

Waitākere Ranges Greenways

Adopted Plan October 2019



Cover page: Project Twin Streams, Henderson Valley. taken by Esther Hjelmstrom, 2013.

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Figure 1. Titirangi Village. Auckland Council Stock Photo, 2014.

1.0 Introduction

Waitākere Ranges Greenways



Figure 2. Glen Eden Town Centre. Auckland Council Stock Photo, 2014.

1.1 Purpose of the document

Purpose

This document defines the long-term 'greenways plan' for the Waitākere Ranges Local Board area. This is a visionary and guiding document intended for use by elected members, Auckland Council and Council Controlled Organisations (CCO), community and volunteer groups, private developers and other interested parties.

Visionary document

Greenways plans are being developed throughout the world, with Portland, Oregon being one of the most successful and well advanced. More recently, London developed a greenways strategy, which was partially implemented in time for the 2012 Olympic Games. Auckland's greenways plans are a series of linked, visionary plans being driven from the 'ground up' by local boards with the long-term aim of greatly improving walking, cycling and ecological connections across the region.

Guiding document

Following each local board's adoption of their greenways plan, Council's Community Policy and Planning unit will develop Open Space Network Plans for each of the local board areas. Each greenways plan will guide and ultimately become one 'chapter' of the Open Space Network Plan. The network plans will sit under the Open Space Strategy, providing high level direction for improvements to the open space network, specific to each local board area.

1.2 Strategic fit

Links to the Auckland Plan

The Auckland Plan sets council's long-term strategic direction, and sets out a vision to create the world's most liveable city. It provides an opportunity for integrated planning to improve transport, environmental protection, land uses, housing growth and economic development, with the benefits of one authority responsible for all coordination.

The Waitākere Ranges Greenways Plan corresponds to priorities and directives in a number of chapters in the Auckland Plan, including:

- Outcome: Belonging and participation
- Outcome: Homes and places
- Outcome: Transport and access

- Direction 1: Better connect people, places, goods and services
- Direction 2: Increase genuine travel choices for a healthy, vibrant and equitable Auckland
- Focus area 4: make walking, cycling and public transport preferred choices for many more Aucklanders.

Links to other initiatives

In developing this greenways plan, a number of related Council and non-Council initiatives have been investigated and - where possible - included in the network:

- former Waitākere City Council plans and current Auckland Council documents such as the Auckland Plan;
- the Waitākere Ranges Local Board Plan 2017;
- Waitākere Ranges Foothills Walkway Investigation Report (WCC, 2010)
- Oratia Masterplan;
- Glen Eden Town Centre Implementation Plan 2013;
- New Lynn to Waitākere Shared Path Investigation, Final Draft - September 2015
- Waikumete Cemetery Reserve Management Plan - Part 1 and Part 2 (May 2015)
- Regional Park Management Plan for the Waitākere Ranges;
- Waitākere Ranges Heritage Area and the Waitākere Ranges Protection Society;
- New Zealand Transport Authority (NZTA) developments;
- Watercare projects and local stormwater improvement/stream restoration projects;
- the Auckland Cycleway Network (ACN), prepared by Auckland Transport (AT);
- walking school bus routes;
- Walkway and cycling projects; Henderson Valley – Mountain Road footpath, West Coast Road shared path (Oratia School to Parrs Park), Parrs Park-Sunnyvale Train Station, Captain Scott Road upgrade (including cycle lane), Swanson walkway (Perris Rd, Seibel Reserve), Little Muddy Creek Walkway (Rimutaka Road section, Laingholm)
- initiatives currently underway or proposed by local community and/or ecological restoration groups
- Local area plans for: Oratia, Waiatarua, Henderson Valley/Opanuku and Muddy Creek
- Te Kawerau a Maki Claims Settlement Act 2015
- Auckland Council's Maori Language Policy
- Regional Pest Management Plan
- Auckland Council Weed Management Policy
- Kauri dieback protocols

Waitākere Ranges Local Board aspirations

Each Local Board plan is a reflection of what elected members have heard from their community. Feedback gained both formally and informally has been instrumental in shaping these plans, and they provide a touchstone for the aspirations of each area's community.

The development of a greenways plan delivers on a key initiative from the Waitākere Ranges Local Board Plan (2014). In 2017, a new local board plan was adopted which aims to take this forward.

Waitākere Ranges Local Board Plan (2017)

Outcome 6: Our community spaces, parks, sports and recreation facilities meet local needs and are easy to get to.

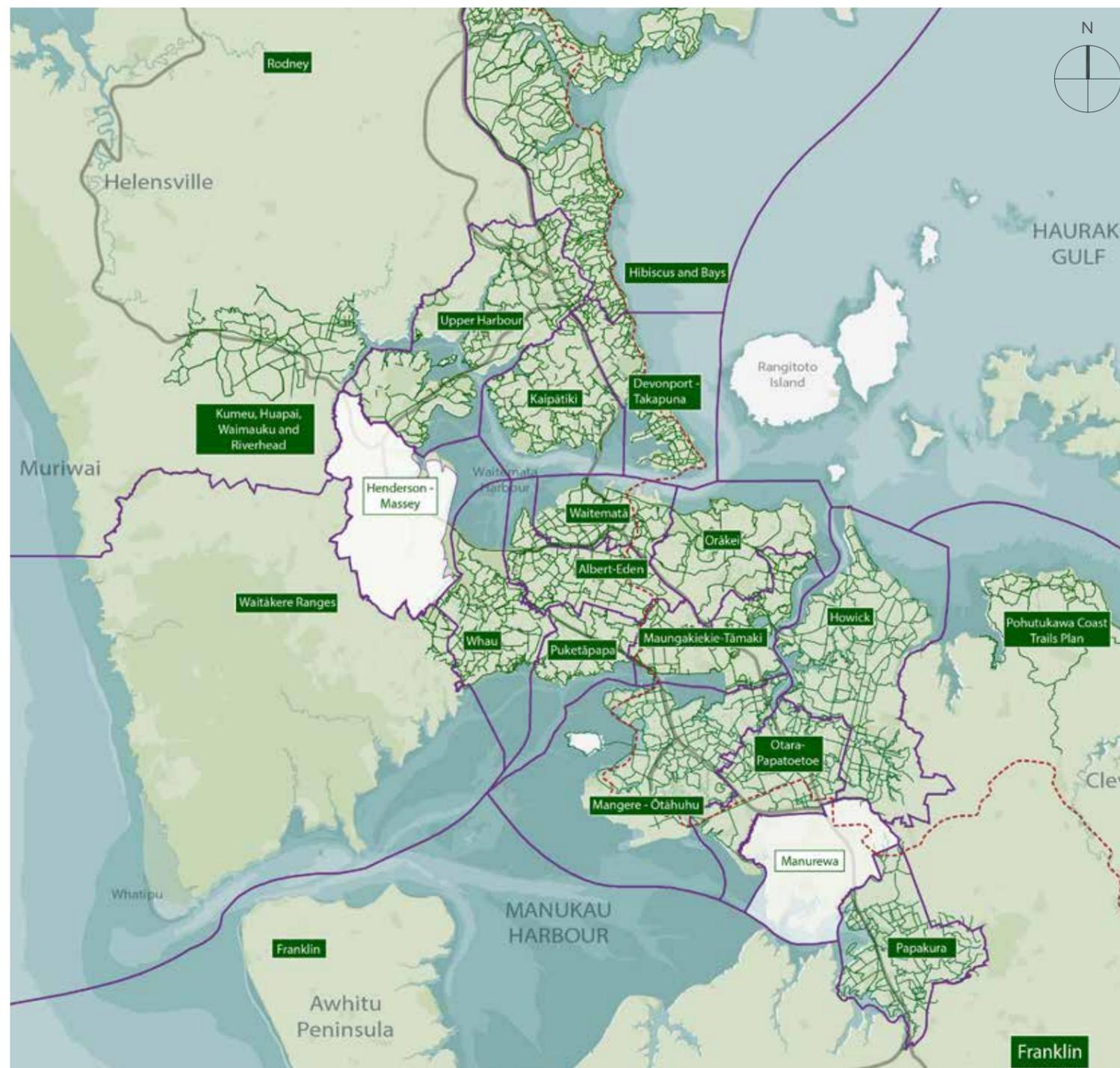
People are always interested in getting from A to B for work or for pleasure. Building a local walking and cycling network is a slow process but a worthwhile one, and we want to encourage people to use our pleasant walk and cycle ways. Where it is financially practicable, we will make targeted improvements to streetscapes. Where it is not, we will work to influence Auckland Transport to prioritise those improvements.

Access to local and sports parks, quality gathering and resting spaces, and good transport, walking and cycling connections is vital for good urban living. We want people to have access to green space, and connections between suburbs that support freedom of movement without the car.

Outcome 6: Our community spaces, parks, sports and recreation facilities meet local needs and are easy to get to.	
Objective	Key initiatives
Our public spaces are great places for people to meet.	Carry out targeted, small infrastructure projects which enhance streetscapes and parks
	Publicise our pleasant urban walk and cycleways.
	Develop linked trails through Glen Eden and Titirangi to enable people to get around and exercise in attractive offroad settings
	Improve rural walkways for pedestrians.



Figure 3. Glen Eden Train Station. Auckland Council Stock, 2014.



1.3 What is a 'Greenways Plan'?

The broad aim of a greenways plan is to provide cycling and walking connections which are safe and enjoyable, while also improving local ecology and access to recreational opportunities. To achieve this, greenways may cross existing areas of parkland, and follow street connections: between parks. The network typically follows natural landforms such as streams and coasts as well as man-made features such as streets and motorways.

Implementation of the greenways plan will better connect Waitākere Ranges to the neighbouring Rodney, Henderson-Massey and Whau Board areas and connect to regional walking/cycling proposals for the greater Auckland region. The adjoining map shows other greenways plans either under development or adopted by participating local boards. Each board sets their own greenways definition for their respective areas, based around a common aim.

Greenways also encourage opportunities for ecological restoration as they often align with streams and other natural areas. There are many organisations in the area which are dedicated to improving the natural environment and particularly the streams. In addition to the broader environmental benefits, as the greenways are restored ecologically, their natural beauty will return. This will encourage more people to use, be proud of, and care for their neighbourhood network of greenways, increasing their ongoing stewardship.

Legend:

not to scale

- local boards with a greenways plan (where routes are shown, the plan has been adopted)
- other local board areas (note some of these have an Open Space Network Plan, which includes a Greenways chapter)
- Te Araroa (New Zealand's trail)
- local board boundaries
- Planned greenways routes (refer to individual plans for details)

1.4 Waitākere Ranges Greenways Plan Objectives

The Waitākere Ranges Greenways Plan seeks to create a network of greenways that will provide safe and enjoyable means for people to get around, get active, and get engaged with the community and their environment. The objectives of the Waitākere Ranges Greenways are to:

Objectives

- provide walking connections to the track and trail network in Waitākere Ranges Regional Park, in accordance with the RPMP 2010, Section 17.19
- extend and link to existing walking and cycling connections such as the Twin Streams shared path
- connect communities/neighbourhoods to key destinations such as local centres, transport nodes, sports parks and reserves, schools
- encourage physical activity and their associated health benefits by planning for a range of routes suited to fitness level and mobility (i.e selecting less vehicle trafficked / greener minor streets)
- progress the planning of walking and cycling connections in areas such as Swanson village and Oratia
- embrace our cultural heritage by referencing via signage interpretation (where appropriate) local stories along the greenway routes via naming and signage
- maximise vistas and views from and to the Waitākere Ranges
- investigate and catalyse ecological connections across the diverse range of habitats in our parks, reserves and waterways
- ensure support and stewardship continues by working with community and educating visitors to respect and protect our natural and historical environment
- encourage greater use of under utilised parks and reserves i.e pocket parks
- investigate potential bridle trails
- creating safe routes in alignment with Crime Prevention Through Environmental Design guidelines (CPTED)
- cultural enhancement
- connect people to the natural environment and provide the opportunity for ecological restoration such as weed control and native planting.

1.5 Waitākere Ranges Heritage Area

The Waitākere Ranges Heritage Area (WRHA) spans approximately 27,700ha of public and private land located between metropolitan Auckland and the coast of the Tasman Sea (to the west), the Manukau Harbour coastline to the south and the Waitākere Valley to the north. The area includes the Waitākere Ranges, foothills and coastal areas.

The Purpose of the Waitākere Ranges Heritage Area Act 2008:

The Waitākere Ranges Heritage Area Act 2008 established the Waitākere Ranges Heritage Area ('the heritage area') and has as its purpose (ss3(1)(a)and (b)) to:

- recognise the national, regional, and local significance of the Waitākere Ranges heritage area
- promote the protection and enhancement of its heritage features for present and future generations.

The heritage features of the Waitākere Ranges Heritage Area include:

- ecosystems
- landscapes and landforms
- the subservience of the built environment to the area's natural and rural landscape
- the past and present human culture of the heritage area
- opportunities for wilderness experiences and recreation
- the regional park
- the water catchment and supply system.

1.6 WRHA Design Guides

There are several design guidelines for the Waitākere Ranges Heritage Area, including:

- WRHA design guide for local parks
- WRHA Foothills Design Guide
- WRHA Building in the Bush
- WRHA transport infrastructure design guidelines.

1.7 Kauri dieback

Kauri dieback survey

Kauri trees are under threat from kauri dieback disease (*Phytophthora agathidicida*). To ensure the survival of our native kauri trees, we are taking significant steps to prevent the spread of kauri dieback. We conduct regular surveys to check the state of our kauri. In recent years, we have had surveys at:

- Waitākere Ranges Regional Park (2011, 2016)
- Hunua Ranges Regional Park and Āwhitu Peninsula (2012, 2017)
- Hauraki Gulf islands (2013)
- our local parks across Auckland (2014)
- northern regional parks (2015).

Waitākere Ranges rāhui

In December 2017, mana whenua Te Kawarau ā Maki placed a rāhui over Te Waonui-a-Tiriwa, the forested areas of the Waitākere Ranges. The rāhui prohibits people from entering the area in order to preserve the environment until kauri dieback is under control.



Cleaning station with sterigene and scrub brush at Arataki Visitor Centre, Waitākere Ranges Regional Park 2018. Auckland Stock Photo.

Regional park response

The Environment and Community Committee voted to close the forested areas of the Waitākere Ranges Regional Park to prevent the spread of kauri dieback disease as of 1 May 2018. There are some exceptions in this area that are open under a Controlled Area Notice.

Local park response

In April 2019 Waitākere Ranges Local Board temporarily closed tracks in a number of reserves around the Waitākere Ranges Local Board area to protect healthy trees from kauri dieback. A number of campgrounds in the Waitākere Ranges have also been closed.

For the latest on kauri die back in the Waitākere Ranges, visit www.aucklandcouncil.govt.nz, search Kauri die back.



Waitākere Ranges Regional Park - Open tracks map (updated 09.08.19). For an up to date track list go to the Auckland Council home page and search 'kauri die back'.

1.8 What the greenways might look like

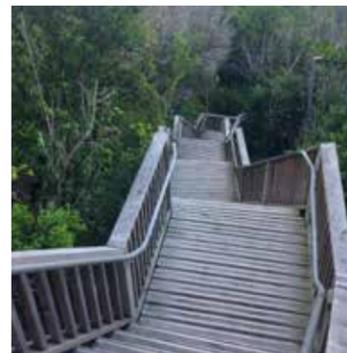
The appearance of the greenways network will vary depending on its location, as the nature of each greenway connection shall adhere to the site character or permitted activity in the area. This will ensure protection of the historical, cultural and natural environment, particularly in the context of the Waitākere Ranges Heritage Area.

There will be variance in the surface treatment, slope gradient, width and the surrounding planting. The images opposite illustrate what the greenways could look like in a variety of settings - and these settings include:

- footpaths and/or shared paths within reserve settings
- quiet neighbourhood streets with techniques used to slow traffic speeds (eg planted buildouts and sharrow)
- alleyways and other urban street to street connections (rear lanes etc)
- commuter connections (main routes such as the railway corridor, twin streams extensions and ACN routes within the road corridor)
- Paper roads (i.e Parris Road) which offer a 'pastoral countryside setting' and potential bridleways
- heritage trails (often walking only, due to grade and surfacing/width)
- tracks (including off-road vehicle routes – cycling provision may be feasible here)
- esplanade reserve, beach or grass (informal desire lines)
- connections through private land (gazetted walkways via the Walking Access Commission).

Due to the ecological/landscape and heritage significance of this area, the Local Board have stated some additional design criteria that must be considered in the design of any greenway project:

- surfaces need to be sympathetic to the surrounding environment (this means that impervious surfacing may not always be used)
- include where possible opportunities for edible gardens, showcasing edible native plants and herbs with education around harvesting
- consider educational and/or interpretation panels
- Where streamwork is included, daylighting is to be encouraged/supported, and culverting avoided. If bridges are included, their design shall be ecologically friendly, noting that streams are of special significance in this area.



4	5	6
7	8	9
10	11	12

FIGURE LEGEND:

Figure 4. Slip Track, Waitākere Ranges, 2013.

Figure 5. Informal grass track, Comans Track, Karekare, 2012.

Figure 6. Swales alongside road network, New Lynn, 2012.

Figure 7. Twin Streams shared path, Henderson Valley, 2013.

Figure 8. Gravel track in road reserve used for bridleway, Whitford, 2014.

Figure 9. Art in pathway at Twins Streams Walk/Cycleway, West Auckland, 2013

Figure 10. Landing Road Walkway, South Titirangi, 2013.

Figure 11. The Zig Zag Track, 2013.

Figure 12. Wide gravel pathway Arataki Visitor Centre, 2013.

Network benefits

There are many benefits from developing a network of greenways, including:

Recreation

Improving people's access to outdoor recreation and enjoyment close to their home;

Environmental

Reducing our reliance on fossil fuels by providing attractive and safe alternative transport choices, improving water quality and reducing flooding events through low impact design (LID) measures, and by enhancing ecosystems, habitat sources and ecological niches;

Social

Providing improved opportunities for people to get out of their cars and meet their neighbours, to be engaged with a diverse range of communities and to be connected with local community facilities;

Health

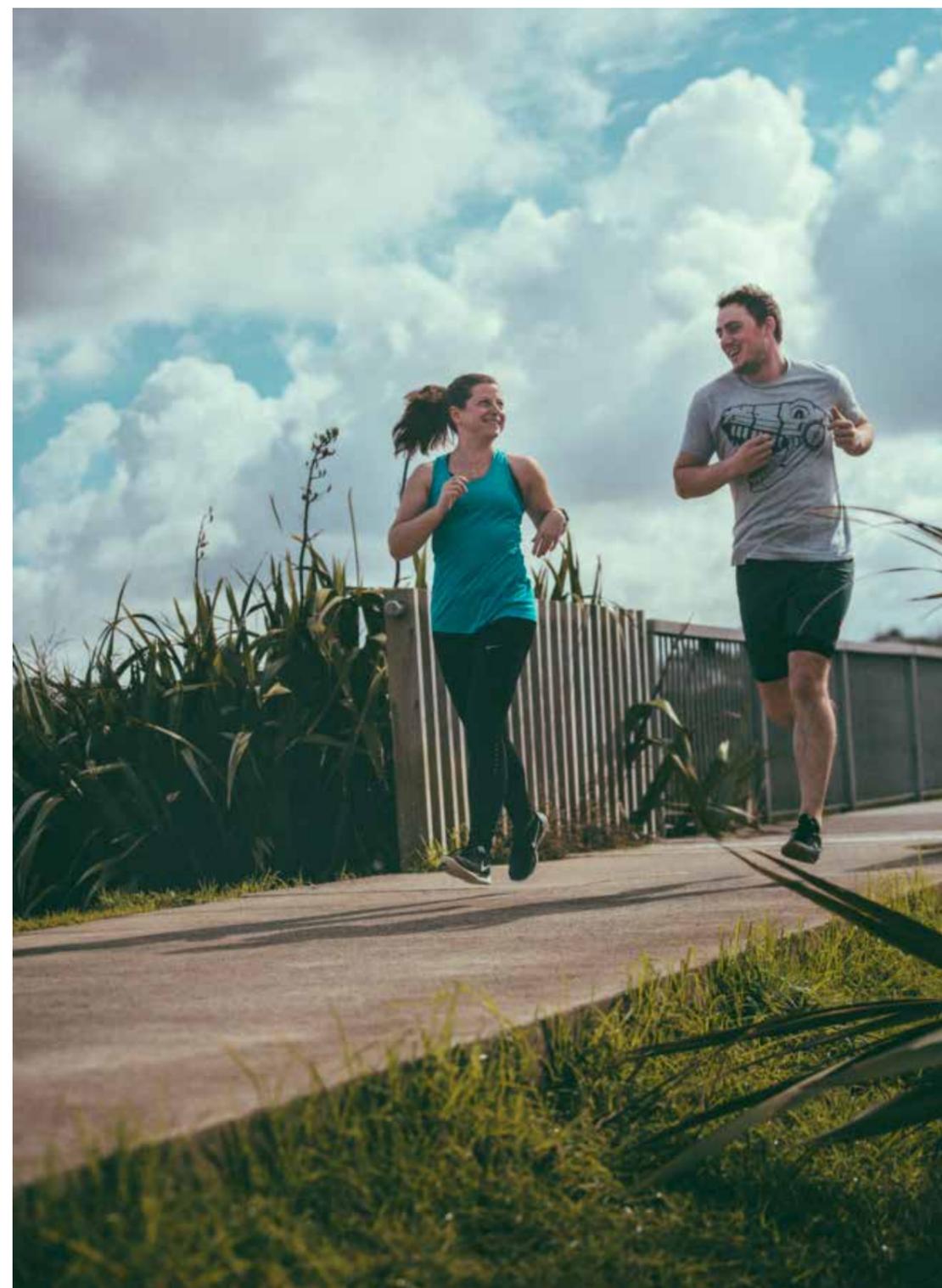
Providing improved opportunities for activity and fitness;

Education

Providing opportunities to learn about the vegetation, wildlife, ecology, history and people of the landscapes that they pass through; and

Economic

High-performing greenways can create improved local employment opportunities as areas become more desirable for businesses and shoppers. Greenways can also provide a tourist destination for international and national visitors.



Joggers, 2017. Auckland Stock Photo.

1.9 Greenways Design Guide

The Local Path Design Guide (prepared for Auckland Transport 2016) provides guidance as to the 'look and feel' of different types of greenways routes, with regard to slope, materials, widths and other design considerations. This diagram, taken from the Local Path Design Guide illustrates local paths (or greenways as they are referred to in this document) within the context of other movement networks.

An important distinction in the design guide is that made between greenways and primary commuter cycling links, the primary cycle network will provide safe cycle routes along busy and 'direct' streets. Commuter routes tend to be focused on higher speed, longer distance travel between major destinations such as employment centres or public transport interchanges. Local paths or greenways by contrast, consist of quiet streets and paths through parks, and are intended to provide recreational opportunities, and extend the usefulness of the core cycle network. They play an important role in the active transport network, by safely connecting people to local destinations such as schools, town centres, public transport stops, community facilities and recreation spaces.



Figure 13. Positioning Local Paths in Auckland's Walking and Cycling Network, Local Path Design Guide.



Greenway - Street

Greenways on streets are designed to create safe and pleasant neighbourhoods that encourage walking and cycling for local trips. Pedestrians are accommodated on footpaths and streets are safe enough to walk on. Traffic calming tools, pavement markings and signage are used to improve safety for all street users, particularly cyclists.

Vehicle Volume (ADT)_ 1,000 ideal, 1,500 max
Vehicle Speed (km/h)_ 30 - 40
Arterial Road Crossings_ 50 - 100 per hour
Accessibility + Safety_ Ministry of Justice 7 Qualities of Safe Spaces
Green Infrastructure_ Impervious surface 70-90% / Tree canopy coverage greater than 30 - 40%



Greenway - Open Space

A Greenway through a park or open space is a path for cyclists and pedestrians that can be either separated or shared. Together with the Greenways on streets, they are designed to create linkages to local centres, parks, and schools as well as between primary paths. Greenways in open space provide opportunities to enhance ecological linkages and improve water quality.

Vehicle Volume (ADT)_ N/A
Vehicle Speed (km/h)_ N/A
Arterial Road Crossings_ N/A
Accessibility + Safety_ 20 km/h design speed / 20 metre sightlines and stopping distance
Green Infrastructure_ Tree Park: Continuous canopy with grass and assorted low level planting



Primary Path

Primary paths are designed to create direct links to regional and local centres. Pedestrians are accommodated on footpaths. Cyclists are accommodated on separated paths and/or preferential use on streets. Off street primary paths typically accommodate pedestrians.

Vehicle Volume (ADT)_ 1,500 +
Vehicle Speed (km/h)_ 40 - 60
Arterial Road Crossings_ 50 - 100 per hour
Accessibility + Safety_ Ministry of Justice 7 Qualities of Safe Spaces
Green Infrastructure_ Impervious surface <90% / Tree canopy coverage greater than 30 - 40%



Recreational Trail

A recreational trail is a shared path designed for recreational cycling, walking and equestrian. While they may form part of a person's commute or daily trips, they are not intended to create a connection between destinations. Recreational trails often run in loops.

Vehicle Volume (ADT)_ N/A
Vehicle Speed (km/h)_ N/A
Arterial Road Crossings_ N/A
Accessibility + Safety_ 20 km/h design speed / 20 metre sightlines and stopping distance
Green Infrastructure_ Park land / water system / self regenerating forest



Figure 14. Glen Eden, Harold Moody Reserve in the foreground. Auckland Council Stock Photo, 2014.



1.10 Auckland Context

The Waitakere Ranges Local Board area is dominated by the Waitakere Ranges Regional Park, but takes in the foothill suburbs of Swanson, Glen Eden and Titirangi, as well as a number of smaller townships such as Oratia, Piha, Karekare and Waitakere. This map shows the Board area within its wider regional context, sitting some 25km west of Auckland's CBD. It is bordered by the Rodney, Henderson-Massey and Whau Local Board areas to the north and east, with the Tasman Sea to the west and Manukau Harbour to the south.

Broader Transport Connections

This area is unusual in that it is not serviced by many of the main transport methods, such as highways or ferries, although a small section of the Western Rail Line runs through Glen Eden and Swanson, before continuing out to Kumeu. The rail line is of interest, as it has potential to bring tourists into the area, while also providing potential greenways routes along its margins. The lack of any motorway connections means that this Local Board area does not have to contend with the 'community severance' issues that motorways can bring.

Broader ecological connections

This area houses one of the largest forested areas in the Auckland Region, and has been described as the 'lungs of the city'. As such it is of critical importance to our native flora and fauna. This is reflected by its position in anchoring the Northwest Wildlink - a network of forested areas being created between the Ranges and the Hauraki Gulf Islands.

Beyond this, there are further ecological connections along the west coast to the north - via Woodhill Forest to South Head, and south to the Manukau Harbour {food source for many birds, and on across to the Awhitu Peninsula.

Broader walking connections

This area sits outside of the Te Araroa national trail, but does include the majority of the Hillary Trail - a 77km walking route which takes in many of the area's well known beaches and scenic locations. There are opportunities for the greenways plan to feed people into this established route. At a more local level, there are opportunities to extend and link in with Project Twin streams (shown on the adjacent map, and also the planned Te Whau Pathway (Whau Local Board), which will become an extensive series of trails and boardwalks around the Whau Inlet (construction phased over the upcoming five years).

LEGEND:

not to scale

- | | | |
|------------------------------|---|---|
| Waitakere Ranges Local Board | railway | Te Araroa (New Zealand's trail) |
| park and reserve land | network of walking and cycling trails (as shown in the Auckland Plan) | Te Whau Pathway (Whau and Henderson Massey Local Board areas) |
| state highway network | Hillary Trail | Project Twin Streams |



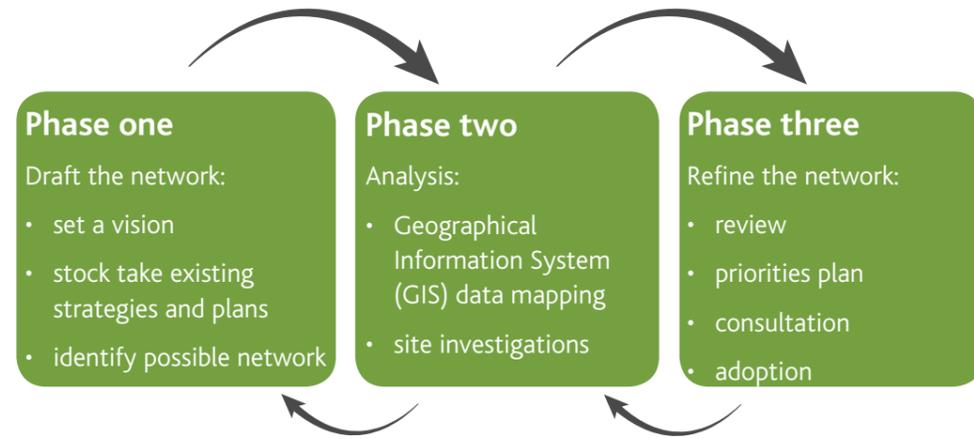
Figure 15. View of French Bay, Auckland Council Stock Photo, 2012.

2.0 Methodology

Waitākere Ranges Greenways

2.1 The process

The Waitākere Ranges Greenways Plan was developed using a three-stage process, with feedback loops, as outlined below:



Phase one - draft network

As a first step previous studies and planning documents relevant to the area were collected and reviewed. The Waitākere Ranges Local Board Plan (2014) was reviewed to gain an understanding of both the strategic vision of the community and also its planned projects. After this, a definition for the Waitākere Ranges Greenways was discussed and agreed with the Waitākere Ranges Local Board and a 'working party' set up, which met regularly to review the plan as it developed.

Next a desktop study was carried out to draft a 'high-level' network, proposing walking and cycling connections between existing parks, open spaces, streets and community facilities. Potential ecological improvements were also considered looking at linking areas of existing vegetation, existing significant vegetation and streams/rivers. These desktop studies gave an understanding of the broad landscape patterns within the Waitākere Ranges Local Board area and were used to guide phase two of the process, where the network was 'ground-truthed'.

This 'desktop' plan was taken to the working party for review prior to undertaking site investigations, to ensure that it was aligned with the Waitākere Ranges Local Board's aspirations and objectives for the project.

During this phase, discussions were held with Auckland Transport and other Council officers to inform them of the project and to understand linked policies or projects that would affect the Greenways Plan.

Phase two - analysis

The draft network plan was next assessed on site to be 'ground truthed'. This process involved an analysis of the existing site conditions - including topography, vegetation cover, existing asset condition, CPTED (Crime Prevention through Environmental Design) principles, utility service locations and the layout of roading corridors.

The connections were sighted and evaluated and a photo-record taken. Some connections were found to be inappropriate (where there wasn't enough space for a connection, the connection was unsafe, the terrain was too steep, or a higher amenity alternative was found) and the draft network was updated accordingly.

Following this 'ground-truthing' the route was overlaid with other GIS data to ensure that the network made appropriate connections to 'destinations', such as schools, community facilities and transport nodes.

Phase three - refine the network

Following the analysis phase, the Waitākere Ranges Local Board, and Council officer 'working party' reviewed and updated the proposed greenways routes. The draft plans were then presented to key stakeholder groups and the wider public to obtain feedback, and the routes modified to reflect this feedback.

Finally, the agreed network was analysed to determine the initial suite of 'priority sections'. The Waitākere Ranges Greenways Plan is a long-term project to be developed over the next twenty years, and prioritising certain routes help the Board focus on delivering sections of the plan within its three year term. Priority sections are based on their costs, benefits, constraints, timing and opportunities.

Summary of Consultation

Public feedback on the plan was invited in May 2018. A total of 41 submissions were received with most coming from people living in Oratia (16), Henderson Valley (6) and Glen Eden (5), Titirangi (2), and Laingholm (2).

Swanson School, Oratia Heritage Society, South Titirangi Ratepayers and Residents Association, Laingholm and District Citizens Association, Waitakere Ranges Protection Society, and Glen Eden Bowling Club all provided feedback.

Key themes included:

- Parker Road connection to Arataki Visitor Centre
- design of paths, particularly in the Waitākere Ranges Heritage Area
- environmental outcomes, like avoiding sensitive areas
- kauri dieback
- pedestrian safety on rural roads
- use of non-council land / private property
- implementing the plan and priorities
- places people want to go to

The greenways plan is intended to be a living document. The Waitākere Ranges Local Board, Auckland Council and its agencies continue to hear from people and organisations wanting it to be easier and safer to walk and cycle in their communities. The plan will continue to evolve over time.

2.2 Partnership with iwi

Conversations with local iwi will be ongoing on a project by project basis, as individual routes are funded and developed. At a more detailed phase, opportunities for whakapapa (naming), mahi toi (creative expression) and ahi ka (living presence) can be explored. Through creation of this plan, iwi have indicated support for the proposed improvements to stormwater and ecology (taiao/mauri tu - natural environment and environmental health) that greenways aim to deliver, and have particular interest in the approach to weed management, ecological restoration and protection measures against kauri dieback. Iwi have stated that all physical works should be clear of archaeological sites and sites of significance to Mana Whenua.

Waitākere Ranges rāhui

In December 2017, mana whenua Te Kawarau ā Maki placed a rāhui over Te Waonui-a-Tiriwa, the forested areas of the Waitākere Ranges. Since the council closed much of the regional park, and some local park tracks, there has been ongoing korero.

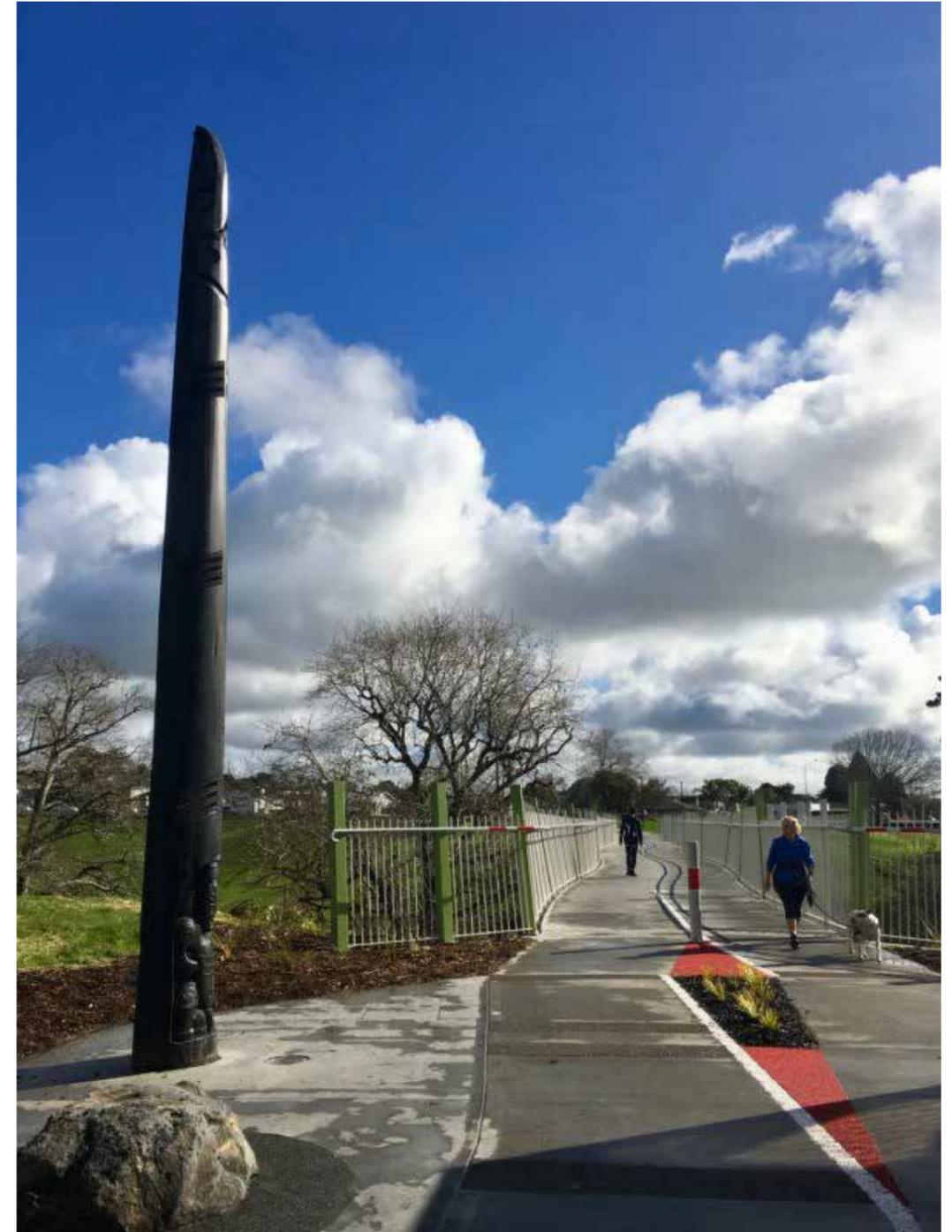


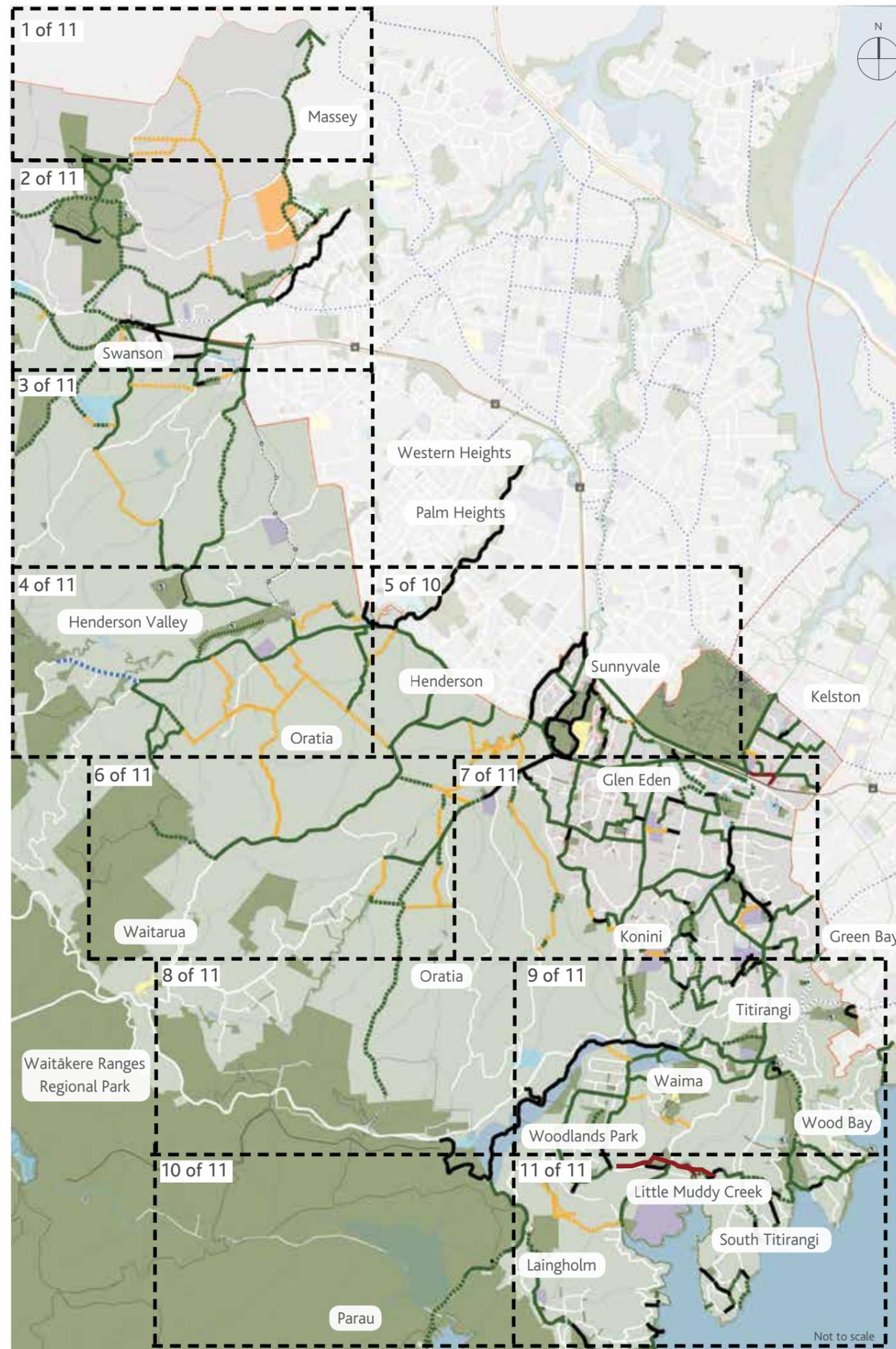
Figure 16. Pou whenua by Katz Maihi at the new walking and cycling bridge over Te Auaunga/ Oakley Creek. Photo by Bike Auckland.



