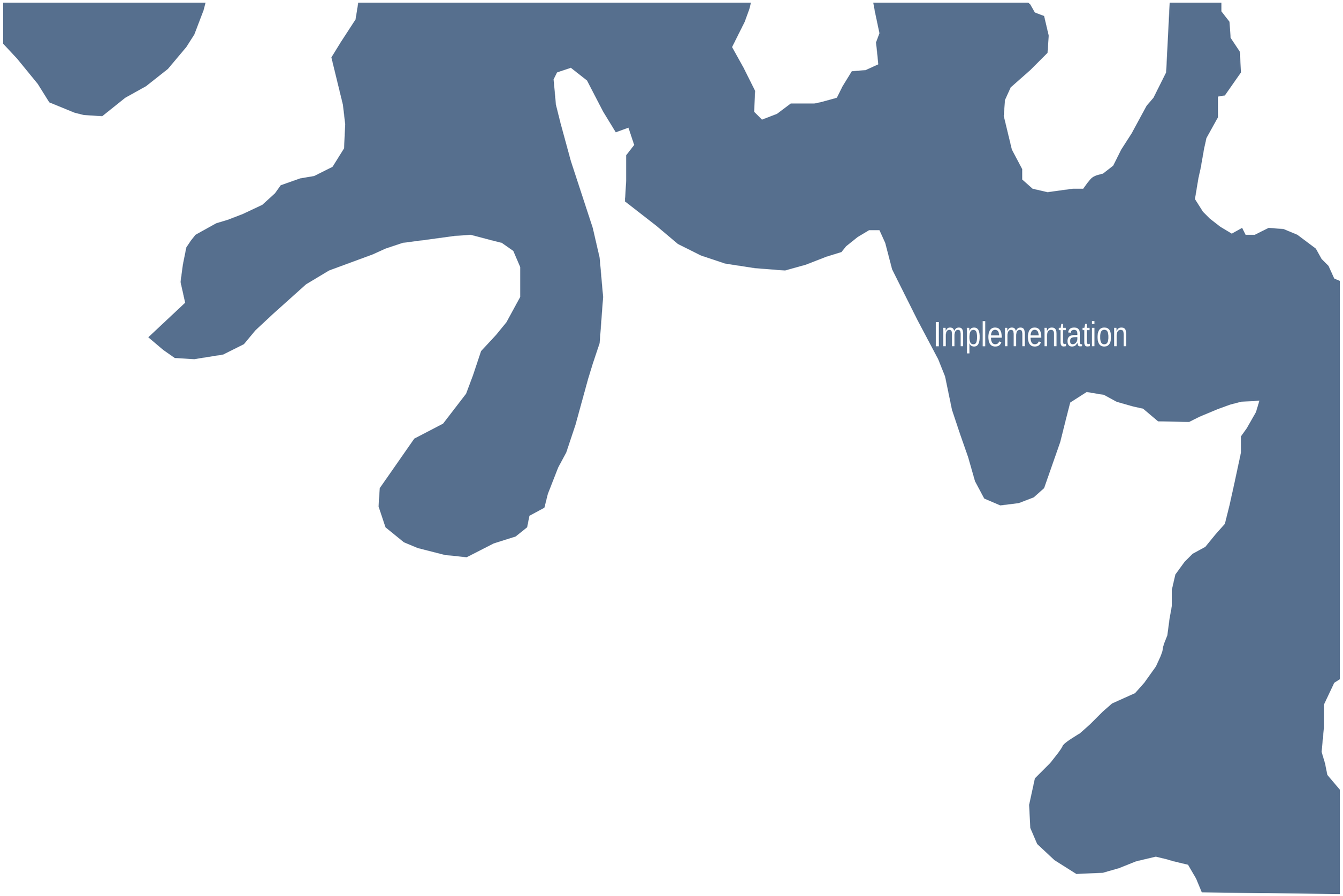
Sydney Olympic Park
Sydney Olympic Park has a broad palette of interpretative ideas including sculptural works that are interactive, interpretive, environmental and iconic. In many areas the landform itself is sculpturally shaped. Artworks have also been included in play areas.

More recently access to the Parramatta River has been provided, allowing the visitor to marvel at views of the decaying shipwrecks in the mangroves and on the river's edge. This is achieved by means of boardwalks, mirrors and telescopes.

Sydney Olympic Park can be accessed from the River Walk via ferry or the Rhodes Bridge, thereby linking the arts based recreation experience across the Parramatta River.

Parramatta Ferry Precinct
Parramatta Council has commissioned a number of artworks to interpret the history of the Parramatta River, including its indigenous history, flooding and geology, rowing, and the river in general. Interpretation signs have been located along the ferry terminal handrail and along the indigenous pathway. A café located at the ferry terminal also draws lots of people to the area.

The Parrramatta Precinct can be accessed from the River Walk via ferry and / or along the Parramatta cycleway.


Implementation

7.0 IMPLEMENTATION

7.1 PRIORITIES AND STAGING

The River Walk will need to be implemented in stages over time, as funding becomes available. To develop priorities for works, the projects should be considered for the multiple benefits that can be offerred.

Key projects should be selected for the River Walk project that offer opportunites for:

- making strategic links,
- building upon patterns of existing use,
- enhancing safety for cyclists and pedestrians,
- places for art and interpretation,
- establishing connections to public transport.

Strategic Links

Important strategic links along the route that need to be addressed as a priority include:

- Shepherds Bay depot site (under construction),
- Waterview St / Kissing Point Park,
- Chadwick St / Hoffman Park
- Morrison Rd footpath (Bill Mitchell Park bypass)
- Glades Bay Park / York St,
- Ashburn Pl footpath upgrade.

Concurrent Public Domain Improvements

In addition to the development of new and missing sections of the trail system, there is also potential for upgrading the existing pathways and amenities in the area. Concurrent improvements will enhance the use and range of visitors such as:

- Lighting along pathways, particularly in the Meadowbank area,
- Shelters, toilets, water points and rest areas along the route,
- Kerb ramps at intersections.

Raising Visibility and Awareness

The legibility and understanding of the route is important due to it's convoluted form, linking between foreshore, parks and streets. This understanding of the route can be achieved through:

- public art,
- signage,
- mapping.

7.2 KEY PROJECTS

The following projects are presented as key areas for improvement with multiple benefits for users.

Kissing Point Park

Kissing Point Park offers opportunity to the River Walk as a catalyst project because it:

- makes a final link in the path system,
- links a series of parks along the foreshore that are disonnnected by development,
- connects public transport nodes at Meadowbank Station (Ferry and Rail) to Kissing Point Ferry Wharf,
- offers an area rich in local history that can be interpreted,
- is relatively evenly graded area that is generally accessible to a range of users abilities,
- is connected to an area that forms an important river circuit trail

Key features of the proposal include:

- Shared path 3m wide along the park edge running parallel to Waterview St (maintaining the existing parking on the road verge) suitable for higher speed cyclists and joggers,
- Separate shared foreshore path meandering through the park,
- Small scale public art integrated along the foreshore trail,
- Large iconoc artwork located in Kissing Point Bay.

Putney Park

Putney Park offers opportunity to the River Walk as a catalyst project because it:

- enhances recreation opportunities of an existing regional park,
- provides a rest area along the route with high visual quality and park amenity,
- connects to transport access at the Putney Punt,
- offers an area rich in local history that can be interpreted,
- is a mix of evenly graded areas and undulating area, offering a range of recreation opportunities to a range of users abilities,
- is connected to an area that forms an important river circuit trail

Key features of the proposal include:

- Shared path 2m wide as an recreational loop path, linking to the main River Walk route and Punt access from Pellisier Road,
- Separate small loop path near the childrens play area,
- Public art opportunities.

7.3 COMPLEMENTARY INITIATIVES

Ryde Bicycle Strategy and Master Plan 2007

The draft Bicycle Strategy and Master Plan outlines recommendations for the development of the cycle network across the Local Government Area. The regional route along the foreshore generally corresponds to the main path outlined for the River Walk and supports the need to increase the quality and amenity of the pathways in this area. The River Walk main path diverges in some areas in response to opportunities for views, connection to parks, linking to recreation destinations and for additional walking and jogging opportunities.

The Bicycle Strategy outlines additional guidelines for cycle provisions and infrastructure.

Parramatta River Heritage Study

The heritage interpretation opportunities focusing along the Parramatta needs to be further investigated. A heritage and interpretation strategy should link into the River Walk network to support the cultural value of the trail. Interpretation signage may be developed in conjunction with wayfinding and information signage or collocated at rest stops.

The study may also further inform the content of relevant public art works, with potential collaboration between heritage interpretation and public art consultancies.

Promotional Information

The trail should be promoted as a regional recreation destination. The opportunity is to develop mapping and information packages available through Council facilities and web site, as well as at transport nodes.

7.4 MONITORING AND EVALUATION

The physical infrastructure and use should be monitored and evaluated over time. It is expected that as awareness increases and pathways improve in quality and connectedness, that there will be an increased patronage and demands on the trail.

Council should develop a program that is focused on evaluating:

- condition and maintenance of pathway infrastructure
- detail public domain improvements in ramps, kerbs, markings
- cycle and pedestrian volumes and capacity
- legibility and connectedness
- supporting infrastructure such as toilets, shelters, water access and rest areas.

NOVEMBER 06

Prepared for the City Of Ryde

Ryde River Walk

Draft Master Plan Report

Appendices

City of Ryde

Appendix A

Cost Planning

PROJECT FUNDING

COST PLANNING

To guide the ongoing implementation of the River Walk over time, an estimate of costs has been developed for the different walkway typologies and applied to the length of the route to gain an understanding of the overall scope as indicated in the master plan drawings.

It should be noted that existing pathways require upgrading to meet standards. The upgrade and maintainane of the pathway assets are an ongoing cost, and this will need to be reviewed and updated over time.

The following cost estimates are based on 2006 standard rates.

Path Type 1: Main Shared Path	$550 - $600 per lin / m
Path Type 2: Recreation Loop Path	$500 - $600 per lin / m
Path Type 3: Secondary Shared Path	$450 - $550 per lin / m
Path Type 4: Off road Segregated Path	$400 per lin / m
Path Type 5: Pedestrian Footpath	$ 80 per lin / m
Suspended Footpath areas	$ 2000 per lin / m
Additonal Seating	$ 2500 each
Rest Stops / shelters	$25,000 each

Artwork Costs

The folowing costs provide an indicatve allocation of funds for planning purposes. Interpretation signage is not include in the amounts.

Route Markers	$5000 each / assume 7 total	$35,000
Environmental artwork located at Charity Point		$25 000
Interpretative bridge railings		$25 000
Interpretative fencing - Meadowbank Ferry Terminal		$50 000
Artist designed seats - Helene Park		$50 000
Indigenous artwork/s - Bennelong Park		$25 000
Pathway inserts - Bennelong Park		$5000
Pathway inserts - from Bennelong to Kissing Point		$5000
Artist designed seats and tables- Kissing Point		$30 000
Artist designed playground elements - Kissing Point		$30 000
Public artwork in tidal flats - Boat building		$50 000
Public artwork about rowing		$100 000
Seating area - rowing		$25 000
Public artwork - Glades Bay		$25 000
Public art- submerged work + interpretative		$30 – $50 000
Letter carving of Banjo's poems		$15 000

RECREATION TRAIL FUNDING OPPORTUNITES

Primary State Government Funding

Sharing Sydney Harbour Access Program

Sharing Sydney Harbour Access Program is a NSW Government initiative to improve public access to and enhance the recreational enjoyment of Sydney Harbour and its tributaries for the people of Sydney and visitors to the city. The program allocates grants to councils, registered clubs and state agencies to assist with the implementation of capital works projects that improve public access to and along the foreshores of Sydney Harbour and its tributaries for walking, cycling and recreational boating.

