

GREEN LINKS MASTERPLAN

Ryde | Eastwood | Macquarie Park Draft Masterplan Report

FOR STAGE 2 COMMUNITY CONSULTATION









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1.0 INTRODUCTION

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1.1 Introduction

Overview

The Ryde - Eastwood - Macquarie Park Green Links will be three interconnected urban green corridors, which will function as biodiversity corridors, provide continuous green transport connectivity along activated open spaces, with cultural engagement and recreation opportunities for the community.

The vision for the Ryde - Eastwood - Macquarie Park Green Links Masterplan combines both the Greater Sydney Commission vision and Council's vision, utilising the open space networks to achieve the broader vision for the City of Ryde to create a diverse, vibrant, healthy, resilient and connected city, in which nature and history is protected and celebrated. The vision for the Green Links Masterplan is to create:

"recognisable environmental, cultural and green transport corridors linking two of Sydney's most important rivers and connecting the City of Ryde's town centres"

This Masterplan has been developed via a 'whole of government' approach, working with multiple landowners and key stakeholders. Funding for the Masterplan project has been provided by the NSW Government, Department of Planning Industry and Environment [DPIE], via the Metropolitan Greenspace Program, and has been prepared with in principal support from Transport for NSW and Sydney Water.

Green Links Masterplan

The Green Links Masterplan project is made up of two phases:

Phase 1: Context Analysis Report

The Context Analysis Report introduces the project background, site context, and an overview of the three Green Link corridors:

- <u>Shrimptons Creek Green Link</u>: will form an open space corridor connecting Macquarie Park and West Ryde, running from north-east to south-west through the centre of the City of Ryde and onwards to Meadowbank.
- <u>County Green Link:</u> will form a connection between Macquarie Park and Eastwood via Marsfield.
- <u>Terrys Creek Green Link:</u> is located on the north-western boundary of the City of Ryde, between Eastwood and Epping. This Green Link will form a connection between Macquarie Park and Eastwood via Lane Cove National Park.

The report outlines the overall vision for the Masterplan and key objectives based on the consolidation of previous Greater Sydney and City of Ryde planning documents. These objectives were used to create a design framework in which part two [Masterplan Report] adopts.

Phase 2: Masterplan Report [this report]

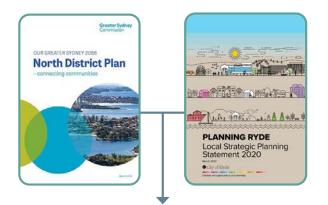
This Masterplan is a long-term strategic plan which sets the direction for the development of the Ryde - Eastwood - Macquarie Park Green Links. Developing from Phase 1 and responding to feedback from the community of City of Ryde, this report proposes a holistic strategy and Masterplan for each Green Link while integrating other future masterplanning initiatives throughout the City of Ryde local government area.

This Masterplan Report:

- Summarises the analysis and findings from the Context Analysis Report
- Explains the purpose of this Masterplan
- Summarises the key findings from the community consultation
- Introduces the Masterplan strategies and subsequent objectives, relating to environment, green transport, recreation and recreation & culture / community and how they are applied to each of the three Green Link corridors
- Provides an overview of the existing character and features of each Green Link corridors [Shrimptons Creek, County & Terrys Creek] and their precincts
- Presents the Masterplan for each precinct, including proposed character
- Summarises the proposed implementation strategy for the Masterplan
- Outlines the priority projects for each Green Link corridor.

The Context Analysis Report and this Masterplan Report [phase 1 & 2] will be the principal plan guiding the implementation of physical elements of the Green Links, both built and natural.

1.2 Project Program



Green Links Masterplan



This Masterplan is a high level strategic vision and overview, which is subject to adoption by Council and subject to consideration and specific impacts by the applicable land owners [e.g. Transport for NSW, Sydney Water, Department of Planning, Industry and Environment, and National Parks and Wildlife Service].

Detailed design, including technical reports, analysis and approvals processes [where required], will be undertaken as next steps in the implementation of Masterplan stages. Where required, this will be done in consultation and with the applicable land owners [as mentioned above]. The Green Links Masterplan will be progressively implemented over a 20 year period (subject to funding availability). Refer to Section 7 - Implementation Plan for additional information.



2.0 MASTERPLAN STRATEGIES

Objectives

The Green Links Masterplan objectives and strategies are drawn from and guided by the objectives and actions of the following key strategic planning and strategy documents, and informed by consultation with key stakeholders:

- Greater Sydney Commission North District Plan [2018]
- Greater Sydney Commission Green Grid North District Plan [2017]
- City of Ryde Local Planning Statement 2020 [2020]
- City of Ryde 2028 Community Strategic Plan [2018]
- City of Ryde Biodiversity Plan [2016]
- City of Ryde Bicycle Strategy [2014]
- City of Ryde Sport and Recreation Strategy [2017]
- City of Ryde Integrated Transport Strategy [2016]
- Discussion with the City of Ryde and other stakeholders during development of this Masterplan

The objectives of the Green Links Masterplan are detailed on the following page. The importance of each objective in relation to specific Green Link corridors has been identified and will guide the implementation plan and priority projects.

Implementation

An implementation plan is to be developed as part of this Masterplan for continued and progressive delivery of the Green Links over the next 20 years. The implementation plan will prioritise implementation of key projects [priority projects] based on strategic importance, community feedback, cost and available funding. These implementation priority projects can be found in Section 7.

Strategic Importance

The Green Links will be a benchmark of blue and green infrastructure that supports habitats and important ecological processes in an urban setting, as well as addressing the local pressures on traffic and public transport, open space, demands for recreation, cultural experience and greater diversity of recreation opportunities.

The Green Links also have the potential to be an exemplar of the Green Grid due to its strategic location between Lane Cove River and Parramatta River, providing connection to education facilities, major business centres [e.g. Macquarie Park and Parramatta] and urban renewal corridors; and its commitment to achieve multiple objectives including ecological, green transport, recreation and cultural objectives.

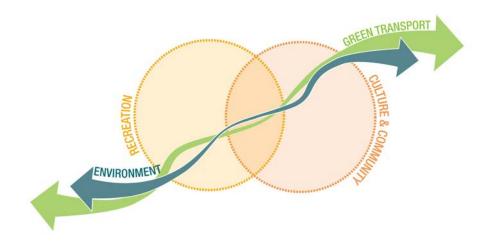
These four main thematic objectives return throughout this Masterplan:

Environment: the Green Links as blue and green biodiversity corridors

Green Transport: the Green Links as transport corridor

Recreation: the Green Links as a place that meets multiple recreational needs

Culture & Community: the Green Links as a focal point for community and culture



The Green Links objectives have been organised into four themes, and this diagram illustrates the relationship between these themes. Ecology and Green transport are both ideas that need connectivity along the corridors and create the "spines" of the Green Links; recreation and culture build on this spine, activating places along the corridor.

Green Links Objectives		Importance [high/medium/low]		
		Shrimptons Creek Green Link	County Green Link	Terrys Creek Green Link
Environment	 protect and enhance natural areas including bushlands, waterways and ecosystems 	high	medium	high
	 manage and mitigate effects of climate change on people and ecology [green grid] 	high	high	high
	 collaborate with volunteers [bush care groups], businesses and the community to care for and enhance natural areas. 	high	medium	high
Green Transport	 create safe, continuous and permeable active transport corridors with connections to the surrounding networks 	high	high	low
	 explore connectivity and interconnectivity with current and future mass transport options 	low	high	low
	 enhance and maintain connections and accessibility to centres, open spaces and places, including improved cycleways and walkways. 	high	high	medium
Recreation	 deliver a series of interconnected, high quality open spaces that encourage active lifestyles and social interaction 	high	high	medium
	 integrate a range of active and passive recreation opportunities for the community to meet, play, learn and connect. 	high	high	medium
Culture &	- celebrate cultural diversity and promote inclusion	high	high	medium
community	- protect, enhance and interpret cultural heritage	high	medium	medium
	 use the Green Links for educational purposes and to share stories and information. 	high	high	high
	 provide places that support events 	high	medium	low
	 create and enhance community infrastructure along the Green Links and enhance amenity value, design quality, identity and sense of place 	high	high	medium

2.1 Green Transport Overview

The vision for green transport in the City of Ryde has two key layers. At the City of Ryde local government area scale, the vision is to be regionally connected and locally accessible with "a traffic and transport system that supports economic growth and local amenity by stimulating land development, influencing the use of sustainable transport and promoting safety and equity." City of Ryde Integrated Transport Strategy 2016-2031 [2016].

The Green Links Masterplan's strategic direction to promote a shift in transport from private vehicles to more efficient modes of walking, cycling and public transport within the City of Ryde local government area is consistent with the NSW Future Transport Strategy.

Connect Macquarie Park Innovation District is a business led organisation who are currently active in encouraging the community to change their travel behaviour. The shift in modes of transport and travel behaviour will increase the efficiency of transport systems, reduce traffic congestion and decrease drive-alone vehicle travel for the journey to work in Macquarie Park and North Ryde. Critical to this ambition is promoting cycling and improved cycleways and mass transport connections. Responding to this green transport vision the Masterplan will reflect Council's priority by:

Improved access to suburbs, workplaces and major destinations:

Promoting sustainable transport and reducing reliance on cars

- Improve connectivity and interconnectivity with current mass transport options within the City of Ryde and beyond
- Plan for improved connectivity and interconnectivity with future mass transport options within the City of Ryde and beyond

Improving access to local centres, recreation assets and reduce the travel footprint:

- Planning for increased use of active and public transport options, and improved pedestrian access and mobility
- Continuing investment in the road network, footpaths, cycleways and walkways

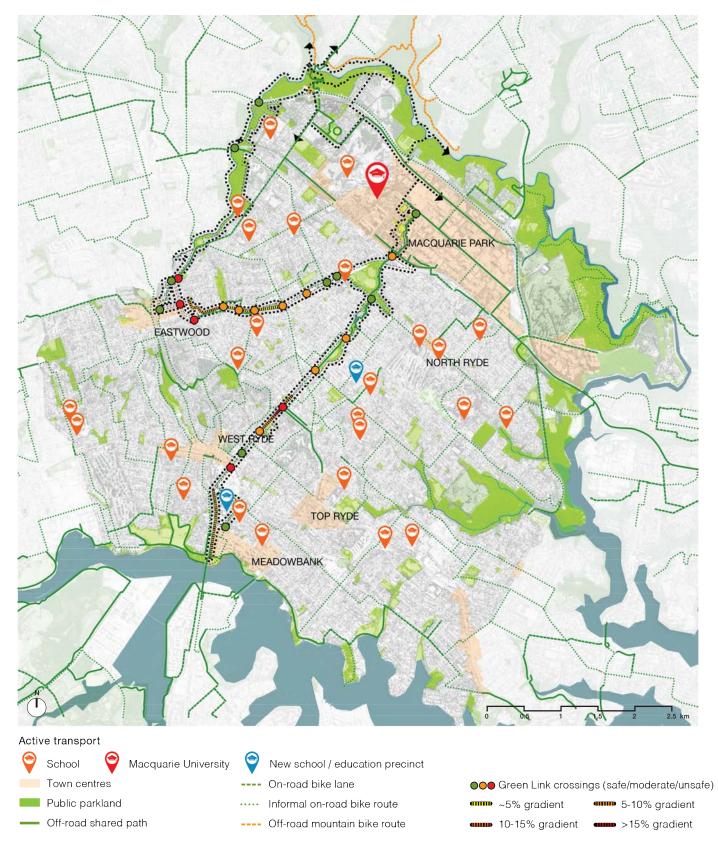
The following diagrams overleaf provide a high level detailed analysis of the three Green Link corridors based on the theme of green transport. This analysis will assist in the understanding of gaps, opportunities and future improvements for each corridor.

The Green Link Masterplan will provide significantly enhanced connection to mixed modes of mass transport including:

- Train [Eastwood, West Ryde, Meadowbank and Epping]
- Metro [Macquarie Park and Macquarie University]
- Ferry [Meadowbank]
- Bus [local routes regional bus routes along Epping Road, Victoria Road and Lane Cove Road, as well as hubs at Macquarie Park, Eastwood, West Ryde and Meadowbank]



Regional active transport links [based on: City of Ryde Cycling Orbitals [2018]; Open Street Map [2020]]

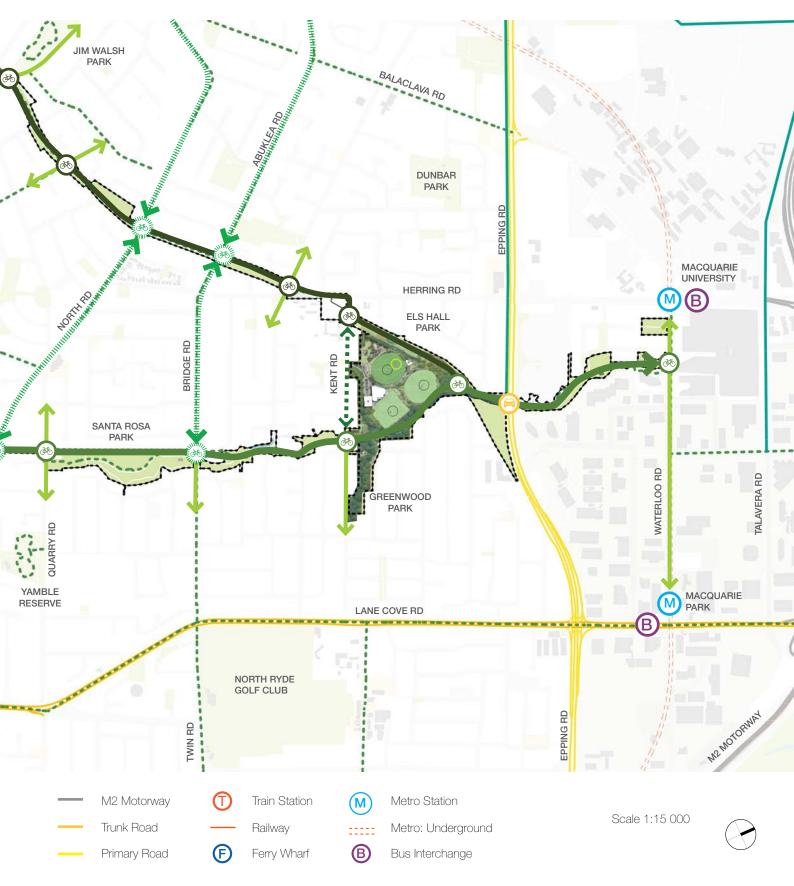


Active Transport map [based on: City of Ryde Bike Map [2020]]

