



YOUR VISION.
YOUR FUTURE.

Walking and Cycling Strategy – Draft



LET'S SHAPE
THE HORNSBY
OF TOMORROW.

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Council acknowledges the traditional owners of the lands of Hornsby Shire, the Darug and Guringai people.

Executive Summary

“Hornsby is a thriving and lively place where people of all ages and abilities can walk or cycle as a greater part of their lifestyle to go to work, school or the shops through the bush or the neighbourhood, for convenience, exercise or enjoyment.”

Objectives

The main objective of this Strategy is to provide a framework for Council to increase participation of walking and cycling, prioritise its delivery and to improve the supporting infrastructure and resourcing for these activities in the Local Government Area (LGA) over the next ten years. It covers the urbanised areas for walking and cycling with bushwalking extending into the rural areas. It does not include an assessment of paved paths in the rural areas, mountain biking or recreational road cycling. These aspects will be covered by other investigations.

Strategy Objectives

The primary strategy objective is to increase participation for all members of the community in and improve the provision of infrastructure for walking and cycling over the next 10 years. The information in the strategy will have the following key strategy objectives:

- Set a strategic framework to guide the preparation of detailed design solutions
- Inform the preparation of:
 - Design solutions for residential housing precincts
 - Development contribution plans/voluntary planning agreements
 - Development consent conditions
 - Street tree planting programs
 - Road improvement works
 - Grant applications/budget decisions
 - A prioritised 10-year implementation plan
 - Evaluation and monitoring processes

Principles

The guiding principles include:

- Connection
 - Provide continuous safe walking and cycling paths across Hornsby Shire
 - Link important origins and destinations with cycling and walking infrastructure
 - Incorporate cycling and walking infrastructure in road design

- Integration
 - Give priority to walkers on roads and paths
 - Create new opportunities by considering the needs of pedestrians and cyclists of all ages and abilities
- Inspiration
 - Attract new people to take up cycling and walking as a mode of transport
 - Encourage more frequent and longer distances of travel by cycling and walking
 - Promote and provide education on the benefits and convenience of cycling and walking
- Inclusion
 - Provide opportunities for all people, regardless of age or ability to enjoy the health benefits of walking and cycling
 - Provide paths and trails that are accessible, and which address the needs of seniors and cater for people of all abilities through the inclusion of way finding and directional signage, seating, shade and access to water and amenities
- Convenience
 - Enhance walking and cycling with adequate way finding signs, shade areas, access to water and seating
 - Improve facilities at transport nodes and end of trip locations such as workplaces, schools, key recreational destinations and shopping areas

The strategy aims to improve access to:

- Town Centre and Industrial areas
- Community and sports facilities
- Parks and bushland areas
- Key visitor/tourist destinations
- Educational institutions
- Public transport facilities
- Hospitals
- Aged care and retirement villages

“ This Strategy recognises the need to consider opportunities to better cater for the whole community, no matter their ability including parents/carers with prams, young children on scooters, as well as cyclists and walkers ”



Priorities

The strategy identifies an expanded network for walking and cycling. It is proposed that provision of the footpath and cycle path network will initially focus on:

For Walking

- Build wide, accessible footpaths in Public Domain/ Housing Strategy Precincts
- Strengthen circuit walks within urban areas to encourage exercise
- Add accessible trails to the existing network to enhance opportunities and to cater for the needs of people of all abilities to access facilities
- Improve links to bushwalking track entrances
- Improve links to town and village centres and retail precincts
- Improve links to key destinations
- Reinforce and add to existing pathway network (as above, it's not about just filling gaps but prioritising good experiences where they are needed most)

For Cycling

- Improve links to stations and local destinations (schools, parks etc)
- Provide a strong connected network between local centres

Action Plan

Review the following areas against determined trigger points to determine path widths and suitable solutions.

- Cycle linkages between major centres and key features in the Shire
 1. Pennant Hills to Epping link
 2. Asquith to Hornsby
 3. Routes to Cherrybrook Metro Station
 4. Routes to local schools and shopping centres
 - Berowra
 - Asquith / Hornsby Heights
 - Cherrybrook Village Shopping Centre
 - Westleigh Park/ Shopping Centre & Pennant Hills Station
 5. Signage and Pavement wayfinding

■ Walking linkage connections

1. Key Walking Network Connections

- Beecroft / North Epping
- West Pennant Hills
- Westleigh / Thornleigh
- Asquith / Hornsby Heights / Mount Colah / Mount Kuring -Gai
- Berowra
- Brooklyn
- The Great North Walk

2. Wider footpaths of 1.8m in high density housing areas and links to key community destinations (in areas where 1.8m widths are not achievable, a 1.5m width path would be implemented):

- Asquith / Hornsby / Waitara
- Thornleigh, Beecroft

3. Create linkages to bushwalking tracks from urban centres and public transport nodes

4. Bushwalking trail connections through either footpath or signage works

Challenges

The delivery and nature of the works within the nominated movement corridors will be influenced by the availability of funds and specific site constraints, notably heritage, wildlife habitat and bushland protection needs, neighbourhood character, utilities, car parking needs and the presence of mature trees.

Conclusion

The Walking and Cycling Strategy provides both strategic and integrated solutions to enable decision making for the provision of walking and cycling experiences, it provides a framework by which decisions about what work is undertaken to ensure positive user experiences across the urban part of the Shire. The strategy will provide a strategic framework for residents, Councillors and Council officers and will inform budgetary decisions, assist with grant applications and other potential funding sources. The identified network will be used to allocate work in the Delivery Program and Operational Plan on a priority basis.



1. Introduction

“ Council’s Walking and Cycling Strategy aims to encourage residents to adopt healthier lifestyles, enjoy the natural environment and to help reduce traffic congestion and emissions through increased walking and cycle activity. ”

1.1 Introduction and Background

Hornsby Shire Council is committed to improving cycling and walking facilities within the Local Government Area (LGA) of Hornsby. Council recognises cycling and walking as an important recreational and social activity for all residents, regardless of age or ability. Council’s Walking and Cycling Strategy aims to encourage residents to adopt healthier lifestyles, enjoy the natural environment and to help reduce traffic congestion and emissions through increased walking and cycle activity. In particular, Council aims to support seniors and cater for the needs of people of all abilities to enjoy the health benefits of walking and cycling through the provision of enhanced services.

By identifying strategic walking and cycling networks and other key interventions and addressing key barriers that deter people from walking and cycling, Council hopes to transition to an environment and culture that supports the people of Hornsby Shire to enjoy all the benefits of an active lifestyle.

The Walking and Cycling Strategy reviews existing bike paths and bike amenities while proposing additional cycle facilities to improve and augment the cycle network in the Hornsby LGA. The Walking and Cycling Strategy reflects newly completed infrastructure and new proposed routes. The principal needs of cyclists and the type of routes required are discussed with a summary of key points to be considered in the planning and design of future walking and cycling facilities in Hornsby.

It is important to note that the Walking and Cycling Strategy provides guidance in planning. The actual locations of cycleways and associated cycle facilities are subject to change and will be determined as part of detailed design and construction processes.

Included in this study is a review of State and Commonwealth policies, principles and directives. This study also includes reference to a number of Council Strategies and Policies which address key policy areas and the needs of specific groups, such as the Disability Inclusion Action Plan and Active Living Hornsby Strategy.

These are used to provide advice and direction in the development of a walking and cycle network and encouraging bicycle usage.

1.2 Scope

The Walking and Cycling Strategy is a high-level planning document that outlines the provision of bicycle and walking related infrastructure. It instructs a 10-year plan to increase the number of cycling and walking journeys for people of all ages and abilities.

In this strategy, walkers include anyone travelling by foot or other walking aid, including wheelchairs and motorised scooters.

Cyclists include anyone riding a bicycle for recreation, travel to work, to the shops or any other purpose.

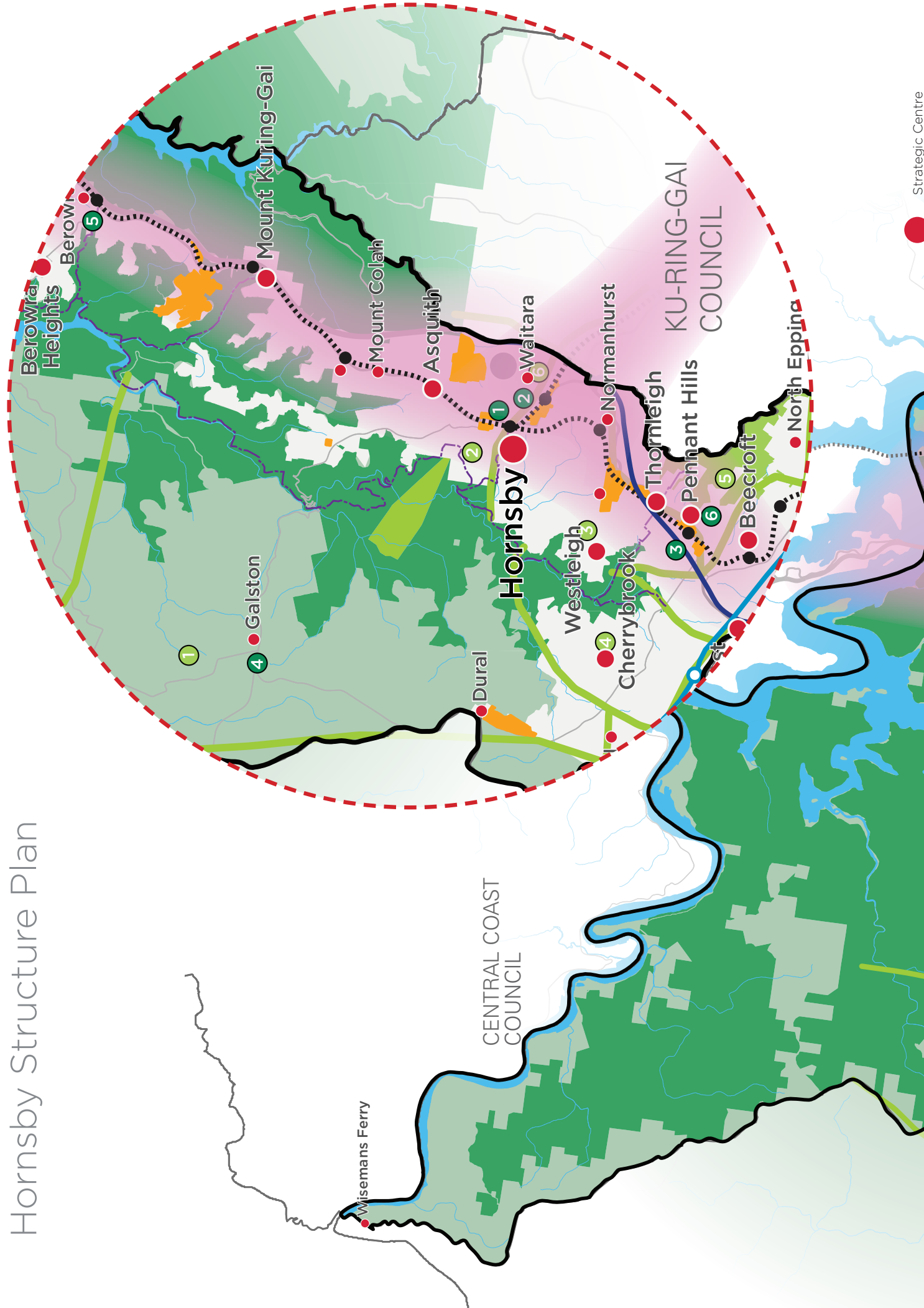
The primary purpose of this Strategy is to provide Council with a strategic direction on ways to increase participation, to prioritise delivery and to improve the supportive infrastructure and resourcing for walking and cycling in the Shire over the next ten years.

A strategy for mountain bike networks and greater detail regarding bushwalking shall be developed separately in a Nature-Based Recreation Strategy.

1.3 Study Area

The study area for this strategy is the urban areas of the Shire extending from North Epping to Berowra and Brooklyn. Areas to the west of the Berowra Valley including Galston, Arcadia, Wisemans Ferry and Glenorie are not covered by this strategy.





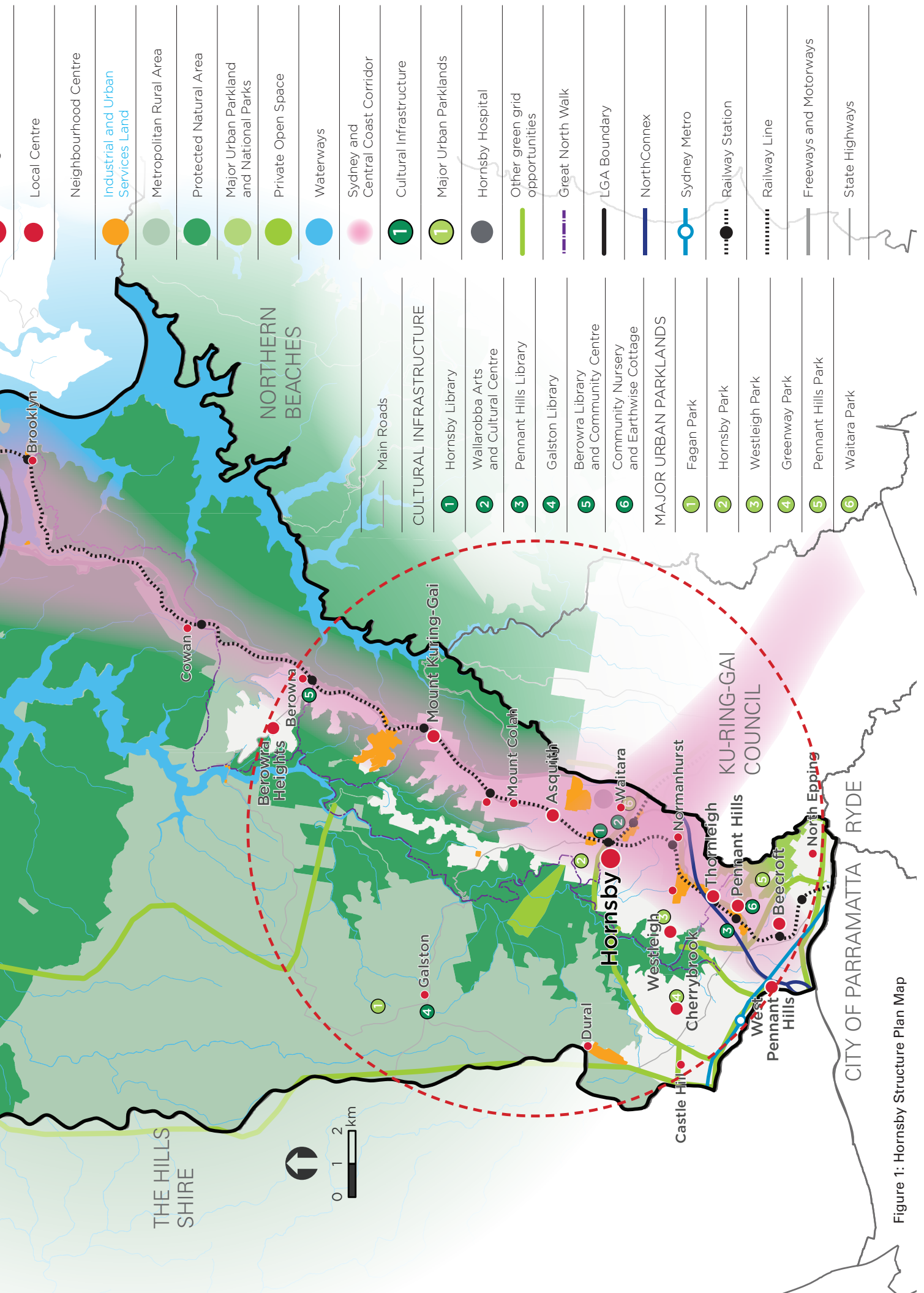


Figure 1: Hornsby Structure Plan Map

2. Policy Context

2.1.1 Introduction

This section of the report summarises the major planning policies and strategies that influence the development of the Walking and Cycling Strategy for Hornsby Shire Council.

2.1.2 A Metropolis of Three Cities – The Greater Sydney Region (March 2018)

A Metropolis of Three Cities – The Greater Sydney Region Plan is a State Government Report that founds a 40-year strategic land use plan for Sydney.

The Greater Sydney Commission is a NSW Government agency appointed to lead metropolitan planning for the Greater Sydney Region. The plan was developed concurrently with Future Transport Strategy 2056 prepared by Transport for NSW, which aims to deliver better connectivity and accessibility for the residents of Greater Sydney. Consistent with the Future Transport Strategy, one of the key foundations of the plan is the vision of a 30-minute city which aims to provide transport infrastructure and services that enable people to reach their metropolitan or Strategic Centre within 30 minutes, seven days a week.

The plan identifies Hornsby as a strategic centre. Strategic centres are identified as possessing:

- high levels of private sector investment
- flexibility, so that the private sector can choose where and when to invest
- co-location of a wide mix of activities, including residential
- high levels of amenity, walkability and being cycle-friendly
- areas identified for commercial uses and, where appropriate, commercial cores.

2.1.3 The Greater Sydney Commission's North District Plan (March 2018)

The North District Plan is one of five District Plans developed which together map a 20-year vision for Greater Sydney. It is designed to manage growth in the context of economic, social and environmental matters to achieve the 40-year vision for Greater Sydney.

The district plan identifies that great places are walkable, meaning that they are designed built and managed to encourage all members of the community, no matter their ability or age to walk or cycle for leisure, transport or exercise.

The plan introduces several priorities of relevance including:

- Planning Priority N1 Planning for a city supported by infrastructure
 - Prioritise infrastructure investments to support the vision of A Metropolis of Three Cities
 - Infrastructure aligns with forecast growth – growth infrastructure compact
 - Infrastructure adapts to meet future needs
 - Infrastructure use is optimised
- Planning priority N2 – Working through collaboration
 - Benefits of Growth realised by collaboration of governments, community and business
- Planning Priority N3 – Providing services and social infrastructure to meet people’s changing needs
 - Services and Infrastructure meet communities’ changing needs
- Planning Priority N4 – Fostering healthy, creative, culturally rich and socially connected communities
 - Communities are healthy, resilient and socially connected
 - Greater Sydney’s communities are culturally rich with diverse neighbourhoods
 - Greater Sydney celebrates the arts and supports creative industries and innovation
- Planning Priority N5 – Providing housing supply, choice and affordability, with access to jobs, services and public transport
 - Greater housing supply
 - Housing is more diverse and affordable
- Planning Priority N6 – creating and renewing great places and local centres, and respecting the District’s heritage
 - Great places that bring people together
 - Environmental heritage is identified, conserved and enhanced
- Planning Priority N12 – delivering integrated land use and transport planning and a 30-minute city
 - A Metropolis of Three Cities – propose the concept of a 30-minute city
- Planning Priority 13 – Support growth of targeted industry sectors – tourism – National Parks, Great North Walk and Hawkesbury River p.88 of NDP
- Planning Priority N16 – Protecting and enhancing bushland and biodiversity
 - Biodiversity is protected, urban bushland and remnant vegetation is enhanced
- Planning Priority N17 – Protecting and enhancing scenic and cultural landscapes
 - Scenic and cultural landscapes are protected and enhanced
- Planning Priority N19 – Increasing urban tree canopy cover and delivering Green Grid connections
 - Urban Tree cover is increased
 - The Green Grid links parks, open spaces, bushland and walking and cycling paths
- Planning Priority N20 – Delivering high quality open space
 - Public Open Space is accessible protected and enhanced
- Planning Priority N21 – Reducing carbon emissions and managing energy, water and waste efficiently
 - A low-carbon city contributes to net-zero emissions by 2050 and mitigates climate change
 - Energy and water flows are captured, used and re-used
 - More waste is re-used and recycled to support the development of a circular economy
- Planning Priority N22 – Adapting to the impacts of urban and natural hazards and climate change
 - People and places adapt to climate change and future shocks and stresses
 - Exposure to natural and urban hazards is reduced
 - Heatwaves and extreme heat are managed

2.1.4 Future Transport 2056 Strategy

The Future Transport Strategy 2056 (Future Transport) is a 40-year strategy for Sydney and Regional NSW prepared by Transport for NSW. The plan includes several initiatives related to Hornsby Shire Council

- The Strategy encourages active travel (walking and cycling) and using public transport
- The strategy links back to the Metropolis of Three Cities where people can access the jobs, education and services they need within 30 minutes by public or active transport. It identifies a regional network that looks to connect Hornsby as part of the greater Sydney. This is planned further in the future. Currently the State connectivity focus for bicycles is towards the Eastern Harbour City and Central City. Regional connections that will include Hornsby are projected to be investigated within a 20-year timeframe.

New Infrastructure

- NorthConnex project linking M1 Pacific Motorway and the Hills M2 Motorway.
- Sydney Metro Northwest station at Cherrybrook Upgrades

Sydney Wide Projects/ Programs

- Priority Cycleway links City of Sydney

2.1.5 Sydney's Walking Future 2013

Sydney's Walking Future was developed by the NSW Government in 2013 to guide planning for walking in Sydney. The actions set out in Sydney's Walking Future aim to encourage walking as a first choice for quick trips under two-kilometers and will assist people accessing public transport.

Councils Walking and Cycling Strategy considers the main objective of Sydney's Walking Future to help reduce the burden of congestion on roads and free up capacity on key transport corridors.

2.1.6 NSW Bike Plan 2010

The NSW Bike Plan is a visionary document that aimed to establish NSW as 'one of the world's great places to ride a bike'. The plan aimed to assist the NSW Government in achieving their target of increased numbers of bicycle trips made in the Greater Sydney region at a local and district level to 5 percent by 2016. The Bike Plan also contains several initiatives and actions to support this vision. These include cycle to work programs and disability riding programs.

2.1.7 Development & Active Living – Designing Projects for Active Living (2010)

The Development and Active Living document was prepared by the NSW Premier's Council for Active Living and is targeted at Strategic Planners preparing Development Control Plans (DCPs), land use and transport strategies and other policy documents. The guide contains a number of considerations to be included in the Development Application (DA) process to address principles of active living. These principles include:

- walkability and connectivity;
- active travel alternatives;
- legibility;
- quality public domain; and
- social interaction and inclusion.

The Hornsby Shire Walking and Cycling Strategy supports the broad principles of Development & Active Living – Designing Projects for Active Living as it aims to encourage community activity, improve amenity and generate economic growth.

2.1.8 Hornsby Local Environmental Plan 2013

The current LEP promotes sustainable transport by reducing car use and increasing the use of public transport walking and cycling

2.1.9 Hornsby Development Control Plan 2013

The current DCP includes planning controls for bicycle parking (rails, racks and lockers) for all forms of development.

2.1.10 Hornsby Community Strategic Plan 2018 – 2028

Hornsby Community Strategic Plan is closely aligned with The Greater Sydney Commission's North District Plan, it is the highest order document in the Integrated Planning and Reporting suite of documents. It was adopted in June 2018 and it embodies the vision for the future of the Hornsby Shire community and sets the broad strategic direction for Council's long-term planning documents to ensure the best possible delivery of services and the direction for where the people of Hornsby Shire want to be in 2028.

2.1.11 Hornsby Integrated Land Use and Transport Strategy (ILUTS) 2004

In 2004 the final draft for the ILUTS was presented to Council, it falls within Council's Community Strategic Plan 2018-2028. Its aim is to provide a framework for action and promote viable and sustainable transport for the Shire. Council's prime objective for the development of this strategy is to reduce car travel by promoting other modes of transport, particularly in view of the unsustainable historical increase in motor vehicle traffic associated with population growth. The material developed in the ILUTS has been utilised in progressing this Walking and Cycling Strategy. The Walking and Cycling Strategy aligns with Council's ILUTS by setting a schedule of Works and program of implementation for the future Delivery/Operation Plan.

2.1.12 Hornsby Shire Council Walking and Cycling Plan 2004

The last Walking and Cycling Plan was an action Plan of ILUTS (2004) and it is currently in the process of being updated to incorporate current and emerging issues in active transport planning including planning for access to recreation areas (both open spaces and National Parks) as identified in the Active Living Hornsby Strategy 2016. Other related delivery projects include the Pennant Hills to Epping Cycle Route and Brooklyn Cycling & Pedestrian Link Project. Council plans, programs and projects related to walking include:

- Council's Bushwalking Track Program – bushwalking tracks capital works and maintenance;
- Council's Footpath Construction Program – Footpath construction program with an annual budget of \$266,000 delivering approximately 2km of footpaths per year;
- Park & Walk to School Program – Maps that provide parking options near schools and walking routes. These routes may include bush tracks if facilities are available;
- Urban Forest Strategy;
- Street tree planting program (part of the 25,000 Trees by 2020);
- Public Domain Strategy; and
- Hornsby Town Centre Review.

2.1.13 Recent Hornsby Shire Council Strategies for walking and cycling

Council has recently prepared some separate cycle and walking strategies, including:

- A draft cycle strategy that identifies a program of works that may be delivered utilising RMS commuter grant funding through a series of model projects in select locations across the Shire. The draft plan has involved some engagement with key cycling stakeholder groups.
- Mapping has been undertaken that looks at integrating urban and bushland track networks. This work has included site investigations aimed at identifying the key issues and constraints across the suburban network. It also looks at opportunities to improve connectivity in the network and there have been discussions with internal stakeholders about priorities and operational issues.
- Additional work is being undertaken for bushwalking and mountain biking that will be incorporated into a Nature-Based Recreation Strategy.
- Council has also developed a further suite of documents that reference walking and cycling and support the outcomes of this strategy. These include ILUTS (Integrated Land Use and Transport Study), Sustainable Hornsby 2040, Climate Wise Hornsby Plan and Urban Forest Strategy.

The Walking and Cycling Strategy integrates these separate programs and provides a holistic solution to promoting increased participation in walking and cycling through provision of improved infrastructure in Hornsby Shire. The strategy identifies the priority mechanisms (planning and non-planning) for improving participation through the development of a work program.

2.1.14 Active Living Hornsby Strategy 2016

The Active Living Hornsby Strategy identifies the recreation and open space needs of the Hornsby community and provides a strategic framework from which to guide and manage future open space and recreation planning for Hornsby Shire. The Strategy identified further Plans that needed to be actioned in a staged approach. Planning for and maximising the use of the existing open space has included progression of the further Plans identified in the Active Living Hornsby Strategy, including a Play Plan and a Walking and Cycling Plan. The Strategy identified walking and cycling as one of the strategic proposals that underpin its delivery. Strategy 4 – Promoting Cycling and Walking states, "develop an integrated Walk and Cycle Plan for the whole Shire"

2.1.15 Disability Inclusion Action Plan 2017

In 2017 Council prepared a Disability Inclusion Plan to ensure that all members of the community, no matter their ability have access to the built and natural environments of the Shire. This plan outlines Council's commitment to be an inclusive and accessible Shire now and into the future, through ongoing consultation with people of all levels of ability to increase awareness and understanding of access and inclusion issues and the barriers to community participation. This plan is scheduled for review in 2020.

2.1.16 Local Strategic Planning Statement 2020 – LSPS

The LSPS identifies the long-term vision for the Shire. It recognises that planning for cycling in our Shire needs to focus on the needs of different groups including young children learning to ride, recreational cyclists and those wishing to commute to work, schools or shops. Each of these groups has different priorities and needs and we will need to plan for them differently.

Notably the LSPS refers to the “three gorges loop” which has become one of Sydney's iconic road rides for more experienced road cyclists. This popular bike ride starts at Hornsby and weaves through the urban and rural areas of the Shire and includes Bobbin Head, Berowra Waters and Galston Gorge. Promotion of this loop along with the provision of suitable supporting infrastructure such as water fountains and bicycle repair stations would stimulate economic outcomes in the Shire.

2.1.17 Draft Play Plan 2020

The Play Plan provides a strategic direction on how Council's existing play spaces can be developed to provide equitable and inclusive play opportunities to meet the needs of the community.

The Plan identifies that there is a demand for more cycling opportunities across all age groups and abilities. This includes “learn-to-ride” tracks for young children, more challenging BMX and mountain bike tracks, and bush based cycling tracks. The current Draft Play Plan proposes Learn-to Ride facilities at Erlestoke and Ruddock Parks.

2.1.18 The Environmental Planning and Assessment Act 1979

The Environmental Planning and Assessment Act 1979 (the Act), amended in March 2018, required local councils to prepare a Local Strategic Planning Statement (LSPS) as part of their planning controls. The LSPS provides a

20-year vision to guide land use planning and development within respective LGAs, identifying the unique character, identity and values of the place, and strategies for managing growth and change into the future.

The Hornsby LSPS is consistent with the directions within the North District Plan and reflective of the Hornsby Community Strategic Plan. The LSPS provides the strategic framework to implement relevant state and regional objectives at local level and direction to facilitate the desired land use, social, economic and environmental outcomes for the local community. One of the Key Actions from the LSPS is to finalise the Walking and Cycling Strategy. Hornsby Local Strategic Planning Statement March 2020.