Funding of $2 million annually is provided on a dollar-for-dollar basis over five years commencing in 2003 and is administered by DIPNR. Councils within the Sydney Harbour Catchment area and incorporated or registered clubs (cycling, boating or other similar recreational organizations with the written support of local government authorities) may submit eligible projects the aims of which accord with the principles and objectives set down in the Sharing Sydney Harbour Access Plan or meet the Access Program criteria and priorities. The $10 million five-year program was in February 2003 to assist with implementing the Sharing Sydney Harbour Access Plan.Each year up to $2 million is distributed on a dollar-for-dollar basis for specific capital works projects such as walking tracks, cycle paths, new public waterfront parks, jetties, pontoons and boat launching facilities. With matching funds from applicants, the program is expected to lead to at least $20 million worth of access improvements.

The main funding agencies are the Department of Planning, Sydney Harbour Foreshore Authority and NSW Maritime Authority.

Metropolitan Greenspace Program

The Metropolitan Greenspace Program (MGP) has provided over $15m to over 300 projects since 1990. It allocates over $1 million annually to Councils on a matching dollar basis and last year provided almost $1.5 million to Councils.

The key objective of the program is to assist local government in the development and planning of regionally significant open space and to enable more effective use of these areas by the public. The program also aims to promote partnerships between State and Local Government.

In 2005, MGP delivered more than $1.8 million to councils across Sydney on a dollar for dollar basis. In 2006, the Department of Planning will again commit $1.8 million to the embellishment of Sydney's trails and open space in partnership with local councils.

Aims 2006 - 2008

- To promote the development of recreation trails across the Sydney region with a focus on implementing the priorities of the Regional Recreation Trails Framework.
- To promote partnership between State and local government and in particular the development of joint council submissions for projects that cross local government boundaries such as major walking trails.
- To promote the planning and development of trails to provide Sydney's community with healthy and accessible recreation facilities.

Key outcomes

- Partnering with local government to improve regionally significant open space and links between bushland, parks, centres and waterways.
- Enabling more people to enjoy more parks and trails and to appreciate and enjoy our healthy lifestyle, our heritage and our natural environment.
- Delivering the Government's long-term strategy for meeting the community's need for places of recreation.

Types of Projects for Funding

- Walking, running and bike trails
- Coastal, urban and foreshore paths
- Tree planting and bush regeneration
- Parks and playgrounds
- Heritage and natural bush conservation

RTA Cycleway Funding

The RTA Bicycle Program allocates $5 million annually to NSW Council bicycle projects, this includes over $1 million for the Sydney Metropolitan Councils. The dollar for dollar funding is to assist Councils with the development and implementation of their local bicycle networks.

Detailed information on RTA funding for Sydney Council projects is available from the website www.rta.nsw.gov.au. In Sydney the details for RTA funding of Council projects are contained in a Memorandum of Understanding - see details at http://www.rta.nsw.gov.au/trafficinformation/downloads/mou.doc

Objectives:

Design and construction of on-and off-road cycleways in line with BikePlan 2010. This program position is to be used specifically for the design and construction of new cycleways that increase the level of network availability in NSW.

Eligible cycleways categories for the program position are:

a)Off-road cycleways

b)On-road cycleways

Funding arrangements fall into two broad categories:

1. State bicycle routes identified in each RTA Region's component of BikePlan 2010. These routes connect major generators of bicycle traffic within each region (eg universities, commercial centres, railway stations, etc). Projects listed within BikePlan 2010 will generally be 100% funded by the RTA. It is expected that most 100% funded projects (when completed) will be under the care and control of the Council(s) through which it traverses. Exceptions are made through prior arrangement and approval of the Bicycle Network Manager, T&T. RTA asset cycleway asset maintenance and upgrades are undertaken in the 17305 program position.
2. Local bicycle routes identified in each Council's Bike Plan. These routes connect local generators of bicycle traffic within each City, town, suburb and/or village (eg schools, swimming pools, shops, railway stations etc). Generally all cycleway projects identified in Council Bike Plans will be funded on a shared (dollar for dollar) basis with Councils. All joint funded projects will be under the care and control of the Council through which they pass.

Outcomes:

Improvements in satisfaction of cyclists with accessibility

Improvements in satisfaction of cyclists with facilities

Rate of utilisation of facilities, after installation

Supporting Funding Opportunities

DEC - Environmental Trust

The Environmental Trust is an independent statutory body established by the NSW government to support exceptional environmental projects that do not receive funds from the usual government sources. The Trust is empowered under the Environmental Trust Act 1998, and its main responsibility is to make and supervise the expenditure of grants. The Trust is administered by the Department of Environment and Conservation.

The objectives of the Environmental Trust are:

- to encourage and support restoration and rehabilitation projects
- to promote research into environmental problems of any kind
- to promote environmental education in both the public and private sectors
- to fund the acquisition of land for the national parks estate
- to fund the declaration of areas for marine parks and for related purposes
- to promote waste avoidance, resource recovery and waste management (including funding enforcement and regulation and local government programs)
- to fund environmental community groups and
- to fund the purchase of water entitlements for the purpose of increasing environmental flows for the State's rivers and restoring or rehabilitating major wetlands.

Department of Sport and Recreation

Capital Assistance Scheme and Regional Sports Facility Program assists local government and not for profit organisations develop community oriented sporting and recreational facilities. These have been very successful in adjacent counciil areas. Refer to http://www.dsr.nsw.gov.au/finance for further details.

The Capital assistance program (CAP) assists Local Government Authorities and not for profit organisations to develop community orientated local sporting and recreational facilities. Local government authorities, as well as not for profit sporting and recreational organizations are eligible to apply for this grant.

EPA Stormwater Trust Grants
These trust grants provide funds for projects that will have significant and long-term benefits for the health of urban waterways and those that can easily be adopted or adapted by a number of councils to effectively address stormwater issues.

Sydney Catchment Authority
Catchment Protection and Improvement Grants provide up to $8,000 for community projects consistent with the SCA's objectives.

National Heritage Trust: Australian Government Envirofund
The Australian Government Envirofund is the local action component of the Australian Government's $3 billion Natural Heritage Trust. It helps communities undertake local projects aimed at conserving biodiversity and promoting sustainable resource use.

Community groups and individuals can apply for grants of up to $50,000 to carry out on-ground and other actions to target local problems.

PUBLIC ART FUNDING OPPORTUNITIES

The process of raising funds takes time and persistence. Once some money is raised it becomes easier to attract other sources of funding. Funding can be sought from a range of government providers and programs such as: Sharing Sydney Harbour Scheme, NSW Department of Tourism, Sport and Recreation, NSW Department of Planning. The Funding Table outlines the current potential sources of funding and correlates the funding mechanism with potential artworks.

Sponsorship

It would be worthwhile in seeking sponsorship from the manufacturers of James Squire Beer, and the Maritime Services Union, who may have a trust that could assist with interpreting the maritime history of the Parramatta River. Halvorsens ship builders may also want to sponsor a project in Kissing Point., and Slazengers might do the same for Putney Park.

HISTORIC INTERPRETATION		
Plaques, Interpretive Trails	Dept. Environment and Heritage	heritagegrants@deh.gov.au tel: 1800 653 004
Interpretative artworks: Kissing Point Park (James Squire)	Sharing Australia's Stories A grant to show Australians how their stories have contributed to the great events and themes that have shaped our nation	storiesgrants@deh.gov.au
Bennelong Park (Bennelong) Banjo Paterson Park (Banjo Paterson)	Commemoration of Historic Events and Famous Persons: to commemorate historic events, people and places of significance.	chefgrants@deh.gov.au Tel: 02 6274 2464
	NSW Heritage Office	www.heritage.nsw.gov.au
Interpretation	Heritage Education and Promotion: Support for heritage education and promotional projects	
Heritage study	Local Government Heritage Management Funding to prepare community based heritage study to identify, promote and assist the management of heritage items in local area	
Maritime Heritage: Story of the Parramatta River, ferries, punts etc	Maritime Museum of Australia Project Support Scheme. (MMAPSS) Assists projects relating to Maritime Heritage – up to $4000	www.anmm.gov.au/mmapss.htm Tel: 9298 3777
INDIGNEOUS HERITAGE		
For public artworks and historic interpretation	Dept of Environment and Heritage Indigenous Heritage program Supports projects that identify, conserve and promote indigenous Heritage values of places. For 2006/7, projects dealing with places with coastal or maritime indigenous heritage values will be favourably considered.	heritagegrants@deh.gov.au Tel: 1800 653 004
	NSW Heritage Office Aboriginal Heritage Program: For projects conserving/promoting Aboriginal heritage (must be submitted through local aboriginal group)	www.heritage.nsw.gov.au
Artwork in Bennelong Park or Glades Bay	The Australia Council Aboriginal and Torres Strait Arts Board New Work For a new artwork with a public outcome skills and Arts Development To assist skills and ideas for an artwork	www.ozco.gov.au Tel: 9215 9000
PUBLIC ARTWORK		
Public artworks in Charity Point, Kissing Point Park, Putney Park, Banjo Paterson Park	Australia Council Visual Arts Board New Work: for New work by arts practitioners Community Cultural Development Grant: For new work, Skills and Arts development	www.ozco.gov.au Tel: 9215 9000 inter-arts@ozco.gov.au 9215 9116
	NSW Ministry for the Arts Public Art grant Up to $10 000 for developing shortlist of artists for concepts And matching grants of up to $30 000 for public art Commissions for artists fees and photo documentation	ministry@arts.nsw.gov.au 9228 5533
	Western Sydney Arts Strategy	9228 5533
	Sidney Myer Foundation Arts and Humanities Grant For new work, by an Australian Artist	www.myerfoundation.org.au (03) 9207 3040
SPONSORSHIP		
Kissing Point Park Interpretation/upgrade	Producers of James Squire Beer	
Interpretation of Parramatta River, ferries etc	Maritime Services Union	
Kissing Point Park	Halvorsens Ship Builders	
Putney Park interpretation	Slazengers Aust P/L	

Appendix B

Tree Assessment

TREE MANAGEMENT CONSULTING ARBORICULTURISTS

ARBORICULTURAL ASSESSMENT

for

POD Landscape Architecture
192 Barcom Avenue
DARLINGHURST NSW 2010

SITE ADDRESS
PROPOSED RYDE RIVER WALK

NOVEMBER 2006

MEMBER OF
INSTITUTE OF AUSTRALIAN
CONSULTING ARBORICULTURISTS

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CONTENTS

1 INTRODUCTION

1.1 This Arboricultural report was commissioned by Mr Steven Hammond of POD Landscape Architecture.

1.2 The purpose of this report is to provide a preliminary evaluation of the draft Ryde River Walk Master Plan, from an arboricultural impact perspective.
The report reviews the proposed routes of shared (cycle/pedestrian) and pedestrian paths and trails linking several parks from West Ryde Jetty to Banjo Paterson Park.

1.3 This report assesses the potential conflicts between the locations of existing trees or vegetation, and proposed routes or path types. The report is intended only as a guide to reduce identified potential impacts on the existing trees or vegetation, and does not provide individual or specific measures to avoid impacts on trees.

1.4 This report does not give recommendations for tree retention and removal, or provide guidelines for tree protection and maintenance. The report may recommend further investigation of trees where hazardous defects have been noted during the site assessments.

2 METHODOLOGY

2.1 In preparation for this report, ground level preliminary assessments of the subject areas were undertaken by the author of this report on 28th and 30th July, 10th August and 2nd September, 2006.

2.2 Field observations were written down.
Digital photographs of selected trees or areas were taken to aid clarification of potential problem areas. Several photographs were included in this report.

2.3 Plans and documents referenced for the preparation of this report include:

- River Walk Master Plan Draft Report, dated June 2006, prepared by POD Landscape Architecture.

2.4 No individual tree appraisals were carried out during the site assessments.
If any potentially hazardous trees were observed during the course of the site assessments, this has been noted in the report.