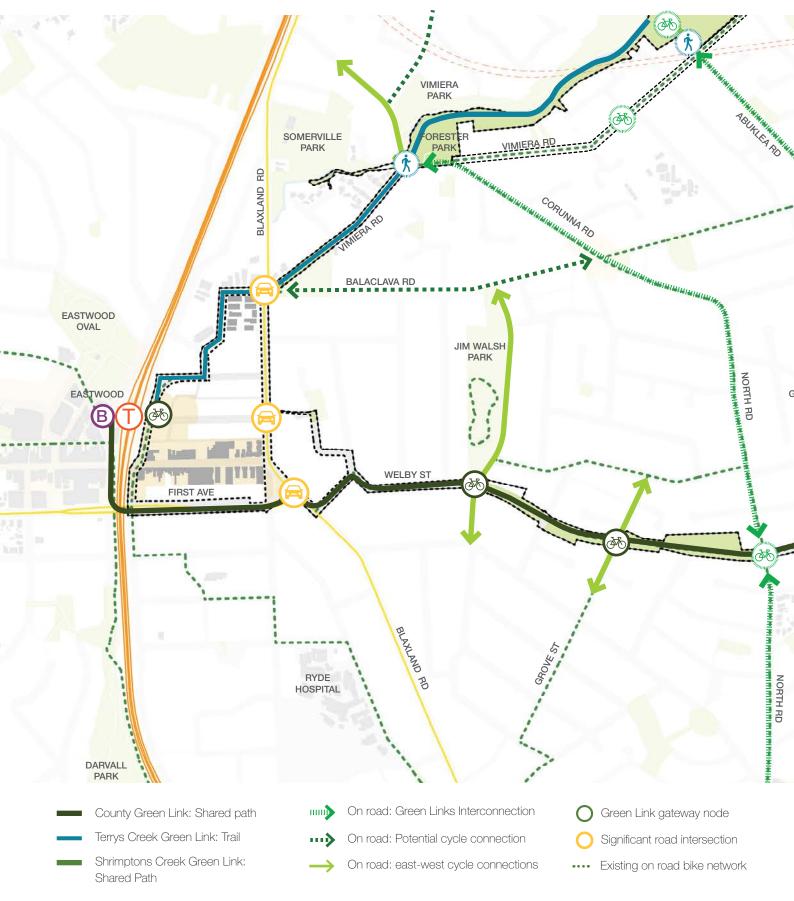
Shrimptons Creek Green Link - Green Transport Overview







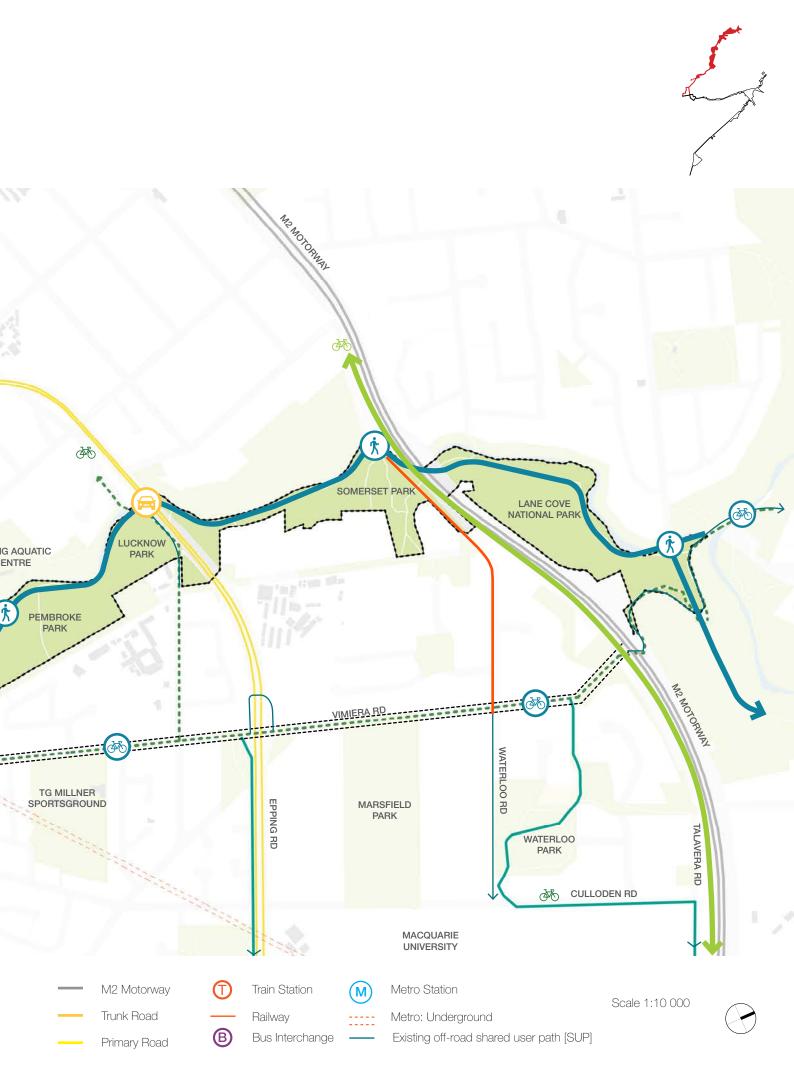
County Green Link - Green Transport Overview





Terrys Creek Green Link - Green Transport Overview





2.2 Environment Overview

Throughout the City of Ryde's consultation for the preparation of the 2028 Community Strategic Plan [2018], 'people emphasised the city's natural environment, green open spaces and parks as the thing they love the most about Ryde.' Protecting bushland and open space and expanding green spaces, tree coverage, parks and their facilities are therefore key priorities for the community of the City of Ryde.

In accordance with the vision of community of the City of Ryde as outlined in the 2028 Community Strategic Plan and the vision in the Ryde Biodiversity Plan [2016], this Masterplan will:

"demonstrate environmental and sustainability leadership and assist in the management, enhancement and protection of natural areas and biodiversity along the Ryde - Eastwood - Macquarie Park Green Links."

This Masterplan will reflect Council's priority to:

Protect natural areas:

- Reduce impacts on natural systems including waterways, soil and native vegetation
- Strengthen the health of natural corridors
- Promote complementary native plantings [including midstorey and under-storey] with habitat values within the Green Links corridors, interconnections and adjoining developments to strengthen biodiversity corridors

 Promote responsible use and protection of natural areas [including wildlife protection areas along Terrys Creek and within the Lane Cove National Park]

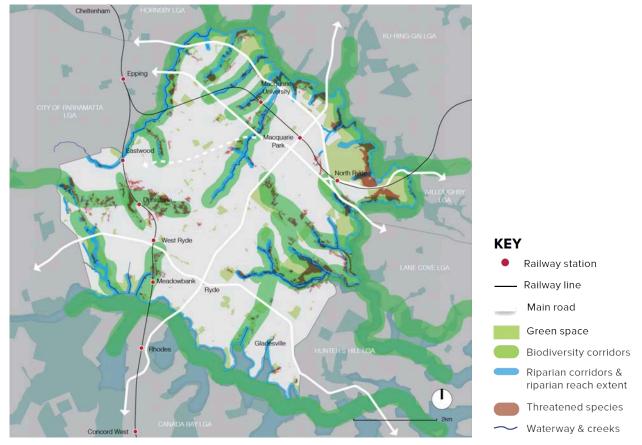
Promote resilient green infrastructure:

 Address long term climate-related risks and impacts including: extreme weather patterns, bushfires, drought, flooding and a changing climate

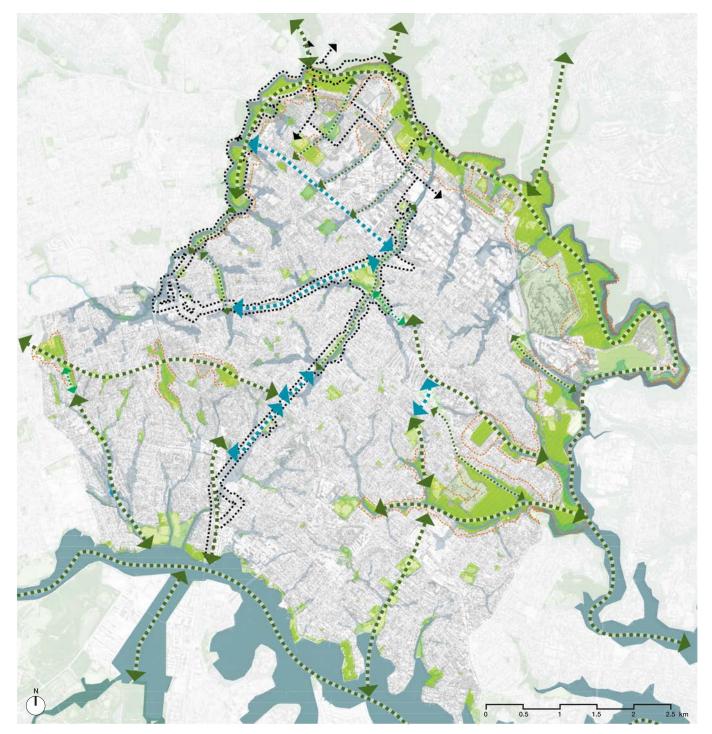
Promote sustainable living:

- Reduce environmental footprint
- Connect people to nature through walking and cycling journeys
- Interpret the natural values and environmental stewardship projects within the corridor to educate the community and encourage involvement and collaboration
- Demonstrate the City of Ryde's role as active environmental leaders in ecologically sustainable development
- Enhance environmental stewardship through collaboration with volunteers groups such as bushcare, citizen science programs, tree planting days and business sponsorship and participation

The following diagrams overleaf provide a high level detailed analysis of the three Green Link corridors based on the theme of environment. This analysis will assist in the understanding of gaps, opportunities and future improvements for each corridor.



Environmentally Sensitive Land Structure Plan [source: City of Ryde Local Strategic Planning Statement [2020]]



Legend

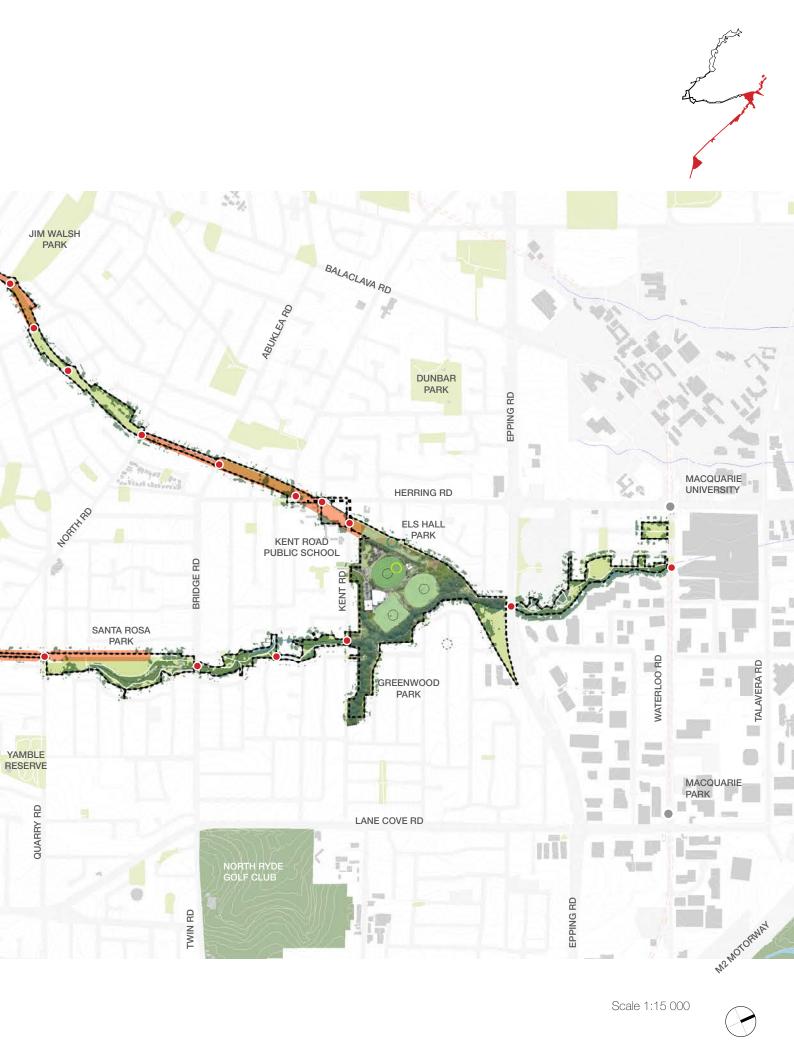
- Bushfire prone land (incl. buffer zones)
- ____ Dushine
 - Flood risk land
- --- Green Links boundary
- Green space / parkland

- Riparian corridors
- Regional ecological connections
- ••••• Local ecological connections
- Opportunities for ecological connections

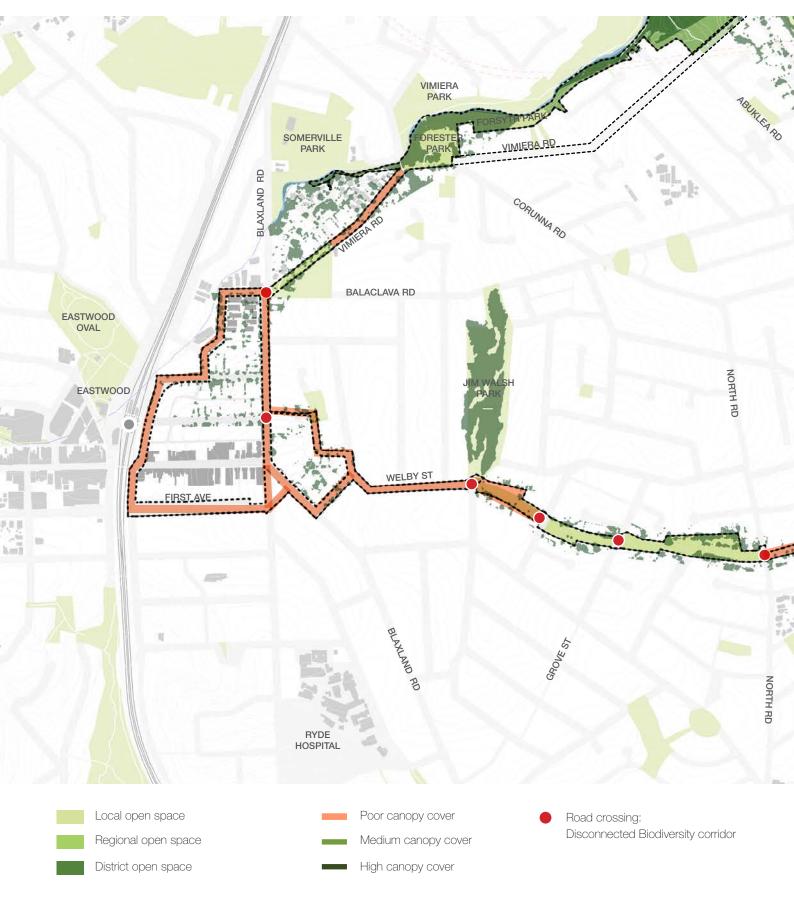
Ecological constraints and opportunities for connectivity [based on: City of Ryde Bushfire Prone Land Map [2017], City of Ryde Flood Risk Map [2016]; City of Ryde Local Strategic Planning Statement [2020]; City of Ryde Biodiversity Plan [2016]]

Shrimptons Creek Green Link - Environment Overview





County Green Link - Environment Overview





Terrys Creek Green Link - Environment Overview





Scale 1:10 000

2.3 Recreation & Culture / Community Overview

Recreation Overview

In this Masterplan 'recreation' refers to all outdoor recreational activities, including active sports and leisure. The Ryde community have expressed that their open spaces, recreation and sporting facilities are very important to them and are critical for the community living an active and healthy lifestyle. In the context of significant projected population growth, it is essential for Council to provide for sport and recreation with facilities and programs that are flexible and adaptable to these changing community needs, expectations and growing demands.