2.1.19 The Green Grid

Hornsby Shire is surrounded by natural landscapes and has many regional and local walking trails. We are in an ideal position to provide stronger connections between our green spaces and Greater Sydney. With the Great North Walk identified as one of the priority links within the Sydney Green Grid network, we want to improve its accessibility from our train stations and centres.

Rehabilitation of Hornsby Quarry and its transformation into Hornsby Parkland is well underway and provides a unique opportunity to identify additional links from the Hornsby Town Centre to Berowra Valley as an expansion of our bushland trails and the Green Grid. Our ability to build on and enhance the Green Grid is an exciting opportunity. This Walking and Cycling Strategy identifies future upgrades to our current walking and trails network to connect to the above links.

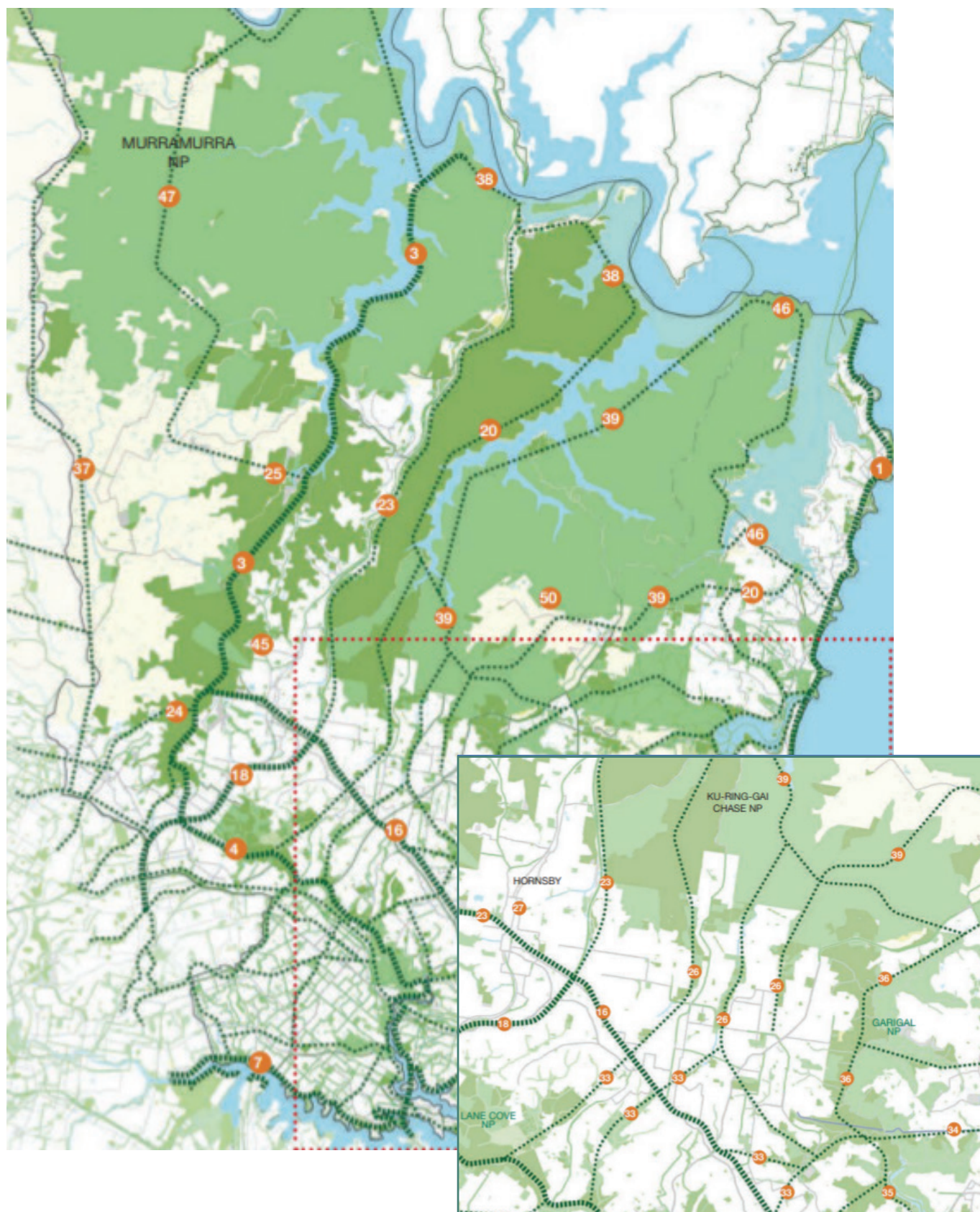


Figure 2: Green Grid Project Opportunities, specifically project opportunities 23 and 27.

Source: North District Green Grid Plan, 2017

2.2 Vision and Objectives

2.2.1 Vision Statement

The current Hornsby Shire Councillors were elected in September 2017. In February 2018, the Councillors developed a Vision for their term of office which consists of a Value statement, an Action statement and acknowledgment of external impacts:

Value statement

Our Bushland Shire is a place for people. It has impressive places and wonderful environments and offers a great lifestyle for all members of our community.

Action statement

We are committed to collaboratively implementing infrastructure, sustainability, liveability, productivity and affordability initiatives to ensure our Bushland Shire thrives now and into the future.

External impacts

Our Bushland Shire is being shaped by our natural environment, population growth, housing and employment opportunities.

The vision for walking and cycling has been developed in consideration of the Council Vision above.

Vision

Hornsby is a thriving and lively place where people can walk or cycle as a greater part of their lifestyle to go to work, school or the shops through the bush or the neighbourhood, for convenience, exercise or enjoyment.

Aim

to make walking cycling and using public transport easier for more trips in Hornsby Shire.

2.2.2 Objectives

The following are key objectives of this Strategy:

- Review and consolidate Council's walking and cycling programs, initiatives and plans and develop a comprehensive urban and bush walking strategy for Hornsby Shire.
- Identify key priorities and establish guidelines and principles to support increased participation.
- Identify primary walking and cycling networks.
- Support Sydney's Green Grid
- Inform the preparation of:
 - Design solutions for residential housing precincts;
 - Development contribution plans/voluntary planning agreements;
 - Development consent conditions;
 - Street tree planting programs;
 - Road improvement works;
 - Inform the preparation of grant applications/budget decisions;
 - Document a prioritised 10-year implementation plan; and
 - Develop an evaluation and monitoring process for implementation.

2.3 Community Engagement

The Hornsby Shire Bike Plan

In 2017/18 Council conducted a review of the Hornsby Shire Bike Plan. The Bike Plan serves as a reference document used to access state and national funding sources to ensure that bicycle facilities are considered during road maintenance and reconstruction programs and help inform important land use decisions.

Council undertook public consultation which resulted in a Draft Bike Plan that emphasises prioritising the development of local connections to and from areas that will generate demand for cycling trips such as town centres, public recreation facilities, schools/colleges, rail stations and Hornsby Hospital. It is believed that developing safe local routes will encourage more people to cycle to Hornsby Shire and that cycling over time will become a more attractive transport option for local trips.

Hornsby Council takes part in the National Cycling Participation Survey. The 2020 survey asked respondents to prioritise actions that Hornsby could take to encourage bicycle riding. The most supported actions were:

- more off-road paths and cycleways (82% of respondents rated this a very high or high priority);
- more bicycle parking (62%);
- better connections between bike paths and schools (59%);
- more signs highlighting bicycle routes (58%); and
- more on-road bicycle lanes (58%).

Local Strategic Planning Statement

In August 2019, Council engaged the community for feedback on the Local Strategic Planning Statement. This document is important as it sets out a 20-year vision for land use in the local area with a focus on how growth and change will be managed.

1900 members of the community were involved in the consultation and transport and infrastructure was the top issue raised by the community. They reported a desire for reduced car related travel by providing better options for walking cycling and improved access to public transport.



Figure 3: Online collaborative mapping tool

Source: Social pinpoint

“

We need to walk and cycle more and be able to have kids riding bikes to school etc without the heavy traffic.

– Survey respondent

”

3. Land Use and Transport Context

3.1 Land Use

3.1.1 Overview

Hornsby Shire is part of metropolitan Sydney region and is located 25 km north from the Sydney CBD. The land size area is approximately 495 square kilometres. The traditional land owners are the Aboriginal people of the Darug, Guringai and Darkinjung language groups.

Hornsby Shire is characterised by its large areas of natural bushland mixed with urban and rural areas where approximately 70% of the LGA is national park and bushlands with major waterways and rural landscape in the northern part of the Shire. Of the rest, approximately 10% is zoned and used for urban development, 15% for rural purposes and 5% for open space.

The LGA extends from Brooklyn in the north east to Wisemans Ferry in the North West. In the far west you will find Dural and the southern suburbs include Cherrybrook, Cheltenham and North Epping. The LGA's eastern most suburb is Wahroonga. The urbanised areas are in the south and eastern part of the Shire with the natural bushlands, National Park and the rural lands dominating the northern and western areas. The LGA includes 39 suburbs and rural localities.

The major industrial areas are located at Asquith, Waitara and Mount Kuring-Gai. The major commercial centres are Hornsby, Pennant Hills, Thornleigh and Dural Service Centre. Hornsby's topography of ridges, ravines and creeks have influenced the development of the urbanised areas due to the constraints on accessibility. Residential areas have developed along corridors of ridge tops and valleys along the east side. The main area of urban development is in the south of the Shire.

On 12 May 2016 the City of Paramatta and Cumberland Proclamation 2016 declared the transfer of the Hornsby Shire Council area south of the M2 Motorway to the new City of Parramatta Council.



Image: Berowra Valley

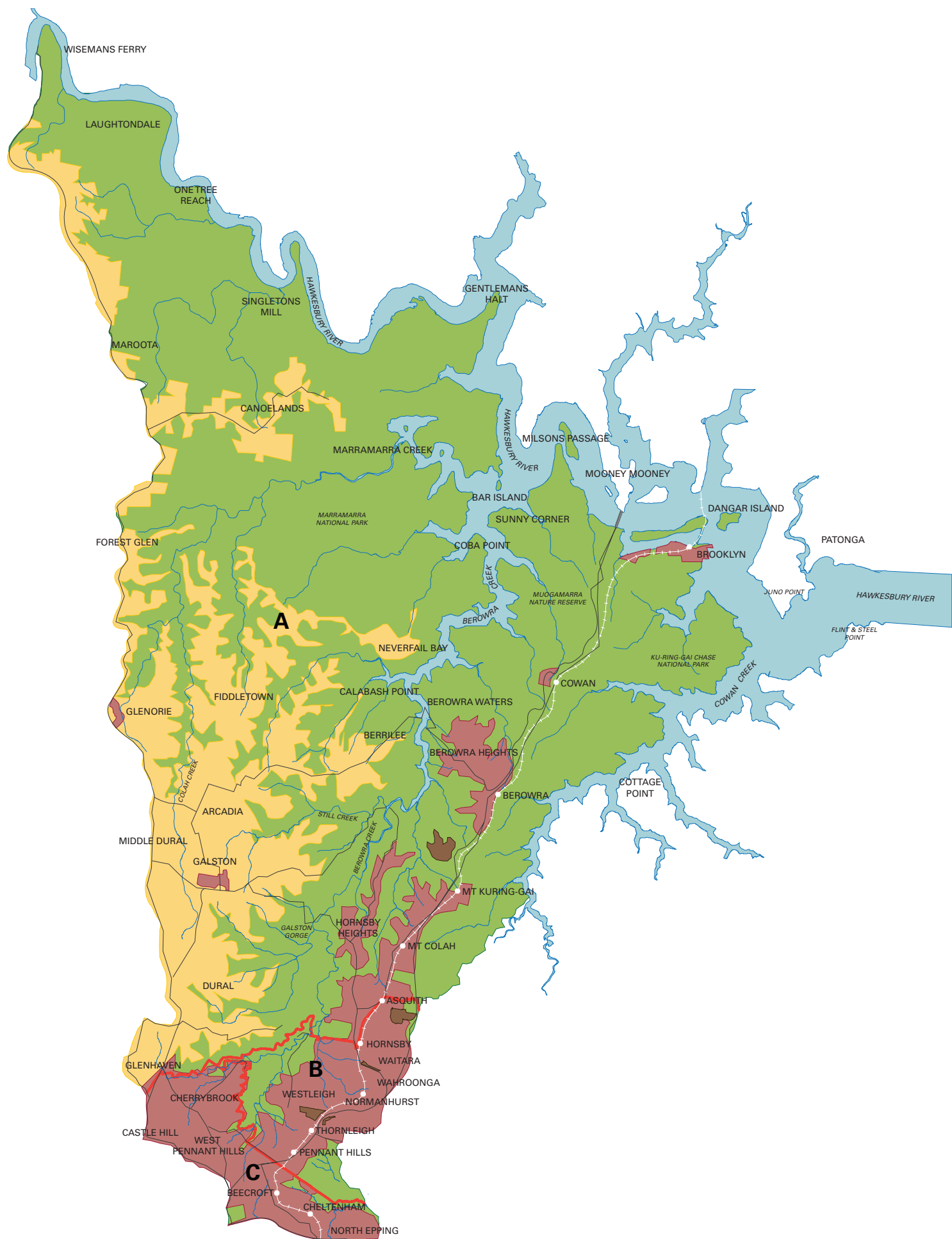


Figure 4: Hornsby Shire Council Area – Land Use

Source: Hornsby Shire Community Strategic Plan 2018–2018 p. 6

3.2 Population, Employment And Demographics

3.2.1 Population Growth

Currently, Hornsby is experiencing growth in line with that of Greater Sydney and Australia based on figures from 2011 to 2016. The most notable trends for Hornsby have been an increase in seniors, young and mature families and new residents from overseas. In addition to the natural ageing of current residents, the availability of access to major hospitals within and adjacent to our Shire, the high number of retirement villages, aged care facilities and single living arrangements available in the Shire has been the main factor in the increase in seniors, aged 55+.

Young families (parents ranging from 30 to 44 years of age with young children ranging from 5 to 14 in age) have been moving to Hornsby Shire from other parts of Metropolitan Sydney where they have better opportunities for home ownership. Recently greater density development has been built around Waitara, the Asquith to Mount Colah corridor, Thornleigh and Pennant Hills. Waitara is attracting, young singles and couples against the overall trend of young people who are mostly moving away from the Shire. Young couples who move to the area become families and increase the population numbers. Areas with units have also seen an increase in downsizing seniors over the age of sixty years, (couples and singles). From 2011 to 2016 there has been a general trend to new residents arriving from metropolitan Sydney and overseas.

Key changes and drivers for growth

The current key drivers that are influencing the changes in Hornsby with implications for walking and cycling infrastructure and planning are:

- Land use changes around the Hornsby CBD with plans for other residential growth areas.
- New Sydney Metro Northwest station at Cherrybrook
- NorthConnex project linking M1 Pacific Motorway and the Hills M2 Motorway.

Projecting into the future

Hornsby's population is forecast to grow from 154,490 currently to 179,582 by 2036. That's 25,092 more residents over the next 17 years.



Figure 5: Hornsby population change from 2019 to 2036

Source: Australian Bureau of Statistics, Census of Population and Housing 2011 and 2016. Compiled by .id, the population experts.

The future growth areas within Hornsby Shire are around Hornsby Town Centre and the new Metro station in Cherrybrook. Hornsby Town Centre is forecast as the main centre of growth. The growth from the town centre has the potential to influence the surrounding Hornsby area by increasing the pressure in demand for housing, services and on the infrastructure (i.e. increase in traffic congestion, higher volumes of pedestrians along footpaths). The state government land around the metro station in Cherrybrook has the potential to be developed. The current areas of medium to high density development in Asquith to Mount Colah corridor, Waitara and Hornsby are still in the stages of selling for future occupancy.

Implications of future growth and demographic changes to meeting community needs

The population is living longer and many seniors are either unable to drive or responding to medical advice and seeing the opportunities to improve their ongoing health by exercising more regularly. For these groups walking is important as it is an affordable form of exercise and social activity and provides access to the shops and other important daily destinations. Access to public transport is also important for seniors who are no longer driving for long distance trips, and in many cases, this allows them to live independently for a longer period.

In 2016, 6204 or 4.3% of our populations reported needing assistance in their day to day lives due to varying levels of ability. This is a percentage increase since 2011 and reflects a growing trend across Sydney.

As people are living longer, they will acquire medical conditions that require assistance as they age. Dementia appears in growing numbers as the community ages, and has is the second leading cause of death in Australia, and the leading cause of death for women since 2016.

Medical research highlights exercise as a major factor in combating the onset of dementia. As people live longer, they will seek improved quality of life and look for ways

to reduce the onset of diseases such as dementia. Exercise as a key component to that can be utilised in this regard and residents are more likely to take up exercise opportunities in their immediate area, such as walking or cycling.

The increase in young families with school age children increases pressure on the foot and vehicle traffic around schools in the growth areas. As more people move to the Shire to live, many of these people are likely to work out of the local area requiring either public transport or their cars to travel to work, leading to increased traffic congestion on the local roads.

Hornsby's increasing cultural and linguistically diverse community is leading to a wider range of expectations and requirements that need to be addressed. The ability to access services and information for these residents and visitors will require consideration in the provision of information in different languages and cultural approaches in how people use and view infrastructure.

The growth in Hornsby and metropolitan Sydney is anticipated to impact the transport infrastructure, leading to an increase in traffic congestion.

3.2.2 Distribution of Population and Employment Growth

3.3 Travel Patterns and Demand

3.3.1 Travel Modes

A review of methods of travel to work in Hornsby Shire across Sydney and NSW shows that the current walking and cycling participation trends are low in Hornsby relative to other areas around Greater Sydney, Northern Sydney Regional Organisation of Councils (NSROC)* and across NSW. (See Fig. 6) This includes other travel methods – train, bus, private vehicle (driver or passenger), motorbike, taxi, tram, ferry or truck.

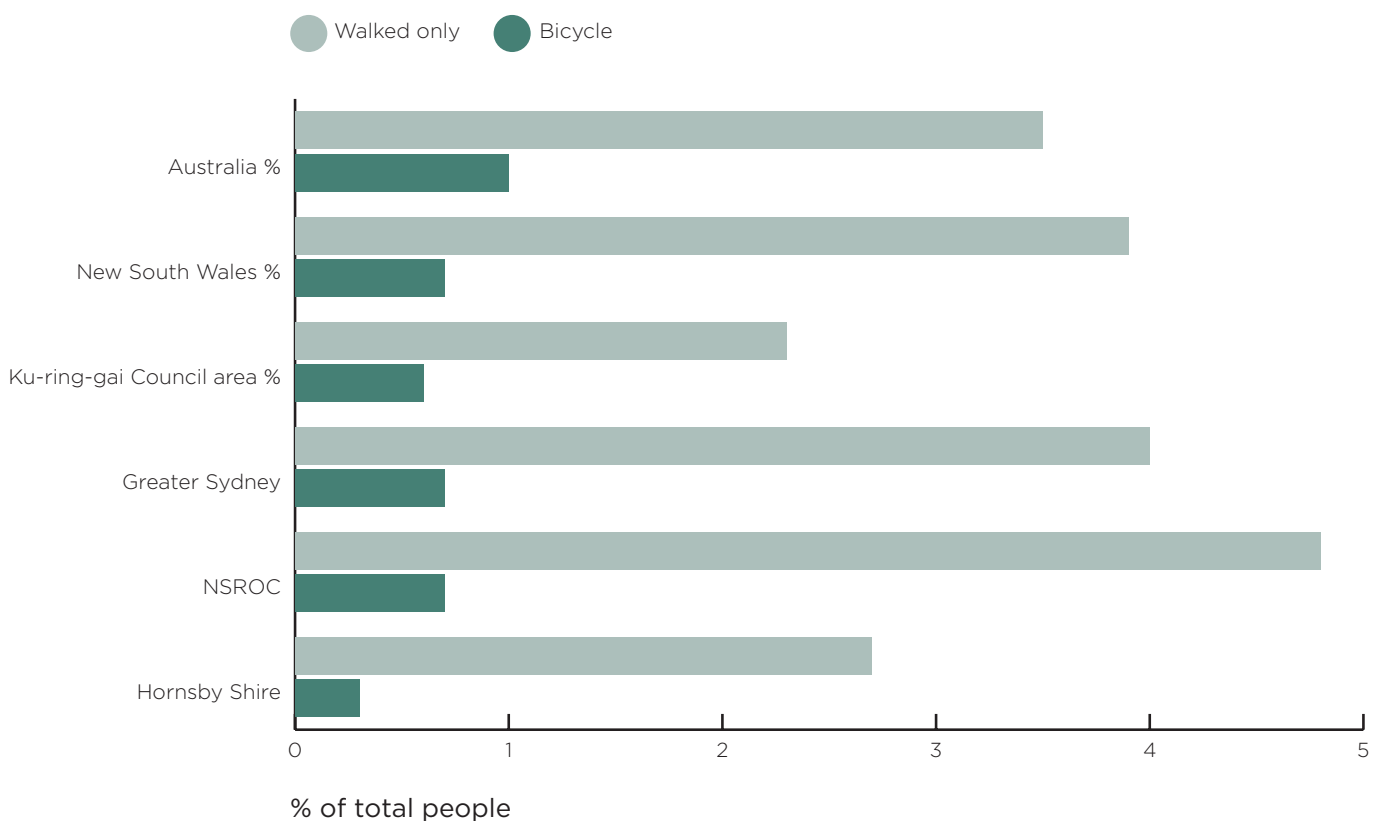


Figure 6: Travel to work by walking and cycling – Hornsby Shire compared to NSROC, Greater Sydney, Ku-ring-gai, NSW Australia

Source: Australian Bureau of Statistics, Census of Population and Housing 2011 and 2016. Compiled by .id, the population experts.

Currently in Hornsby, 0.3% of residents cycle to work. This is in comparison to an average of 0.7% for Greater Sydney, NSROC and across NSW. The walking to work rate (only walking) is also lower in Hornsby at 2.7% than the average in Greater Sydney – 4.0%, NSROC – 4.8%, NSW – 3.9%. It's slightly higher than the neighbouring council, Ku-ring-gai which has a 2.3% share.

(* NSROC is comprised of eight councils – Hornsby Shire, Hunters Hill, Ku-ring-gai, Lane Cove, Mosman, North Sydney, City of Ryde and Willoughby City.)

49.6% of the population in Hornsby drive to work, this is the highest share of all the travel modes. People taking the train is the next highest at 23.3%. Comparatively, in Greater Sydney 52.7% of the population drive to work, (a slightly higher rate than Hornsby). The participation rates of walking and cycling are very low compared to car usage for drivers. (See Fig. 7 Method of Travel to Work – Hornsby vs Greater Sydney).

Percentage of people travelling to work by walking only or cycling. Hornsby compared to other areas (2011–2016)

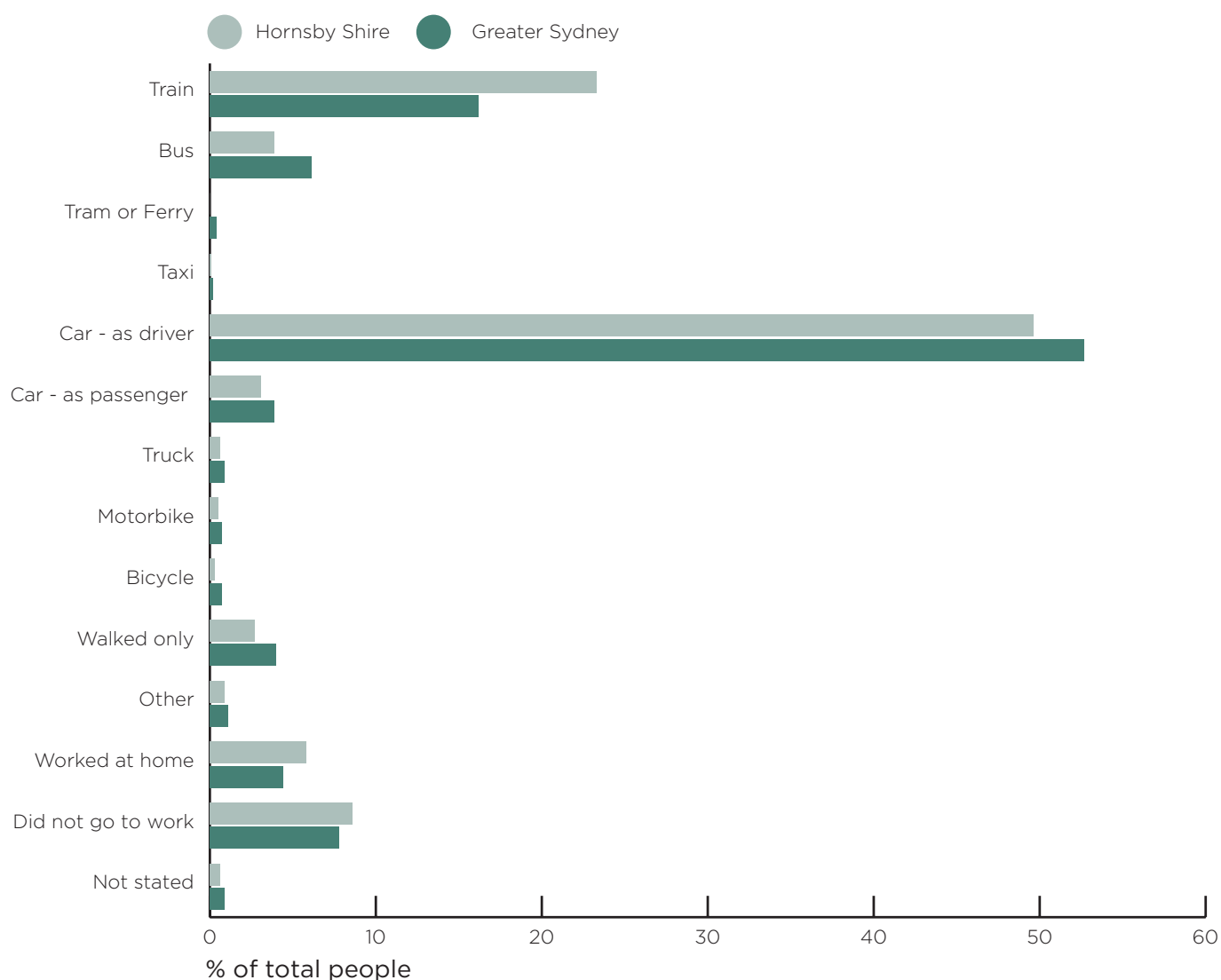


Figure 7: Hornsby Shire – Method of Travel to Work, 2011 – 2016

Source: Australian Bureau of Statistics, Census of Population and Housing 2011 and 2016. Compiled by .id, the population experts.

Percentage of People Walking Only and Cycling to Work per Suburb in Hornsby Shire – Suburb to Suburb

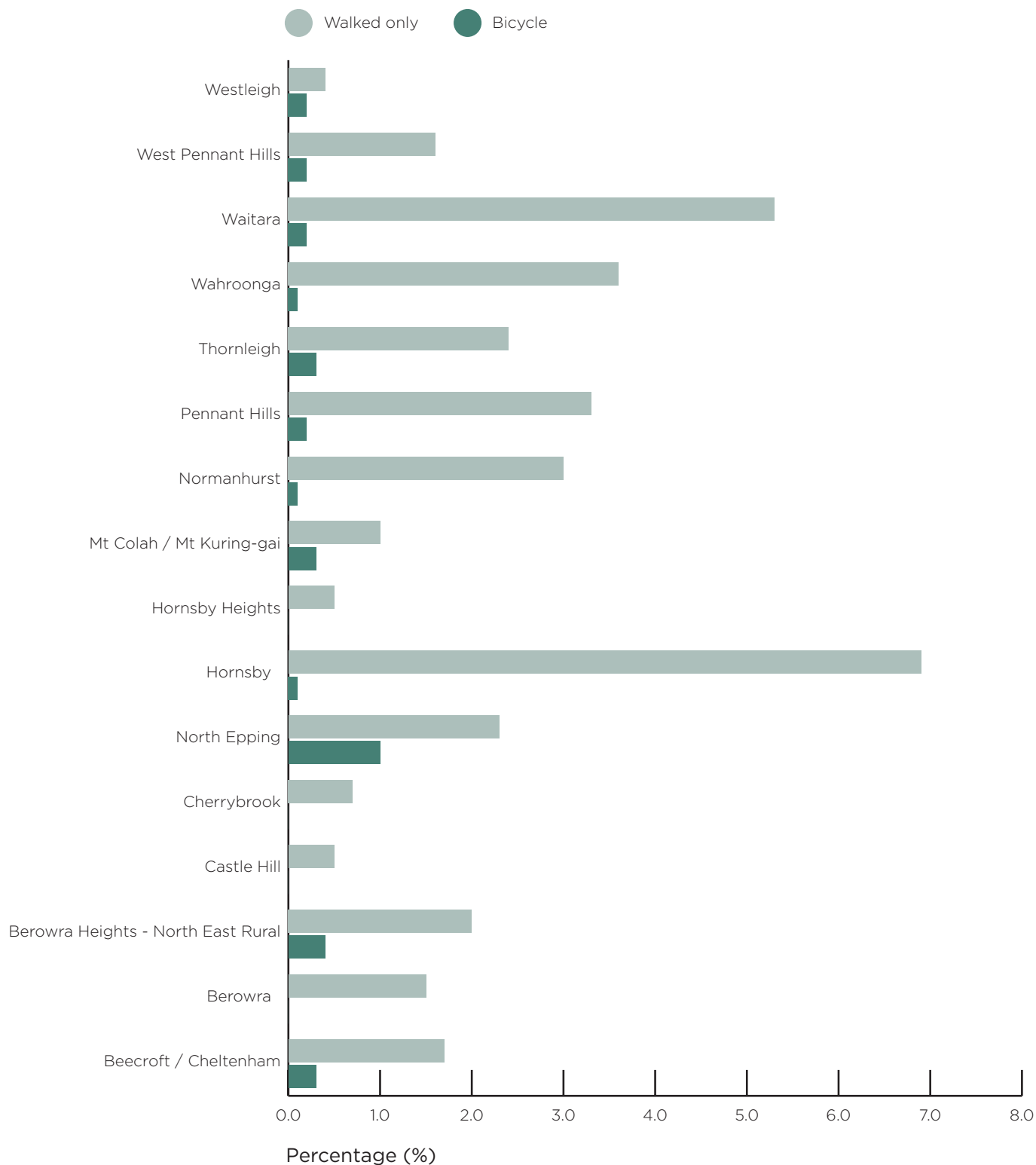


Figure 8: Travel to work by walking and cycling – Hornsby Shire, Suburb to Suburb

Source: Australian Bureau of Statistics, Census of Population and Housing 2011 and 2016. Compiled by .id, the population experts.

