



NORTHERN TRAILS 2022

Northern Regional Trails Strategy Review and Update

October 2022

1.1 ABOUT THE PROJECT

In 2016 the original *Northern Regional Trails Strategy* was developed by the Councils in the Northern Region (Banyule City Council, Darebin City Council, Hume City Council, Merri-bek (formerly Moreland) City Council, Nillumbik Shire Council, City of Whittlesea, plus Yarra City Council), to establish a framework for the planning and development of trails to support the increasingly dense urban footprint and population, while providing accessible recreation and active travel opportunities and economic benefits to the communities in Melbourne's north.

The 2016 strategy has successfully leveraged approximately \$11 million of State Government Funding to deliver the key priorities identified in the strategy as well as focusing individual Council's budget allocations into the planning and delivery of priority trail projects. However, since the adoption of the strategy, significant State Government infrastructure projects have changed and will continue to change the physical landscape of the northern region necessitating the review and update of the strategy to reflect the impact these have had and the changing priorities.

This study reviews the 2016 strategy and provides an updated framework for the next ten years and beyond in order to deliver a comprehensive trail network taking into consideration projects already completed, changed Council priorities and the changed landscape as a result of significant state infrastructure projects.

This project provides an in-depth strategic analysis of the network that has been created and seeks to determine the key trails of regional importance, who and why people use these regional trails and how to encourage greater use of the regional trail network. The study will also provide the strategic direction required to allow local government and other land management authorities to work together towards an interconnected and well-used trail network that prioritises accessibility and promotes healthy and active communities.

This is a high-level strategy covering a large study area and many recommended actions dealing with complex sites. Many of the trail action items will require further investigations prior to being realised, including to ensure that any proposed construction works are in alignment with all relevant authority and land manager acts, strategies, plans and policies.



EXECUTIVE SUMMARY

Northern Trails 2022 is a regional trails strategy that has been prepared to establish a framework for the planning and development of regional trails in Northern Melbourne for the next 10 years and beyond. This document is an updated version of a strategy completed in 2016. The original strategy successfully leveraged approximately \$11 million of State Government funding to deliver key priority projects. The delivery of projects and recent significant State Government infrastructure projects have necessitated the review and update of the strategy to reflect the changing circumstances and priorities.

The study area

The study area includes six local government areas (Banyule City Council, Darebin City Council, Hume City Council, Merri-bek City Council, Nillumbik Shire Council and the City of Whittlesea) on the traditional lands of the Wurundjeri – Woi wurrung people of the Kulin Nation.

The study area covers approximately 159,100 hectares and includes a mix of urban, suburban and rural areas. The current population of the area is a little over one million, stretching from the inner-city suburbs of Brunswick, Northcote, Alphington and Ivanhoe, to the outer areas of Craigieburn and Sunbury, and to the Kinglake National Park and rural and interface communities of Whittlesea and St Andrews.

Regional trails

For the purposes of this study, trails have been defined as having the following characteristics:

- multiple potential user groups
- an off-road location
- a relatively long and continuous length.

This study focusses upon ‘regional trails’, which are defined as being higher order trails that have a regional scale, purpose and/or impact.

Twenty seven existing and potential regional trails have been identified within the study area. They are listed below in alphabetical order, and are located on the accompanying map.

- Aitken Boulevard Shared Trail
- Amaroo Pipe Track
- Banyule Shared Trail
- Blind Creek Trail
- Craigieburn Line Shared Trail
- Darebin Creek Trail
- Diamond Creek Trail
- East-West Power Easement Trail
- Edgars Creek Trail
- Galada Tamboore Trail
- Green Wedge Trail
- Hendersons Creek Trail
- Hurstbridge Rail Trail
- Jacksons Creek Trail
- Kinglake Way Trail
- Maroondah Aqueduct Trail
- Merri Creek Trail
- Metropolitan Ring Road Trail
- Moonee Ponds Creek Trail
- Northern Pipe/ St Georges Rd/ Cheddar Rd Trail
- Plenty River Trail
- Somerton Road Trail
- Upfield Rail Trail
- Whittlesea Shared Path
- Yan Yean Pipe Track
- Main Yarra Trail
- Yuroke Creek Trail



The Northern Melbourne regional trail network

As a part of this project, each of the identified regional trails have been assessed (including a trail auditor riding all of the existing trails) and individually mapped. Investigations into the trails and the auditing process identified recommended trail improvement projects for each trail.

The benefits of regional trails

Regional trails provide a range of benefits to the community that can be broadly grouped into four categories.

- ***Social***

Trails provide cost-free locations where planned and unplanned social interaction occurs. People use trails to exercise together and also have chance interactions with people with shared interests (e.g.. dog walkers). The state government strategy *Plan Melbourne 2017-2050* identifies a goal of creating '20 minute neighbourhoods' (where most everyday needs are within a 20 minute walk, ride or public transport trip from a person's home) as a way to improve the quality of life for residents of the city.

Central to this plan is the infrastructure, including trails, that allow people to safely and conveniently move around their 20 minute neighbourhood.

- *Health*

The most common physical activities that people undertake (walking, jogging and cycling) are activities that are highly suited to trails. Trails provide safe, convenient, attractive and cost-free ways for people to exercise, either as a recreational activity, or integrated with their day-to-day life (e.g.. riding to the shops).

- *Environmental*

A high quality regional trail network encourages people to choose to walk or cycle to destinations, rather than using motorised transport modes. This results in reduced vehicle numbers on roads, and the resulting reductions in air pollutants, noise pollution and congestion issues. Trails can also provide access to natural environments which can assist in fostering an appreciation of the environment and help to develop awareness of environmental issues.

- *Economic*

A Cost Benefit Analysis (CBA) has been undertaken as a part of this study in order to quantify the economic benefits of regional trail investment. The CBA highlights that the Northern Regional Trails upgrade is expected to generate a net present value of around \$114 million and a benefit cost ratio of 1.6. This indicates that benefits directly attributable to the project will be around 1.6 times that of the investment.

Findings

This strategy makes recommendations regarding a range of factors, grouped into four categories.

- *Trail infrastructure*

Standards and guidelines are provided relating to physical trail infrastructure, including the trails themselves (incorporating width, surface material, and intersection design), signs, facilities (such as drinking fountains and toilets), and trail-side vegetation.

- *Trail management*

Regional trails often cross municipal boundaries, regularly traverse land managed by multiple different organisations and are funded from a range of sources. This document identifies the current management bodies and challenges, and identifies opportunities for improving management processes across organisations for the betterment of the regional trail network.

- *Trail marketing*

While individual regional trails are quite well-known by residents of Northern Melbourne, few know about the extent of the regional trail network. The trail network also provides potential opportunities for greater use by visitors to the region (and the associated potential economic benefits that this can bring). The existing marketing activities and target audiences are examined here, and recommendations made about the most effective ways to communicate to different groups about the trail network.

- *Trail improvement projects*

Trail improvement projects have been identified for all of the 27 regional trails within the study area, ranging from major trail construction works to small-scale improvements to intersections or signage (the list of trail improvement projects are itemised into a schedule which can be found in Appendix B and/or cross referenced to the trail maps in chapter 6).