The Green Links will play a significant role in contributing to a diverse recreational experience for the community through the following key objectives:

- The delivery of a series of interconnected, high quality open spaces that encourage active lifestyles and social interaction
- Integrate a range of active and passive recreation and sporting opportunities for the community to meet, play, learn and connect
- Optimise existing and new sport / recreation facilities to maximise use to better meet the growing demands

Sport and recreation are key elements to the lifestyle of Ryde residents. Council's vision, as outlined in the Sport and Recreation Strategy [2017] is:

"Through its role in sport and recreation planning and management, the City of Ryde will contribute to the lifestyle, health and wellbeing and social cohesion of the community." Additionally, Council's commitment to the open space network is to ensure that:

"...we have ample accessible open space to meet our needs, shared and enjoyed by us all, founded on a healthy natural environment, conserving ourrich history, culture and local character and managed sustainable now and for future generations."

The results from Council's previous community consultation for the City of Ryde Community Strategic Plan [2018], has made it clear that people love the city's green spaces and parks, and value the range of services, programs and recreational facilities available to them.

Key recommendations following community consultation for the Sports and Recreation Strategy 2016-2026 are:

- Provision of additional informal leisure and recreation facilities or settings [i.e. Open spaces, bike paths, walking paths and tracks, dog exercise areas, youth facilities, skate parks]
- A multi-disciplinary approach to planning, design and management of informal leisure and recreation facilities or venues
- The requirements of organised sporting groups are balanced with the needs of informal/ independent participants
- Investigating improved transport and access services for leisure and recreation, particularly where seniors are concerned
- Continuing consultation regarding the needs of all residents





Open Space Structure Plan [source: City of Ryde Local Strategic Planning Statement [2020]]

Culture / Community Overview

In this Masterplan 'culture & community' refers to the social and cultural infrastructure, including community facilities and activities, art and cultural heritage.

In accordance with the vision of the City of Ryde, as outlined in the Ryde Local Strategic Planning Statement [2020], this Masterplan will ensure that:

"Heritage and places of cultural significance that are valued by the community – including historic buildings, landscape items and places with natural and Aboriginal significance – will be well managed, conserved and positively promoted to enhance the community's sense of place."

"Social and cultural infrastructure [including libraries, community services and events] will be strategically located to ensure all community members can enjoy them."

This Masterplan will reflect community priorities [as outlined in the City of Ryde Community Strategic Plan [2018]], including:

An engaged, connected community

- Optimise existing and new community facilities and access to these facilities to maximise use to better meet growing demands
- Working with stakeholders, partners and the community to support all members of the community and promote social inclusion

 Through our community network and with State agencies, appropriately supporting all members of the community and providing access to available services and facilities

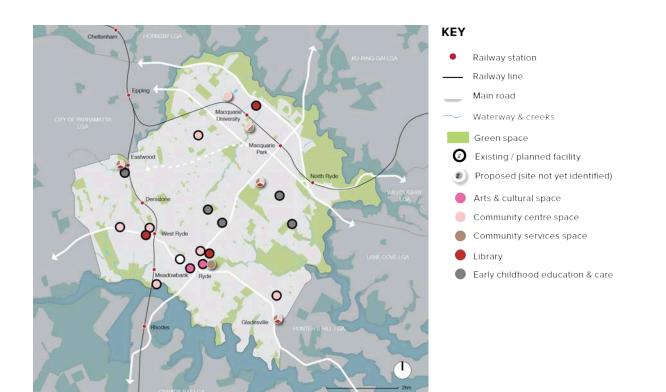
Celebrating culture and heritage

- Continuing to enhance our events program to provide opportunities to celebrate diversity and heritage and promote inclusion
- Protect, enhance and interpret cultural heritage
- Provide places that support events

Accessible community facilities

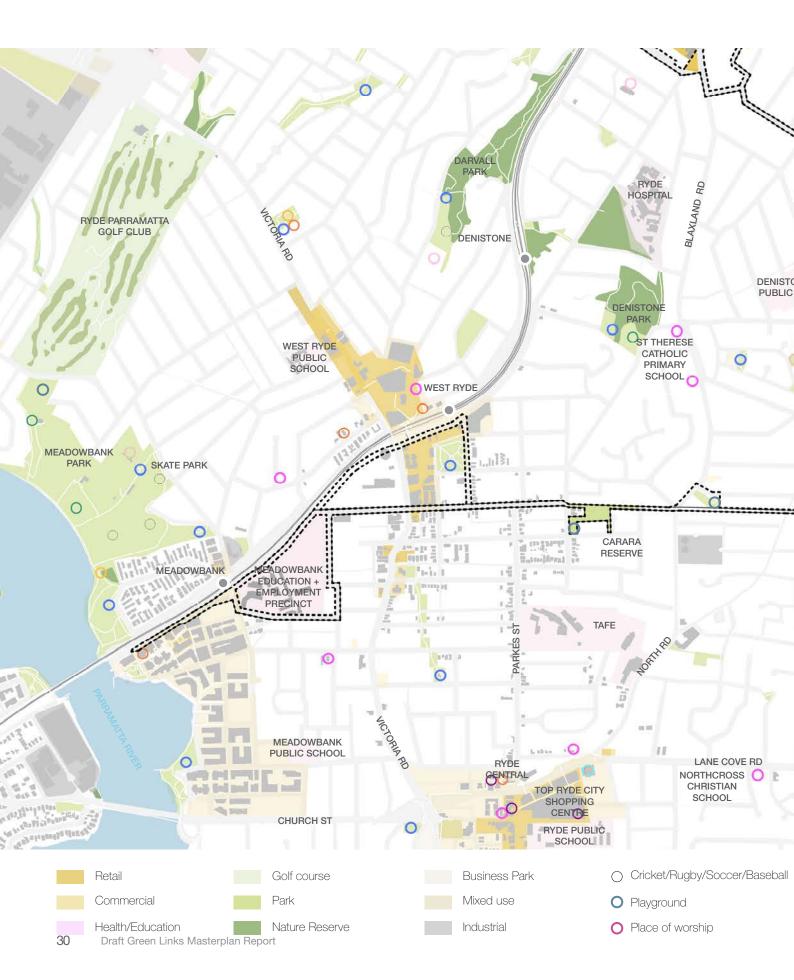
- Planning for and enhancing cultural and community facilities to meet increased demand and ensure equitable access for all sections of the community
- Create and enhance community infrastructure along the Green Links and enhance amenity value, design quality, identity and sense of place

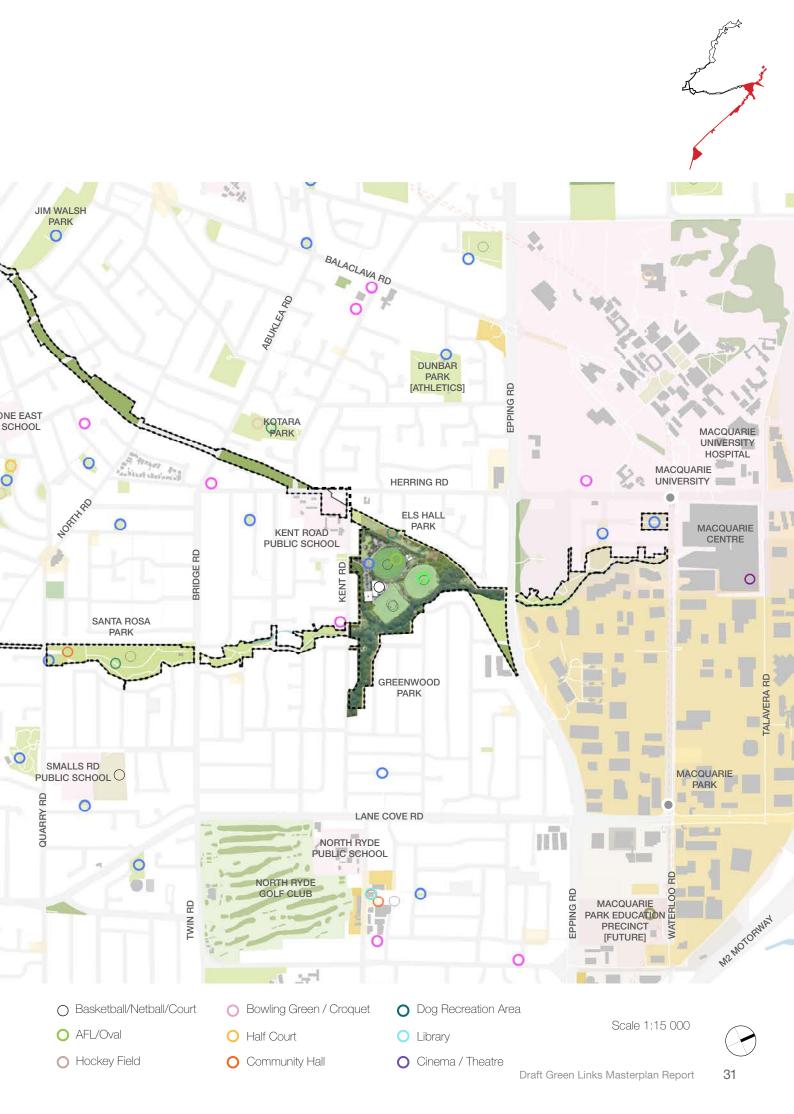
The following diagrams overleaf provide a high level detailed analysis of the three Green Link corridors based on the theme of recreation and community / culture. This analysis will assist in the understanding of gaps, opportunities and future improvements for each corridor.



City of Ryde Community Facility Structure Plan [source: City of Ryde Local Strategic Planning Statement [2020]]

Shrimptons Creek Green Link - Recreation & Community / Culture Overview







County Green Link - Recreation & Community / Culture Overview



Terrys Creek Green Link - Recreation & Community / Culture Overview







3.0 MASTERPLAN - SHRIMPTONS CREEK GREEN LINK

Overview

The Shrimptons Creek Green Links is strategically significant for local and regional connection. It will realise a major missing link and strengthen connectivity for active transport, link town centres, education centres (schools and universities) and a diverse range of public transport option (metro, rail, bus and ferry). Shrimptons Creek Green Link will provide a direct connection between Macquarie Park and Parramatta, which is of major significance regionally and contributes towards realising the Greater Sydney Commission's vision for a connected greater Sydney region for "three cities where most residents live within 30 minutes of their jobs, education and health facilities, services and great places".

The vision for Shrimptons Creek Parklands is to recognise the importance of this creek line as a Green Link. The importance and strategic significance of this creek has been recognised and the proposed Shrimptons Creek Green Link will connect Macquarie Park to West Ryde and more broadly Lane Cove River to Parramatta River with a continuous pedestrian and cycle network.

This Green Link not only provides a safe, direct and continuous active transport route, it also enhances the interconnectedness to neighbouring open spaces and future masterplans, strategies and initiatives developed by the City of Ryde. Adjacent ecological environments and networks will also be improved without compromising their natural character. The Green Link will be maintained and appreciated as a healthy natural area while acting as an ecological buffer to the creek from adjacent urban areas.

Meadowbank / West Ryde Precinct

Between Blaxland Rd to West Ryde and the connection to Ryde River Walk/Parramatta River Valley Cycleway at Meadowbank.

Santa Rosa Precinct

Between Kent Rd to Blaxland Rd, including Santa Rosa Park, Tindarra Reserve and Flinders Park.