In Figure 9, the Walking and Cycling to Work in Hornsby Shire chart shows that walking rates are highest in the suburb of Hornsby – 6.9% and Waitara – 5.3% where high-density residential growth has been taking place. Generally, the other suburbs with higher rates tend to be ones with a train station located within the suburb or have commercial centres or villages.

3.3.2 Trip Containment

The proportion of individuals living and working in the same labour market region is referred to as the level of self – containment and a high percentage is seen as a positive.

Trip containment has important environmental benefits in its capacity to increase the likelihood of transport to work via methods other than private cars, given distances between home and work are probably shorter. Despite the shorter distances, car use may be the only viable commuting option unless appropriate public transport and active mode infrastructure are available between nearby areas, rather than focussed solely on the business areas.

In 2016, of the 42,263 people who work in the Hornsby Shire, 20,091 or 47.5% also live in the area. See Fig. #9

This level of trip containment is the highest when compared across Sydney, the next highest is the Central Coast with 9.7% trip containment. These statistics reflect that the job market in Hornsby and the Central Coast is comparatively low to the rest of Sydney.

Residential location of local workers

- Live and work in the area
- Work in the area, but live outside

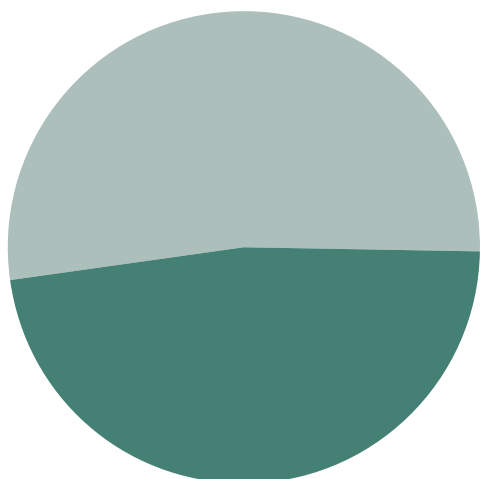


Figure 9: Residential location of local workers 2016 – Hornsby Shire
 Source: Australian Bureau of Statistics, Census of Population and Housing 2016. Compiled in economy.id by .id, the population experts.



4. Existing Travel Networks

4.1 Active Transport Network

4.1.1 Walking and bushwalking

Transport infrastructure – footpaths, bush walking tracks, cycle routes, rail lines and roads

As shown in Fig 36 'the Proposed Network Map, Hornsby has an extensive network of bushwalking tracks through its natural bushland areas which links to regional tracks throughout the National Parks, for example the Great North Walk. The urban and residential areas are served by a network of existing infrastructure for pedestrians and bikes in the form of footpaths, shared paths (an off-road pathway shared by pedestrians and cyclists) and on-road bike facilities (bike lanes) with a mixed level of service provision from suburb to suburb. Cherrybrook is a suburb that has extensive footpaths as developers were required to install them as the suburb was established. Other suburbs have less coverage of footpaths along the roads, generally there are no footpaths on either side of the road or the existing routes have gaps where footpaths are missing in a continuous line of travel. New higher density areas such as Waitara have increased volumes in pedestrians, so the capacity of the existing facilities will require review. The physically large land area size of Hornsby Shire provides a challenge to providing footpaths in the Shire with the past funding levels for footpaths and other pedestrian devices being limited and resulting in about 2 kilometres of footpath being constructed per year. While the bushwalking track network around Hornsby is extensive, they are not well connected to the urban areas and not effectively marked with track heads or signage. The existing network of bushwalking tracks provides well for walkers seeking longer adventure walks but does not meet the needs for the broad range of recreational styles or linguistic groups identified within the community.



Figure 10: The Great North Walk, a regional adventure track

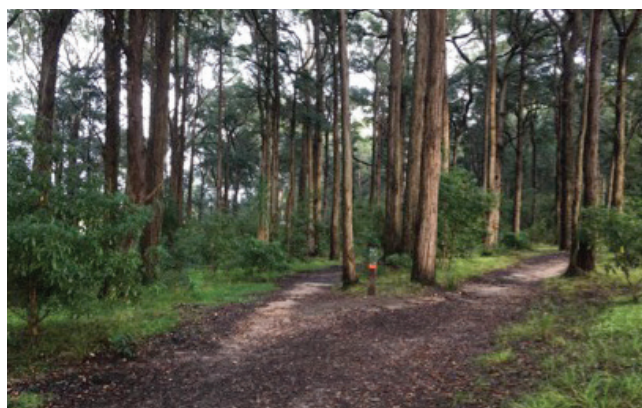


Figure 11: Reddy Park Track – a suburban commuter link through Hornsby at the south western edge of the town centre



Figure 12: Mambara Track in Pennant Hills is a loop which allows for wheelchair and pram access.

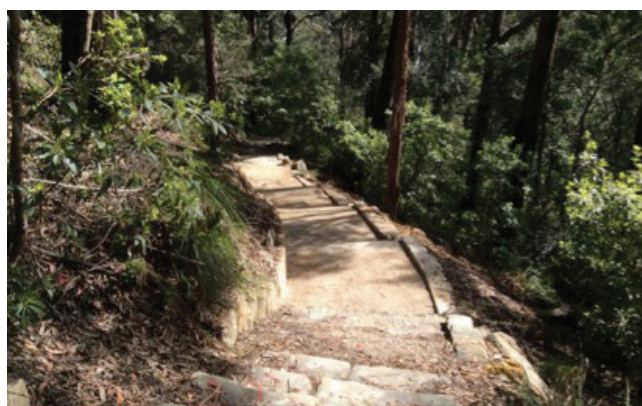


Figure 13: Heritage restoration, Hornsby Heritage Steps



4.1.2 Cycling

Hornsby has a great cycling culture for the experienced cyclists or the dedicated “Road Warriors” with less crowded roads to the north and the rural areas in the west but the bike routes within the urbanised areas have not been fully developed. The implementation of the bicycle plan has been fragmented for various reasons including a very limited annual budget for bicycle capital works, little budget for bike education and participation programs and the high cost of bike infrastructure construction. The result is shorter lengths of bike routes being constructed at a single time. The fragmented implementation of the bike plan has resulted in a fragmented network (Hornsby Bike Plan 2019). Riding along bike routes in the urbanised area is not a continuous and smooth experience. Funding for Council’s bike projects has been based on a substantial proportion (on a 50/50 basis) coming from state government grants. The success of these grant applications cannot be predicted and so the implementation program for bicycle infrastructure is difficult to progress with any accuracy. Another issue Council has experienced is some residents and stakeholder groups have resistance to the implementation of on-road bike lanes where it impacts on-street parking.

4.1.3 Tree Canopy Coverage

Hornsby Shire has one of the highest levels of tree canopy cover in the Sydney Metropolitan area at 59%. However, this figure includes the natural bush and National Parks areas. Hornsby’s urbanised areas has a canopy coverage of 32% and a tree loss rate of approximately 5% from 2009 to 2016 and 3% from 2016 to 2017 (2020 Vision, 2017). Hornsby has some substantial mature street trees throughout the Shire that contributes to its green bushland character. Beecroft and Cheltenham are two suburbs that have high levels of tree canopy with many mature street trees along their local roads. These trees provide shade and a more comfortable and pleasant walking and cycling experience. Other suburbs such as Cherrybrook and parts of Dural have high levels of footpaths provision but low levels of tree canopy coverage and higher temperatures relative to the rest of the Shire during the hotter months. The low levels of shade trees result in pedestrians and cyclists being more exposed to the sun creating an uncomfortable riding experience during these months. Council’s Hornsby Urban Forest Strategy identifies Actions to both protect and manage the tree canopy of the Shire which supports the Walking and Cycling Strategy objective of providing shaded paths for walking and cycling. The first Key priority of the Hornsby Local Strategic Planning is ‘Protecting the natural environment with a particular focus on expanding our tree canopy cover.’ Council’s suite of policy documents are united in the desire to protect and enhance tree canopy.

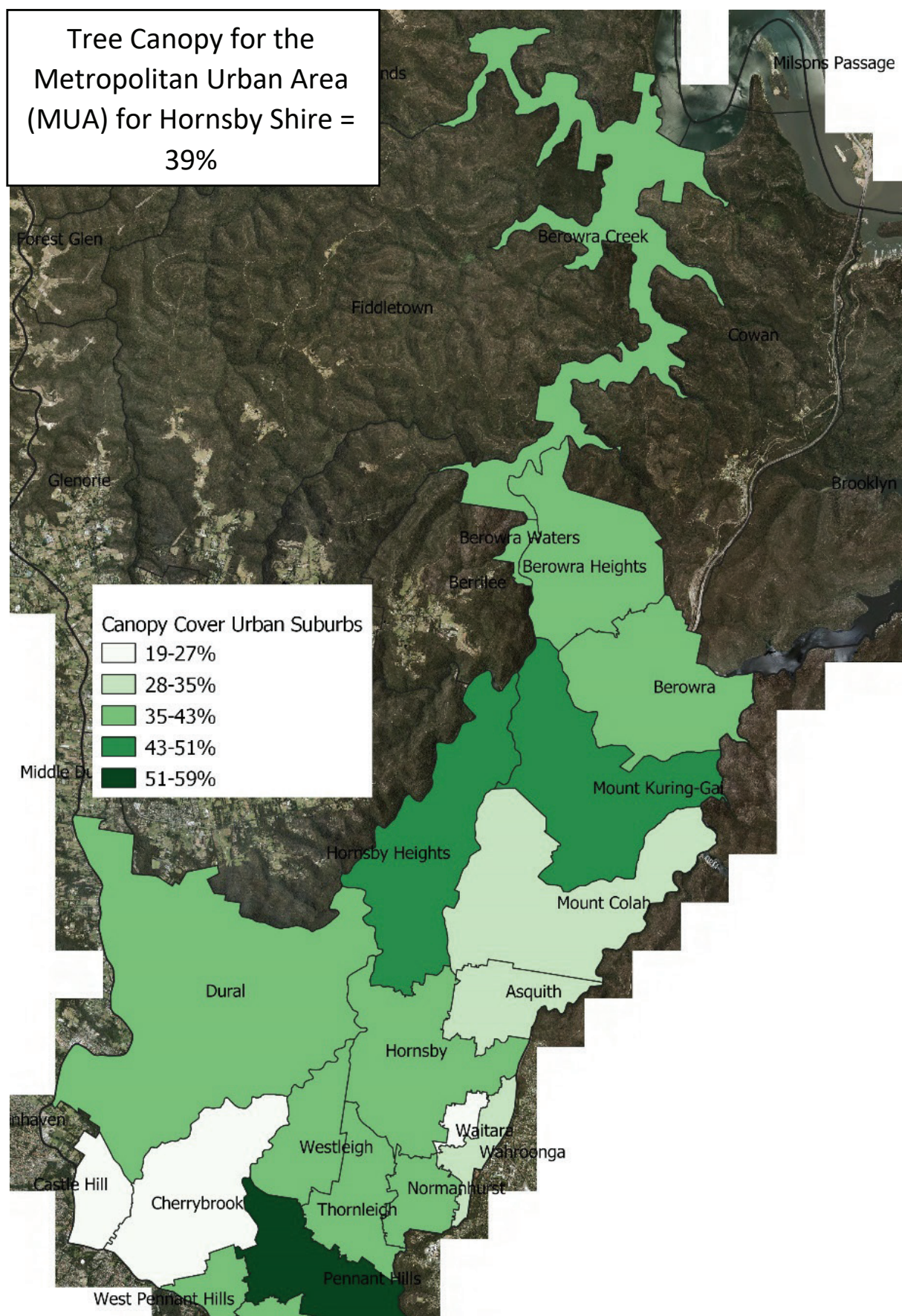


Figure 14: Tree Canopy distribution across the urban area of the Shire.

Source: OEH, 2019.



Image: Pennant Hills Road

4.1.4 Accessibility and the 30 Minute City

Over 70 percent of the resident workforce is employed outside of the Shire. This adds to commute times for residents and burdens the transport infrastructure, impacting the quality of life for our community. Council seeks to promote the “30-minute city” by improving the local transport network and regional connections, and by creating more opportunities for the community to both live and work locally.

By identifying priorities that will achieve a 30-minute city, both at the district and local level, and by understanding the interdependencies between land use and transport planning, including active transport, Council seeks to improve economic opportunities for the Shire’s employment centres and precincts.

Our vision is to support sustainable growth of the employment areas by creating quality built environments, protecting our natural assets, improving connectivity and delivering infrastructure, and by supporting and leveraging the Shire’s rural industries and visitor economy. An important part of this vision is to develop the Hornsby Town Centre area as a key strategic centre within the Northern District, and the primary focus for employment growth within the Shire.

4.1.5 Public Transport Network

Hornsby Shire Council has an extensive public transport network including

- Sydney Rail connections with the Northshore Line and Northern Line connecting Hornsby Via Strathfield Line traveling through the LGA
- Sydney Metro lines through Castle Hill & Epping
- Buses on the Upper North Shore network

In 2016, there were 19,256 people who caught public transport to work (train bus, tram or ferry) in Hornsby Shire, compared with 38,055 who drove in private vehicles (car – as driver, car – as passenger, motorbike, or truck).

Analysis of the method of travel to work of the residents in the Hornsby Shire in 2016, compared to Greater Sydney, shows that 27.2% used public transport, while 53.8% used a private vehicle, compared with 22.7% and 58.1% respectively in Greater Sydney. (Source: profile. id.com.au/Hornsby/travel-to-work)

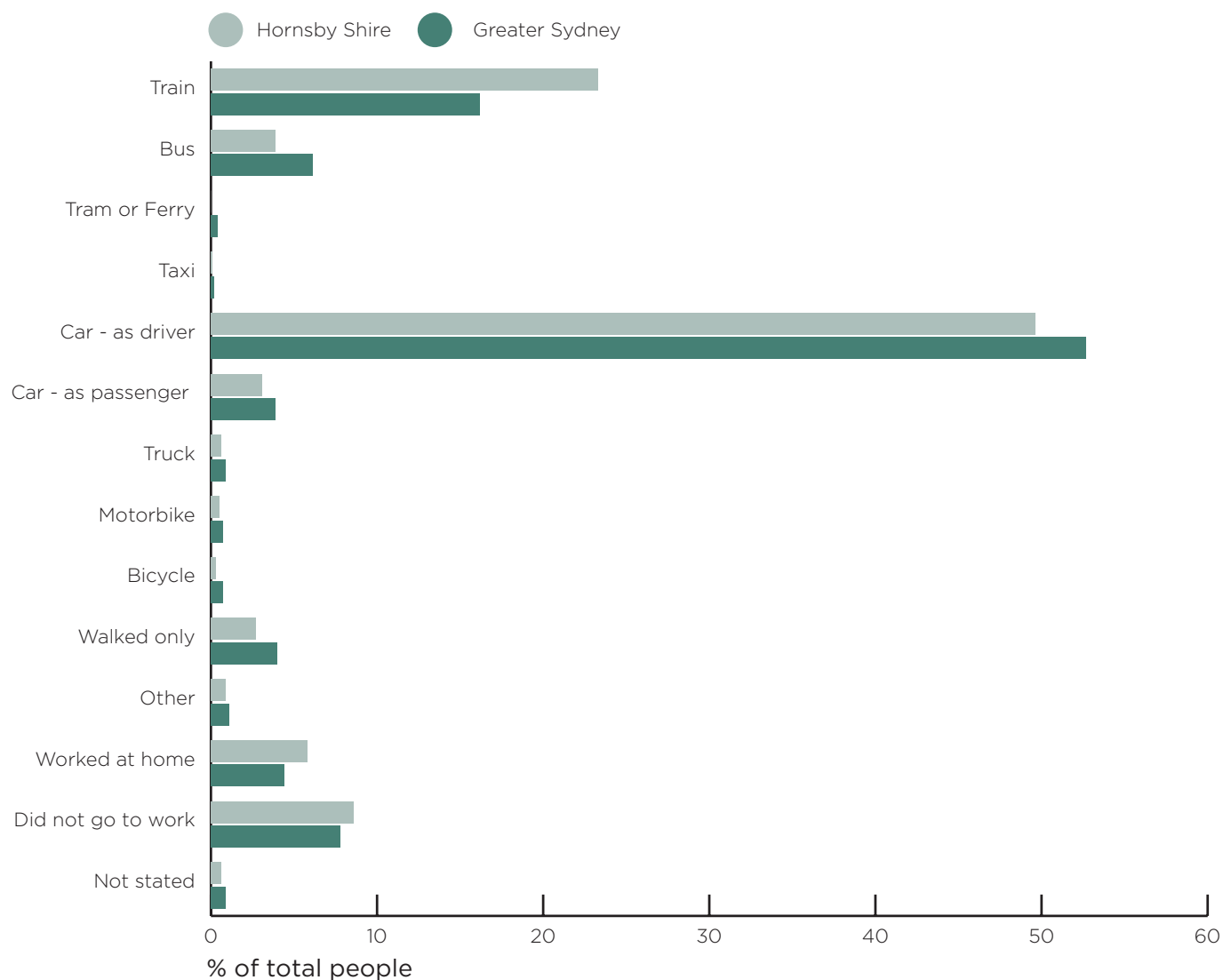
Method of Travel to Work 2016 - Suburb to Suburb

Figure 15: Method of travel to work 2016 – Hornsby Shire, Suburb to Suburb

Source: Australian Bureau of Statistics, *Census of Population and Housing 2016*. Compiled in *economy.id* by .id, the population experts.

4.1.6 Road infrastructure

Hornsby Shire has a comprehensive and well-established transport network that links the key activity centres and residential areas within the Shire to major external centres such as Chatswood, North Sydney and Sydney CBD (HILUTS, 2004). Major roads (such as the Pacific Highway, Pennant Hills Road, Beecroft Road, New Line Road), motorways (the M1 and M2) and the rail lines (Northern Line, the North Shore Line and Metro Line) provide connectivity within the Shire and external centres. They simultaneously also divide communities and act as barriers to connectivity within suburbs. State and regional roads fall under the jurisdiction of the RMS. To implement any changes to these roads such as crossings or building on road bike lanes, requires the consent and coordination with the RMS.

4.1.7 Walking and cycling programs

Hornsby Council has several initiatives and programs that are related to walking and cycling. These include:

- Footpath Construction Program – Council’s footpath construction program;
- Park and Walk to School Initiative – an initiative that works with schools to provide parking options near schools for parents and carers and walking routes to alleviate traffic congestion and improve pedestrian safety around schools;
- School Travel Ideas Initiatives – an initiative in the form of a guide that provides ideas for alternative sustainable and safe travel solutions to and from schools with an emphasis on walking and the potential to adapt these to other active transport methods;
- Bushwalking Track Program – Council’s bushwalking track capital works and maintenance program;
- Guided Bushwalks Program – Council organises guided bushwalks to the community;
- Council’s Local Road Construction Program – A small portion of footpaths are provided through the Council’s local road construction program which provides new footpaths if no facilities exist where roads are being constructed;
- Hornsby Bike Plan – Council’s Bike Plan was prepared in 2002 with minor updates in 2014. A further review of the Bike Plan was undertaken in 2019 focusing on the urbanised areas, (see Appendix 3)
- 25000 trees by 2020 – Street Tree planting.

To ensure an integrated approach to walking and cycling this Strategy provides a framework by which prioritisation of works can be undertaken.



5. Future Transport Network Changes



5.1 Key Transport Projects

The list of key recent projects within and surrounding the study area is provided below

	Project	Proponent	Description	Modes
1	NorthConnex	NorthConnex	New tunnel between Wahroonga and West Pennant Hills	Road
2	Sydney Metro	Transport for NSW	New Metro Stations linking Tallawong through Macquarie Park, Chatswood and the Sydney CBD through to Inner city, Inner West and then out to Bankstown. This line has one station in the Hornsby LGA at Cherrybrook.	Rail

As shown in Fig #16 below NorthConnex is a tolled underground motorway linking the M1 Pacific Motorway at Wahroonga to the Hills M2 Motorway at West Pennant Hills. It is designed to benefit the local communities by easing congestion and removing around 5000 trucks daily from Pennant Hills Road. This will help improve safety, local air quality and reduce traffic noise. The motorway will provide opportunities to improve public transport travel times and services around Pennant Hills Road



Figure 16: NorthConnex
Source: NorthConnex

Figure 17 shows the locations of the 31 new metro stations that form Sydney Metro. Cherrybrook is the metro station within the network that is located within the Hornsby Shire.

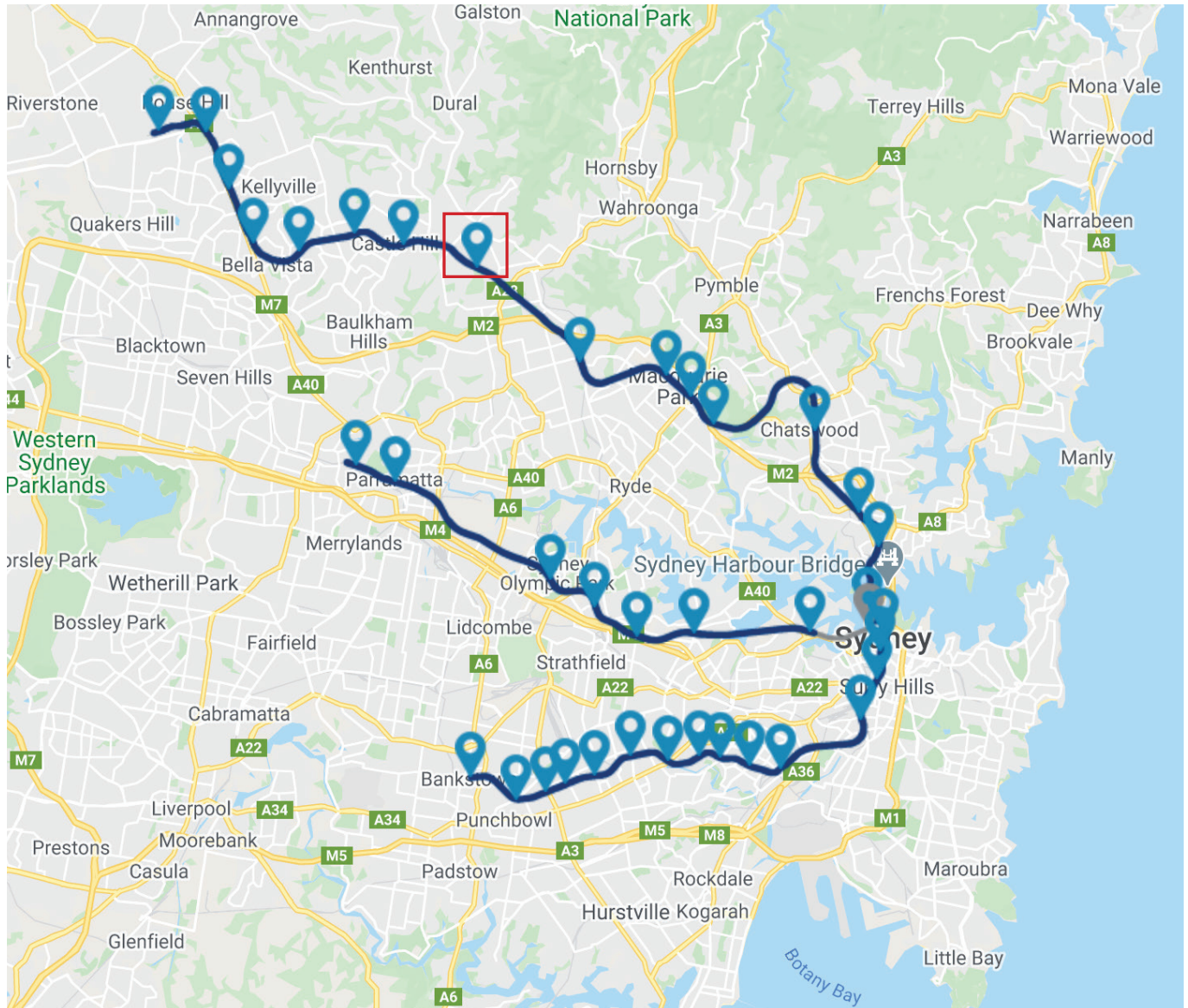


Figure 17: Sydney Metro station locations – Cherrybrook station is indicated by the red square

Source: Sydney Metro

5.2 Issues and Opportunities

This section documents issues and opportunities that have been identified across the LGA in relation to implementing the Walking and Cycling Strategy. The issues and opportunities are strategic in nature but still at a level of resolution applicable for a strategic document to guide further studies, objectives, actions and solutions.

Issues and Opportunities related to Walking and Cycling and Bushwalking tracks across Hornsby Shire Council LGA include:

Issue	Opportunity
Significant gaps in the path networks for walking and cycling in the LGA.	New pathway implementations will be undertaken concentrating on solutions that provide access to: <ul style="list-style-type: none"> ■ Town centres and industrial areas ■ Community and sports facilities ■ Parks and bushland areas ■ Educational institutions and hospitals ■ Public transport facilities ■ Retirement villages and aged-care facilities ■ Key visitor/tourist destinations
Fragmented network	Investigate options to improve connectivity between high priority destinations, eg, schools, shopping centres and recreational areas
The need for better signage	Investigate signage options to improve wayfinding, distance and directional information and to support people of all levels of ability and to address the needs of a dementia-friendly community
Access to bushwalking tracks and other key destinations	Review access in the Nature Based Recreation Strategy Bushwalking Masterplan
Inclusion of Accessible trails	Accessible trails are highlighted in our Disability Inclusion Action Plan to provide people of all abilities the opportunity to access our bushland environment
Footpaths in Public Domain areas are too narrow and don't allow prams, wheelchairs, mobility scooters or large volumes of people to pass easily in high density precincts.	Widen footpaths for Public Domain in high density precincts
Funding availability	
Safety	Improve public lighting traffic separation, designated shared paths and wayfinding
Accessibility	Improve signage, wayfinding and design to deliver pathways accessible for people of all ages and abilities including the provision of shade, drinking stations and regular seating areas.
Topography	Provide alternative routes and paths for varying levels of ability.
Inadequate bike parking	Install bike lockers, bike racks and drinking stations across the shire



Topography

The topography of ridges, valleys and creeks played a major role in the development of the Shire. Urban and residential areas have been developed along the ridgetops in a predominantly north south orientation in the north east of the shire, resulting in long spines with small clusters of settlements as can be found at Hornsby Heights and the Asquith to Mount Kuring-Gai corridor. The ridges and steep valleys act as a barrier to connectivity and accessibility particularly along the east west orientation across the shire. Hornsby Heights and Mount Colah are examples of this as they are separated by a valley with the journey between the two requiring travelling south to Asquith and then heading north to either Hornsby Heights or north to Mount Colah.



Figure 18: Hornsby Shire Topography Map

Site Conditions – Street Verges

The verge is the part of the road reserve that is located from the back of the kerb or edge of the road to the property boundary. The road is the public domain area for vehicles, the verge is the domain for pedestrians. Cyclists can utilise either depending on the rules and guidelines and their age. The verge can consist of various elements such as footpaths, street furniture, street trees, grass and plants, utilities poles and underground services, street lights and driveways. In Hornsby Shire, verges, along local roads are typically 3.4 m wide in local streets with a 1.2m wide footpaths, a 600mm setback from the property line, a grassed nature strip that can have street trees and utility poles or street lights and often overhead wires. Verges at their widest can measure up to 5-6m wide and in some locations, they are less than 3.4m wide. Footpath widths range from 1.2m wide to 2.0m, whilst shared paths are typically 2.5m wide and in some cases are as wide as the entire verge, these are usually found around town and village retail centres.