Figure 17. Huia Dam, looking north. Auckland Council Stock Photo, 2012.

3.0 Greenways Mapping

Waitākere Ranges Greenways



3.1 Waitākere Ranges Greenways

Introduction

The Waitākere Ranges Greenways network as shown on this map has been divided into eleven maps over the following pages to allow the information to be shown at a larger scale.

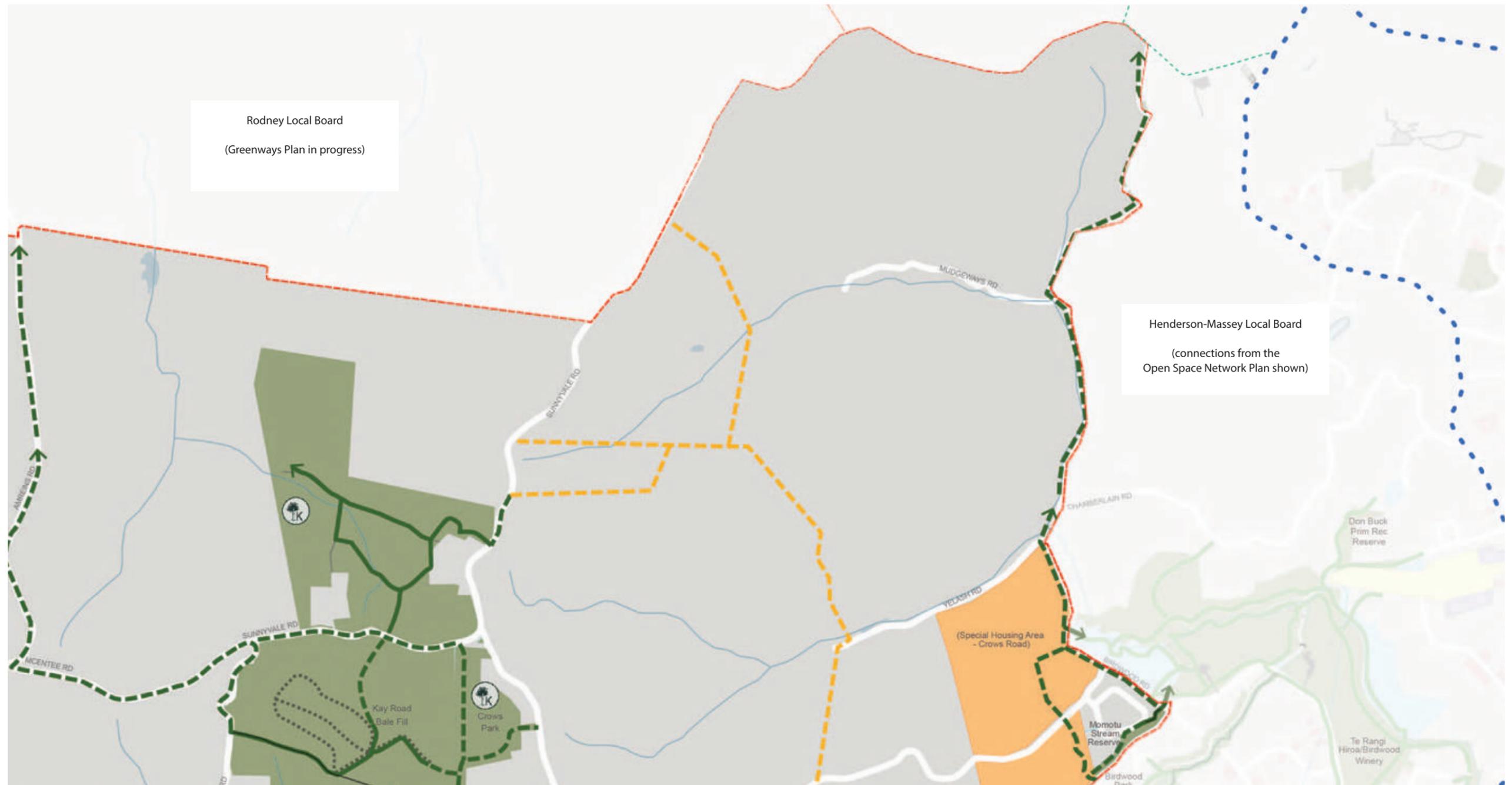
The maps include routes which have existing walking and/or cycling provision but that could be improved and/or promoted as greenways, as well as proposed routes where there is currently no walking or cycling provision (mainly around the coast or in the Waitākere Ranges Regional Park). The proposed network is an aspirational vision, and will be reviewed on a regular basis as priority routes are developed, and as other related projects are completed.

Also shown on the maps is the draft Auckland Cycling Network (ACN). It is worth noting that the greenways often overlap with the ACN's routes, and there are currently discussions with Auckland Transport (AT) as which routes will form part of the 'greenways' network, and which will remain solely for cycle provision. Where the ACN traverses busy roads, greenways outcomes are unlikely to be achievable, due to traffic volumes/speed and competing demands on the space within the road corridor. The feeder routes of the ACN are most likely to be greenways. These routes are usually on low traffic volume, 'minor' streets or in open spaces.

It is also of note that the ACN is currently in draft, and a process to better align and add to the feeder routes as shown on the various Local Board's Greenways Plans is currently underway. It is intended that both the ACN and the Greenways Plans are 'live' documents, which will be updated at regular intervals.

The maps also show key destinations that greenways in this area may connect to. These include schools, parks, major transport nodes and community facilities. Where proposed connections occur across Ministry of Education, Housing New Zealand, NZTA or other non-council properties, easements or other agreements would need to be negotiated during the detailed route assessment phase, on a project by project basis. If these negotiations cannot be concluded successfully, an alternate route would be selected.

Map 1 - Swanson to Massey (connections to Rodney and Henderson-Massey Local Boards)



LEGEND:

- local board boundary
- existing paths (standard footpath width)
- schools inc. public and private
- parks, reserves and open spaces
- Waitākere Ranges Heritage Area
- Special Housing Area
- Crown/Council land (not zoned open space)
- Housing New Zealand land
- Watercare land

Draft ACN (by Auckland Transport)

- - - feeder routes (within parks)
- - - connector routes (arterial routes)
- - - metro routes (rail corridor)
- AT path or cycleway upgrade projects (Mountain Road and Captain Scott Road)

Greenways connections (cycle / walk)

- proposed greenways route (on existing path)
- - - proposed greenways route (new connection - no current path shown exists)
- greenway by neighbouring local board (out of Waitākere Ranges Greenways scope)
- connection via non Council land (Indicative Public Walkway Linkages' from: Swanson Structure Plan Appendix XIII (access or easement required))
- - - Waitākere Ranges Foothills Walkway (access or easement required through private land sections)
- G Priority connections
- existing walkway / cycleway shared path

Walking only connection

- - - proposed or existing informal track to form greenways route (existing low tide route, informal track or beach walk are unlikely to be upgraded to greenways width / surface, in this case the connections are seen as a destination)
 - - - existing track or trail
- Please note: Recreational cycling and mountain biking is not permitted in the Waitākere Ranges under 13.3.4 in the Regional Parks Management Plan, with the exception of Exhibition Drive and the Beveridge Track in the Titirangi / Waima area.*



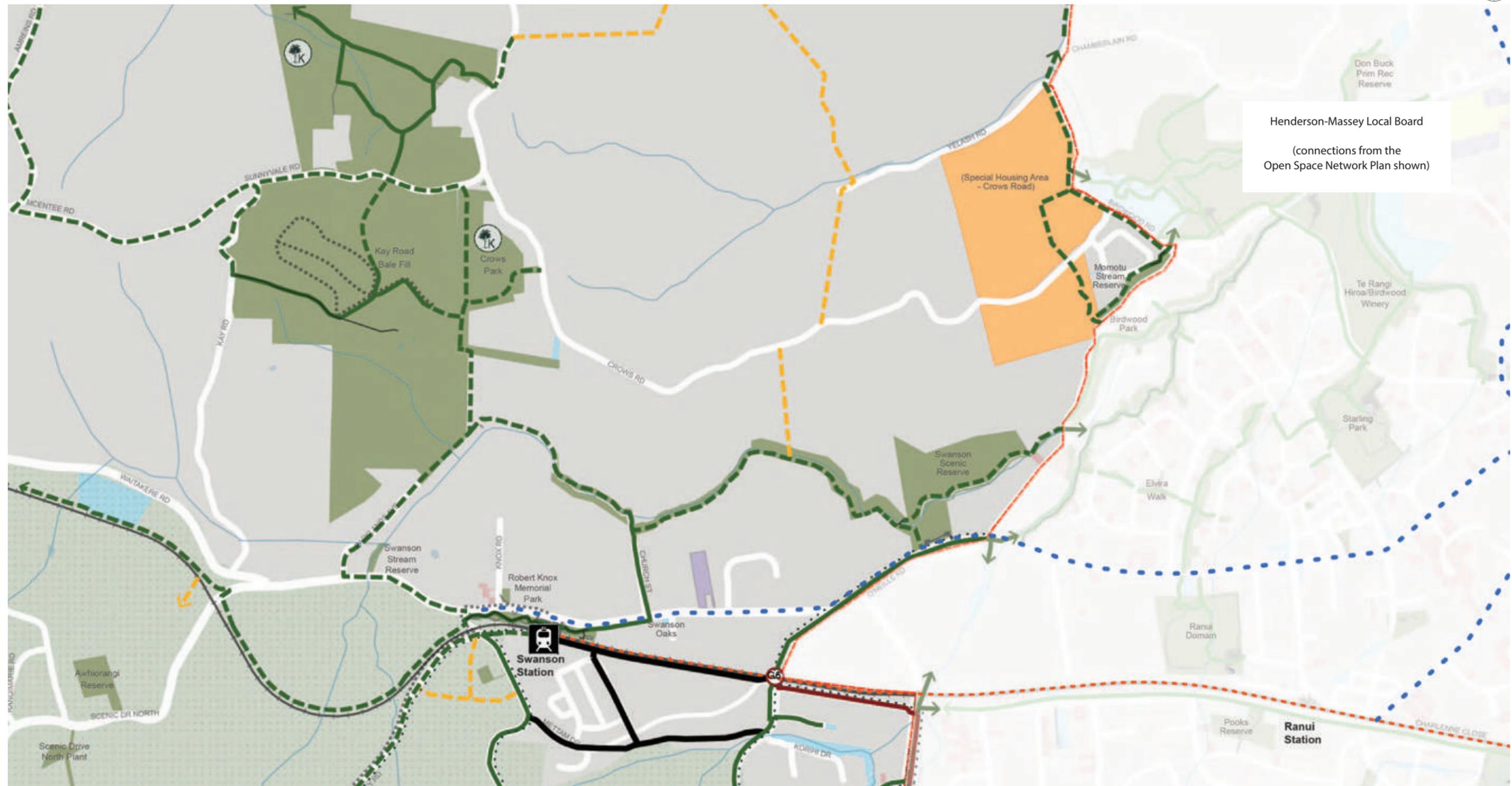
This symbol denotes that kauri (*Agathis australis*) are present in the reserve or park. Restrictions to access may apply, refer to the Auckland Council website, keyword 'kauri' for update information.

Note: This is an aspirational and 'high level' plan. Further investigation is required for each individual project, as the route may be influenced /modified by topography, vegetation, land ownership, timing of renewals funding and the like.

- map 1
- map 2
- map 3
- map 4 map 5
- map 6 map 7
- map 8 map 9
- map 10 map 11

Scale: 1:13,000 @ A3

Map 2 - Swanson (connections towards Rodney and Henderson Massey Local Board areas)



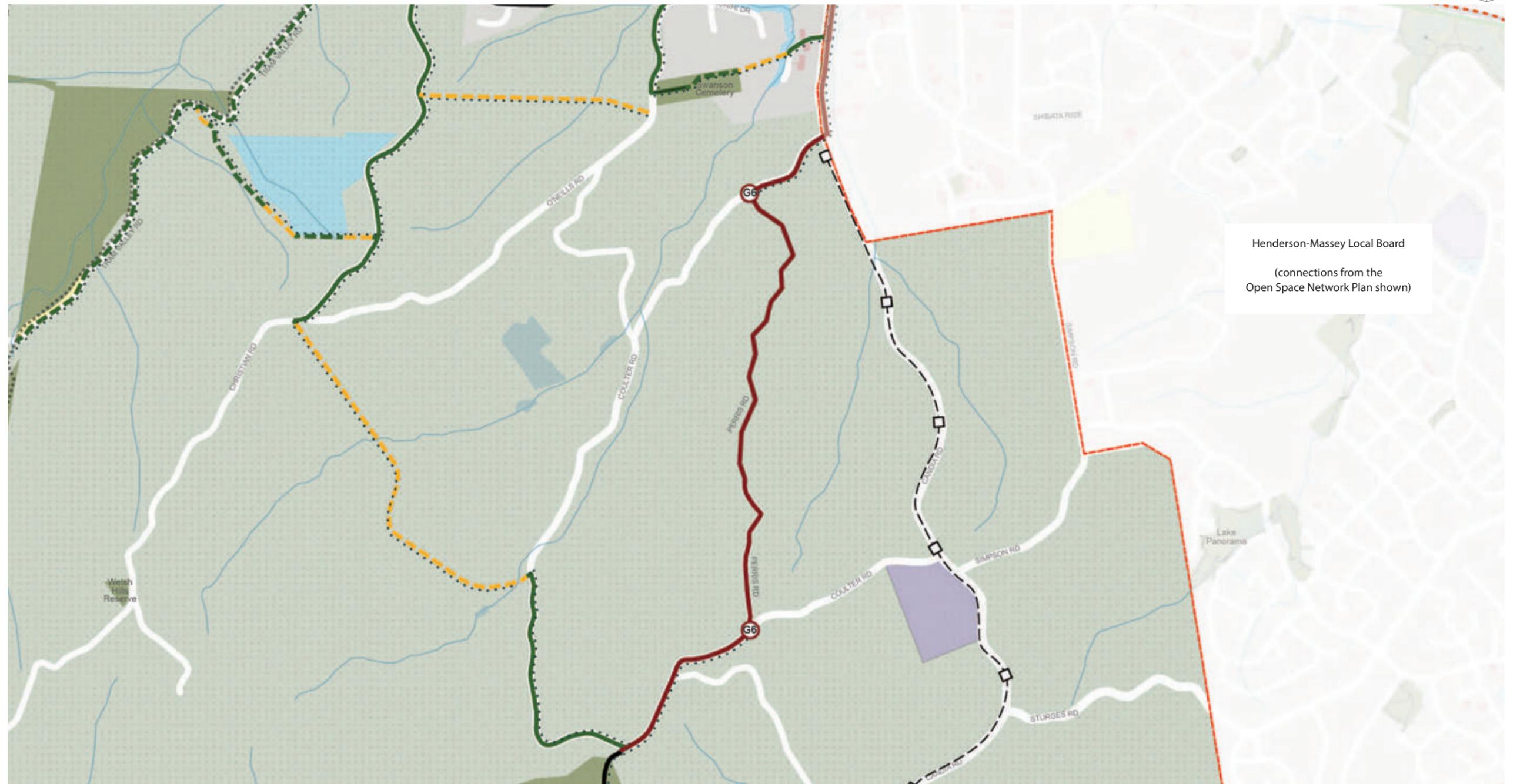
Henderson-Massey Local Board
(connections from the Open Space Network Plan shown)

LEGEND:

<ul style="list-style-type: none"> — local board boundary — existing paths (standard footpath width) schools inc. public and private parks, reserves and open spaces Waitākere Ranges Heritage Area Special Housing Area Crown/Council land (not zoned open space) Housing New Zealand land Watercare land 	<ul style="list-style-type: none"> - - - feeder routes (within parks) - - - connector routes (arterial routes) - - - metro routes (rail corridor) — AT path or cycleway upgrade projects (Mountain Road and Captain Scott Road) 	<ul style="list-style-type: none"> — proposed greenways route (on existing path) - - - proposed greenways route (new connection - no current path shown exists) — greenway by neighbouring local board (out of Waitākere Ranges Greenways scope) — connection via non Council land (includes connections from: Swanson Structure Plan Appendix III, and Penihana Urban Concept Plan (access or easement required)) - - - Waitākere Ranges Foothills Walkway (access or easement required through private land sections) G Priority connections — existing walkway / cycleway shared path 	<ul style="list-style-type: none"> - - - proposed or existing informal track to form greenways route (existing low tide route, informal track or beach walk are unlikely to be upgraded to greenways width / surface, in this case the connections are seen as a destination) - - - existing track or trail <p><small>Please note: Recreational cycling and mountain biking is not permitted in the Waitākere Ranges under 13.3.4 in the Regional Parks Management Plan, with the exception of Exhibition Drive and the Beveridge Track in the Titirangi / Waima area.</small></p>	<p>This symbol denotes that kauri (<i>Agathis australis</i>) are present in the reserve or park. Restrictions to access may apply, refer to the Auckland Council website, keyword 'kauri' for update information.</p>	<p>Scale: 1:13,000 @ A3</p> <table border="0"> <tr><td>map 1</td><td>map 5</td></tr> <tr><td>map 2</td><td>map 6</td></tr> <tr><td>map 3</td><td>map 7</td></tr> <tr><td>map 4</td><td>map 8</td></tr> <tr><td>map 9</td><td>map 10</td></tr> <tr><td>map 11</td><td></td></tr> </table>	map 1	map 5	map 2	map 6	map 3	map 7	map 4	map 8	map 9	map 10	map 11	
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Note: This is an aspirational and 'high level' plan. Further investigation is required for each individual project, as the route may be influenced /modified by topography, vegetation, land ownership, timing of renewals funding and the like.

Map 3 - Henderson Valley (connections to Western Heights, Palm Heights and Henderson-Massey Local Board)



Henderson-Massey Local Board
(connections from the Open Space Network Plan shown)

LEGEND: Draft ACN (by Auckland Transport) Greenways connections (cycle / walk) Walking only connection Other Scale: 1:13,000 @ A3

- local board boundary
- existing paths (standard footpath width)
- schools inc. public and private
- parks, reserves and open spaces
- Waitākere Ranges Heritage Area
- Special Housing Area
- Crown/Council land (not zoned open space)
- Housing New Zealand land
- Watercare land

- - - feeder routes (within parks)
- - - connector routes (arterial routes)
- - - metro routes (rail corridor)
- AT path or cycleway upgrade projects (Mountain Road and Captain Scott Road)

- proposed greenways route (on existing path)
- - - proposed greenways route (new connection - no current path shown exists)
- greenway by neighbouring local board (out of Waitākere Ranges Greenways scope)
- connection via non Council land (Includes connections from: The Waitākere Ranges Foothills Walkway, September 2010 and Unitary Plan Policy H20.3 (access or easement required))
- - - Waitākere Ranges Foothills Walkway (access or easement required through private land sections)
- G Priority connections
- existing walkway / cycleway shared path

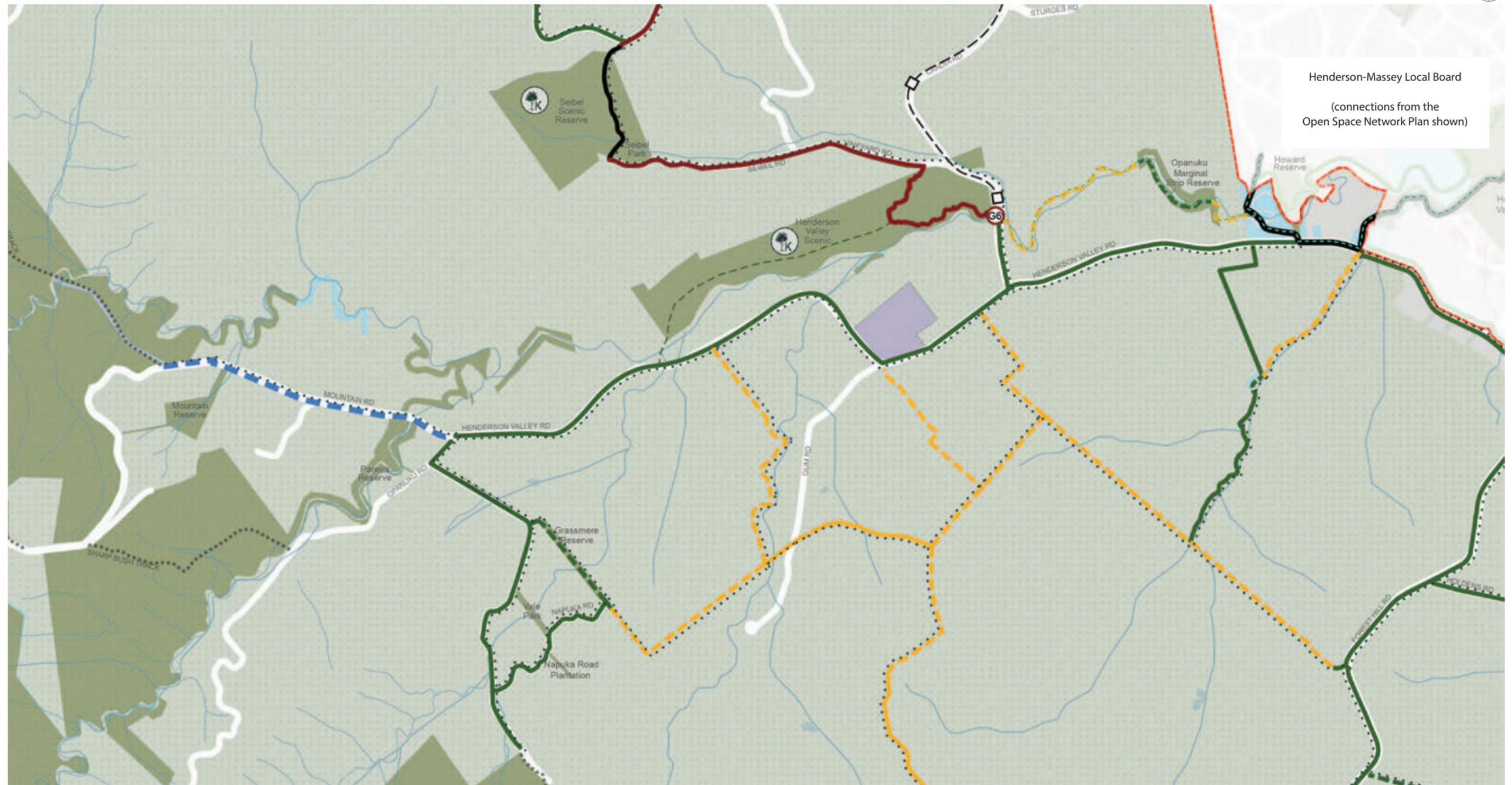
- - - proposed or existing informal track to form greenways route (existing low tide route, informal track or beach walk are unlikely to be upgraded to greenways width / surface, in this case the connections are seen as a destination)
 - - - existing track or trail
- Please note: Recreational cycling and mountain biking is not permitted in the Waitākere Ranges under 13.3.4 in the Regional Parks Management Plan, with the exception of Exhibition Drive and the Beveridge Track in the Titirangi / Waima area.*

- potential future investigation into pedestrian safety on rural road

- map 1
- map 2
- map 3
- map 4
- map 5
- map 6
- map 7
- map 8
- map 9
- map 10
- map 11

Note: This is an aspirational and 'high level' plan. Further investigation is required for each individual project, as the route may be influenced /modified by topography, vegetation, land ownership, timing of renewals funding and the like.

Map 4 - Henderson Valley (connections to Project Twin Streams and Henderson)



LEGEND:

- local board boundary
- existing paths (standard footpath width)
- schools inc. public and private
- parks, reserves and open spaces
- Waitākere Ranges Heritage Area
- Special Housing Area
- Crown/Council land (not zoned open space)
- Housing New Zealand land
- Watercare land

Draft ACN (by Auckland Transport)

- - - feeder routes (within parks)
- - - connector routes (arterial routes)
- - - metro routes (rail corridor)
- - - AT path or cycleway upgrade projects (Mountain Road and Captain Scott Road)

Greenways connections (cycle / walk)

- proposed greenways route (on existing path)
- - - proposed greenways route (new connection - no current path shown exists)
- - - greenway by neighbouring local board (out of Waitākere Ranges Greenways scope)
- - - connection via non Council land (includes connections from: Waitākere Ranges Foothills Walkway, 2010 and Unitary Plan Policy H20.3 (access or easement required))
- - - Waitākere Ranges Foothills Walkway (access or easement required through private land sections)
- G Priority connections
- existing walkway / cycleway shared path

Walking only connection

- - - proposed or existing informal track to form greenways route (existing low tide route, informal track or beach walk are unlikely to be upgraded to greenways width / surface, in this case the connections are seen as a destination)
 - - - existing track or trail
- Please note: Recreational cycling and mountain biking is not permitted in the Waitākere Ranges under 13.3.4 in the Regional Parks Management Plan, with the exception of Exhibition Drive and the Beveridge Track in the Titirangi / Waima area.*



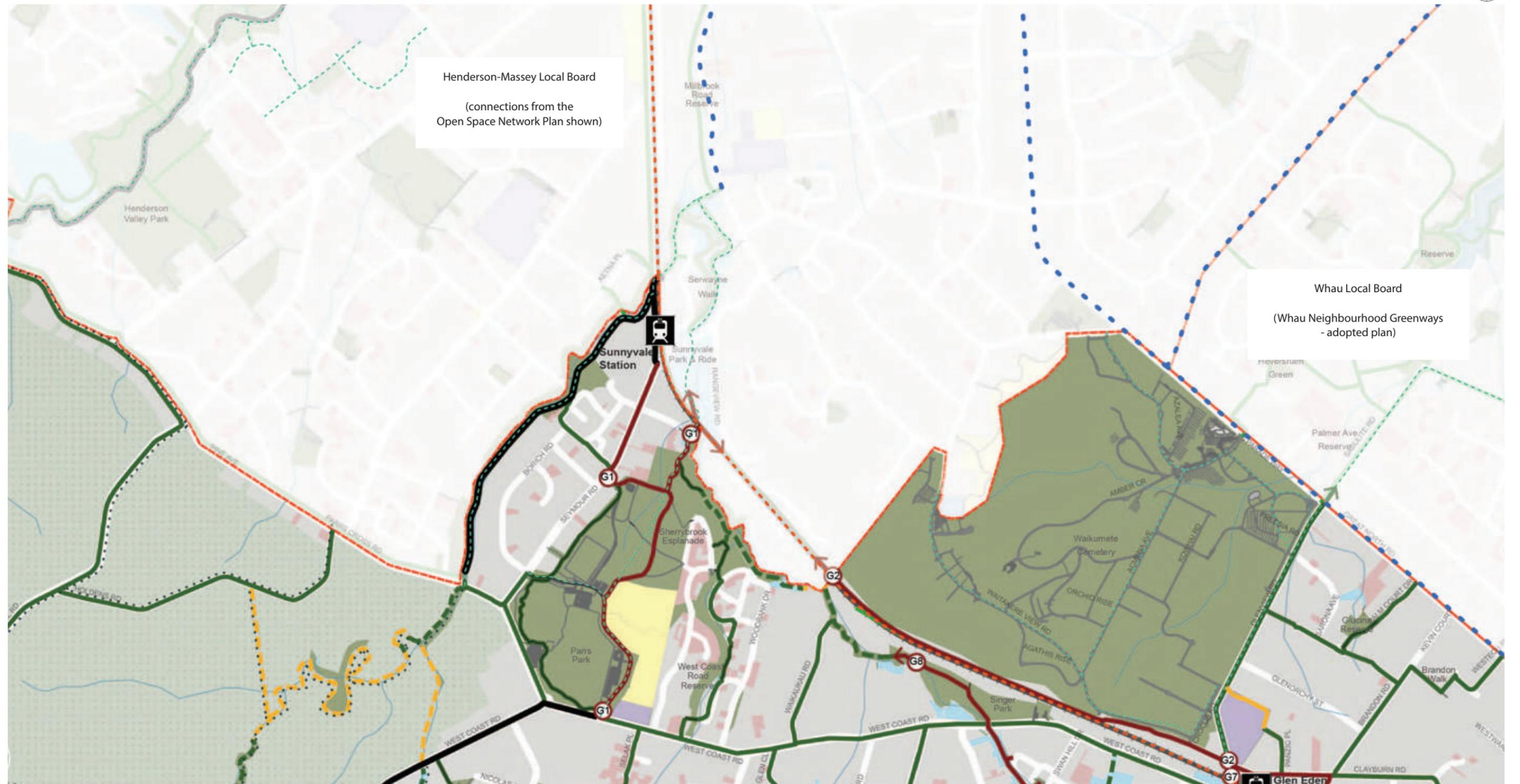
This symbol denotes that kauri (*Agathis australis*) are present in the reserve or park. Restrictions to access may apply, refer to the Auckland Council website, keyword 'kauri' for update information.

Note: This is an aspirational and 'high level' plan. Further investigation is required for each individual project, as the route may be influenced /modified by topography, vegetation, land ownership, timing of renewals funding and the like.

Scale: 1:13,000 @ A3

- map 1
- map 2
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- map 9
- map 10
- map 11

Map 5 - Glen Eden (Connections to Henderson, Sunnyvale and Whau Local Board)



Henderson-Massey Local Board
(connections from the Open Space Network Plan shown)

Whau Local Board
(Whau Neighbourhood Greenways - adopted plan)

LEGEND: Draft ACN (by Auckland Transport) Greenways connections (cycle / walk) Walking only connection Scale: 1:13,000 @ A3

- local board boundary
- existing paths (standard footpath width)
- schools inc. public and private
- parks, reserves and open spaces
- Waitākere Ranges Heritage Area
- Special Housing Area
- Crown/Council land (not zoned open space)
- Housing New Zealand land
- Watercare land

- feeder routes (within parks)
- connector routes (arterial routes)
- metro routes (rail corridor)
- AT path or cycleway upgrade projects (Mountain Road and Captain Scott Road)

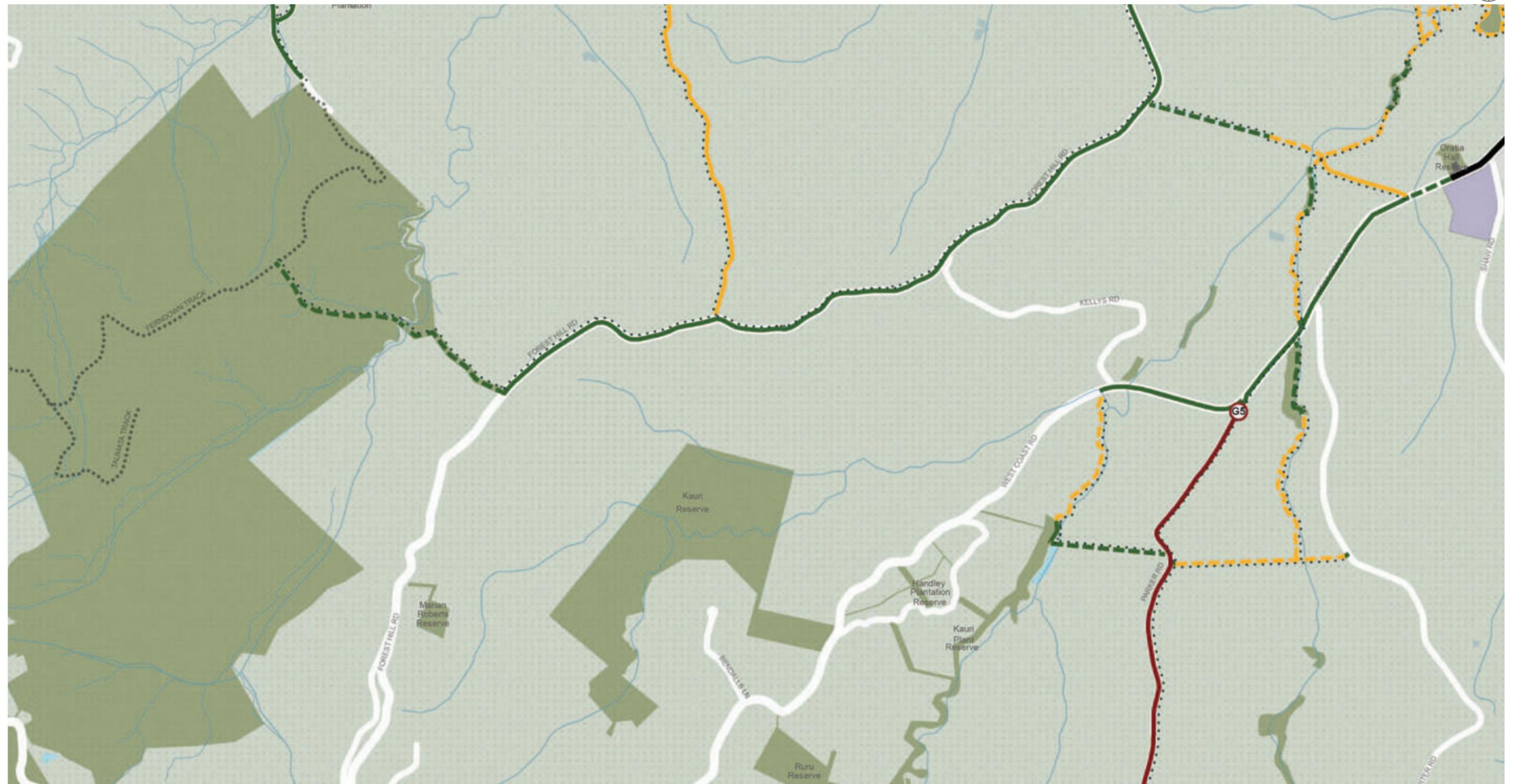
- proposed greenways route (on existing path)
- proposed greenways route (new connection - no current path shown exists)
- greenway by neighbouring local board (out of Waitākere Ranges Greenways scope)
- connection via non Council land (includes connections from: Waitākere Ranges Foothills Walkway, and the Oratia Local Area Plan 2009 (access or easement required))
- Waitākere Ranges Foothills Walkway (access or easement required through private land sections)
- Priority connections
- existing walkway / cycleway shared path

- proposed or existing informal track to form greenways route (existing low tide route, informal track or beach walk are unlikely to be upgraded to greenways width / surface, in this case the connections are seen as a destination)
 - existing track or trail
- Please note: Recreational cycling and mountain biking is not permitted in the Waitākere Ranges under 13.3.4 in the Regional Parks Management Plan, with the exception of Exhibition Drive and the Beveridge Track in the Titirangi / Waima area.

Note: This is an aspirational and 'high level' plan. Further investigation is required for each individual project, as the route may be influenced /modified by topography, vegetation, land ownership, timing of renewals funding and the like.