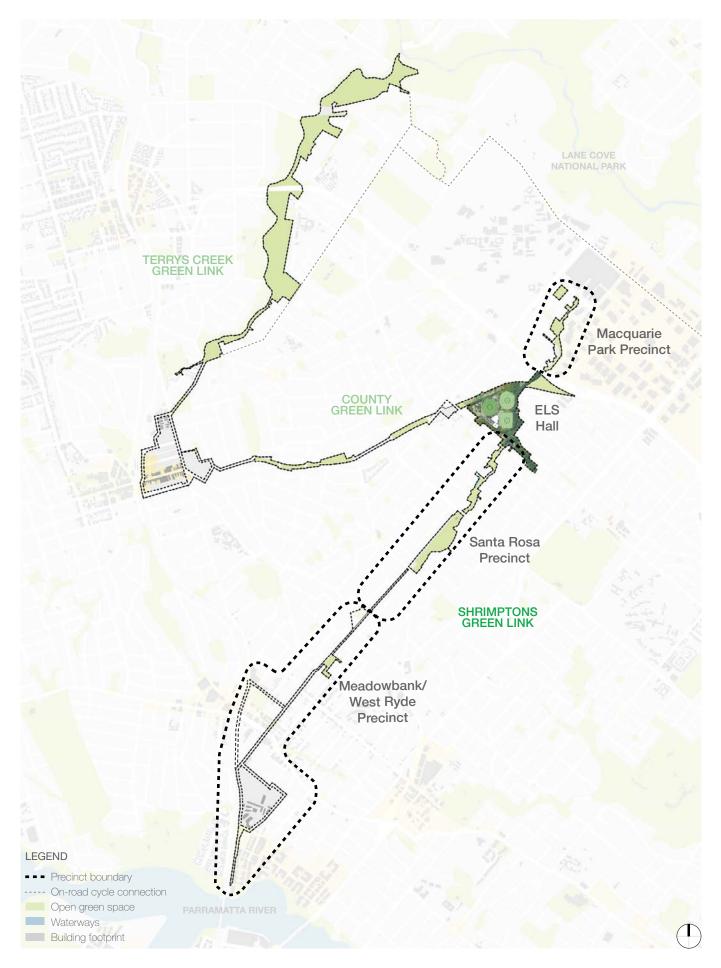
ELS Hall

ELS Hall Park has been developed by City of Ryde and captures Greenwood Park and Booth Reserve, the ELS Hall Park Masterplan was developed to balance the needs of the community while protecting and improving local ecologies. The ELS Hall Park, Greenwood Park and Booth Reserve Masterplan [adopted 2019] has been captured in the Santa Rosa Precinct plans.

The Green Links Masterplan will seek to formalise arrangements for "lands not owned by Council" as identified in the ELS Hall Park, Greenwood Park and Booth Reserve Masterplan. These parcels of land are owned by other government agencies. The Green Links Masterplan will seek to formally integrate these into the surrounding parklands.

Macquarie Park Precinct

Between Waterloo Rd to the Epping Rd underpass.



3.1 Meadowbank / West Ryde Precinct

The Meadowbank/West Ryde Precinct will provide connections from Parramatta River to Blaxland Road. Future pedestrian and cycle connections between the Parramatta River, Meadowbank Train Station and West Ryde Train Station will be captured under the Meadowbank Education and Employment Precinct Masterplan [MEEP]. The MEEP Masterplan will create new opportunities for employment as well as piloting new education models [years K-12]. Enhanced pedestrian and cycle connectivity will be proposed as part of the MEEP Masterplan, these proposals have been highlighted in this precinct. This precinct also includes an open space land reservation owned by Sydney Water from Blaxland Rd to Goodwin St, including Carara Reserve [Sydney Water easement].

Green Transport

From a green transport perspective, the Masterplan ties into the works proposed as part of the MEEP proposal that provide connections towards Parramatta River as well as connections across the railway corridor at Meadowbank and West Ryde Train Stations. From West Ryde Train Station, this Masterplan proposes to provide a continuous pedestrian and cycle link that connects to Blaxland Road. The Masterplan upgrades will include the following:

- Upgrades to Ryedale Road that include new bus zones, raised pedestrian crossings, widening of existing footpath, and bicycle parking facilities at the train station
- Off road shared user path along Wattle Street connecting Ryedale Road to Hermitage Road
- Separated cycle way along the western side of Hermitage Road
- Off road shared user path through the western side of Carara Reserve that continues along Benson Lane
- Shared user path along Blaxland Road including a signalised pedestrian and cycle crossing at Blaxland Road opposite Beattie Park
- Path lighting between Goodwin St to Blaxland Rd to facilitate safe use beyond daylight hours.

Environment

The Meadowbank / West Ryde Precinct provides opportunity for ecological restoration in a number of locations.

- The topography surrounding Carara Reserve locates the southern section of the reserve within a generous stormwater catchment [roughly 8.2 hectares]. The proposal of a WSUD device such as a bioretention system would provide a passive method to treating stormwater run off from adjacent street networks. This addition to Carara Reserve would increase the amenity values of the open space as well as increasing ecological biodiversity.
- All works to existing facilities and the implementation of new facilities throughout this precinct all provide an opportunity to introduce additional native trees, shrubs, and grasses to enhance and expand on existing local ecologies.

Recreation & Culture / Community

In this precinct, unlocking the Sydney Water easement will promote the activation of Carara Reserve, Beattie Park and provide a continuous pedestrian and cycle link from West Ryde Train Station to Blaxland Road. The interconnectedness and activation of these open spaces through the implementation of a shared user path will provide safe, and enjoyable walking and cycling facilities for the local community.

The Masterplan will assist in a culture shift from using personal vehicles for local trips to using active modes of transport. Succeeding in this culture shift will result in a healthier community and contribute to a reduction in traffic congestion.



Precedent image - Raised pedestrian / cycle crossings



Precedent image - WSUD device - bioretention



Precedent image - Repair Bike station



Precedent image - Separated cycle way

Parramatta River

PARRAMATTA RIVER

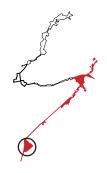
RHODES City of Canada Bay





Meadowbank







Hermitage Road

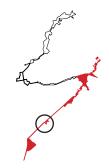






Carara Reserve







3.2 Santa Rosa Precinct

The Santa Rosa Precinct will provide continuous off-road cycle and walking connections from Blaxland Road to ELS Hall Park. ELS Hall Park has been developed by City of Ryde and captures Greenwood Park and Booth Reserve, the ELS Hall Park Masterplan was developed to balance the needs of the community while protecting and improving local ecologies. This precinct also includes the activation of an underutilised open space land reservation which will link Blaxland Road to Santa Rosa Park at Quarry Road before continuing through Flinders Park and Tindarra Reserve.

Green Transport

From a green transport perspective, the implementation of a continuous off-road shared path will provide a safe and continuous pedestrian and cycle link that includes the following:

- Signalised pedestrian crossing at Blaxland Road with widened footpaths [subject to Transport for NSW's consideration and assessment of specific impacts]
- Shared path through Beattie Park and the underutilised open space land reservation between Blaxland Road and Quarry Road to Santa Rosa Park [subject to Sydney Water's consideration and assessment]
- Raised pedestrian crossings at North Road, Quarry Road and Bridge Road
- Upgraded pedestrian and cycle connections through Santa Rosa Park including enhanced connections to Fawcett Street, Zola Avenue and Kent Road
- Upgrades to existing shared paths through Flinders Park and Tindarra Reserve with improved connectivity along Ford Street
- Upgrades at Tindarra Reserve will connect to existing pedestrian and cycle facilities at Greenwood Park which provides off-road access to Herring Road to the north-west and Macquarie Park to the north-east.
- Path lighting between Blaxland Road to ELS Hall Park to facilitate safe use beyond daylight hours.

The realisation of the active transport link along the open space land reservation between Blaxland Road and Quarry Road will provide a significantly safer off-road cycle/pedestrian route. As a traffic-free section, it minimises the number of road crossings / traffic intersections and has no driveway interfaces. To improve pedestrian / cycle safety, the new route in the Masterplan aligns with a new signalised crossing across Blaxland Road [near Beattie Park]. Once the shared user path between Blaxland Road and Quarry Road has been implemented, the existing on-road cycle route along Quarry Road, Heath Street, Heath Lane and Rickard Street will become redundant. The proposed route reduces the total distance travelled by roughly 300m.

Environment

The Santa Rosa Precinct provides opportunity for ecological restoration and protection in a number of locations and includes the following:

- Remediation of the existing lookout and WSUD feature on the eastern side of Santa Rosa Park
- Introduced bush regeneration and weed removal programs that includes public involvement to educate the community
- Enhancing identified vegetation communities with vegetation species that belong to those communities as identified by the NSW Scientific Committee and City of Ryde native species lists for vegetation communities / Planting Guide.
- Revegetation to banks with native species where appropriate and stabilisation to creek banks where required to limit the potential for erosion
- Enhanced fauna habitat for targeted species where appropriate with habitat boxes, hollow creation, translocated hollows, and other measures that also provide steppingstones along the corridors, particularly in areas with little or no hollows
- Undertake restoration works to enhance aquatic habitat e.g. frog breeding sites and native fish habitats in high conservation value waterways / corridors
- Protection of habitat by controlling run-off entering sites if it has the potential to detrimentally change water, nutrient or sediment levels or cause erosion.
- Continued Gross Pollutant Trap maintenance and rubbish removal as currently conducted to help maintain and improve Rapid Riparian Assessment results
- Undertake a transition to more suitable lighting for fauna around natural areas
- Expansion of the The Habitat community nursery

All works to existing facilities and the implementation of new facilities throughout this precinct all provide an opportunity to introduce additional native trees, shrubs, and grasses to enhance and expand on existing local ecologies.

Recreation & Culture / Community

In this precinct, unlocking the underutilised open space land reservation will promote the activation of Beattie Park and provide a continuous off-road pedestrian and cycle link from Blaxland Road to ELS Hall Park. ELS Hall Park provides a range structured and informal sporting opportunities as well as a range of community facilities. The interconnectedness and activation of these open spaces through the implementation of a shared user path will provide safe, and enjoyable walking and cycling facilities for the local community. This Masterplan proposes the following community facility upgrades at Santa Rosa Park:

 New multi-purpose community building that supports existing community groups such as the Scouts, Australian Air League, sporting clubs as well as other community groups.

- District level playground with nature play, BBQ facilities, shade structures and filtered water stations.
- Fitness stations and bike repair stations
- Additional vehicle parking off Quarry Road and Bridge Road
- Upgrades to the sports grounds at Santa Rosa Parkincluding sport field lighting and additional space for junior sports

The design of the open space land reservation will adhere to the following points:

- Where possible, the existing surface levels of the Sydney Water corridor will be retained.
- The shared user path through the Sydney Water corridor is recommended to be asphalt paths.
- The necessary technical reports and assessments will be commissioned during the detailed design phases to ensure the Sydney Water's services, assets and infrastructure are considered and not impacted upon during Masterplan implementation.

- CPTED strategies will be implemented to ensure the space is safe and accessible.
- ELS Hall Park, Greenwood Park and Booth Reserve Masterplan inc. expansion of the Ryde Community Sports Centre to include additional indoor courts to between meet demand, formalisation and activation of lands not owned by Council to include:
- A youth zone on the Epping Road/Whitecross Street frontage (insert key features eg. BMX pump track).
- Improve on-site parking and increase capacity to better meet demand by formalising new car park (entry off Kent Rd). This may offer some parking relief for the adjoining Kent Road Public School community.
- Decommissioning the informal parking area (entry off Adelphi Rd) and integrate this area back into ELS Hall Park for recreational use.



Precedent image - District level playground



Precedent image - Shade structures



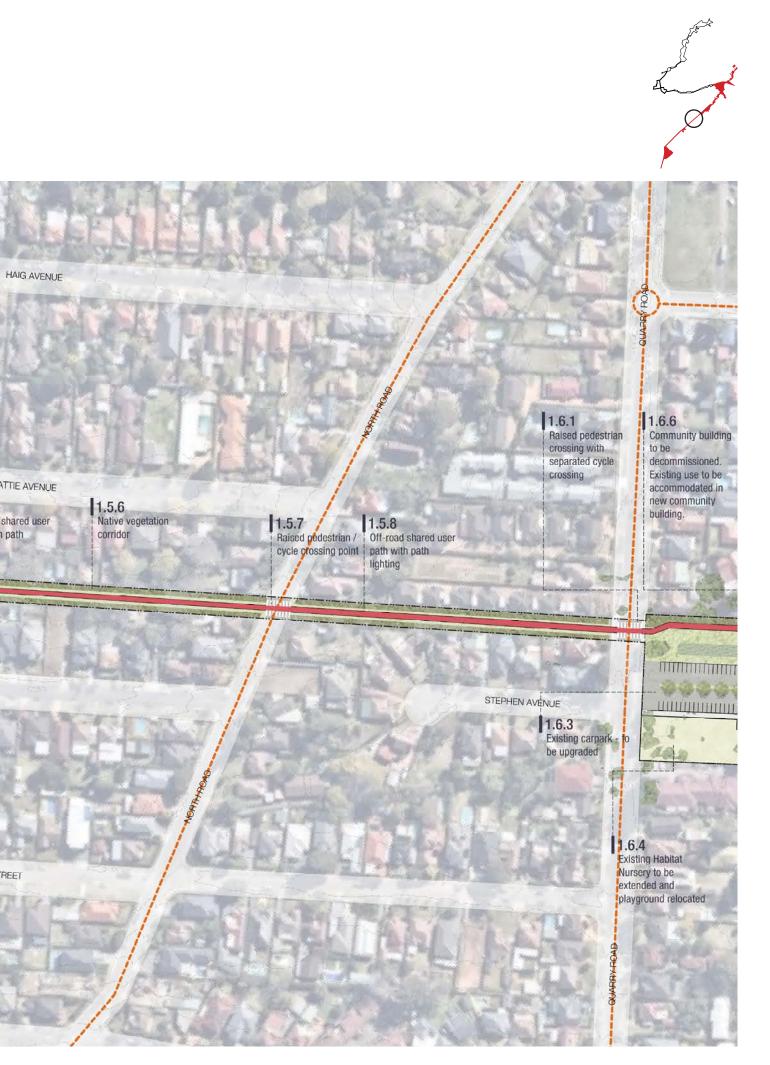
Precedent image - Upgrades to sporting grounds



Precedent image - Upgraded pedestrian / cycle connections

Beattie Park





Santa Rosa Park







Tindarra Reserve





ELS Hall Park





3.3 Macquarie Park Precinct

Shrimptons Creek has historically been impacted by the urbanisation of Macquarie Park. The open creek line is visible up to Waterloo Road. Shrimptons Creek travels beneath the centre of Macquarie Park. As such, the Shrimptons Creek Green Link is disconnected.

Shrimptons Creek and other adjoining minor watercourses reforms to the north of the M2 Motorway in Lane Cove National Park. Some low use and informal walking tracks / trails are in these areas. These areas have been included in the Shrimptons Creek Green Link corridor for general reference. There is potential opportunity for Council to work corroboratively with relevant stakeholders in the future to investigate feasibility to strengthen and improve these connections, tracks and trails.