Transport for NSW recommends that to minimise conflict between cyclists and pedestrians, shared paths (paths shared by bikes and pedestrians) are to be between 2.5 and 3.0 m wide. This is in accordance with the Austroads guidelines. The recommended path width increases with traffic volume. Around Hornsby Shire newer shared paths are 2.5m wide minimum but there are some existing shared paths at 2.0m width due to a lower minimum width from previous RMS bike guidelines for shared paths.

Constructing footpaths in verges can often involve challenging conditions. Wider footpaths and 2.5m share cycle paths present greater challenges than the standard 1.2m wide footpaths.

Issues that constrain the implementation of these include:

- Existing mature trees that are to be retained. Trees may be wide in the trunk or located in the desire line for a new path resulting in the diversion of the pathway or a reduction in its width.
- Existing utilities poles (e.g. street lights, power lines, telephone wires) and underground services
- Overhead wires constraining the height of street trees
- 600mm offset – footpaths have been traditionally offset from residential property boundaries. These spaces are often planted by the owners of the property that the footpath fronts.
- Steep gradients of the verges
- Existing retaining on the edge of the path limiting the ability to expand the width of the path.
- Roads under RMS jurisdiction
- Narrow verges
- Narrow paths on railway bridges

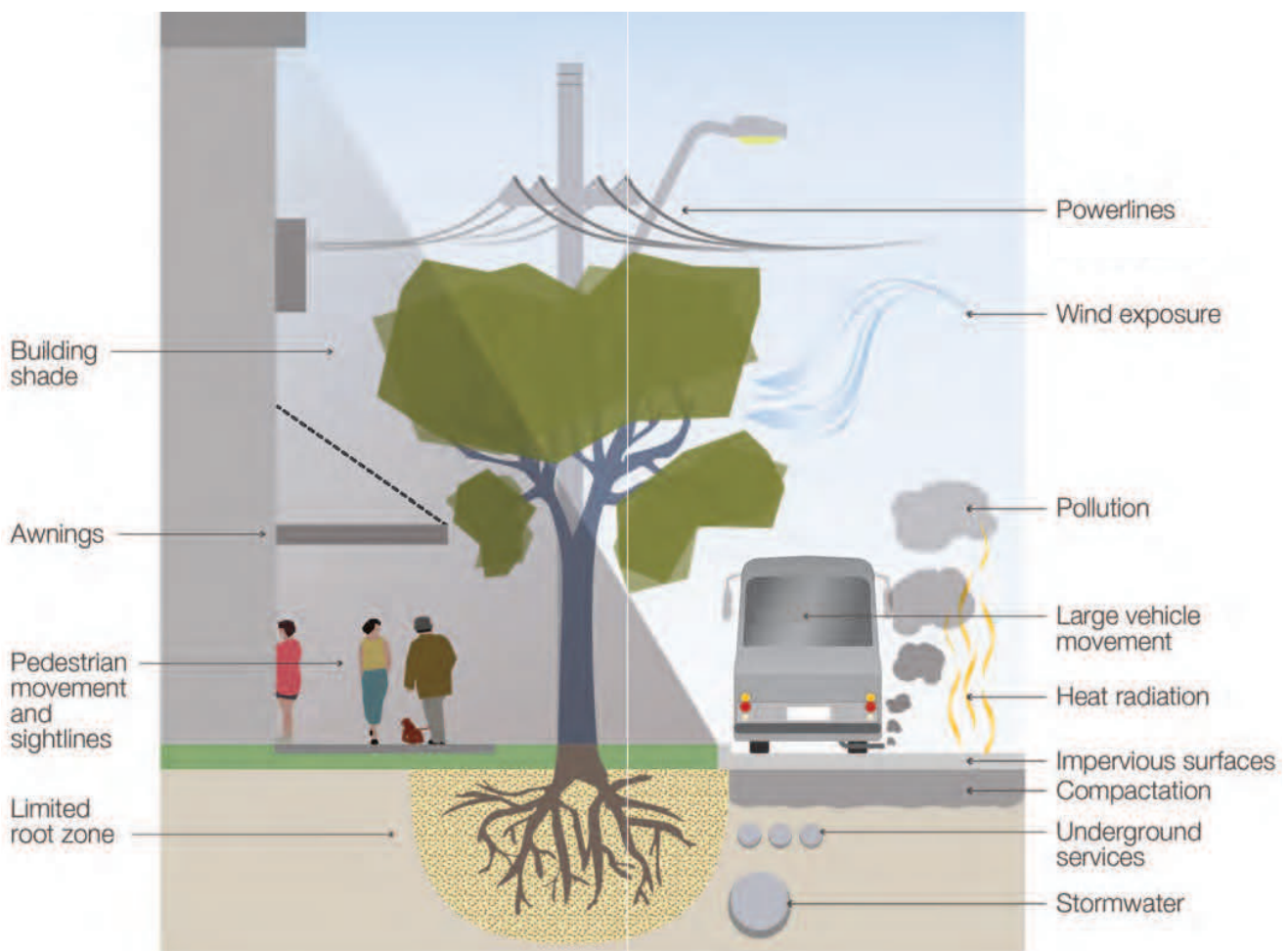


Figure 19: Urban trees face an array of challenges including competition for space

Source: City of Melbourne Tree Diversity Guidelines, Aspect Studios, 2011



Figure 20: Existing utility poles



Figure 23: Retaining wall on verge



Figure 21: Mature trees



Figure 24: Roads under RMS jurisdiction



Figure 22: 600mm offset from boundary – established private landscapes



Figure 25: Narrow verges



Figure 26: Existing overhead wires



Figure 27: Utilities underground in the verge and street



Figure 28: Steep gradient on verge

The implementation of footpaths and share paths will require the investigation of existing condition details and will require flexibility in delivery. The approaches to address these issues include:

- Being flexible with footpath widths. For example, a 2.5m path may need to become a 2.0m path at points where a mature tree or a utility pole is located
- Flexibility of routes to suit site conditions
- Relocation of utility services or redirecting them underground
- Tree pits with structural soil or rain gardens in the road where there is not enough space in the verge
- Tree pits and grates in full verge footpaths
- Pedestrian kerb extensions
- Planting small trees in verges where overhead wires exist
- Alignment of footpath with property line. i.e. no offset from properties.
- Identify opportunities for pedestrians and cyclists to use quiet streets through wayfinding signage

These approaches may impact on the path delivery in the following ways:

- an increased cost,
- more design work,
- increased community relation building or coordination,
- cooperation and gaining consent with other authorities – RMS, utility companies, etc.

Each route will require assessment on a case by case basis for feasibility at a detailed design stage. This assessment may lead to alternative delivery mechanisms.



6. Strategic Objectives and Implementation

6.1 Priorities

The Strategy identifies an improved and expanded network for walking and cycling. Improvements to the footpath and cycle networks will focus on:

For Walking

- Build wide, accessible footpaths in Public Domain/ Housing Strategy Precincts connecting to key community facilities and key visitor destinations and attractions
- Build footpaths that link to bushwalking tracks utilising footpath connections or signage systems
- Reinforce and complete loop paths within neighbourhoods to encourage physical activity
- Build footpaths that assist people of all levels of ability to access key community facilities and natural areas
- Improve connections to public transport nodes, local facilities (school, shops etc) utilising improved path networks and/or wayfinding signage
- Reinforce and complete existing pathway network

For Cycling

- Improve links to stations and local destinations (schools, parks etc) utilising improved path networks and/or way finding signage.
- Aim to create a strong connected network between local centres
- Improve safety for cyclists with improved infrastructure
- Provide safe off-road connections where practical
- Improve signage and wayfinding to encourage cyclists to use quiet local streets





6.2 Implementation Plan

6.2.1 Overview

This section of the report sets out how it is proposed to achieve the primary objective of increasing participation in, and improving the provision of infrastructure for, walking and cycling in the Shire over the next 10 years. It canvasses how this primary objective could be achieved, clarifies standards for path and non-path infrastructure, presents a draft capital works program and actions to ensure the delivery of critical items.

6.2.2 Achieving the Primary Objective

It is proposed to achieve the primary objective of the strategy by:

- Increasing the provision of facilities for short trips (under two kilometer walk and five kilometer ride)
- Improving the safety and convenience of facilities for people who walk and cycle

The realisation of these requirements will be influenced by the following matters.

6.2.3 Short trip infrastructure

The network of routes is to consist of footpaths, pedestrian malls, bike lanes, shared paths and bushwalking tracks. ILUTS identified that some paths and routes are discontinuous resulting in a fragmented network which is difficult to navigate as a pedestrian or cyclist.

The provision of facilities for short trips would be achieved through connecting key destinations. These destinations include:

- Schools
- Commercial centres and villages
- Public transport hubs – train stations, metro station
- Hospitals
- Parks and playgrounds
- Community facilities – example Libraries, community centres
- Sportsground and sporting facilities – example pools, golf courses, indoor sports courts, tennis
- Aged care facilities, retirement villages
- Open spaces and bushland trails and regional and national parks.

The Key walking network involves paths of 1.8m in width to link high density areas, schools, public transport nodes, recreational facilities such as parks, ovals and tennis courts, shops and commercial centres. In some local areas where space will not allow a 1.8m path, a 1.5m path will be implemented. These paths are designed to cater for higher volumes of pedestrian traffic where people walking, in wheelchairs or pushing a pram will need to pass one another on a path or walk two or three people abreast.

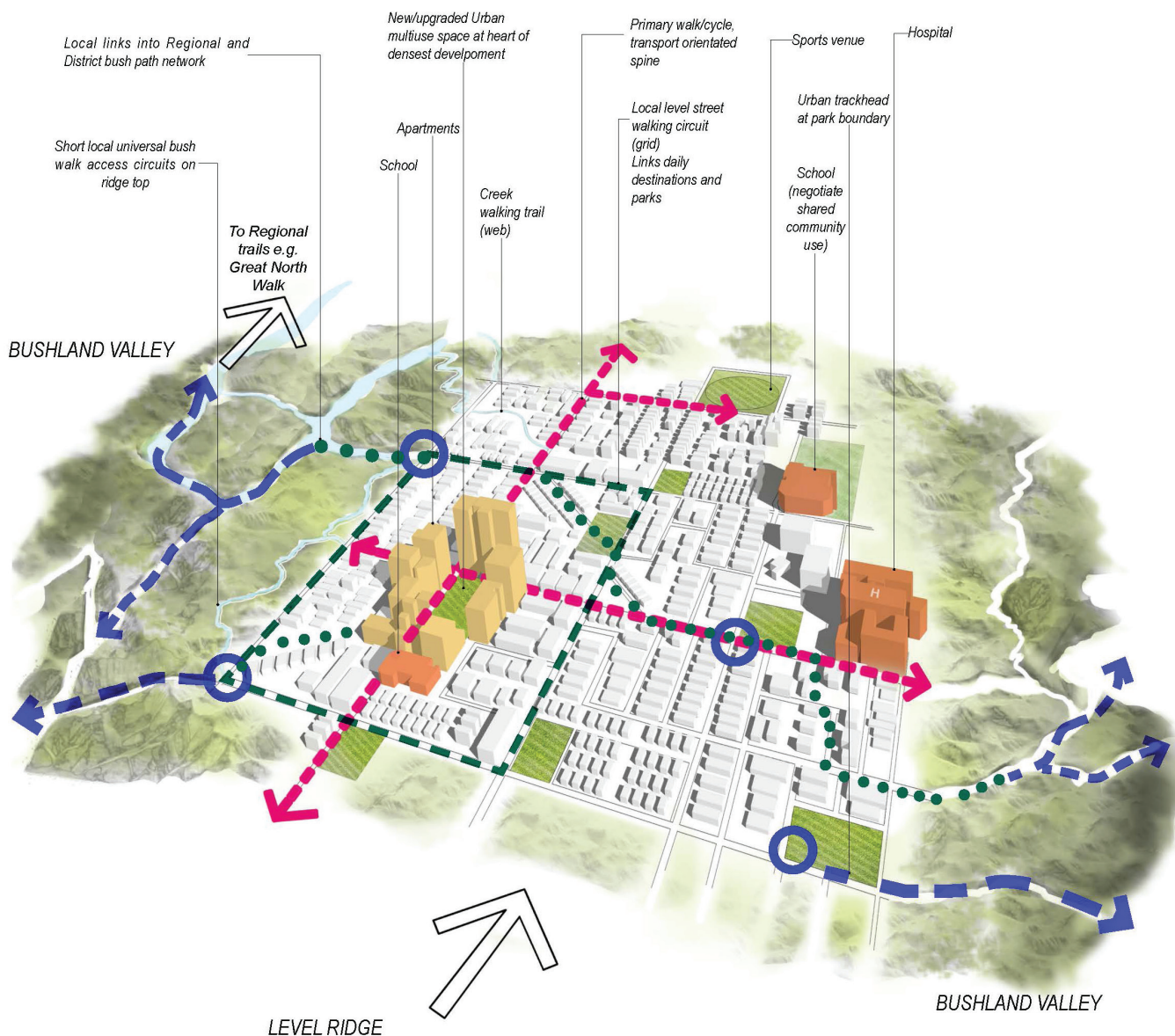


Figure 29: Localised Open Space Network and Linkages in Urban Centres

Source: Hornsby Active Living Strategy 2015, prepared by CLOUSTON Associates

Wayfinding signage is also a feature of the scheme, identifying key landmarks such as schools, parks, and shopping districts for the community and making the paths more user friendly for people unfamiliar to the area.

The urban walking network is to link up with the bushwalking track entrances of Council's open spaces, parks and National Parks. These links are proposed to be a combination of footpaths, wayfinding signage and shade trees. As a minimum intervention the link routes will have wayfinding signage to assist with navigation through the streets from transport interchanges. While it is acknowledged that many bushwalking track entrances require a car for access, the access to bushwalking will take into consideration links to public transport where feasible.

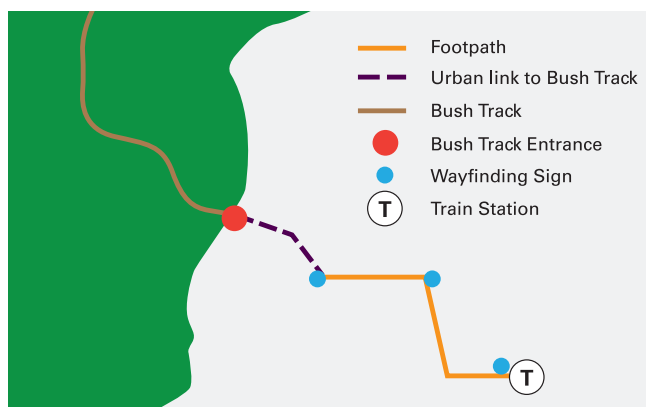


Figure 30: Example map of urban walking links from a centre or train station to bush walking entrance and location of wayfinding signage







6.2.4 Improving the safety and convenience of facilities

To support walking and cycling as a day-to-day choice for short trips, it is important to provide new facilities that make active transport more accessible with improved safety. Where possible, walking and cycling should have their own spaces that are not shared with other transport modes. In areas of high pedestrian and bicycle volumes, street configurations should ideally be amended to reflect this. The facilities provided will be:

- Comfortable
- Convenient
- Conspicuous
- Accessible
- Interesting
- Safe

These aspects are further outlined below.

Comfortable – Walking and cycling are to be made more comfortable through the following interventions:

- Improve tree coverage to provide shade along pedestrian and cycling routes
- Improve footpaths (e.g. footpath widths)
- Identify routes with appropriate gradients and distance to destinations to encourage usage and to improve access for people of varying levels of ability or those living with dementia
- Provide separation of pedestrian and bicycles where possible.

Weather affects walking and cycling. Hot weather tends to decrease the desire to walk and cycle. Shade in the form of street trees will be provided where possible along routes. In addition to providing shade, trees provide additional benefits to the microclimate. They reduce temperature, assist in mitigating sound and provide a sense of separation from the road whilst creating a sense of place and scale. Street tree planting will also support the Green Grid and reduce urban heat.

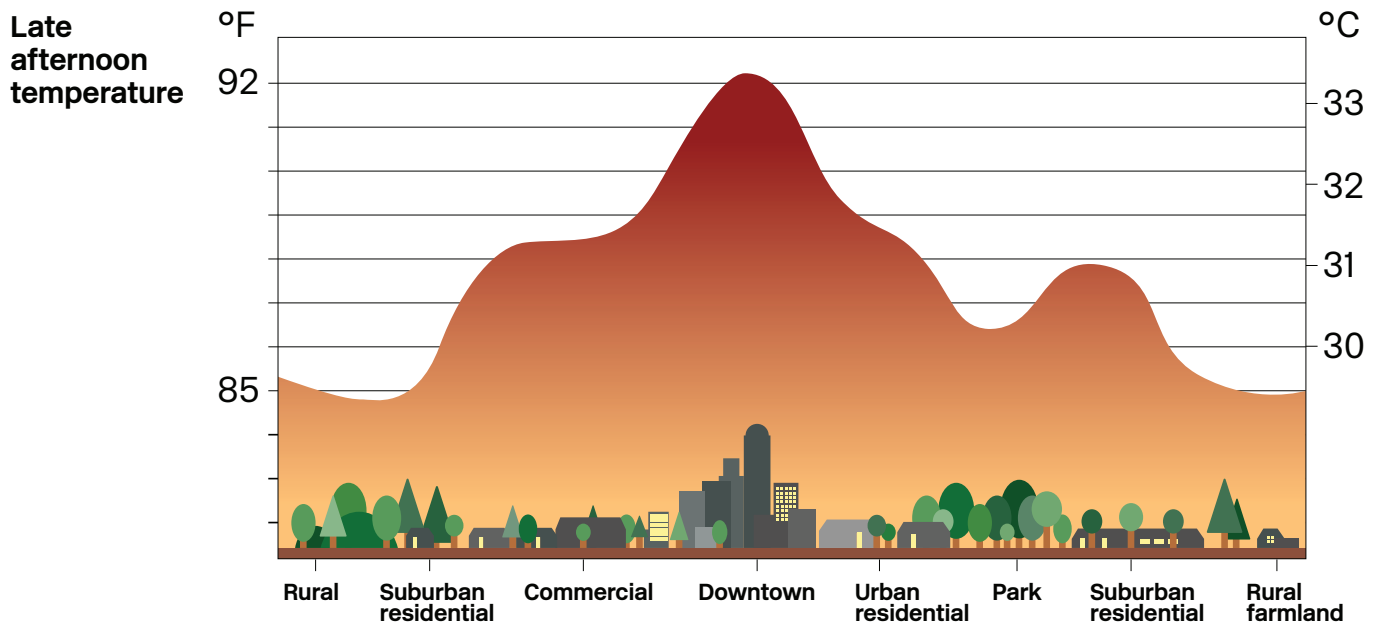


Figure 31: Urban Heat Island effect shown as higher temperature over impervious areas when compared with surrounding vegetated areas

Source: <http://article.sciencepublishinggroup.com/html/10.11648/j.ijepp.20160403.16.html>.
CRC for Water Sensitive Cities

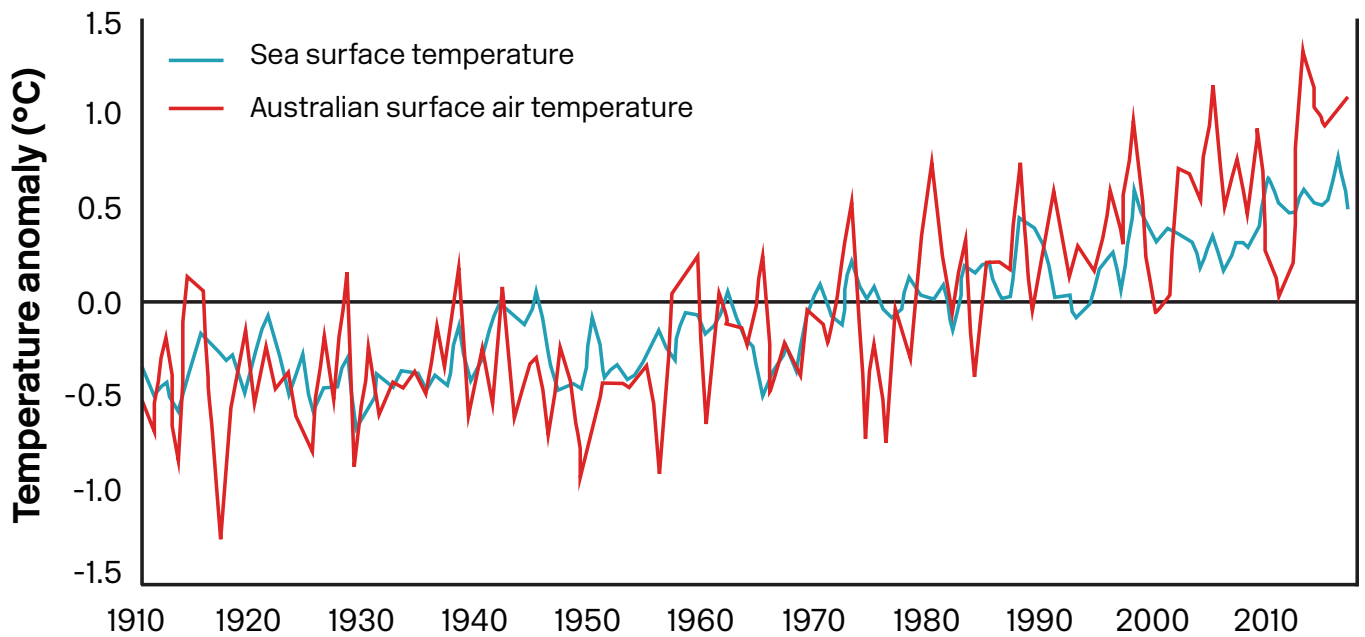


Figure 32: Rising surface air temperatures in Australia

Source: CSIRO and Bureau of Meteorology. CRC for Water Sensitive Cities

Footpaths and bike lanes are to be designed to provide ample space for both travelling and waiting pedestrians and cyclists. Standard local footpaths have been 1.2m wide. Where possible along local roads the width will be increased to 1.8m where it is deemed to have higher volumes of pedestrians in the urban and suburban residential areas. In streets where 1.8m widths cannot be achieved a 1.5m width option will be provided. Footpath widths will be decided at the detailed design stage and will be designed to accommodate a variety of expected path users such as those using wheelchairs, mobility scooters, prams and young children cycling / scootering on footpaths in addition to pedestrians. Around centres and villages, footpaths are usually full-verge (footpath is from the property line to the edge of the kerb). The width of the verges around these areas will be informed by Council's Public Domain Guidelines, which is currently being prepared.

Accessible grades will be identified on routes to cater for all users and abilities. Bushwalking and cycling have an existing system to identify different grades. A similar system could be developed for urban walks where walks could highlight where there are steeper grades or stairs involved for accessibility purposes.

Generally, pedestrians and cyclists will have separated facilities. Pedestrian footpaths are off-road, and bicycles will have bike lanes on road, separate from pedestrians. Some off-road paths will be shared paths where pedestrians and cyclists share the path off-road. These are implemented where it is not safe nor practical for cyclists to be able to cycle on the road and other alternate routes are not feasible.

The provision of amenities as part of the routes contributes to the experience of walking and cycling and assists people with varying levels of ability and mobility. Meeting places and seating along circuits and tracks provide opportunities for people to socialise, rest and catch their breath. Waste bins, bubblers, public art, interpretive signage and points of interest are also considerations to enhance the experience. These can be considered at the detailed design stage.

Convenient – Walking and cycling routes to key destinations will be:

- direct as possible
- address barriers

Commuter routes are to be as direct as possible (i.e. shortest travel distance) with safety being taken into consideration. Commuters to school and work tend to seek out the shortest travel route.

Short, looped recreational bush tracks adjacent to open space are planned to allow for spontaneous, short duration and low risk trips into natural areas to encourage bushwalking participation. Likewise, residents require footpath circuits for exercise and these should be provided throughout the shire.

There are some barriers that interfere with the connectivity of cyclists and pedestrians. These generally include busy roads such as state and regional roads, motorways, the freeway and rail lines. These roads and the rail line physically divide many communities with limited access points provided.

Improved access is a key factor to encouraging more people to walk. A Pedestrian Mobility Access Plan (PAMP) would assist with creating an equal access for all environment. A PAMP has also been identified in the Hornsby ILUTS to be developed as a comprehensive strategic action plan for pedestrian policies and to build pedestrian infrastructure facilities. These facilities are to enhance pedestrian safety e.g. refuge islands, marked foot crossings, raised pedestrian crossings and focus on improved equal access for all.

Review of the 2017 Disability Inclusion Action Plan and creation of a strategy to address the needs of Active Seniors would assist in ensuring equal access for all in our community no matter their ability. The strategy would address the needs of people living with dementia which will enhance safety through wayfinding signage and design, colour and texture choices, and placement of seating, drinking fountains and other amenities.

Conspicuous – Walking and cycling routes will:

- Provide clear and legible paths and lanes
- Incorporate appropriate wayfinding signage
- Be incorporated in walking and cycling information maps
- Be accessible to all

Bike lanes and walking and cycling paths are to be legible and identifiable. Entrances to bushland tracks will be clear and well announced, to encourage their use and participation.

Wayfinding signage is to be used to identify key destinations – e.g. libraries, parks, bushwalking tracks, etc. There is also the potential to develop internet apps to support and encourage their use. Wayfinding signage is a key element to linking the urban areas to bushwalking by directing people through the urban streets to bush trail entrances and this is linked with the Public Domain Signage strategy. Wayfinding signage is critical to encourage the use of our paths for people of all levels of ability and for those living with dementia whilst ensuring community safety. The wayfinding signage will include key information such as destinations, distances and approximate walk/cycle times. The links from urban areas to bushwalking will further be identified in maps which are downloadable from Councils website and through internet apps, printed versions would also be available through Hornsby Shire Council Administration Centre.