- *Prioritising trail improvement projects*

Following the identification of trail improvement projects, each action item was assessed using a multi-criteria analysis in order to identify priority projects that provide the most benefit to the region and most closely align with the objectives of this study. The top ten priority projects were determined to be:

No.	Trail action item	Project description	LGA
1	MaroondahAqueduct_01	Construct new section of trail connecting the Plenty River Trail near Lear Court, east along the aqueduct across Diamond Creek Road to the Diamond Creek Trail at Allendale Road.	Nillumbik
2	MerriCreekTrail_08	Complete missing section of trail from the Metropolitan Ring Road to existing section of trail south of Horne Street.	Hume
3	MaroondahAqueduct_02	Construct new section of trail from Main Road Diamond Creek, along Eltham-Yarra Glen Road, Creek Road, Eltham Road and Carters Lane while ensuring minimal impact to the Warrandyte - Kinglake Nature Conservation Reserve.	Nillumbik
4	EdgarsCreekTrail_01	Construct new section of trail from the Merri Creek Trail to Ronald Street on the west bank.	Merri-bek
5	MerriCreekTrail_02	Partner with Parks Victoria and DELWP to extend the Merri Creek Trail from Merri Concourse (north) to Cooper Street.	Hume
6	UpfieldRail_02	Advocate to Department of Transport to construct a new section of trail from the Metropolitan Ring Road to Somerton Road.	Hume
7	WhittleseaShared_01	Construct a new trail along the train line from Mernda Station to Laurel Street, Whittlesea. Ensure there is provision for horse riders on parts of the trail.	Whittlesea
8	MerriCreekTrail_03	Advocate for and investigate the staged extension of the Merri Creek Trail from Cooper Street Somerton/Epping north to OHerns Road as a part of the Upper Merri Creek Regional Parkland Plan.	Hume & Whittlesea
9	MerriCreekTrail_04	Advocate for and investigate the staged extension of the Merri Creek Trail from OHerns Road to Craigieburn Road as a part of the Upper Merri Creek Regional Parkland Plan.	Hume & Whittlesea
10	KinglakeWay_01	Establish a new trail from Hurstbridge to Arthurs Creek.	Nillumbik

Schedule of top ten unfunded trail action items

In order to undertake the multi-criteria analysis, a series of qualitative and quantitative criteria were developed and assigned a weighting in collaboration with the Project Steering Group. The criteria and the relative weighting used are as follows:

1. Contribution to an integrated and connected network (26%)
2. Encouraging use by spatial location (18%)
3. Potential economic benefits (5%)
4. Contribution to community health and well-being (5%)
5. Contribution to uniqueness and the quality of the natural environment (18%)
6. Encouraging diversity of use through facility quality and maximising usability (5%)
7. Strategic alignment (18%)
8. Ease of implementation (5%)

This criteria, assessment process and the priority action items outline the priorities for the Northern Region and the whole regional trail network, as opposed to individual Councils.

Refer to chapter 10 for more detail on the assessment method and implementation.



Top ten trail action items

- **Trail improvement filters**

Due to the wide variety in project types, and to allow project types to be easily sorted, a series of 'filters' were also developed. Using these filters, a project based on specific requirements regarding the filter categories can be identified.

The top ten projects identified during the multi-criteria analysis process outline the priority projects for the Northern Region however there may be instances where a grant or funding opportunity arises that is suited to an improvement project that is not highly ranked. In these instances, projects can be sorted using the filters to identify suitable projects for implementation or funding applications.

It is important to note that this strategy is high level and as such many of the trail action items require further investigation in order to determine their feasibility and alignment, and to ensure they are in alignment with all relevant authority and land manager acts, strategies, plans and policies. Many of the action items are significant in complexity, i.e. involve multiple land owners or managers or include kilometres of new trail construction, and therefore may present barriers for implementation and take longer than the life of this study to be realised.

1. THE PROJECT	1	7. TRAIL INFRASTRUCTURE	68
1.1 About The Project	1	7.1 Trail Surfaces	69
1.2 Study Area	2	7.2 Trail Signage	73
1.3 Project Objectives	3	7.3 Trail Facilities	75
1.4 Project Approach	4	7.4 Trail-Side Vegetation	77
1.5 Acknowledgments	4	7.5 Intersection Treatments	77
	5	7.6 Trail Infrastructure Standards And Guidelines	78
2. VISION	6		
2.1 Project Vision	7	8. TRAIL MANAGEMENT	80
2.2 Guiding Principles	7	8.1 Existing Management Structure	81
		8.2 Management Roles	84
3. REGIONAL TRAILS	8	8.3 Trail Management Opportunities	85
3.1 What Are Trails?	9		
3.2 What Are Regional Trails?	9	9. TRAIL MARKETING	86
		9.1 Introduction	87
4. STRATEGIC CONTEXT	12	9.2 Current Marketing Activities	87
4.1 Existing Strategic And Policies	13	9.3 Marketing Types	89
4.2 Strategic Context Overview	13	9.4 Tourism Potential	90
4.3 Northern Regional Trails Strategy 2016	13	9.5 Goals And Potential Target Markets	90
5. TRAIL USERS	17	10. IMPLEMENTATION	92
5.1 Demographics	18	10.1 Introduction	93
5.2 Existing Trail Users	22	10.2 Region-wide action items	93
5.3 Potential Trail Users	26	10.3 Trail-specific action items	94
5.4 Equestrian Use	28	10.4 Cost benefit analysis	103
		10.5 Funding the trails	105
6. THE TRAIL NETWORK	30		
6.1 Aitken Boulevard Shared Trail	33	APPENDICES	113
6.2 Amaroo Pipe Track	34		
6.3 Banyule Shared Trail	35		
6.4 Blind Creek Trail	36		
6.5 Craigieburn Line Shared Path	37		
6.6 Darebin Creek Trail	38		
6.7 Diamond Creek Trail	39		
6.8 East West Power Easement Trail	40		
6.9 Edgars Creek Trail	41		
6.10 Galada Tamboore Trail	42		
6.11 Green Wedge Trail	43		
6.12 Hendersons Creek Trail	45		
6.13 Hurstbridge Rail Trail	46		
6.14 Jacksons Creek Trail	47		
6.15 Kinglake Way Trail	49		
6.16 Maroondah Aqueduct Trail	50		
6.17 Merri Creek Trail	52		
6.18 Metropolitan Ring Road Trail	54		
6.19 Moonee Ponds Creek Trail	56		
6.20 Northern Pipe/ St Georges Rd/ Cheddar Rd Trail	58		
6.21 Plenty River Trail	59		
6.22 Somerton Road Trail	61		
6.23 Upfield Rail Trail	63		
6.24 Whittlesea Shared Trail	64		
6.25 Yan Yean Pipe Track	65		
6.26 Main Yarra Trail	66		
6.27 Yuroke Creek Trail	67		

CONTENTS



1. THE PROJECT

Merri Creek Trail

1.1 ABOUT THE PROJECT

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This project provides an in-depth strategic analysis of the network that has been created and seeks to determine the key trails of regional importance, who and why people use these regional trails and how to encourage greater use of the regional trail network. The study will also provide the strategic direction required to allow local government and other land management authorities to work together towards an interconnected and well-used trail network that prioritises accessibility and promotes healthy and active communities.