- map 1
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- map 9
- map 10
- map 11

Map 6 - The Waitākere Ranges foothills, Oratia to Glen Eden



LEGEND:

- local board boundary
- existing paths (standard footpath width)
- schools inc. public and private
- parks, reserves and open spaces
- Waitākere Ranges Heritage Area
- Special Housing Area
- Crown/Council land (not zoned open space)
- Housing New Zealand land
- Watercare land

Draft ACN (by Auckland Transport)

- - - feeder routes (within parks)
- - - connector routes (arterial routes)
- - - metro routes (rail corridor)
- AT path or cycleway upgrade projects (Mountain Road and Captain Scott Road)

Greenways connections (cycle / walk)

- proposed greenways route (on existing path)
- - - proposed greenways route (new connection - no current path shown exists)
- greenway by neighbouring local board (out of Waitākere Ranges Greenways scope)
- connection via non Council land (includes connections from: Waitakere Ranges Foothills Walkway, and the Oratia Local Area Plan 2009 (access or easement required))
- - - Waitākere Ranges Foothills Walkway (access or easement required through private land sections)
- 65 Priority connections
- existing walkway / cycleway shared path

Walking only connection

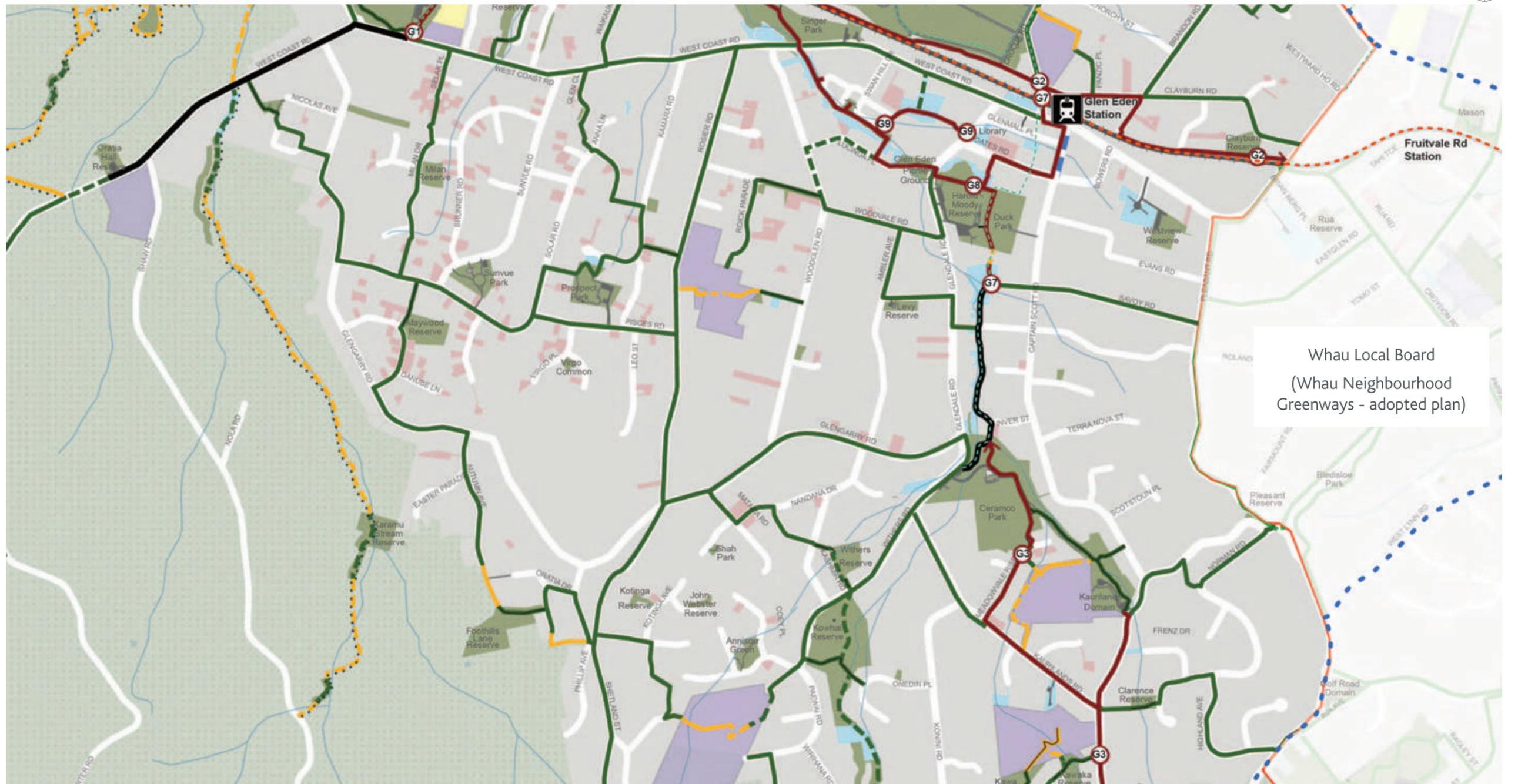
- - - proposed or existing informal track to form greenways route (existing low tide route, informal track or beach walk are unlikely to be upgraded to greenways width / surface, in this case the connections are seen as a destination)
 - - - existing track or trail
- Please note: Recreational cycling and mountain biking is not permitted in the Waitākere Ranges under 13.3.4 in the Regional Parks Management Plan, with the exception of Exhibition Drive and the Beveridge Track in the Titirangi / Waima area.*

Note: This is an aspirational and 'high level' plan. Further investigation is required for each individual project, as the route may be influenced /modified by topography, vegetation, land ownership, timing of renewals funding and the like.

Scale: 1:13,000 @ A3

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Map 7 - Glen Eden, Konini, Titirangi, to Whau Local Board



LEGEND:

- local board boundary
- existing paths (standard footpath width)
- schools inc. public and private
- parks, reserves and open spaces
- Waitākere Ranges Heritage Area
- Special Housing Area
- Crown/Council land (not zoned open space)
- Housing New Zealand land
- Watercare land

Draft ACN (by Auckland Transport)

- - - feeder routes (within parks)
- - - connector routes (arterial routes)
- - - metro routes (rail corridor)
- AT path or cycleway upgrade projects (Mountain Road and Captain Scott Road)

Greenways connections (cycle / walk)

- proposed greenways route (on existing path)
- - - proposed greenways route (new connection - no current path shown exists)
- greenway by neighbouring local board (out of Waitākere Ranges Greenways scope)
- connection via non Council land (includes connections from: Waitākere Ranges Foothills Walkway, the Oratia Local Area Plan and Unitary Plan Policy H20.3)
- - - Waitākere Ranges Foothills Walkway (access or easement required through private land sections)
- G Priority connections
- existing walkway / cycleway shared path

Walking only connection

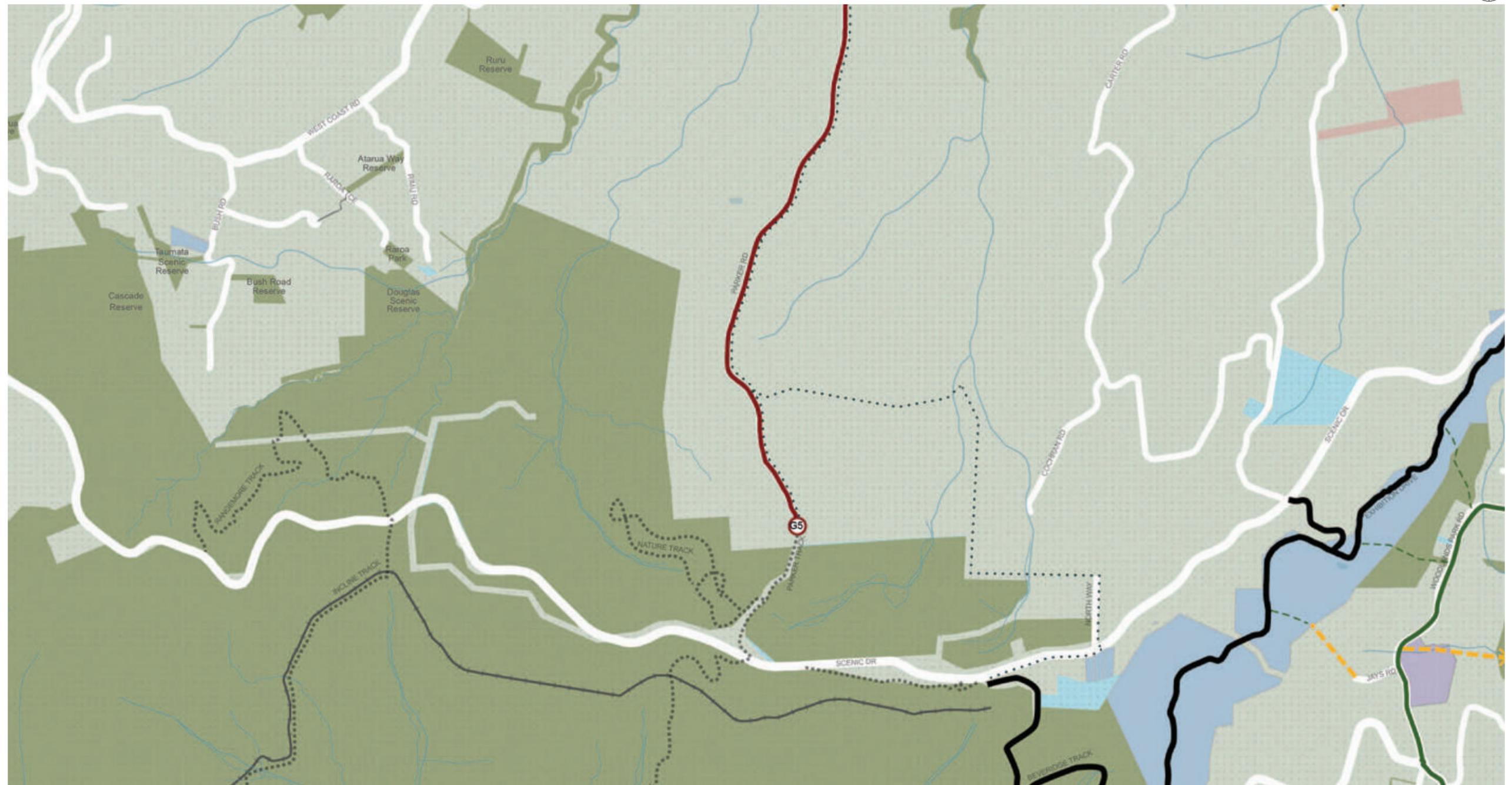
- - - proposed or existing informal track to form greenways route (existing low tide route, informal track or beach walk are unlikely to be upgraded to greenways width / surface, in this case the connections are seen as a destination)
 - - - existing track or trail
- Please note: Recreational cycling and mountain biking is not permitted in the Waitākere Ranges under 13.3.4 in the Regional Parks Management Plan, with the exception of Exhibition Drive and the Beveridge Track in the Titirangi / Waima area.*

Note: This is an aspirational and 'high level' plan. Further investigation is required for each individual project, as the route may be influenced / modified by topography, vegetation, land ownership, timing of renewals funding and the like.

Scale: 1:13,000 @ A3

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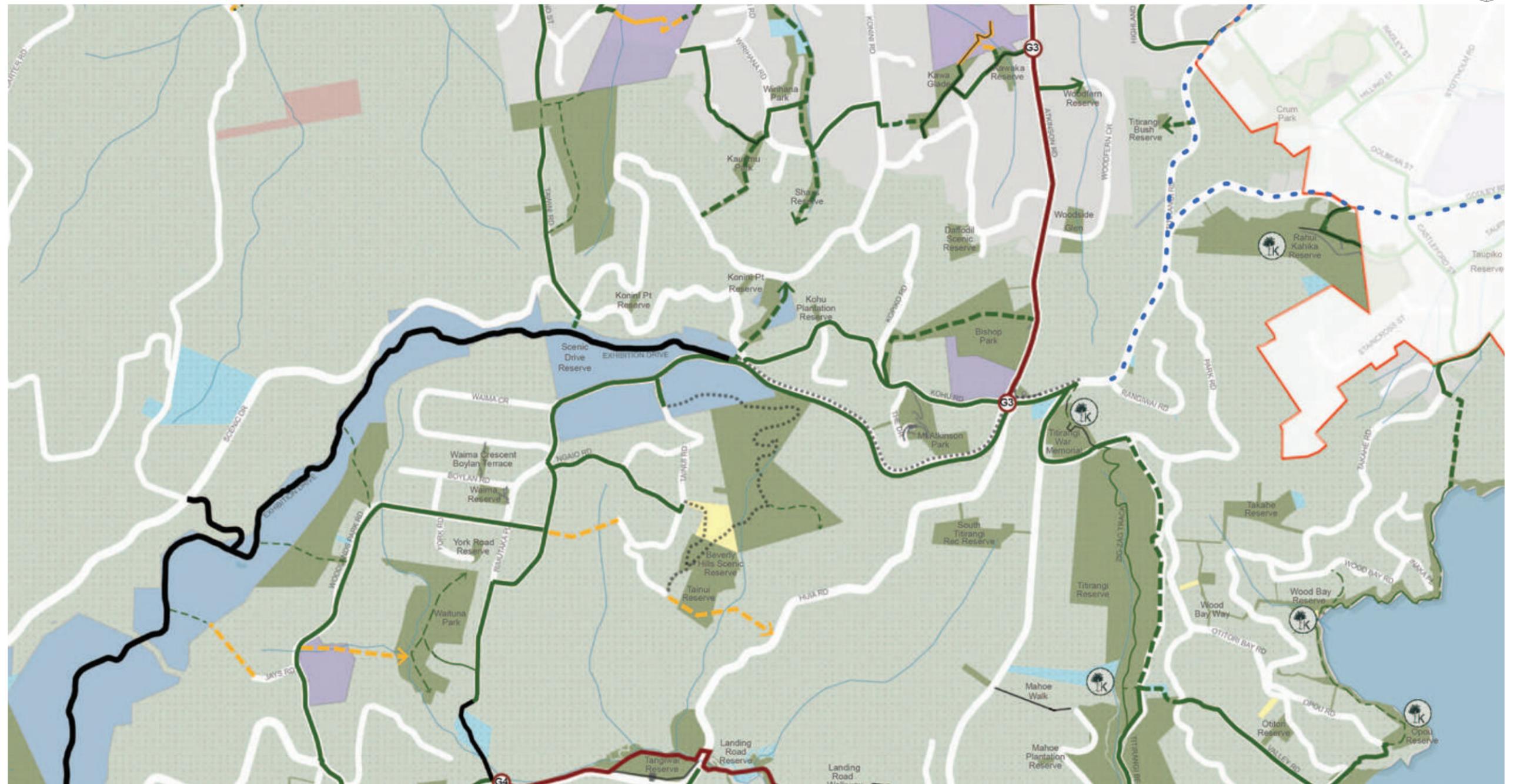
Map 8 - Exhibition Drive (Hillary Trail) and Waima connections



LEGEND:

<ul style="list-style-type: none"> — local board boundary existing paths (standard footpath width) schools inc. public and private parks, reserves and open spaces Waitākere Rangers Protection Area Special Housing Area Crown/Council land (not zoned open space) Housing New Zealand land Watercare land 	<p>Draft ACN (by Auckland Transport)</p> <ul style="list-style-type: none"> - - - feeder routes (within parks) - - - connector routes (arterial routes) - - - metro routes (rail corridor) — AT path or cycleway upgrade projects (Mountain Road and Captain Scott Road) 	<p>Greenways connections (cycle / walk) </p> <ul style="list-style-type: none"> — proposed greenways route (on existing path) - - - proposed greenways route (new connection - no current path shown exists) — greenway by neighbouring local board (out of Waitākere Ranges Greenways scope) — connection via non Council land (includes connections from: The Muddy Creeks Plan, 2014 (access or easement required)) - - - Waitākere Ranges Foothills Walkway (access or easement required through private land sections) G Priority connections — existing walkway / cycleway shared path 	<p>Walking only connection </p> <ul style="list-style-type: none"> proposed or existing informal track to form greenways route (existing low tide route, informal track or beach walk are unlikely to be upgraded to greenways width / surface, in this case the connections are seen as a destination) existing track or trail <p><small>Please note: Recreational cycling and mountain biking is not permitted in the Waitākere Ranges under 13.3.4 in the Regional Parks Management Plan, with the exception of Exhibition Drive and the Beveridge Track in the Titirangi / Waima area.</small></p>	<p>Note: This is an aspirational and 'high level' plan. Further investigation is required for each individual project, as the route may be influenced /modified by topography, vegetation, land ownership, timing of renewals funding and the like.</p>	<p>Scale: 1:13,000 @ A3</p> <ul style="list-style-type: none"> <li style="margin-right: 5px;">map 1 <li style="margin-right: 5px;">map 2 <li style="margin-right: 5px;">map 3 <li style="margin-right: 5px;">map 4 <li style="margin-right: 5px;">map 5 <li style="margin-right: 5px;">map 6 <li style="margin-right: 5px;">map 7 <li style="margin-right: 5px; border: 2px solid green;">map 8 <li style="margin-right: 5px;">map 9 <li style="margin-right: 5px;">map 10 <li style="margin-right: 5px;">map 11
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Map 9 - Waima and South Titirangi to Green Bay, Whau Local Board



LEGEND:

- local board boundary
- existing paths (standard footpath width)
- schools inc. public and private
- parks, reserves and open spaces
- Waitākere Ranges Heritage Area
- Special Housing Area
- Crown/Council land (not zoned open space)
- Housing New Zealand land
- Watercare land

Draft ACN (by Auckland Transport)

- - - feeder routes (within parks)
- - - connector routes (arterial routes)
- - - metro routes (rail corridor)
- AT path or cycleway upgrade projects (Mountain Road and Captain Scott Road)

Greenways connections (cycle / walk)

- proposed greenways route (on existing path)
- - - proposed greenways route (new connection - no current path shown exists)
- greenway by neighbouring local board (out of Waitākere Ranges Greenways scope)
- connection via non Council land (includes connections from: The Muddy Creeks Plan, 2014 (access or easement required))
- - - Waitākere Ranges Foothills Walkway (access or easement required through private land sections)
- G Priority connections
- existing walkway / cycleway shared path

Walking only connection

- - - proposed or existing informal track to form greenways route (existing low tide route, informal track or beach walk are unlikely to be upgraded to greenways width / surface, in this case the connections are seen as a destination)
 - - - existing track or trail
- Please note: Recreational cycling and mountain biking is not permitted in the Waitākere Ranges under 13.3.4 in the Regional Parks Management Plan, with the exception of Exhibition Drive and the Beveridge Track in the Titirangi / Waima area.*



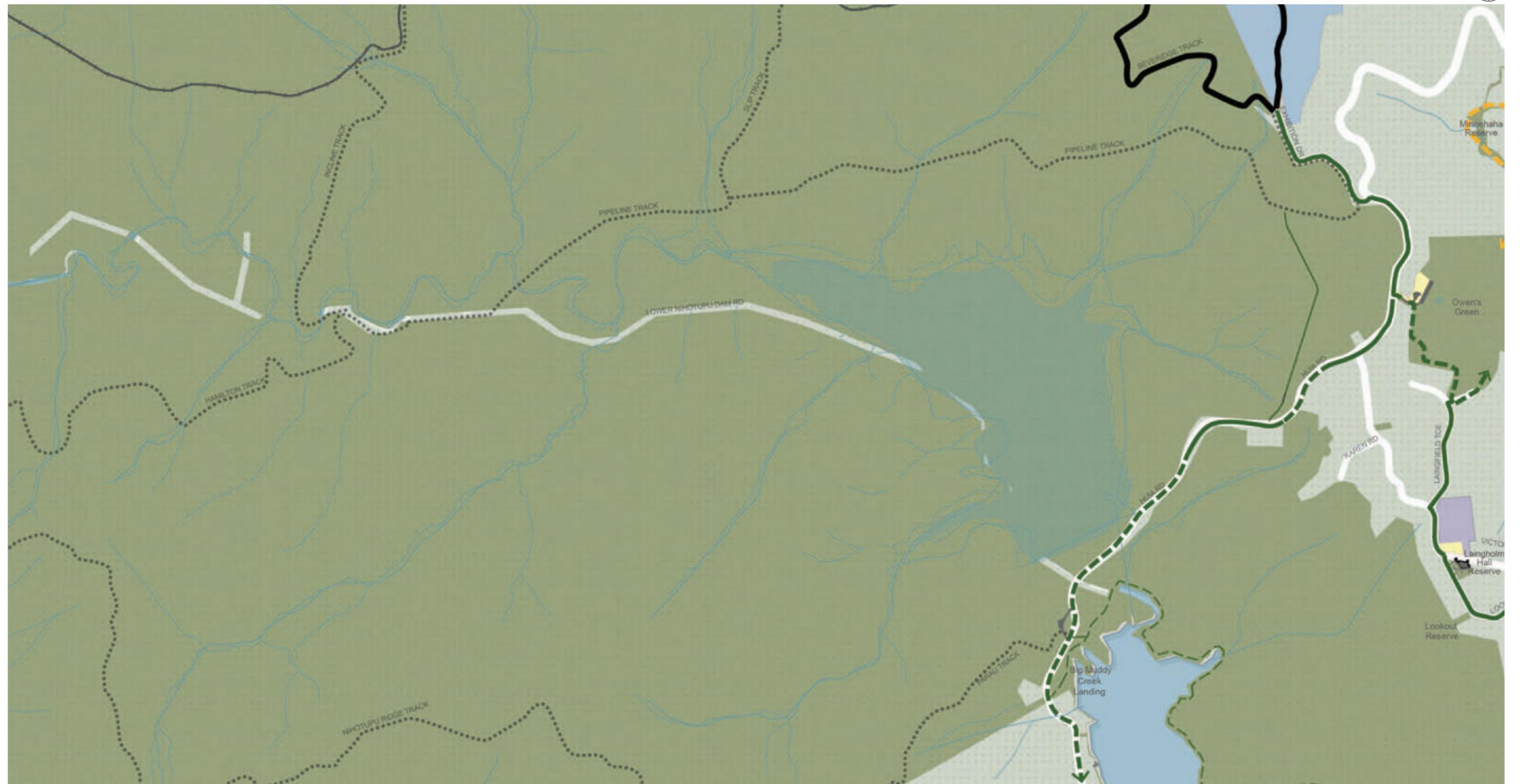
This symbol denotes that kauri (*Agathis australis*) are present in the reserve or park. Restrictions to access may apply, refer to the Auckland Council website, keyword 'kauri' for update information.

Note: This is an aspirational and 'high level' plan. Further investigation is required for each individual project, as the route may be influenced /modified by topography, vegetation, land ownership, timing of renewals funding and the like.

- map 1
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- map 9**
- map 10
- map 11

Scale: 1:13,000 @ A3

Map 10 - Parau and Laingholm



LEGEND:

- local board boundary
- existing paths (standard footpath width)
- schools inc. public and private
- parks, reserves and open spaces
- Waitākere Ranges Heritage Area
- Special Housing Area
- Crown/Council land (not zoned open space)
- Housing New Zealand land
- Watercare land

Draft ACN (by Auckland Transport)

- - - feeder routes (within parks)
- - - connector routes (arterial routes)
- - - metro routes (rail corridor)
- AT path or cycleway upgrade projects (Mountain Road and Captain Scott Road)

Greenways connections (cycle / walk)

- proposed greenways route (on existing path)
- - - proposed greenways route (new connection - no current path shown exists)
- greenway by neighbouring local board (out of Waitākere Ranges Greenways scope)
- connection via non Council land (includes connections from: The Muddy Creeks Plan, 2014 - local area plan (access or easement required))
- - - Waitākere Ranges Foothills Walkway (access or easement required through private land sections)
- Priority connections
- existing walkway / cycleway shared path

Walking only connection

- - - proposed or existing informal track to form greenways route (existing low tide route, informal track or beach walk are unlikely to be upgraded to greenways width / surface, in this case the connections are seen as a destination)
 - - - existing track or trail
- Please note: Recreational cycling and mountain biking is not permitted in the Waitākere Ranges under 13.3.4 in the Regional Parks Management Plan, with the exception of Exhibition Drive and the Beveridge Track in the Titirangi / Waima area.*

Note: This is an aspirational and 'high level' plan. Further investigation is required for each individual project, as the route may be influenced /modified by topography, vegetation, land ownership, timing of renewals funding and the like.

Scale: 1:13,000 @ A3

- map 1
- map 2
- map 3
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- map 7
- map 8
- map 9
- map 10
- map 11

Map 11 - Laingholm, Little Muddy Creek and South Titirangi



LEGEND:

- local board boundary
- existing paths (standard footpath width)
- schools inc. public and private
- parks, reserves and open spaces
- Waitākere Ranges Heritage Area
- Special Housing Area
- Crown/Council land (not zoned open space)
- Housing New Zealand land
- Watercare land

Draft ACN (by Auckland Transport)

- - - feeder routes (within parks)
- - - connector routes (arterial routes)
- - - metro routes (rail corridor)
- AT path or cycleway upgrade projects (Mountain Road and Captain Scott Road)

Greenways connections (cycle / walk)

- proposed greenways route (on existing path)
- - - proposed greenways route (new connection - no current path shown exists)
- greenway by neighbouring local board (out of Waitākere Ranges Greenways scope)
- connection via non Council land (includes connections from: The Muddy Creeks Plan, 2014 - local area plan (access or easement required))
- - - Waitākere Ranges Foothills Walkway (access or easement required through private land sections)
- G Priority connections
- existing walkway / cycleway shared path

Walking only connection

- - - proposed or existing informal track to form greenways route (existing low tide route, informal track or beach walk are unlikely to be upgraded to greenways width / surface, in this case the connections are seen as a destination)
 - - - existing track or trail
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Note: This is an aspirational and 'high level' plan. Further investigation is required for each individual project, as the route may be influenced /modified by topography, vegetation, land ownership, timing of renewals funding and the like.

- map 1
- map 2
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- map 11

Scale: 1:13,000 @ A3



Priorities

This map shows the location of nine routes that Waitākere Ranges Local Board have identified as priority and these are detailed on the following pages:

- G1** Parrs Park and Sherrybrook Esplanade to Sunnyvale Station
- G2** Western Rail Corridor shared path (between Sunnyvale and Glen Eden)
- G3** Titirangi Village to Glen Eden Town Centre
- G4** Little Muddy Creek Walkway, Rimataka Place Walkway (Huia Road) to Landings Road Walkway
- G5** Parker Road Oratia to Arataki Visitor Centre
- G6** Swanson Foothills Walkway
- G7** Glen Eden Train Station to Upper Waikumete Stream Walk and Cycleway
- G8** Singer Park to Harold Moody Reserve alongside Waikumete Stream
- G9** Glen Eden Town Centre: Verdale Circle to Glendale Road

G1 - Parris Park and Sherrybrook Esplanade to Sunnyvale Station

Location and description

This route runs from West Coast Road through Parris Park / Sherrybrook Esplanade to the Sunnyvale Station. The connection utilises the existing 2-2.5m wide concrete path through Parris Park to Benita Place (refer 1b page 38) and there are two options for completing the connection to West Coast Road:

- Option 1: widening of the existing 1.8m wide concrete path to 2.5m around the sports fields and a proposed 50m section of new shared path to meet the existing path network
- Option 2: accommodation of a shared path within the 6.5m wide park road surface, or a 2.5m shared path running parallel to the park road surface - 420m in length.

Ecology and cultural considerations

Three streams run through the area, these being:

- the Waikumete Stream flowing through the north eastern corner of Parris Park
- the Sherrybrooke Stream which flows north into the Waikumete Stream at Sherrybrooke Esplanade Reserve
- the Parris Stream flows north into the Waikumete Stream just east of the Parris Park boundary.

Tree cover is fairly abundant within the park, there is a mix of mature exotics and native specimens, and the riparian margins are planted. Eucalyptus species align the West Coast Road boundary and a large shelterbelt of Macrocarpa trees line the northern end. The northern half of Parris Park was previously grazed as a pony club.

No archaeological sites are documented, however the area is of great importance to the identity of Te Kawerau-a-Maki, as it sits within the wider Waitākere/West Auckland area. Ngāti Whātua o kaipara and Ngāti Whātua o Ōrākei also have kaitiakitanga (guardianship) over the land. The Park is bordered by Hoani Waititi Marae and Te Kura Kaupapa Primary School to the east.

Constraints

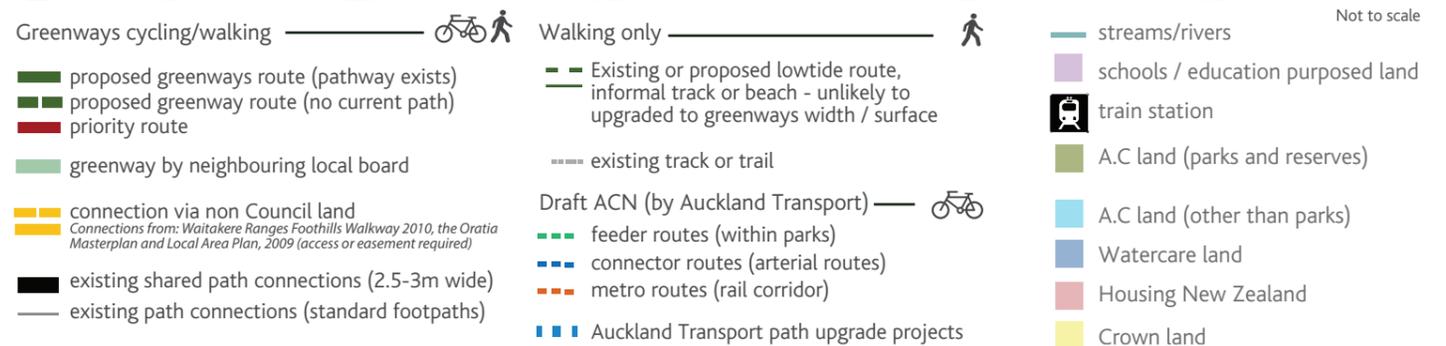
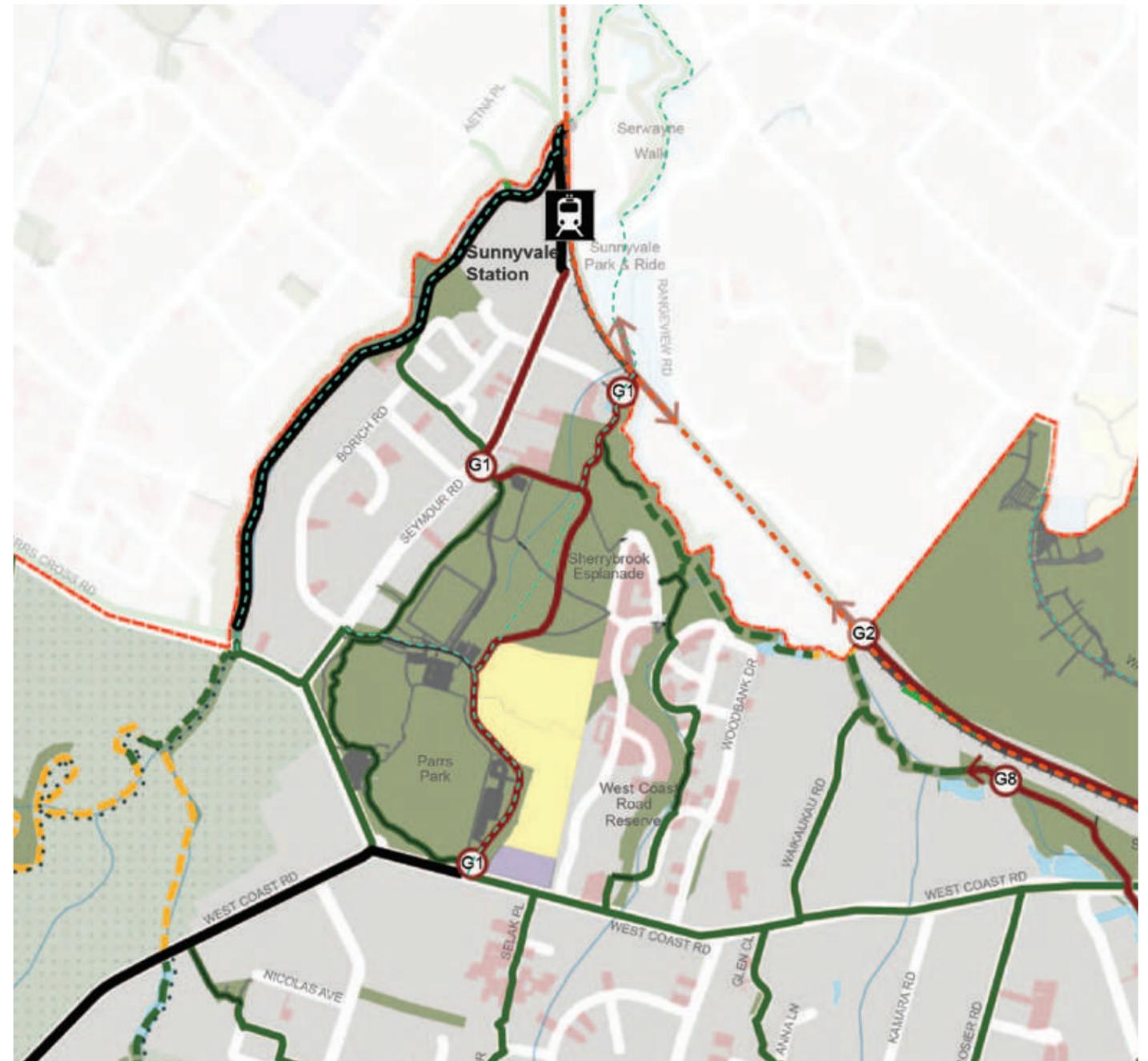
- widening of the existing path around the playing fields may infringe on the 'buffer zone' of the sports fields (further scoping required)
- any shared path along the park road may require tree root bridges or permeable paving where the path comes within the drip line of specimen trees
- Auckland Transport plan to create a shared path within the railway corridor, although the location (north or south side of the railway) and timing for this is uncertain. The location would influence feasibility of the connection from Sherrybrook Esplanade to the Station. The alternate route to the station is from Parris Park Seymour Road entrance to Sunnyvale Station via Seymour Road corridor - utilising approximately 420m of existing footpath (refer 1c page 38).

Opportunities

The greenway connects into the wider cycling network to complete a long distance commuter and recreational route from rural Oratia into the city centre. At a local scale, this greenway connects Oratia and Glen Eden Residents to Sunnyvale station and Sunnyvale residents to Parris Park via shared path.

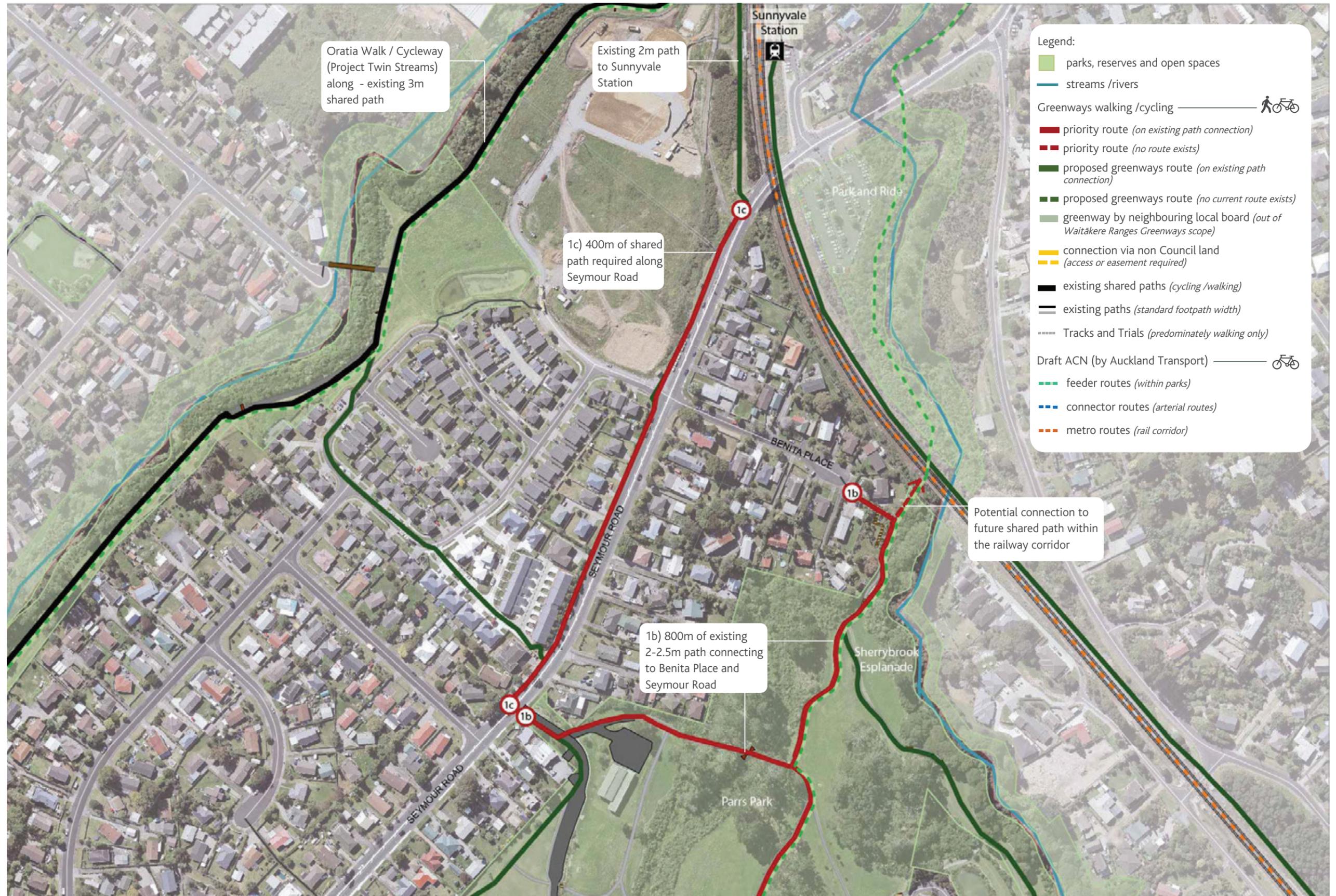
Deliverables (refer page 38-39 for the locations of 1a-1c)

- **1a) Option 1:** 340m existing concrete footpath around the sports fields widened to 2.5m and an additional 50m of 2.5m concrete footpath.
- **1a) Option 2:** 420m in length of 2.5m concrete shared path alongside existing park road. Alternatively the park road could become a shared cycleway with clearly marked surfacing to for cyclists, with pedestrians using the existing path around the sports fields.
- **1c)** 400m of existing footpath in the road corridor would require upgrading by Auckland Transport. Transport. Auckland Transport to provide cost of works within the road corridor.



NOTE: These plans are indicative only, for the purposes of identifying opportunities, constraints and setting budget estimates. They are subject to feasibility, consultation/landholding agreements and detailed design, which may alter the routes shown. Further investigation is needed to determine the feasibility of cycle access. Walking tracks are shown where cycling is thought to be unachievable.

G1 - Parrs Park and Sherrybrook Esplanade to Sunnyvale Station



G1 - Parrs Park and Sherrybrook Esplanade to Sunnyvale Station



G2 - Western Rail Corridor shared path (between Sunnyvale to Glen Eden)

Location and description

The Western Rail corridor connects three Local Board areas, Waitākere Ranges, Henderson-Massey and Whau. Within the Waitākere Ranges Local Board area, priority is given to the connection between Sunnyvale and Glen Eden, on the northern side of the railway line.

Ecology and cultural considerations

The connection runs through the vegetated rail corridor, which for the most part, borders the southern side of Waikumete Cemetery which is a 'Significant Ecological Area'. The cemetery has a number of native and exotic plantings that have either local or national significance, including naturalised wildflowers and 30 species of eucalyptus. *Exotic trees and plants in the cemetery have significance through their cultural associations, being species traditionally utilised in cemeteries of the Victorian era, with many having strong associations with loss and death.* (Waikumete Cemetery Reserve Management Plan, May 2015). The stream gullies and riparian margins here comprise a dense mix of native and exotic vegetation. The rail corridor is a mix of native, exotic and weed species. Recent revegetation planting are situated along the Waikumete Stream in the Sunnyvale end, by the Park and Ride carpark. Waikumete Cemetery is a place of 'Historic Heritage' within the Auckland Unitary Plan.

The railway corridor is a highly modified landscape. There are no recorded 'Sites or Places of Value to Mana Whenua' recorded along this connection under the Auckland Unitary Plan.