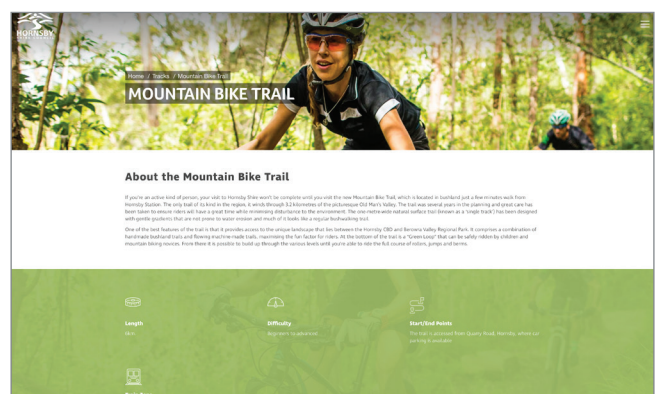
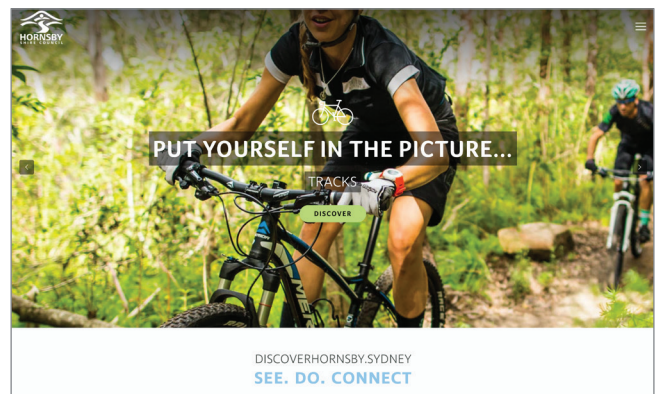
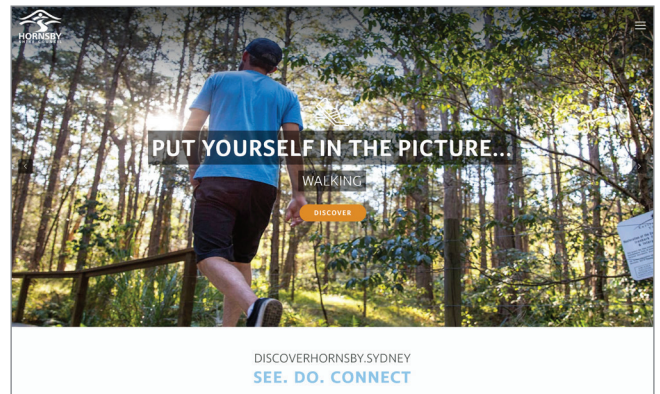
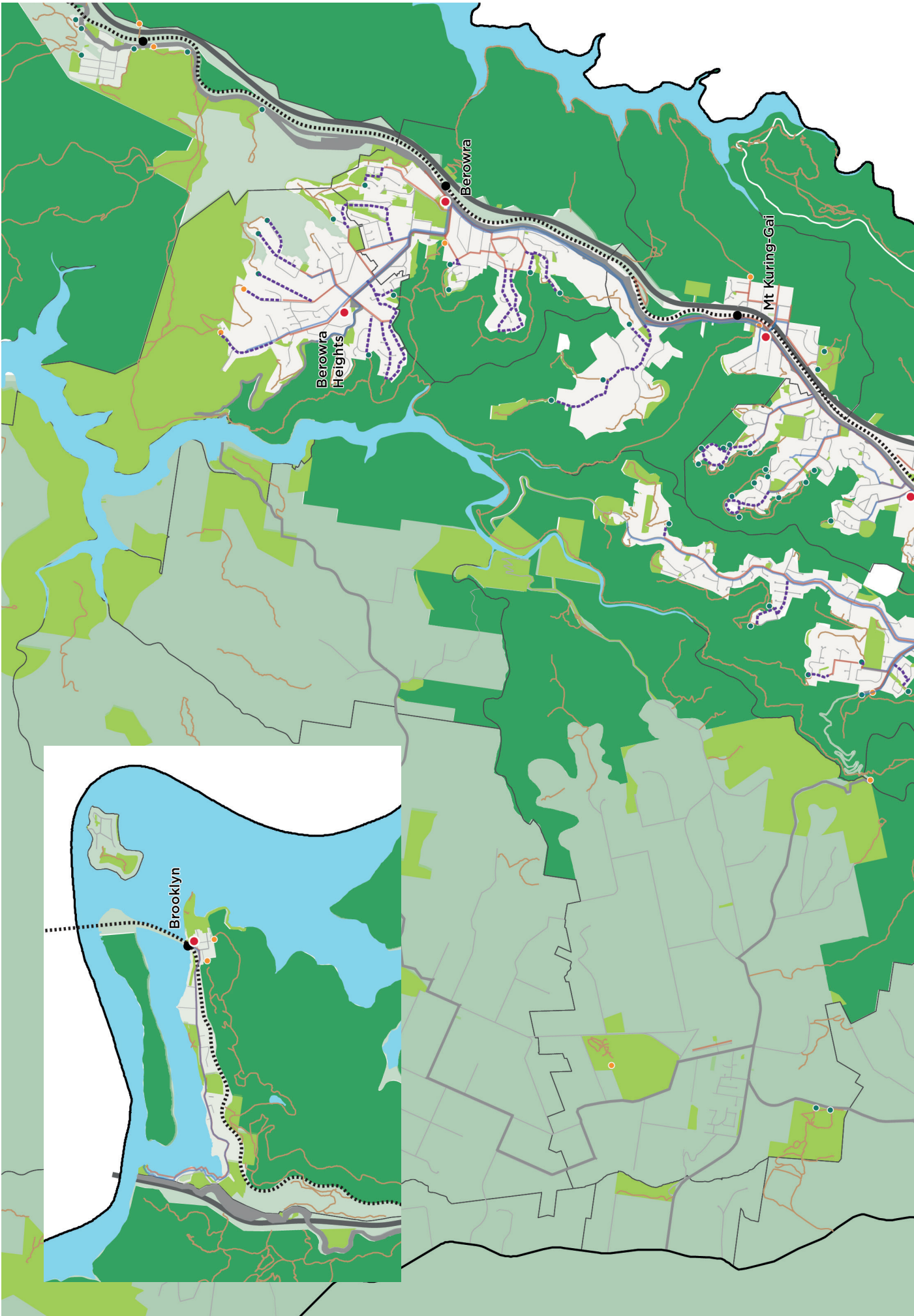


Figure 33: discoverhornsby.com

Barriers



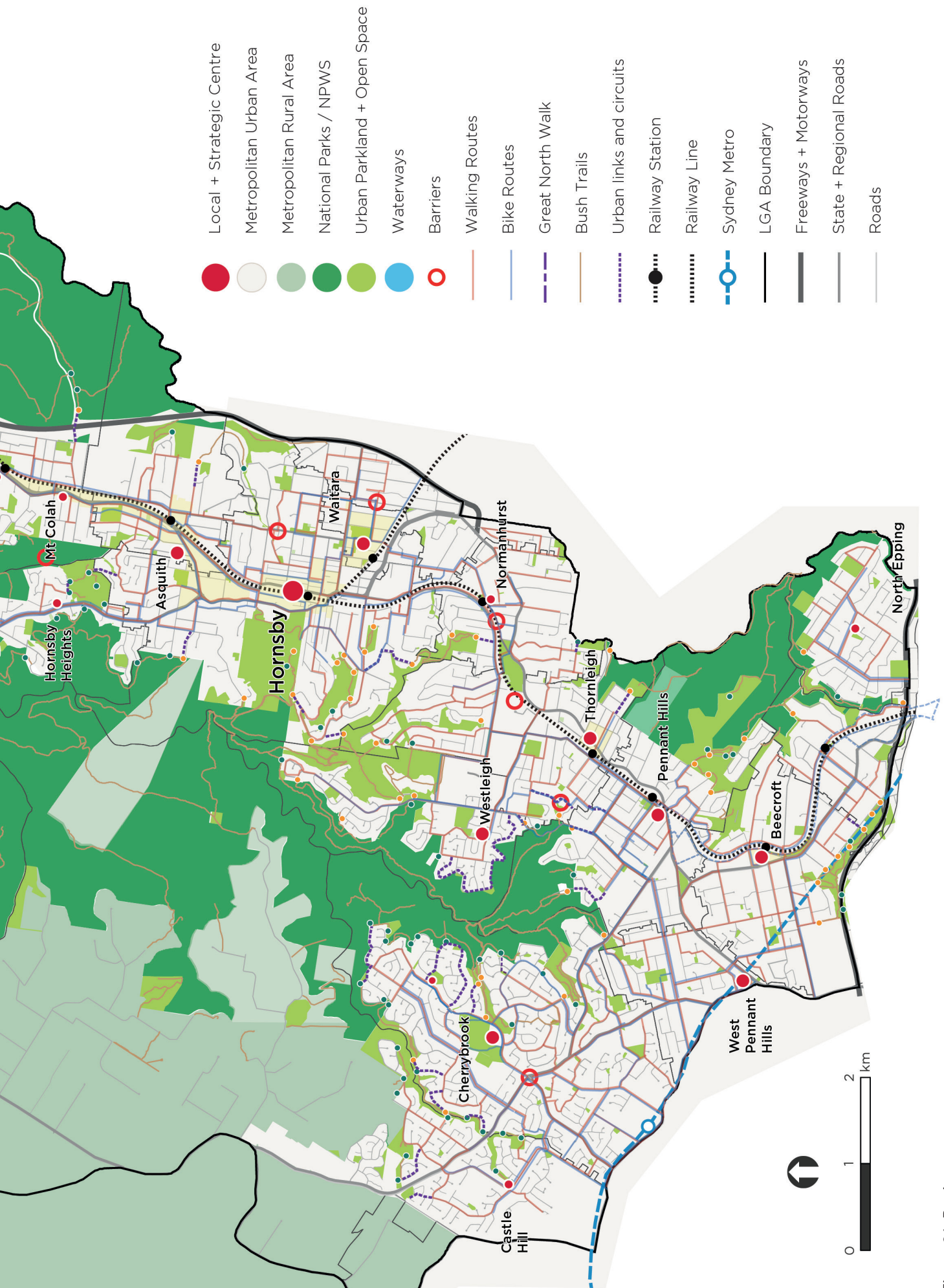


Figure 34: Barriers

Interesting – Walking and cycling routes are to be

- Engaging, attractive and interesting
- Encourage walking & cycling for all different abilities
- Provide routes that allow people to meet casually and have social interaction

People are attracted to walk and cycle where the journey is interesting. Routes will also incorporate elements of interest along the way where feasible. This includes linking to destinations and traveling through retail and café areas, streets with heritage buildings, mature tree-lined streets or through parks as examples. This will also align with other strategies that support good urban design and attractive streetscapes.

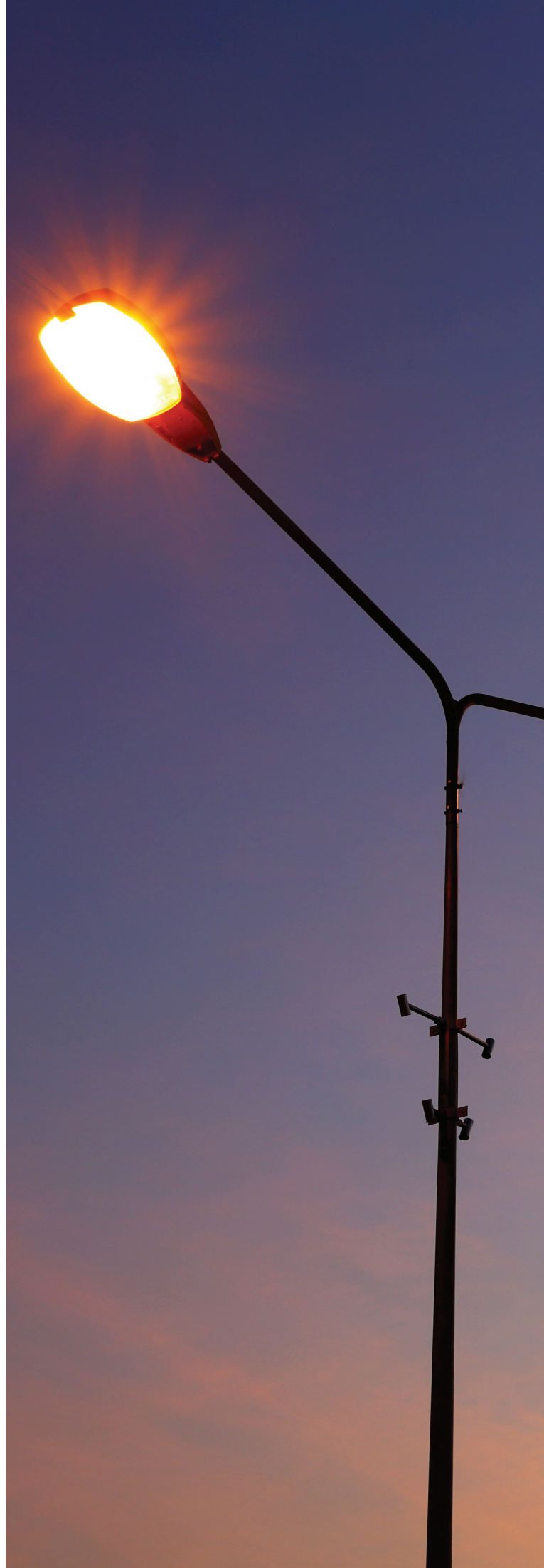
Safe – Walking and cycling routes safety are to be considered by:

- Prioritising pedestrians and cyclists over vehicular traffic
- Improve visibility of routes
- Developing routes that consider risk exposure levels and provide options where possible / feasible
- Improving the provision of lighting

A safe environment is important to increasing participation in walking and cycling. Perceptions of risk affect the usage and experience of walking and cycling and especially for bushwalking. A grading system allows for individuals to make decisions with confidence within the scope of their abilities to manage their own risk.

Routes should provide visibility where cyclists or pedestrians can see what's coming up and assess the level of risk ahead. Passive surveillance can increase usage of paths and is a determining factor when planning path networks. Some routes are safer in the daytime and alternative well-lit routes are considered for night time safety. Provision of lighting is to be considered in areas where night safety is a concern especially around commercial and village centres and in high density housing areas.

Provision of bike facilities that improve the user's perception of safety and allow them to ride in comfort will improve their experience of the facilities. The construction of separated bike lanes and traffic calming devices will also assist with increasing the safety of cyclists and pedestrians. These are the principles of CPTED - Crime Prevention through Environmental Design.



6.3 Capital Works Program

Urban Walking and Cycling

A capital works program (Appendix 1 & 2) has been developed to inform construction of suitable facilities over the next 10 years with the aim of providing continuous paths of travel. It is expected that this program of works will be refined as more information becomes available. It is concentrated on the provision of footpaths, shared pedestrian/cycle paths and bushwalking tracks. This emphasis should not be taken as to exclude the provision of on road cycle paths where they are warranted. The footpath program essentially addresses missing links/areas of under provision across the Shire. Areas where there are missing links/areas of under provision are shown on Figure 35 and the proposed solution on Figure 36.

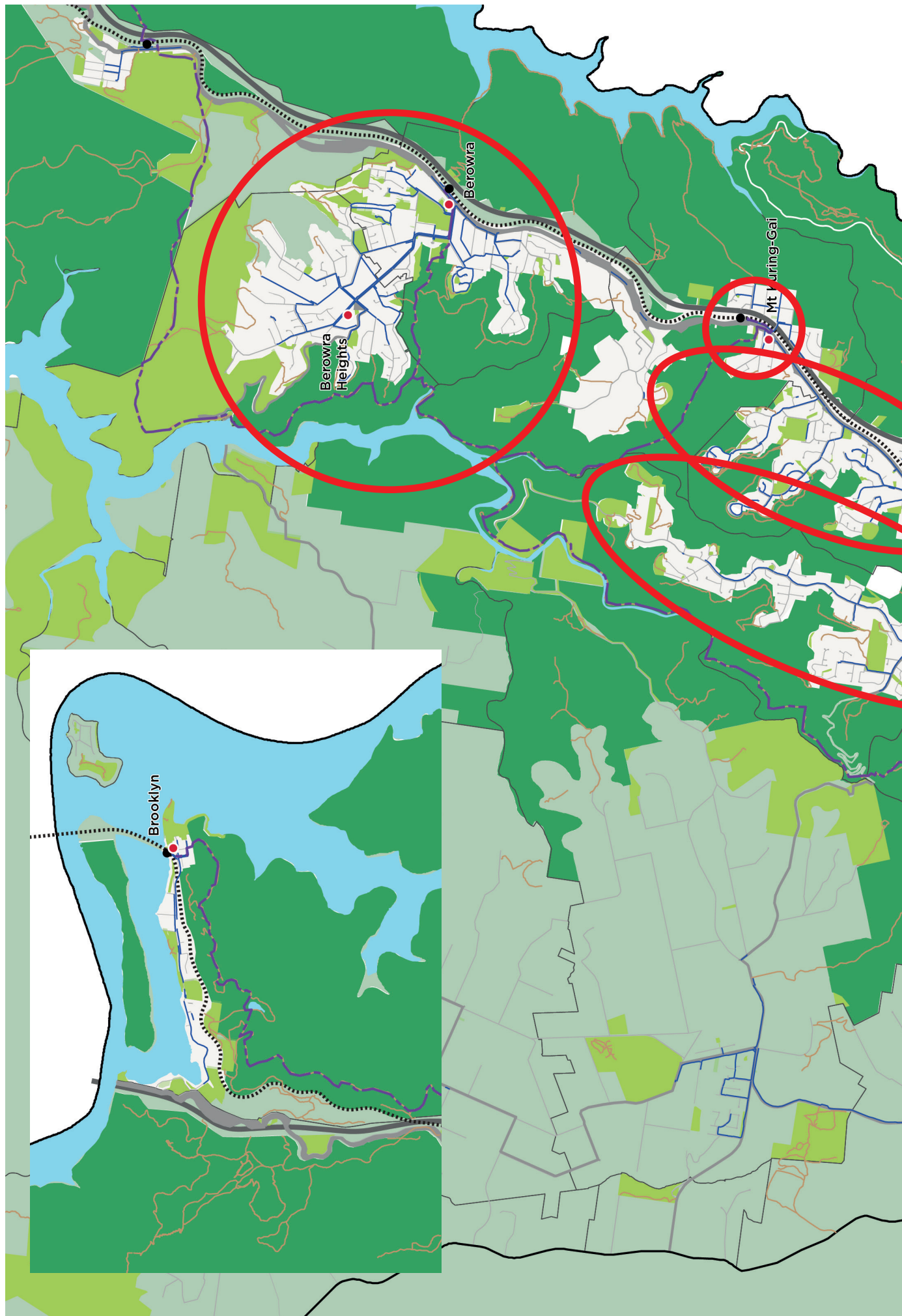
The footpath program proposes to address missing links across the Shire. Areas where there are missing links or an under provision of footpaths are shown on Figure 36 and include the suburbs of Beecroft, North Epping, West Pennant Hills, Westleigh, Thornleigh, Asquith, Hornsby Heights, Mount Colah, Mount Kuring-gai, Berowra and Brooklyn. Suitable footpath links are shown on Figure 35. These links strengthen circuit walks within an urban area to encourage exercise, improve links to bushwalking track entrances, improve connections with recreation areas, shopping, educational institutions, hospitals and aged care facilities.

The proposed shared pedestrian/cycle path network (Figure 36) focuses on the following priority areas:

- Hornsby/ Mount Kuring-Gai corridor including solutions for:
 - Waitara to Hornsby Town Centre/Waitara Railway Station
 - Mount Kuring-Gai to Hornsby
 - Hornsby Town Centre to Hornsby Hospital
 - Hornsby Town Centre Florence St and Hunter Lane (pedestrian bridge to library)
- Beecroft, Cheltenham and Epping North area incorporating routes to Beecroft and Cheltenham Railway Stations
- Cherrybrook incorporating routes to the new metro railway station and the Cherrybrook Village Shopping Centre.
- Westleigh/Thornleigh incorporating routes to Westleigh Park and Pennant Hills Railway Station.

The proposed shared paths will in effect complete the existing links shown by Figure 38 and address the provision of new shared paths. An overview of the cycleway / shared paths and footpaths and their relationship to the overall network are illustrated in Figure 39 titled 'Proposed Networks'.

Existing Walking Routes Gaps



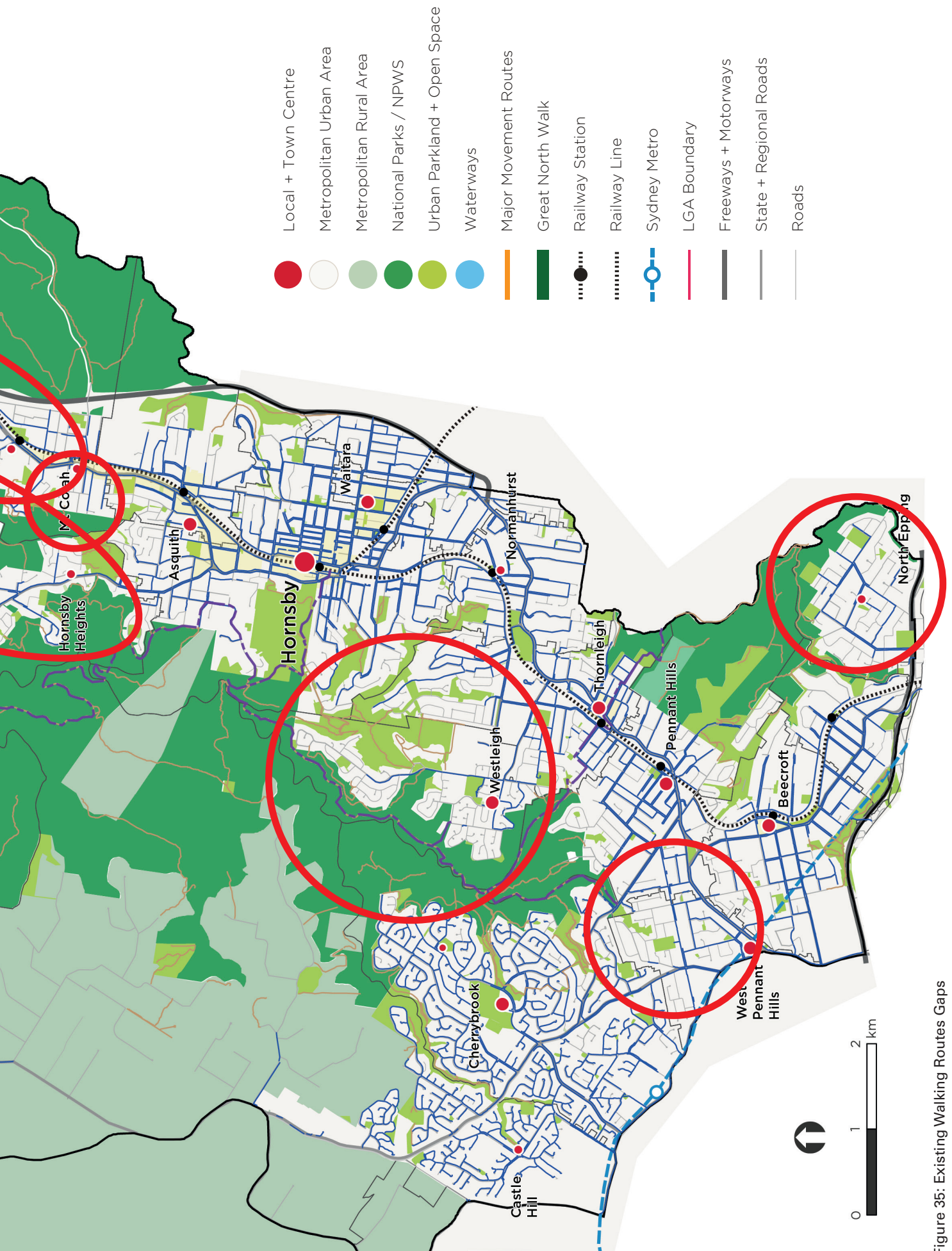
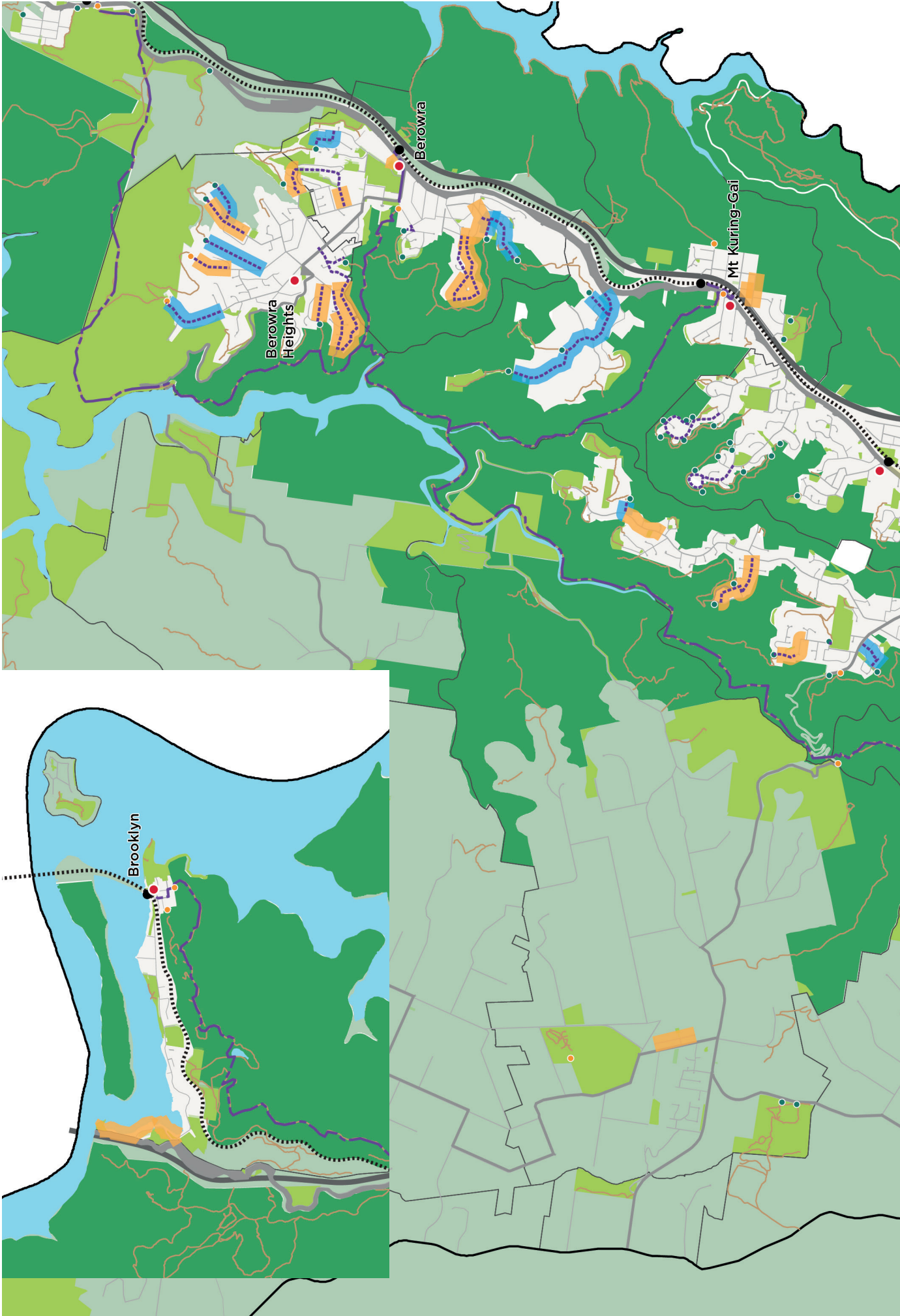


Figure 35: Existing Walking Routes Gaps

Priority Walking Routes



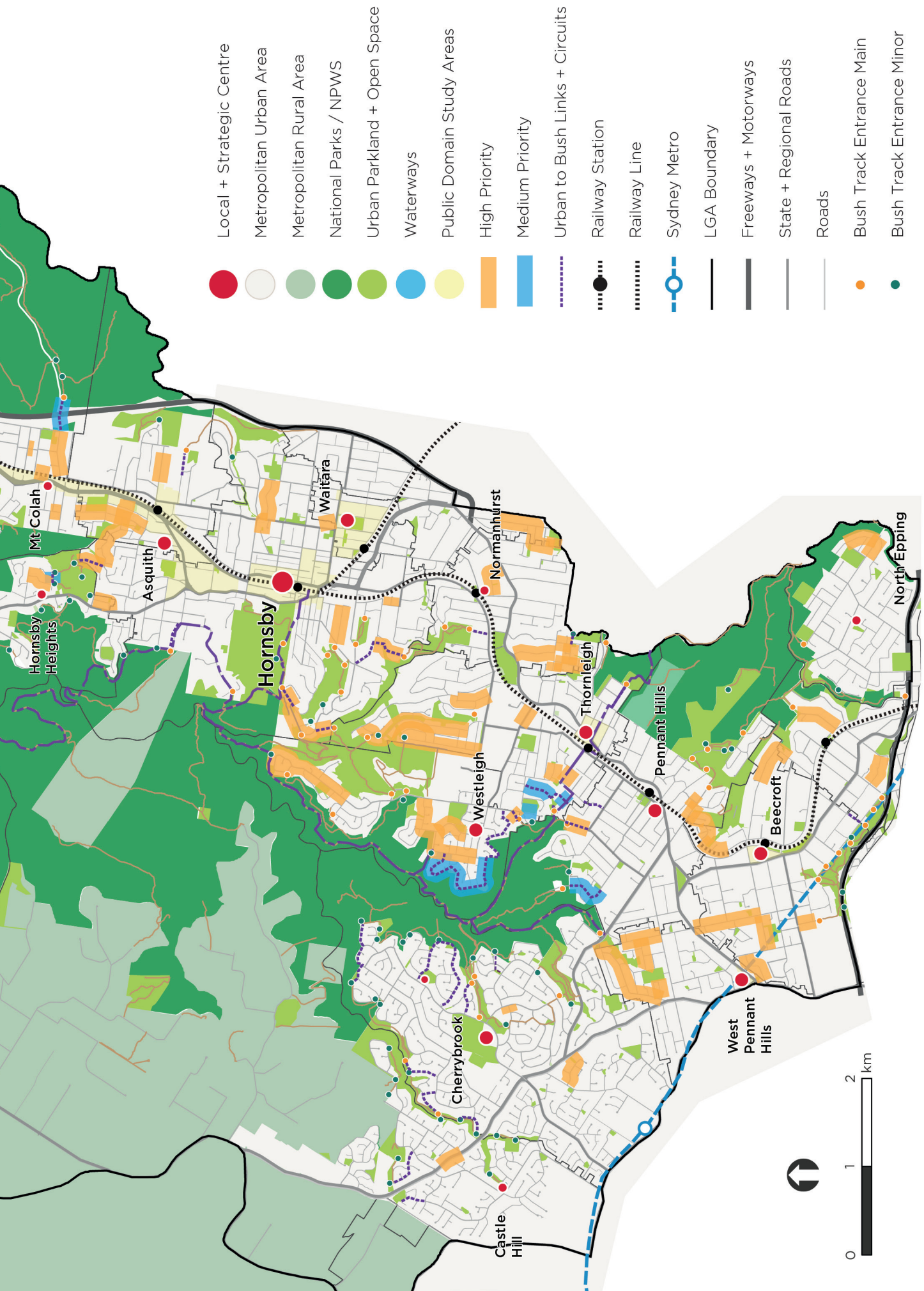
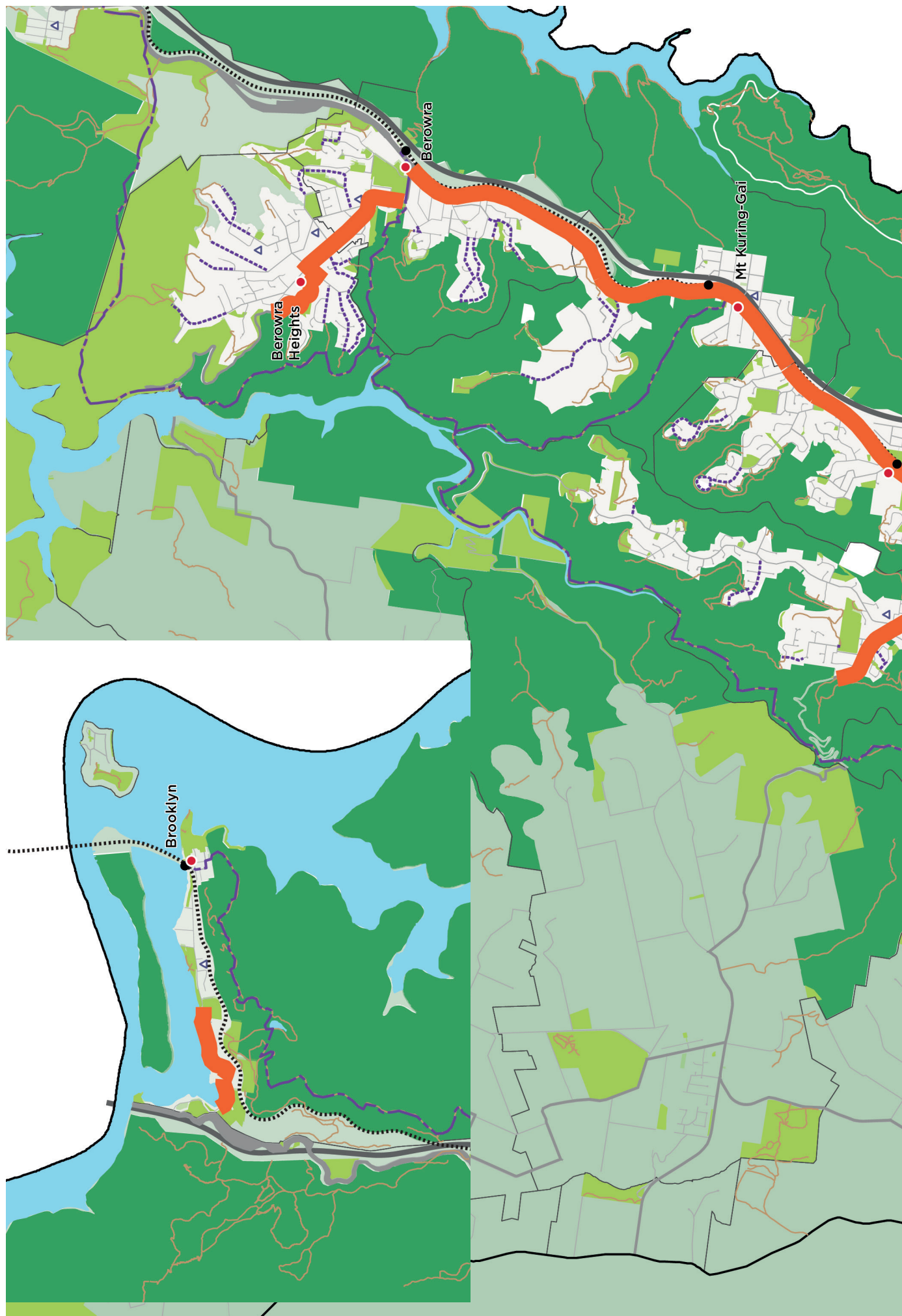