3 OBSERVATIONS AND DISCUSSION

3.1 PRECINCT 1: WHARF ROAD TO LANCASTER AVENUE

3.1.1 Koonadan Reserve

The westernmost location of the proposed river walk begins at the Wharf Road car park. The existing path through Koonadan Reserve is well away from any significant trees or vegetation, and can be easily upgraded without any special arboricultural requirements for tree protection.

Figure 1 KOONADAN RESERVE
Looking east towards Melrose Park.

3.1.2 Melrose Park

There is a significant group of semi-mature Eucalypts and Casuarinas in this park. An existing asphalt path curves between a number of the trees. There is some visible upheaval of the pavement surface between two She-oaks (see Figure 2). Whilst the damage is only minor at this stage, it is likely to increase in severity as the tree's roots extend and increase in girth. The surface will become an increasing trip hazard, particularly at night when visibility is reduced.
A gradual 'hump' in the path may overcome this problem, without adversely affecting tree root growth. The current path and upgrading of same shouldn't have any adverse impacts on trees in this park subject to specific arboricultural advice.

Figure 2 MELROSE PARK
Looking west to Koonadan Reserve. Location of minor pavement damage caused by tree roots indicated with yellow arrow.

3.1.3 **Lancaster Avenue**

Lancaster Avenue is an existing type 5, mixed traffic street. For the most part there are existing pedestrian paths of suitable width.
Where proposed new paths, or upgrading of existing paths, is to be carried out near established trees (i.e. trees with a stem diameter of 100mm or more), the impacts of the works on the individual tree needs to be considered. An arborist should be consulted before, and at the time of, any works.

3.2 PRECINCT 2: MEADOWBANK PARK TO RHODES BRIDGE

3.2.1 Laneway Link from Lancaster Avenue to Meadowbank Park

A narrow laneway link from the east end of Lancaster Avenue to Meadowbank Park does not have any trees in proximity which would be affected by any upgrading or widening of the path.

3.2.2 Meadowbank Park

A significant row of Brush Boxes (*Lophostemon confertus*) is located alongside an existing path at the rear of houses facing Crowley Crescent. (Figure 3)
The proposed path appears to well clear of these trees, and no impacts to these trees would be expected as a result of new path construction.

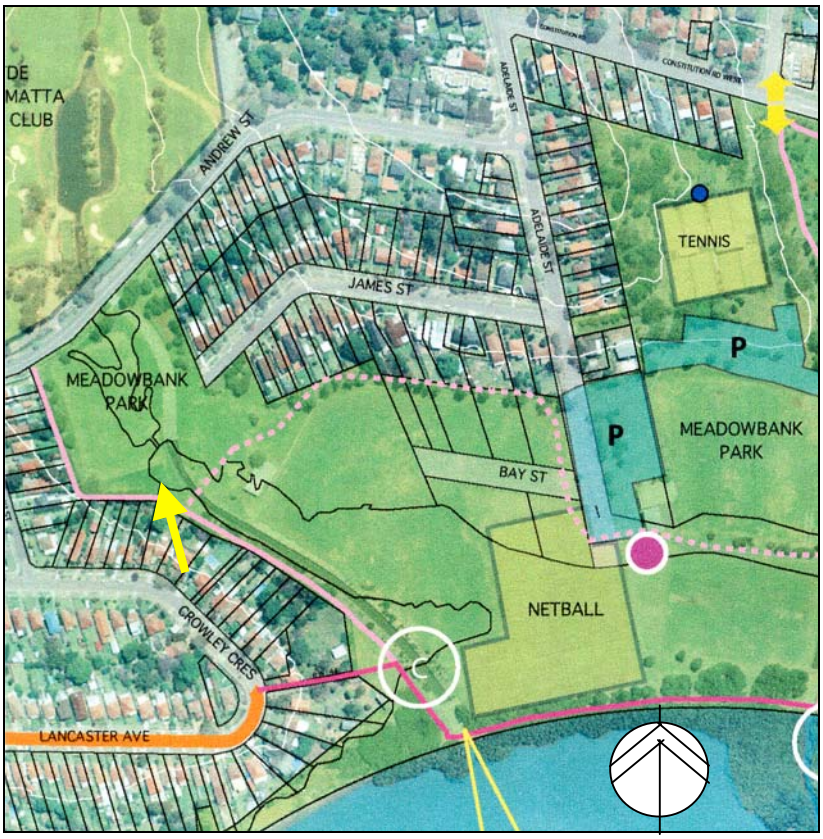


Figure 3 MEADOWBANK PARK
Location of row of Brush Boxes (yellow arrow).

Figure 4 MEADOWBANK PARK
Looking south between end of row of Brush Boxes, and significant red Ironbark.

3.2.3 A large and significant Red Ironbark (*Eucalyptus sideroxylon*) was noted West of the Brush Boxes. The proposed path does not impact on this tree.

3.2.4 The proposed shared loop path can be easily accommodated between the existing Broad-leaved Paperbark (*Melaleuca quinquenervia*) on the left in the photograph (Figure 5, following page), and the very young sapling on the right.

Figure 5 MEADOWBANK PARK
Looking east to rear of properties facing James Street. There is ample space available between the two trees for a 2.5 metre wide path.

3.2.5 To the right of these trees, near the existing clubhouse (out of frame), a mature Small leaved Peppermint (E*ucalyptus nicholii*) is growing.
Any proposed path should be kept a minimum of 5 metres from the trunk of the tree to ensure no significant impacts occur within the tree root zone.

Figure 6 MEADOWBANK PARK
Looking east towards Adelaide Street public carpark.

3.2.6 There is little scope for any hard surface path between these trees in Figure 6, and the adjoining private properties, or between the trees and the concrete canal running along the south side of the trees. Any path along this side of the park would need to skirt the adjacent soccer fields, and possibly be banked on one side to achieve a fairly level and uniform pathway to link the west end of Meadowbank Park to the east section.

Figure 7 MEADOWBANK PARK
Looking west towards netball clubhouse and courts. The trees are adjacent to the existing cricket practice enclosures.

3.2.7 This section of the existing path shown above in Figure 7 may be upgraded, although it should not encroach further towards the existing trees without further assessment and advice from an arboriculturist.

3.2.8 **Section of Proposed Path through Mangroves**
There is potential for construction of an elevated pedestrian boardwalk through a section of the Mangroves as shown on the Precinct 2 map. The materials used, and method of construction would need to be developed in association with ecologists familiar with Grey Mangrove (*Avicennia marina* var. *australasica*), and experienced in developing this type of structure within an important estuarine system.
The pedestrian boardwalk is achievable, but would need to be of appropriate widths and form to avoid loss of significant trees.

3.2.9 **Memorial Park**

An existing path from Meadowbank Park to Charity Point is generally of good condition. Any future widening should consider the presence of existing trees and vegetation, and follow the general guidelines set out in the recommendations section of this report. There were no stand alone significant trees noted through this section.

Figure 8 MEMORIAL PARK
Section of existing path climbing the slope in a north direction towards Meadow Crescent.

3.2.10 It appears the proposed Type 1 path generally follows the existing paths. The existing paths appear to be in generally good condition with little tree root damage. Any widening of the path or construction of new paths near existing trees must be subject to advice from an arboriculturist prior to any final design, or commencement of construction. There are several large and significant Forest Red Gums (*Eucalyptus tereticornis*) lining, or close to, the paths which could be damaged as a result of new works.

3.2.11 It was noted during my inspection that several mature Forest Red Gums have structural defects ranging from minor to severe. These trees should be individually assessed by a competent arboriculturist to determine their hazard potential, and the level of risk associated with their retention near paths or other areas used by the public.

Figure 9 MEMORIAL PARK
Looking west. Meadow Crescent is to the right of the photograph. An existing path is running between the barbecue area and the street. Several large trees are located near the path. Any future widening of paths may impact on tree root systems.

3.2.12 **Bank Street**

A type 4 off-road, segregated footpath is proposed along Bank Street from Meadow Crescent. Any potential works within proximity to existing trees will require specific arboricultural assessment and advice.

3.3 PRECINCT 3: RHODES BRIDGE TO RYDE BRIDGE

3.3.1 Headland and Helene Parks

This section has an existing path, sections of which have signage on the path surface designating it as shared or segregated. Many of the pathways are relatively new, and have little or no damage to the surfaces.
It was noted certain sections are undergoing changes to accommodate adjacent development, and upgrading of the Meadowbank Wharf areas.

There were no significant trees or vegetation in this area that would warrant specific arboricultural input at this point.

3.3.2 Rothesay Avenue

This is a quiet street accessing nearby offices and warehouses. No issues that could impact on trees were noted.

3.3.3 Anderson Park

A large Hills Weeping Fig (*Ficus microphylla* var. *hillii*) is located at the northwest end of the public car park, adjacent to Rothesay Avenue (Figure 10).
An unformed dirt track passes below the canopy of the tree and over the root zone.
A 3.5 metre wide shared path is achievable subject to arboricultural advice. Some pruning of the canopy over the pathway to maintain adequate clearance for pedestrians and cyclists would be required.

Figure10 ANDERSON PARK
Looking northwest towards Rothesay Avenue. Large Hill's Fig at edge of car park.

3.3.4 Shepherds Bay Park

Fairly new existing shared paths. No significant vegetation noted.

3.4 PRECINCT 4: RYDE BRIDGE TO KISSING POINT PARK

3.4.1 Loop Road

Fairly new existing shared paths. No significant vegetation noted.

3.4.2 Settlers Park

No impacts. Access via Waterview Street

3.4.3 Waterview Street –

Area A (Refer to Figure 14 on page 16 for location)
A double row of Cypresses (C*upressus* sp) and Camphor Laurels (*Cinnamomum camphora*) lines the west side of the road reserve along Waterview Street. (Figure 11)
A type 4 off -road segregated path is proposed along this section.
It is unlikely a 2.5 metre wide path of this type can be accommodated between these trees without some impact on the roots.
It was noted the street is not kerbed and guttered along the west side. The distance from the edge of the road surface to the closest row of trees is several metres. It is possible a cycle lane could be accommodated in this location, and the pedestrian path installed between the two rows of trees.

Figure 11 WATERVIEW STREET
Looking west. Meadow Crescent is to the right of the photograph. An existing path is running between the barbecue area and the street. Several large trees are located near the path. Any future widening of paths may impact on tree root systems.

3.4.4 Bennelong Park

Area B (Refer to Figure 14 on page 16 for location)

The upper (east) section of the park can accommodate paths near the boundary, which will not interfere with trees. The path should be kept close to the boundary at the north end to skirt some young trees near the children's swings.

3.4.5 Kissing Point Park

Area C (Refer to Figure 14 on page 16 for location)

There are approximately fourteen (14) mature and semi-mature trees in this area, including Swamp Mahoganies, Turpentines and Hills' Figs (Figure 12).

The proposed Type 2 east path can easily skirt the trees, and be located close to the park's east boundary.

The proposed Type 3 path is located within the tree group. This path appears to meander through the group. There is an unformed path (a 'desire' line) between the existing Figs and the shore, which may be a more suitable location for the path. As the ground is undulating through this section, it may require short, elevated sections to span depressions, and avoid significant tree roots.

It is preferable to incorporate the existing 'desire' line, rather than to cause impacts on other trees by diverting a path through the group.

Figure 12 KISSING POINT PARK
Looking south towards the tree group in Area C.

Area D (Refer to Figure 14 on page 16 for location)
A large Red Ironbark *(Eucalyptus sideroxlon)* and Argyle Apple (*Eucalyptus cinerea)* are growing near the north side of Yaralla Road (Figure 13).
A path could be located equidistantly between the two trees, subject to further assessment by an arboriculturist to determine the best methods for path construction.
A mature She-oak located several metres northwest, near the entry to the sailing club, should have any path kept outside a 3 metre setback from the trunk.