Constraints

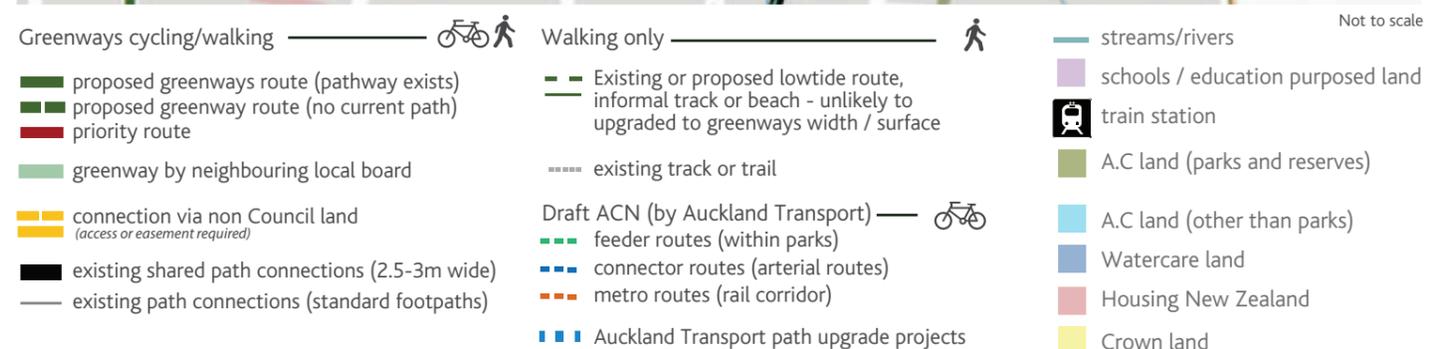
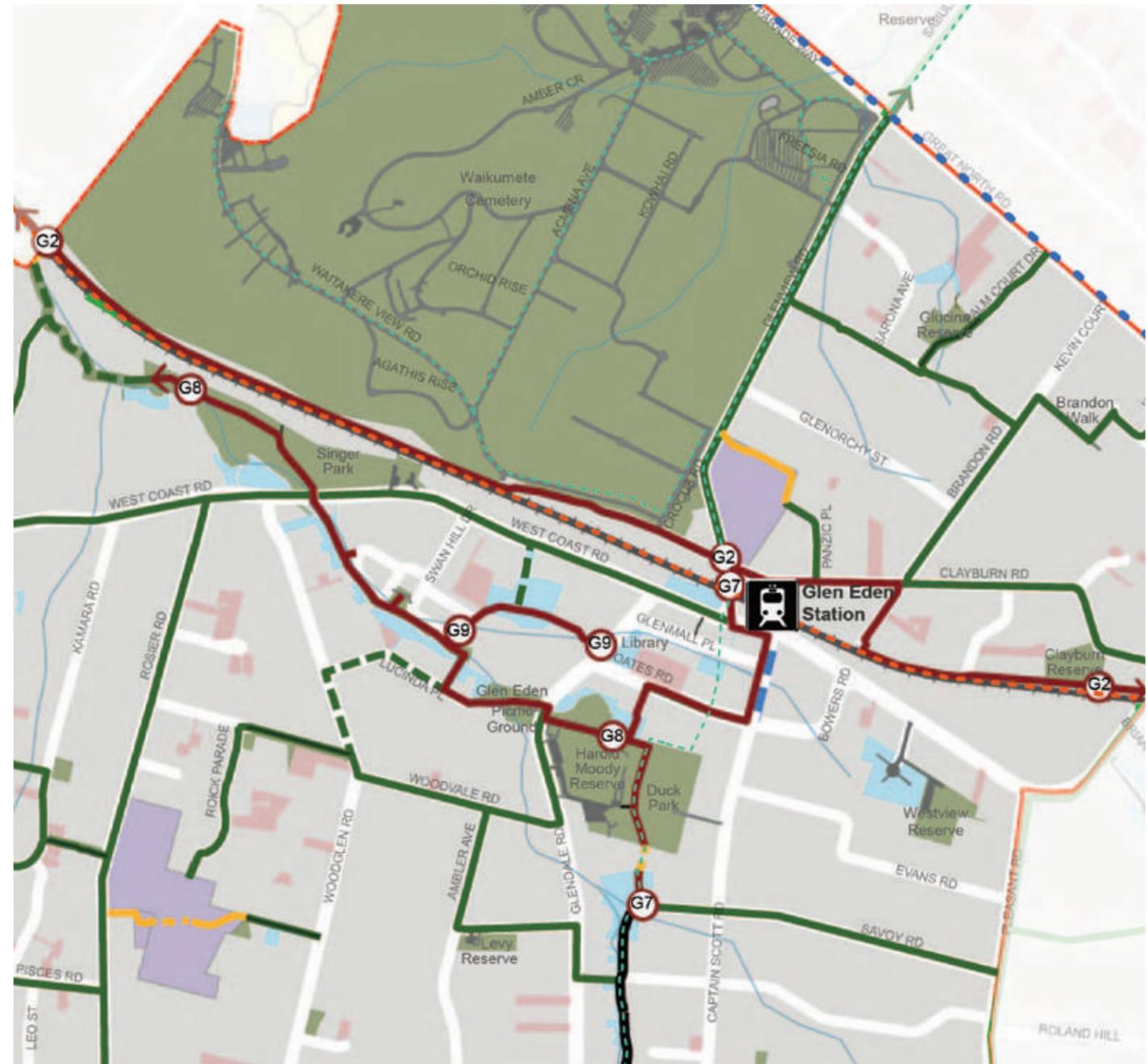
- the timing and location of the 'metro' route along the rail line Auckland Transport is uncertain. Note: Auckland Transport's *Rail Corridor Walk/Cycleway Study* (2010) identified three route options for a shared path connection from Sunnyvale to Glen Eden - G2 is in alignment with the option north of the railway line
- space constraints: electrification regulations require the path to be a safe distance from the masts
- construction within a 'Significant Ecological Area' (this applies if the connection is located as shown on the Waikumete side of the railway line).

Opportunities

- commuting option for cyclists offering minimal interruption/cross over with vehicle traffic
- connect to the existing path to Sunnyvale Station on the Waitākere Ranges Local Board side
- removal of weed species in the rail corridor as part of contractual works would improve the ecology between 'Significant Ecological Areas', and improve the quality of stream health with appropriate native planting in riparian margins
- connect to Te Whau Pathway at Harmel Espanade from Glenview Road and Sabulite Road, which on a regional scale will connect Glen Eden to the North West Cycleway at Te Atatu with completion of Te Whau Pathway.

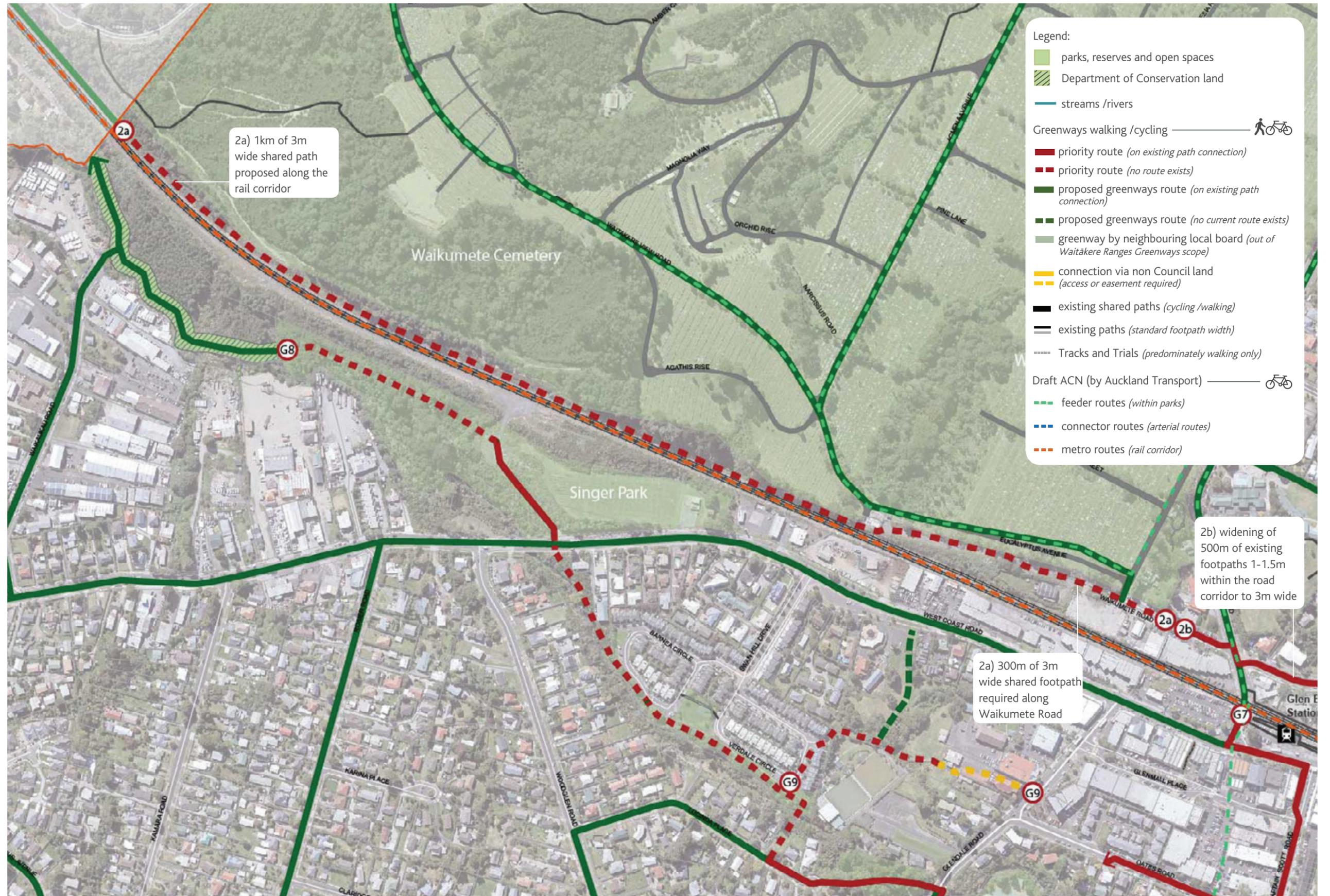
Deliverables (refer page 41-42 for the locations of 2a-2c)

- 2a) / 2c)** 1.5km of the connection follows the rail corridor. The requirement would be a 3m shared pathway (2a and 2c). 100m of this greenway section could be located along the southern boundary of Clayburn Reserve with a 3m shared concrete path.
- 2b)** 800m within along the road corridor - 500m of the connection is on the existing footpaths of Waikumete, Clayburn and Brandon roads. 300m of the connection is on Waikumete Road, where there is no footpath (refer annotation on 2a). Auckland Transport to provide cost estimate of proposed or upgraded walking /cycling connections within the road corridor.

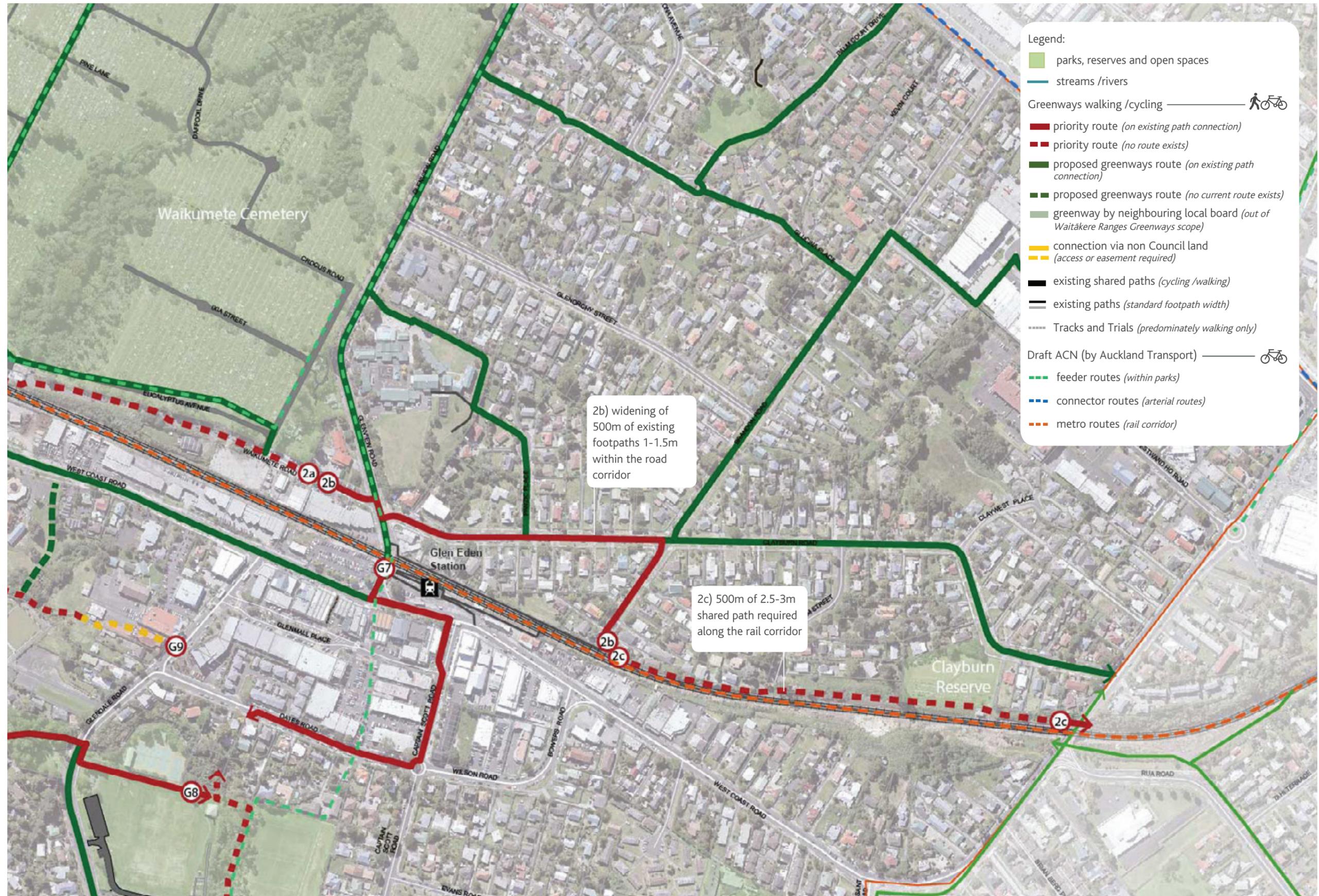


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G2 - Western Rail Corridor shared path (between Sunnyvale to Glen Eden)



G2 - Western Rail Corridor shared path (between Sunnyvale to Glen Eden)



G3 - Titirangi Village to Glen Eden Town Centre

Location and description

Connection from Titirangi Village down Atkinson Road, through Kaurilands to connect to the Twin Streams walkway / cycleway and onwards for 1.1km to Glen Eden Town Centre. This route is predominately on the road network, passing three schools and connecting through Ceramco Park.

Ecology and cultural considerations

The Titirangi / Kaurilands area, is a bush clad with large blocks of native vegetation, gullies systems and stream tributaries that flow to the Glen Eden area. The tributaries run through both private and public land joining to the Waikumete Stream at Ceramco Park. The Titirangi portion of the connection falls within the Waitākere Ranges Heritage Area.

The road corridor is a modified landscape and there are no recorded archaeological sites along this route under the Auckland Unitary Plan.

Constraints

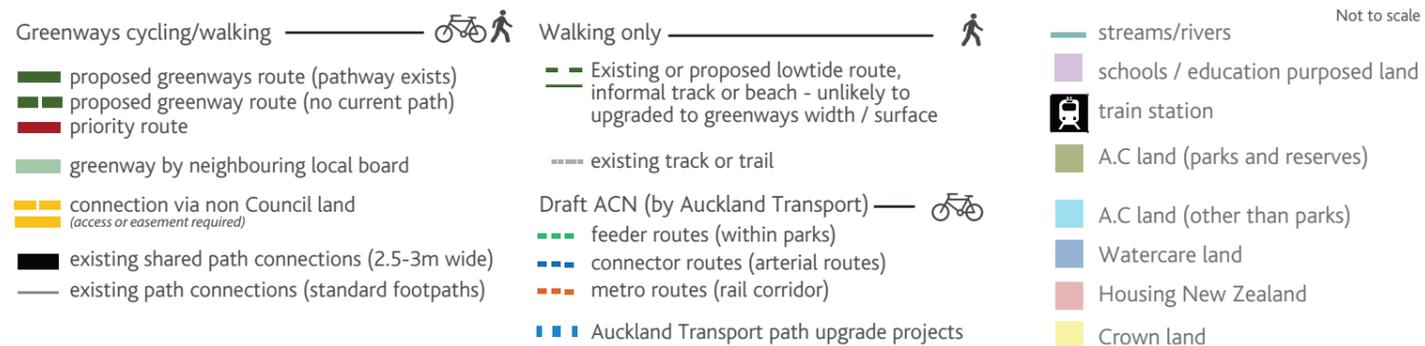
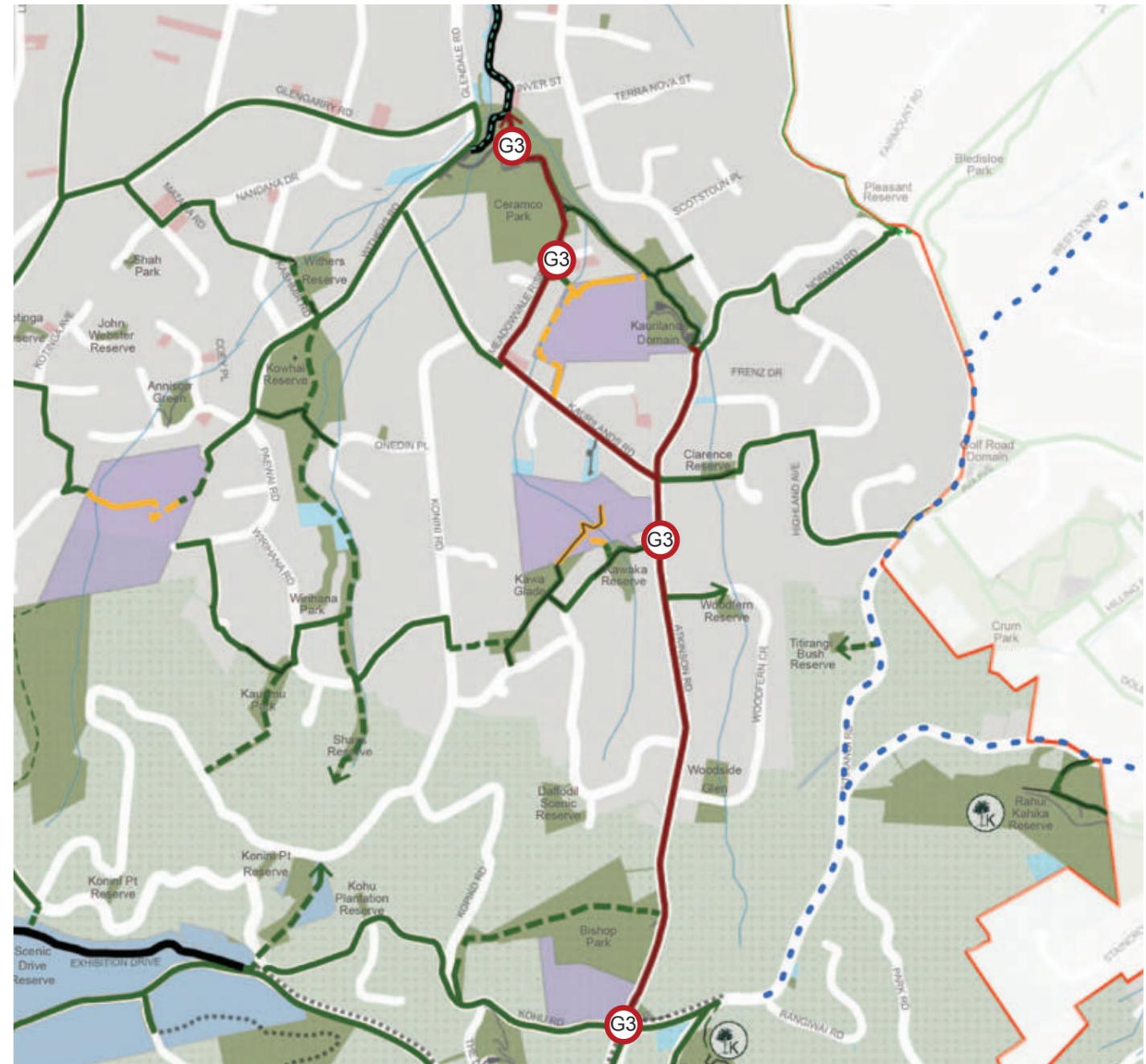
- vehicles can reach high speeds on Atkinson Road. Speed bumps have reduced speeds in some areas, however further traffic calming may be required
- widening of the path in Ceramco Park may be restricted due to the proximity of existing skateboarding assets and established trees that line the existing path.

Opportunities

- provide safe connections for the three schools located on this route including; Titirangi Primary, Kaurilands Primary and Glen Eden Intermediate
- connecting to Glen Eden Train Station via existing cycleway / walkway
- improve water quality via the filtration of runoff from road surface runoff i.e swales in the road corridor.

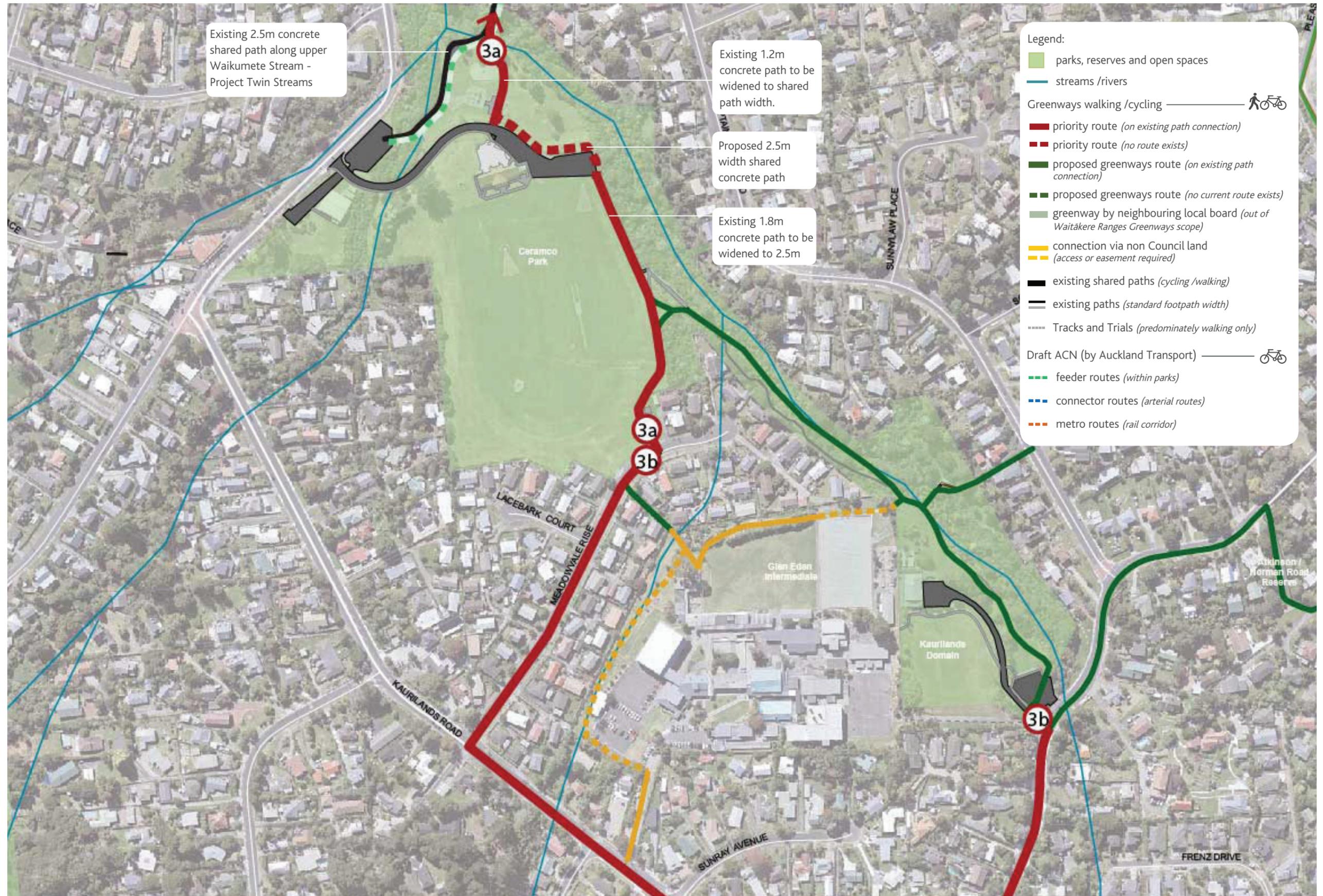
Deliverables (refer page 44-46 the locations of 3a-3b)

- 3a)** 300m of existing 1.2-1.8 path within Ceramco Park would require upgrade to shared path width 2.5m. 100m of shared path would be required around the carpark area to complete the connection, for a 2.5m wide concrete path.
- 3b)** approximately 2.3km of shared path required along Atkinson, Kaurilands Roads and Meadow Rise within the road corridor. Auckland Transport to provide cost estimate of proposed or upgraded walking / cycling connections within the road corridor. Auckland Transport to provide cost estimate of proposed or upgraded walking / cycling connections within the road corridor.

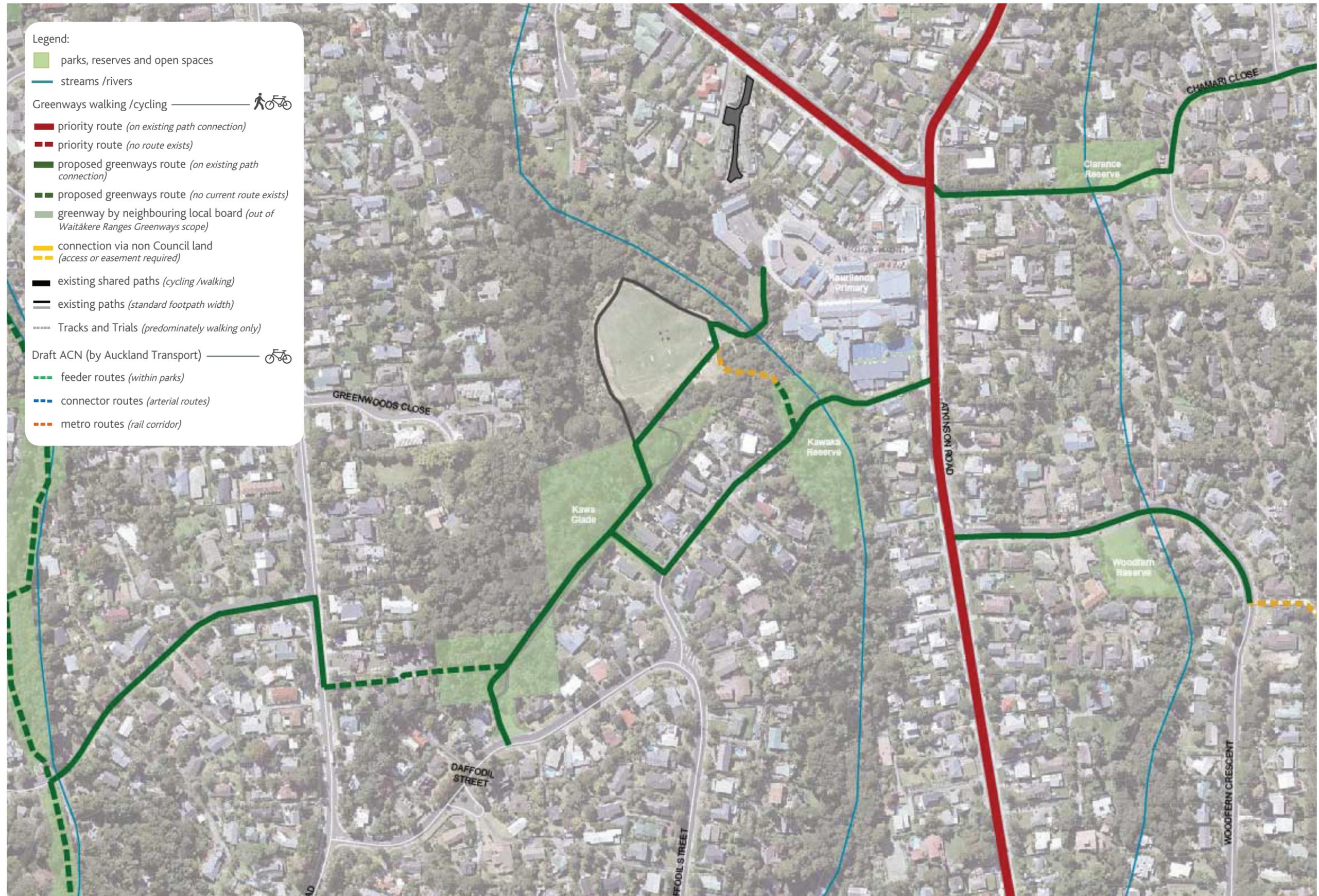


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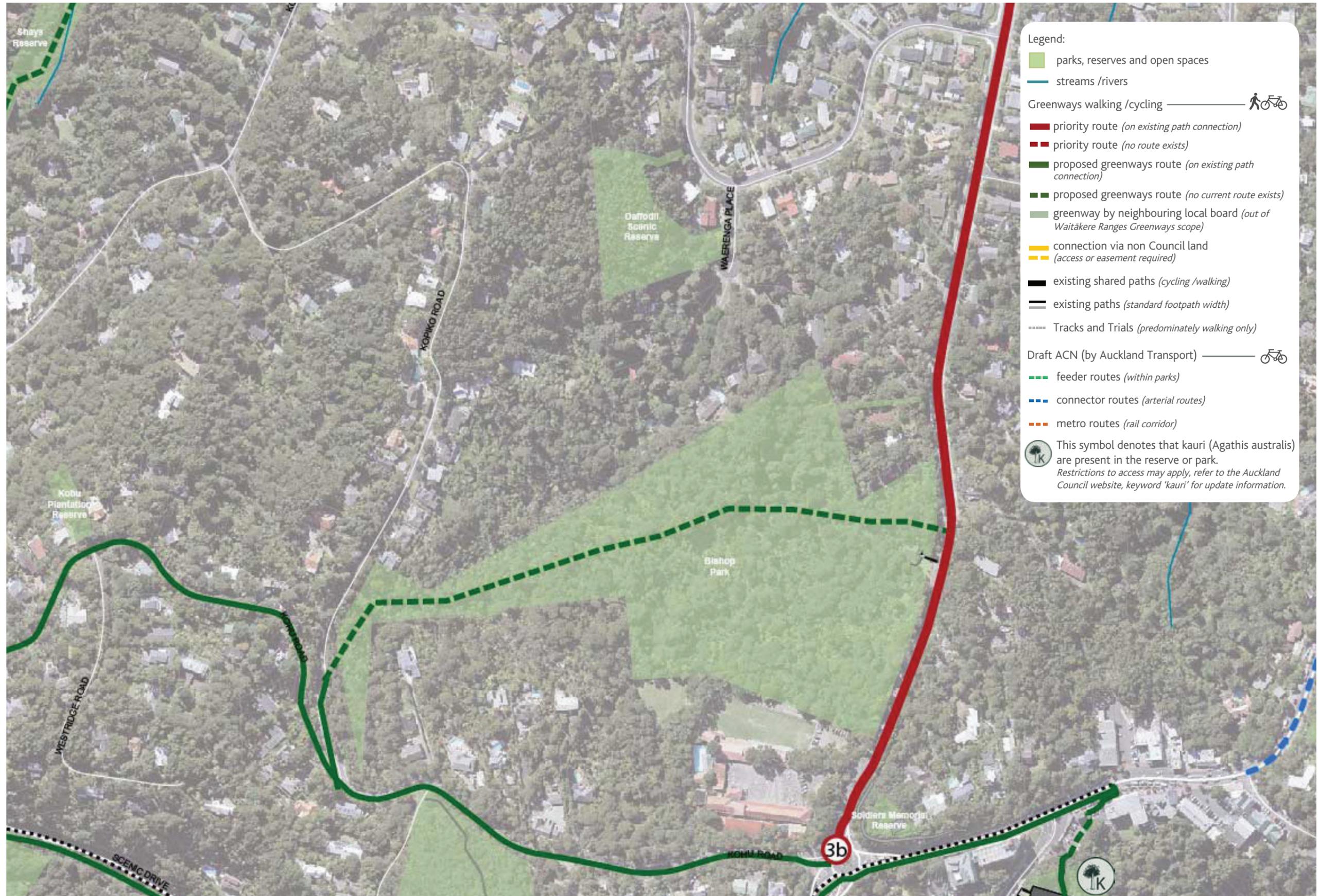
G3 - Titirangi Village to Glen Eden Town Centre



G3 - Titirangi Village to Glen Eden Town Centre



G3 - Titirangi Village to Glen Eden Town Centre



G4 - Little Muddy Creek Walkway, Rimataka Place Walkway (Huia Road) to Landing Road Walkway

Location and description

Connection from Rimataka Place Walkway at Huia Road to the Landing Road Walkway via Tangiwai Reserve, Gill Esplanade and Landing Road Reserve. This link is part of the Little Muddy Creek Walkway stages 2 and 3.

Ecology and cultural considerations

The connection borders ecological corridors identified in the Little Muddy Creek Plan and 'Significant Ecological Areas' (SEA) within the Auckland Unitary Plan. It falls within the Waitākere Ranges Heritage Area. Cultural Heritage (CHI) logs exist in this area. Construction within close proximity to CHI and within an SEA would require the consenting and monitoring of the to minimise the impacts construction in the environment.

The area is of great importance to the identity of Te Kawerau-a-Maki, as it sits within the wider Waitākere/West Auckland area. Ngāti Whātua o kaipara and Ngāti Whātua o Ōrākei also have kaitiakitanga (guardianship) over the land.

Constraints

- creating a safe connection over Huia Road from Tangiwai Reserve and Gill Esplanade.

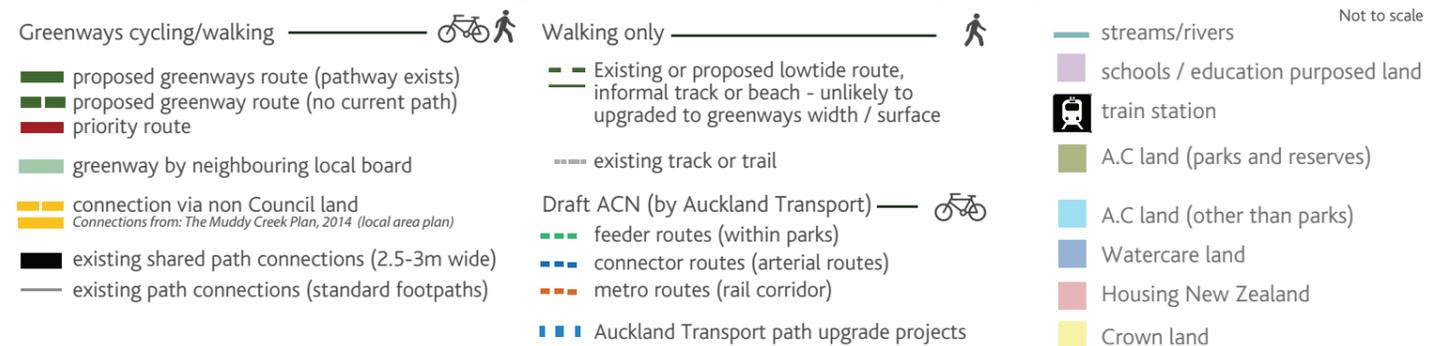
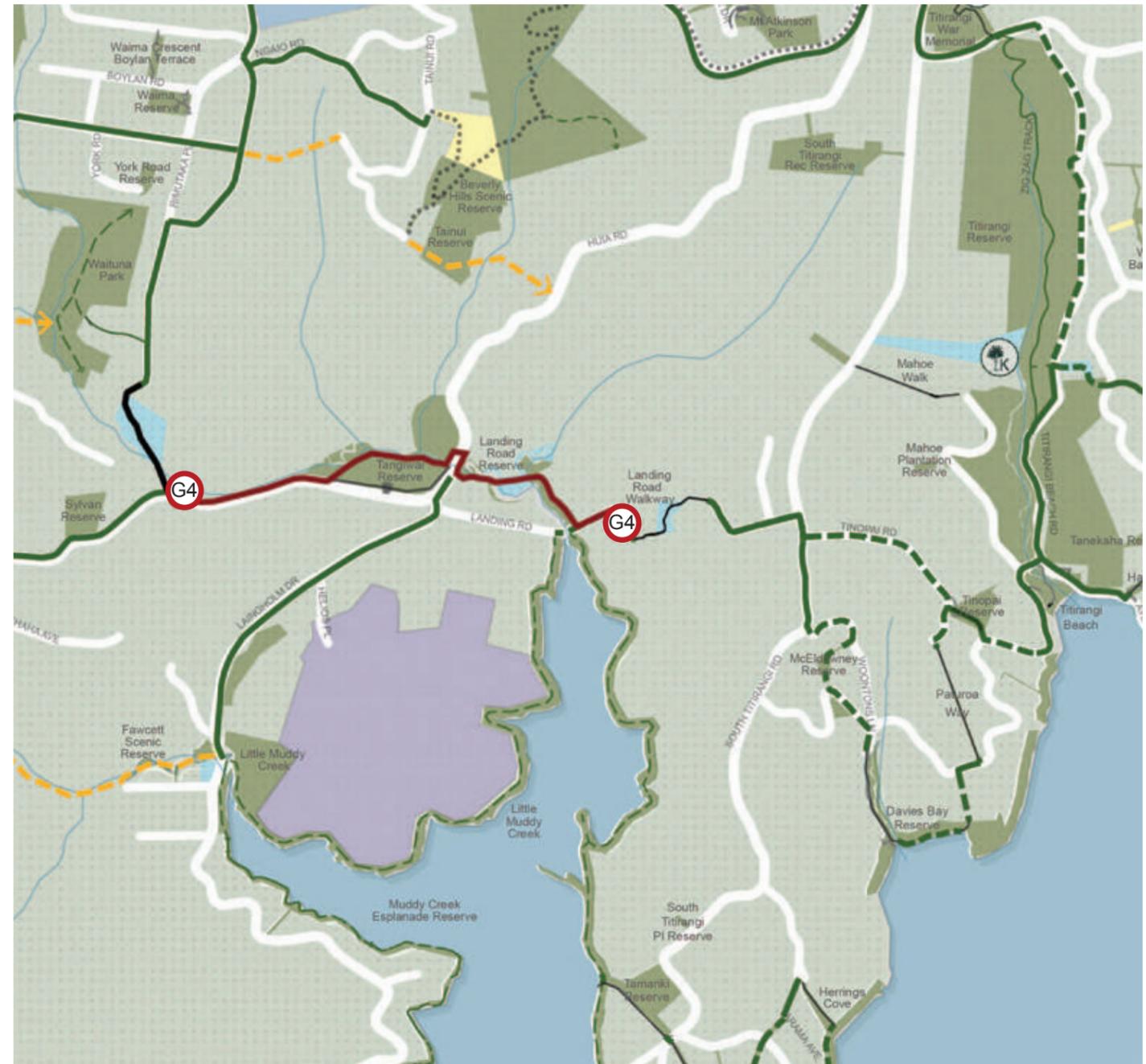
Opportunities

- connect to the existing Landing Road Walkway as part of a larger planned walking network in the Little Muddy Creek area
- strengthen this ecological connection along the stream with riparian planting
- improve the link between residential areas of Woodlands Park and South Titirangi
- there is significant opportunity to improve the habitat, stream condition and water quality to restore the health of the waterway.
- ecological improvements could be made within the road corridor through stormwater filtration of road runoff in road sections i.e swales.