Figure 36: Existing Walking Routes Gaps

Existing Cycleway / shared path network



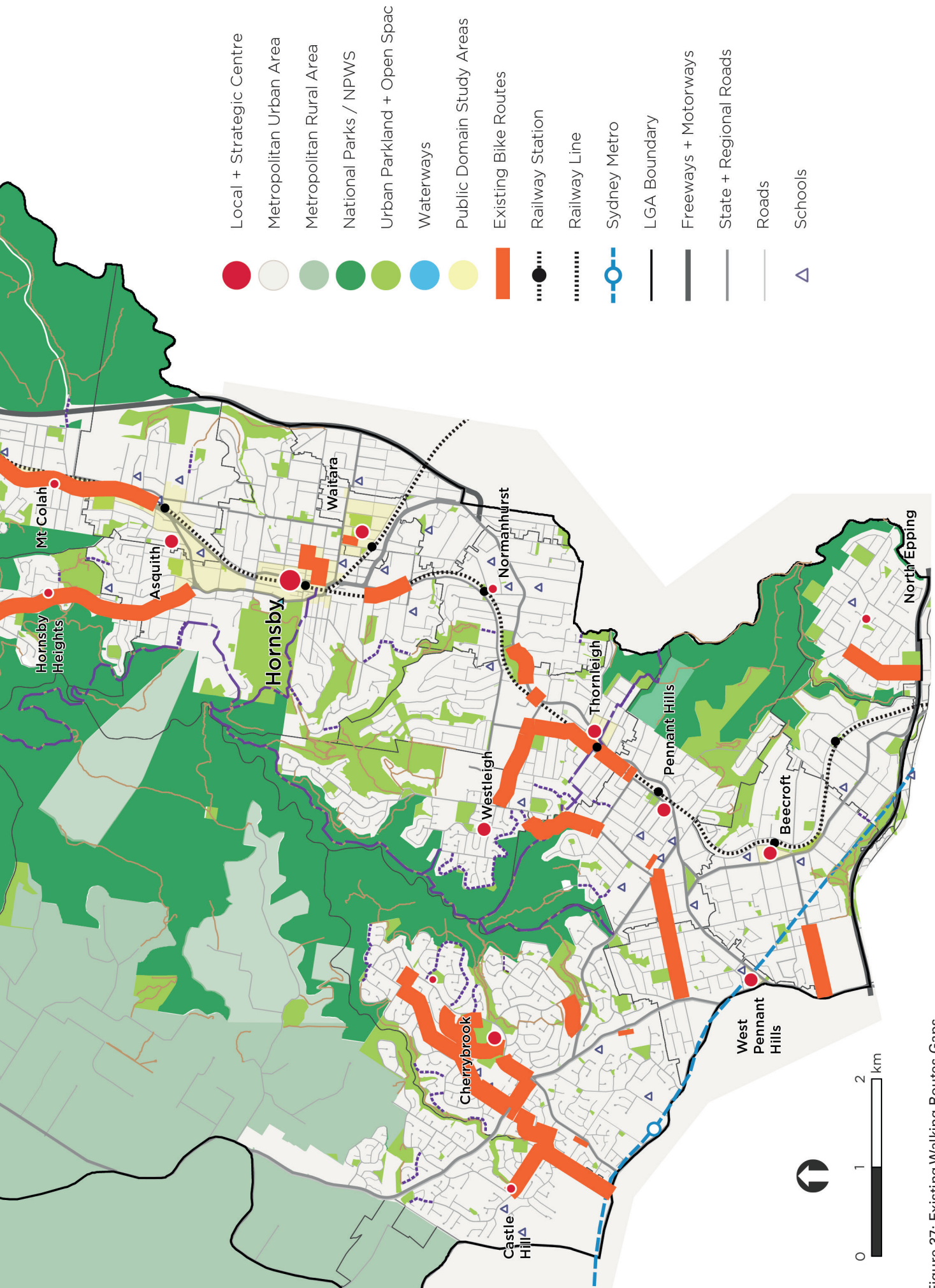
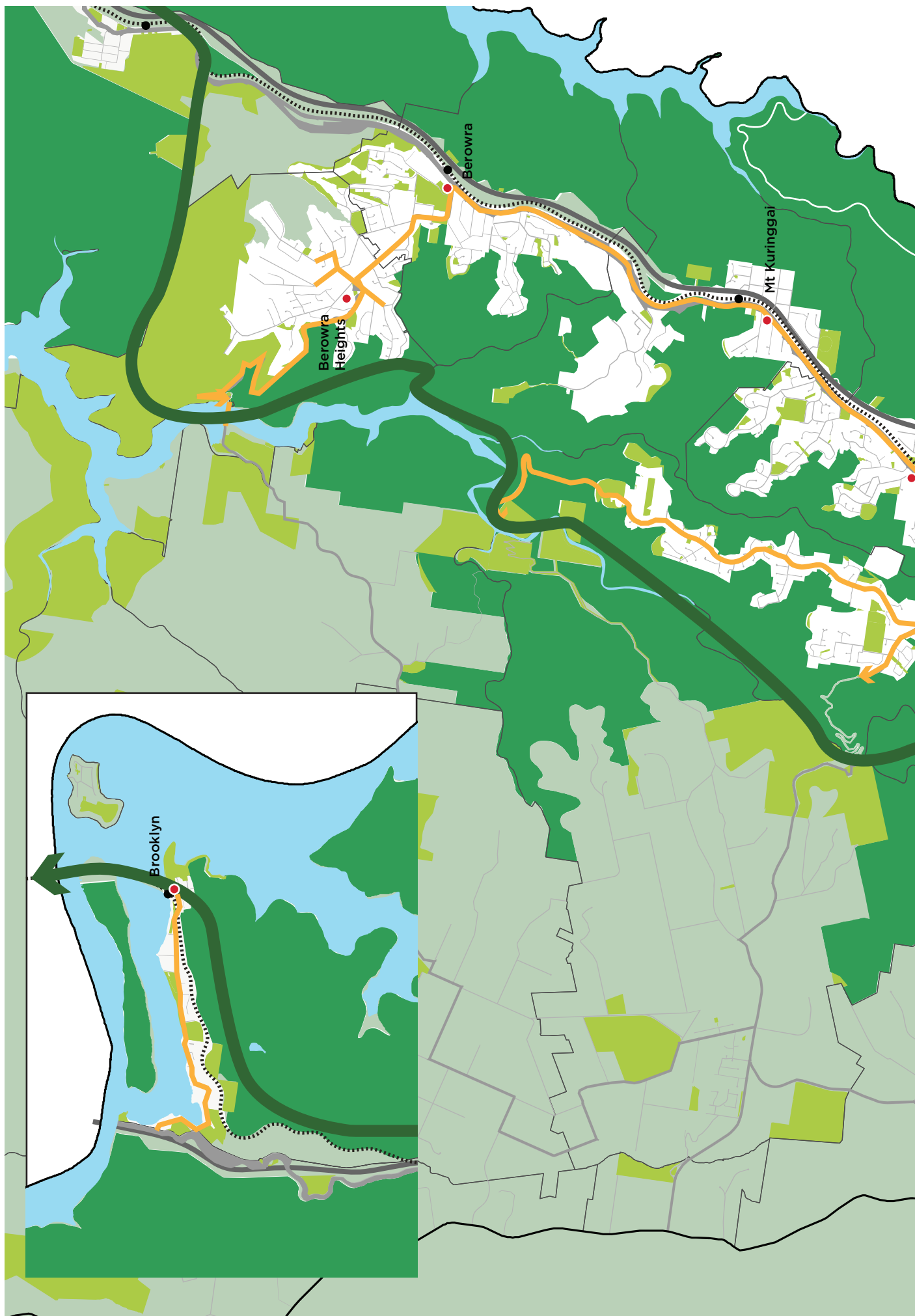


Figure 37: Existing Walking Routes Gaps

Proposed Shared Pedestrian/Cycle Path Network



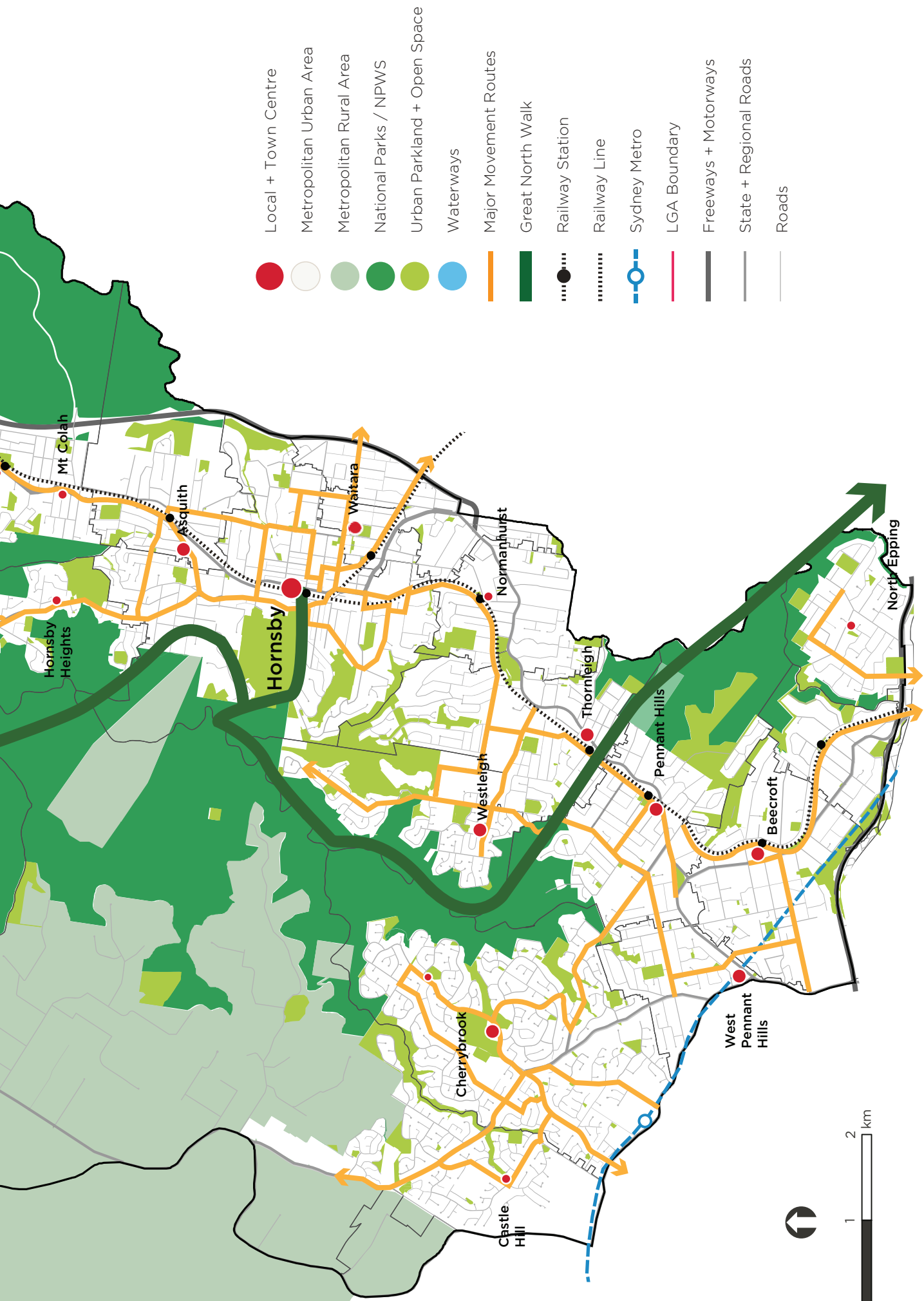
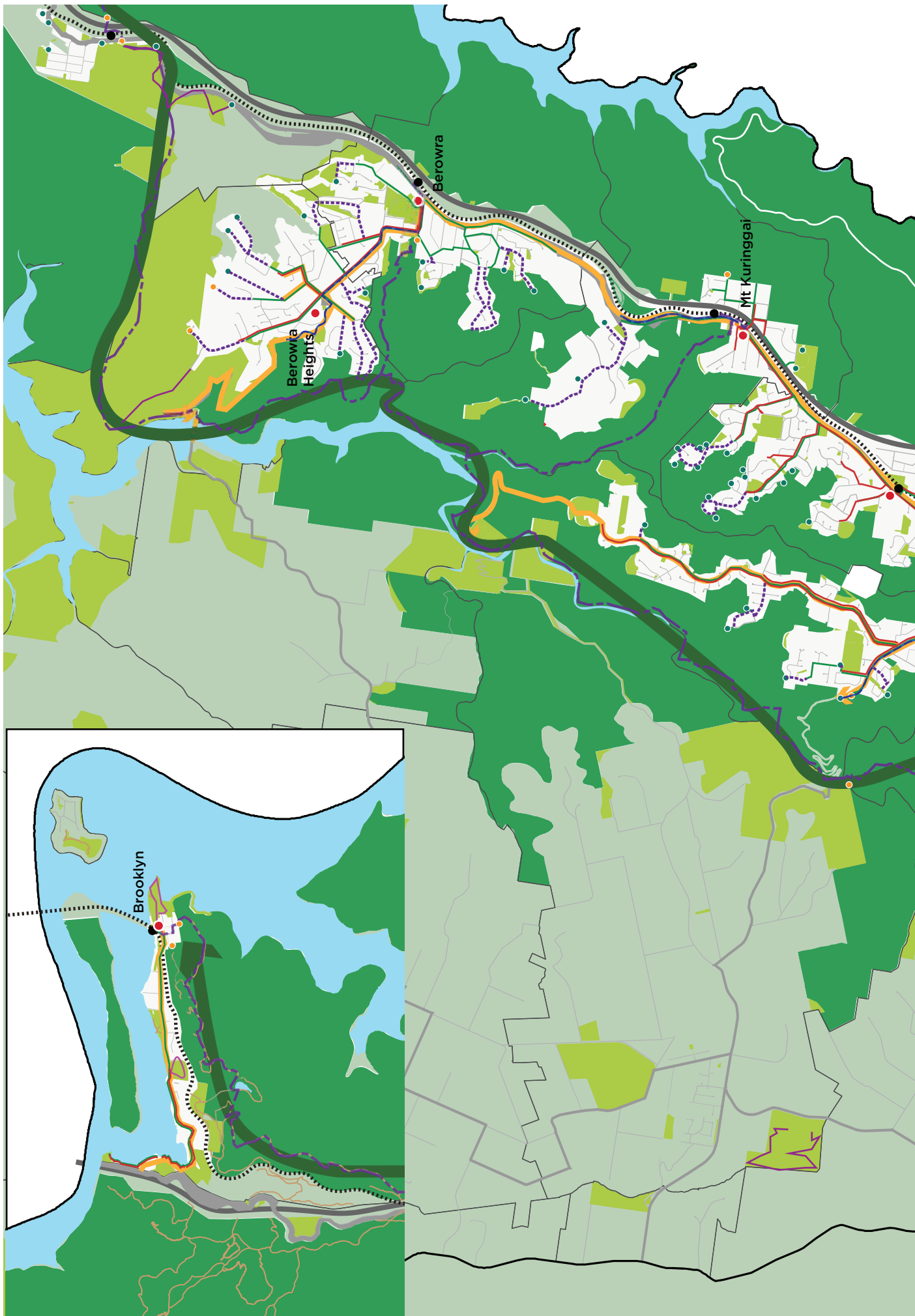


Figure 38: The proposed shared pedestrian/cycle path network

Proposed Network



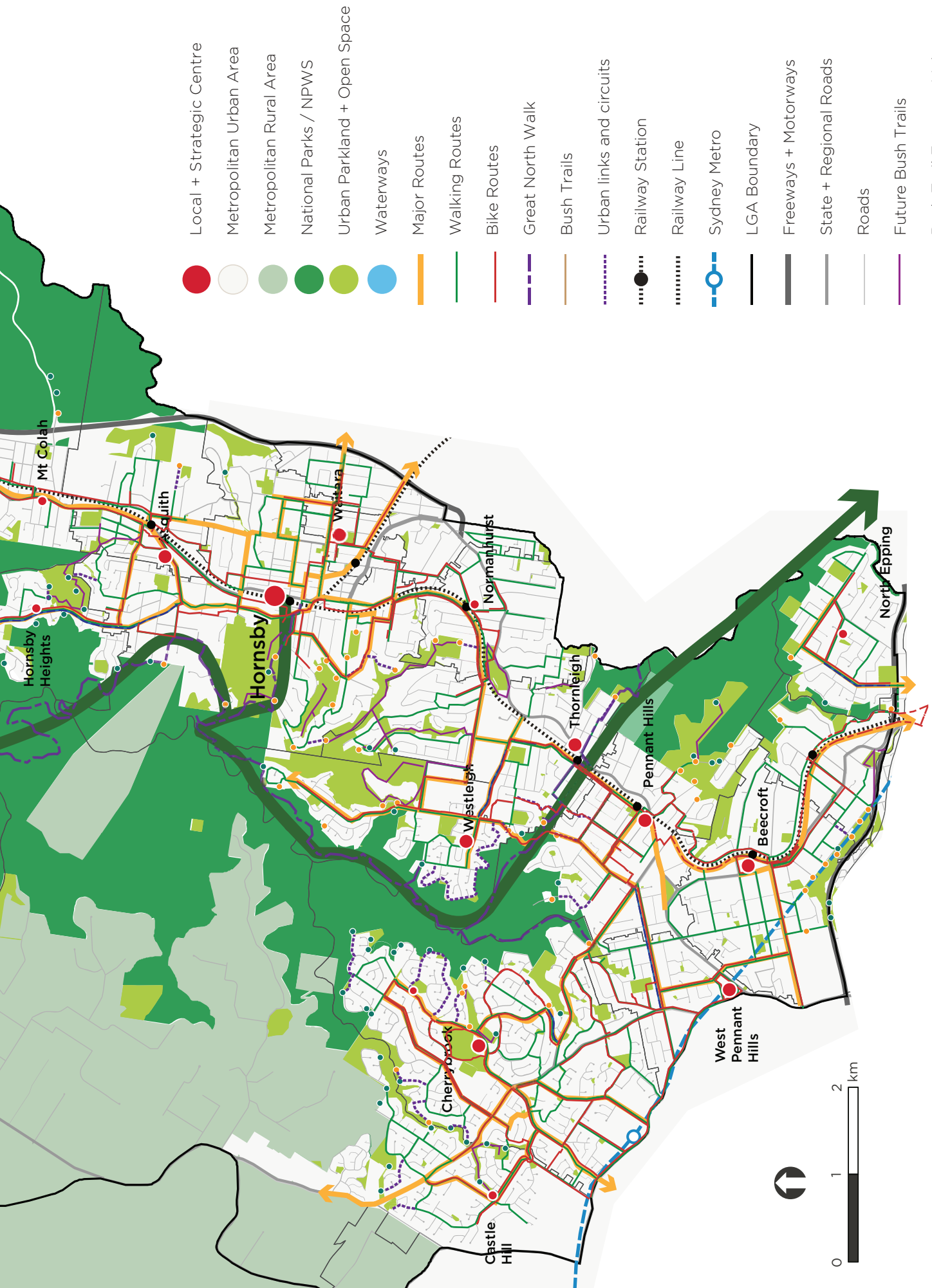
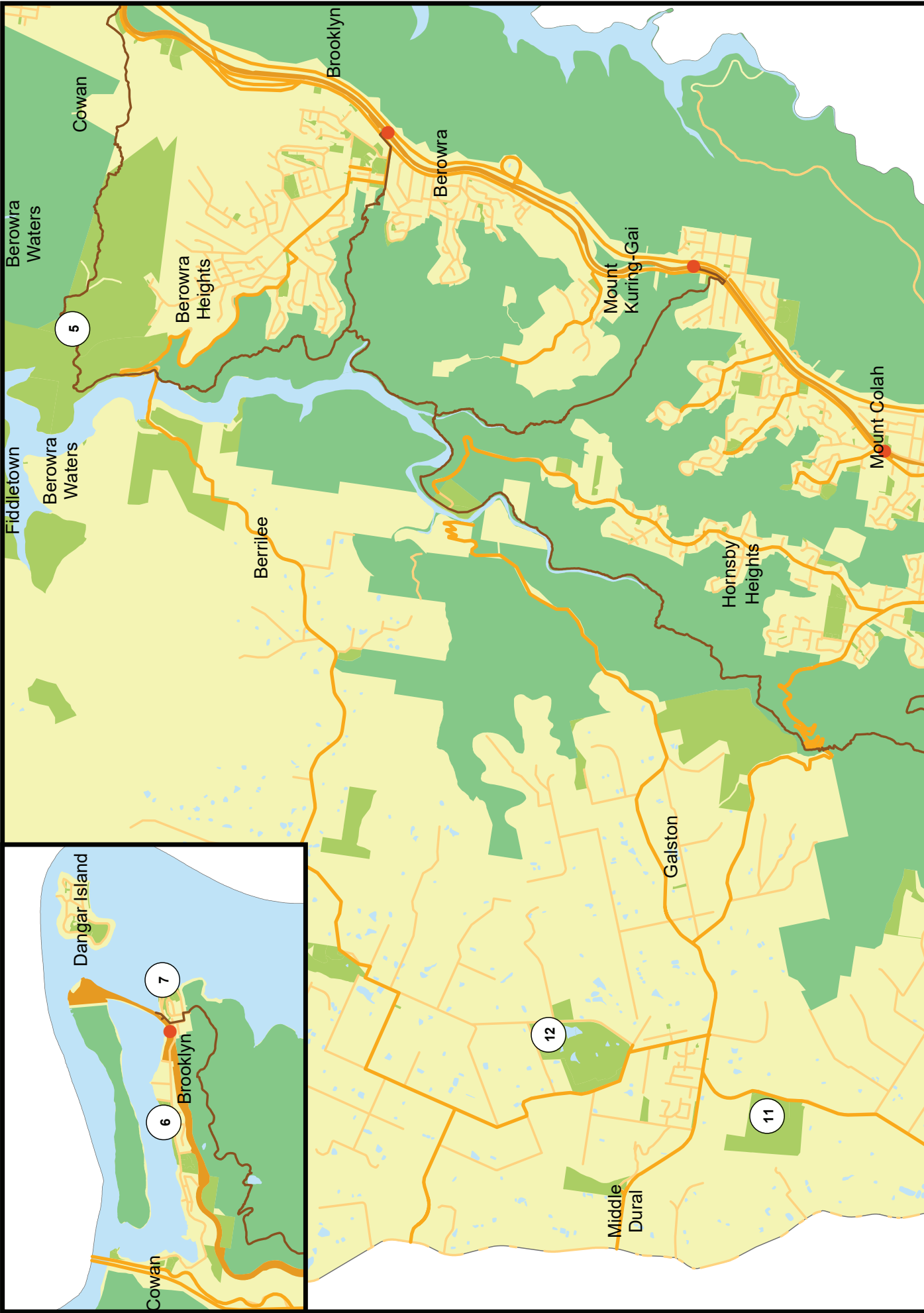


Figure 39: Proposed Network

Proposed Bushwalking Track Projects



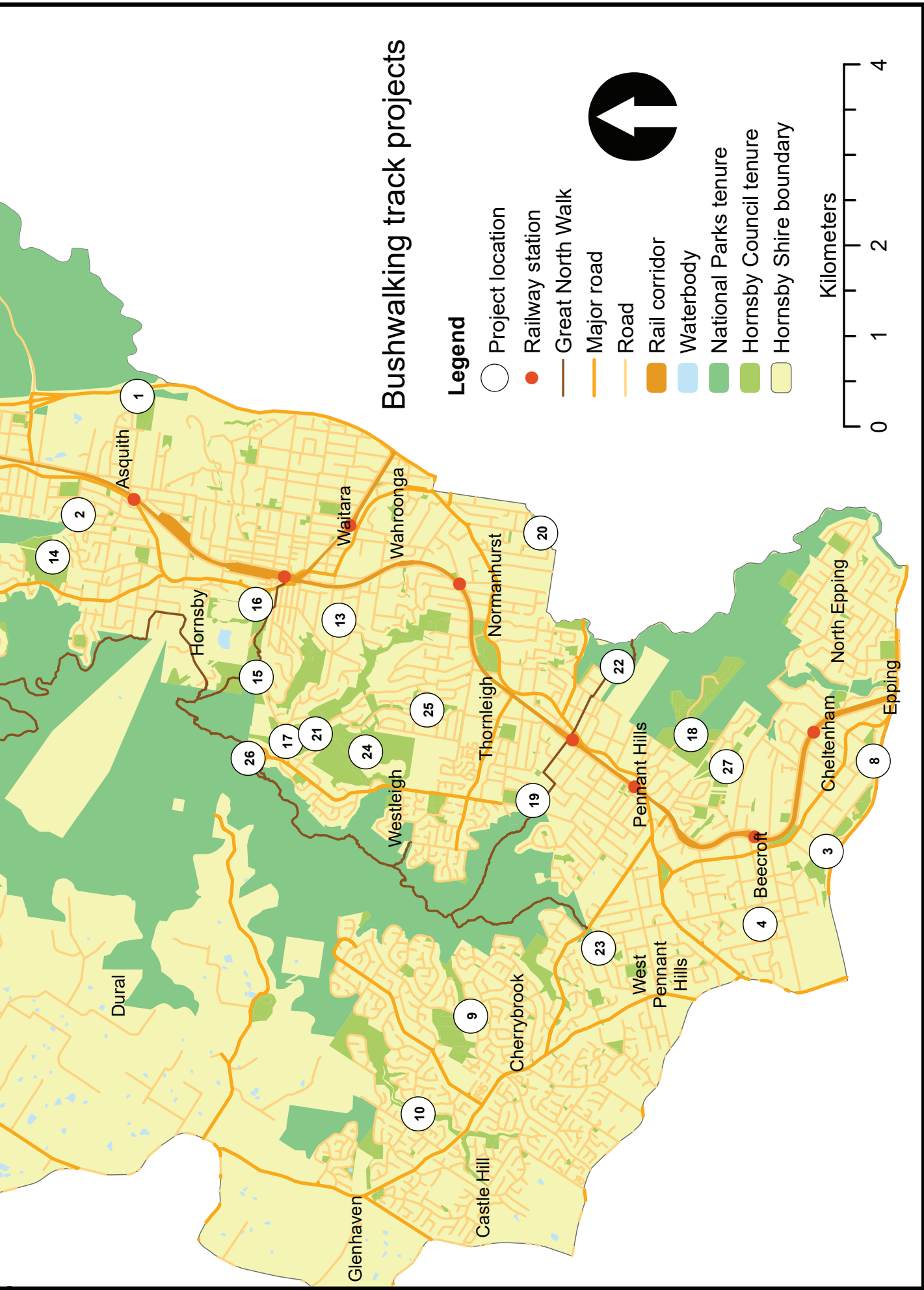


Figure 40: Proposed Bushwalking Track Projects

Bushwalking Tracks

The proposed bushwalking track projects (Figure 47) considers the needs of all users, specifically newcomers to the area and our older residents, by providing a number of short local bushland links and loops, including commuter links. The projects will also provide and improve the availability of facilities along routes, including furniture, meeting points, benches and clear well-managed entrances to tracks (track heads). The aim being to encourage seniors, families, new users and social interaction.