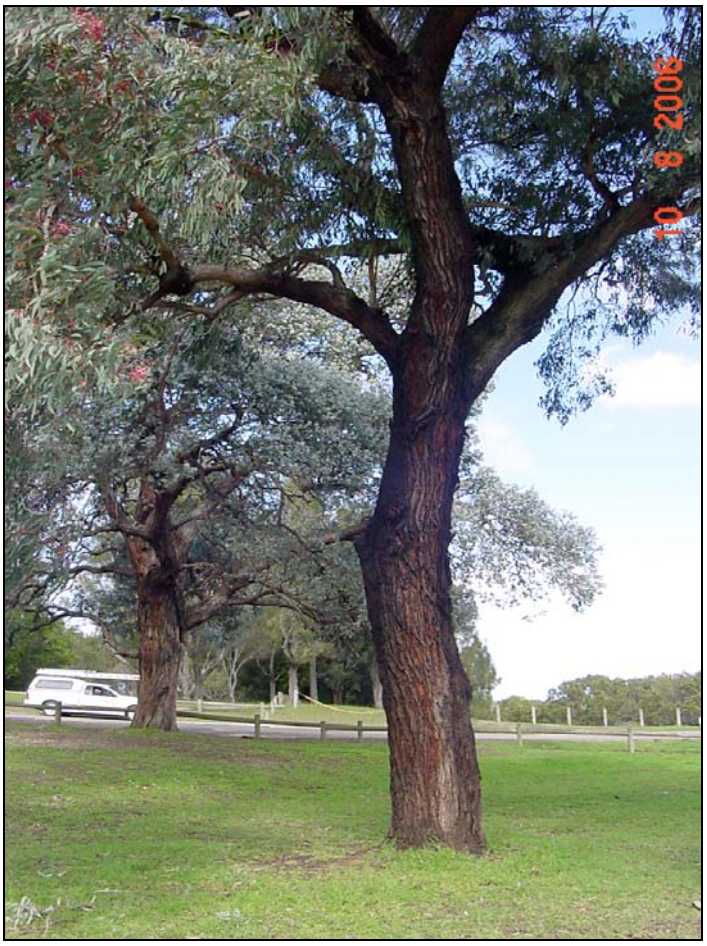


Figure 13 KISSING POINT PARK
Two significant trees that would require special attention prior to any final path design within 10 metres of the trees. No path should completely encircle the trees.

Area E (Refer to Figure 14 on page 16 for location)
There is ample room for a 1.5 – 2 metre shared path from the Kissing Point Park car park to approximately 125 metres northwest.
At this point there is a group of semi-mature She-oaks that encroach into the potential path area. These trees are unlikely to suffer from any path installed through this 'pinch point'; however, they are quite likely to damage any path over the root zones.

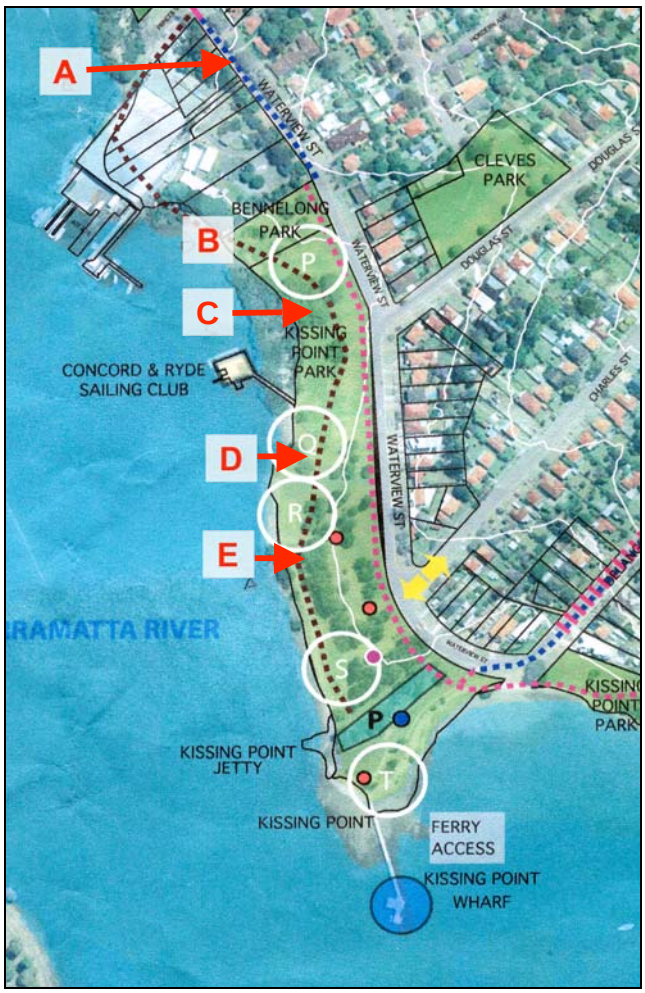


Figure 14

Plan showing the locations of Areas A to E, in Waterview Street, Bennelong and Kissing Point Parks.

The path along the boundary of the park and Waterview Street may impact on some existing trees opposite the Charles and Waterview Street intersection. The design of paths in this area must be subject to arboricultural advice.

Figure 15 KISSING POINT PARK
Intersection of Waterview Street and Delange Road, looking southwest towards Kissing Point wharf.

3.4.6 The two Coral trees (*Erythrina x sykesii*) in Figure 15 are visually important. The species, however, is known to be brittle. Any new paths should be kept out of the dripline of the trees to minimise any risk of injury by failing branches.
Alternatively the existing path should be utilised as the link to the eastern section of Kissing Point Park.

3.4.7 The proposed path can easily be constructed without impacts on the two young Turpentines (*Syncarpia glomulifera*) seen in Figure 16, below.

Figure 16 KISSING POINT PARK
From the southern end of Delange Road, looking southeast.

3.4.7 **Delange Road**
A proposed type 4 segregated footpath to link with Pellisier Road.
Any potential works within proximity to existing trees will require specific arboricultural assessment and advice. Refer to Recommendations.

3.4.8 **Chadwick Street**
A proposed type 5 on road, Traffic Street.

3.5 PRECINCT 5: KISSING POINT PARK TO PUTNEY PARK

3.5.1 Hoffman Park

This is within the proposed link in between Kissing Point Park and Pellisier Road, via Chadwick Street.

Adequate space is available for the proposed Type 1 path without impacting on existing trees. Preference is to be given to locating the path outside the drip line of the Small-leaved Peppermint (*Eucalyptus nicholii)* shown in the left of the photograph below - Figure 17.

Figure 17 HOFFMAN PARK
Looking west to Chadwick Street.

3.5.2 Pellisier Road and Jetty Roads

These are existing routes.

3.5.3 Putney Park

A long loop of type 3 shared trail is proposed from the car park at the north end of the park, to the southern end of the park, and back to the car park.

An existing path of approximately 2 metres width runs from the car park to the northwest corner of the park before it terminates. The path is in good condition and would require little, if any, upgrading to meet the specifications for the proposed shared trail.

Figure 18 PUTNEY PARK
Looking northeast. A group of 10 semi-mature Figs partially encircling the smaller playground area.

3.5.4 The proposed path around the smaller playground should be kept at least 4 – 5 metres away from the existing Figs, to allow adequate root spread.
As the trees mature, their canopies will provide useful shade for park users.
The use of any path in this immediate area by cyclists should be discouraged. This area is used by families. Young and active children could be at risk of being knocked over by cyclists.
Consideration should be given to increasing the distance from the path to the trees, so families can spread out in the shade, or remove the proposed path entirely from this area.

3.5.5 There is a relatively clear area from the end of this existing path, along the foreshore to point B, shown below. Access is via stone steps to the upper open space and picnic areas.
Cycle access would need to be diverted northeast around the escarpment and consider the location of a very large and significant Fig, (see Figure 34, page 33) the approximate location of which is shown by the red star below.

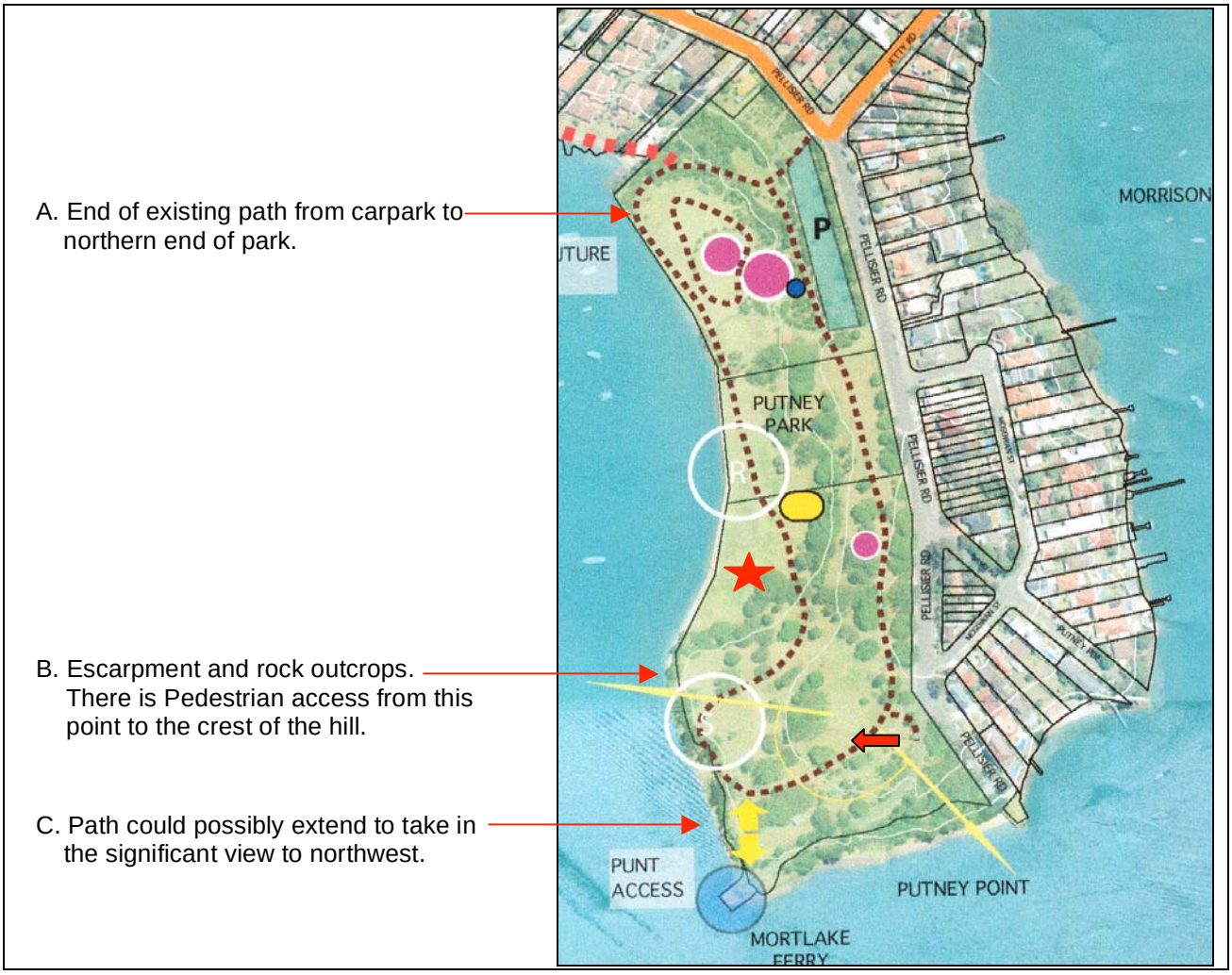


Figure 19 PUTNEY PARK

3.5.6 The proposed path needs to skirt several mature trees, some of which need to be investigated for hazard potential.
The proposed track could be extended as shown, as there is an excellent view corridor to the northwest and public toilets with established access paths in close proximity.
The proposed route (red dashed line) could link with the originally proposed route, whilst skirting large trees. There are also existing paths which could be upgraded and used as shared trails.
The route should also skirt the perimeter of the large open space area (indicated by red arrow), as this is used as an informal playing field by park visitors.