Green Transport

The Masterplan aims to connect currently fragmented pathways, capitalising on the existing network of off-road shared user paths to create a safe and continuous pedestrian and cycle link. Future connections in this precinct include:

- Connection to the existing off-road shared user path on Waterloo Road
- Connection to the existing off-road shared user path on both sides of the M2 Motorway linking to the Hills and North Ryde.
- Potential track connection between Dunholm Reserve and Shrimptons Creek Track
- Path lighting between ELS Hall Park / Greenwood Park to Waterloo Rd to facilitate safe use beyond daylight hours.
- Opportunity for future investigation of feasibility for potential northern crossing points of Lane Cove River, pending consultation with relevant stakeholders and further investigations.

Environment

The Macquarie Park precinct aims to improve the condition of Shrimptons Creek through the use of stormwater management strategies, creek stabilisation works, riparian corridor improvements and bush regeneration.

Recreation & Culture / Community

The design facilitates connections to various existing and proposed parks and developments, offering a wide range of recreation opportunities and amenities. The proposed design along Shrimptons Creek adjacent to the Midtown Masterplan includes:

- Bridge crossings over Shrimptons Creek and viewing platforms
- New playground and skate park
- Connections into Midtown
- New filtered water station, bike repair station and bike racks



Precedent image - Bridge crossing over Shrimptons Creek and viewing platforms



Precedent image - Filtered water station

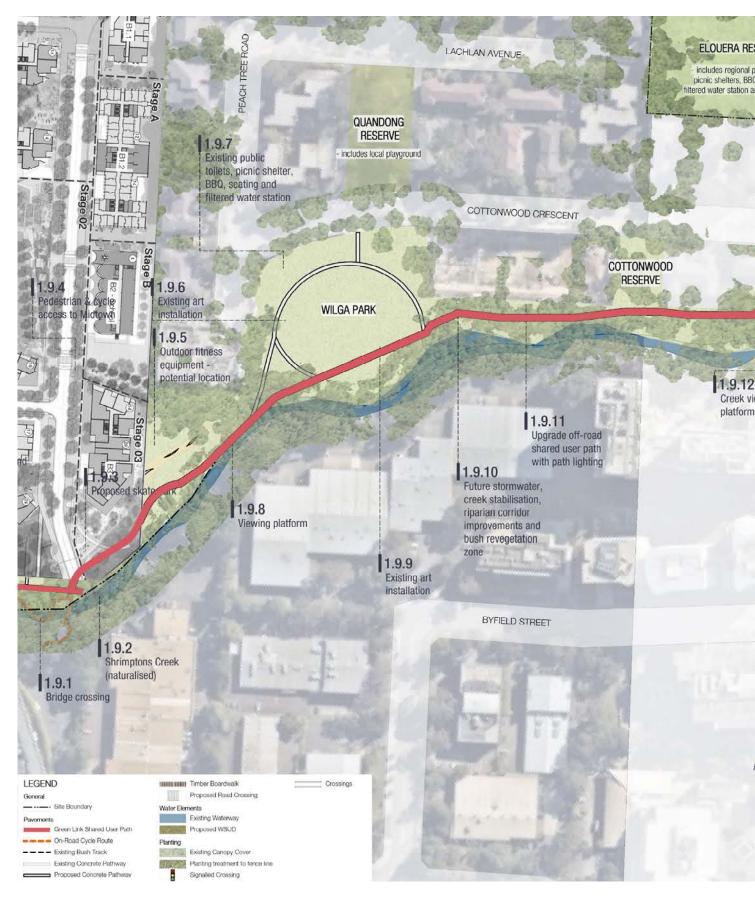


Precedent image - Improved health of Shrimptons Creek



Precedent image - New playground and skate park

Macquarie Park







WATE

WATERLOO ROAD

SERVE

ewing

layground,), seating, nd bike racks

1.9.15 Existing off-road shared user path along Waterloo Rd between Macquarie Park and Macquarie University

1.9.14 New filtered water station, bike repair station and bike racks

Retail, food & entertainment

1.9.13 Existing signalised pedestrian / cycle road crossing

1.9.17

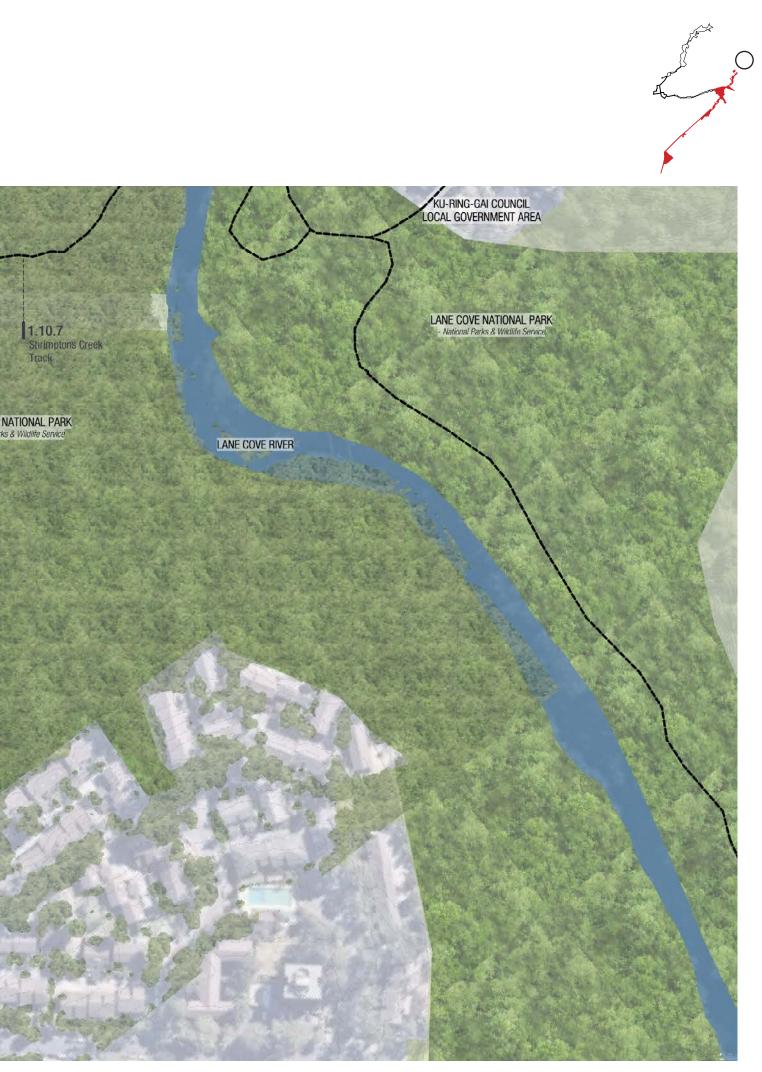
Existing off-road shared user path along Waterloo Rd between Macquarie Park and Macquarie University

W/ TERLOO R AD Hassell - refer to Waterloo R of Master Plan

MACQUARIE SHOPPING CENTRE MACQUARIE SHOPPING CENTRE Retail, food & entertainment 1.10.1 Existing off-road shared user path on Talavera Road

Lane Cove River







4.0 MASTERPLAN - COUNTY GREEN LINK

Overview

This Green Link is named after the County Road Corridor road reservation [reserved for a future road which has not been realised]. This corridor links Macquarie Park to Eastwood. The vision for this link is to provide a connected green open space network for recreation, active transport, ecology, culture, and interconnectivity between current and future public transport options.

Woorang Precinct

Between Kent Road and Graham Avenue.

Eastwood Precinct

Between Graham Avenue and Eastwood station.



4.1 Woorang Precinct

The Woorang precinct involves the activation of an underutilised open space land reservation between ELS Hall Park and Welby Street to provide a continuous off-road shared cycle route for both pedestrians and cyclists connecting ELS Hall Park to the Eastwood Precinct.

Green Transport

The Green Links Masterplan ties into the City of Ryde's Masterplan for ELS Hall Park, continuing the off-road shared user path along Kent Road and Herring Road to join the open space land reservation between Abuklea Road and Welby Street. New raised crossings at key intersections along this route will provide safe crossing points for both cyclists and pedestrians, enhancing usage and connectivity along the route.

Additional off-road shared user paths will be implemented on:

- Woorang Street along the verge
- Welby Street, Edgar Street and Blaxland Road coming into Eastwood Precinct.
- Path lighting between ELS Hall Park to Welby Street to facilitate safe use beyond daylight hours.

Environment

- The activation of the open space land reservation between Abuklea Road and Welby Street will provide an opportunity to protect and enhance existing vegetation within the corridor, creating a biodiversity corridor.
- The Masterplan provides connections to adjacent open spaces including Jim Walsh Park. The proposal of a WSUD device such as a bioretention system would provide a passive method to treating stormwater run off from adjacent street networks.

Recreation & Culture / Community

The Masterplan provides a key connection to Jim Walsh Park, which acts as a recreation node and rest stop along the Green Link. In addition to the existing playground and public toilets, new additions to Jim Walsh Park include:

- Fitness station
- Filtered water station, bike repair station, bike rack
- Upgrade to the existing car park
- Upgraded park entry from Balaclava Rd



Precedent image - Pedestrian / cycle improvements



Precedent image - Off-road shared path



Precedent image - Recreation and WSUD improvements at Jim Walsh Park



Precedent image - Improved biodiversity

Abuklea Road to Kent Road

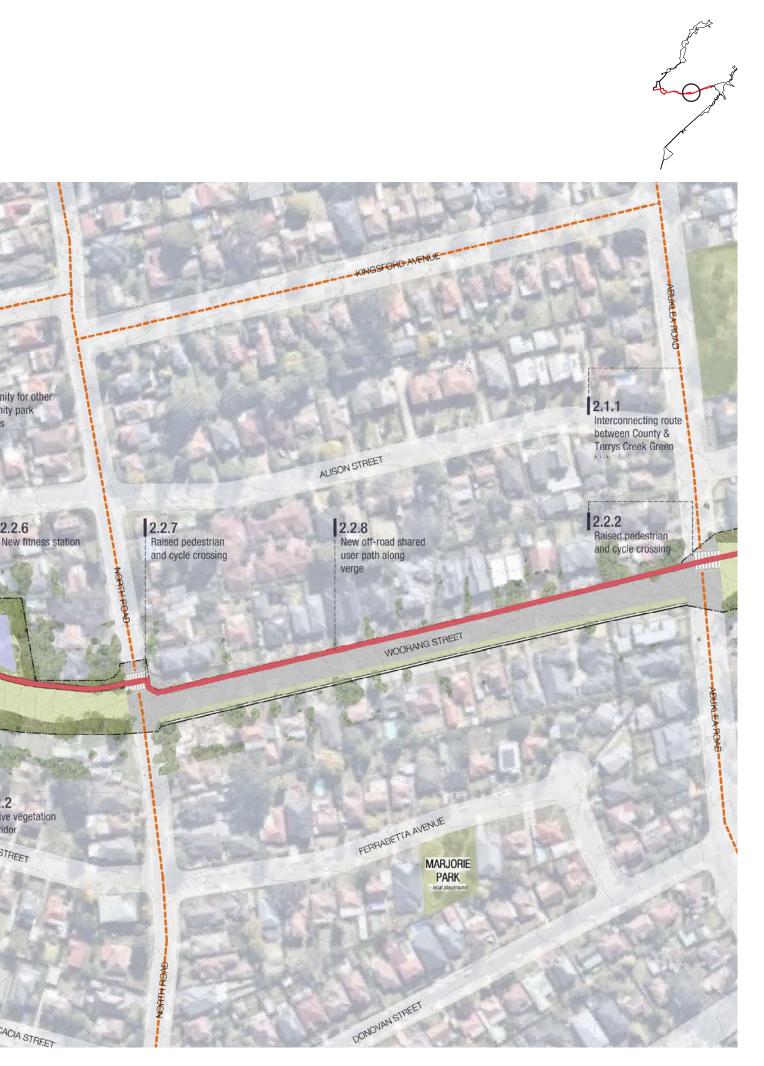


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Grove Street to Abuklea Road





Blaxland Road to Grove Street





2.3.13 Improve park entry on Balaclava Rd frontage 2.3.12 Existing playground JIM WALSH PARK - district playground, picnic shelters, BBO and children's cycle / scooter path 2.3.11 Existing public toilets 2.3.3 New fitness station GRAHAM AVENUE OAKES AVENUE 2.3.5 Upgrade existing car park WISHART STREET 2.3.6 E Filtered water CRANGE STREET 2.3.9 New off-road shared user path with path lighting station, bike repair 2.3.10 GROVE LANE New raised pedestrian / cycle 2.3.7 New raised pedestrian / cycle crossing PICKFORD AVENUE 2.3.8 LILAC PLACE New bridge crossing 2.2.1 Existing off-road shared user path with path lighting -ORNAGE STREET SPRING STREET

4.2 Eastwood Precinct

The Eastwood Precinct is a key destination along the Masterplan, acting as the connector between the County and Terrys Creek Green Links. A series of strategies have been implemented to enhance connectivity to the Eastwood Town Centre [east and west], Eastwood train station and Eastwood Oval. Vehicle speed limits in this area will be reviewed, particularly on May Street and Railway Parade where the existing on-road cycle route will continue.

Green Transport

The main route through this area utilises a shared user path along Blaxland Road, First Avenue, over the Rutledge Street overpass bridge, and along an on-road route down West Parade to the Eastwood Town Centre West and Eastwood Oval.

It is noted that there are two existing underpass tunnels beneath the railway line for pedestrians and dismounted cyclist. These links facilitate movement between the eastern and western side of Eastwood. The northern tunnel provides direct connection to the Eastwood train station and the bus interchanges on both sides of Eastwood station. The southern tunnel and the wall of Eastwood Library have existing colourful mural to encourage use, provide place-making and promote Eastwood's cultural inclusiveness. Both sides of Eastwood Station have pre-existing bicycle racks.

The Masterplan upgrades will include the following:

- New off-road shared user path along First Avenue
- Extending the existing shared user path along Blaxland Road to the May Street intersection
- Upgrading the existing pedestrian crossing on Railway Parade

Environment

All works to existing facilities and the implementation of new facilities throughout this precinct all provide an opportunity to introduce additional native trees, shrubs, and grasses to enhance and expand on existing local ecologies.