Deliverables (refer page 48 for the location of 4a-4d)

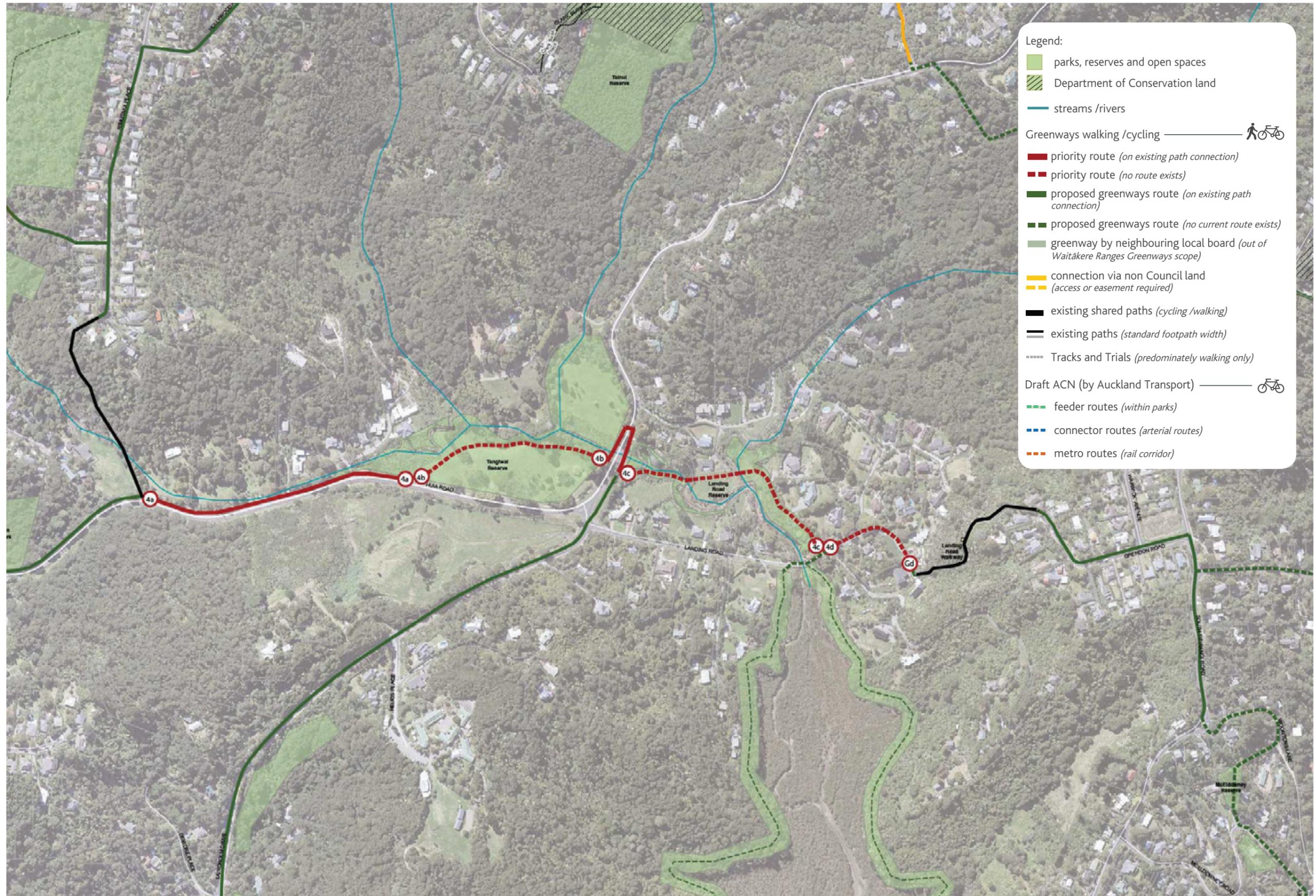
- **4a)** approximately 380m of shared path required along Huia Road with a road crossing at Tangiwai Reserve to Gill Esplanade. There is an existing footpath of standard width, Auckland Transport to provide cost estimate of proposed or upgraded walking /cycling connections within the road corridor
- **4b)** Tangiwai Reserve path section 300m in length
- **4c)** approximately 300m of path connection through Gill Esplanade and Landing Road Reserve
- **4d)** approximately 115m of shared path required along Landing Road where there is no footpath, and provision for walkway on 70m on private road connecting to Landing Road Walkway. Auckland Transport to provide cost estimate of proposed or upgraded walking /cycling connections within the road corridor.

Funding and Delivery Options: AT Renewals, Local Board Transport Capital Fund (LBTCF).



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G4 - Little Muddy Creek Walkway, Grendon Road to Landings Road Walkway



G5 - Parker Road Oratia to Arataki Visitor Centre

Location and description

Connection via Parker Road between West Coast Road Oratia to Arataki Visitors Centre. From here, users can access the Beveridge Track, Exhibition Drive and more remotely Titirangi Village.

Ecology and cultural considerations

The connection falls within the Waitākere Ranges Heritage Area and borders both a 'Significant Ecological Areas' and a 'Natural Stream Management Area'. There are Outstanding Natural Landscapes in the lowland valleys either side of the private properties off Parker Road as there is much native bush in valleys. Residential and horticultural users cover the higher ground.

Both Te Kawerau a Maki and Ngāti Whātua o kaipara have mana whenua status in the Waitākere Ranges. Ngāti Whātua o kaipara and Ngāti Whātua o Ōrākei also have kaitiakitanga (guardianship) over the land.

There are no recorded archaeological sites along this route under the Auckland Unitary Plan.

Constraints

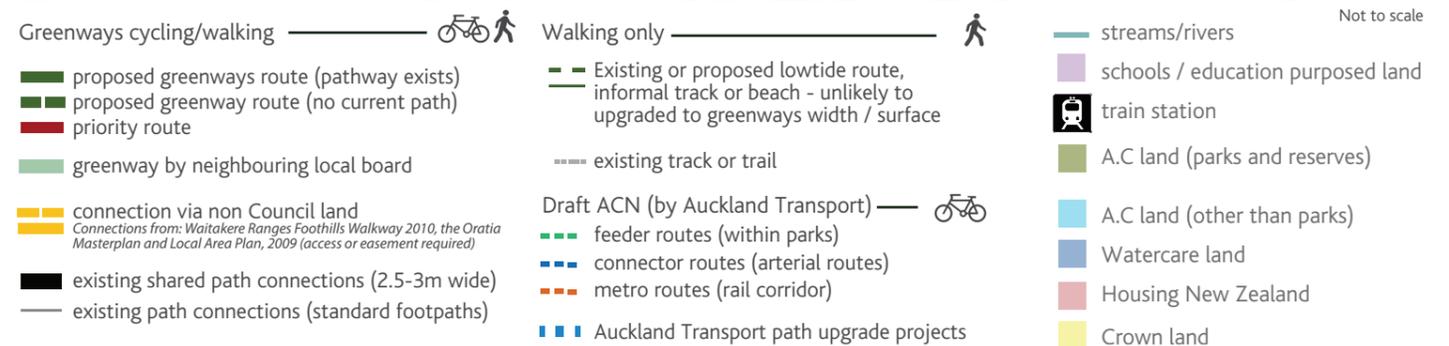
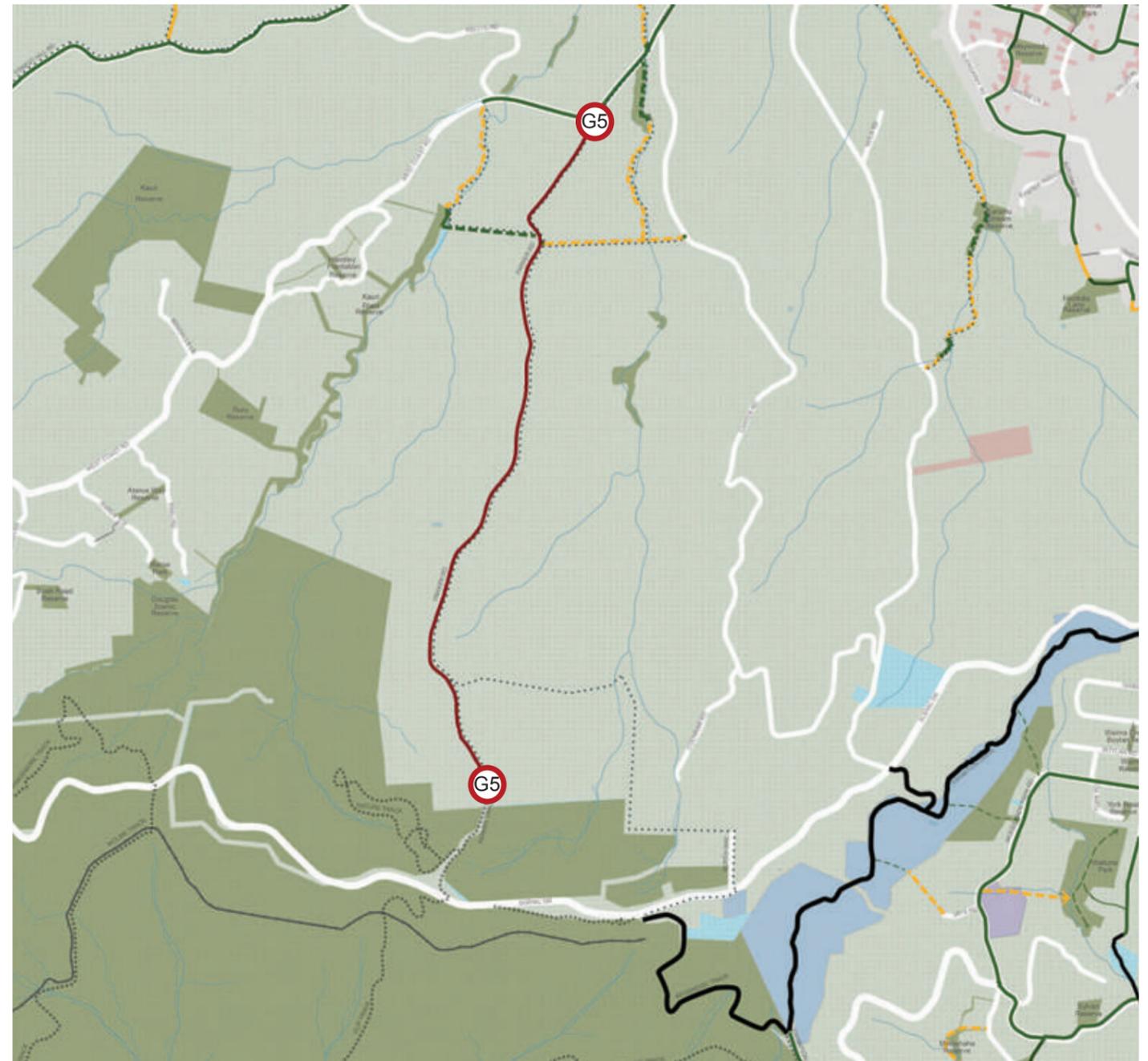
- width of road corridor on Parker Road is very narrow, there is very little room from no. 162 to the upper end
- safety of pedestrians on along Park Road with blind corners and high speeds travelled by vehicles
- steep topography in parts
- future parking constraints - with the increase of track network there will be a requirement for more parking spaces
- any connections through the neighbouring regional park land to this connection will need to take into account kauri dieback response, heritage area objectives and features.

Opportunities

- strengthen ecological connections along this link via the removal of weeds and replacement with native species.
- implement actions from the Oratia Local Area Plan
- working with the community to improve walking and cycling in the area and taking into account the Road Safety Oratia community survey 2018.

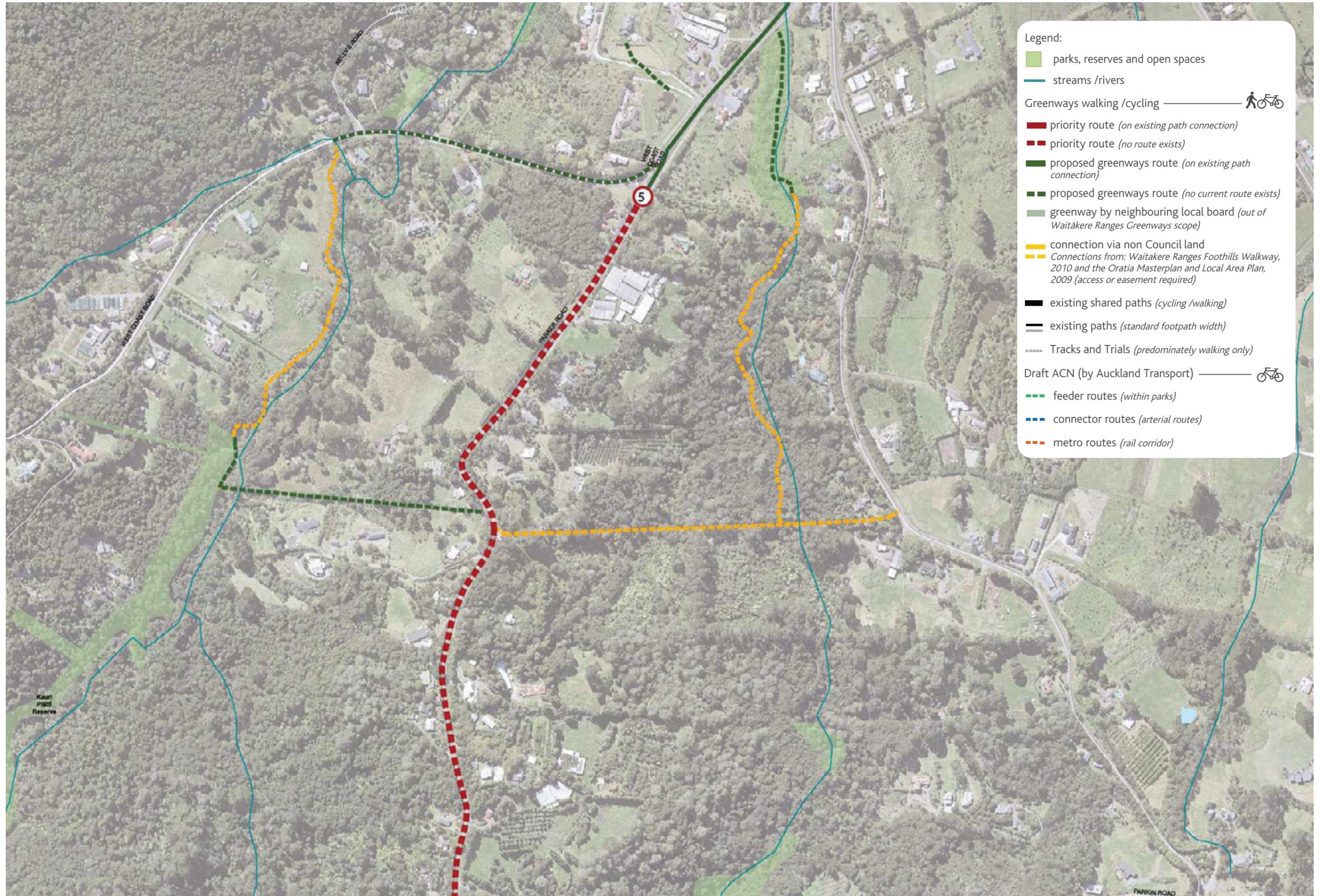
Deliverables (refer page 50-52 for the locations of 5)

- **5a)** 2.88km within the road corridor.

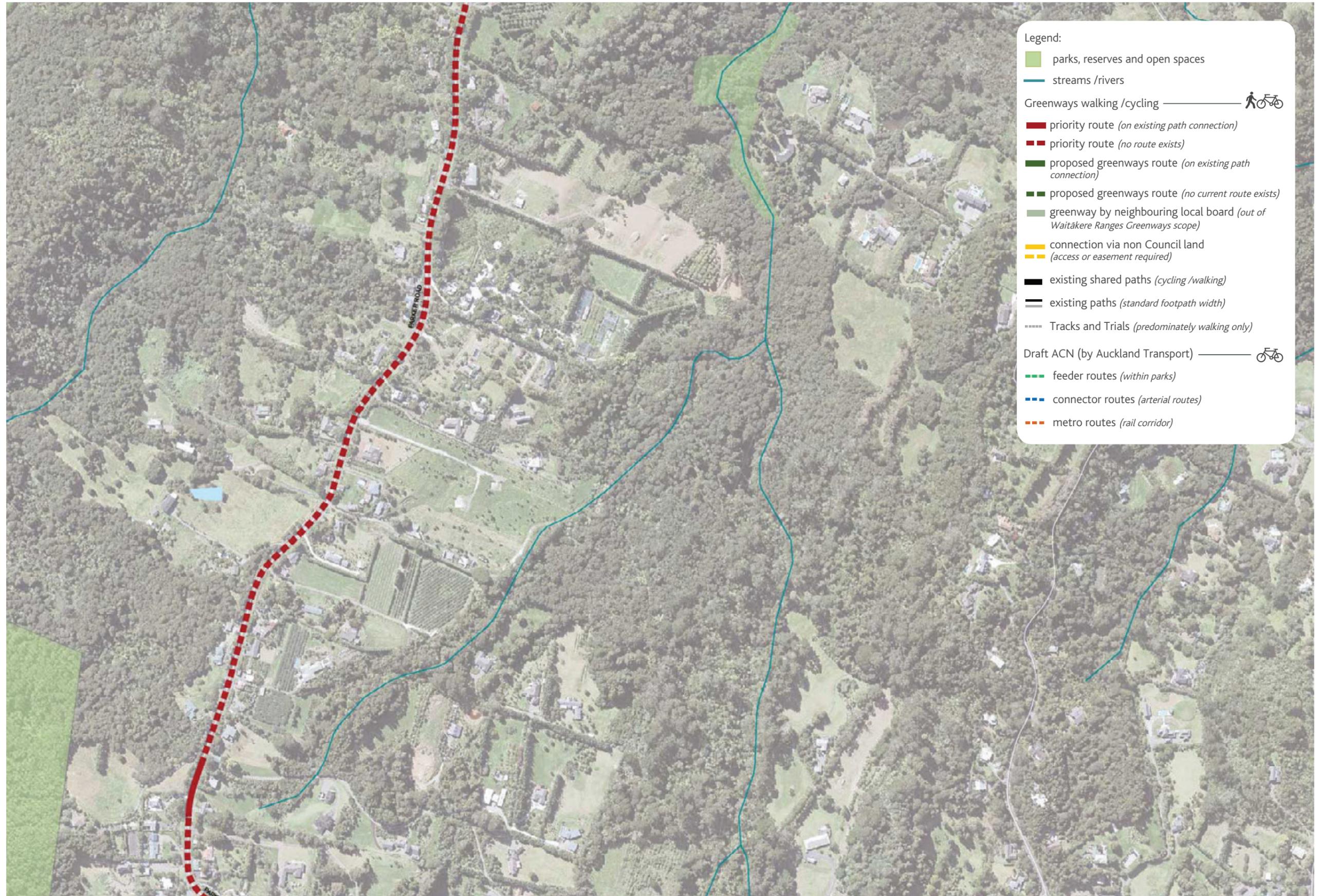


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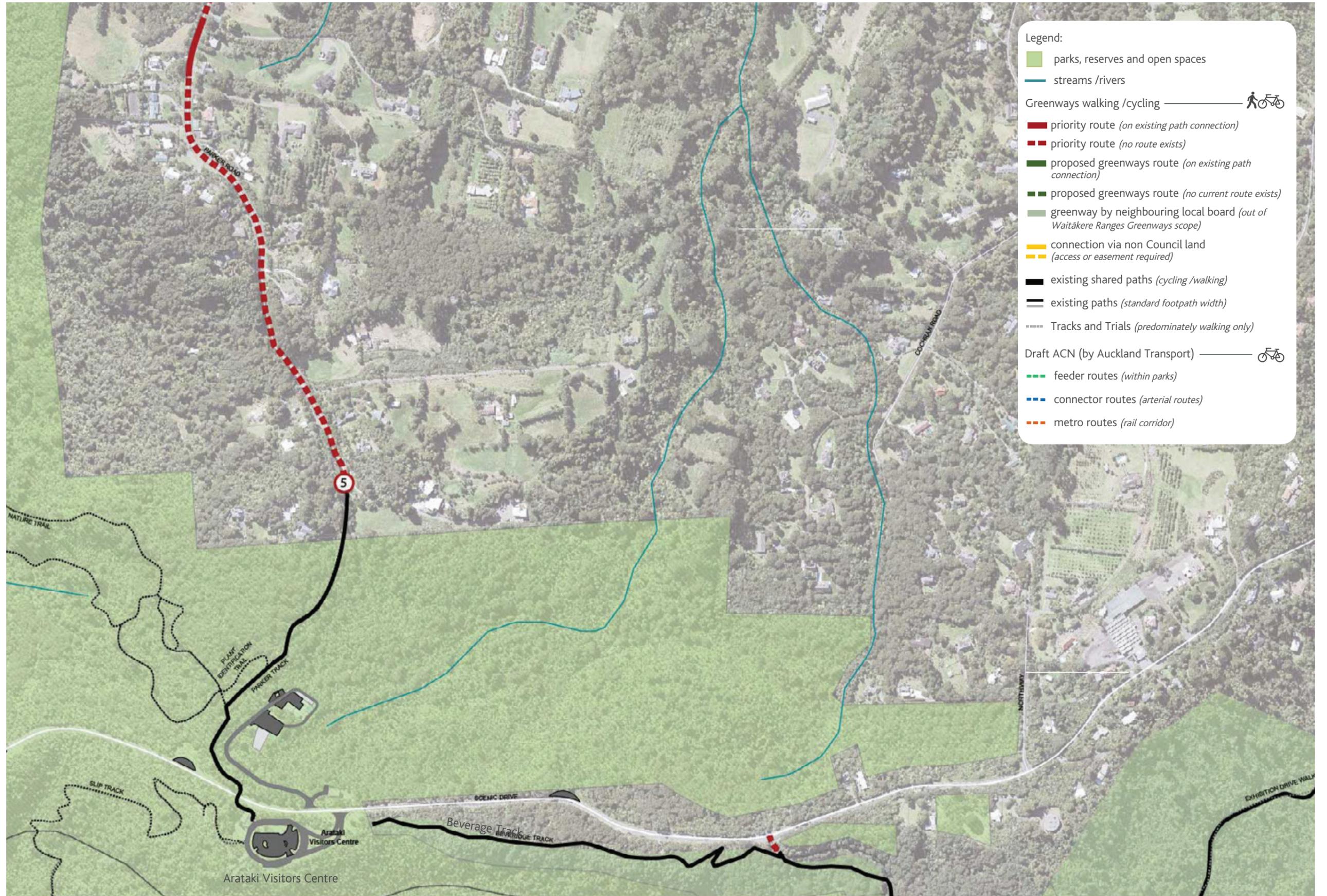
G5 - Parker Road Oratia to Arataki Visitor Centre



G5 - Parker Road Oratia to Arataki Visitor Centre



G5 - Parker Road Oratia to Arataki Visitor Centre



G6 - Swanson Foothills Walkway

Location and description

This route follows the track through Henderson Scenic Reserve from the lower end of Candia Road up to the corner of Vineyard Road, along vineyard road on to Seibel Road. It travels the full length of Seibel Road and meanders uphill through Seibel Reserve on recently upgraded walkway to Isabel Road (unformed) to Coulter Road. The connection follows Coulter Road east to Perris Road Walkway for 1.5km (newly formed connection) and onto the northern end of Coulter Road to Candia Road and Pooks Road to the Pooks Road / ONeills Road intersection where it meets the existing shared path at Penihana North which connects to Swanson Railway Station.

Ecology and cultural considerations

The connection sits within the Waitākere Ranges Heritage Area. The landscape is recognised for the pastoral areas of undulating lower valley and reserve areas of native bush and includes the Henderson Valley Scenic Reserve and Seibel Scenic Reserve (owned by Department of Conservation). The connections follow the 'Sensitive Ridgeline' of Coulter Road and Perris Road.

The Valley is rich in archaeological and heritage sites and is a cultural landscape of some significance. It has a number of historic structures and botanical sites, as well as evidence of a range of past activities. *'The area was part of the realms of the great forest of Tiriwa, accessed only by the grace and favour of Te Kawerau a Maki, who were also famous gardeners. Cultivation and settlement occurred within the Valley and there is evidence of kainga and storage pits on what is now the Welsh Hills area'*

- Henderson Valley/Opanuku Local Plan, 2010.

Constraints

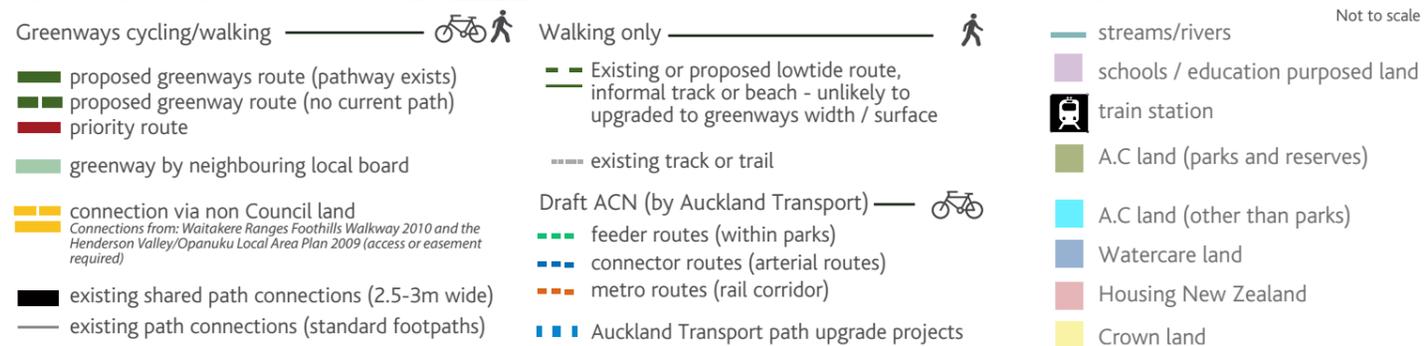
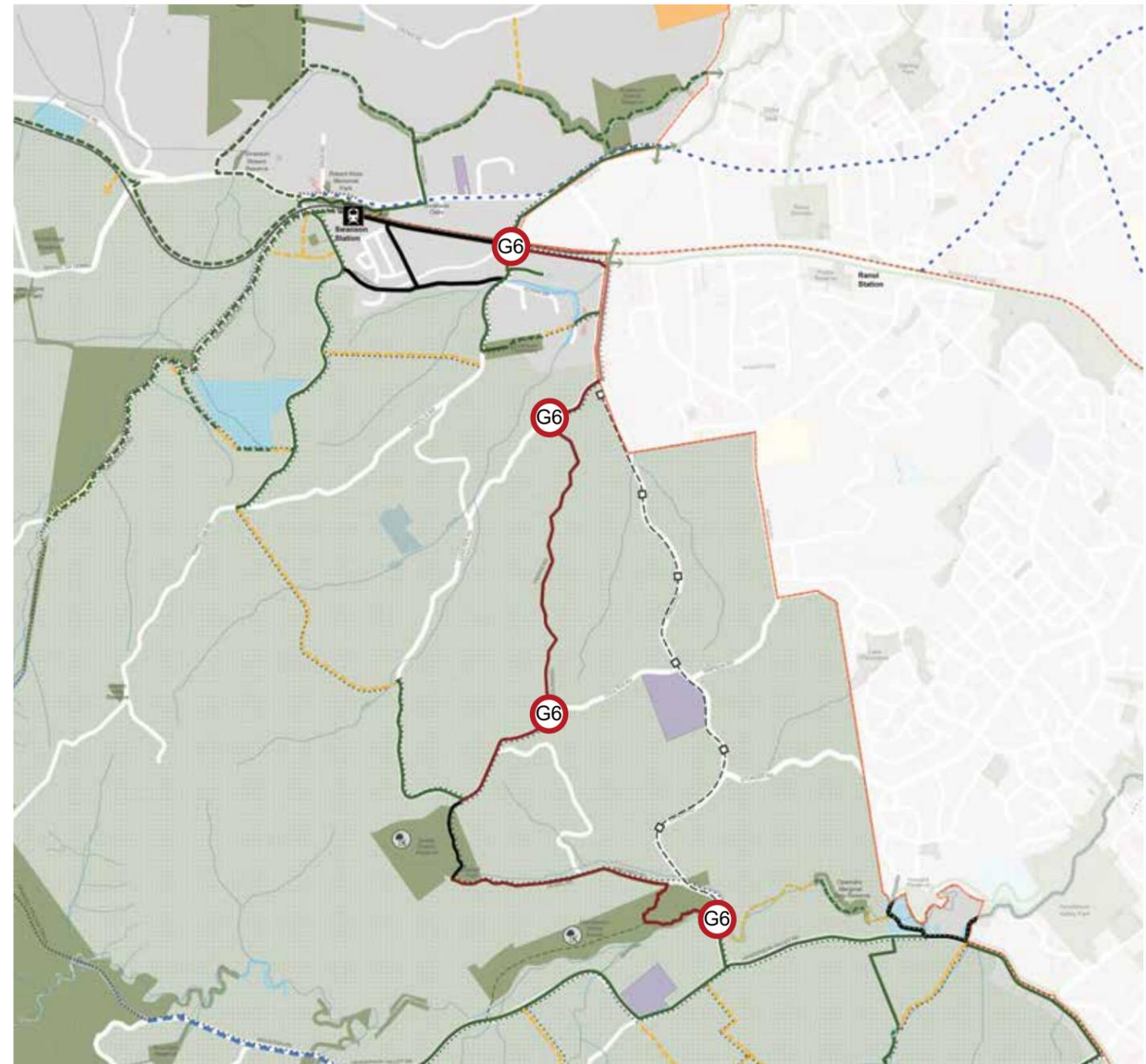
- Substantial earthworks are required to create a safe connection for pedestrians along Candia and Coulter Roads
- Kauri dieback management. The local parks Siebel Reserve and Henderson Valley Scenic Reserve have kauri trees present and were temporarily closed in 2019 while track upgrades were investigated.

Opportunities

- implement initiatives / actions to improve ecological outcomes within the Henderson Valley/ Opanuku Local Area Plan, including:
 - restore and connect natural areas to provide improved habitat, corridors and linkages
 - achieve integrated weed and pest management and control on private and public land
- connections to the new Perris Road Walkway and to the Penihana North Development area
- future connection to the Project Twin Streams / Henderson Valley walkway that follows Henderson Valley Road

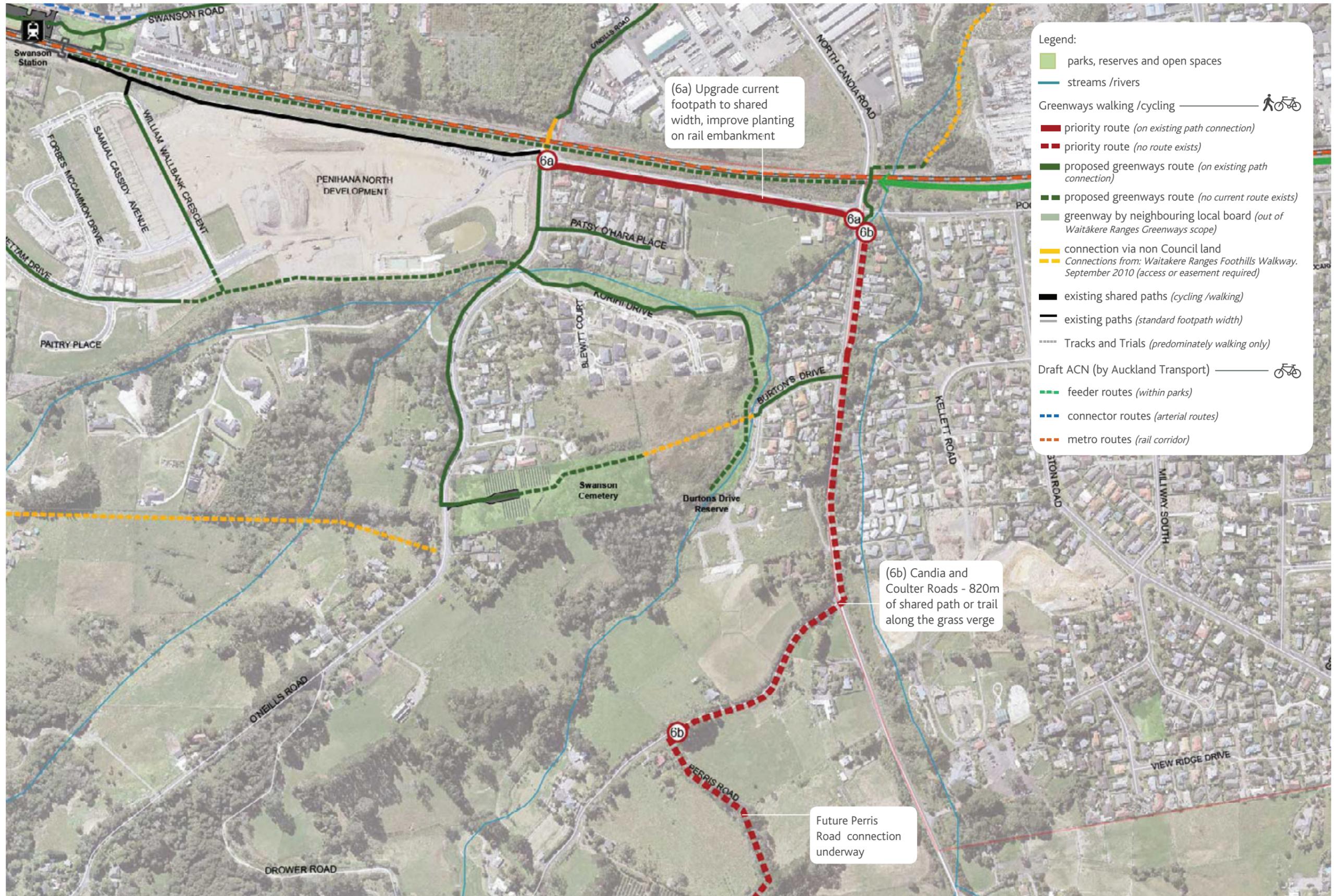
Deliverables (refer page 54-56 for the locations of 6a-6e)

- **6a)** Upgrade current footpath to shared width on the southern side of Pooks Road from Candia Road intersection to meet the shared path at Penihana North. Auckland Transport to provide cost.
- **6b)** Candia and Coulter Roads - 820m of shared path or trail along the grass verge, substantial earthworks required in some sections. Auckland Transport to provide the updated cost estimate for provision of a trail/shared path in this location.
- **6c)** South side of Coulter Road - 600m of shared path required to connect to Siebil Reserve from Perris Road Walkway. Auckland Transport to provide the updated cost estimate for provision of a trail/shared path in this location including the road section of Perris Road Walkway.
- **6d)** Seibel Reserve - 500m of existing 1-1.5m gravel track / stairs through bush on Department of Conservation land. Recent works carried out as part of the Foothills Walkway.
- **6e)** Vineyard and Seibel Roads 1.1km within existing road corridor from existing Candia Road footpath to Seibel Reserve. Auckland Transport to provide the updated cost estimate for provision of a trail/shared path in this location.
- **6f)** Connection through Henderson Valley Scenic Reserve - current renewals for the track from Vineyard Road to Candia Road.