1.2 STUDY AREA

Melbourne's Northern Metropolitan Region stretches from the inner-city suburbs of Brunswick, Northcote, Alphington and Ivanhoe, to the outer areas of Craigieburn and Sunbury, and to the Kinglake National Park and rural and interface communities of Whittlesea and St Andrews. It is a diverse and vibrant region, featuring Melbourne's Tullamarine Airport, arts and cultural precincts, the National Employment and Innovation Cluster in La Trobe and new growth communities on the northern fringe of the city.

The total area of the Northern Region is approximately 159,100 hectares and includes a mix of urban, suburban and rural areas. Much of the study area lies within the Yarra River catchment, including Diamond Creek, Plenty River, Darebin Creek, Merri Creek and the Moonee Ponds Creek. Areas in the north-west of the study area are within the Maribyrnong River catchment.

The Wurundjeri – Woi wurrung people of the Kulin Nation are the traditional custodians of the land in the Northern region of Metropolitan Melbourne.

The region's population is estimated at approximately 938,000 people and includes a diverse range of communities in terms of age groups, cultural backgrounds and socio-economics. The geography and topography are varied as is the nature of township and urban development.

The six Local Government Authorities in the Northern Region of Metropolitan Melbourne and included in this project are: Banyule City Council, Darebin City Council, Hume City Council, Merri-bek City Council, Nillumbik Shire Council, and the City of Whittlesea.

To the north of the study area lie municipalities that are predominantly rural in nature (the Shires of Macedon Ranges, Mitchell and Murrundindi) and currently have no regional trails that link to the regional trail network within the study area. This is likely to change in the future as the southern parts of the Shire of Mitchell, for instance, become more urban. Future strategies should consider extending the study area to accommodate this. The areas to the west and east of the study area are covered by separate regional trail strategies.

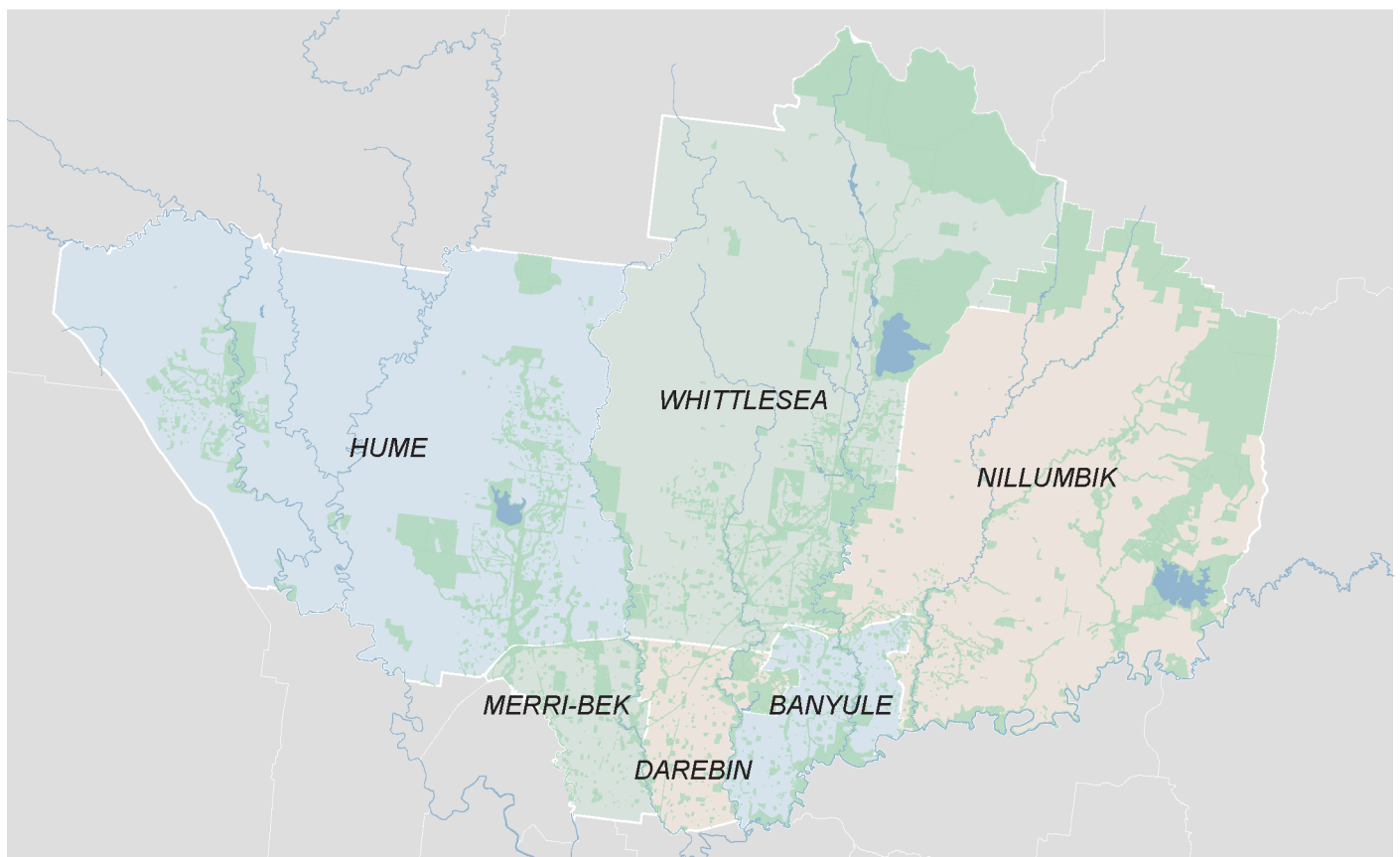


Figure 1.1: Project study area

1.3 PROJECT OBJECTIVES

The 2016 Northern Regional Trails Strategy was developed by the Councils listed above (plus Yarra City Council) in recognition of the need to plan and deliver appropriate infrastructure to support urban development and population growth while providing accessible recreation facilities, active transport opportunities and economic benefits in Northern Metropolitan Melbourne. The strategy was endorsed by all participating councils (with the exception of Yarra City Council) and whilst considered successful, the development of State Government Infrastructure has impacted the landscape of the region necessitating a review and update of the trails strategy.

The key objectives for this new and revised strategy include:

- Consideration of the recommendations of the existing strategies prepared by each of the participating Councils in the Region, the *Victorian Cycling Strategy 2018-28*, *Victoria's Trails Strategy 2014-24*, *Northern Regional Trails Strategy 2016* and other relevant state and local strategic plans including State Government's Strategic Cycling Corridors.
- Identification of gaps and opportunities in the provision of an integrated and linked network of trails.
- Development of a strategic framework for establishing, upgrading and maintaining trails across the network.
- Recognition of the changing physical landscape of the Northern Region and the impact and opportunities significant infrastructure projects may have.
- Definition and quantification (where possible) of the economic, social, health and commuter benefits of developing the regional trail network.
- Consideration of the recent impact of COVID-19 on travel patterns and active transport demand.
- Positioning the strategy as a key advocacy document to attract funding to deliver the Northern Region Trail Network.