Recreation & Culture / Community

Enhancing pedestrian and cyclist crossings throughout this precinct will create a safe and accessible link to adjacent open spaces such as Eastwood Oval, with the inclusion of a new bike repair station in addition to the existing toilet block, playground and filtered water station.



Precedent image - Enhancing local ecologies



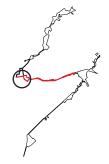
Precedent image - Improved pedestrian / cycle crossings



Precedent image - Off-road shared path

Eastwood









5.0 MASTERPLAN - TERRYS CREEK GREEN LINK



Overview

Terrys Creek forms an important regional biodiversity corridor, connecting to Lane Cove National Park. While recreational paths and boardwalks are provided through this area, the main focus is environmental; to protect and enhance the existing ecology.

The Terrys Creek walking track is for use by pedestrians and bush walkers. To protect the ecologically sensitive area, bicycles use is not permitted on the Terrys Creek walking track.

Through the implementation of the Green Links Masterplan, Council will progressively review the track network to strengthen the primary track. If/where required, Council will rationalise any duplicate routes, unnecessary sections of track and close any informal tracks. Where necessary boardwalks, delineation and steps may be incorporated in sections to reduce ecological impacts from track users.

The Green Links Masterplan seeks to formalise the short section of the missing link in the Terrys Creek walk [between Forrester Park and Forsyth Park] to provide a continuous bush walking link from Eastwood to Lane Cove National Park.

Terrys Creek Green Link cycle route via Vimiera Road to Browns Waterhole and northern connection onwards to Ku-Ring-Gai Municipal Council local government area provides an important local and regional active transport route. This Green Link connects with the existing off-road shared user path network to Macquarie Park. The shared user path missing link between Epping Road and Waterloo Park will be addressed via the Masterplan.

The steep gradient of the shared user path to/from Browns Waterhole is a constraint. The section of shared user path to/from Browns Waterhole is a very scenic route through the National Park, however, the absence of path lighting (due to ecological reasons) discourages the use of this active transport route in the early morning and evening. Browns Waterhole is also flood prone and high rain events can result in closure of the shared user path.

New active transport link over Terrys Creek [near Abuklea Road] will strengthen local and regional routes between City of Ryde and City of Parramatta local government areas.

Pembroke Precinct

From Forrester Park and the M2 Motorway, east of Terrys Creek and along Pembroke Park and Lucknow Park.

Browns Waterhole Precinct

From north of the M2 Motorway underpass to Macquarie Park, via Browns Waterhole.



5.1 Pembroke Precinct

The Pembroke Precinct connects Eastwood to Epping Road through a series of bush tracks and bridges. Upgrades to these bush tracks will link into previously upgraded tracks that seek to formalise the missing link between Forrester Park and Forysth Park. These upgrades will include clear signage and entries into the reserves and enhancing on-road cycle routes will strengthen the connectivity of the Terrys Creek Green Link as well the accessibility to County and Shrimptons Creek Green Link.

Green Transport

Pedestrian and cyclist movement throughout this precinct is facilitated through the upgrading of existing bush tracks and an adjacent on-road cycle route on both sides of Vimiera Road. Key shared user paths between Epping Road and Waterloo Road are realised as well as connections over Terrys Creek to Essex Street (creek crossing points and pedestrian bridge between Vimiera Road & Davis Avenue) and Forrester Park and Abuklea Road at Pembroke Park.

Cycling links via on-road cycle routes along Vimiera Road. This provides direct links to:

- M2 cycle route.

- M2 underpass which connects to Browns Waterhole shared user path in Lane Cove National Park.

- Macquarie Park and Macquarie University via off-road shared user paths on Waterloo Road, Culloden Road and Talavera Road.

New active transport link over Terrys Creek via Abuklea Road linking City of Ryde and City of Parramatta, and providing interconnectivity.

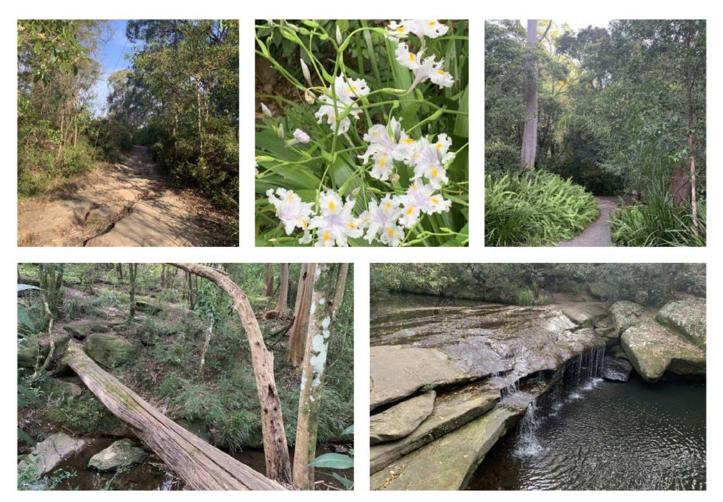
Environment

Ecological restoration along this area includes key biodiversity habitats, therefore flora and fauna protection measures such as bushcare and creek stabilisation is aimed to promote responsible use of and adhere to wildlife protection areas.

Recreation & Culture / Community

This network of pedestrian and cycle routes links together numerous existing parks to provide a series of interconnected, high quality open spaces offering a range of passive and active recreation opportunities. Pedestrian bush tracks provide a place for relaxation and reconnection with nature for the community.

Forrest Park provides a playground and outdoor social space for picnics and passive recreation, surrounded by a bushland setting. The masterplan proposes the installation of a small selfcontained public toilet facility for park users and walkers on the Terrys Creek Walk.



Protect and enhance existing ecologies

Forrester Park





Forsyth Park





Pembroke Park





¥.

5.2 Browns Waterhole Precinct

Browns Waterhole is where Terrys Creek and the Lane Cove River converge. On both sides of Browns Waterhole, the shared user path travels down a modestly wide ravine within a relatively steep topography. The concrete path crosses the low point at Browns Waterhole via concrete pipes and weir, which are flood prone and from time to time result in the closure of this active transport route.

It is noted that the Greater Sydney Commission has identified Browns Waterhole as a future planning priority for improvement. As this is an area that involves multiple landowners and multiple Council areas, City of Ryde will seek to work collaboratively with relevant stakeholders for future investigations into the feasibility to strengthen and improve the connection via Browns Waterhole, and/or future investigations into other potential alternative routes to the north which could potentially be considered more viable.

Green Transport

The Terrys Creek Link forms an important and well established ecological and recreational corridor linking to Lane Cove National Park. The aim for this precinct is to improve the accessibility and connectivity within the Terrys Creek Green Link as well as linking to both the County and Shrimptons Creek Link. This is achieved by increasing legibility of access points into parks and Lane Cove National Park, and strengthening connections through the use of new off-road shared user paths and on-road cycle routes. Existing bush tracks will be repaired and upgraded to ensure a seamless journey throughout the bushland.

Environment

The main focus is to protect and enhance the existing ecology through bushcare and creek stabilisation works. This will reestablish Terrys Creek as an critical and connected biodiversity corridor within Ryde.

Recreation & Culture / Community

The Browns Waterhole precinct provides a series of paths and boardwalks connecting existing bushland and adjacent parks such as Waterloo Park, offering a range of recreational facilities. As such, this precinct acts as a key recreation and leisure space for the local community and region.



Protect and enhance existing ecologies

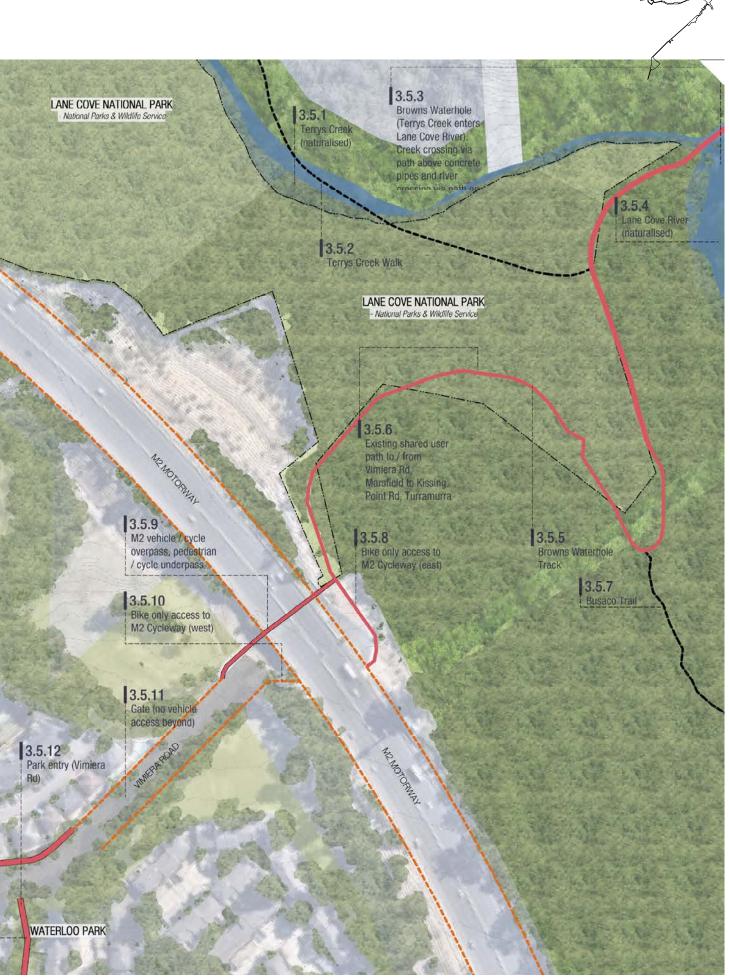
Lucknow Park



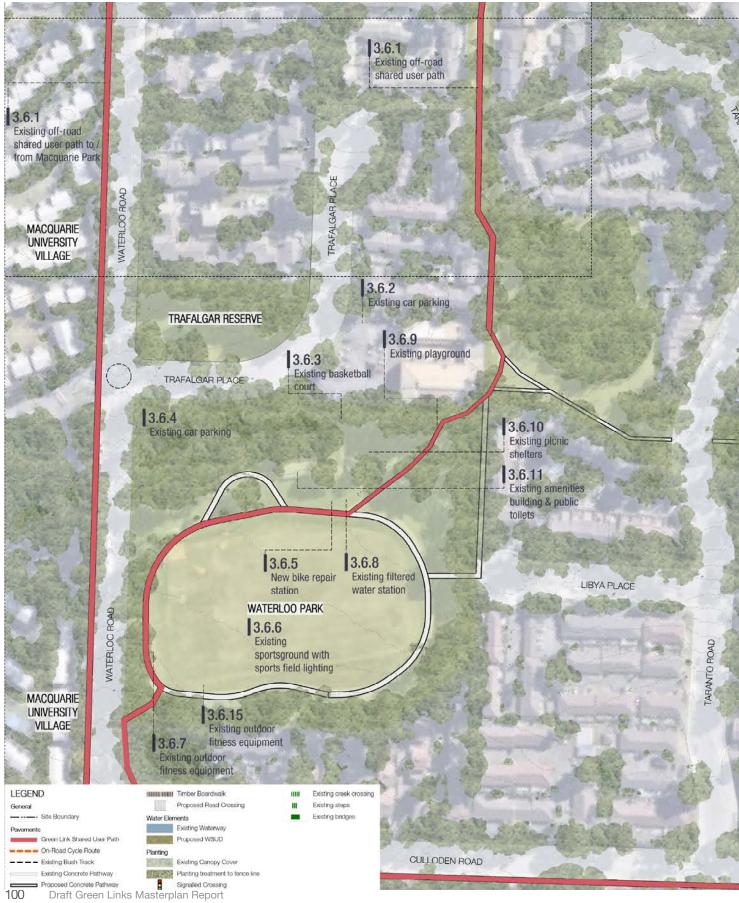


Browns Waterhole





Waterloo Park



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6.0 PRECEDENT IMAGES & DESIGN GUIDELINES

6.1 Planting Palette

The original vegetation communities along the Green Links Masterplan are described in the City of Ryde Biodiversity Plan [adopted in December 2016]. There are 22 different vegetation communities in the City of Ryde local government area, the Green Links Masterplan corridor includes the following:

- Blue Gum High Forest
- Coastal Enriched Sandstone Dry Forest
- Coastal Sandstone Gallery Rainforest
- Sydney Turpentine-Ironbark Forest

In general, it is recommended that vegetation along the Green Links corridor should be selected from these original vegetation communities. This will enhance Councils vision to further increase tree canopy cover. Water Sensitive Urban Design [WSUD] opportunities in the form of swales, wetlands and bioretention systems should reference the City of Ryde Water Sensitive Urban Design Guidelines [adopted in May 2015].

Terrys Creek Green Link will be formed as a natural area biodiversity corridor, this will include endemic species from mid storey to understorey planting that consider unique habitat value. Continue bush care and bush regeneration works for land owned or under Council's care and control. It is noted that National Parks and Wildlife Service are responsible for the lands that form Lane Cove National Park.

Shrimptons Creek and County Green Links will create an urban biodiversity corridor with endemic species, including mid storey and understorey plantings with habitat values throughout the parklands. Plant species in the proximity of Sydney Water assets will be low lying with a shallow root profile to mitigate impacts on sub-terrain Sydney Water assets, whilst maintaining good sight lines.

The Green Links Masterplan promotes the use of the interconnecting routes between the three Green Links, especially for active transport. It is encouraged to provide additional tree canopy cover along interconnecting routes between the Green Links (eg. Abuklea Road).

Freshwater wetlands

Freshwater wetlands for both habitat and stormwater treatment purposes are proposed at several locations along the Green Links corridors. Wetland plants are classified according to the water depth. Most wetlands should include a range of depths and high species diversity.