3.5.7 The path extends through several tree groups in the park along the Pellisier Road boundary. Whilst a large portion of the proposed path can be constructed with little impacts on nearby trees, there is a pinch point between the existing playground and the carparking area on the road reserve. Pathway construction materials and methods would be subject to more detailed investigation by an arboriculturist.

3.6 PRECINCT 6: MORRISONS BAY PARK TO GLADES BAY PARK

3.6.1 Southwest section

The initial section of the proposed pathway can be easily accommodated past the playing field, whilst maintaining a setback of at least 4 metres from an existing Bangalay (*Eucalyptus botryoides*) and Broad-leaved Paperbark (*Melaleuca quinquenervia*), located near the rear boundaries of dwellings facing Stanley Street.

3.6.2 A 3 metre wide path is proposed through this group of trees - (Figure 20). Unless selective tree removal is carried out, this path width cannot be achieved. An alternative would be to direct the path to the south and east of this group, however, that may impact on the playing fields nearby. This would require further investigation to determine the feasibility of path location, either through the tree group or skirting the group.

Figure 20 MORRISONS BAY PARK
Looking northeast towards the parking area. A 3 metre path is proposed through this group of trees.

Figure 21 MORRISONS BAY PARK
Looking northeast, adjacent to Frances Road. Note spectator benches to right of trees.

Figure 22 MORRISONS BAY PARK
Looking northeast along Frances Road. Trees located in road reserve.

3.6.3 The trees within the park, (mainly She-oaks – Figure 21) and adjacent to Frances Road, could only accommodate a narrow path of around 1200mm width, unless selective removal of one or two trees is considered.

An alternative could be to locate the proposed path to the east of the trees; however, this would require the spectator to be moved closer to the playing fields, and possibly out of any shade provided by the trees.
The wide road reserve could also be considered for short access along this section of the park, which would remove impacts on trees, and interference with park visitors using the benches.

3.6.4 Between the sports ground car park and Frances Road, there are two rows of trees within the road reserve (Figure 22). There is little space to accommodate the proposed type 1 path without removal of several trees, and specific construction methods used to reduce impacts on tree roots would need to be adopted.
A young Fig tree in the road reserve at the west corner of the car park could be affected by new construction over the roots. It would require specific assessment and advice from an arboriculturist to ensure impacts are avoided or minimised.

3.6.5 Any proposed path near the Hill's Figs at the north end of the park (i.e. facing Morrison Road) should allow for a setback outside the canopy dripline of the trees. This group has paths on the road side and to the east already. Further works should be subject to an arboriculturist's advice.

3.6.6 **Bill Mitchell Park**
The location of the secured access gate restricts walkers and cyclists. On the right side of the gate (east) a couple of *Lomandras* could be removed, and some shrubs pruned, to create a narrow path access to the park. (Figure 23)

3.6.7 An existing unformed vehicular track runs along the west side of the park and terminates near the water front. A new pedestrian/cycle path would need to be located on the inside of this track, as there is inadequate space between the vehicle track and adjacent vegetation, rock walls and outcrops.

3.6.8 A concrete path along the east side of the park ends just short of the steep steps leading from the park to Western Crescent. At this point it appears the path has been removed and/or filled over. The photograph (Figure 24) shows the darkened strip leading back to the north entry to the park. This strip is in line with the direction of the existing concrete path. A new path could be located in this position, or closer to the park boundary. A large Camphor Laurel, located near the boundary, would need to be pruned to allow clearance for walkers and cyclists. If possible, the path should be kept to the outer extremity of the tree's dripline to reduce root impacts; otherwise, an arboriculturist should provide specific details of construction methods over the root zone to avoid unnecessary impacts on tree roots.

Figure 23 BILL MITCHELL PARK
Looking north, towards Morrison Road. Note driveway access to residences on left side of photograph.

Figure 24 BILL MITCHELL PARK
Looking north, towards park entry. Note darkened strip in grass, indicating probable location of old concrete path. This path may have been removed, or simply turfed over.

3.7 PRECINCT 7: GLADES BAY PARK TO BEDLAM BAY

3.7.1 Ashburn Place

Any widening of the existing footpath must consider the location of trees nearby.

A preliminary assessment based on the guidelines included in Recommendations (section 4) will help to determine which trees require specific assessment by a competent arboriculturist, before final path design is adopted.

3.7.2 Glades Bay Park

The type 3 shared trail path can be accommodated through this group of trees in Figure 25. As the ground level is undulating, a safe and even path may be difficult to achieve in proximity to these trees, without impact on tree roots. The paths should either follow the existing gradients, or 'bridge' existing depressions. This should be subject to more detailed investigation to ensure the construction methods adopted will not adversely affect the tree.

Figure 25 GLADES BAY PARK
Northern section of park, looking east towards York Street (obscured in background).These trees are growing adjacent to the turning circle of Glades Avenue.

Figure 26 GLADES BAY PARK
Near intersection of Linsley and York Streets, looking southeast towards park entrance (yellow arrow).

3.7.3 The proposed path avoids the watercourse and vegetation shown in Figure 26. The land falls steeply to the southwest, (other side of vegetation in photograph), so the proposed path meets up with the existing path that begins where the yellow arrow indicates.

3.7.4 There is an existing concrete path through the park which meets Delmar Parade to the south (Figure 27). Some sections have been recently repaired or are undergoing repairs. The damage does not appear to be tree root related, as existing trees are generally well set back from the path.

Any widening of the path in the future would need to ensure that works within proximity to mature trees should be initially subject to review by an arboriculturist.

Figure 27 GLADES BAY PARK
Looking northeast from southern end of park, near entry from Delmar Parade.
Any path widening through this section will not impact on trees.

Figure 28 LOOKING GLASS BAY PARK
Southern end of Looking Glass Bay Park. The unformed dirt track links to the north end of Banjo Paterson Park in the background (obscured from view).

Figure 29 LOOKING GLASS BAY PARK
Looking southwest. Tallowwoods (some arrowed) are growing on the east side of the track.

3.7.5 A significant, scattered grouping of *Eucalyptus microcorys* (Tallowwood) is located on the east side of the track, opposite a long rock bench (Figure 29). The sandstone benching and trees are located outside the boundaries of the adjacent private properties abutting the park. Where this group of trees begins, I noted the existing dirt track is over unstable, rocky ground. Several large woody roots belonging to Tallowwoods were noted in this area. Some roots have been damaged by past foot and bike traffic.

3.7.6 It was noted that the existing, unformed dirt track skirts the edge of a vegetated area, bound by a walking track on the west side of the water course leading to the bay. The vegetation (including areas of what appears to be ongoing revegetation and regeneration works) bound by the east and west paths is quite dense. The water course is protected by this planting on either side. There is no proposed path in this area.

3.7.7 Much of the path that links Looking Glass Bay Park with Banjo Paterson Park is edged on the west side with old timber poles, and there are few significant trees to the west, within metres of the existing unformed path.

Figure 30 LOOKING GLASS BAY PARK
Approximate location of existing, unformed dirt track shown in brown.

Figure 31 LOOKING GLASS BAY PARK
Part of the track through Looking Glass Bay Park, linking Banjo Paterson Park to Ashburn Place.

3.7.9 **Banjo Paterson Park**

As noted, an unformed dirt track links the south end of Looking Glass Bay Park to Banjo Paterson Park. A picnic area, and amenities block are located at the northern end of Banjo Paterson Park. There are existing paths, paved and unpaved, which are generally well clear of existing trees.

Any upgrading of paths, or paving of unformed paths, can be done without impacts on trees. If proposed new paths are to be directed near trees, this could require arboricultural input to determine potential impacts on the trees.

3.7.10 The southern section of the proposed type 1 shared trail skirts around the Banjo Paterson restaurant buildings. There are rock outcroppings which would restrict cycle access from the car park at this point, although there appears to be scope for minor path redesign to create a path loop within the park.

There are some mature trees along the top and bottom of the rock outcropping. Any path construction (and possible rock cutting or excavation) may impact on trees nearby. Arboricultural advice would need to be sought prior to final design.

Figure 32 BANJO PATERSON PARK
Looking northwest towards mangroves. Ample opportunity for a Type 1 shared path.
The yellow star shows the location of a picnic shelter on the upper level. The red arrow indicates the level change between the lower and middle sections in the park.

3.7.11 There is ample area to accommodate a type 1 shared path along the foreshore between a group of Casuarinas just north of the Banjo Paterson wharf, and the trees south of the mangroves. The red arrow in Figure 32 indicates a steep access between the proposed lower path and the existing path above.
An elevated timber stair structure could be located within this area, although some removal of small trees and shrubs would be likely, to accommodate this.
The gradient is such that cycle access from this point is unlikely without bank excavation and increased tree removal.

3.7.12 An alternative is to provide a short loop down to the foreshore which meets the existing path shown in Figure 33.

Figure 33 BANJO PATERSON PARK
The existing path is in good condition. Widening of this path in this area will not impact on trees. The yellow star identifies the location of the picnic shelter.

4 RECOMMENDATIONS

4.1 General

4.1.1 Reference should be made to additional recommendations included in the body of this preliminary assessment, which may be specific to individual sections of the proposed river walk.

4.2 Determining the Potential Impacts of Construction near Trees

4.2.1 The advice of an arboriculturist is recommended where construction is to take place within the trees' root zones, as there are many factors which influence the success of the tree after construction. For example, age, species tolerance, level of vigour, structural defects present, location, aspect and soil types, all contribute to the process of evaluating the potential impacts of construction near a tree.
The arboriculturist can provide an informed recommendation as to the most appropriate methods of construction within proximity to the tree.

4.2.2 A useful guideline to follow in preliminary assessment of potential impacts to the tree would be:

- Determine the diameter of the tree trunk at 1.4 metres above existing ground level;
- Multiply that figure by 10.

4.2.3 Any pavement works *inside* that figure must be subject to assessment by an arboriculturist, to determine the most appropriate methods of pavement construction which will not damage, sever, crush or asphyxiate existing roots, nor create a high level of path maintenance as a result of roots damaging the pavement.
Where large or significant trees (e.g. stem diameters of 500mm or more) are located close to a proposed path, or where upgrading of paths, including widening, is proposed, it is crucial that a competent and experienced arboriculturist is retained to advise on the most appropriate design solution to maintain the tree safely, and in good health.

4.3 Other Considerations

4.3.1 Potentially hazardous trees noted in Memorial and Putney Parks should be inspected and assessed by a competent arboriculturist.

4.3.2 When determining the most appropriate methods and materials for pavements near trees it is recommended reference be made to the following publications, in conjunction with an arboriculturist with knowledge of local tree species and their distinctive patterns of root development:

- British Standards Institute 1991, *BS 5837:1991 British Standard Guide for Trees in Relation to Construction*, British Standard Institute.
- Costello, L.R. and Jones, K.S. 2003, *Reducing Infrastructure Damage by Tree Roots – A Compendium of Strategies,* Western Chapter of the International Society of Arboriculture, California.
- Matheny, N.P. and Clark, J.R. 1998, *Trees and Development – A Technical Guide to Preservation of Trees During Land Development*. International Society of Arboriculture, Savoy,Illinois,.

Figure 34 PUTNEY PARK
A significant and visually dominant Fig tree. One of several very large, mature trees in the park.