1.4 PROJECT APPROACH

There have been a number of key steps undertaken in the completion of this project, as briefly outlined below.

- **Trail desktop assessment**
Identifying the locations of key existing and proposed trails from maps and relevant Council strategies.
- **Trail audit**
Riding each of the existing trails on a bicycle, providing an accurate map of the existing trails and an understanding of the network, including trail surfaces, navigational signs and trail character.
- **Initial community engagement**
Including an on-line questionnaire prior to the preparation of the strategy, promoted by the Councils as well as through a wide range of organisations with a potential interest in regional trails. The questionnaire was open for five weeks over July and August 2021 and received 923 responses.
- **Strategic context review**
Strategic documents relevant to regional trail provision at a local, regional and state level were reviewed. The information from these, particularly the recommendations from local government strategies, provided a starting point for trail improvement measures assessed in the Action Plan.
- **Action plan**
Potential trail improvements were identified through various phases of the project and were assessed against a set of criteria allowing them to be prioritised.
- **Community review of draft**
An additional engagement process ran between 26th July and 26th September 2022 allowing people to provide feedback on a draft version of this document. There were 371 individual contributors to this engagement process, with a strong alignment evident between the region wide strategy priorities with those of the community.

1.5 ACKNOWLEDGMENTS

This project was undertaken by a consultant team lead by *Fitzgerald Frisby Landscape Architecture*, with specialist inputs from *Quentin Frayne*, who undertook the trail auditing and *SGS Economics & Planning* who prepared the Cost Benefit Analysis.

This study was undertaken with extensive and invaluable input from the Project Working Group, led by Banyule City Council, and with representatives from (in alphabetical order):

- Banyule City Council
- Darebin City Council
- Hume City Council
- Merri-bek City Council
- Nillumbik Shire Council
- City of Whittlesea

This project also benefited greatly from the input of a very broad range of people and organisations including government departments, authorities, advocacy groups, clubs and the hundreds of individuals who responded to the questionnaire undertaken as a part of this project.





2. VISION

Edgars Creek Trail

2.1 PROJECT VISION

The Northern Trails: Connecting People, Places and Spaces

The Northern Trails Strategy will document a realistic planning framework and implementable action plan to establish a high quality network of integrated and connected shared trails sensitively linking communities, destinations and a diverse range of urban and natural environments.

The regional trail network will provide desirable, safe and accessible transport and recreation opportunities for residents and collectively reinforce the region as a world class trails destination for visitors.

2.2 GUIDING PRINCIPLES

Complementing the project vision, this Strategy is guided by the following principles:

1. Connected:

The trail network must create useful and convenient routes that link communities, destinations and environments.

2. Integrated:

Individual regional trails must link with other trails to create a continuous network, and also link to other networks and transport modes where possible.

3. Multi-use:

The trail network must be designed to cater for the widest possible range of user modes and types, including commuting and recreational use, and including consideration of equestrian where appropriate.

4. Universal access:

The trail network must be designed to ensure that it is accessible and usable by as many people as possible, including the young, old, people with limited mobility and people from diverse cultural and social backgrounds.

5. User safety:

The trail network must be safe to use, including compliance with standards and the appropriate application of guidelines relating to trail design, construction and management.

6. User experience:

The trail network must provide appropriate facilities and settings, and be managed in a way that facilitates usage, including the provision of navigational signs, shade, trail-side vegetation, drinking fountains and toilets where possible.

7. Longevity/robustness:

The trail network must be constructed and managed in a sustainable way to ensure that it continues to provide appropriate standards of safety, usability and presentation into the future.

8. Environment:

The trail network must be designed and constructed to minimise negative environmental impacts from both construction and ongoing use.

9. Cultural Heritage:

The trail network must be designed and constructed to ensure cultural heritage values are retained and protected.



3. REGIONAL TRAILS

Yuroke Creek Trail

3.1 WHAT ARE TRAILS?

The *Victorian Trails Strategy 2014-2024* defines a trail as:

‘an established path, route or track which often traverses natural areas and is used by people for non-motorised recreation, such as walking, running, cycling, mountain biking and horse riding.’

Key characteristics of a trail include:

- multiple potential user groups, but with a recreational and restorative focus
- an off-road location
- a relatively long and continuous length.

These definitions, with a focus on off-road routes and connections to nature, fit comfortably with many trails within the study area. However, trails in urban areas may also be used to provide links to schools and shopping centres, rather than connections to nature. Similarly, the establishment of long and continuous trails in densely-developed urban areas very often requires the incorporation of routes of a more urban nature, including road-side shared paths and on-road bicycle lanes. To accommodate the full range of conditions found across the study area, the term ‘trails’ in this document incorporates these kinds of urban trail characteristics.

The *Victorian Trails Strategy* definition notes horse riders as a trail user group. While equestrian use of urban trails is not as common as other use modes, consideration of equestrian trail use is included within this study.

3.2 WHAT ARE REGIONAL TRAILS?

‘Regional trails’ fit the definition of trails developed above, and also have a regional scale, purpose and/or impact. Other key defining characteristics of regional trails are:

- **Connecting regionally important locations:** the provision of routes accessing and linking key civic/commercial destinations, activities and natural/cultural features of regional importance.
- **Integrated:** Regional trails in a metropolitan context do not exist in isolation, and must be integrated with a network of other regional and local trails.
- **Recreation:** the provision of recreation opportunities that are both accessible and attractive to a group of users of a regional scale and/or distribution.
- **Economic benefit:** the potential to deliver economic benefits of regional importance (including promoting economic development and/or tourism)
- **Ease of access:** the ability to be readily accessed by the community living and working within the region, as well as by visitors. Trails that require special skills or equipment to access (e.g. trails only accessible by mountain bikes) are not defined as regional trails for the purposes of this study.

Therefore, the kinds of facilities not defined as regional trails for the purposes of this study include local footpaths (i.e. roadside pedestrian-only paths that serve a very local function), on-road cycling opportunities, and informal mountain biking routes.

3.3 THE BENEFITS OF REGIONAL TRAILS

Regional trails provide a range of benefits to the community that can be grouped into four categories:

- Social
- Health (including active transport)
- Environmental, and
- Economic.

There are strong inter-relationships between these categories, as can be seen in the discussion of these benefits below.

3.3.1 Social

Regional trails create spaces for people to exercise with others, facilitating community connection and health benefits. Approximately half of the respondents to a questionnaire undertaken as a part of this study indicated that they regularly use the regional trail network with friends and family.

These project-specific findings about the prevalence of people exercising in groups are backed up by broader analysis. The Victorian Government health promotion foundation, VicHealth, undertakes regular analyses of public health in the state. The *VicHealth Indicators Survey 2015* found that;

just under a third (31.8%) of all Victorians (45.1% of those who participated in non-organised activities) reported that they participated in non-organised activities with someone else.

Unplanned social interactions also occur, particularly where there is a shared interest (such as dog walkers, families, or neighbours). These chance encounters provide opportunities for social interaction for people who may otherwise be socially isolated. Importantly, these opportunities for social interaction are available to all members of the community, regardless of social or economic standing.