Ephemeral zone

- Carex apressa [Tall Sedge]
- Cyperus polystachyos [Umbrella Grass]
- Eleocharis gracilis [Spike Rush]
- Ficinia nodosa [Knobbly Club-rush]
- Isolepis inundata [Swamp Club-sedge]
- Juncus usitatus [Common Rush]
- Lepidosperma laterale [Variable Sword Sedge]

Shallow marsh

- Carex fascicularis [Tassel Sedge]
- Eleocharis acuta [Rush]
- Ficnia nodosa [Knobbly Club-rush]
- Isolepis inundata [Swamp Club-sedge]
- Juncus usitatus [Common Rush]
- Persicaria spp.
- Triglochin striatum [Streaked Arrowgrass]

Marsh

- Bolboschoenus caldwellii [Sea Club Rush]
- Bolboschoenus fluviatalis [Rush]
- Myriophyllum crispatum
- Schoenoplectus mucronatus [Star Club Rush]
- Schoenoplectus validus [River Club Rush]

Deep marsh

- Baumea articulate [Jointed Twig Rush]
- Bolboschoenus fluviatalis [Rush]
- Eleocharis sphacelata [Giant Spike Rush]
- Schoenoplectus littoralis
- Schoenoplectus validus [River Club Rush]

Pools

- Chara spp. [Muskgrass]
- Myriophyllum caput-medusae
- Myriophyllum verrucosm
- Potamogeton crispatum [Floating Pondweed]
- Potamogeton ochreatus [Blunt Pondweed]
- Potamogeton pectinatus [Fennel-leaved Pondweed]
- Potamogeton tricarinatus [Floating-leafed Pondweed]
- Vallisneria spiralis [Tape Grass]

Bioretention systems

Bioretention systems for stormwater treatment are proposed at some locations along the Green Link corridors. Typical species recommended for bioretention systems include:

- Imperata cylindrica [Blady Grass],
- Ficinia nodosa [Syn. Isolepis nodosa] [Knobby Club Rush],
- Juncus usitatus [Common Rush],
- Lomandra longifolia [Spiny Matrush],
- Poa sieberiana [Grey Tussock grass],
- Themeda australis [Kangaroo Grass]
- Dianella caerulea [Blue flax-lily]

Most species from Sandstone Forest and Heath communities are also likely to be appropriate in bioretention systems.

6.2 Materials Palette

This section outlines the recommended treatments, materials and finishes along the Green Links corridor including street furniture, paving, lighting, fencing and wayfinding.

The key objective is to achieve a consistent and integrated suite of public domain elements which bind together the precincts, promoting consistency and clarity throughout the Green Links.

Paving / paths

Along the Green Links a variety of path types have been proposed:

- On-road cycle route
- Off-road shared path
- Separated cycle lane
- Elevated boardwalks
- Bridge crossings
- Bush tracks

Signage

Signage along the Green Links corridor should include different styles for different purposes, including:

- Simple wayfinding
- Detailed wayfinding
- Regional bike route signage
- Shared user paths
- Separated cycle lane
- Custom graphics
- Informative
- Interpretive
- Bushland/ natural area specific signage in compliance with Council's overall Park Signage Strategy

Wayfinding signage

Wayfinding signage can either be simple, designed to be read quickly while moving, or more detailed, typically including a map, designed for route planning.

General recommendations for wayfinding signage are:

- Use a distinct style with Green Links branding to clearly identify the Green Links from other routes
- Include signage with destination and distance markers to promote use, local and regional connectivity as well as interconnective routes.
- Limit signage to locations where it is necessary, or where it adds valuable information
- Locate signage where it is visible and easily readable
- Maintain a consistent application of signage along the Terrys Creek Walk throughout track head signs

Instructive signage

Instructive signage helps indicate where people should walk or ride and how they should behave.

Interpretive signage

Interpretive signage can be used to describe the narrative of a space. Historical, cultural and ecological stories can be shared along the Green Link Links through interpretive signage.

Lighting

Along the Green Links, proposed lighting is recommended to be pole mounted lighting. Bollard lighting may be appropriate to use along secondary paths. Informal paths are intended to be unlit. Where appropriate, alternative path lighting may be considered in ecologically sensitive areas to minimise impacts on local flora and fauna.

Lighting strategy will e inform by City of Ryde's Park Lighting policy.

Furniture

Selected furniture should be robust, incorporate accessible design principles and require minimum maintenance. Furniture should suite the urban, park and bush characters of the Green Links. All elements are minimalist and non-intrusive / not distracting from the setting in which it is located. Furniture elements include the following:

- Bike racks
- Street furniture
- Picnic shelters
- BBQs
- Filtered water stations (with dog bowls)
- Water bubblers
- Bin enclosures

Fencing

Fencing may be required in bush regeneration / protection areas where the restriction of pedestrian movement is needed.

Log delineations may also be a natural option along bush tracks and/or natural areas.

Main path - at grade

Where the main path can be constructed at-grade, a minimum 3.5 m wide concrete path is recommended. It should function as a shared path, indicated with signage and pavement marking. This path should include lighting. The surface needs to be adequately smooth and non-slip, to suit all users.

Material:

- insitu / full width format lightly exposed aggregate concrete with grey oxide or asphalt
- Bitumen finish for shared user paths in close proximity to Sydney Water Assets to allow for access and serviceability.

Main path – elevated <0.4 m

Where the main path passes through sensitive environments, it should be elevated up to 0.4 m above ground level. Handrails are not required at <0.4 m above ground level. It should function as a shared path (where applicable), indicated with signage and pavement marking. This path should include lighting. Its minimum width is recommended as 3.5 m.

Material: Fibre Reinforced Plastic [FRP] decking.

Bush track - elevated >0.4 m

Where bush tracks pass over steep ground, steel mesh crossings or Fiber Reinforced Plastic [FRP] may be used to achieve safe and robust pedestrian crossings.

Material: Fibre Reinforced Plastic [FRP] decking or steel mesh with galvanised steel handrails.

On-road - separated cycleway

On some streets a separated cycleway is recommended. This is a bike-only path, located between the pedestrian footpath and the road.

Minimum width [bidirectional cycleway] = 2.4 m + 0.4 m kerb

Material: asphalt road pavement with a green surface.

On-road - bike boulevard

Where the main Green Links route is along a quiet street, it is recommended that the street be designed as a "bike boulevard", designed for shared bike and vehicle use.

Material: asphalt road pavement with a coloured surface.

A 30 km/hr speed limit is recommended in these streets.



Precedent image - at grade [Prince Alfred Park - note that this path is 5 m wide]



Precedent image - elevated <0.4m [Narrabeen lagoon]



Precedent image - elevated >0.4m [Parramatta River cycleway]



Precedent image - Typical City of Sydney separated cycleway



Precedent image - On road bike boulevard



Precedent image - Bicycle symbols - mixed traffic environment



Precedent image - Paved shared zone in Bunda Street, ACT



Precedent image - Redfern secondary shared path



Precedent image - Parramatta Park unpaved path

Precedent image - Bourke Street cycle way

On-road - mixed traffic

Where on-road routes have been identified, a mixed traffic environment has been recommended.

A mixed traffic street should include pavement markings to highlight the likely presence of bikes. These should be located centrally in each lane to indicate the safest place to ride.

On road – shared zones

Shared zones accommodate mixed pedestrian, bike and vehicle traffic at low speeds.

Only applicable where Transport for NSW guidelines warrant their use.

Shared zones are typically designed with a distinct paved surface [e.g. concrete or asphaltic unit pavers] more typical of a footpath than a road.

Secondary paths

Secondary paths may be 1.5-3.5 m wide, depending on their expected use. A pedestrian only path can be as little as 1.5 m wide. For a shared path, 2.0 m is recommended as a minimum width. Secondary paths may also be either at-grade or elevated, with materials recommended as above for the main path.

Secondary paths may or may not include lighting.

Informal paths

Where paths are proposed through natural areas [e.g. ecological restoration sites], informal paths have been recommended. A suggested width is 1.0 m.

A natural, permeable surface is recommended, e.g. crushed sandstone. No lighting is recommended.

Pedestrian / Cycle Crossings

Where pedestrian / cycle routes cross local streets, it is recommended that raised wombat crossings are used to provide safe and visible crossing points for shared path users. Planting should be included where appropriate to enhance local ecologies.

Directional signage

At appropriate locations, use a distinct style with Green Links branding to clearly identify the Green Links from other routes.

Simple wayfinding - vertically mounted

Where there are existing poles or vertical elements where wayfinding signs can be mounted, signs should be located at eye level for pedestrians/bike riders, be easy to read and include brief, essential information. The wayfinding information in these signs should be local - e.g. street names and local destinations.

Simple wayfinding - integrated in pavement

To avoid a proliferation of poles and signposts, simple wayfinding signage can also be integrated in pavements. This example on the kerb is printed in a location where wear will be minimal.

Detailed wayfinding - map based

Map-based wayfinding signs should be provided at regular intervals to assist with navigation. Maps should show important local and regional destinations and should help people navigate between the Green Links corridor and other places within walking and riding distance.

Regional bike route signage

In NSW there is an established style for signage of regional bike routes, shown here. This style of signage would be appropriate where the Green Links connects to other regional or local routes.

However this signage style may be considered inappropriate as a template for the Green Links Masterplan itself – it tends to denote distant rather than local destinations and is typically installed too high to be easily visible while walking or riding.



Precedent image - Directional signage [GreenWay

- Inner West Council wayfinding sign]



Precedent image - Vertically mounted signage [Frome bikeway, Adelaide SA]



Precedent image - Signage integrated in pavement [Frome bikeway, Adelaide SA]



Precedent image - Detailed map based wayfinding [Sydney]



Precedent image - Typical NSW regional bike route signage



Precedent image - Shared path graphics [City of Sydney]



Precedent image - Separated cycleways are typically indicated with bike signs and arrows [City of Sydney]



Precedent image - Custom pavement detail

From Creek to Canal

Precedent image -

Interpretive sign [GreenWay - Inner West Council wayfinding sign]



Precedent image - Shorebirds interpretive sign at Penrhyn Estuary

Shared user

Shared user are typically indicated in the City of Sydney with:

- Blue shared path symbols
- Blue text
- Blue edges and sometimes, scattered spots

It is recommended that this style should be adopted along the Green Links as it is well understood throughout the Greater Sydney area.

Separated cycleways

Separated cycleways are typically indicated with bike signs and arrows.

Custom graphics

Custom graphics can stand out and help to encourage positive behaviours.

Interpretive signage

Interpretive signage can share a layer of information about a space that would usually go unrecognised.

Mixture of evocative and informative elements

Interpretive signage can include a mixture of evocative and informative elements. This style of signage is designed both to attract interest and share information.

Evocative

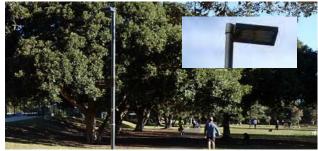
Some interpretive signage is light on text but uses materials, imagery and other artistic elements to evoke information about a place. This style of signage is designed as a prominent feature to attract attention and inspire interest.



For the Green Links Masterplan, path pole-mounted lights with LED (or equivalent future technology) would be appropriate for the main Green Link shared user paths. CPTED principles to be applied.



Precedent image - Interpretive signage at Botany Bay



Precedent image - Pole-mounted lighting



Precedent image - Tunnel lighting



Precedent image - Existing steel bike racks at Lewisham West

Tunnels

Lighting is particularly important in tunnels to improve safety at night. Utilise safer-by-design approaches, with a focus on placebased, integrated outcomes. Artwork in the form of lighting / murals is recommended for these spaces.

Bike racks

Steel U shaped bike racks have been installed through out the City of Ryde local government areas, similar styled bike racks should be used to maintain consistency through out the Green Links corridor.



Precedent image - Street furniture; metal seating (parks) powder coated steel frame with oiled hardwood timber slats (natural areas)



Precedent image - Aquafil filtered water station



Precedent image - Street bin enclosure with hardwood timber slats



Precedent image - Metal bike repair station, high security workstation



Precedent image - Black fencing

Seating

Typical seats should be consistent with furniture used throughout the City of Ryde local government area.

Bubblers

Bubblers should be consistent with furniture used throughout the City of Ryde local government area.

Bins

Bins should include paired litter and recycling bins and should be consistent with furniture used throughout the City of Ryde local government area.

Bicycle Repair Station

Bicycle repair stations should be consistent with furniture throughout the City of Ryde local government area

Fencing of ecological restoration sites

Where fencing is required the preferred option is recommended to be as unobtrusive as possible. Black chainwire fencing, with no top rail and a maximum height of 1.0 m, is recommended.

Around these fences, native vegetation should be planted either side to minimise visibility of the fence and to enhance ecological values.

Lift chainwire 100mm to allow small fauna to get under.



7.0 IMPLEMENTATION PLAN

7.1 Implementation Plan

This Implementation Plan is a high level overview providing the City of Ryde and key stakeholders with a methodology to achieve progressive implementation of the Green Links Masterplan over a 20 year period.

The more specific details and descriptors of the individual Masterplan elements are featured throughout Section 3-5 of this Report. These provide a benchmark for the extent of the stages/ upgrades that make up this Masterplan.

The individual Masterplan elements have been put designated into logical small groupings to form stages/upgrades for progressive Masterplan implementation. This has considered factors such as geographic location, strategic importance, safety considerations, elements which have the potential to be implemented concurrently and/or project scale for incorporation into Council's planning and delivery plan.

Within the "Project/Strategic Value and Implementation Matrix" in the following pages, the various stages/upgrades of the Green Links Masterplan have been reviewed and allocated a "Project Value" score based on each of the Green Links Masterplan project values (0 - nil, 1 - low, 2 - medium, 3 - high). This assessment has considered the strategic location, proximity to existing program / amenity and maximum potential in achieving the Masterplan vision.