Other key principles of the proposed projects aim to improve connectivity, including the improvement of links from train stations and centres to connect with regional walks, e.g. Great North Walk (GNW) and improvement of links from the urban areas to the natural areas by providing clearly defined wayfinding signage.

Track projects to be delivered over the next few years include:

- Fearnley Reserve, Beecroft – Replace steps at Hannah Street and upgrade trackhead
- Bluegum Forest, Hornsby – Upgrade bushwalking entrance and trail sections
- Ginger Meggs Loop, Hornsby – Upgrade short bushwalking circuit
- Quarter Sessions Road Lookout, Westleigh – Upgrade access track and construct viewing platform
- Great North Walk and leader tracks, Berowra Heights and Cowan – Walking trail upgrades
- Brooklyn Bushland Trails – Establish a walking trail network across McKell Park
- Hornsby Heritage steps – Trail construction and heritage restoration
- Carrs Bush, Galston – Construction of new elevated boardwalk and accessible areas

For the full list of Bushwalking Track projects to be delivered over the next 10 year, as identified in the Development Contribution Plan 2020–2030, refer to Appendix 3. Furthermore, Council will be preparing a Nature Based Recreation Strategy that details the decision making process that identifies future bushwalking track works in the Shire. The Disability Inclusion Action Plan 2017 identifies the need to implement accessible trails as part of Council's Track and Trail Masterplan. Identification of potential sites should be considered as a future action.

Budget considerations

The current funding strategy is

- Footpaths are funded from General funds
- Council seeks funding for key walking and cycling networks from State Government Grants
- Development / Developer contributions fund works in redevelopment areas

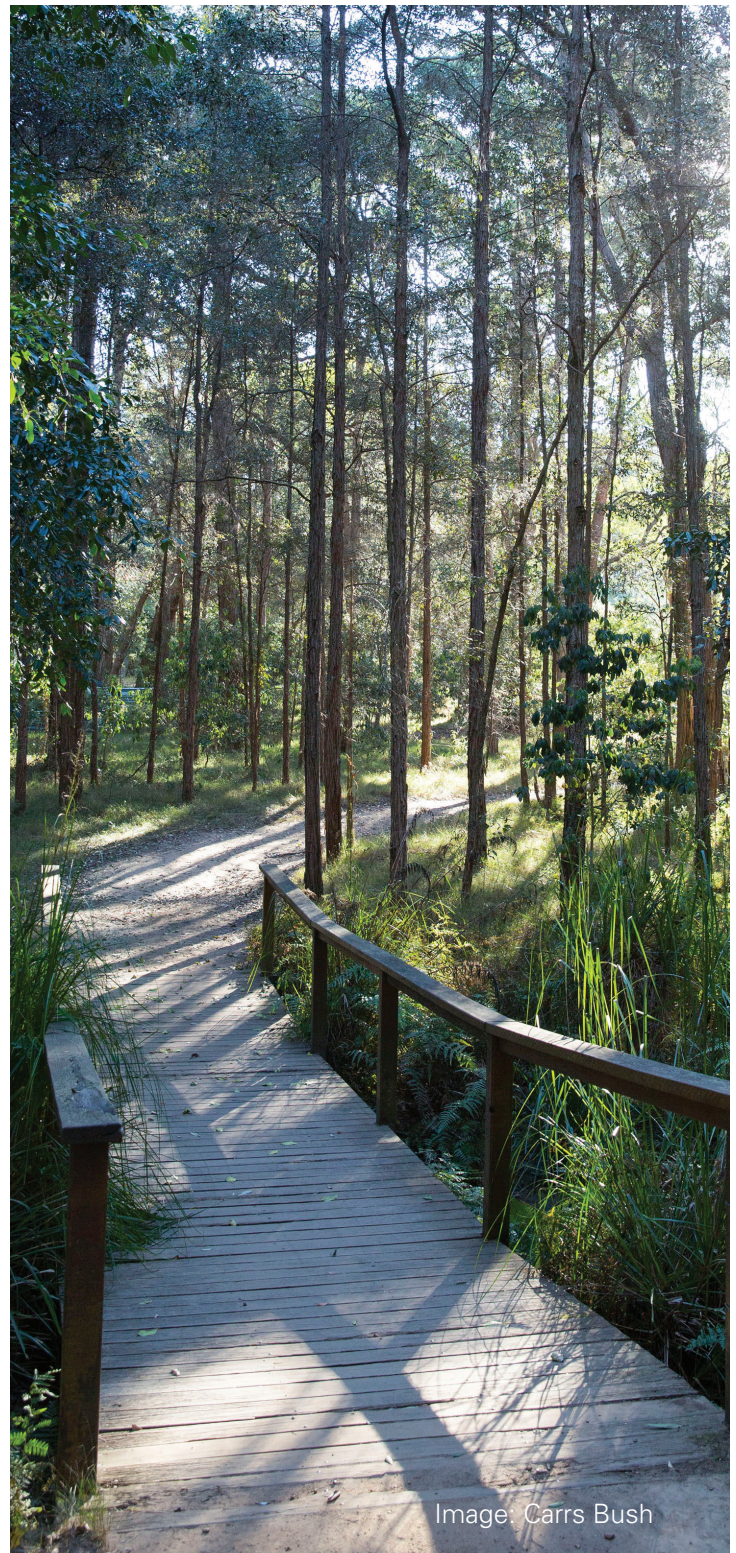


Image: Carrs Bush

6.4 Standards

This section identifies the proposed standards to be met for the provision of the above works and is divided into two parts:

- Path infrastructure
- Non-path infrastructure

6.4.1 Path infrastructure

The design and implementation of the urban and cycling infrastructure references industry standards and Council's Specifications (AUS-SPEC) which are based on industry standards and design guidelines. These standards and guidelines are listed as follows:

Standards

AS 1428-Various Design for access and mobility

AS 1742 Manual of uniform traffic control devices

AS 1742.9-2000 Bicycle facilities

AS 1742.10-2009 Pedestrian control and protection

AS 2890 Parking facilities

AS 2890.3-1993 Bicycle parking facilities

Other publications

AUSTROADS

AP-G88:2011 Cycling aspects of Austroads guides

AGRD 06A:2009 Guide to Road Design – Part 6A
Pedestrian and Cyclist Paths.

In addition to the above a consolidated infrastructure guideline has been developed (Table 1).

It is also acknowledged that there will be times when there is a preference for footpath alternative treatments over concrete paths, particularly in heritage areas and town centres. It is therefore suggested that the following standards and guidelines be used as an indicative guide only and acknowledge that in certain circumstances

variation to the preferred standards may be required to respond to neighbourhood character, heritage values, significant vegetation, topography and overall construction practicality. Where Council departs from these standards, clear justification and rationale will be identified.

6.4.2 Non-path infrastructure

While the surface upon which pedestrians and cyclists travel is an important factor in provision, supporting infrastructure also plays a vital role. Community consultation feedback has highlighted a desire for improved supporting infrastructure. Table 1 identifies key non-path infrastructure types, guidelines and standards for their provision.

Proposed standards for walking and cycling path infrastructure

Infrastructure type	Preferred surface treatment*	Design considerations
Footpaths	Concrete	<ul style="list-style-type: none"> ■ Min. 1.2m width for all footpaths in low density residential areas. ■ 1.8m paths (or 1.5m paths if space is limited) in high density residential areas that link to key destinations, including: <ul style="list-style-type: none"> ■ Schools ■ Commercial centres ■ Public transport hubs ■ Hospitals ■ Parks and playgrounds ■ Community facilities including libraries and community centres. ■ Sportsgrounds and sporting facilities including indoor centres ■ Aged care facilities ■ Open spaces and bushland trails ■ Pedestrian plazas ■ Short stay parking ■ 1.8m wide footpaths for footpaths in key commercial/business and high-density residential precincts. ■ Footpaths are to be accessible to all (including prams and wheelchairs) in line with Disability Discrimination Act requirements. In some locations this may involve upgrading existing staircases, constructing new staircases or considering the inclusion of ramps to meet current standards. ■ Provision in established areas to be sensitive to issues of character, heritage and the natural environment. ■ Material and path setout to reflect recommendations of Public Domain Guidelines in high density and town centre locations.
Shared paths	Concrete	<ul style="list-style-type: none"> ■ Generally, min. 2.5m width (for all shared paths). Departures from the minimum width are possible. Such decisions should be justified with supporting information relating to anticipated use and site constraints. ■ Shared paths to be accessible to all (including prams, wheelchairs and mobility scooters) in line with Disability Discrimination Act requirements. ■ Provision in established areas to be sensitive to issues of character, heritage and environment. ■ Material and path setout to reflect recommendations of Public Domain Guidelines in high density and town centre locations.
Defined off-road bike paths (tourism trails)	Bitumen seal**	<ul style="list-style-type: none"> ■ Min. 2.0m width ■ Provision to be based upon demonstrated demand and benefits.
Defined on-road bike paths	Incorporated into sealed road surface	<ul style="list-style-type: none"> ■ Refer to detailed requirements of Austroads Guide Road Design (Part 6A). ■ Initial focus of defined on-road bike path provision to be in locations where existing road widths and format allow the infrastructure to be achieved at minimal cost. The presence of marked lanes or other markings (e.g. shared arrows) provide increased awareness of the likely presence of cyclists on the road.
Roads	Sealed road surface	<ul style="list-style-type: none"> ■ Bicycle usage of roads occurs except where this is expressly forbidden (e.g. some highways and freeways). ■ Refer to detailed requirements of Austroads Guide to Road Design.

Notes:

- * Exceptions to preferred surface treatments and design guidelines may be considered for reasons of heritage, character, environment or water sensitive urban design and will be considered on a case by case basis.
- ** While it is recognised that bitumen seal is less robust than concrete, there can be considerable cost savings for bitumen construction for trails that traverse very long distances that are often typical of tourism trails. While compacted gravel or unsealed treatments are cheaper again, these surfaces discourage usage by a wide range of users and can create untenable ongoing maintenance costs and risk.

The provision of walking and cycling path infrastructure needs to be supported by management processes that ensure that the infrastructure provided can be safely and efficiently used. This includes:

- Exceptions to preferred surface treatments and design guidelines may be considered for reasons of heritage, character, environment or water sensitive urban design and will be considered on a case by case basis.
- Ensuring that the infrastructure is not damaged or worn in a way that makes its use unsafe.
- Ensuring that surrounding elements (typically vegetation) do not interfere with the use of the infrastructure.
- Ensuring that any works required near the infrastructure (typically trenching for underground services installation and repair) repair any damage, including using the same materials as originally existed.



Figure 41: Concrete is the preferred material for footpaths and shared paths throughout the shire.

Proposed standards for walking and cycling non-path infrastructure

Infrastructure type	Desirable locations for provisions	Design considerations
Statutory Signage	Signage is required to meet safety objectives, such as identifying the appropriate use of different path types.	<ul style="list-style-type: none"> ■ Cycle signage required for various treatments is defined under Austroads Guide to Road Design.
Directional signage	Directional signage assists users in finding their way around a path network and is particularly important on off-road networks where street signs and other navigational landmarks may not be present. All off road path networks should have directional signage incorporated into the design and be appropriate to assist people of all levels of ability.	<ul style="list-style-type: none"> ■ Signs should be of a limited number of types and styles, making maintenance and replacement easier, and assisting in creating a sense of place and be of consistent design to assist people of all levels of ability or those living with dementia. ■ Signs should be designed to be robust (to avoid vandalism).
Educational/ awareness signage	Educational and awareness signage is intended to draw attention to the needs of other users.	<ul style="list-style-type: none"> ■ Given the expense of providing dedicated paved shoulders, bike lanes or off-road paths on existing roads where these do not exist, 'share the road' signage is a cost-effective way to provide some support for cycling on key defined routes.
Interpretive signage	Interpretive signage can draw attention to historic, cultural or environmental features or stories and enrich the experience of walkers and cyclists.	<ul style="list-style-type: none"> ■ Care needs to be taken to appropriately locate interpretive signage so that it is both easily accessible and visible but does not encourage people to stop on paths and trails creating blockages and potential safety issues.
Lighting	In general, on-road paths and routes in townships benefit from the lighting provided by the street lighting network and many off-road bicycle trails are not intended for use after dark. In addition, bicycles ridden after dark are required by law to carry lights. Therefore, the key areas where path lighting is appropriate is for off-road trails and paths within towns where pedestrian demand can be demonstrated. Lighting to supplement the street lighting network may be appropriate on footpaths within high use commercial areas.	<ul style="list-style-type: none"> ■ Lighting to be robust (to avoid vandalism). ■ Lighting design to assist people of all levels of ability. ■ Lighting design to avoid creating light spill to sensitive areas (e.g. near residences, in particular bedrooms). ■ Lighting design to be resource-efficient. ■ Solar powered lights should be considered where connection to electrical mains may otherwise be cost prohibitive. ■ Opportunity to include night time lighting displays to enhance visitor experience and promote the night time economy. Illuminating features adjacent to the walking path, e.g. Art work, significant tree, fairy lights, etc.
Seating	<p>Seating is desirable associated with walking and cycling routes in the following circumstances:</p> <ul style="list-style-type: none"> ■ Located on paths within areas which might be used as rest stops on the way to destinations, particularly on paths that service medical and aged care facilities (i.e. a higher level of seating provision near aged care facilities is likely to encourage increased walking participation). ■ Key destinations (e.g. transport nodes, commercial precincts and schools). 	<ul style="list-style-type: none"> ■ Seats should be of a limited number of types and styles, making maintenance and replacement easier, and assisting in creating a sense of place. ■ Seats with arms and back rests are preferred in areas where seating is likely to be used as rest stops on the way to destinations for seniors and to cater for the needs of all people of all abilities. ■ Seat locations should take shade into consideration. ■ Seats should be located on concrete pads for ease of maintenance. ■ Seats to be located on paths with a steep grade to provide rest areas

Infrastructure type	Desirable locations for provisions	Design considerations
Bicycle parking	Bicycle parking is desirable associated with key destinations, especially those located on defined cycling routes.	<ul style="list-style-type: none"> ■ Bicycle parking should be of a limited number of types and styles, making maintenance and replacement easier, and assisting in creating a sense of place. ■ Bicycle parking should be located on concrete paved pads for ease of access and maintenance. ■ Bicycle parking facilities should be located close to key destinations as part of the overall urban/landscape design to ensure ease of access, useability and prominence.
Shelters and picnic settings	Shelters and picnic settings are desirable associated with walking and cycling routes at key open space destinations. Their provision needs to align strongly with open space objectives.	<ul style="list-style-type: none"> ■ Shelters and furniture should be of a limited number of types and styles, making maintenance and replacement easier, and assisting in creating a sense of place.
Drinking fountains	Drinking fountains are desirable associated with walking and cycling routes, particularly routes and trails that attract people undertaking exercise. Their installation needs to consider proximity to piped water and therefore their provision along trails remote from this infrastructure is unlikely to be feasible.	<ul style="list-style-type: none"> ■ Drinking fountains provided should be accessible (e.g. wheelchair accessible). ■ Drinking fountains should consider the inclusion of integrated dog bowls on walking routes. Dog bowls should not be provided near shared paths and trails, to discourage dogs being off leads near bicycle traffic.
Public toilets	Public toilets are desirable associated with walking and cycling routes, at key destinations. Their provision needs to be coordinated with other open space, maintenance and safety objectives.	<ul style="list-style-type: none"> ■ Due to the high installation and ongoing maintenance costs, public toilets need to be carefully sited to maximise public benefit. ■ Defer to Shire-wide Public Toilet Strategy to identify gaps in current or future provision.
Dog litter bags and bins	Dog litter bags and bins can be provided associated with walking paths. Their provision is at the discretion of Council.	<ul style="list-style-type: none"> ■ Litter bags and bins should be provided at all designated dog off-leash areas, as well as along the paths leading to off-leash areas.
Public Art	Key arrival points, rest locations and intersections along walk ways	<ul style="list-style-type: none"> ■ Easily visible locations to reduce vandalism, ■ Durable, robust construction, safety and design considerations



6.5 Action Plan

The following section presents a summary of the actions within a prioritised implementation framework. In developing the implementation framework, it is acknowledged that Council faces significant challenges in managing competing priorities across a diverse range of services for limited overall resources. Furthermore, as previously identified, walking and cycling initiatives and responsibilities cross several Council work areas and departments.

Opportunities for enhanced cross-departmental collaboration and planning to implement walking and cycling initiatives, including the recommendations contained in this report, may need to be explored.

The implementation table presents priority (e.g. High, Medium or Low), indicative costs and lead responsibility to oversee implementation. Actions are grouped under the following headings:

- provision of suitable facilities
- promotion
- integrated planning
- monitoring and guidance.

Actions focused on the above headings are generally accepted as being required to influence the delivery of the primary objective.

Whilst an indicative priority rating for implementation has been applied to guide operations, actual timing of implementation will be subject to Council's budget capacity, external funding and/or other partnership opportunities as appropriate. Individual actions will be considered on an annual basis as part of Council's overall budget preparations.

Implementation Plan: Actions

Item No.	Priority	Mode	Action	Lead Council Department	How
Provision of suitable facilities					
1	Ongoing	Walking	Continue the staged implementation of the Shire-wide Footpath and Shared Pedestrian / Cycleway Path Plan (refer to Appendix 1) and Bushwalking Track projects (Appendix 3) based on the identified priority.	Infrastructure and Major Projects	Staged implementation of priorities identified within the plan via Council's annual capital works allocation, developer contributions and as other opportunities arise. Allows opportunities to refine routes, finishes and widths as further information becomes available.
2	Ongoing	Walking and cycling	Where roundabouts are required ensure design consideration is given to designated crossing points, line/bike markers, and signage as appropriate.	Infrastructure and Major Projects	As part of individual design processes.
3	Ongoing	Cycling	Ensure future on-road cycle lanes comply with standards and guidelines contained in Austroads Guide for Road Design.	Infrastructure and Major Projects	Utilise the standards to guide cycle lane installations.
4	Medium	Walking and Cycling	Develop a suite of wayfinding, directional, interpretive and road warning signage for bushwalking and cycling destinations. This work is to form part of the pathway provision framework and is to ensure that all members of the community, no matter their ability have equal access to Council footpaths and cycleways.	Infrastructure and Major Projects	This work currently forms part of the Public Domain Project currently in preparation.
5	Ongoing	Walking and Cycling	Ensure new footpaths, shared pedestrian/ cycleways and bushwalking tracks incorporate the principles of universal design and consider the needs of all members of the community, no matter their ability	Infrastructure and Major Projects	Designs for footpaths and shared paths should consider the provision of rest stops, water fountains, wayfinding signage and distance markers. Signage should be dementia friendly.
Promotion					
6	Ongoing	Walking and cycling	Encourage local walking and cycling clubs / groups to add their events and activities to Council's calendar and community directory on the Council website.	Office of the General Manager	Promotion of Council's website. Details to complete registration are listed on the website.
7	Ongoing	Cycling	Continue to work with relevant community groups and stakeholders (e.g. Bicycle North and Bike NSW) to resource and deliver multi-pronged bike safety campaigns (primarily on-road signage).	Infrastructure and Major Projects	Through Council's Traffic and Road Safety Team.
8	Medium	Walking and cycling	Support existing and explore opportunities to attract additional walking and cycling events in the shire (this could consider fun runs/walks, road cycling and/or mountain biking). Council's support of walking and cycling events will be guided by an objective to increase awareness of walking and cycling opportunities and encourage increased local participation.	Community and Environment	

Item No.	Priority	Mode	Action	Lead Council Department	How
9	Medium	Walking and cycling	Build on the existing range of walking and cycling brochures, maps, signage and promotional material to promote existing walking and cycling opportunities available throughout the Shire. Promotional material should consider the following platforms: Paper based material (e.g. maps and brochures), internet/social media, signage and way finding. Consideration should be given to updating the 'Discover Hornsby' website to include the walking in urban areas.	Office of the General Manager	The website is designed to promote Hornsby as a destination detailing activities including bushwalking, cycling and boating. It includes information about the activity, how to get there and links to transport websites and maps.
10	Low	Walking and cycling	Undertake further engagement with primary and secondary schools to identify localised opportunities to work collaboratively to encourage increased walking and cycling to/from school.	Infrastructure and Major Projects	Aside from footpath provision (via the Shire-wide Footpath Plan), Council support should be tailored to the specific needs of each school community. This may involve programming, education, safety awareness, by-laws enforcement and/or infrastructure provision as required i.e. determined on a case by case basis.
Integrated Planning					
11	Medium	Walking and cycling	Ensure that designated unfenced dog off-leash areas are not located close to shared trails.	Community and Environment	
12	High	Cycling	Map the location and scope of existing bicycle parking infrastructure to determine possible gaps in provision or opportunities for enhancement. Ensure the design and location of any new facilities considers the recommended infrastructure guidelines.	Office of the General Manager	An investigation will be required and a budget estimate of \$50,000 has been identified for this work.
13	High	Walking and Cycling	Establish a Pedestrian Mobility Access Plan (PAMP) to ensure an equal access environment. Update the Disability Inclusion Action Plan and specific Dementia Friendly Plans to address the specific needs of our community and ensure these needs are accommodated in future planning. Identify barriers to pedestrian and cycle movement	Infrastructure and Major Projects/ Community and Environment	An investigation will be required and a budget of \$50,000 has been identified for this work.

Item No.	Priority	Mode	Action	Lead Council Department	How
14	High	Walking and Cycling	Work with TfNSW to investigate pedestrian crossing facilities, including potential impacts and benefits of additional signalised crossing and refuges to increase safety and remove barriers to walking and cycling connections.	Infrastructure and Major Projects	Continue to raise opportunities with Transport for NSW through regular contact points.
15	High	Walking and Cycling	Identify those projects and geographic areas where the planning system can be used to implement some of the proposed walking and cycling routes through voluntary planning agreements and development determinations/consents.	Planning and Compliance/ Infrastructure and Major Projects	Brief the Planning Division on proposed routes for footpaths and pedestrian/ cycle shared paths and set up a referral system to Infrastructure and Major Projects to set design parameters.
16	High	Walking and Cycling	Proposed routes and widths for walking and cycling infrastructure be considered when undertaking local road improvements and tree planting programs	Community and Environment/ Infrastructure and Major Projects	Review of existing site conditions and surrounding infrastructure and key destinations to ascertain suitability of proposed routes for walking and cycling.
17	Medium	Walking and Cycling	Preparation of a Nature Based Recreation Strategy that compliments this Strategy	Community and Environment	Develop as subplan of this strategy to enhance user experience and conservation of natural values
18	Medium	Cycling	Prepare a recreation road cycling framework that supports iconic road rides such as the 'three gorges loop' with appropriate promotion and infrastructure including water fountains and bike maintenance facilities	Office of the General Manager	
Monitoring and Guidance					
19	Medium	Walking Cycling	Set up a program to gather information on the use of installed shared paths and cycleways	Office of the General Manager	Collection of data will be required on use patterns and a budget estimate of \$30,000 has been identified for this work.
20	Medium	Cycling	Participate in the National Cycling Participation Survey	Office of the General Manager	Fund external service provider to undertake cycling participation surveys across the Shire. A budget of \$15,000 has been identified for this work
21	Medium	Cycling	Develop indicators to measure the progress on outcomes from the Walking and Cycling Strategy	Office of the General Manager	Consideration should be given to indicators that measure safety and growth in Cycling, improvements in connectivity of the network and actions designed to support people to ride.



6.6 Conclusion

The Walking and Cycling Strategy provides both strategic and integrated solutions to enable decision making for the provision of walking and cycling experiences, it provides a framework by which decisions about what work is undertaken to ensure positive user experiences across the urban part of the Shire. The strategy will provide a strategic framework for residents, Councillors and Council officers and will inform budgetary decisions, assist with grant applications and other potential funding sources. The identified network will be used to allocate work in the Delivery Plan on a priority basis.