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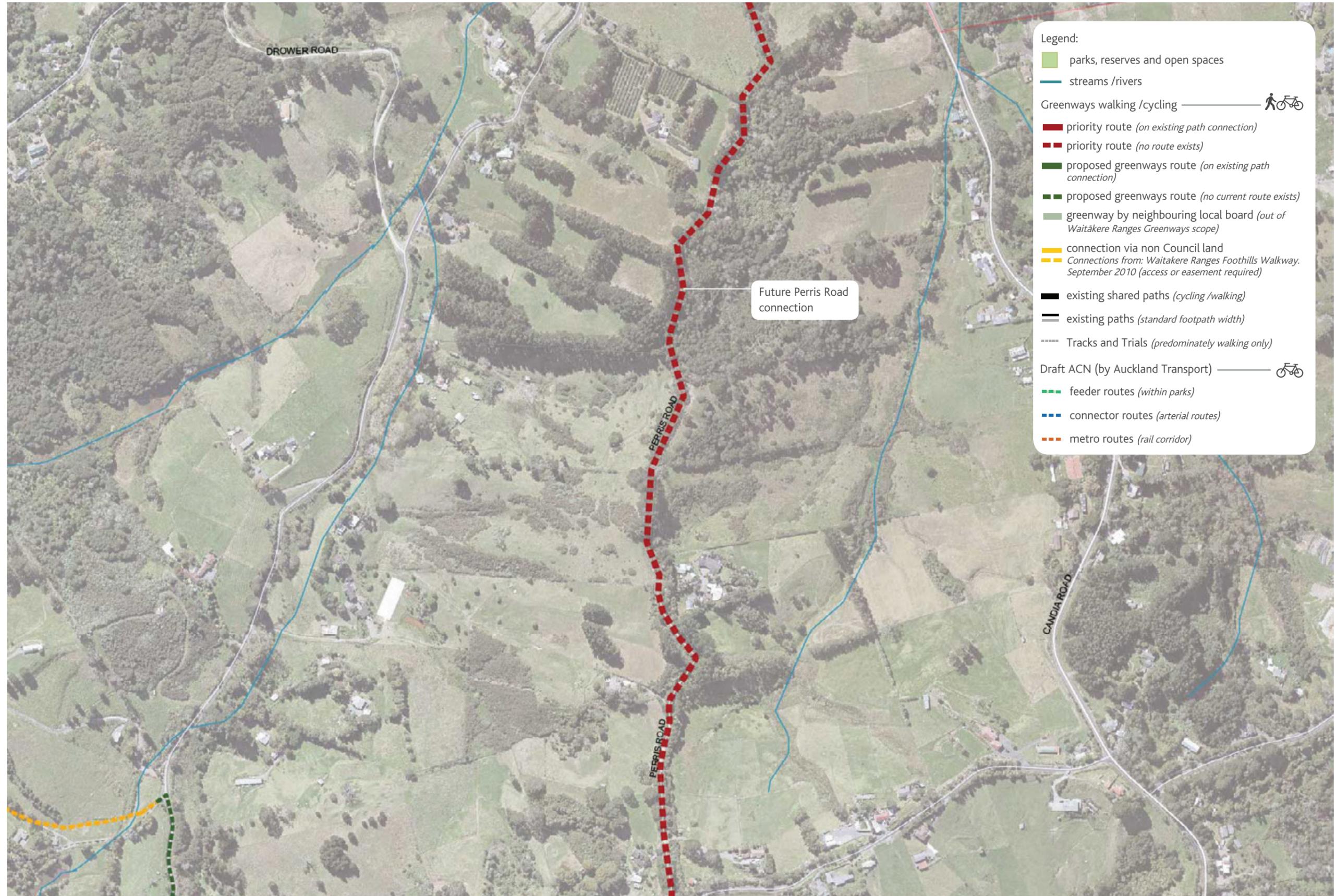
G6 - Swanson Foothills Walkway



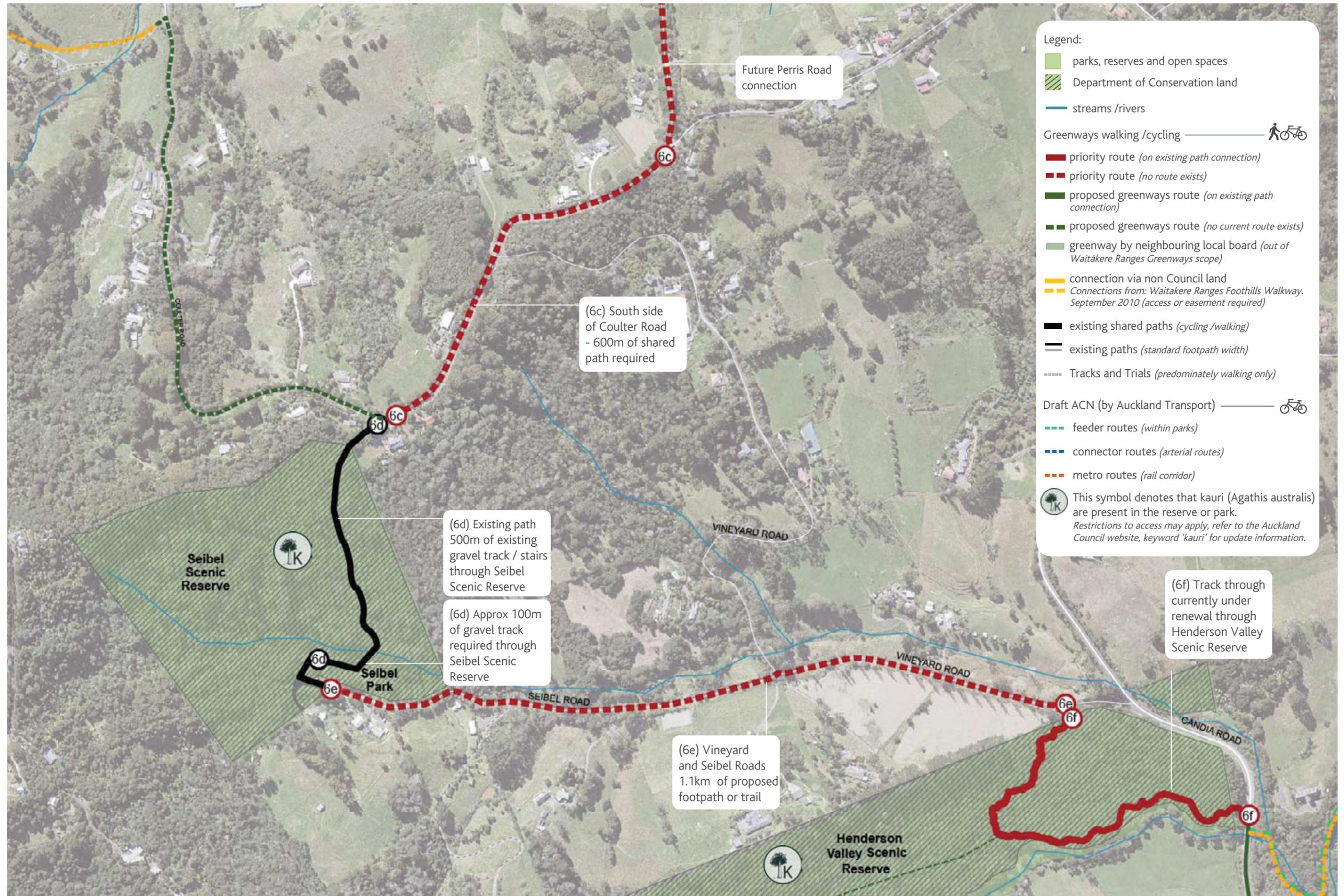
Legend:

- parks, reserves and open spaces
- streams /rivers
- Greenways walking /cycling 🚶🚲
- priority route (on existing path connection)
- priority route (no route exists)
- proposed greenways route (on existing path connection)
- proposed greenways route (no current route exists)
- greenway by neighbouring local board (out of Waitakere Ranges Greenways scope)
- connection via non Council land
- Connections from: Waitakere Ranges Foothills Walkway, September 2010 (access or easement required)
- existing shared paths (cycling /walking)
- existing paths (standard footpath width)
- Tracks and Trials (predominately walking only)
- Draft ACN (by Auckland Transport) 🚲
- feeder routes (within parks)
- connector routes (arterial routes)
- metro routes (rail corridor)

G6 - Swanson Foothills Walkway



G6 - Swanson Foothills Walkway



G7 - Glen Eden Train Station to Upper Waikumete Stream Walk and Cycleway

Location and description

This route Greenway links Clayburn Road and the Glen Eden train station to the Upper Waikumete Stream Walk and Cycleway via Captain Scott Road, Oates Road and Harold Moody Reserve / Duck Park.

Ecology and cultural considerations

This route follows the Waikumete Stream through Harold Moody Reserve and Duck Park. The Upper Waikumete Stream has had a significant amount of restoration (native planting and weed removal) as part of the Project Twin Streams and this is an ongoing project. The stream is then piped under the town centre - an area with significant impervious surface, and very little in the way of ecology. The Glen Eden Town Centre Plan has initiatives for reducing its ecological impact, including increased planting and pedestrian / cycling facilities, such as overhead canopies and bike lockers.

No archaeological sites are documented. That said, there is significant opportunity to improve the habitat, stream condition and water quality overall, and this would be of interest to Mana whenua in terms of restoring the health of the waterway. The route follows sections of Waikumete Stream. In looking at this route "water sensitive design" principles will be taken into account in looking at the feasibility and design.

Constraints

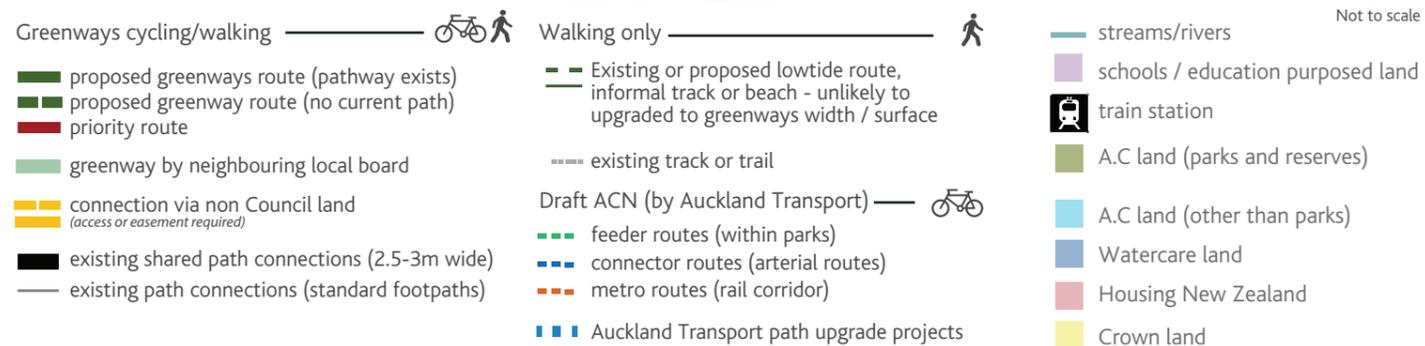
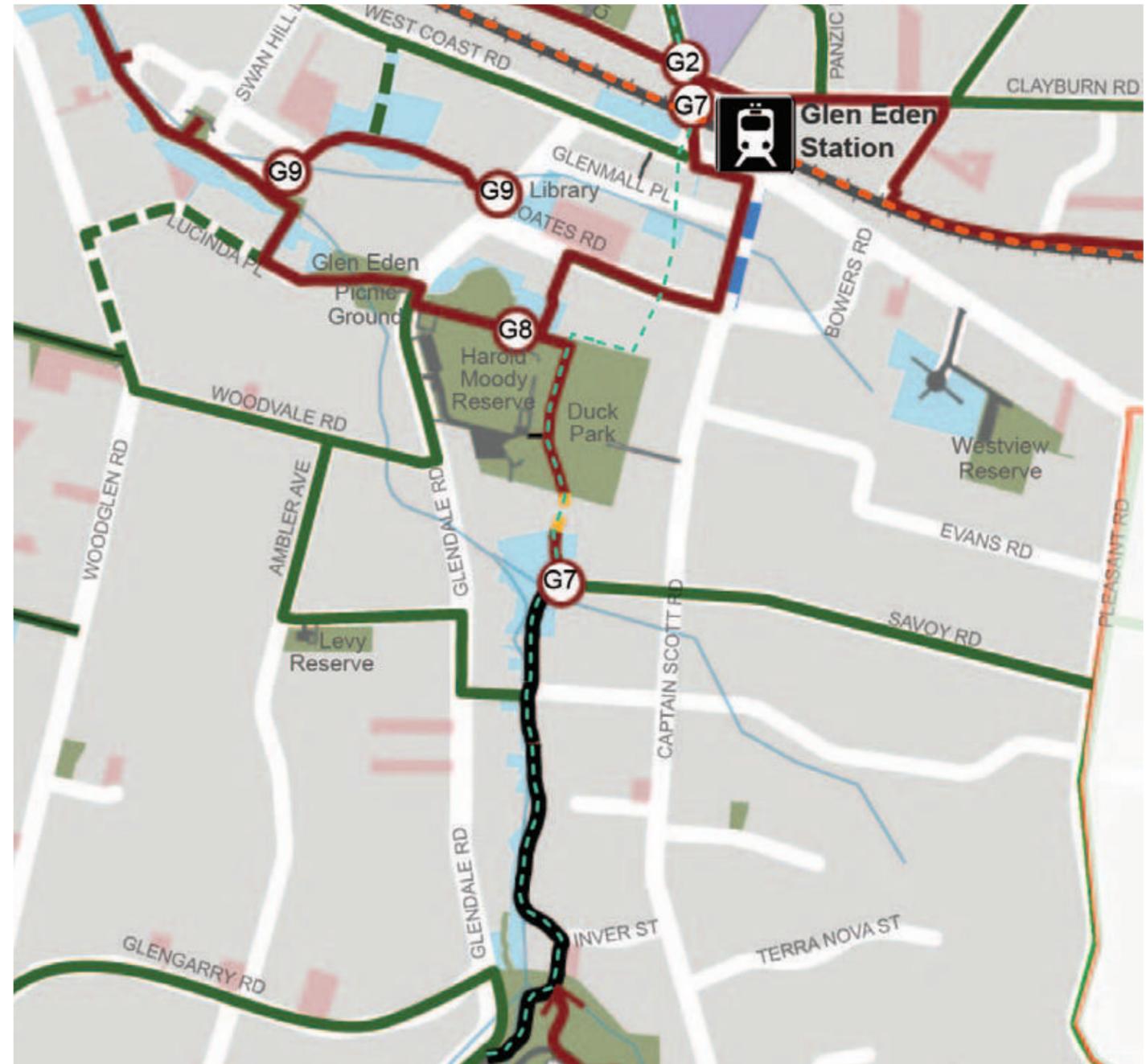
- Easement or acquisition would be required through private property on Oates Road, with the alternative route talking in sections of G8 and G9 greenways.

Opportunities

- improve the safety of pedestrian crossing at the Glenview / West Coast Road intersection to better connect passengers to the station
- G7 aligns with sections of the Auckland Transport 'feeder' route (ACN), and the proposed cyclepath along the north end of Captain Scott Road - potential AT funding
- timing for works - current Watercare works along Glendale Road and the Upper Waikumete Stream
- connect to the Upper Waikumete Stream Walk and Cycleway at Savoy Road (Project Twin Streams) and continue the restoration of the stream along Duck Park - much community support for this
- implement related actions from the Glen Eden Town Centre Plan, such as 'Low Impact Design' stormwater management. This could include swales in the streets and carpark to filter rainwater runoff. Other opportunities identified in the plan that support the aims of the greenways include:
 - carpark area: provide shade trees and other planting at ground level (currently raised planters)
 - walkways: provide weather protection to footpaths where appropriate
 - cycleways: signage and integrate cycle facilities i.e lockers and sheltered bike racks to buildings
- connect to Greenways G2 (Western Rail Corridor) and G8 which continues down Waikumete Stream and across to Singer Park.

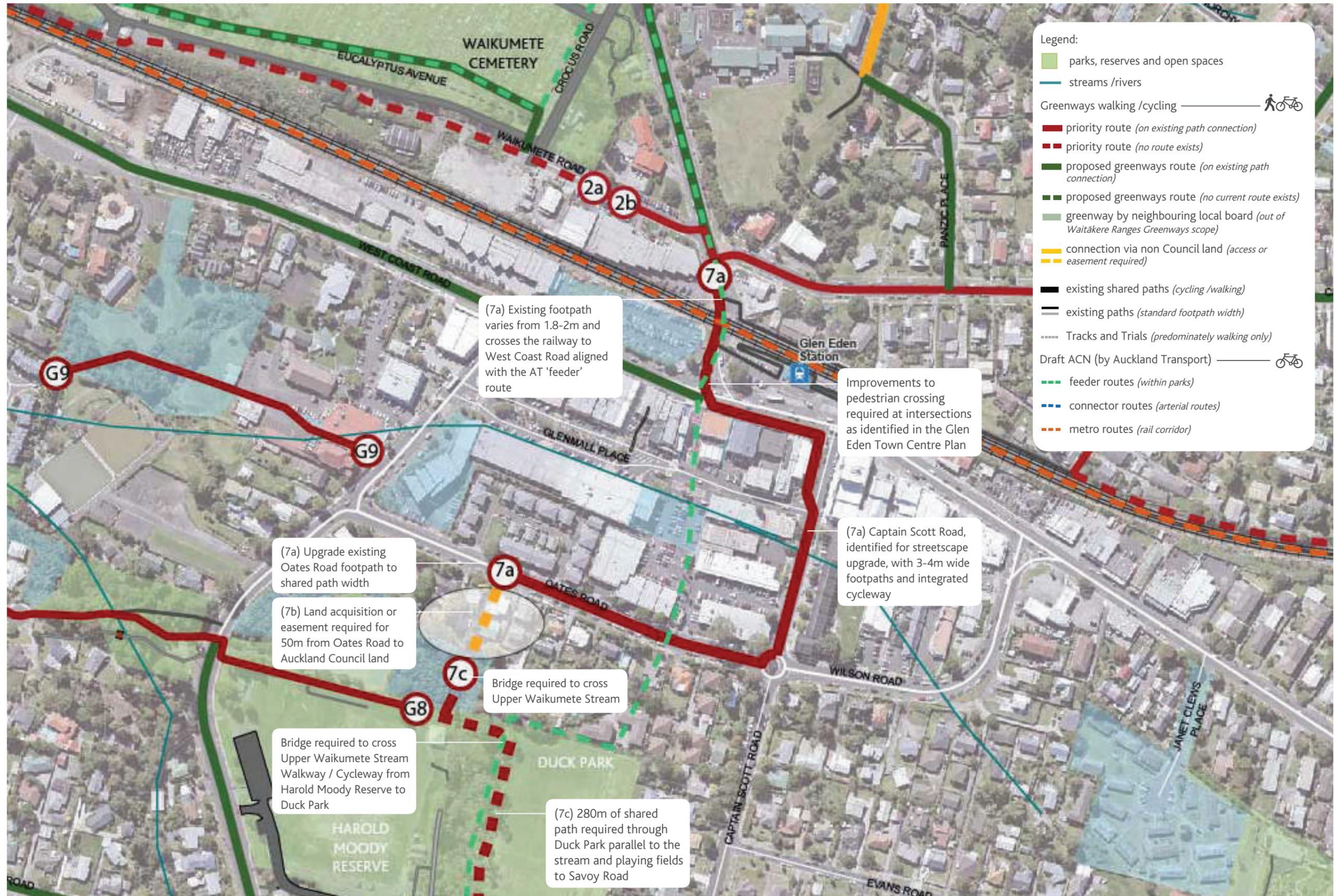
Deliverables (refer page 58-59 the locations of 7a-7e)

- 7a)** 500m of existing footpath requiring upgrade to shared path on Glen View Road, Captain Scott Road (section excluding 50m of 1.8m cyclelane) and Oates Roads. Feeder route shown for cycleway along Glenview to West Coast Road. Connection along Oates Road does not align with Auckland Transport 'feeder route', alternatively the 'feeder' route is shown through Glenmall Place Carpark (Feeder realignment to be considered). Auckland Transport to provide cost within road corridor. Note: Glenmall Place project would be a combined Local Board and Auckland Transport Project. Refer to the Glen Eden Town Centre Implementation Plan for project summary and cost.
- 7b)** 50m shared path through private land - 1/3 and 2/3 Oates Road (flats). \$16,250 for 2.5m shared path. Easements or acquisition required (not costed). Note: Auckland Transport 'feeder route' shown through private properties 15 and 15a Oates Road.
- 7c)** 280m through Duck Park, along side the stream to Savoy Road to connect to Upper Waikumete Cycleway Walkway, crossing stream in 2-3 places. Standard 2.5m concrete shared path \$91,000 exc. bridging, consent, professional services and earthworks. Additional revegetation planting of the stream margin approx \$40 per msq. Potential easement along stream margin at 57 Savoy Road.

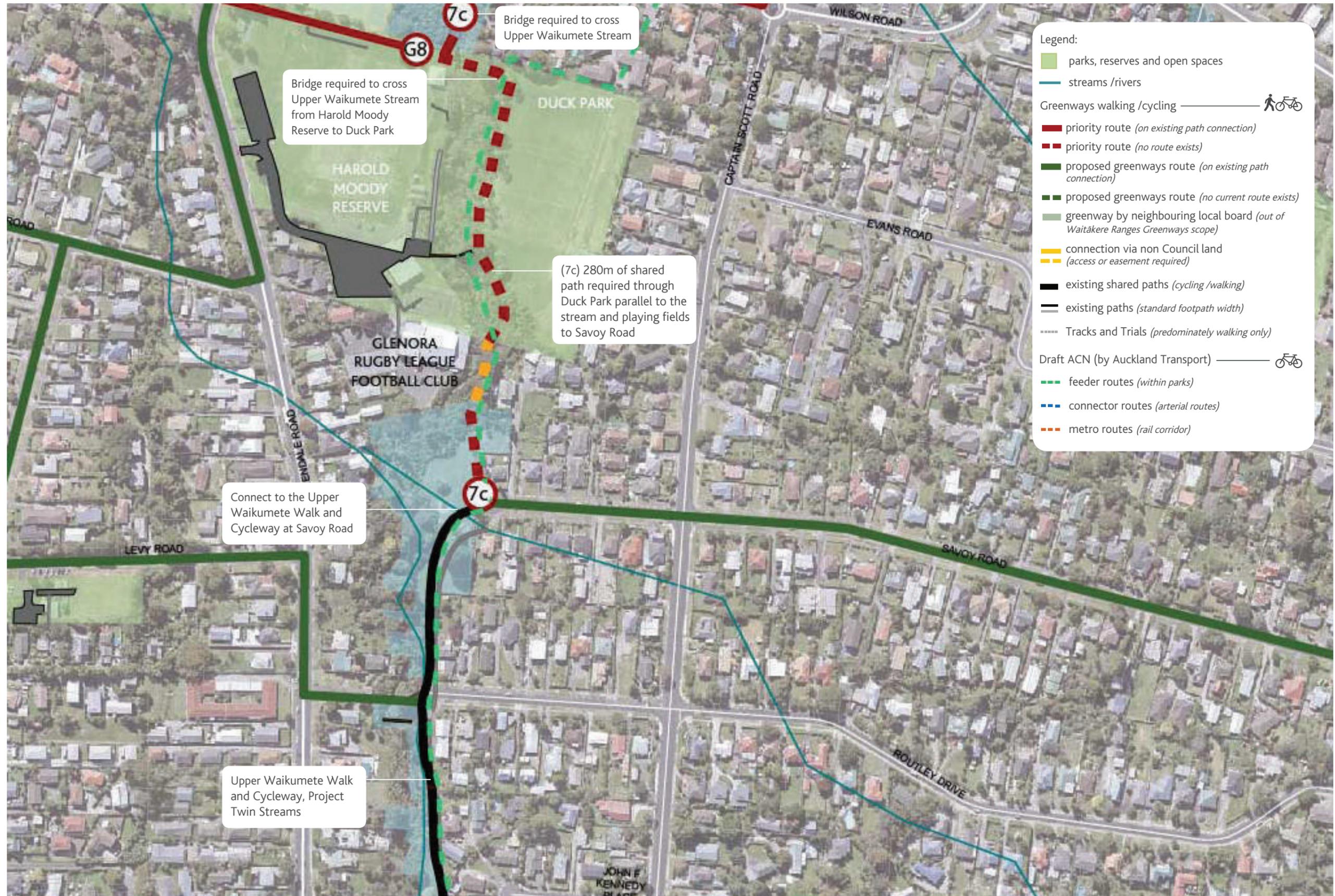


NOTE: These plans are indicative only, for the purposes of identifying opportunities, constraints and setting budget estimates. They are subject to feasibility, consultation/landholding agreements and detailed design, which may alter the routes shown. Further investigation is needed to determine the feasibility of cycle access. Walking tracks are shown where cycling is thought to be unachievable.

G7 - Glen Eden Train Station to Upper Waikumete Stream Walk and Cycleway



G7 - Glen Eden Train Station to Upper Waikumete Stream Walk and Cycleway



G8 - Singer Park to Harold Moody Reserve alongside Waikumete Stream

Location and description

This route starts at Singer Park and crosses West Coast Road to connect to esplanade reserve alongside Waikumete Stream until Lucinda Place, from here it joins to Glen Eden Picnic Ground via the existing footpath and crossing at Glendale Road to Harold Moody Reserve. From this point, G8 connects to G7 priority Greenway.

Ecology and cultural considerations

The Waikumete Stream which forms part of the Glen Eden catchment, flows the length of this connection towards Henderson via Parris Park. Restoration (native planting and weed removal) has been undertaken along sections of the Upper Waikumete Stream as part of the Project Twin Streams with the legacy Council, and spray-free weed removal is carried out by community groups to maintain the streamside vegetation in the Glen Eden area.

Glen Eden Picnic Ground features two unlisted sites under the Cultural Heritage Inventory (CHI). Botanical site (trees) and Historic Structure (Flax Mill). There is significant opportunity to improve the habitat, stream condition and water quality overall, and this would be of interest to Mana whenua in terms of restoring the health of the waterway.

Constraints

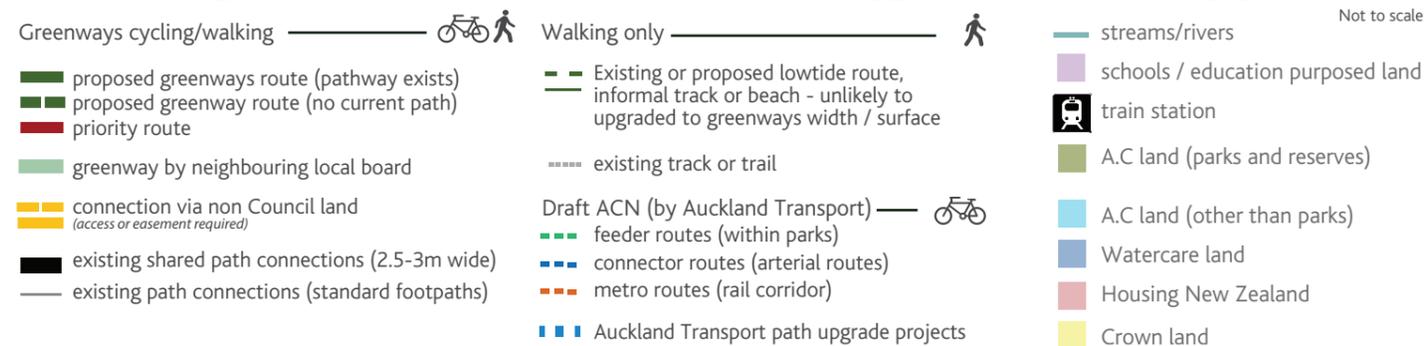
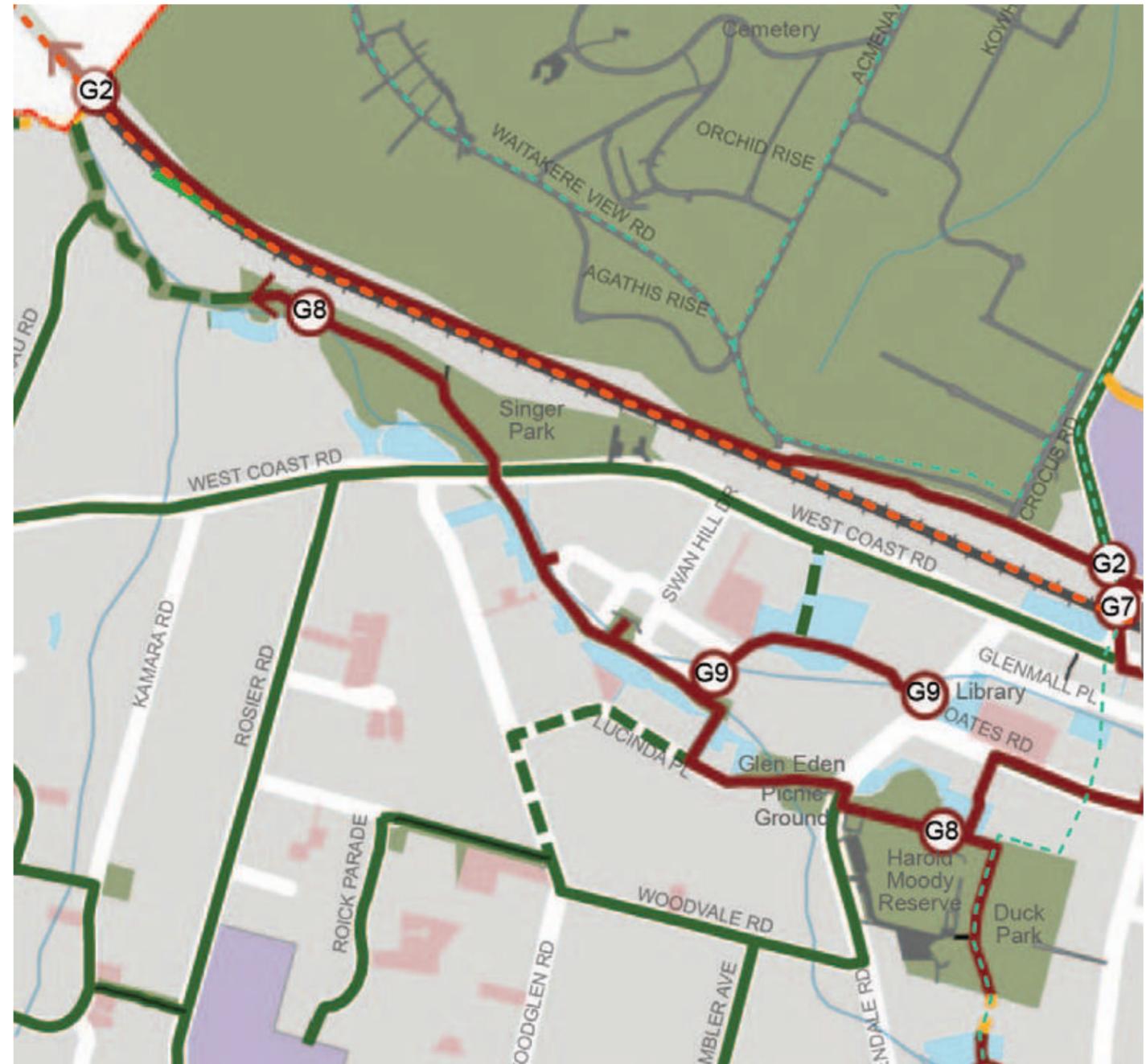
- safe crossing of West Coast Road required - pedestrian crossing or island (Auckland Transport to provide guidance)
- safe crossing of Glendale Road required at the low point on a corner, sightlines may be an issue
- potential path / tree root conflict for widening existing path to shared width at the Glen Eden Picnic Ground (Botanical site listed under CHI).

Opportunities

- connect Barnea Circle and Verdale Circle residential areas to the route
- restoration of the stream esplanade reserve could be achieved in partnership with community groups as it is an extension of Project Twin Streams (e.g EcoMatters and Glen Eden Transition Town)
- potential to join to the future Western Rail Corridor cycleway / walkway at Singer Park (G2)
- potential to connect to G7 Greenway at Harold Moody Reserve, which connects to the Upper Waikumete Stream and Glen Eden Town Centre.

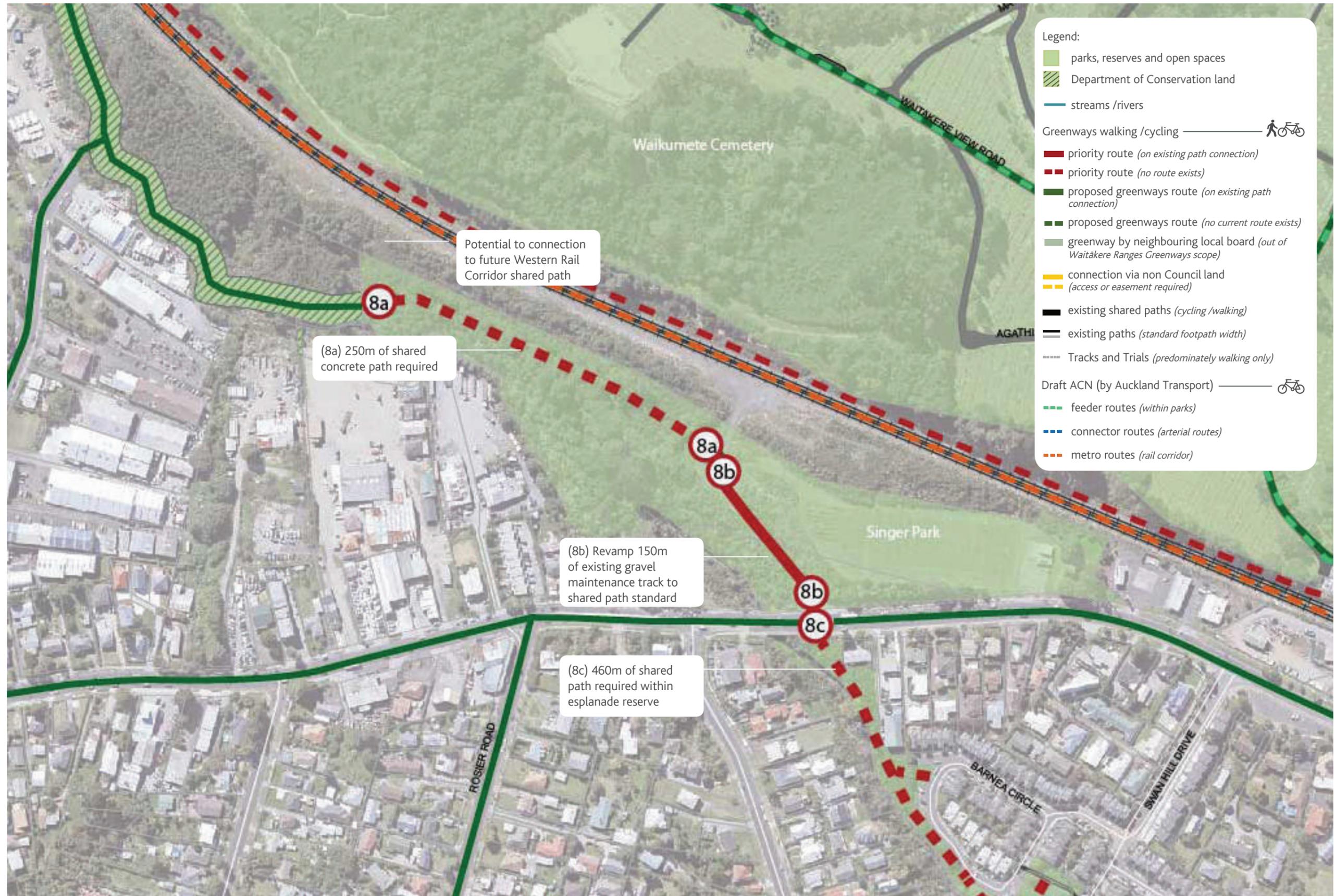
Deliverables (refer page 61-62 the locations of 8a-8d)

- **8a)** 250m of 3m wide shared concrete path required within Singer Park to connect to the future Western Rail Corridor cycleway /walkway
- **8b)** 150m of shared concrete path on existing gravel park track to West Coast Road
- **8c)** 460m of concrete shared path required along esplanade reserve. Potential boardwalk sections required if connection is located across grade. Connection can align next to Barnea /Verdale Circle carriageways. Vegetation clearance required
- **8d)** 125m of existing 1.5m footpath to upgraded to shared path width at Glen Eden Picnic Ground. Auckland Transport to cost Lucinda Place footpath upgrade.



NOTE: These plans are indicative only, for the purposes of identifying opportunities, constraints and setting budget estimates. They are subject to feasibility, consultation/landholding agreements and detailed design, which may alter the routes shown. Further investigation is needed to determine the feasibility of cycle access. Walking tracks are shown where cycling is thought to be unachievable.

G8 - Singer Park to Harold Moody Reserve alongside Waikumete Stream



G8 - Singer Park to Harold Moody Reserve alongside Waikumete Stream



G9 - Glen Eden Town Centre: Verdale Circle to Glendale Road

Location and description

This route connects the residential area at Verdale Circle to Glendale Road and the Glen Eden Town Centre via 300 West Coast Road and Glen Eden Playhouse Theatre.

Ecology and cultural considerations

This connection crosses the natural gully system situated behind the Playhouse Theatre in Auckland Council land, running from West Coast Road towards the Glen Eden Bowling Club. This gently contoured site features a combination of established exotic trees and native shrubs along the stream banks. Additional native planting and removal of invasive species such as bamboo on the periphery will improve both the ecology of the area and sightlines.

No archaeological sites are documented, although the Glen Eden Playhouse Theatre is listed as a Historic Places under the Unitary Plan. There is significant opportunity to improve the habitat, stream condition and water quality overall, and this would be of interest to Mana whenua in terms of restoring the health of the waterway. The route follows sections of Waikumete Stream. In looking at this route "water sensitive design" principles will be taken into account in looking at the feasibility and design.

Constraints

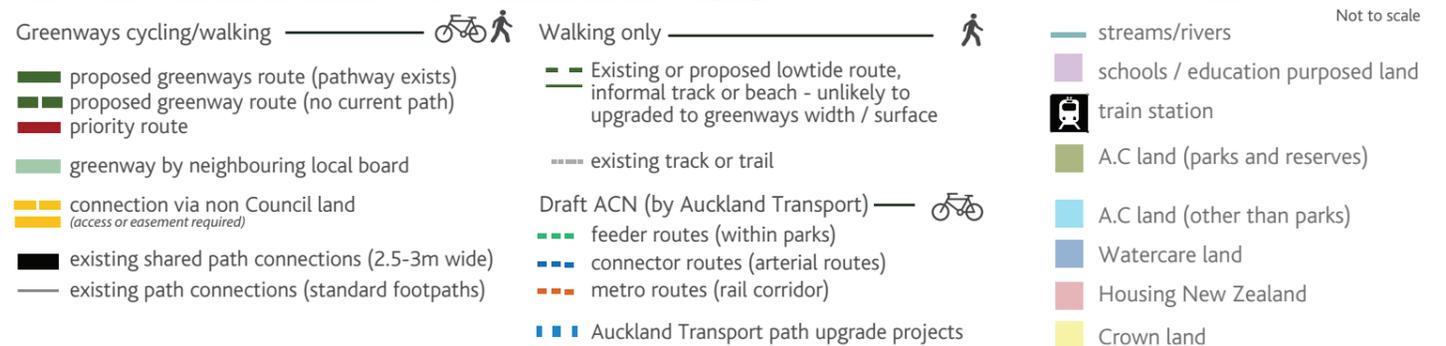
- easement required along the Glen Eden Playhouse driveway (Waitākere Playhouse Theatre Trust)
- potential bridge required over the ephemeral stream (further scoping required)

Opportunities

- provide a key link between the town centre to the adjacent medium density housing area, encouraging walking and cycling for short shopping trips
- potential traffic calming and street trees envisaged for Glendale Road within the Glen Eden Town Centre Plan will improve pedestrian safety, clarity and experience for this greenway
- implement interpretive signage as indicated in the Glen Eden Town Centre Plan (located along greenway)
- potential to extend connection to West Coast Road (as indicated on adjacent map)
- improve passive surveillance of the park area from adjacent residential areas with removal of bamboo and other invasive species from the park land
- future connection to G8 Greenway along the Waikumete Stream
- improve the habitat, stream condition and water quality overall by restoration with native planting

Deliverables

- **9a)** 75m along existing footpath on Verdale Circle to G8 Greenway. Auckland Transport to cost footpath upgrade to shared path width or provision for cyclists on quiet road with improvements to footpath for pedestrians
- **9b)** 150m of 3m wide shared concrete path required through park. Removal of bamboo required, with replacement amenity planting \$90 per msq. Additional revegetation planting of gully area required
- **9c)** 50m along existing asphalt driveway at Glen Eden Playhouse Theatre, 50m over existing asphalt Auckland Council owned carpark.