The state government strategy *Plan Melbourne 2017-2050* identifies a goal of creating '20 minute neighbourhoods' (where most everyday needs are within a 20 minute walk, ride or public transport trip from a person's home) as a way to improve the quality of life for residents of the city. Trails can play an important role in realising this goal, by providing infrastructure to facilitate active transport modes.

3.3.2 Health

The *VicHealth Indicators Survey 2015* identifies 'physical activity and sedentary behaviour' as one of five key public health indicators. The top non-organised physical activities that Victorians participate in are all activities highly suited to regional trails: walking (51.2%), jogging/running (14%), and cycling (11.8%).

The *VicHealth Indicators Survey 2011* identified three key reasons for lack of physical activity and sedentary behaviour within the population:

- an increased reliance on cars for transportation
- leisure activities have become more sedentary in nature
- many workplaces require people to sit for long periods
(*VicHealth Indicators Survey 2011, Selected Findings, page 55*)

A high-quality trail network in an urban environment has the potential to strongly influence the choices people make regarding two out of three of these reasons for inactivity.

- Trails can make active transport options more attractive, by providing locations for safe, convenient and desirable alternatives to vehicles for personal transport.
- Trails can stimulate participation in active recreation activities, by providing allocation for a range of cost-free, convenient and attractive leisure opportunities.

The COVID-19 pandemic has highlighted the health and well-being benefits derived from visiting green and blue spaces (i.e.. open space and spaces in proximity to water bodies), enabling not only exercise but also opportunities for respite and connection. In *Time for 'Green' during COVID-19? Inequities in Green and Blue Space Access, Visitation and Felt Benefits* (Burt & Feng, 2021) Australian residents surveyed reported greater levels of green and/or blue space visitation and felt benefits during the pandemic. However, these benefits were not equally distributed. People with greater socio-economic disadvantage reported lower levels of visitation and felt benefits. This highlights the value of strengthening our trail network as a strategy to equalise access to green/blue spaces and their associated health and wellness benefits.

Trails also often provide shady routes, often in vegetated areas and along waterways, that provide valuable refuges from the 'urban heat island' (i.e.. higher temperatures in urban areas caused by high densities of hard-paved surfaces).

3.3.3 Environmental

A high quality regional trail network encourages people to choose to walk or cycle to destinations, rather than using motorised transport modes. This results in reduced vehicle numbers on roads, and the resulting reductions in air pollutants, noise pollution and congestion issues.

Trails can also provide access to natural environments which can assist in fostering an appreciation of the environment and help to develop awareness of environmental issues. The 2017 State Government strategy *Protecting Victoria's Environment – Biodiversity 2037* identifies increasing opportunities for all Victorians to have daily connections with nature as a priority action.

Trails are regularly located in sensitive environments (e.g. along waterways). Care needs to be taken in developing trails in sensitive locations to limit negative environmental and cultural heritage impacts. It should also be noted that creating trail access into such spaces can drive positive environmental outcomes by making problems (such as weed infestations) more visible. Trails can also make these areas easier to access for weed control and native vegetation management activities.

3.3.4 Economic

Some aspects of economic and tourism benefits of regional trails are closely linked, especially if a relatively broad definition of tourism is applied. Most of the visitors to the regional trails in Northern Melbourne live in Melbourne themselves. These local tourists have the same potential to provide economic advantage as those travelling greater distances before arrival.

There are also strong relationships between economic benefits of trails and the two previous categories (social and health benefits). The cost to the community of ill health is very large, and a portion of this can be attributed to physical inactivity. Mental illness also has an associated economic cost, which includes the costs from loss of productivity and absence from the workforce. Regular participation in physical activity has been shown to improve mental and physical health, and regional trails are a direct way to invest in improving that participation.

In addition to providing a healthy transport alternative, regional trails can also prove to be time-efficient, reducing costs such as lost productivity associated with transport congestion. Commuting time is also associated with negative health effects. The *VicHealth Indicators Survey 2015* noted that 'perceived stress during or immediately after commuting increases with commute time, lack of predictability or control associated with commuting, and crowding during the commute journey'. It also noted that commuting is also linked with negative health outcomes not directly related to the commute itself, such as time spent commuting resulting in less time available for health-promoting behaviours such as physical activity and relaxation.



4. STRATEGIC CONTEXT

Edgars Creek Trail

4.1 EXISTING STRATEGIC AND POLICIES

Given the large geographical size of the study area and the multitude of benefits associated with regional trails, there are a large number of existing strategies and policies that are relevant to this study. Relevant documents have been reviewed as a part of this study and are summarised in Appendix A.

The documents reviewed can be broadly grouped into the following categories.

- Municipal cycling and walking strategies
- Municipal open space strategies
- Municipal integrated transport strategies
- Municipal road management plan/ safe travel strategies
- Miscellaneous municipal strategies (including feasibility studies and Master Plans for trails).
- Northern Melbourne regional strategies (including the *Northern Horizons – 50 Year Infrastructure Strategy for Melbourne’s North 2016*, *Northern Metro Region Five Year Plan for Jobs, Services and Infrastructure 2018–2022*, and the *Northern Regional Trails Strategy* completed in 2016, which is a significant precursor to this study).
- Higher-level strategic documents (typically state government strategies relating to particular issues, including open space provision, waterways, cycling, trails, infrastructure plans and tourism).

4.2 STRATEGIC CONTEXT OVERVIEW

The review of existing strategies and policies highlights the strong alignment between the objectives of this study and broader strategic directions at all levels of government. These strategic directions include:

- Identification of cycling and walking infrastructure as an important part of an integrated transport network for Melbourne in state government plans and strategies (including *Open Space for Everyone 2021*, *Plan Melbourne 2017-2050*, the *Victorian Cycling Action Plan 2013-2023* and the *Victorian Cycling Strategy 2018-28*).
- Strong support for trail infrastructure development in local government strategies across the study area, including relating to transport, recreation, and health and wellbeing.
- The identification of regional trails as key recreational facilities for the region in the *Northern Horizons – 50 Year Infrastructure Strategy for Melbourne’s North 2016* and the *Northern Regional Trails Strategy 2016*.

4.3 NORTHERN REGIONAL TRAILS STRATEGY 2016

Completed in 2016, the *Northern Regional Trails Strategy* was undertaken to facilitate the implementation of an effective and integrated trail network to support an expanding, increasingly dense urban footprint and population, provide accessible recreation opportunities and promote and support a diverse range of employment and economic opportunities for the residents of Melbourne’s north and beyond.

The aim of the 2016 strategy was to develop a trail network that is a highly connected, functional off-road network with regional-scale economic, social and environmental value. To date, the strategy has been effective in leveraging approximately \$11 million of State Government funding to deliver key priorities identified in the strategy as well as focusing individual Councils’ budget allocations into the planning and delivery of priority trail projects.

The following table outlines the recommendations and key priorities identified in the 2016 strategy and their current status.