Appendix C

Lighting Assessment

Ryde River Walk Masterplan
Pedestrian and Cycleway
Lighting Issues

Introduction

The philosophy for the lighting of the pedestrian paths and cycleways is dependent on the several aspects:

- To what extent are the paths likely to be used at night?
- Does the council want to encourage the use of the paths at night?
- The real and perceived security risk in using the paths
- The potential impact of the lighting on the native flora and fauna
- The potential impact of the lighting on residences that abut the path
- The image of the foreshore from the water
- The affect of the lighting on the night water views
- The desire to identify the presence of the cycleway for its entire length by characteristic lighting

Some of the aspects are conflicting and the relative importance of the aspects may differ for different portions of the route. In a section that has high night pedestrian traffic, near a railway station or bus stop, the path may need to be well lit for safety and security reasons. In other remote or isolated sections there could be a case for not lighting the path at all as it could be construed as encouraging people to use a section of path that has no natural surveillance. Similarly, in isolated paths it may be desirable to have very low level lighting to minimise the impact on the immediate environment.

Standards

There are several standards and guides that have application to the site.
The primary ones are:

a) AS1158.3.1:2005 Lighting for roads and public spaces Part 3.1: Pedestrian area (Category P) lighting- Performance and design requirements
b) Austroads Guide to Traffic Engineering Practice Part 13 Pedestrians
c) Austroads Guide to Traffic Engineering Practice Part 14 Bicycles

These are not mandatory; however they are useful as a guide and could be used as a benchmark if there is some compensation claim against the council.

d) DUAP Crime preventions and the assessment of development applications guidelines.

This falls under the authority of the Environmental Planning and Assessment Act, but may not be applicable to this situation. It has more to say about the process rather than to make specific technical recommendations.

The Austroads documents are general design documents that include some lighting recommendations rather than specific lighting documents. They are also moderately old being published in 1995 and 1995. They draw information from AS1158, but it is from a now superseded edition. They are however still called up on RTA projects.

The Australian Standard A1158.3.1 makes recommendations for a horizontal and vertical illuminance levels and uniformity for a variety of areas based on the criteria of:

a) Amount of night activity or traffic
b) Risk of crime
c) Need to enhance prestige

Where the lighting is predominately for pedestrians there is a vertical illumination requirement as well as a horizontal illumination. The purpose of this is to illuminate people's faces so that a person can identify an approaching person and also make some judgements about their intentions before they are too close. The effect of the vertical illumination requirements is either to reduce the spacing of the light or to increase the glare and spill light in the area.

The other effect of the vertical requirement is that it is virtually impossible to comply using only bollard lighting as the glare would be unacceptable if the vertical illuminance complied.

The standard is not mandatory and there may be valid reasons to depart from it in some areas. The final decision will need to be made by council on the balance of aesthetics, function and risk.

Table 1 compares the recommendations of AS11587.3.1 and the Austroads guides.

The light output of lamps decreases with age. Different lamps depreciate at different rates. This is called lumen depreciation.

When comparing the Austroads guides with AS1158 it should be noted that AS1158 refers to the light output at the end of the lamp life, or the time when the lamp needs to be replaces whereas the Austroads guides refer to average through life. As a result you would expect the Austroads numbers to be around 20% higher than the equivalent area in AS1158.

The Austroads standards tend to be for very high volume spaces and are probably excessive for this application.

General Philosophy

In determining the recommendations the following general philosophies were applied:

a) We have assumed that there is no desire to use the lighting street furniture to mark the river walk route by day and night.

   If this were the case there would have to be a relatively consistent lighting scheme along the entire length. There would be little scope to vary the lighting to react to the local conditions.

   It would also mean that wherever the route went along existing residential streets they would need to have supplementary lighting.

   This could have an advantage however where there are alternative routes that are to be encouraged for night usage, however it might then give contradictory guidance by day.

b) If the section of the river walk will be used as a primary route from a station or ferry wharf then the path should be lit to the appropriate category of AS1158.3.1

c) If the river walk passes along a residential street then the lighting of the residential street is considered adequate provided the street is illuminated to at least P4 category.

d) Isolated paths through mangroves or dense foliage where there is little or no opportunity for natural surveillance should either not be lit at all or at most a row of small marker lights. People should be encouraged to go around the area via the streets at night.

e) Parks and paths though paths have not been lit unless there is not a suitable or safer alternative route.

Draft Recommendations

Table 2 divides the River Walk into categories and attempts to allocate some assessment of the design criteria so that a lighting category can be applied. The recommendations are presented or discussion as the final criteria must be a balance between the council's night usage requirements and their risk management policies.

Power Supplies

The proposed walk appears to all be within the EnergyAustralia distribution area. EnergyAustralia's current policy is that all lighting in parks and on paths not associated with roads will require a separate metered power supply unless the load is small enough to fall into the category of a 'special small service'. This generally only covers two or three post-top fittings.

As a result at each of the areas where off road lighting is required there will need to be a freestanding, or pole mounted switchboard to supply the lighting. As this is a metered supply there is also the opportunity to use it to provide power outlets for events and maintenance if required.

With lighting on the streets, unless the lighting uses standard EnergyAustralia fittings and poles the lighting will also need to have a separate metered power supply.

Lighting Equipment

The success of a night environment depends greatly on the quality aspects of the lighting. The major aspects that affect the success of lighting are control of the glare and the colour of the light.

Glare inhibits the ability to see and is dependent on the ratio between the brightness of the lights source and the background. As the night background is effectively black the only means available to control the glare is to reduce the brightness of the background.

Glare from light fittings has a claustrophobic effect as everything beyond the first light fitting is black and there is no distant view. Under these circumstances increases in illuminance does not necessarily increase visibility and in a lot of cases reduces it.

Lighting that has a flat horizontal glass give good glare control and distant vision. This gives the ability to see people in the distance and increases the feeling of security for people using the path. It also reduced the spill light into the sky and surrounding area and increases the efficiency of the lighting.

Figure 1 shows the difference between a flat glass light fitting and a fitting with a louvred lamp.

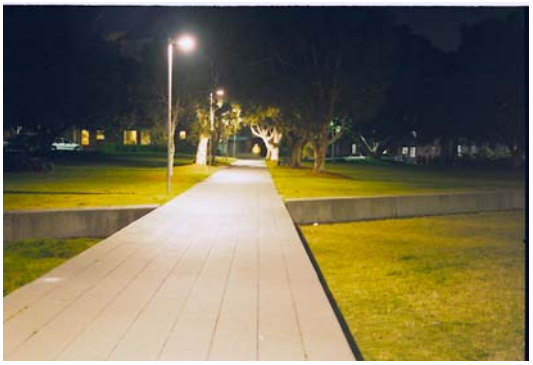


Figure 1

The Bega '8082' fitting that is currently used by the Council in some of their parks has good glare control. There are many fittings with similar characteristics. The Kim 'Architype' and the Architectural Area Light 'Largent' are typical examples.

Figure 2 shows some examples of typical flat glass pedestrian luminaires. The flat glass distribution is also available in minor streetlights. These are normally referred to as being aeroscreen fittings.

Figure 2

Bega 8082 Kim Architype AAL Largent

Aeroscreen

Figure 3 – Rexel Optima Aero

The other important aspect of lighting is colour.

Light sources have two principal colour properties; colour appearance, the colour that the light appears and colour rendering, the accuracy with which colours are reproduced.

Colour appearance varies between warm lamps, which look yellowish and cold lamps that look bluish. Warm lamps are generally preferred for public lighting as they tend to create a more comfortable and relaxed atmosphere.

Colour rendering is generally independent of the colour appearance of the lamp and is dependent on the spectral content of the light. If the colour of light is not in the spectrum of the lamp then the light cannot render that colour.

Lamps like high pressure sodium have poor colour rendering and tend to make people look sallow and unwell. People therefore do not enjoy being in this environment. Under good colour rendering light the whole environment looks more interesting.

The other important aspect of colour rendering is that it improves the ability to identify people.

The preferred lamp source should be either metal halide or fluorescent. Metal halide lamps tend to give much better optical control and overall efficiency, but are a more expensive lamp. Fluorescent lamps are less expensive but give much less optical control and their light output is significantly reduced in low ambient temperatures.

Alternative Power

Solar powered lighting gives a potential opportunity to reduce the green house gases and reduce the cost of mains connection in more remote locations.

There are two basic philosophies in solar lighting;
- stand alone units which have a closed loop of solar panel, battery and lamp, and
- grid connected installations where the lights and the solar panels are connected to the grid.

Stand Alone Solar Lights

With a stand alone unit the amount light and the duration of the light is dependent on the amount of energy that can be collected and stored. A solar lighting installation ideally should have several days of autonomy. That is the battery has sufficient capacity to run the light for several days without charging. This allows for several days of overcast conditions.

The solar collector must also be of sufficient size to fully charge the battery within the charging hours of a typical day. The design criterion therefore becomes a balance between the light output of the fittings and the size of the battery and the solar collector.

If the solar collectors and batteries are undersized then the light will cease to operate part way through the night. If the next day is overcast then there will be no light at all the next night.

Most commercial solar fittings have much smaller lamps than would be used in a conventional fitting, to extend the operating hours of the solar light. As a result the lighting of most solar installations does not meet the recommendations of the Australian Standard AS1158.3.

Although the standard is not mandatory it is not valid to have different criteria for the design of solar lighting to conventional lighting.

In addition, solar panels do not generate if they are partially shaded. If the lights are located in areas where they are shaded for part of the day by trees or buildings then the solar panels need to be increased in size to compensate for the reduced charging time. Most proprietary lights have a single size collector.

The Council's test installation of four fittings at Shepherds Bay was inspected on the evening of 22nd August at 9.00pm. The day had been a sunny day so the lights should have been fully charged. There had been a storm late in the afternoon which would have caused the fittings to come on approximately one hour early.

Of the four fittings only the second from the eastern end was operational.

An illumination of 7 lux was measured directly under the fitting and a vertical illumination of 1 lux was measured 10 metres from the fitting. The ambient illuminance was around 0.3 lux.

It is difficult to know whether the fitting were on full light output or just about to fail as well, but based on the readings the fittings would need to be spaced at around 10 metres to achieve P2 Category lighting and 15 metres to achieve P3. The fittings appeared to be spaced at around 35 metres.

Grid Connected Solar Lighting

With grind connected solar lighting there is no direct relationship between the solar collectors and the fittings. The solar collectors can be on the fittings but can also be mounted totally separately. With this installation the fittings are wired to the mains in the conventional manner, however the solar panels are also connected to the mains via an inverter. There is no battery in this instance as the panels generate into the mains during the day. This energy is resold by Energy Australia as green power. At night the lights draw their power from the grid.

If the panels have the same capacity as the lighting installation then the installation is energy neutral. If the panels have a larger capacity then the installation generates more energy than it uses. In most applications however due to the cost of the panels the installation only generates a portion of the overall energy needs.

This is the system that is used on the lighting towers in the Olympic Boulevard at Homebush Bay.

The advantages of this type of installation is that there is no battery so there will always be light, even if there are successive overcast days. In addition the illumination level is not limited by the panel and battery capacity as the shortfall can be made up from the mains.

The disadvantage is that there is no installation cost saving in the wiring to the fittings to offset the cost of the panels.

Lighting of Artworks

There may be an opportunity to light artworks as part of the overall lighting. The lighting will depend on the nature and the location of the artwork. In general the lighting will again need to be taken from a metered supply.

There is an advantage in lighting iconic artworks in focal locations as it assists people to identify the location. This assists in their orientation and ability to find their way.

It may not be wise to light artworks that are not in prominent locations as it may just attract the attention of vandals and graffiti.