Appendix 1

PRIORITY - FOOTPATHS

1 = High Priority routes (0-5 yr)

2 = Medium Priority (6-10 yr)

3 = Low Priority (10+ yrs)

* Barrier - needs investigation

Site	Section	Suburb	Route Classification / Name	Priority
Berowra / Berowra Heights				
Woodcourt Rd	Elizabeth to Woodcourt Trail Bush Track Head	Berowra Hts	Woodcourt Road Bush Track Link	1
Redwood Ave	Yallambee Rd to Bambill Rd	Berowra	local connection	1
Bambill Rd	Redwood Ave to Anembo	Berowra	local connection	1
Warrina St	Warwick Cl to Koloona St	Berowra Hts	local connection / circuit	1
Koloona St	Warrina St to Jaranda St	Berowra Hts	local connection / circuit	1
Balaclava Rd	Kona Cl to Hillcrest Rd	Berowra	local connection / circuit	1
Wyanna Street	Easton Road to Barnetts Road	Berowra Heights	local connection / circuit / bush link	1
Easton Road	Wyanna Street to Barnetts Road	Berowra Heights	local connection / circuit / bush link	1
Barnetts Rd	Wyanna Street to Rona Cl	Berowra Heights	local connection / circuit / bush link	1
Turner Rd	Gooraway Pl to Coreen Close (Bush Track Head)	Berowra Heights	Turner Road Bush Track Link / local	2
Wideview Rd	Evelyn Cres to Wideview Rd end	Berowra Heights	Wideview Road Bush Track Link / school	1
Cliffview Rd	Wideview Rd to Cliffview Rd end	Berowra Heights	Cliffview Road Bush Track Link	2
Joalah Cres	Easton Rd to Joalah Trail Entrance	Berowra Heights	Joalah Road Bush Track Link	2
The Gully Rd	Richards Cl to Mary Wall Cr	Berowra	Emma Pl Bush Track Link	2
Mary Wells Cr	The Gully Rd to Emma Pl Track entrance	Berowra	Emma Pl Bush Track Link	3
	footpath end nr Cullenya Cl to Gwandalan Cr	Berowra	Yallambee Rd Circuit / local	1
Yallambee Rd	Yallambee Rd to Kywong Rd	Berowra	Yallambee Rd Circuit / local	1
Gwandalan Cres	Yallambee Rd to Kywong Rd	Berowra	Yallambee Rd Circuit / local	1
Kywong Rd	Yallambee Rd to Redwood Ave	Berowra	Yallambee Rd Circuit / local	1
Bambill Rd	Redwood ave to Ti Tree Cres	Berowra	Berkeley Trail Link	2
Ti Tree Cres	Bambill to Bush track entrance	Berowra	Berkeley Trail Link	2
Bambill Rd	Ti Tree Cres to Bush Track entrance	Berowra	Bambill Trail Link	2
Hornsby Heights				
Yannina Ave	Binnari Rd to Evans Rd	Hornsby Heights	local connection	1
Binya Close	Somerville to End	Hornsby Heights	Binya Bush Track Link	2
Hillview Street / Sunset Ave	Somerville to End Sunset Ave.	Hornsby Heights	Hillview Street Bush Track Link / local	1
Brett Ave / Ulolo Ave	Galston Rd to Ulolo Ave., Brett Ave to Ulolo Trail Entrance	Hornsby Heights	Ulolo Bush Trail Link	2
Binnari Rd	Yannina to Trail entrance nr Bundanoon Pl	Hornsby Heights	Binnari Rd Bush Track Link	2
MT KURING-GAI				
King Street	Low St to Brisbane Ave	Mount Kuring-Gai	School / local connection	2
Beaumont Rd	Pacific Hwy to Gundah Rd	Mt Kuring-Gai	Beaumont Rd Bush track Link	2
Beaumont Rd	Gundah Rd to End	Mt Kuring-Gai	Gundah Ridge Bush track Link	2
Hamley Rd	Beaumont Rd to End (Hamley Bush Track)	Mt Kuring-Gai	Hamley Rd Bush Track Link	2
Mt Colah				
Mount St	Willarong Rd to Lady St	Mt Colah	Local connection	1
Foxglove Rd	Pacific Hwy to Foxglove Oval Driveway	Mt Colah	Local connection	3
Red Cedar Dr	Beryl Ave to Foxglove	Mt Colah	Local connection	3
Mount St	Lady St to Yirra Rd	Mt Colah	Local connection	3
Yirra Rd	End of footpath nr Pac Hwy to Mount St	Mt Colah	Local shop connection	3
* Mt Kuring-Gai Rd	Myall Rd to Kalkari Bush Track Head	Mt Colah	Mt Kuring Gai Rd Bush Track Link	2
Asquith				
Baldwin Avenue	Chelmsford Road to Victory Street	Asquith	School / local	1
Link Rd	Mittabah Rd to Ida St (north side)	Asquith	School / East-West Connection	1
Sherbrook Rd	Bridge Rd / Sherbrook roundabout East side and needs a safe ped crossing	Hornsby	Asquith to Hornsby connection	1
Stokes Ave	School Gate to End	Asquith	Stokes Ave Bush Link / School	1
* Mittabah Rd	Pacific Hwy to Lord Ave - undeveloped rd	Asquith	East-West Connection	3

Hornsby				
Valley Rd	Pretoria Pde to Rosemead Rd	Hornsby	local connection / Bush track links	1
Rosemead Rd	Valley Rd to Hornsby Park	Hornsby	Rosemead / Blue Gum Bush Track Link	1
Allidale Close	Neutral Road to End	Hornsby	School / Cul-de-sac	1
Valley Rd	Pretoria Pde to End (south)	Hornsby	Valley Rd Bush Link	1
Clovelly Road	Hall Rd to End (south)	Hornsby	Clovelly Rd Bush Link	1
Old Berowra Rd	Mittabah Rd to End (heading north)	Hornsby	Old Berowra Rd Bush Track Link	2
Old Berowra Rd	Link Rd to Mittabah Rd	Hornsby	School frontage	1
Link Rd	Old Berowra Rd to Ida St	Hornsby	School link	1
Wahroonga				
Hewitt Ave	Eastbourne Ave to Bristol Ave	Wahroonga	Local connection / missing link	1
Bristol Ave	Hewitt Ave to Hinemoa Ave	Wahroonga	Local connection / missing link	1
Woolcott Ave	on north side from Windarra Cres to school	Wahroonga	School connection	2
Windarra Cres	from the school to Pennant Hills Rd	Wahroonga	School connection	2
Normanhurst				
Hinemoa Ave	Bristol to Nanowie Ave	Normanhurst	Local connection / missing link	1
Willowtree St	Calga Ave to Pine St	Normanhurst	Local connection / missing link	1
Pine St	Myrtle St to Oak St	Normanhurst	Local connection / missing link	1
Begonia Rd	Pine St to Palm Grove	Normanhurst	Local connection / missing link	1
Oak St	Pine St to Cedar St	Normanhurst	Local connection / missing link	1
Stuart Ave	Pennant Hills Road to Calga Ave	Normanhurst	Train Stn link	1
Hinemoa Avenue	End of footpath near Greenwood Aged Care to Havilah Avenue	Normanhurst	Local connection	1
Thornleigh				
Vale Rd	Wareemba Ave to Norman Rd	Thornleigh	Local connection / missing link	1
Wareemba Ave	Larool Cr to Derribong Pl	Thornleigh	Local connection / missing link	1
Wareemba Ave	Derribong Pl to Vale Rd	Thornleigh	Local connection / missing link	1
Koorlingal Ave.	Yarrabung Ave to and including Loop	Thornleigh	Local connection / missing link	1
Eddy Street	Tillock Street to Janet Avenue	Thornleigh	Train Station link	1
Edmundson Cl	Gibblett Ave to Morgan St	Thornleigh	Local connection / school	2
Dale Cl	Morgan St to end of Dale Cl	Thornleigh	Local connection	3
Morgan St	Tillock Street to end (track head entrance)	Thornleigh	GNW Track link	3
Nicholson Ave	Quarter Sessions to Dobson St	Thornleigh	School route	2
Dobson St	Giblett Ave to Nicholson	Thornleigh	School route	2
Westleigh				
Quarter Sessions Rd	Silver Cres to and including Quarter Sessions Loop	Westleigh	Local footpath - missing link	1
Corang Rd	Quarter Sessions to Eucalyptus Dr	Westleigh	Local connection/ missing link	1
Eucalyptus Dr	Corang Rd to Castle Circuit	Westleigh	Connector/ missing link	1
Elouera Rd	Eucalyptus Dr to Duffy Rd	Westleigh	Connector / missing link	1
Quarter Sessions Rd	Timbarra Rd to Lynrob Pl	Westleigh	Local footpath - extension	2
Duneba Dr / Westleigh Dr	Elouera Rd to Elouera Rd	Westleigh	Duneba Drive Circuit	2
*Timbarra Rd	Quartersessions Rd to end	Westleigh	Westleigh to Pennant Hills Link	3
Dural / Cherrybrook				
New Line Rd	James Henty Rd to Jenner Rd	Dural	Main (Collector) Rd / Missing link	1
Myson Dr	Franklin Rd to Powell Pl & New Line Rd (to Park Link)	Cherrybrook	Local connection	1
Purchase Rd	Beechwood to Kentia Pde	Cherrybrook	Local connection	3
Purchase Rd	Kentia Pde to Eldridge	Cherrybrook	Local connection	3
Kenburn Ave	End of footpath between Glentrees Pl/Rossian Pl to Macquarie Dr	Cherrybrook	Local connection	1
Galston				
Nancy Place	Full length	Galston	Local	1
West Pennant Hills				
Verney Dr	Campbell Park to Hull Rd	West Pennant Hill	Local connection	1
Hull Rd	Victoria Rd to Lee Rd	West Pennant Hill	Local connection	1
Cherrybrook Road	New Farm Road to Boundary Road	West Pennant Hills	Local connection	1
New Farm Road	Cherrybrook Road to Cherrybrook Road South	West Pennant Hills	Local connection	1
New Farm Road	New Line Road to Cherrybrook Road	West Pennant Hills	Local connection	1
Beecroft				
Chapman Ave	Cardinal Rd to Hull Road	Beecroft	Local connection	1
Tristania Way	Sutherland Rd to cul-de-sac	Beecroft	Pennant Hills to Beecroft link	1

Pennant Hills				
Azalea Grove	Clement Cl to Railway Line	Pennant Hills	Pennant Hills to Beecroft link	1
Clement Close	All	Pennant Hills	Pennant Hills to Beecroft link	1
Bellamy Rd	Stephens Rd to End (north)	Pennant Hills	Bellamy Rd Bush Link	1
Azalea Grove	Clement Cl to Liguori Way	Pennant Hills	Pennant Hills to Beecroft link	1
Liguori Way	Liguori Way to Binomea Pl	Pennant Hills	Pennant Hills to Beecroft link	1
Laurence St	Footpath end in front of 48 Laurence St to Schofield Pde.	Pennant Hills	Schofield Bush Track Link	2
Schofield Pde	Laurence St to front of last house	Pennant Hills	Schofield Bush Track Link	2
Wearne Ave	Laurence St to Thorn St	Pennant Hills	School Route	2
Thorn St	Wearne Ave to Bellamy St	Pennant Hills	Local connection / School Route	2
Cheltenham				
North Epping				
Downe St	Beck Rd to Boundary	N Epping	Local connection	1
Eastcote Rd	Malton Rd to bend @ 31 Eastcote Rd	N Epping	Local connection / School route	1
Eastcote Rd	Bend between Cornwall & Harefield (31 Eastcote Rd) to Boundary Rd	N Epping	Local connection	1
Newton St	Devon to Howard Pl	N Epping	Local connection / School route	1
Bedford Rd	Howard Pl to Waterloo Rd	N Epping	Local connection	1
Waterloo Rd	Bedford to Devon St	N Epping	Local connection	1

Appendix 2

PRIORITY - SHARED PATHS

1 = Highest Priority routes (0-5 yr)
2 = Medium Priority (6-10 yr)
3 = Low Priority (10+ yrs)

Site	Section	Suburb	Route Classification / Name	Priority
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Shared Paths

Brooklyn

Brooklyn boardwalk & concrete path along water front	Kangaroo Point to Seymour Creek	Brooklyn	Kangaroo Point Boardwalk Cycle Link	2
* Brooklyn Road - mixed bike facilities (shared path, on road cycling)	Sandbrook Inlet to Brooklyn Village	Brooklyn	Brooklyn Village Centre Link	3

Berowra / Berowra Heights

Berowra Waters Road	Alan Rd to Warrina	Berowra Hts	Wideview Public School	2
Berowra Waters Road	Warrina to Hillcrest Rd	Berowra	Berowra Public School	2
Berowra Waters Road	Hillcrest to Crowley Rd	Berowra	Berowra Public School	2
Berowra Waters Road	Crowley to Pacific Hwy (Train Stn)	Berowra	Local Connector / Commuter	2
Alan Road	Wideview Rd to Berowra Waters Rd	Berowra Hts	Wideview Public School	2
Wideview Rd	Front of School gate to Alan Rd	Berowra Hts	Wideview Public School	2
Hillcrest Road	Berowra Waters Rd to Koorong St	Berowra	Berowra Public School	2
Pacific Hwy	Berowra Waters Rd to Yallambee Rd	Berowra	Pacific Hwy Corridor / Local Connector / Commuter	2
Pacific Hwy	Yallambee Rd to Collingridge Way	Berowra	Pacific Hwy Corridor / Local Connector / Commuter	2

Mt Kuringgai to Asquith

Pacific Hwy	Mt Kuringgai Trn Stn to Beaumont Rd	Mt Kuringgai	Pacific Hwy Corridor	2
Pacific Hwy	Glenview Rd to Mt Kuring-Gai Trn Stn	Mt Kuringgai	Pacific Hwy Corridor	2
Pacific Hwy	Glenview Rd to Excelsior Rd	Mt Kuringgai	Pacific Hwy Corridor	2
Pierre Close	Community Centre to Cowan Rd	Mt Colah	Mt Colah Public School	1
Cowan Rd	Pierre Cl/Belmont Pde to Gray St	Mt Colah	Mt Colah Public School	1
Belmont Pde	Cowan Rd to Yirra Rd Brige	Mt Colah	Mt Colah Public School	1
Yirra Rd Bridge	Belmont Pde to Pacific Hwy	Mt Colah	Mt Colah Public School	1
Pacific Hwy	Mt Colah Stn (Ped Signal) to Northumberland Rd - west side	Mt Colah	Mt Colah Public School	1
Pacific Hwy	Mt Colah Stn (Ped Signal) to Rupert St - west side	Mt Colah	Mt Colah Public School	1
Church St	Low St to Leeming St	Mt Kuring-Gai	Mt Kuring-Gai PS	2
Leeming St	Church St to King St	Mt Kuring-Gai	Mt Kuring-Gai PS	2
King St	Leeming St to Brisbane Ave	Mt Kuring-Gai	Mt Kuring-Gai PS	2
Church St	West from Leeming St to narrowing of footpath on bridge	Mt Kuring-Gai	Mt Kuring-Gai PS	2
Pacific Hwy	Excelsior Rd to Beryl Ave	Mt Colah	Asquith to Mt Colah Corridor / Mt Colah Commuter	2
Pacific Hwy	Beryl Ave to Northumberland Rd	Mt Colah	Asquith to Mt Colah Corridor / Mt Colah Commuter	2
Pacific Hwy	Rupert St to Amor St	Mt Colah / Asquith	Asquith to Mt Colah Corridor	2

Asquith

Sherbrooke Rd	Baldwin Ave to Winston St	Asquith	Asquith Public School	1
Winston St	All - Sherbrook Rd to Olive St	Asquith	Asquith Public School	1
Dudley St	Royston Pde to Victory St	Asquith	Asquith Public School	1
Royston Pde	Baldwin to Dudley St	Asquith	Asquith Public School	1
Baldwin Ave	Royston Pde to Bridge Crossing	Asquith	Asquith Public School	1
Amor St	Pac Hwy to Old Berowra Rd	Asquith	Model Route / Public Domain Study	1
Wattle St	Amor St to Peats	Asquith	through town centre	1
Lords Ave	Amor St to Mills Ave	Asquith	Asquith Centre Link	1
Asquith Oval / Mills Park	Mills Ave	Asquith	Asquith Centre Link	1
Rutherford Ave	Mills Park to Rupert St	Asquith	Asquith Centre Link	1
Rupert St	Rutherford Ave to Pacific Hwy	Asquith	Asquith Centre Link	1
Royston Pde	Kuring-Gai Chase Rd to Dudley St	Asquith	Commuter Route alternative to Pacific Hwy	3

Hornsby

Ida St	Hornsby N Public School to Sutton St	Hornsby N	Hornsby North Public School	2
Galston Rd	Sutton St to Evans Rd	Hornsby N/Hornsby Heights	Hornsby North Public School	2
Old Berowra Rd	Peats Ferry Rd to Storey Park (Clarinda St)	Hornsby North	Local Connector	2
Peats Ferry Rd	Wattle St (Asq Trn Stn) to Galston Rd (hookhams cnr)	Asquith / Hornsby	District- Asquith Centre to Old Hornsby Town Centre Link / Commuter	1
Galston Rd	Peats Ferry Rd to Carrington	Hornsby	District Route - Connecting To Model Route (part of Asquith to HTC)	1
Peats Ferry Rd	Hookham's Corner to Bridge	Hornsby	District Link / Commuter - Asquith to Old Hornsby Town Centre	1

Site	Section	Suburb	Route Classification / Name	Priority
Jersey St	Peats Ferry Rd to Bridge Rd	Hornsby	Commuter / District Route - Asquith to Hornsby Stn	1
Bridge Road	Roper Lane to Jersey Rd	Hornsby	Model - Hornsby North to HTC (Hornsby Town Centre)	1
Peats Ferry Rd	Bridge St to Start of 40Km zone (Jersey Ln)	Hornsby	Model - Hornsby North to HTC (Hornsby Town Centre) / District - Asquith to Hornsby TC	1
Peats Ferry Rd	Start of 40Km zone (Jersey Ln) to Dural St	Hornsby	Model - Hornsby North to HTC (Hornsby Town Centre) / District - Asquith to Hornsby TC	1
Bridge Rd	Peats Ferry Rd to Jersey Rd	Hornsby	Model Route 2 - Hornsby N to Old HTC link	1
Bridge Rd	Peats Ferry Rd to Roper Ln	Hornsby	Model Route 2 - Hornsby N to Old HTC link	1
Edgeworth David Ave	Palmerston Rd to Romsey St *(Balmoral St to Romsey St section is part of Waitara PS route)	Hornsby / Waitara	Hornsby CBD to Hospital Link / Waitara PS	1
Edgeworth David Ave	Balmoral St to Romsey St	Hornsby / Waitara	Hornsby CBD to Hospital Link / Waitara PS	1
Edgeworth David Ave	Romsey St to Muriel St	Hornsby	Hornsby CBD to Hospital Link	1
Burdett St	Muriel St to Sherbrooke	Hornsby	Hornsby to Hospital Link	1
Sherbrooke Rd	Burdett to Northcote	Hornsby	Hornsby to Hospital Link	1
Northcote Rd	Sherbrooke to Palmerston	Hornsby	Hornsby to Hospital Link	1
Palmerston Rd	Edgeworth David to Northcote Rd	Waitara / Hornsby	Hornsby to Hospital link	1
Clarke Rd	Malsbury Rd to Bend in Road (just past Homewood Ave) going West. (Hornsby S Public School)	Hornsby	Hornsby South Public School	1
Neutral Rd	Clarke Rd to Hall Rd	Hornsby	Hornsby South Public School	1
Pacific Hwy	Government Rd to High St	Hornsby	District Route - Wahroonga/Waitara - South to HTC Link	1

Hornsby Heights

Galston Rd	Peats Ferry Rd to Sutton St	Hornsby Heights	Local Connector	2
Galston Rd	Evans Rd to Somerville Rd	Hornsby Heights	Hornsby Heights PS	2
Galston Rd	Somerville Rd to Montview Pde	Hornsby Heights	Local Connector	2
Montview Pde	Galston Rd to Montview Park/ Meluca Cr (N end)	Hornsby Heights	Local Connector	3
Somerville Rd	Peter Cl to Galston Rd	Hornsby Heights	Model Route / Hornsby Heights PS	1

Waitara

Waitara Ave	Park Lane to Edgeworth David Ave	Waitara		1
Edgeworth David Ave	Myra St to Churchill Ave	Waitara	Waitara Public School	1
Edgeworth David Ave	Myra St to Balmoral Ave *(part of Hornsby to Hospital link)	Waitara	Waitara Public School / Hornsby Hospital Link	1
Myra St	Edgeworth David Ave to Oleander	Wahroonga	Waitara Public School	1
Park Lane	PCYC to Myra St	Waitara/Wahroonga	Waitara Public School / Model Route	1
Pacific Hwy	Yardley Ave to Waitara Ave	Waitara	District route - Waitara/Wahroonga - Waitara Stn & HTC from South Link (section)	1

Normanhurst

Malsbury Rd	Clarke Rd to Eaton Ave	Hornsby / Normanhurst	Normanhurst Commuter to HTC	2
Malsbury Rd	Eaton Ave to Harris Rd	Normanhurst	Normanhurst Commuter to HTC	2
Milson Pde	Harris Rd to Dartford Rd	Normanhurst	Normanhurst West PS	2
Milson Pde	Hammond Pedestrian refuge (south side) to Buckingham Ave Bridge	Normanhurst	Commuter Link to Normanhurst Stn	3
Malsbury Rd	Eaton Ave (south side) to Buckingham Ave Bridge	Normanhurst	Commuter Link to Normanhurst Stn	3
Denman Pde	Buckingham Ave Bridge to Station Entrance	Normanhurst	Commuter Link to Normanhurst Stn	2
Normanhurst Rd	Denman Pde to Pennant Hills Rd	Normanhurst	Normanhurst Rd PS	2
Pennant Hills Rd	Normanhurst Rd to Fraser Rd	Normanhurst	Normanhurst Rd PS	2
Kenley Park to Denman Pde Link	Dartford Rd to Buckingham Ave	Normanhurst	Commuter Link to Normanhurst Stn	2
Dartford Rd	Milson Pde to Pennant Hills Rd	Normanhurst	Local link to Brickpit / Kenley Park	3

Thornleigh / Westleigh

Dartford Rd	Beresford Rd to Sefton	Thornleigh	Normanhurst West PS	2
Sefton Rd	Larool Cr to Dartford	Thornleigh	Normanhurst West PS	2
Sefton Rd	Larool to Koorringal Ave	Thornleigh	HTC link from Thornleigh	2
Westleigh Pk New Road	Koorringal Ave to Quarter Sessions Rd	Westleigh/ Thornleigh	Westleigh Park Link to Sefton Rd	1
Quarter Sessions Rd	Warrigal Dr to Duffy Ave	Westleigh	Model Route / Westleigh Park /	1
Quarter Sessions Rd	Duffy Ave to Nicholson (pedestrian refuge)	Westleigh	Thornleigh West School Route	2
Quarter Sessions Rd	Nicholson (pedestrian refuge) to Lynrob Pl	Westleigh	Local Connector	2
Duffy Ave	Quarter Sessions to Eucalyptus Dr	Westleigh	Thornleigh West School Route	2
Duffy Ave	End of bike/parking land north side to Chilvers Rd	Thornleigh	Commuter	2
Chilvers Rd	Sefton to Duffy	Thornleigh	Thornleigh to HTC Link	3
The Esplanade	Duffy Ave to Wells St (Trn Stn)	Thornleigh	Commuter	2
Station St	Pennant Hills Rd to Orchard	Thornleigh	Commuter	3

Site	Section	Suburb	Route Classification / Name	Priority
Yarrara Rd	Wells St to Ramsay Rd	Thornleigh / Pennant Hills	Commuter	2
Edmundson Close Reserve	Edmundson Cl over Zig Zag Crk to Dale Cl	Thornleigh	Westleigh / Pennant Hills Town Centre Link	3

Pennant Hills

Ramsay Rd	Bellamy Rd to Yarrara Rd	Pennant Hills	Pennant Hills Public School / Commuter	2
Weemala Rd / Rosemont Rd	Trebor Rd to Stevens St	Pennant Hills	Pennant Hills Public School	2
Greycliffe Ave	Area fronting school	Pennant Hills	Pennant Hills Public School	2
Railway St	Romsey Rd Signal at Yarrara to Pennant Hills overpass	Pennant Hills	Pennant Hills park recreation link	2
Bellamy St	Stevens St to Boundary Rd	Pennant Hills	Westleigh to West Pennant Hills (Victoria Rd) Link	3
Laurence St	Bellamy Rd to Briddon Cl	Pennant Hills	Pennant Hills High School Route	3
Pennant Hills to Epping Link	Mixed	Pennant Hills to Epping	<i>Pennant Hills to Epping Cycle Link</i>	1
The Crescent / Britannia St	Pennant Hills Rd to Pennant Hills Park (Cecil Ave)	Pennant Hills	Pennant Hills Park Recreation Link	3
Boundary Rd	Bellamy St to Francis Greenway Dr	Cherrybrook / Pennant Hills	Boundary Rd Link	2

Cherrybrook

Franklin Rd	New Line Rd to Castle Hill Rd	Cherrybrook	Cherrybrook Metro Link (LUMP SUM)	1
Robert Rd	Oliver Way to John Rd	Cherrybrook	Cherrybrook Metro Link	1
John Rd	Robert Road to County Dr	Cherrybrook	Cherrybrook Metro Link	1
John Rd	Robert Road to Franklin Rd	Cherrybrook	John Rd Connector	3
New Line Rd	Franklin Rd to County Dr	Cherrybrook	Cherrybrook Metro Link	1
New Line Rd	Victoria Rd to Boundary Rd	Cherrybrook	Cherrybrook Public School	2
County Dr	New Line Rd to Woodgrove Ave	Cherrybrook	Cherrybrook Metro Link North-South Connector	2
County Dr	Woodgrove Ave to John Rd	Cherrybrook	Cherrybrook Metro Link North-South Connector	2
County Dr	John Rd to Castle Hill Rd	Cherrybrook	Cherrybrook Metro Link North-South Connector	2
Francis Greenway Dr	Boundary to Macquarie Dr	Cherrybrook	Pennant Hills to Cherrybrook Link	2
Macquarie Dr	Shepherds Dr to Francis Greenway Dr	Cherrybrook	Pennant Hills to Cherrybrook Link	2
Shepherds Drive	Carlisle Swimming Pool Driveway to Eldridge St	Cherrybrook	Shepherds Drive Model Route / Cherrybrook Metro Link	1
Darlington Rd Link	Purchase Rd to Woodgrove Ave	Cherrybrook		3
Purchase Rd	Eldridge St to New Line Rd	Cherrybrook	John Purchase Public School	3
Haven Court Cul-de-sac reserve	Haven Ct Cul-de-sac to County Dr	Cherrybrook	East West local connector	2
New Line Rd	Jenner Rd to Purchase Rd	Cherrybrook	East West local connector	3

Castle Hill

David Rd	Oakhill Dr to Woodgrove Ave	Castle Hill	Oakhill Public School	2
Oakhill Dr	David Rd to Tawmii Pl	Castle Hill	Oakhill Public School	2
Woodgrove Ave	David Rd to County Dr	Castle Hill / Cherrybrook	Oakhill Public School	2

Cherrybrook / WPH

Castle Hill Rd	David to Victoria Rd	Cherrybrook / WPH	Cherrybrook Metro Station Link	1
Castle Hill Rd	Victoria Rd to New Line Rd	West Pennant Hills	Cherrybrook Metro Station Link	2

West Pennant Hills

Victoria Rd	New Line Rd to Boundary Rd	West Pennant Hills	West Pennant Hills PS / Victoria Rd Model Route	1
New Line Rd	Victoria Rd to Castle Hill Rd	West Pennant Hills	Shopping Link	3
Church St	Cardinal to Castle Hill Rd	West Pennant Hills	West Pennant Hill Public School	2
Cardinal Ave	Church St to Pennant Hills Rd	West Pennant Hills	West Pennant Hill Public School	2
Castle Hill Road	New Line Rd to Pennant Hills Rd	West Pennant Hills	West Pennant Hill Public School / Metro Station Link	2
Pennant Hills Rd	Cardinal to Castle Hill Rd	West Pennant Hills	Shopping / Station Link	2

Beecroft / Cheltenham

Copeland Rd	Burns Rd S (existing SP) to Beecroft Rd	Beecroft	Beecroft Public School	1
Beecroft Rd	Copeland Rd to Cheltenham Rd	Beecroft	Beecroft Public School	1
Kirkham St	Beecroft Rd to Boronia Rd	Beecroft	Beecroft Public School	1
Chapman Ave	Wongalla Cr to Beecroft Rd	Beecroft	Beecroft Centre Local Connection	2
Beecroft Rd	Chapman to Hannah St	Beecroft	Beecroft Centre Local Connection	2
Copeland Rd	Rail Bridge Crossing to Wongala Cr	Beecroft	Beecroft Centre Local Connection	2
Sutherland Rd	Copeland Rd East to Booth Park Gates	Beecroft/ Cheltenham	District - Cheltenham Stn Connector	1

North Epping

Norfolk Rd	Somerset St to Boundary Rd	N Epping	N Epping Public School	2
Boundary Rd	Norfolk to Beck St	N Epping	N Epping Public School	2

Appendix 3

Bushwalking Track Projects (Development Contribution Plan 2020–2030)

Bushwalking Track Project Name and Description	Suburb	Completion Date	Map reference
Asquith East Bushland Trail Links – Establishing bushwalking access and links north and south of Mills Park	Asquith	2027	1
Railway Station – Rofe Park–Asquith Park connection – Establishing links to bushwalking trails, upgrading bushwalking access	Asquith	2029	2
Beecroft Reserve – Upgrade bushland recreational trails – Improving and consolidating this network of walking trails	Beecroft	2022	3
Fearnley Reserve Track Entrance – Replace old steps at Hannah Street, upgrade trailhead and trail to playground	Beecroft	2021	4
Great North Walk and Leader tracks – Walking trail upgrades	Berowra Heights & Cowan	2023	5
Boardwalk at Brooklyn Park Foreshore – Repair and replace aging Boardwalk	Brooklyn	2025	6
Brooklyn Bushland Trails – Establish a walking trail network across McKell Park – Restoring and replacing stone steps in bushland	Brooklyn	2023	7
Devlins Creek Trail to Lynne Road – Creating new bushwalking trail by upgrading existing informal trail and building new links	Cheltenham	2025	8
Callicoma Walk – Lakes of Cherrybrook and Blackwattle Place – Upgrading urban bushwalking circuit	Cherrybrook	2028	9
Pyes Creek Connectivity Trail and link to Cherrybrook – Create a formal bushwalking trail	Dural	2023	10
Galston Recreation Trail Hayes Park – Extend existing trail into a bushwalking circuit	Galston	2025	11
Carrs Bush – Construction of new elevated boardwalk and accessible areas	Galston	2024	12
Reddy Park – Embellish pedestrian link, extend trail and consolidate playground trailhead	Hornsby	2020	13
Rofe Park Bushland trail – Extend bushwalking trail into a larger circuit	Hornsby Heights	2029	14
Bluegum Forest – Upgrade bushwalking entrance and sections of trail	Hornsby	2021	15

Bushwalking Track Project Name and Description	Suburb	Completion Date	Map reference
Hornsby Heritage steps – Trail construction and heritage restoration	Hornsby	2023	16
Ginger Meggs Loop – Upgrade short bushwalking circuit	Hornsby	2021	17
Pennant Hills Park Bushland tracks – Mambara Track– fire trail connection – Upgrade and formalise bushwalking track	Pennant Hills	2022	18
Great North Walk – Upgrade entrance and install raised trail from Morgan Street	Thornleigh	2024	19
Begonia Road and Blantyre Close Reserves to Pine Street. Upgrading existing informal pedestrian links through bushland reserves.	Thornleigh	2029	20
Wareemba Avenue – Embellishment of trail head and creek crossing connecting to Ginger Meggs fire trail Hornsby	Thornleigh	2026	21
Great North Walk – Upgrade Bushwalking entrance from Thornleigh Oval and trail to the National Park Boundary	Thornleigh	2024	22
New Farm Road Bushland – Upgrading existing informal pedestrian links through bushland reserves	West Pennant Hills	2024	23
Westleigh Park Bushwalking Track – Provide a new bushwalking trail adjacent to the new future sports ovals	Westleigh	2024	24
Larool Creek Track to Westleigh Park link – Upgrading and connecting existing informal pedestrian links through bushland reserves	Thornleigh	2026	25
Quarter Sessions Road Lookout – Upgrade access track and construct viewing platform	Westleigh	2021	26
Byles Creek – Provide a new bushwalking trail by upgrading existing informal links and connecting to trail network	Pennant Hills – Beecroft	2024	27