Trail	Project description	Status
Banyule Shared Trail	Two sections of new trail construction (2km) adjacent to the Greensborough Highway: 1. Wattle Drive north to Watsonia Station 2. Watsonia Station north to Grimshaw Street	High level concept design completed. Funded
East-West Power Easement Trail	Two sections of new trail construction (1.7km): 1. From Plenty Road to Watsonia Road / Railway Station / Greensborough Highway precinct 2. From the Greensborough Highway to the Plenty River Trail	Concept design partially completed. Partially funded
Main Yarra Trail	Bridge crossing over the Yarra River to Banksia Park at Vine Street, Heidelberg	Feasibility study is required. Funded
Main Yarra Trail	Realignment of the Main Yarra Trail through the Banyule Flats	On hold, pending further investigations and consultation. Not funded
Banyule Shared Trail	New trail construction (2.1km) from Banksia Street south to the Yarra Trail just north of McArthur Road	Concept design
Darebin Creek Trail	Bridge Crossing over the Darebin Creek at Tee Street providing a link between the existing Darebin Creek Trail and Beenak/ McMahon Reserve Path	Constructed
La Trobe University Shared Path	New trail construction (1.97km) from the La Trobe University at Plenty Road/ Main Drive to the existing Shared Path at Kingsbury Drive	Construction commenced
Plenty Road Shared Path	New trail construction (1.61km) along Plenty Road from Drive Road north to Arthur Street	No design undertaken to date
Aitken Boulevard Trail	Three sections of new trail construction (2.97km): 1. Along Kirkham Drive from the Yuroke Creek north to Kirkham Drive Reserve 2. Along Aitken Boulevard from Somerton Road to James Mirams Drive 3. From Fairways Boulevard north to Aitken Creek	1. Concept design 2. Constructed 3. Constructed
Aitken Creek Trail	New trail construction (0.58km) from Hothlyn Drive east to join the proposed Merri Creek Shared Trail.	Concept design developed for Stage 1
Blind Creek Trail	New trail construction (0.6km) from the rail line in Sunbury, east to the Jacksons Creek	Partial detailed design
Greenvale Reservoir Park Trail	New trail construction (1.2km) from Mickleham Road/ Garibaldi Road, east along Venezia Promenade to the Greenvale Reservoir Park	No design undertaken to date
Meadowlink Shared Pathway	Two sections of new trail construction (2.55km): 1. Through Rotary Park/ Johnstone Street Reserve to Johnstone Street 2. From Dimboola Road, along Tanderrum Way, Pascoe Vale Road then east to Merlynston Creek	1. Detailed design 2. Constructed
Yuroke Creek Trail	New trail construction (0.55km) along the Melbourne Water Pipe Track from Greenvale Reservoir Park south to the existing Yuroke Creek Trail	No design undertaken to date
Merri Creek Trail	Major trail extension (24.51km) from the north side of Barry Road to the far northern border of Hume.	Concept Design between Barry Road and Cooper Street
Upfield Rail Trail	New trail construction (1.4km) from Box Forest Road north to Metropolitan Ring Road	Funded - Construction commencing

Trail	Project description	Status
Upfield Rail Trail	Six sections of new trail construction (1.16km): <ol style="list-style-type: none"> 1. Missing section at Jewell Station 2. From Reynard Street to Munro Street 3. Missing section south of Gaffney Street 4. Missing section at Batman Station 5. Missing section at Ararat Avenue 6. Missing section at Merlynston Station 	<ol style="list-style-type: none"> 1. Constructed 2. Under construction 3. Constructed 4. Concept Design 5. No design 6. Some sections planned via car park upgrade.
Edgars Creek Trail	Three sections of new trail construction (2.19km): <ol style="list-style-type: none"> 1. From the Merri Creek Trail to Ronald Street 2. From Ronald Street to Photography Drive 3. From Photography Drive to Carrington Road 	<ol style="list-style-type: none"> 1. Partially constructed 2. No design undertaken to date 3. No design undertaken to date
Diamond Creek Trail	New trail construction (7.34km) along the Diamond Creek from Luscombe Drive to Ferguson's Paddock	Partially constructed
Aqueduct Trail	Three sections of new trail construction (20.63km): <ol style="list-style-type: none"> 1. From the Plenty River Trail, over the Metropolitan Ring Road to the existing Banyule Diamond Creek trail 2. From Main Road Diamond Creek, along Eltham-Yarra Glen Road, Creek road and Eltham road to the commencement of the existing trail 3. From Warrandyte Kinglake Road, north along Westering, Ridge and Muir Roads to Skyline Road 	Concept design, partial detailed design
Green Wedge Trail	Four sections of new trail construction (8.22km): <ol style="list-style-type: none"> 1. From the proposed Diamond Creek Trail (Wattle Glen Station) to existing trail on Watery Gully Road 2. Missing section at Alma Road and Eltham-Yarra Glen Road 3. Missing section at Motschalls Road 4. Missing section from Spanish Gully Road to Kinglake 	No design undertaken to date
Edgars Creek Trail	Four sections of new trail construction (7.98km): <ol style="list-style-type: none"> 1. North of Metropolitan Ring Road, from Spring Street to Main Street 2. Between Cooper Street and Tramoo Street 3. From Willandra Drive to Rockfield Street 4. From Gammage Boulevard to Craigieburn Road 	<ol style="list-style-type: none"> 1. Constructed 2. No design 3. Constructed 4. Partially constructed
Merri Creek Trail	New trail construction (0.34km) from the Merri Creek Trail to the Whittlesea Public Gardens.	Constructed
Whittlesea Rail Trail (also known as the Whittlesea Shared Trail)	New Trail construction (16.8km) along the train line from McDonalds Road, South Morang to Laurel Street, Whittlesea	No design undertaken to date
Yan Yean Pipe Track	Three sections of new trail construction (6.88km): <ol style="list-style-type: none"> 1. From the Western Ring Road north to Childs Road 2. From Moorhead Drive to Williamson Road 3. From Vincent Drive to Gordons Road 	Partially constructed
Plenty Road Shared Path	New Trail Construction (0.43km) from Centenary Drive, Mill Park to the proposed Yan Yean Pipe Track at Hickey Court	No design undertaken to date
Darebin Creek Trail	Upgrade existing trail from M80 to Childs Road and Childs Road to Findon Road from granitic sand to concrete	Partially constructed
Merri Creek Trail	Upgrade existing trail in the City of Whittlesea from granitic sand to concrete	
Hendersons Road Drain Trail	Upgrade existing trail in the City of Whittlesea from granitic sand to concrete	Partially constructed

South Morang Pipe Trail	Upgrade existing trail in the City of Whittlesea from granitic sand to concrete	Detailed design
Craigieburn Line Shared Path	Construct 8 new sections of trail (15.65km): <ol style="list-style-type: none"> 1. From Moonee Ponds Creek Trail to Gaffney Street 2. From Gaffney Street to Bothwell Street, on the western side 3. From Bothwell Street to Devon Road, on the western side 4. From Devon Road to Cartwright Street, on the western side 5. From Cartwright Street to Glenroy Road, on the western side 6. From Glenroy Road to Glenroy Station 7. From Glenroy Station to Jacana Station, on the eastern side 8. From Jacana Station to Craigieburn Station 	<ol style="list-style-type: none"> 1. Strategic Plan 2. Funded for construction 3. Design underway 4. Completed 5. Design underway 6. Construction underway 7. Strategic Plan 8. No design undertaken to date

Since the adoption of the *Northern Regional Trails Strategy (2016)*, significant State Government infrastructure projects have changed and will continue to change the physical landscape of the northern region necessitating the review and update of the 2016 strategy to reflect the impact these have had and the changing priorities. This updated strategy considers the recommendations and priorities outlined in the table above and establish an updated framework for the future development, prioritisation and maintenance for off road trails in the Northern Region of Metropolitan Melbourne.