Description	Pedestrian/ Cycle activity	Risk of Crime	Need to enhance prestige	AS1158 Category	AS1158.3.1				Austroads Part 13		Austroads Part 14		
					Average horizontal illuminance **lux**	Point horizontal illuminance (minimum) **lux**	Illuminance (horizontal) uniformity **Max/avg**	Point Vertical Illuminance **lux**	Minimum average illuminance (service) **lux**	Minimum Illuminance (service) **lux**	Minimum average illuminance (service) **lux**	Average Vertical Illumination (service) **lux**	
Local Road or Street	N/A	High	N/A	P1	7	2	10	2	10	2			
	High	Medium	High	P2	3.5	0.7	10	0.7	10	2			
	Medium	Medium	Medium	P3	1.75	0.3	10	N/A	10	2			
	Low	Low	N/A	P4	0.85	0.14	10	N/A	10	2			
	Low	Low	N/A	P5	0.5	0.07	10	N/A	10	2			
Pedestrian and cycle orientated pathways	N/A	High	N/A	P1	7	2	10	2	10	2	5	5	
	High	Medium	High	P2	3.5	0.7	10	0.7	10	2	5	5	
	Medium	Low	Medium	P3	1.75	0.3	10	0.3	10	2	5	5	
	Low	Low	N/A	P4	0.85	0.14	10	N/A	10	2	5	5	
Steps and stairways ramps footbridges Pedestrian ways				P9	7	2	10	2	50	10			
Subways including associated ramps				P10	35	17.5	10	17.5	50	10			
Tunnels <10m											10	10	
Tunnels >10m											20	20	

Table 1 – Composite table of requirements of the standards and guides

TABLE 2 - SECTION BY SECTION ANALYSIS OF THE ROUTE

Item	Description	Pedestrian Activity	Cycle Activity	Risk of Crime	Special considerations	Recommended lighting category	Notes
Precinct 1							
1.1	**Korpie Reserve**	low	low	high	There may be some night traffic if the wharf is used at night	Nil	Note 1
1.2	**Melrose Park**	low	low	high	There may be some night traffic if the wharf is used at night	Nil	Note 1
1.3	**Lanchaster Ave**	low	low	low		P4	Note 2
Precinct 2							
2.1	**Meadowbank Park**	low	low	med	Note 3	P3	
2.2	**Meadowbank Park - Link Path**	low	low	med	Discourage night usage	P3	
2.3	**Charity Point – Ferry Wharf**	med	low	med		P3	
Alternate Route							
2.3a	Charity Point – Railway Link Path	med	low	med		P3	
2.3b	Meadow Crescent	med	low	low		P4	Note 2
2.3c	Bank Street	med	low	low		P4	Note 2
Precinct 3							
3.1	**Railway to Ferry Access Path**	med	med	med	Preferred night route	P3	
3.2	**Meadowbank Wharf to Helene Park**	med	med	med		V4	Already lit as a traffic route

Alternate Route							
3.1a	Railway Road	med	med	low	Preferred night route	V3	Already lit as a traffic route
3.1b	Constitution Road	med	med	low	Preferred night route	V3	Already lit as a traffic route
3.1c	Bowen Street	med	med	low	Preferred night route	P4	Note 2
3.3	**Shepherds Bay**	med	med	med		P3	
3.4	**Shepherds Bay Park**	med	med	med		P3	
3.5	**Loop Road**	med	med	med		P3	
Precinct 4							
4.1	**Waterview Street**	med	med	med	Preferred night route	P4	Note 2
4.1a	Settlers Park	low	low	high	Do not light – discourage night usage	Nil	Note 1
4.2	**Waterview Street**	med	med	low	Path adjacent to the road Preferred night route	P3	
4.2a	Kissing Point Park (West	low	low	high	Do not light – discourage night usage	Nil	Note 1
4.3	**Delange Road**	med	med	low	Path adjacent to the road Preferred night route	P3	
4.4	**Pellisier Pl lane**	low	low	high	Do not light – discourage night usage	Nil	Note 1
4.5	**Kissing Point Park East**	low	low	high	Do not light – discourage night usage	Nil	Note 1
4.6	**Chadwick Street**	low	low	low		P4	Note 2
4.7	**Hoffman Park**	low	low	med	Do not light – discourage night usage	Nil	Note 1
Precinct 5							
5.1	**Pellisier Road**	low	low	low	Preferred night route	P4	Note 2
5.2	**Putney Park**	low	low	high	Do not light – discourage night usage	Nil	Note 1
5.3	**Jetty Road**	low	low	low	Preferred night route	P4	Note 2

Precinct 6							
6.1	**Morrisons Bay Park**	low	low	med	Neither 6.1 or 6.1a have good surveillance at night	P1	Light 6.1 or 6.1a
6.2	**Footbridge and path through the path**	low	low	med	6.2 had relatively good distant surveillance but the centre of the path is a long way from the road	P2	
Alternate Route							
6.1a	Morrisons Bay Park North	low	low	med	Neither 6.1 or 6.1a have good surveillance at night	P1	Light 6.1 or 6.1a. 6.1a is preferable as the insecure length is less and is closer to houses
6.1b	Francis Road	low	low	low	Preferred night route	P4	Note 2
6.1b	Morrison Road	low	low	low	Preferred night route	V3	Already lit as a traffic route
6.4	**Teemer Street**	low	low	low		P4	Note 2
6.5	**Tennyson Road**	low	low	low		P4	Note 2
6.6	**Brett Street**	low	low	low		P4	Note 2
6.7	**Champion Road**	low	low	low		P4	Note 2
6.8	**Morrison Road – footpath**	low	low	low	Path adjacent to the road Preferred night route	P3	
Alternate Route							
6.4a	Bayview St	low	low	low		P4	Note 2
6.4b	Beach Street	low	low	low		P4	Note 2
6.4c	Tennyson Road	low	low	low		P4	Note 2
6.4d	Champion Road	low	low	low		P4	Note 2
6.4e	Bill Mitchell Park	low	low	med	Do not light – discourage night usage	Nil	Note 1

Precinct 7							
7.1	**Western Crescent**	low	low	low	Discourage night usage as it leads to Glades Bay Park which has poor surveillance	P4	Note 2
7.2	**Glades Ave**	low	low	low	Discourage night usage as it leads to Glades Bay Park which has poor surveillance	P4	Note 2
7.3	**York Street**	low	low	low	Discourage night usage as it leads to Glades Bay Park which has poor surveillance	P4	Note 2
7.4	**Ashburn Place**	low	low	low	Discourage night usage as it leads to Glades Bay Park which has poor surveillance	P4	Note 2
7.5	**Glades Bay Park**	low	low	med	Do not light – discourage night usage	Nil	Note 1
Alternate Route							
7.1a	Morrison Road	low	low	low	Preferred night route	V3	Already lit as a traffic route
	Meriton St	low	low	low	Preferred night route	P4	Note 2
7.6	**Meriton St**	low	low	low	Preferred night route	P4	Note 2
7.7	**Ashburn Place**	low	low	low	Preferred night route	P4	Note 2
Alternate Route							
7.5a	Delmar Parade	low	low	low	Discourage night usage as it leads to Glades Bay Park which has poor surveillance	P4	Note 2
7.5b	Shackel Ave	low	low	low	Discourage night usage as it leads to Glades Bay Park which has poor surveillance	P4	Note 2
7.5c	Pile St	low	low	low	Discourage night usage as it leads to Glades Bay Park which has poor surveillance	P4	Note 2
7.5d	Wharf Road	low	low	low	Discourage night usage as it leads to Glades Bay Park which has poor surveillance	P4	Note 2

7.8	**Ashburn Place**	low	low	low	Preferred night route	P4	Note 2
7.9	**Punt Road**	low	low	low	Preferred night route	P4	Note 2

Notes:

1. In areas that are isolated and have poor natural surveillance it may be better not to light the paths as lighting could invite people to use the path at night and create a false sense of security.
2. Where the route follows existing residential streets we have assumed that the standard streetlighting would be adequate.
3. Where the path moves through mangroves and trees it may be possible to mark the path with small ground mounted lights. This will identify the path with the minimum of impact on the night environment, however it will also tend to indicate to people that this is an acceptable route at night even though there will be inadequate illumination and surveillance. This is a matter of risk management.
4. The risk of crime has been based on as assessment of the 'opportunity' rather than an historical assessment past activity.

Appendix D

Regional Recreation Planning Background

RECREATION PLANNING CONTEXT

SHARING SYDNEY HARBOUR ACCESS PLAN
DIPNR, 2003

The Plan

- The Access Plan has been jointly prepared by the Department of Infrastructure, Planning and Natural Resources (formerly PlanningNSW) and the NSW Waterways Authority, following wide consultation.
- The Access Plan takes an integrated approach to land and water-based access requirements for Sydney Harbour. Typical projects identified in the Access Plan tend to be within 2.5 kilometres of the harbour foreshore but may go beyond to the catchment boundary. It contains the vision for improving access to the foreshores and waterways and proposes the following publicly accessible (non-commercial) improvements and facilities for a range of recreational users including pedestrians, cyclists and recreational boaters.:

  Land-based
  - walking tracks
  - on-and off-road cycleways
  - improved access within public domain areas including parks, reserves, promenades and intertidal zones
  - improved access to, and interpretation of, Aboriginal sites and other cultural attractions.
  - public domain improvements, e.g. better accessways, promenades, shelters, seating, lighting, signage, planting, interpretive facilities, dry-boat and cycle storage

  Water-based
  - wharves, jetties and pontoons (pick-up and drop-off)
  - boat ramps
  - soft access facilities such as pontoons, seawall steps and beaches (used by small craft).

Funding of Projects

- Implementation of the Access Plan will be assisted through the State Government providing $2 million annually, over five years, on a dollar-for-dollar basis, for capital works grants under the Sharing Sydney Harbour Access Program.
- The grants funding is being provided by:
  - Waterways Authority
  - Sydney Harbour Foreshore Authority (SHFA)
  - DIPNR.
- Projects suitable for funding will accord with the principles and objectives set down in the Access Plan. Applicants eligible for grant funding are generally expected to be local government authorities and incorporated or registered recreational organisations. Additional Access Program funds are encouraged in the form of direct improvement actions by major public land owners. Other agencies are likely to add to this funding potential through their existing programs.

Background

- The profile of the Harbour as a place for residence, tourist destination and recreation continues to grow and with it the community desire to maximise public access to its foreshores and waterways. Sharing Sydney Harbour Access Plan (the Access Plan) helps address this demand. The Access Plan provides the framework for developing and implementing specific access improvement projects.
- The Access Vision builds on previous foreshore improvement initiatives, notably the highly successful Parramatta River Foreshores Improvement Program, which improved access to and recreational use of the Parramatta River foreshores in the lead-up to the Sydney Olympics.

Access vision

- The Access Plan's vision is to improve public access to, and enhance the recreational enjoyment of, Sydney Harbour and its tributaries for the people of Sydney and visitors to the city.
- A catchment-wide network of accessways will link metropolitan parklands with urban waterfronts and connect to water access points. Improved boating facilities will provide better public access for recreational craft such as dinghies, canoes, kayaks and sailing boats. The Access Plan identifies strategic projects that may be developed in the short term , over the next 5 years, and over the longer term, over the next 20 years. Key points include
  - Foreshore places for a range of recreational activities, including exploration, relaxation, privacy and social interaction.

- The waterways linking metropolitan parklands and urban waterfronts.
- The Harbour being managed as a focus for community life and celebration.
- Innovatively designed, efficient and well-located boat ramps, public wharves, small boat access and boat storage facilities creating connections between land and water.
- A catchment-wide network of pedestrian and cycle accessways through green open space corridors connecting to water access points and public transport nodes.
- The Harbour and its catchment functioning as a healthy ecosystem accessed by non-polluting forms of transport.
- The unique and diverse scenic qualities of the Harbour foreshores being protected and enhanced.
- The rich Aboriginal and heritage fabric of the Harbour being conserved and interpreted.