Each stage/upgrade has been scored based on the positive impact it will have in achieving the Masterplan vision as well as addressing the following four key project themes:

Green Transport: the Green Links as a transport corridor

Environment: the Green Links as blue and green biodiversity corridors

Recreation & Culture / Community: the Green

Links as a place that meets multiple recreational needs and is a focal point for community and culture

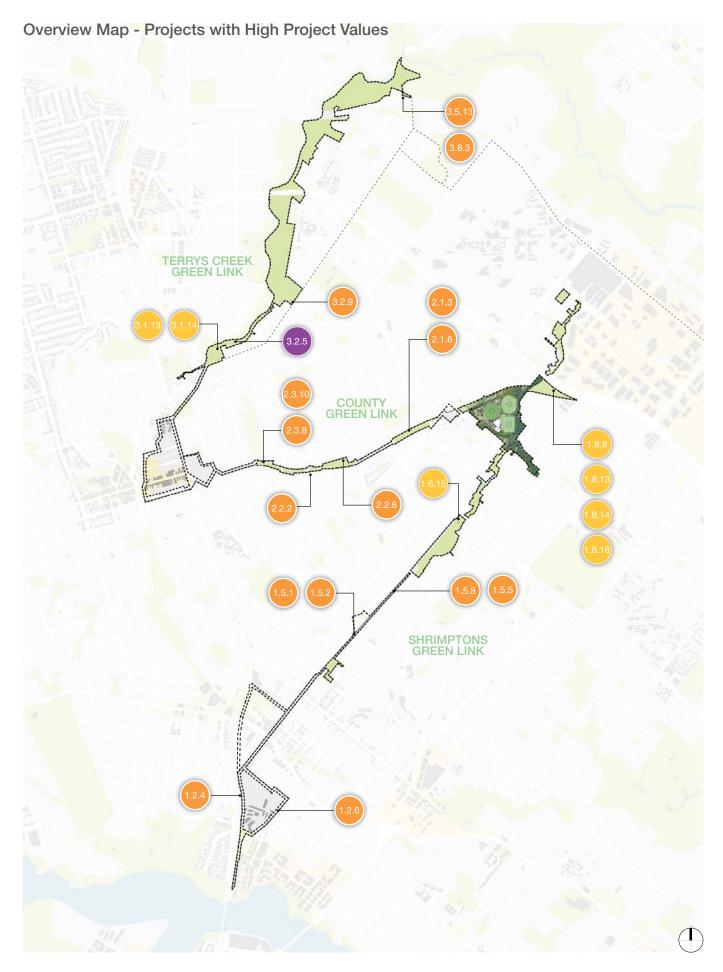
Each stage/upgrade has been further reviewed and assigned a level of "Strategic Importance" (Low/Medium/High) and "Implementation Priority" (Short, Medium and Long term).

Strategic Importance: This categorisation has considered whether the stage/upgrade provide will yield local (City of Ryde), regional (adjoining local government areas and/ or greater metropolitan Sydney) and/or environmental strategic benefits/connections when implemented. This assessment has considered a range of other strategies, plans, other current/future Masterplan and upgrades as prepared by Greater Sydney Commission, NSW Government, the City of Ryde and other stakeholders.

Implementation Priority: Each stage/upgrade has been further reviewed and allocated a level of "Implementation Priority" (Short, Medium and Long term). In very general terms, implementation time frames can be anticipated to be approximately short term (1 – 5 years), medium term (5 – 10 years) and long term (10 – 20 years). Note: these time frames are indicative only and may be subject to change and/or variation.

The "Project/Strategic Value and Implementation Matrix" is intended to be guidance/reference tool to assist Council when determining future implementation priorities, budget allocations for individual Masterplan stages/upgrades and/or future grant funding.

Implementation of the various stages/projects of the Green Links Masterplan will be subject to availability of funding. Where required, further consideration, consultation and formalisation of agreements will be undertaken between Council, land owners (eg. Transport for NSW and Sydney Water) and stakeholders for the overall Green Links Masterplan (once adopted) and for the respective stages/upgrades contained within. Detailed design and where required, the necessary technical report, feasibility studies and/or approvals will be obtained in due course for the applicable Masterplan stages/upgrades.



Green Links Project/Strategic Importance and Implementation Matrix

										
	PROJECT VALUES				STRATEGIC IMPORATANCE	IMPLEMENTATION				
GREEN LINK / PRECINCT / MASTERPLAN STAGE	(0 – Nil, 1 – Low, 2 – Medium, 3 – High)					PRIORITY				
	GREEN TRANSPORT	ENVIRONMENT	RECREATION & CULTURE	VALUE SCORE	(Low, Medium, High) (Local, Regional, Environmental)	(Short, Medium, Long)				
SHRIMPTONS CREEK GREEN LINK										
MEADOWBANK / WEST RYDE PRECINCT										
1.1.2 I New bike repair station	2	0	1	3	High – local & regional	Short – Medium term				
1.1.8 Opportunity to improve traffic flow between eastern and western sides of Meadowbank Station										
1.2.1 Opportunity to improve traffic flow between eastern and western sides of Meadowbank Station	2	0	1	3	Medium – local	Medium – Long term				
1.2.2 Opportunity to pedestrianise for greater pedestrianisation (near Meadowbank Station)	2	0	1	3	Medium – local	Medium – Long term				
1.2.5 Opportunity to pedestrianise existing overpass bridge (Angas Street)	2	0	0	2	Medium – local	Medium – Long term				
1.2.6 Off-road shared user path (Rhodes, Macpherson and See Streets)	3	0	2	5	Medium – local	Medium – Long term				
1.2.4 I Off-road shared user path through MEEP and Reservoir site	3	0	2	5	High – local & regional	Refer to MEEP Masterplan				
1.3.1 New pedestrian and cycle overpass above Victoria Rd	2	0	2	4	High – local & regional	Short – Medium term Refer to MEEP Masterplan				
1.3.4 – 1.3.7 I Ryedale Road improvements (West Ryde Station)	2	0	0	2	Medium – local & regional	Short term / In progress				
1.3.10 Ryedale Lane - potential shared pedestrianised zone (retain rear commercial access)	1	0	2	3	Low – local	Medium term Refer to Anzac Park Masterplan				
1.3.14 Existing traffic intersection - recommended for detailed traffic analysis and review of phasing, vehicle turning from Hermitage Rd and bike / pedes- trian crossing	2	0	1	3	High – local & regional	Medium term				
 1.3.12 1.3.13 Off-road shared user path (Hermitage Road) & pedestrian/cycle crossings 1.3.18 1.4.1 Separated cycle way (two-way) on western side of Hermitage Rd. Two way vehicle movements, parking on eastern side of Hermitage Rd & pedestrian/cycle crossings 	3	0	1	4	High – local & regional	Medium – Long term				
1.3.8 1.3.10 Off-road shared user path and bike/pedestrian crossings (Wattle Street)	3	0	1	4	Medium – local & regional	Medium – Long term				
1.4.10 – 1.4.14 Off-road separated pedestrian / cycle paths & pedestrian/cycle crossing (Benson Lane/Carara Reserve)	3	0	1	4	High – local & regional	Medium term				
1.4.4 - 1.4.9 Carara Reserve upgrades	0	1	1	2	Low – local	Medium – Long term				
SANTA ROSA PRECINCT 1.5.1 - 1.5.2 Shared user path to / from new										
Blaxland Rd intersection & signalised pedestrian / cycle crossing (intersection design subject to detailed traffic analysis) (Blaxland Road)	3	0	2	5	High – local & regional	Short – Medium term				
1.5.3 – 1.5.4 Beattie Park upgrade	0	1	1	2	Medium – local	Medium term				
1.5.5 1.5.8 Off-road shared user path with path lighting, native vegetation corridor planting and pedestrian/cycle crossings (between Blaxland and	3	1	2	6	High – local & regional. Medium -	Short term				
Quarry Roads) 1.6.3 Existing car park upgraded (Santa Rosa Park)	0	0	2	2	environmental	Short – Medium term Medium term				
1.6.4 Existing Habitat nursery to be extended	0	2	2	4	Medium – local Medium – local & environmental	Medium term				
1.6.7 - 1.6.9 District playground, BBQ, picnic shelters, fitness station, filtered water station, bike repair station (Santa Rosa Park)	1	0	2	3	Medium – local	Short term				
1.6.10 - 1.6.11 Native vegetation and bush regeneration zone (Santa Rosa Park)	0	3	0	3	Medium – environmental	Medium term				
1.6.12 1.6.14 Multi-purpose junior & senior sports field with sports field lighting (Santa Rosa Park)	0	0	3	3	Medium	Short - Medium term				
1.6.13 1.6.24 Widen existing shared path and direct cyclists around back of community building					Medium – local & regional	Medium term				
1.6.15 New multi-purpose community building (including accessible community hall with kitchenette, cafe/kiosk, public toilets, sports change rooms x 2, storage, outdoor undercover area, water storage tanks and bike racks (Santa Rosa Park)	2	1	3	6	High – local	Medium – Long term				
1.6.18 Existing lookout and WSUD to be remediated	0	2	0	2	Medium – environmental	Medium term				
1.6.20 Riparian corridor - native vegetation planting	0	3	0	3	Medium – environmental	Medium term				
1.6.26 New path connection between 2 x Bridge Rd entries	2	0	1	3	Medium – local	Medium term				
1.7.1 1.7.8 1.7.10 Future stormwater, creek stabilisation, riparian corridor and bush regeneration zones (Flinders/Tindarra Reserves)	0	3	0	3	Medium/High – environmental	Short – Medium term & ongoing.				
1.7.2 Upgrade picnic shelters, BBQ and seating (Flinders Park)	0	0	2	2	Medium – local	Medium term				
,		1								

			1			
1.7.7 New shared user path using road reserve (Ford St)	2	0	1	3	Medium – local & regional	Medium term
1.8.4 New shared user path on southern side of Scott St with new connection to existing shared user path	2	0	1	3	Medium – local & regional	Medium term
1.8.14 New mountain bike/BMX track					High – local & regional	Short - Medium term
1.8.13 – 1.8.18 New Youth Zone	2	1	3	6	High – local & regional	Medium – Long term
1.8.8 New bridge with shared user path crossing Shrimptons Creek to new Youth Zone					Medium – local & regional	Medium – Long term
1.8.9 1.8.19 Upgrade existing pedestrian / cycle underpass (Epping Road)	2	0	1	3	High – local & regional	Short – Medium term
Bushcare and bush regeneration works	0	3	0	3	High - environmental	Ongoing
MACQUARIE PARK PRECINCT						
1.8.22 - 1.8.23 1.9.1 – 1.9.8 Shrimpton Creek/path/park upgrades (between Epping Road and Wilga Park)	2	1	1	4	Medium – local	Short – Medium term
1.9.10 - 1.9.14 Shrimpton Creek/path/park upgrades (between Wilga Park and Waterloo Road)	2	1	1	4	High – local & regional Medium - environmental	Short – Medium term. Refer to Mid-town Masterplan.
Bushcare and bush regeneration works	0	3	0	3	High - Environmental	Ongoing
COUNTY GREEN LINK				•	•	
COUNT I GREEN LINK						
COUNTY PRECINCT				-		
2.1.11 New ELS Hall Park car park (Kent Road entry)	0	1	2	3	Medium - local	Short – Medium term. Refer to ELS Hall Park, Greenwood Park & Booth Reserve Masterplan
2.1.8 – 2.1.10 New off-road shared user path & pedestrian/cycle crossings (Kent/Herring Roads)	2	0	1	3	Medium/High – local & regional	Medium term
2.1.7 WSUD opportunity (Herring/Agincourt Roads)	0	1	0	1	Low/Medium -	Medium - Long term
2.1.3 – 2.1.6 New off-road shared user path with path lighting, pedestrian/cycle crossings and native vegetation corridor planting (between Agincourt &	3	1	1	5	environmental Medium/High – local & regional. Medium –	Short - Medium term
Abuklea Roads) 2.2.2 2.2.7 2.2.8 New off-road shared user path					environmental. Medium/High – local &	
and pedestrian/cycle crossings (Woorang St) 2.2.2 – 2.2.6 New off-road shared user path with	3	0	1	4	regional. Medium/High – local &	Short - Medium term
path lighting, pedestrian/cycle crossings with path lighting, native vegetation corridor planting and park upgrades (between North Road & Grove Street)	3	1	1	5	regional. Medium – environmental.	Short - Medium term
2.3.8 – 2.3.10 New off-road shared user path with path lighting, pedestrian/cycle crossings, native vegetation corridor planting and new bridge crossing (between Orange Street & Graham Avenue)	3	1	1	5	Medium/High – local & regional. Medium – environmental.	Short - Medium term
2.3.3 – 2.3.6 Jim Walsh Park upgrades	1	1	1	3	Low/Medium - local	Medium - Long term
EASTWOOD PRECINCT	-	- -	-			
2.3.1 – 2.3.2 2.4.31 - 2.4.34 New off-road shared user path and pedestrian/cycle crossings (Welby/Edgar Streets and Blaxland Road)	3	0	1	4	Medium/High – Local & Regional.	Medium - Long term
2.4.19 – 2.4.21 New off-road shared user path and pedestrian/cycle crossings (First Avenue)	3	0	1	4	Medium – Local & Regional.	Medium - Long term
Eastwood Station – general precinct upgrades (East Parade / Railway Parade/May Street)	2	0	1	3	Medium – Local & Regional.	Medium – Long term
TERRYS CREEK GREEN L	INK	<u> </u>				
PEMBROKE PRECINCT						
3.1.13 – 3.1.14 Forrester Park upgrades, new pedestrian path and self-contained public toilets.	2	1	2	5	Medium – local & environmental	Medium - Long term
3.2.5 Formalised walking track to connect Forrester Park and both sides of Forsyth Parks	2	2	1	5	High – local & regional	Short – Medium term (subject to necessary negotiations)
3.2.9 New pedestrian / cycle connection between Abuklea Rd (City of Ryde) and Abuklea Rd (City of Parramatta)	3	0	2	5	High – local & regional	Medium - Long term
Review and rationalise walking tracks. Decommission duplicate and informal tracks.	0	3	0	3	Medium - environmental	Ongoing
Bushcare and bush regeneration works	0	3	0	3	High - environmental	Ongoing
BROWNS WATERHOLE PRECINCT					•	
3.8.3 3.5.13 New shared user path on Vimiera	3	0	2	5	Medium – local &	Medium - long term
Road (between Epping Road and M2) Bushcare and bush regeneration works	0	3	0	3	regional High - environmental	
Upgrade Busaco Trail - entry	2	3	1	3	Medium – local &	Ongoing Medium term
	Z	1	1	4	environmental	Medium term
Investigate feasibility to improve Browns Waterhole for active transport route including flood mitigation during high rain events.	3	1	2	6	Medium/High – local & regional	Long term (subject to necessary investigations & negotiations)
Investigate feasibility for northern active transport connections over Lane Cove River.	3	1	2	6	Medium/High – local & regional	Long term (subject to necessary investigations & negotiations)



Artist impression - Shrimptons Creek Green Link at Macquarie Park