5. TRAIL USERS

Merri Creek Trail

5.1 DEMOGRAPHICS

The study area for this project is very diverse ranging from established inner-suburban areas to rural townships. The population of Northern Melbourne is similarly diverse. Figures 5.1 to 5.5 illustrate the key population characteristics of the study area, including land area, population numbers, population change and population density. These figures demonstrate that:

- The municipalities that make up the Northern Melbourne study area range in population size (from approximately 65,000 to 241,000 residents).
- The density of the population is heavily weighted to the south of the study area
- The area to the north of the region has the highest population, but low population densities. The growth areas have the fastest growing populations with their population densities projected to increase.
- The far eastern side of the study area has the lowest population and lowest density and due to the green wedge and larger rural lots.

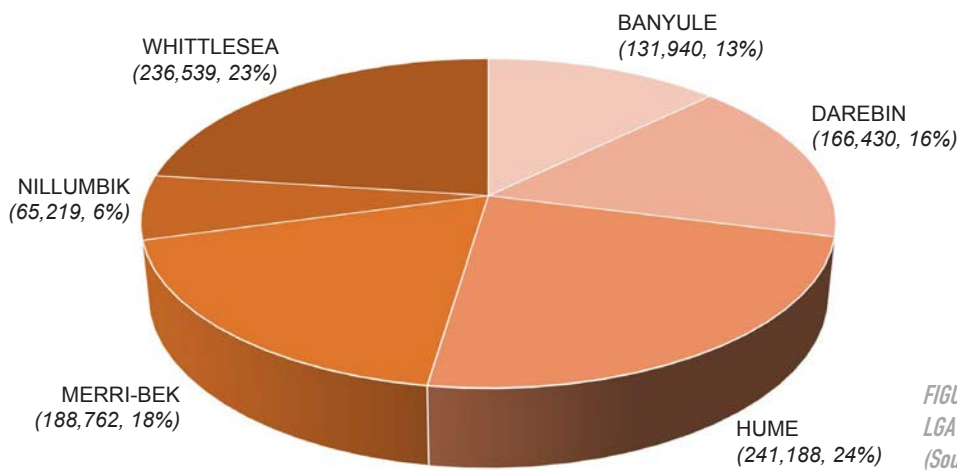


FIGURE 5.1:
LGA ABS Estimated Resident Population 2020
(Source: www.profile.id.com.au)

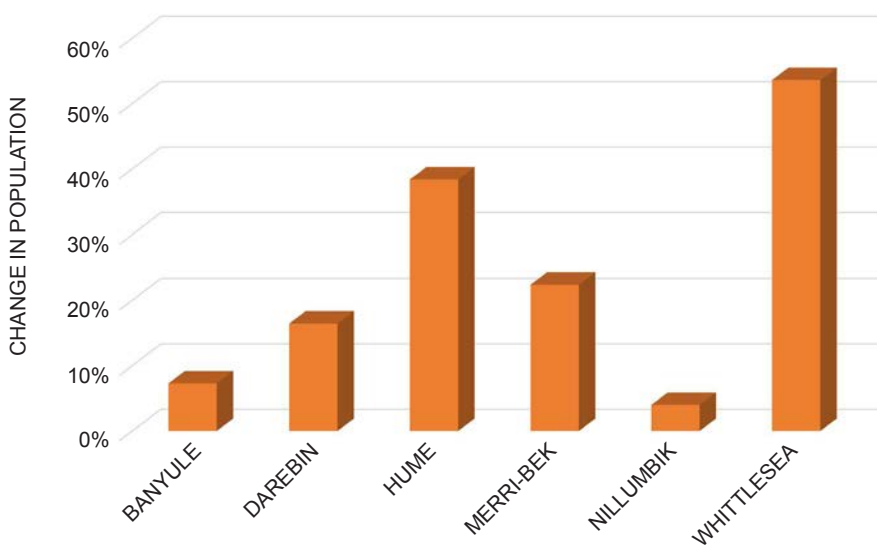


FIGURE 5.2:
Change in Estimated Resident Population from 2011 to 2020 by Local Government Area
(Source: www.profile.id.com.au)

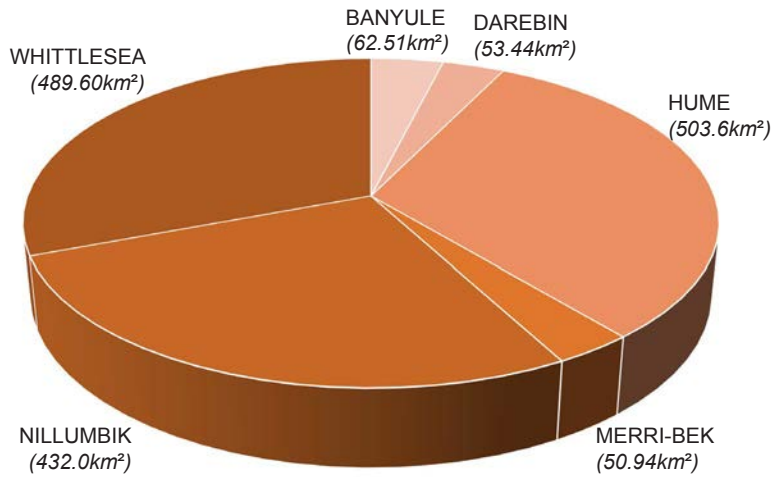


FIGURE 5.3:
LGA Land Area
(Source: www.profile.id.com.au)