NOTE: These plans are indicative only, for the purposes of identifying opportunities, constraints and setting budget estimates. They are subject to feasibility, consultation/landholding agreements and detailed design, which may alter the routes shown. Further investigation is needed to determine the feasibility of cycle access. Walking tracks are shown where cycling is thought to be unachievable.



Figure 18. View over Western Heights, Waitakere Ranges back right. Auckland Council Stock Photo, 2012.

4.0 Future development

Waitākere Ranges Greenways

4.1 Future development

The Waitākere Ranges Greenways Plan will be implemented over time, and may include connections in open space land, within the road corridor, or as easements or agreements/joint projects with other agencies. Physical works to be carried out may include the upgrade of existing footpaths or roads to meet the requirements set out in the *Greenways Design Guide*. They may also include the creation of entirely new connections within parks, through designation areas and/or via property easements.

Successful implementation of the greenway plan requires co-ordination and commitment from the Waitākere Ranges Local Board in conjunction with Auckland Council and Council-Controlled Organisations (CCOs), as well as key related public/utility organisations such as the New Zealand Transport Agency (NZTA), KiwiRail, Watercare, Transpower and Vector.

This section gives an overview of the future development and implementation of the Waitākere Ranges Greenways Plan over the next twenty years, including best practice for implementation, stakeholder involvement, funding availability, and related case studies.



Walking group, 2015. Auckland Stock Photo.

4.2 Waitākere Ranges Heritage Area

The Waitākere Ranges Heritage Area (WRHA) spans approximately 27,700ha of public and private land located between metropolitan Auckland and the coast of the Tasman Sea (to the west), the Manukau Harbour coastline to the south and the Waitākere Valley to the north. The area includes the Waitākere Ranges, foothills and coastal areas.

The Purpose of the Waitākere Ranges Heritage Area Act 2008:

The Waitākere Ranges Heritage Area Act 2008 established the Waitākere Ranges Heritage Area ('the heritage area') and has as its purpose (ss3(1)(a) and (b)) to:

- recognise the national, regional, and local significance of the Waitākere Ranges heritage area
- promote the protection and enhancement of its heritage features for present and future generations.

The heritage features of the Waitākere Ranges Heritage Area include:

- ecosystems
- landscapes and landforms
- the subservience of the built environment to the area's natural and rural landscape
- the past and present human culture of the heritage area
- opportunities for wilderness experiences and recreation
- the regional park
- the water catchment and supply system.

4.3 Design Guides

There are several design guidelines, including:

- WRHA design guide for local parks
- WRHA Foothills Design Guide
- WRHA Building in the Bush
- WRHA transport infrastructure design guidelines
- Swanson Design and Heritage Guidelines
- Auckland Design Manual: Water Sensitive Design.

4.4 Kauri Dieback

Kauri dieback survey

Kauri trees are under threat from kauri dieback disease (*Phytophthora agathidicida*). To ensure the survival of our native kauri trees, we are taking significant steps to prevent the spread of kauri dieback. We conduct regular surveys to check the state of our kauri. In recent years, we have had surveys at:

- Waitākere Ranges Regional Park (2011, 2016)
- Hunua Ranges Regional Park and Āwhitu Peninsula (2012, 2017)
- Hauraki Gulf islands (2013)
- our local parks across Auckland (2014)
- northern regional parks (2015).

Waitākere Ranges rāhui

In December 2017, mana whenua Te Kawarau ā Maki placed a rāhui over Te Waonui-a-Tiriwa, the forested areas of the Waitākere Ranges. Since the council closed much of the regional park, and some local park tracks, there has been ongoing korero.

4.5 Best practice for implementation

Successful implementation of the greenways plan relies on a co-ordinated approach between Auckland Council's Parks, Biodiversity, Stormwater and Community Policy and Planning departments, as well as Auckland Transport. Future detailed planning for each of the individual projects to be designed and constructed over the coming years shall take into consideration best practice guidelines, which include:

- Local Paths Design Guide (by Auckland Council and Auckland Transport)
- Auckland Transport Walking and Cycling Code of Practice
- Auckland Council Stormwater Code of Practice
- Auckland Council Parkland Design Guidelines
- Biosecurity

In addition to the above, and all relevant Unitary Plan controls, there are related 'best practice' documents developed by external agencies that should also be taken into account as designs develop, including:

- Bridging the Gap – Urban Design Guidelines for Bridges (New Zealand Transport Agency)
- Caring for Archaeological Sites (Department of Conservation)
- National Guidelines for Crime Prevention through Environmental Design (CPTED) (Ministry of Justice).



Figure 19. Clark Street roadside planting, New Lynn. Auckland Council Stock Photo, 2013.



Figure 20. Twin Stream walkway / cycleway in Waitakere Ranges Local Board area. Auckland Council Stock Photo, 2013.

4.6 Stakeholder involvement and funding

Ongoing community engagement, stakeholder collaboration and partnerships are key to the successful implementation of the Waitākere Ranges Greenways. Likely stakeholders include:

- Neighbouring Local Board areas (Rodney, Henderson-Massey and Whau Local Boards)
- Iwi, including Te Kawerau a Maki, Ngāti Whātua o kaipara and Ngāti Whātua o Ōrākei
- Cycle Action Auckland
- disability advocate groups, such as YES Disability
- operators of community facilities, including schools
- Ministry of Education
- Department of Conservation
- Housing New Zealand
- local residents and business associations
- Community groups (by local area)
- Forest and Bird – Waitākere Branch
- Friends of Arataki
- EcoMatters
- The Greenways Project Inc.
- Glen Eden Transition Town
- Glen Eden Project Twin Streams
- Waitākere Ranges Conservation Network
- Waitākere Ranges Protection Society
- West Auckland Historical Society
- Titirangi Protection Group

Grass-roots community involvement is very important to ensure the ongoing success of the greenways plan. Local knowledge-sharing and volunteering are needed to provide community ownership, care and responsibility. Community involvement could take the form of planting/weed clearance days, 'adopt a stream/street' groups, fund-raising, lobbying and artistic input.

Some funding has already been allocated for greenways in the Waitākere Ranges Local Board budget. Other funding avenues include Auckland Transport and NZTA's regional cycleways fund.



Figure 21. Community planting, West Auckland, 2013.



Figure 22. Community Planting, West Auckland, 2013.



Figure 23. View over Laingholm. Auckland Council Stock Photo, 2012.

5.0 References

Waitākere Ranges Greenways

Text References

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Image References

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Figure 8.	Esther Hjelmström (2014). <i>Gravel track within road reserve used for bridleway, Whitford, Auckland.</i>	Figure 29.	Portland Development Commission, Lloyd Crossing Project. (n.d) <i>2004 Existing Water Conditions.</i>
Figure 9.	Esther Hjelmström (2013). <i>Art in pathway at Twins Streams Walk/ Cycleway, West Auckland.</i>	Figure 30.	Portland Development Commission, Lloyd Crossing Project. (n.d) <i>2050 Per Plan Water Use Conditions.</i>
Figure 10.	Esther Hjelmström (2013). <i>Landing Road Walkway, South Titirangi, Auckland.</i>		
Figure 11.	Esther Hjelmström (2013). <i>Zig Zag Track, Titirangi, Auckland.</i>		
Figure 12.	Auckland Council Stock Photo (2013). <i>Wide gravel pathway, Arataki Visitor Centre.</i>		
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Figure 13.	Resilio Studio and MRCagney Auckland Council Stock Photo (2016). <i>Positioning Local Paths in Auckland's Walking and Cycling Network - Resilio Studio and MRCagney.</i>		
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Figure 16.	Bike Auckland (2017). <i>Pou whenua by Katz Maihi at the new walking and cycling bridge over Te Auaunga/ Oakley Creek.</i> https://www.bikeauckland.org.nz/connecting-whenua-bridge-waterview/		

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Figure 31. City Of Portland, Bureau of Environmental Services. Portland Greenways and Green Streets. (n.d) Stormwater runoff treatment, Portland.

Figure 32. City Of Portland, Bureau of Environmental Services. Portland Greenways and Green Streets. (n.d) *Permeable paving setout, Portland.*

Figure 33. City Of Portland, Bureau of Environmental Services. Portland Greenways and Green Streets. (n.d) *Green Streets, Portland.*

Figure 34. Environmental Services. City of Portland. Green Streets in Portland. (n.d) *Planted verges, swales, Portland.*
Retrieved deom URL:
<http://www.portlandonline.com/bes/index.cfm?a=209685&c=45379>

Figure 35. Environmental Services. City of Portland. Green Streets in Portland. (n.d) *Planted verges, swales, Portland.*

Figure 36. Environmental Services. City of Portland. Green Streets in Portland. (n.d) *Swales and footbridges, Portland.*

Figure 37. Environmental Services. City of Portland. Green Streets in Portland. (n.d) *Green Streets, Portland.*

Figure 38. Environmental Services. City of Portland. Green Streets in Portland. (n.d) *Greenway junction, Portland.*

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Figure 39. Waterfront Auckland. (Artists Impression) Auckland. (n.d) *Waterfront Auckland.*

Figure 40. Waterfront Auckland. (Artists Impression) Auckland. (n.d) *Waterfront Auckland.*

Figure 41. Tram in shared space streetscape. (Artists Impression) Auckland. (n.d) *Waterfront Auckland.*

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Figure 42. Waterfront Auckland. (Artists Impression) Auckland. (n.d) *Waterfront Auckland. Green Park, Reading.*

Figure 43. *Green Park Reading.* (n.d)
Green Park Reading. Green Park. Retrieved from URL
http://www.greenpark.co.uk/pdf/pdf/GP_OVERVIEW_BROCHURE.pdf



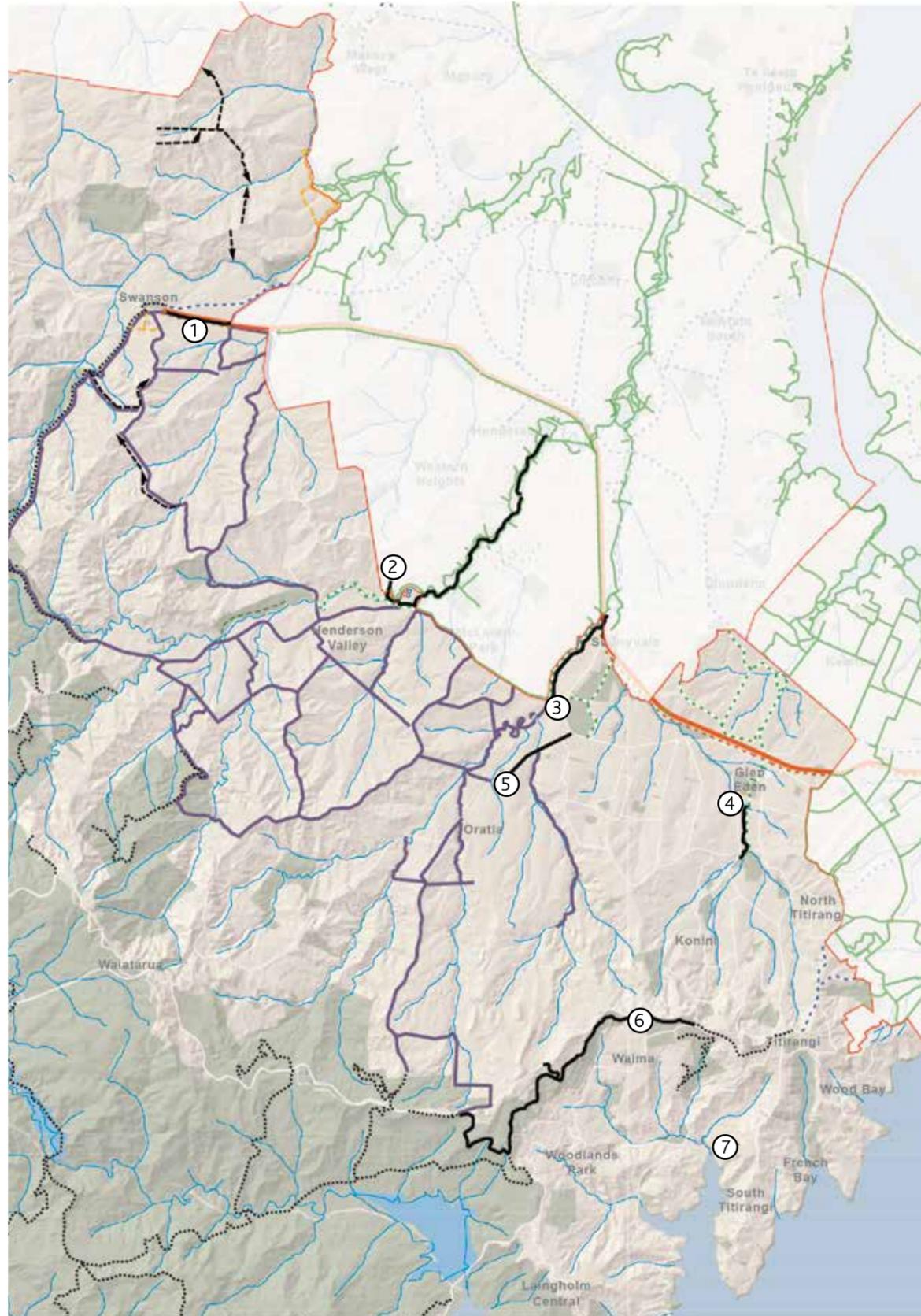
Figure 24. View towards Sherrybrooke Esplanade and Sunnyvale, Waikumete Cemetery on the top right

Appendices

Waitākere Ranges Greenways

A1. Analysis maps

Waitākere Ranges Greenways



Cycling and walking connections

This map shows both the currently-planned and existing walking and cycling routes in the study area. The *Waitakere Foothills Walkway Feasibility Investigation* (2010) is the most extensive study on the area to date, and this piece of work formed the basis for a number of routes shown in the Greenways Plan. Note that few of these are currently funded.

The routes proposed by the Henderson-Massey Open Space Network Plan and Whau Greenways Plan are shown to ensure that planning for this piece of work joins up with its neighbours.

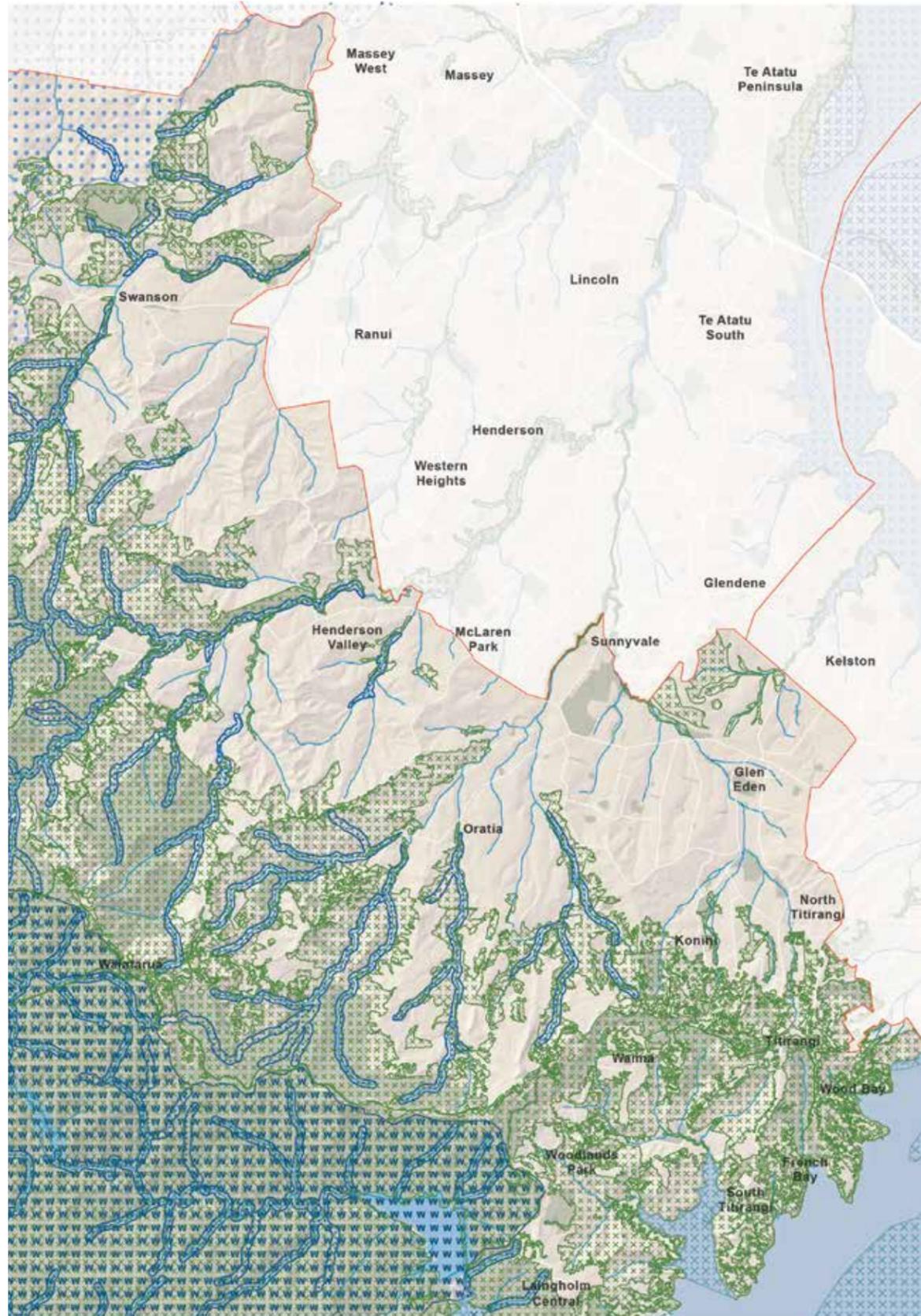
There are also a number of existing shared paths/greenways, including Opanuku and Oratia Stream routes (carried out as part of Project Twin Streams) and Exhibition Drive/Beveridge Track, and these have been located on the map. There is also an extensive network of walking tracks within the Waitakere Ranges Regional Park, and these have been located as one of the aims of this Greenways Plan is to feed visitors into these routes.

Existing routes (on map)

- 1 - Shared path at Penihana Subdivision to Swanson Train Station
- 2- Project Twin Streams - Opanuku Walk and Cycleway
- 3 - Project Twin Streams - Oratia Walk and Cycleway
- 4 - Project Twin Streams - Glen Eden Walk and Cycleway
- 5 - Shared Path West Coast Road
- 6 - Exhibition Drive/Beveridge Track
- 7 - Landing Road Walkway (walking only)

LEGEND:

- Waitākere Ranges Local Board Boundary
- Streams / rivers
- Parks and reserve land
- Road network
- Existing track network
- Existing shared path
- SHA planned connection (location indicative)
- Rail Corridor Walk/Cycleway Concept Plan Report (WCC, 2010)
- Waitakere Ranges Foothills Walkway Investigation routes (2010)
- ACN Feeder routes (2016)
- ACN Connector routes (2016)
- ACN Metro routes (2016)
- Planned greenways routes in neighbouring Board areas - note Rodney Greenways not yet complete
- Indicative Public Walkway Linkages (Swanson Structure Plan)



Ecology

The Waitākere Ranges area is unique in New Zealand both for its natural and cultural features - so much so that the Waitākere Ranges Heritage Area Act 2008 (the Heritage Area Act) was put in place to recognise the area's national, regional and local significance. Accordingly, a very large proportion of the study area carries ecological significance of some kind.

Ecology Generally

The Waitākere Ranges are home to a wide range of native flora and fauna - including 50 species of native bird, 11 species of native fish as well as kauri snails, bats, frogs and 540 species of native plants - including some threatened species. These are under threat due to urbanisation, predation, weed infiltration, disease and climate change. The greenways project aims to strengthen the viability and awareness of our local ecology.

Significant Ecological Areas

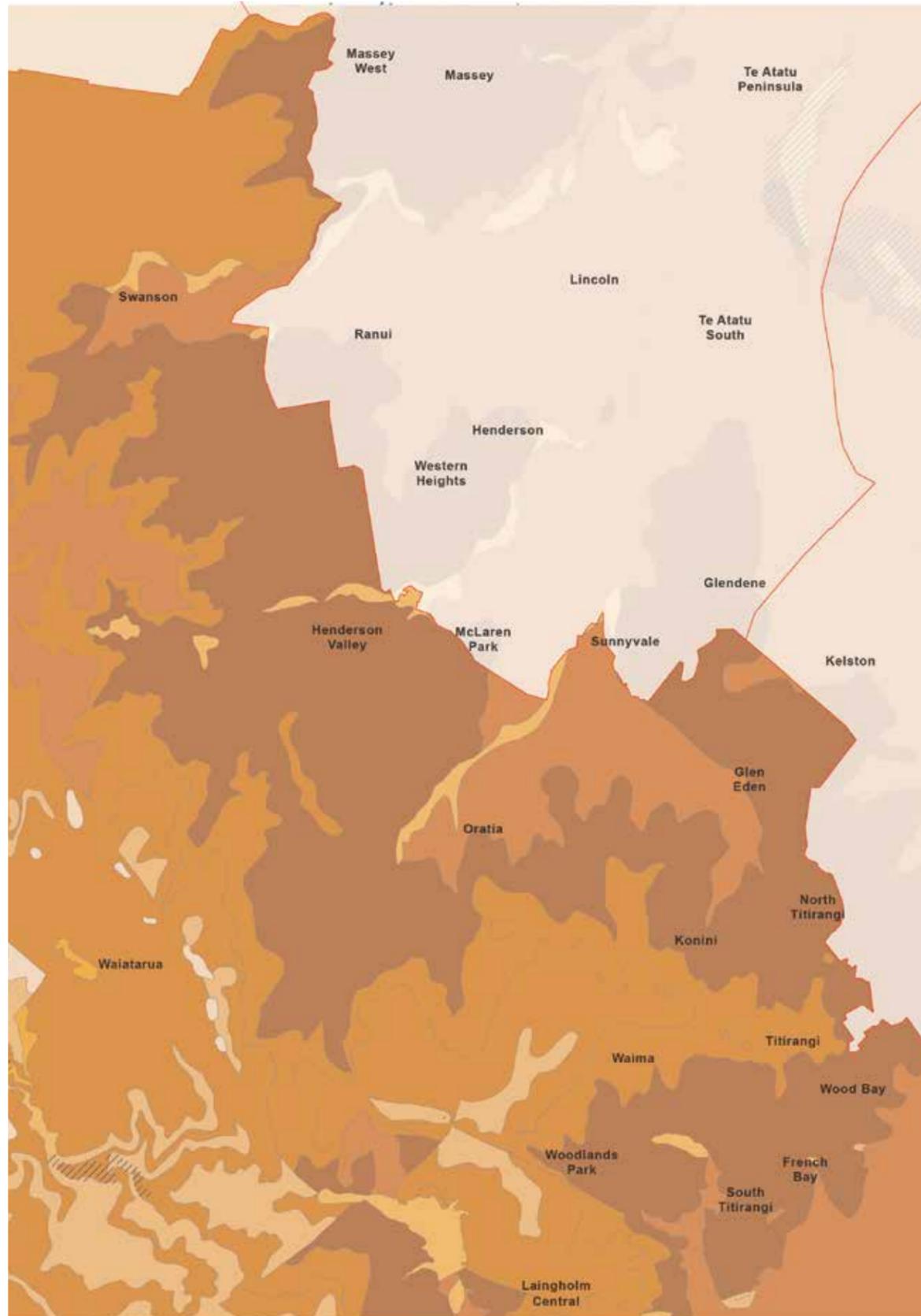
This map shows Significant Ecological Areas (SEA's) as identified within the Unitary Plan. A SEA is an area of significant indigenous vegetation or a significant habitat of indigenous fauna, that is identified for protection within the Unitary Plan. The upper slopes of the foothills form one large terrestrial SEA, and a number of the upper stream headwaters in this area are subject to Natural Stream Management area overlays. Any vegetation removal or alteration within an SEA would require a Resource Consent. In developing the greenway network further protection, improvement or extension of existing SEA's will be considered. The greenway network should also provide opportunities for education and engagement with the natural environment to ensure its long term protection and preservation.

North West Wildlink

The study area also sits within the North-West Wildlink (NWW) corridor. The NWW is a corridor of ecosystems linking regional biodiversity hotspots across Auckland's east and west coasts, and is a collaboration between Forest & Bird, Auckland Council and DoC. Native wildlife needs relatively connected native vegetation cover to move from place to place seasonally. The NWW is expected to provide improved migration routes from Tiritiri Matangi Island to Shakespear Park and the Waitākere Ranges. The development of the greenways network will contribute positively to the success of the NWW project, as their aims are inter-linked.

LEGEND:

- Waitākere Ranges Local Board Boundary
- Streams / rivers
- Public Open Space - Conservation
- Public Open Space - Informal Recreation
- Public Open Space - Sport and Active Recreation
- Public Open Space - Civic and Community
- ▲ Notable Trees Overlay
- Outstanding Natural Features Overlay (rcp/dp)
- ▨ Outstanding Natural Landscapes Overlay (rcp/dp)
- ▩ Outstanding Natural Character Overlay (rcp/dp)
- ▧ High Natural Character Overlay (rc/dp)
- Waitākere Ranges Heritage Area



Soil types and geology

The Waitakere Ranges' origins date back to the early Miocene period (22 - 15 million years ago). At that time the whole Auckland region was under the sea. The layered sandstone and mudstone (Waitemata Sandstones) that now forms the cliffs around most of the Waitemata Harbour accumulated at this time as sand and mud on the floor of a deep sea depression, called the Waitemata Basin, and the residual soils of this area underpin much of the region.

The Waitemata Basin was bordered to the west by a large undersea volcano, known as the Waitakere volcano. It was active for six to seven million years and at its largest was 50km in diameter and 3000 - 4000m high. This made it some five to six times the size of Ruapehu, Ngauruhoe and Tongariro combined. It was centred 20km west of the Waitakere Ranges, and grew via periodic eruptions of lava, pumice and ash.

Today's Waitakere Ranges are the uplifted and eroded remnants of the eastern slopes of this volcano. About 16 million years ago, the Waitakere volcano was pushed up out of the sea by tectonic forces. Following the end of volcanic activity about 15 million years ago, there were further earth movements with parts of the volcano being pushed higher and other parts subsiding. A long period of erosion by the Tasman Sea then removed all parts of the volcano that were above sea level, creating an extensive coastal plain. Soon after this (around 5 million years ago), further earth movements pushed up the present-day Ranges and tilted them gently towards the northwest. (Abridged from *'The Structure of the Land'* BW Hayward, 2006).

Based on this geological history, there are three main soil types found in the study area.

- **Alluvial soils** - these are found in the flat, low lying areas around Glen Eden, and are a mix of mud, sand and gravel, deposited by local streams (often containing organic matter). These provide the most fertile areas found locally, and would have typically been colonised by Puriri and other broadleaf species.
- **Sedimentary Waitemata Group soils** - The lower foothill slopes are typically underpinned by Waitemata Group sedimentary soils, including a range of sandstones and siltstones, formed by the compressive forces described above. These sloping lowlands would have typically housed a kauri-podocarp forest.
- **Volcanic soils** - The upper slopes are underpinned by basalt and andesite from the Waitakere Volcano, typically overlaid by layers of clay and organic material. These soils are moderately fertile, and typically house a mixed Tawa, kohekohe, rewarewa, hīnau, podocarp forest.

LEGEND:

- Waitakere Ranges Local Board Boundary
- ▬ Road network
- Alluvial soils
- Sedimentary Waitemata Group soils
- Volcanic soils



Hydrology

Hydrology Generally

The Waitakere Ranges receive a large amount of rainfall each year as weather systems approach across the Tasman Sea and drop moisture in the form of rain as the air rises and cools as it passes over the elevated landforms. This results in the ranges receiving double the amount of rainfall to that of other areas of Auckland. This has influenced the rainforest flora of the ranges, the location of the numerous water catchment facilities, and the network of stream systems that are of great importance to Aucklanders, and in particular, to Mana Whenua.

Catchments and Floodplains

This map shows stormwater catchments, sub-catchments and the 100 year flood plains within the study area, as well as local watercourses. Unlike much of Auckland, the vast majority of these streams are in a natural, unmodified condition. These streams traverse relatively steep land, meaning that they are more linear in nature, and with more constrained floodplains than other parts of Auckland.

In terms of the integrity of the watercourses, there are three broad condition states found in the study area. In the upper portions of the catchment, streams are generally in their natural state, surrounded by established bush and accordingly noted as Significant Ecological Areas. In the middle section of the catchment (the lower foothills, with large rural lots and agricultural land uses) the streams have in places been modified and straightened, and riparian vegetation is in a more narrow band, and is a mix of native and exotic species. In the lower part of the catchment, streams are generally somewhat modified (piped or channelised), although significant effort has been made in recent times to renaturalise both the stream itself, and its riparian vegetation in the Opanuku, Waikumete and Oratia Streams, via Project Twin Streams.

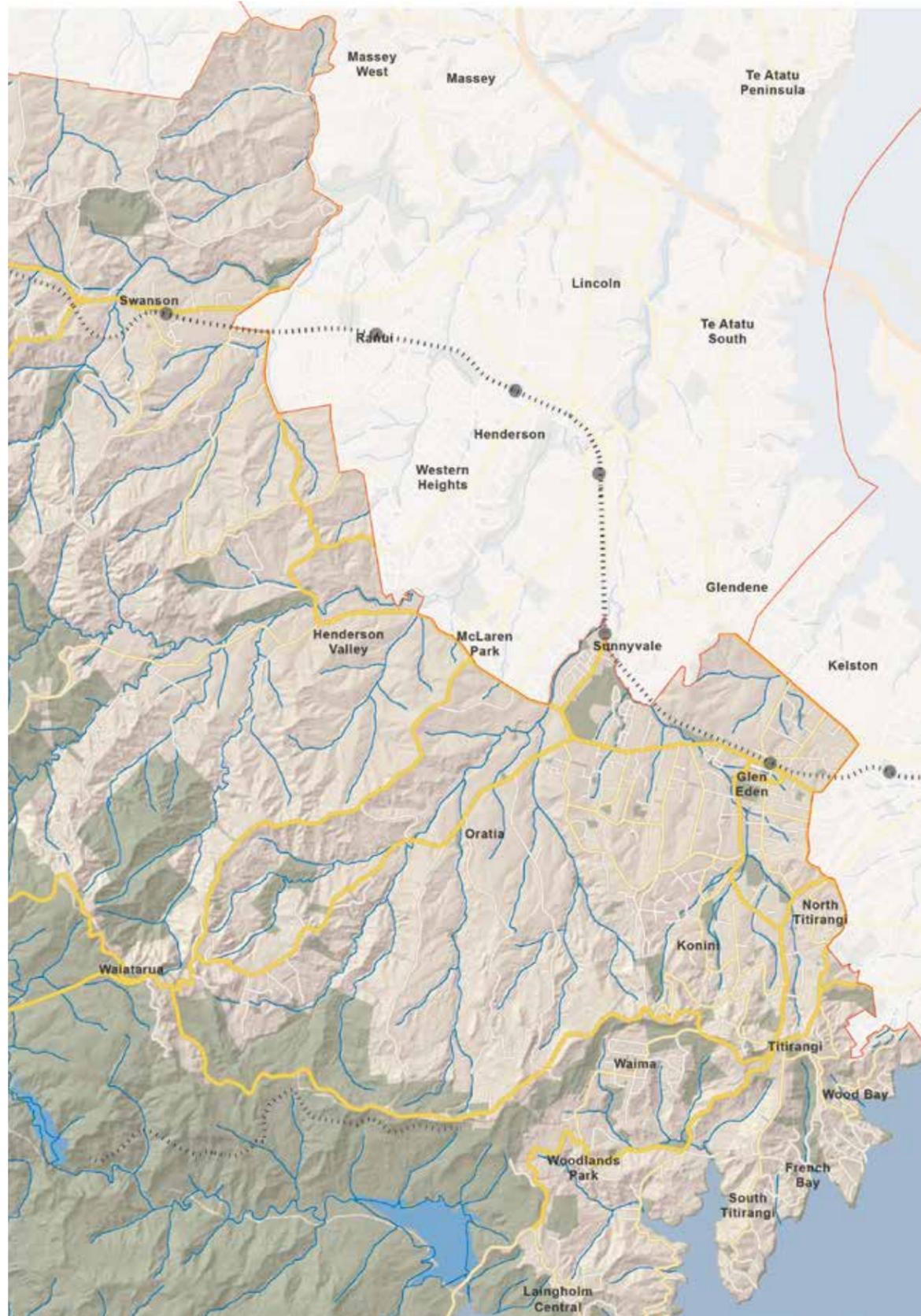
From a greenways perspective, waterways offer good circulation options - being pleasant in nature and often in public ownership, while they also offer the greatest potential ecological gains, as they can offer a range of habitat types.

Waitakere Ranges Local Board Plan

Water quality is a significant concern to the Local Board, and this is reflected in the aspirations of the LB Plan, which seeks to improve the water quality in waterways, the lagoons (a number of which are not safe for swimming) and the Manukau Harbour. The Greenways Plan can contribute to this aim, by encouraging the revegetation of watercourse that the routes traverse.

LEGEND:

- Waitakere Ranges Local Board Boundary
- Streams / rivers
- Floodplains
- - - Catchments



Road hierarchy

Existing road hierarchy has been considered when determining the Greenways routes, in order to create safe, desirable and high-amenity environments, encouraging use by as many Aucklanders as possible.

Major, medium and arterial roads are typically busy roads that provide for a range of transport types, including cars, buses and trucks. Careful consideration needs to be taken where the green links network intersects or runs along these roads, to ensure desirable/safe routes are formed, and Greenways generally avoid these routes.

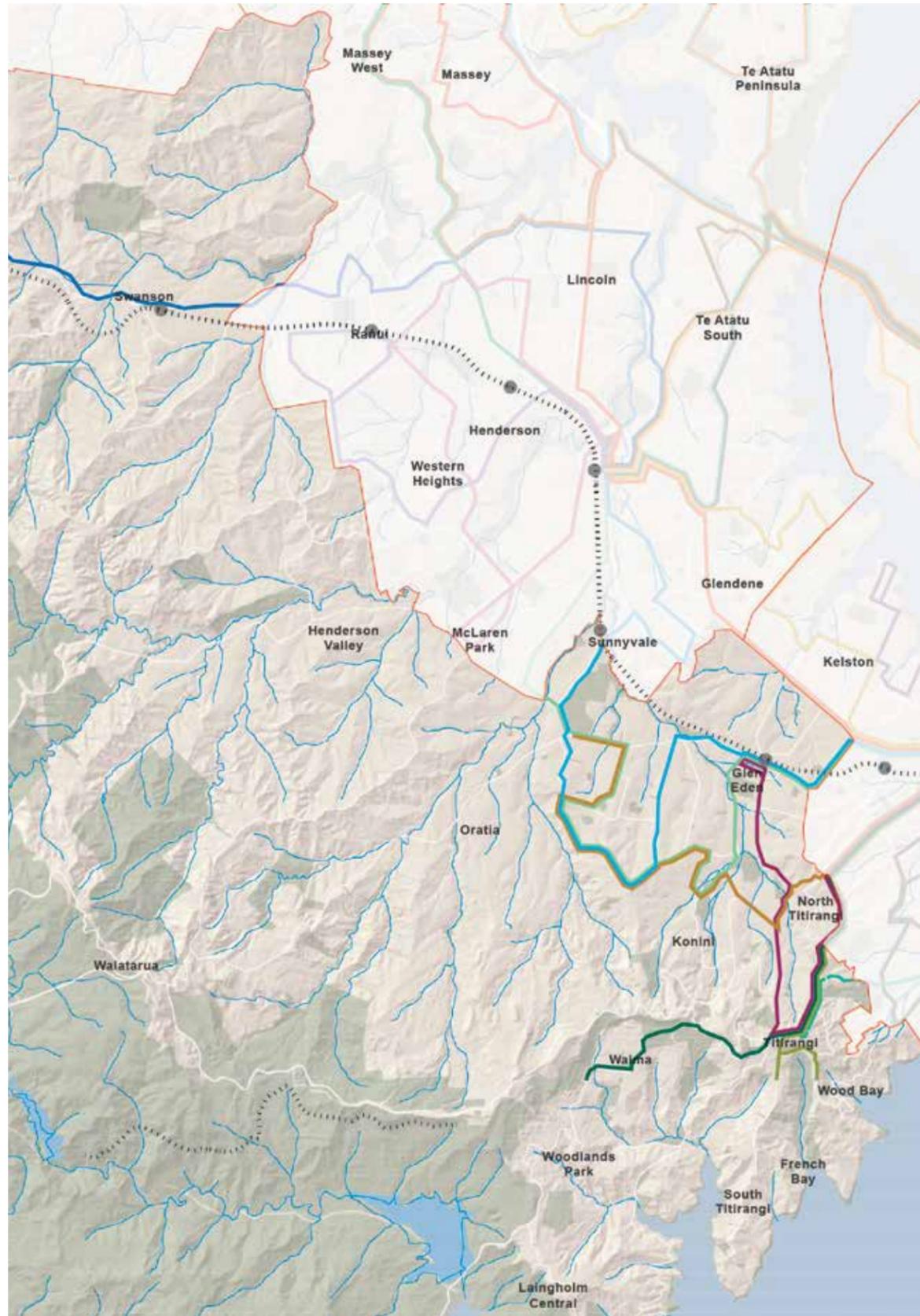
Minor or local roads are slower speed environments with lower traffic flows and typically provide more desirable Greenway connections. While these tend to be prioritised when planning Greenway routes, careful consideration at the design stage will still be required in order to ensure adequate passive surveillance and motorist awareness of pedestrians, cyclists and recreational users.

The road hierarchy also affects potential for street 'greening' initiatives, such as narrowing traffic lanes, providing vegetated chicanes and shared spaces, and treating stormwater on site. Methods for providing safe crossing points will also be affected by the road hierarchy - for instance, un-signalised crossings are unlikely to be permitted on arterial roads.

The study area has a relative lack of roads overall, and their rural nature means that they are high speed with blind corners. This in many instances precludes any dual use as greenway locations, as user safety cannot be guaranteed.