Land-based access

- Around 59 percent or 134 kilometres of the 230 kilometres of foreshores of Sydney Harbour and its tributaries are fronted by publicly accessible parks, reserves or public domain areas such as foreshore roads.
- Uninterrupted and effective pedestrian access within the intertidal zone will be enhanced along 32 kilometres of the foreshore by removing structures that prevent or discourage walkers.
- Bicycle member organisations such as Bicycle NSW seek provision of cycle access to the foreshores from the hinterland. Providing for this form of access could reduce reliance on the private car, and thus reduce pressure on local access roads and demand for car parking in foreshore locations.
- Ten minute walking and cycling catchments are an important indicator of potential to access the foreshores on foot or bicycle by local communities and those travelling into these catchments by public transport.
- Bicycle parking will be considered in appropriate locations as part of the detailed planning and design of individual projects.
- There is scope to increase the existing level of foreshore access by extending existing accessways to and along the foreshores and by providing new accessways in currently inaccessible areas including redevelopment sites.
- Walking and cycling have many similar requirements, e.g. continuity, legibility, directness, low traffic volumes and low speeds, therefore both modes can often share the same access way. Sometimes their requirements may differ, e.g. a steep topography or sensitive natural environment may be better suited to walking than cycling. In some locations, such as waterfront promenades, shared access may be impractical and unsafe. A separate provision for each mode should be made in such instances.

SYDNEY HARBOUR CATCHMENT SYDNEY REGIONAL ENVIRONMENTAL PLAN
DEPT OF PLANNING, 2005

Overview

- Sydney Harbour, including Parramatta River and its tributaries, is a major natural, cultural, recreational and commercial asset for both Sydneysiders and visitors alike. The continuing growth and importance of Sydney has resulted in increasing pressures on the harbour and its foreshores. As such, it is critical to have a clear and consistent planning framework to protect and enhance the unique attributes of the Harbour.
- The Harbour REP aims to establish a balance between promoting a prosperous working harbour, maintaining a healthy and sustainable waterway environment and promoting recreational access to the foreshore and waterways.
- The Harbour REP has amended SEPP 56 and includes its master planning provisions as they applied to the Harbour and its tributaries. It also identifies a number of strategically important foreshore sites.
- The Harbour REP applies to the hydrological catchment of the harbour. It also defines and contains specific provisions for the 'Foreshores and Waterways Area' (which is generally the area 'one-street back' from the foreshore), strategic foreshore sites, heritage items and wetlands protection areas.
- The Harbour REP aims to retain a viable working harbour which supports commercial marinas in appropriate locations around the harbour and retains and enhances public access to and along the foreshores and waterways through limiting the 'privatisation' of the foreshores and waterways. This has been achieved though distinguishing between 'commercial marinas' and 'private marinas'. The intent is to identify those marinas that generally support public recreational use of the foreshore and waterway and working harbour functions (eg, commercial marinas that provide facilities and services available to the boating public) and those that can alienate the foreshore and waterway through private use only (eg, private marinas that are for the exclusive use of the residents of an adjoining residential development).

SYDNEY METROPOLITAN RECREATION TRAILS FRAMEWORK
DIPNR, 2005

Recreation Demand

- Approx 35% of people in NSW participate in regional trail related physical activities, more than 3 times the number who participate in swimming or aerobics.
- Walking for exercise identified as most popular recreational activity.
- Demand for access to natural areas using existing networks and foreshore greenspace was a common theme.
- The provision of new connecting walking and bike trails is the fourth highest priority among Western Sydney Regional Councils, while a strong demand was identified for the further development of recreation trails along attractive linear corridors and coastlines, which connect open spaces and provide health and fitness benefits. eg Bay Run – 15-20k users per week, Coastal walk (bondi-bronte)
- The study identified the demand for new trails as being closely linked to the demands for better planning of the shared use of these trails or parts of these trails, for improved signs, for the provision of seating, for retaining or extending public access to the coastline, for interpretation opportunities and for extending the links to residential, retail and commerce areas.
- The primary focus of the regional trails framework is off-road connections performing the functions of linking significant areas of Sydney Greenspace, connecting recreational precincts, providing links between major urban centres and public transport nodes and links to other destinations.
- The trails should be an integrated network of walking and cycle trails.

Northern Sydney Region

- Demand for shared walkways and cycleways – opportunities exist for continuous foreshore reserves, most areas in Northern Sydney have potential for a network of walking and cycling tracks – ie. Links between Ryde, Meadowbank and Sydney Olympic Park.
- Area identified as a short term priority.

Short term priorities and initiatives (0 –5yrs) of the Plan include

- Strategic framework of trails
- Missing links to a regional recreation trail
- Trails connecting residents from a wide region to a major regional destination
- Trails connecting to a major urban centres
- Developing as a resource for regional populations
- Serving existing demand for regional recreation trail facilities

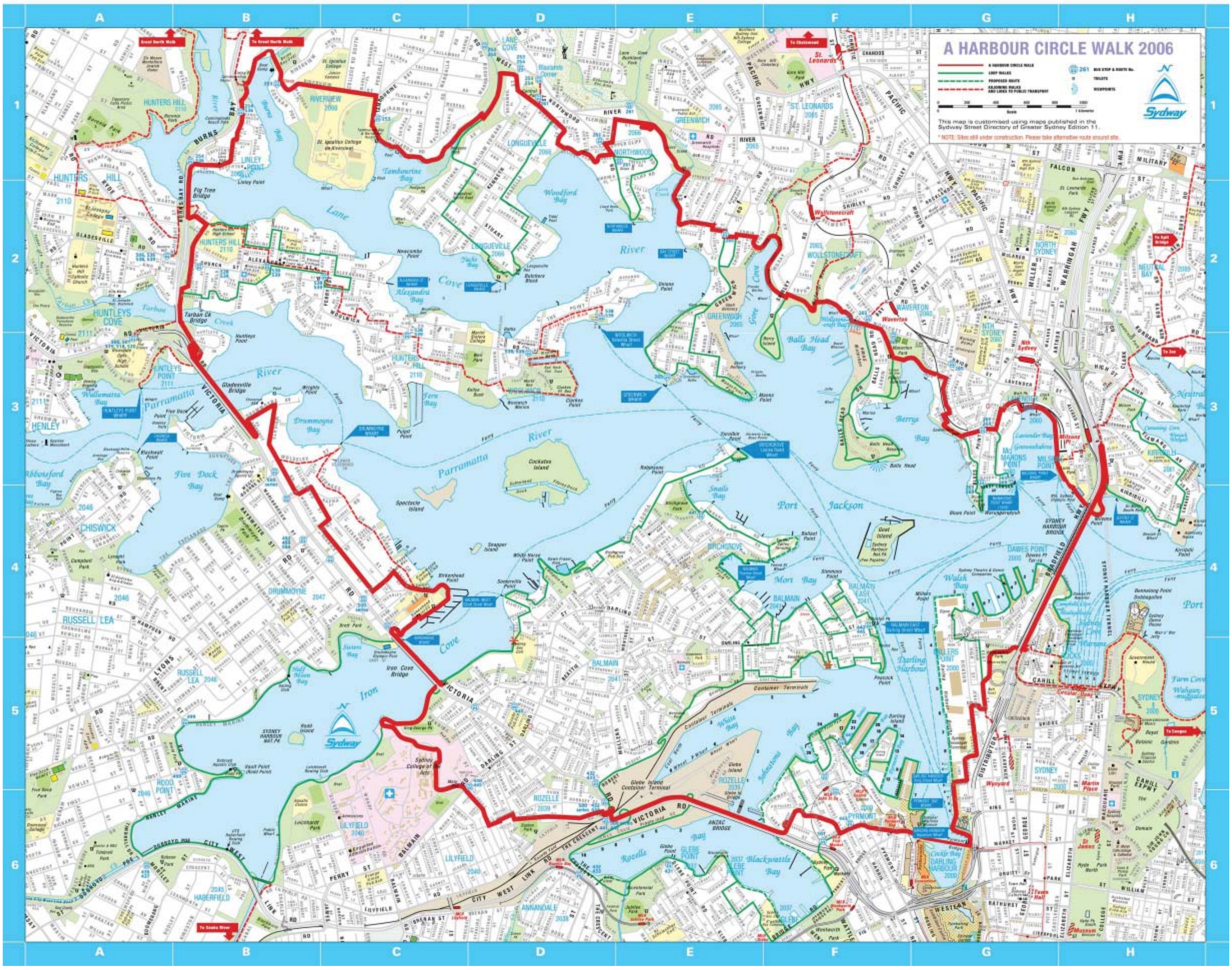
WALKING SYDNEY HARBOUR

Walking Sydney Harbour is a partnership project between community walking volunteers, the State Government, Local Government and other relevant authorities. These partners share the vision to improve public access to, and enhance the recreational enjoyment of Sydney Harbour and its tributaries for the people of Sydney and visitors to the city. The 26 km walk focuses on the Harbour west of the Harbour Bridge linking foreshore edges, bays, headlands, bridges and historic streets.

A walking map is available through downloading form the internet (Refer Figure) along with notes on points of interest and historic information that accompany the route. There are a number of magnificent additional loop walks (marked in green on the map), to explore scenic and historic areas in more detail. The Ryde River Walk is located near the west corner of the main walk and could be marked as another alternative loop walk linking through Gladesville Hospital and Betts Park.

METRO STRATEGY
DEPT PLANNING 2005

Continue to develop the framework for an integrated network of regional recreation trails as part of the overall open space system in partnership with local government, National Parks and Wildlife Service and the Roads and Traffic Authority.



Walking Sydney Harbour: harbour circle walk
Alternative loops shown in green. Potential to connect Ryde River Walk route through Gladesville Hospital to the Circle Loop.

Regional recreation trails meet the growing community demand for informal healthy activities, for recreation and active transport across Sydney. Trails are a corridor or pathway, mainly off–road, used for recreational walking or cycling and pass through or connect landscapes, facilities or sites of regional or metropolitan significance.

There is already over 900 kilometres of regional recreation trails across Sydney. Existing regional trails include the Waverley Cliff Top Walk, the Bay Run around Iron Cove and the new M7 Motorway 40 kilometre cycleway and walking path. The use of these paths and trails are increasingly popular.

The NSW Government released Planning Guidelines for Walking and Cycling (2004) to support councils, communities and the development industry to improve planning for walking and cycling and create healthier and more sustainable cities and centres.

Work in partnership with other Government agencies — such as Department of Tourism, Sport and Recreation, NSW Health and the National Parks and Wildlife Service — to develop a comprehensive communications package for regional recreation trails.

Department of Planning will work in partnership with other Government agencies — such as Department of Tourism, Sport and Recreation, NSW Health and Department of Environment and Conservation — to develop a comprehensive communications package, to ensure Sydneysiders are aware of the trails network. The package will provide signage and maps showing links to facilities such as railway stations, shops, picnic areas and playgrounds

THE AUSTRALIAN NATIONAL CYCLING STRATEGY 2005-2010
AUSTROADS, 2005

Multiple benefits of cycling

Australia currently faces a multitude of transport, health and environmental challenges. There is a need to:

- Provide for the safe, affordable and enjoyable movement of people and goods
- Reduce the environmental and health impacts of transport, for instance by reducing motor vehicle tailpipe (including greenhouse gas) and noise emissions
- Increase physical activity by Australian people
- Combat rising traffic congestion, which is increasing travel times and industry costs.
- In order to meet these needs, we need to:
- Reduce our dependence on the private motor vehicle
- Increase the use of ‘active transport’ (walking, cycling and public transport)
- Providing a transport system that offers attractive choices for travel other than by the private vehicle – including cycling.

It makes good economic sense to encourage more cycling. The Norwegian Institute of Transport Economics calculated that investments in a continuous cycle path network in three towns would yield a net benefit of over three times the cost. It is estimated that the cost savings to society of substituting bicycle trips for short car trips can be of the order of 60 c/kilometre. Social cost savings are realised in a variety of other areas, including reductions in the cost of providing parking, environmental pollution, traffic accidents and road congestion.

In the long term, the existence of a substantial cycling infrastructure in Australian towns and cities - and a well-developed cycling culture - will be of great value to communities facing the reality of pressure on global oil supplies. As well as environmental gains, any progressive reduction of Australia’s reliance on imported fossil fuels will have economic benefits for the nation.