LEGEND:

- Waitākere Ranges Local Board Boundary
- Streams / rivers
- Railway and stations
- Parks and reserve land
- Motorway (State Highway 16)
- Major, medium and arterial
- Minor roads



Public Transport Network

Existing public transport routes are illustrated on the adjacent map, showing that the residential areas of Glen Eden are relatively well served by public bus services, as is the Oratia Valley. It is a long trip for most residents to the nearest train station, although it is expected that these routes would develop further as population in the surrounding region increases. No ferry services exist in this area, as it borders only the Manukau inlet, which is not served by ferries.

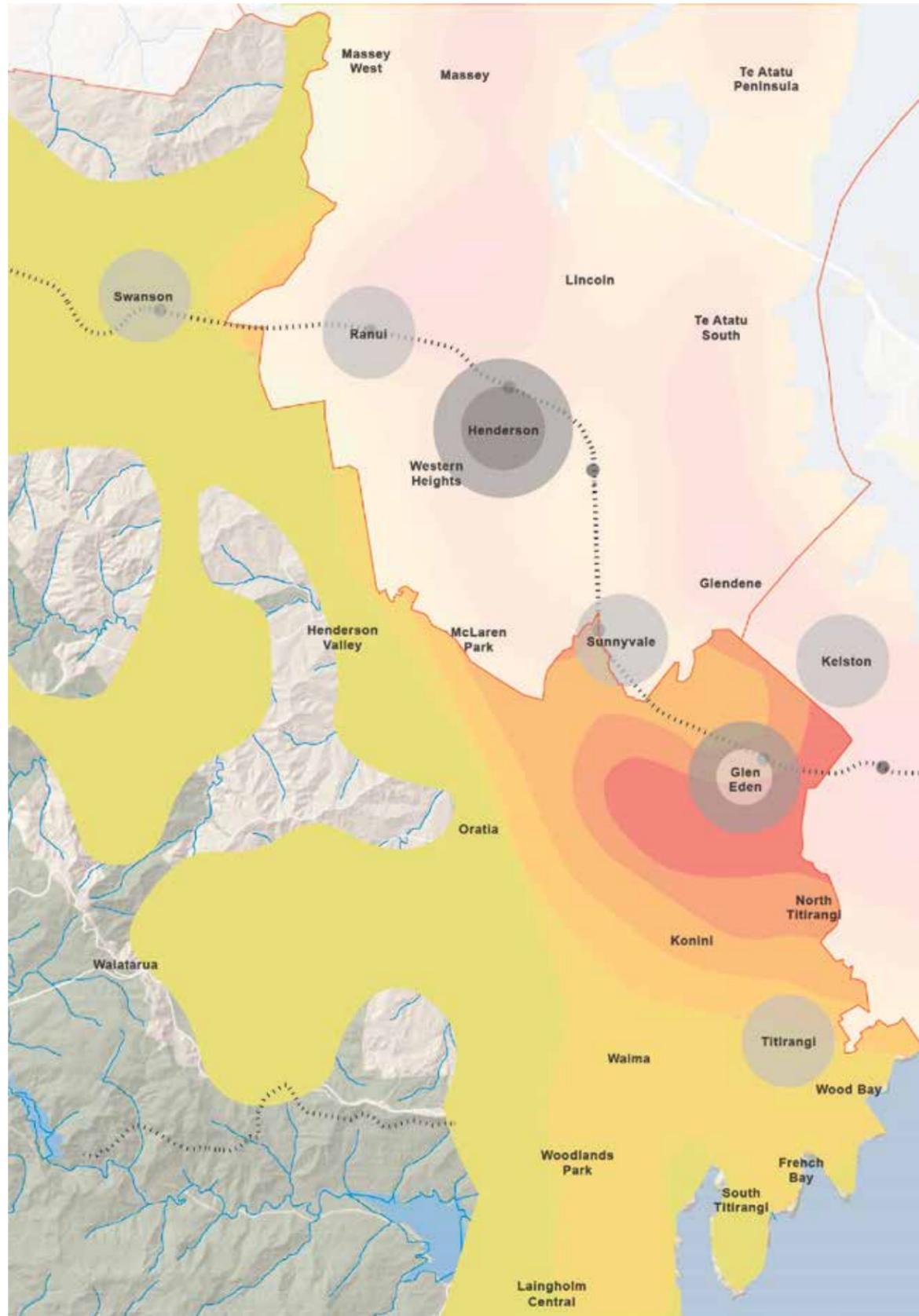
In planning the Greenways routes, train stations in particular were taken into account as these are less regularly distributed than bus stops, and have potential to bring visitors into the area on 'day trips' and walk the greenways network. It is also worth noting that the rail corridor – while currently severing Glen Eden from Kelston - may in the future be able to be used as a greenway, due to the space in the corridor, combined with large areas of adjoining reserve or road corridor land. This approach is currently in the planning stages for the Avondale to New Lynn section of the network.

Bus routes were also taken into consideration, as these routes offer less potential for creating 'slow speed' Greenways street environments, and the buses themselves create more risk to cyclists. On-road Greenways therefore avoid bus routes wherever possible, although links to bus stops have been considered.

LEGEND:

- Waitākere Ranges Local Board Boundary
- Road network
- Railway
- Railway stations

- Bus routes in Swanson
- Bus routes in Oratia
- Bus routes in Glen Eden
- Bus routes in Tītirangi
- Bus routes in Waiwā



Population density and growth centres

The adjoining map shows population density as laid out in the Auckland Plan – this being the most up to date data that has been mapped for the area.

Population density is important in Greenways planning as it shows where potential users will be coming from, and it is logical to focus efforts in these areas (in addition to providing strategic regional connections, which are not as influenced by proximity to housing).

This heat chart illustrates that population density in this area has been heavily influenced by topography, with most of the populated areas existing in the flatter plains and river valleys.

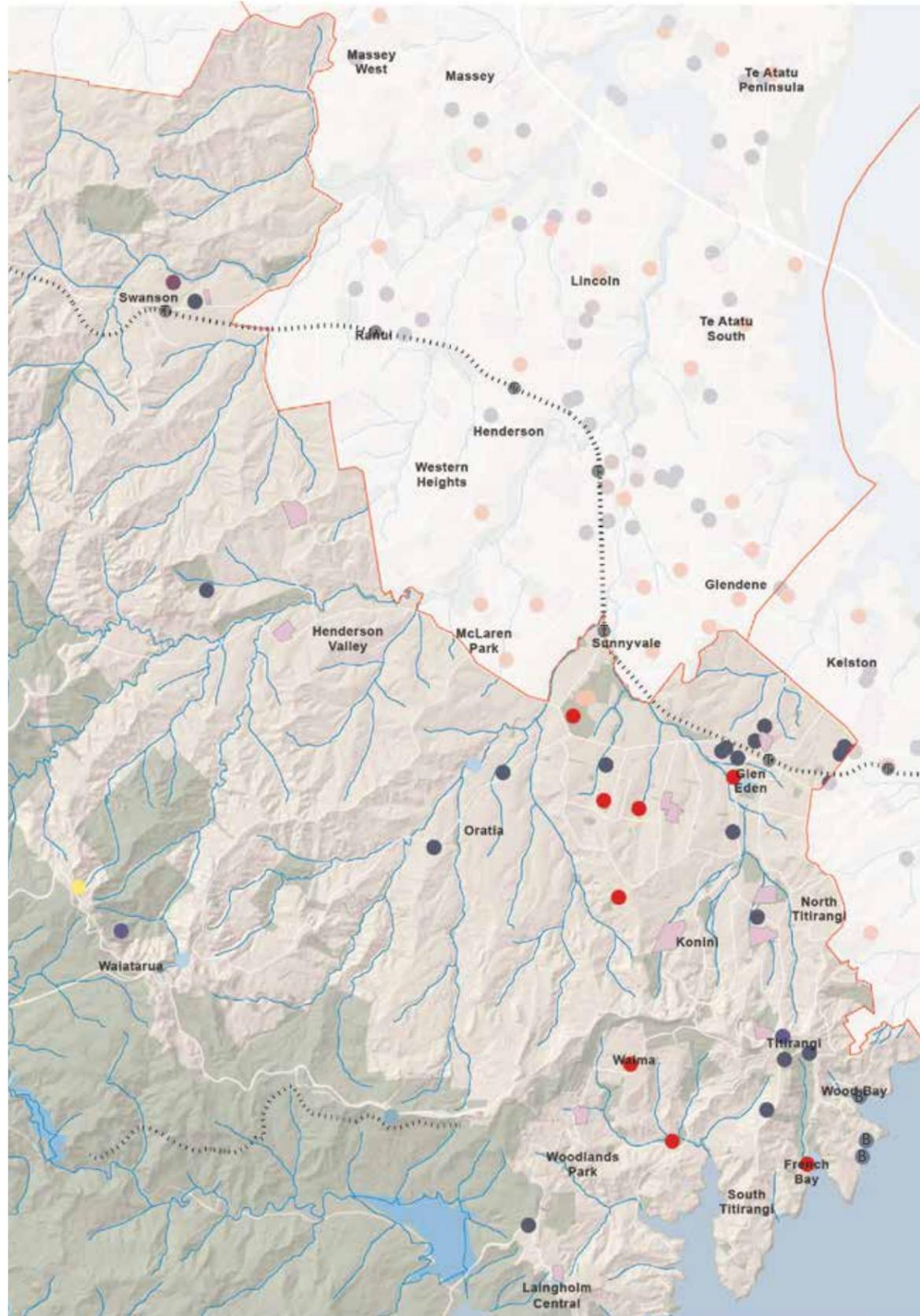
Due to its age, this map excludes the recent growth in Swanson and around the Birdwood/Massey areas. In general, as an area intensifies, residential section sizes become smaller, and residents require recreation facilities beyond their backyard. While this can be perceived as a negative impact of intensification, if well planned, these public open spaces can actually build communities by providing locations and facilities where people from different communities can come together and meet.

It is also useful to consider town centres as these are places of both employment and commerce - so providing greenway links to these can greatly reduce reliance on the private motor vehicle. The study area abuts two large 'metro centres'; New Lynn and Henderson. The area itself features one 'town centre' (Glen Eden), as well as six 'local centres'; Ranui, Swanson, Sunnyvale, Sturges, Kelston and Titirangi.

In terms of greenways, this map illustrates that most of the local users will be starting their journeys in the built up residential areas in the north and east of the study area, and quickly transitioning to more remote areas once clear of the suburbs.

LEGEND:

- Waitākere Ranges Local Board Boundary
 - Streams / rivers
 - Parks and reserve land
 - Train station
 - Metropolitan centre
 - Town centre
 - Local centre
- Population density:
- Low Density to High Density based on Auckland Plan data (indicative only)



Social Infrastructure

This map shows community facilities in the study area, including community halls, places of worship, community centres, libraries, swimming pools, recreation facilities and Marae.

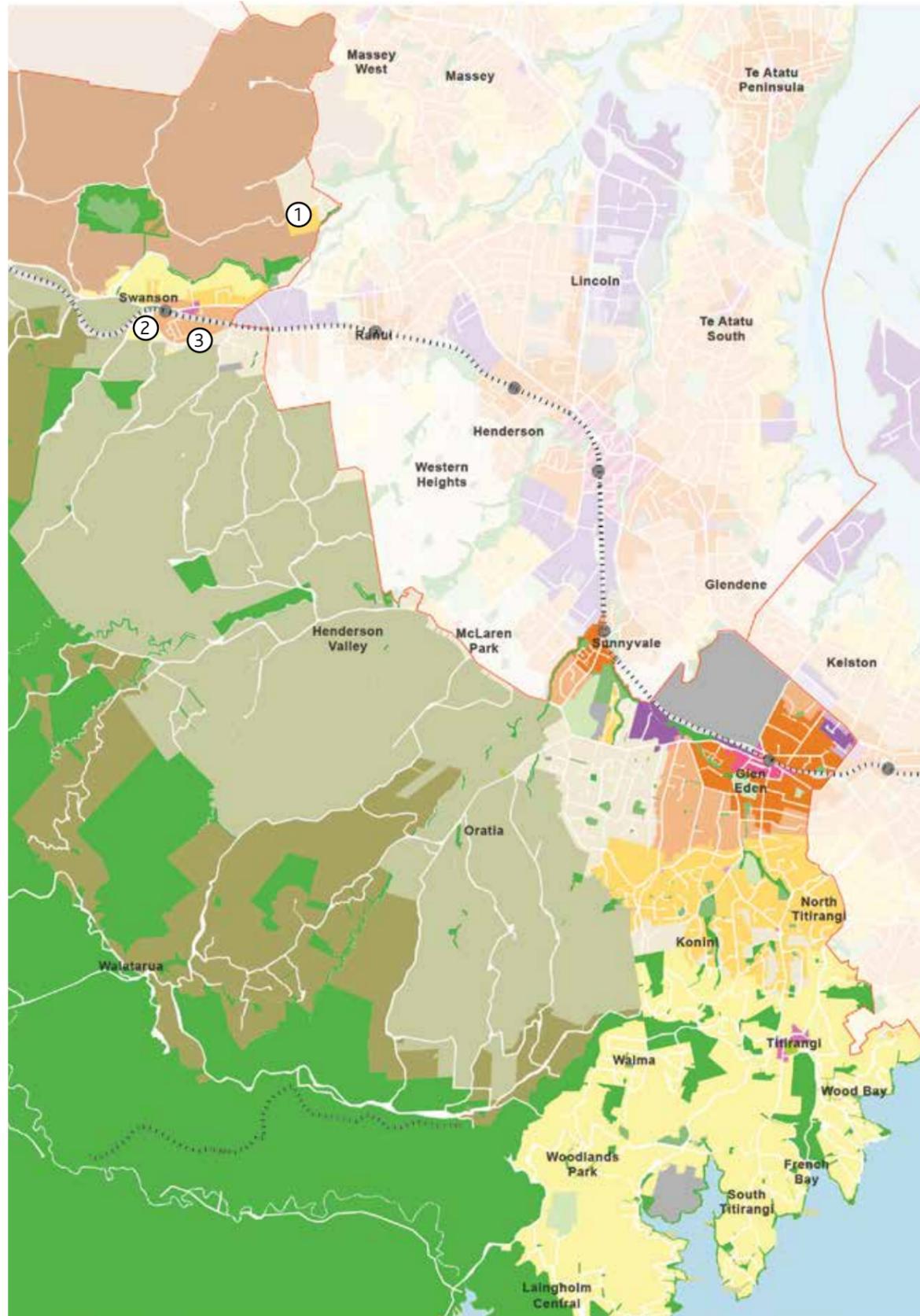
Schools and community facilities are critical points in the Greenways plan, providing both an opportunity to create connections via easements, while also providing destinations in their own right. These facilities are visited on a frequent basis, and providing safer, higher amenity and more accessible connections has great potential to reduce reliance on private vehicles.

Proposed connections to schools may be influenced by existing 'walking school bus' routes. Auckland Transport makes funding available for walking school bus routes, and it is possible that some connections could be supplemented by this funding stream.

Any easement proposal within the boundaries of a community facility would need to be firstly consulted with the landowner or leaseholder, and needs to be carefully considered to ensure the safety of students/facility users, and minimise risk of property damage. Some accesses may need to be limited to certain times of day for these reasons.

LEGEND:

- Waitākere Ranges Local Board Boundary
- Streams / rivers
- Road network
- Schools
- Boat Ramp
- Places of Worship
- Recreational, Playground
- Community Hall
- Recreational facility
- Landscape Feature (lookout)
- Golf Course
- Transport Service (train station)
- Historical and Cultural Monument or Museum



Zoning

This map shows Auckland Council Unitary Plan zoning, which was operative in part at the time of writing the report. Significant zoning areas in the study area are summarised below, moving generally from west to east:

Open Space Zone (Conservation): This zone relates to the Waitakere Ranges Regional Park, and sets out very strict criteria and restrictions on any development in this area, to protect its ecological, landscape and cultural/heritage values.

Rural – Waitakere Ranges Zone: This zone comprises most of the private land around the periphery of the Waitakere Ranges Heritage Area. This typically contains small holdings and residential properties and is dominated by bush-clad land. It contains areas of native bush, coastal areas, significant landforms and geological sites.

Rural – Waitakere Foothills Zone: This zone links the urban part of Auckland westward to the bush covered part of the Waitakere Ranges. It includes the mixed rural and natural landscape of the eastern foothills catchments of Ōrātia, Opānuku, Swanson South and the upper Kumeu streams, excluding the bush covered upper catchments and ridges. It forms a visual buffer between metropolitan Auckland and the bush-clad core of the Ranges. Activities include a mixture of vineyards, orchards, dwellings and pasture.

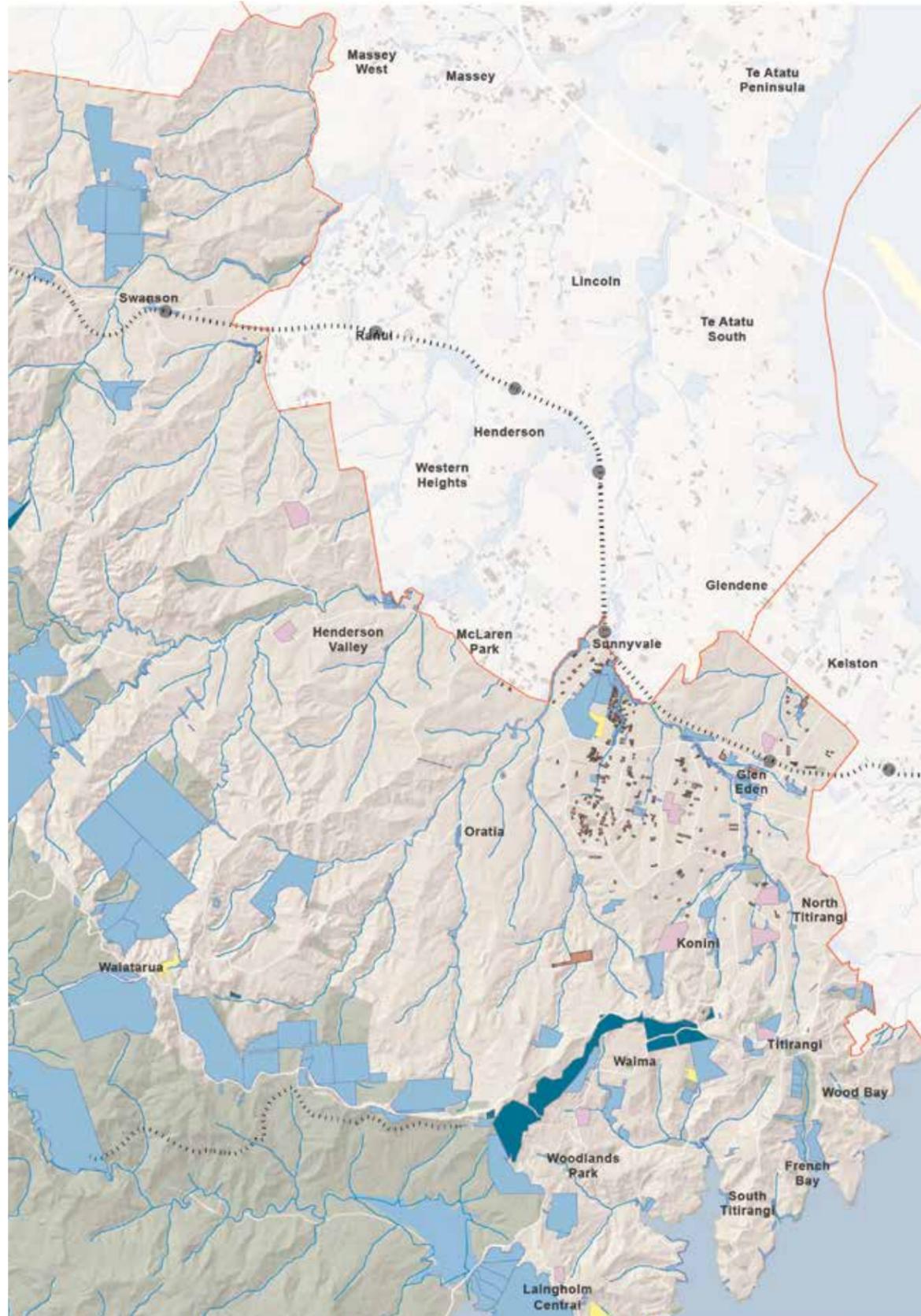
Residential Zones: A number of residential zoning patterns are seen here - starting with the 'Large Lots' around Tiritangi, and intensifying in waves of Mixed Housing Suburban, Mixed Housing Urban and finally Terraced Housing and Apartments around the Glen Eden urban core. This pattern repeats on a smaller scale around Swanson. Several SHA sites are also under planning or development around Swanson:

1. Swanson Crows Road and Birdwood Urban Concept Plan
2. Penihana North Urban Concept Plan
3. Subdivision Plan 12 – 7 – 11 Christian Road, Henderson Valley

Business and Industrial Zones: Relates to commercial and industrial activities, including retailing, servicing, offices, warehousing, manufacturing and research orientated activities - these are mostly found around the Glen Eden urban core, with smaller pockets of commercial activity around Tiritangi and Swanson.



Figure 25. Auckland Unitary Plan Legend



Land ownership

This map shows land within the study area that is in some form in public ownership. This information is important, as connections on publicly-owned land are more readily achieved than those on privately-owned property.

Publicly-owned land within the study area has been divided in to four types of ownership:

Auckland Council: This land may be available for Greenway connections, dependent on the current or proposed usage of the site. Council Controlled Organisations include Watercare Services Ltd, Auckland Transport, Panuku (Development Auckland), Regional Facilities Auckland and Auckland Tourism, Events and Economic Development Ltd (ATEED).

Ministry of Education: Educational institutions generally feature large areas of open space, and discussions may be held regarding public use and/or connection easements over this land.

Housing New Zealand (HNZ): In areas where there is a cluster of HNZ properties, discussions may be held regarding redevelopment of housing stock, and the redistribution of public open space to a layout which suits both housing and recreational purposes better.

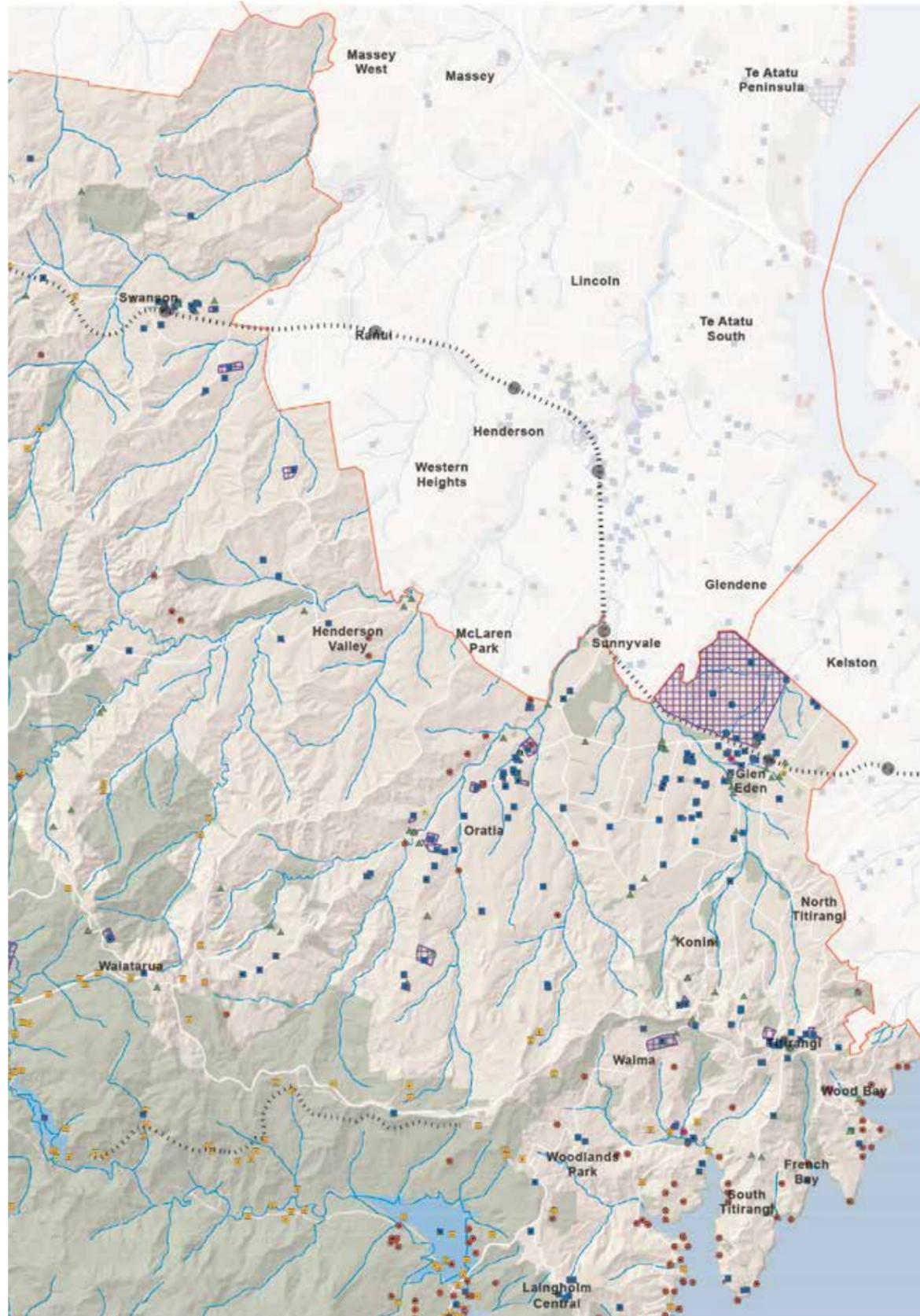
Crown generally: This is land owned by the Crown and may include commercial forests, leased pastoral land, conservation land (administered by the Department of Conservation) and marine and coastal areas.

Compared to other parts of Auckland, HNZ ownership in the study area is relatively low and sparsely clustered, meaning that joint open space/housing redevelopment projects may be less likely here.

Conversely, Watercare owns a very significant landholding around Exhibition Drive, and while access along this route is already established and popular, there may be further opportunities to connect to this.

LEGEND:

- Local Board boundary
- Streams / rivers
- Auckland Council / DoC (inc. parks and reserves)
- Housing New Zealand land (HNZ)
- Her Majesty the Queen (Crown)
- Watercare (CCO)
- Ministry of Education



Heritage and Historic Sites

This map shows sites that identified by the Cultural Heritage Inventory (CHI) that was created by the former Auckland Regional Council. The CHI was established to promote sustainable management of our cultural heritage by providing easy access to relevant information, and should be used as a resource when developing the network at a project level.

CHI sites are classified as follows:

- Archaeological Sites - e.g. midden and pa sites;
- Historic Botanical Sites - e.g. specimen trees;
- Built Heritage Sites - e.g. typically early European buildings;
- Maritime Sites - e.g. shipwrecks, wharfs, boatsheds; and
- Reported Historic Sites - e.g. known locations of battles.

Compared to other parts of Auckland, there are a relatively low number of recorded archaeological sites in Papakura. This is not necessarily reflective of a lack of historical features/sites, but perhaps rather a lack of investigations that have occurred in this area. Of those that do exist, a relatively large number are botanical sites, clustered around the town centre.

Archaeological sites are also relatively well represented, illustrating the significance of the area to Maori. These are clustered around sites which were desirable for occupation and food gathering - notably the coastline and streams, as well as the pa site at Puke-Kiwi-O-Riki (Red Hill). The

Greenways routes will take in many of these historic sites, and while this will create specific development constraints, it can also add greatly to the interest of the routes.

LEGEND:

- Waitākere Ranges Local Board Boundary
- Streams / rivers
- Archaeological Site
- Hayward and Diamond
- ▲ Historic Botanical Site
- Built Heritage Sites
- Maritime Site
- Maori Heritage Area
- ▨ Historic heritage extent of place



Figure 26. Looking towards Sunnyvale, West Coast Road in the foreground. Auckland Council Stock Photo, 2012.

A2. Case studies

Waitākere Ranges Greenways

A2. Case studies

Lloyds Crossing, Portland (USA)

Lloyds Crossing in Portland is a brownfields redevelopment site in the central city area, with the aim of:

"Developing a conceptual design for a sustainable, financially feasible, mixed-use development project that will catalyse future private development in the district.. Following conceptual master planning, a stakeholder engagement process is now underway, to create the 'Lloyd Green District'

Co-conveners of the stakeholder group are the Mayor of Portland, Council President Metro and Multnomah County Commissioner. Forming the "Lloyd Green District," the group includes sponsors (Portland Development Commission, METRO, City of Portland and Lloyd TMA/BID), invited property owners, employers and developers in the proposed district area and other local and state agencies and civic organizations.

Their goal is to:

"create a premier sustainable multi-use development district within an urban center." The District "will become a lifestyle community of choice for residents, workers, and visitors, and a showcase demonstrating Portland's leadership in creating economically viable earth-friendly development."



This will become one of the first redevelopments under Washington State's developing programme of Climate Benefit Districts - a programme which aims to:

- Support the creation of "green jobs".
- Support livable, diverse and affordable urban neighbourhoods.
- Reduce the impact of urban development on the environment
- Capture the innovations and life cycle cost savings for district level energy and infrastructure solutions.
- Rebuild and reinvest in communities in ways that reduce the demand for driving.
- Help public and private interests to work together in developing healthy, vibrant urban communities aimed at achieving carbon reduction goals.
- Send a clear policy signal to attract desirable private investment and coordinate public action from multiple levels of government.
- Give communities the means to meet major environmental and economic challenges while remaining responsive to local conditions and opportunities.

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FIGURE LEGEND:

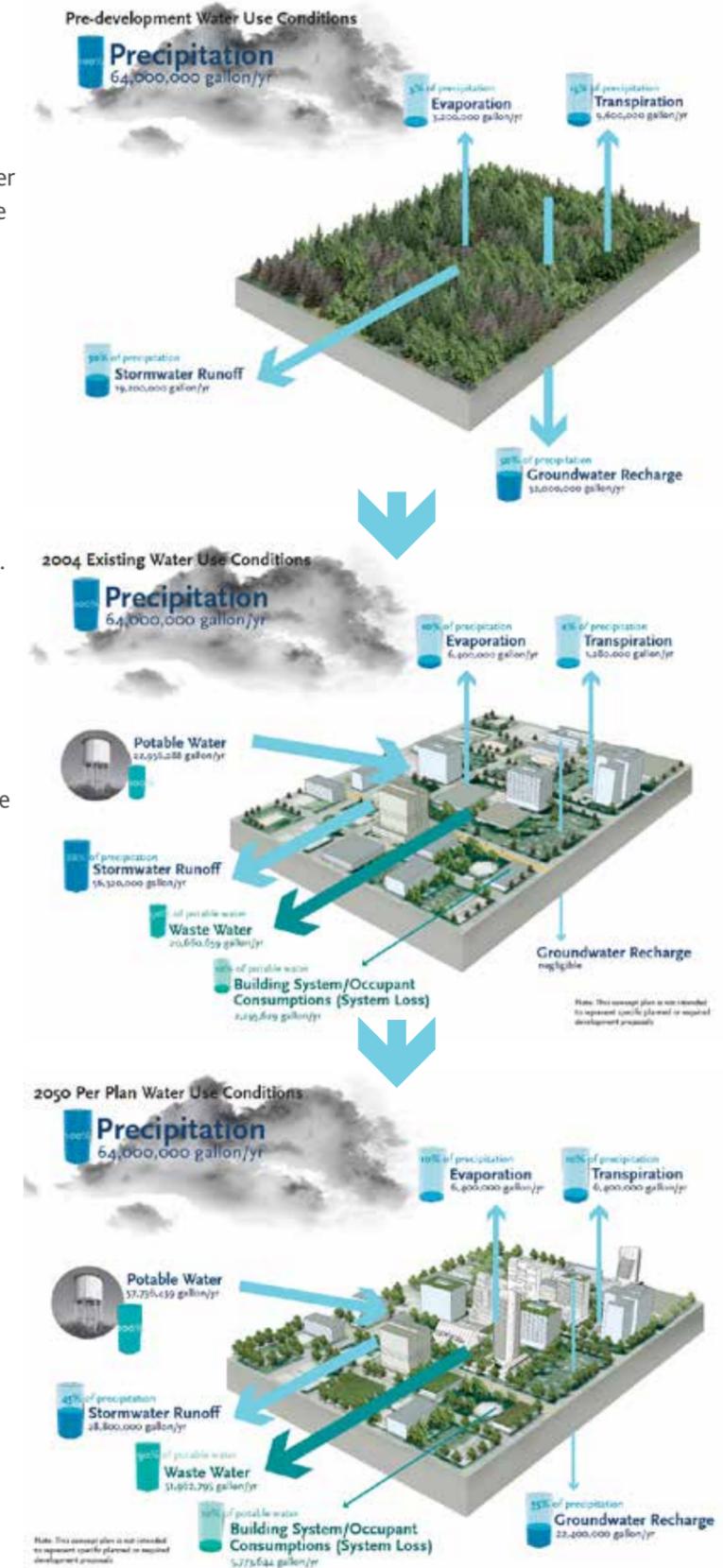
Figure 27. Habitat corridor.

Figure 28. Pre-development water conditions.

Figure 29. 2004 existing water use conditions.

Figure 30. 2050 Per plan water use conditions

The above images are sourced from: Portland Development Commission, Lloyd Crossing Project.



Portland Green Streets (USA)

Portland has been designing and building Green Streets for many years. Their consistent monitoring has proven that they successfully reduced peak stormwater flows and runoff volumes. The images to the right show a variety of Green Streets in Portland that have been successfully implemented.

Green Streets convert impervious street surfaces into green spaces that capture stormwater runoff and allow the water to permeate through the ground as plants and soil remove pollutants. Green Streets help to create attractive open spaces, streetscapes, provide ecological urban habitats, and help to connect neighbourhoods, open spaces, schools and other areas within the city.

The city of Portland is:

"Committed to green development practices and sustainable stormwater management. Green Streets are an innovative, effective way to restore watershed health. They protect water quality in rivers and streams, manage stormwater from impervious surfaces, and can be more cost efficient than new sewer pipes. Green Streets offer many benefits that sewer pipes can't."

Greenstreets offer the following benefits:

- Convert stormwater from a waste diverted into a pipe, to a resource that replenishes groundwater supplies
- 80%+ of storm water volume to be infiltrated on site.
- Add urban green space and wildlife habitat
- Reduce stormwater in the sewer system
- Save money on wastewater pumping and treatment costs
- Use plants and soil to slow, filter, cleanse, and infiltrate runoff
- Design facilities that aesthetically enhance the neighbourhood livability and property values

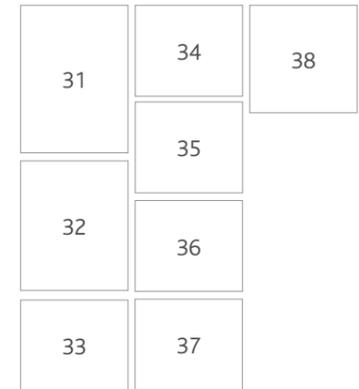


FIGURE LEGEND:

- Figure 31. Stormwater runoff treatment, Portland.
 Figure 32. Permeable paving setout, Portland.
 Figure 33. 'Green Streets' Portland.
 Figure 34. Stormwater runoff treatment, Portland.
 Figure 35. Planted verges, swales, Portland.
 Figure 36. Swales and footbridges, Portland.
 Figure 37. 'Green Streets' Portland.
 Figure 38. Greenway junction.

The above images are sourced from: Environmental Services, City of Portland. Green Streets in Portland. Retrieved deom URL: <http://www.portlandonline.com/bes/index.cfm?a=209685&c=45379>

Jellicoe Street, Auckland (NZ)

Jellicoe street features over 600m2 of purpose built rain gardens. Rain from over 9000m2 of the surrounding roads and surfaces flows into the rain gardens.

- integrate Best Practice Stormwater Design and the efficient use of water resources
- re-use existing structures and infrastructure where possible
- generate renewable energy on site
- preserve coastal water quality and protect waterfront ecologies
- protect air quality and reduce traffic congestion
- improve permeability and establish pedestrian priority and safety
- facilitate better access and circulation between transport modes
- enable visual connections through the precinct to the water
- promote pedestrian and cycle activity

This new initiative in a high-use area has proven to be a great way to educate visitors and residents about the merits of low traffic speed, shared space environments and 'green' infrastructure approaches.

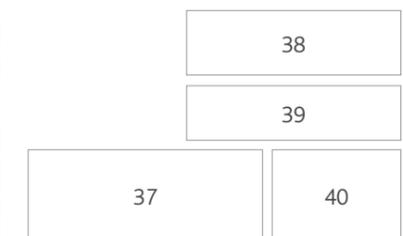


FIGURE LEGEND:

Figure 39. Waterfront Auckland. (Artists Impression) Auckland.

Figure 40. Waterfront Auckland. (Artists Impression) Auckland.

Figure 41. Waterfront Auckland. (Artists Impression) Auckland.

Figure 42. Tram in shared space streetscape. (Artists Impression) Auckland.

Greenpark, Thames Valley (UK)

This new industrial development is an exemplary model of best-practice industrial/commercial development. It is acknowledged that retrofitting an existing industrial zone (such as that found in Maungakiekie-Tamaki) is a significantly more difficult task than greenfield development, but this case study shows a range of solutions which can be employed to improve conditions for workers, visitors and the environment. Solutions employed at Greenpark include:

Landscaped parkland including:

- a network of cycleways
- nature trails
- paths running around the banks of the stormwater treatment wetlands

Community life:

- frequent, comfortable buses to bring people into Green Park from Reading station or nearby town centres.
- well-maintained, well-lit walkways make it easy to get around the Park.
- cafés and restaurants
- health club
- a day nursery
- acres of natural parkland

Event hosting:

- Events throughout the year, attract workers and nearby residents alike, and these include a range of organised annual events and one off events, including the Reading half-marathon and the Corus Triathlon. Longwater Lake also hosts regular angling competitions.

Green energy (wind and solar):

- The development generates 2.3 megawatts of clean energy, enough to power around 1200 homes.



Green Park fast track:

- A fleet of low emission eco-friendly buses. These are among the first in the UK to meet the stringent 'Euro 4' European emission standards and produce significantly lower levels of carbon dioxide and nitrogen oxide than regular fleets.
- Buses include full wireless access and a real time information system for maximum passenger comfort and security.



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FIGURE LEGEND:

Figure 43. Green Park, Reading.

Figure 44. Green Park, Reading.

Retrieved from URL:

http://www.greenpark.co.uk/pdf/pdf/GP_OVERVIEW_BROCHURE.pdf