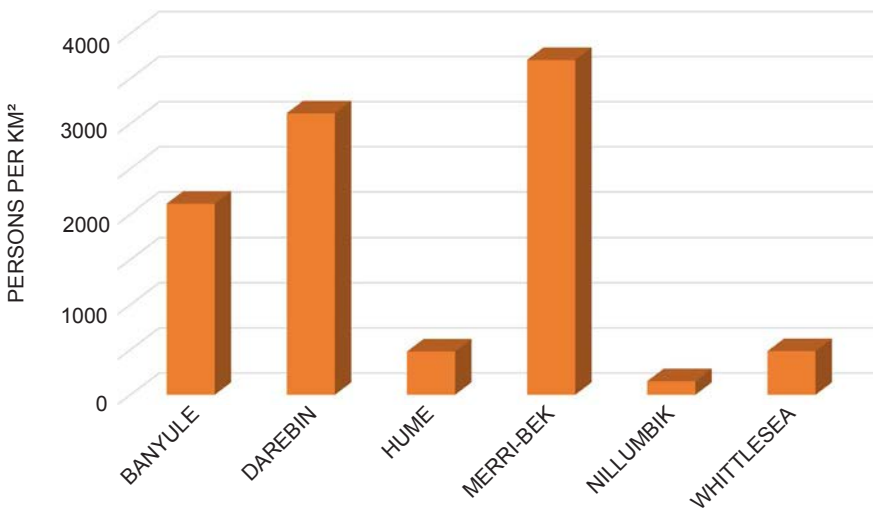
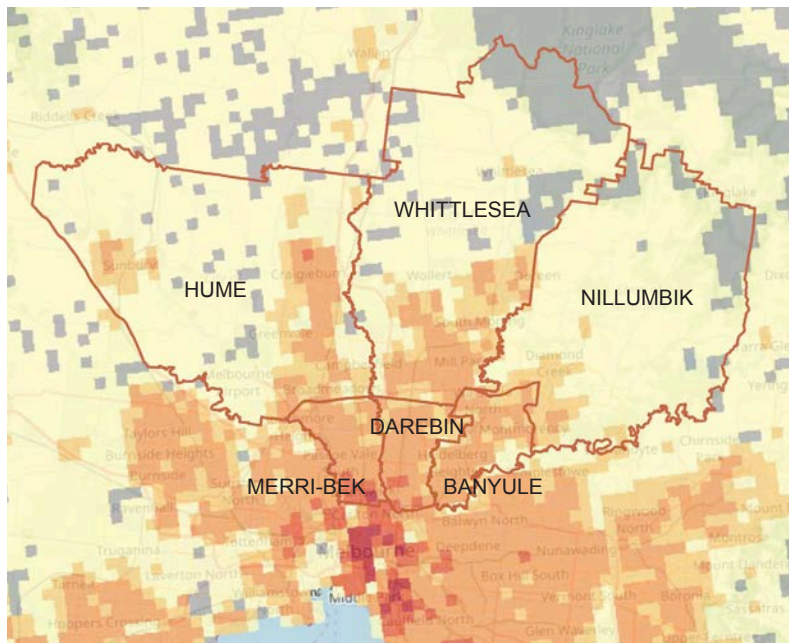


FIGURE 5.4:
Population Density by Local Government Area 2020
(Source: www.profile.id.com.au)



Approximate population per square kilometre

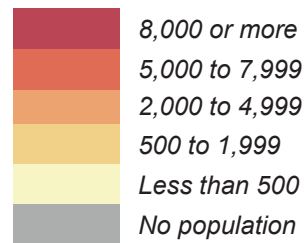


FIGURE 5.5:
Study area population density map grid (2020)
(Source: Australian Bureau of Statistics, Population Grid, 2020)

It can also be seen that all of the Councils within the study area are recording population growth and that this is projected to continue over the coming decades, particularly within the growth areas.

Figure 5.6 shows the age distribution for each of the Councils within the study area and a comparison to the Greater Melbourne average. The study area as a whole has high numbers of residents in the 35-49 year age bracket.

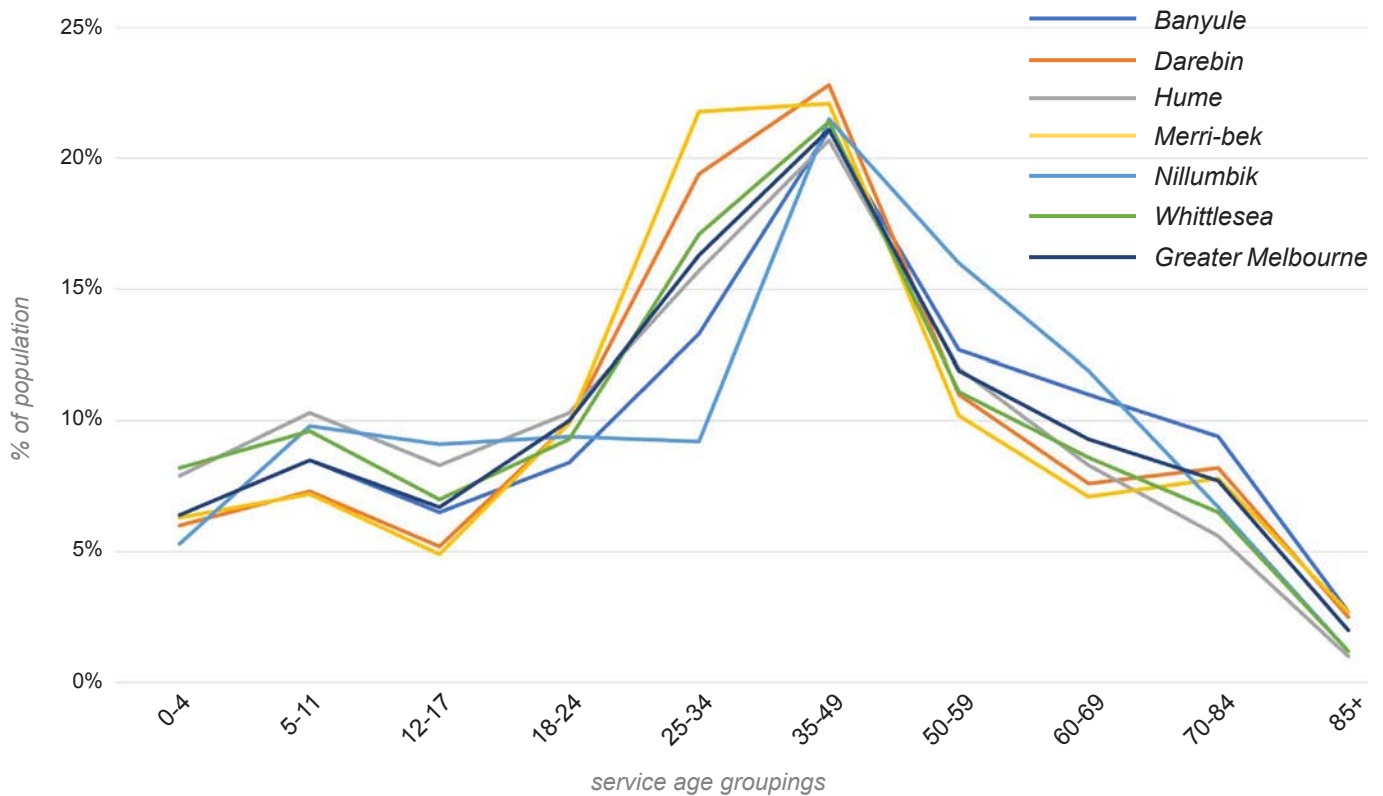


FIGURE 5.6:
 Service age group distribution by Council within study area, compared to the Greater Melbourne population (2016)
 (Source: www.profile.id.com.au)

Figure 5.7 shows the relative socio-economic disadvantage by suburb measured against the Australian Bureau of Statistics Socio-economic indexes for areas (SEIFA) measures. This dataset broadly defines socio-economic advantage and disadvantage through an assessment of people's access to material and social resources, and their ability to participate in society.

Within our study area the majority of the key population centres within the study area are ranked as having low levels of disadvantage. The areas of disadvantage identified are predominantly in the centre of the study area.

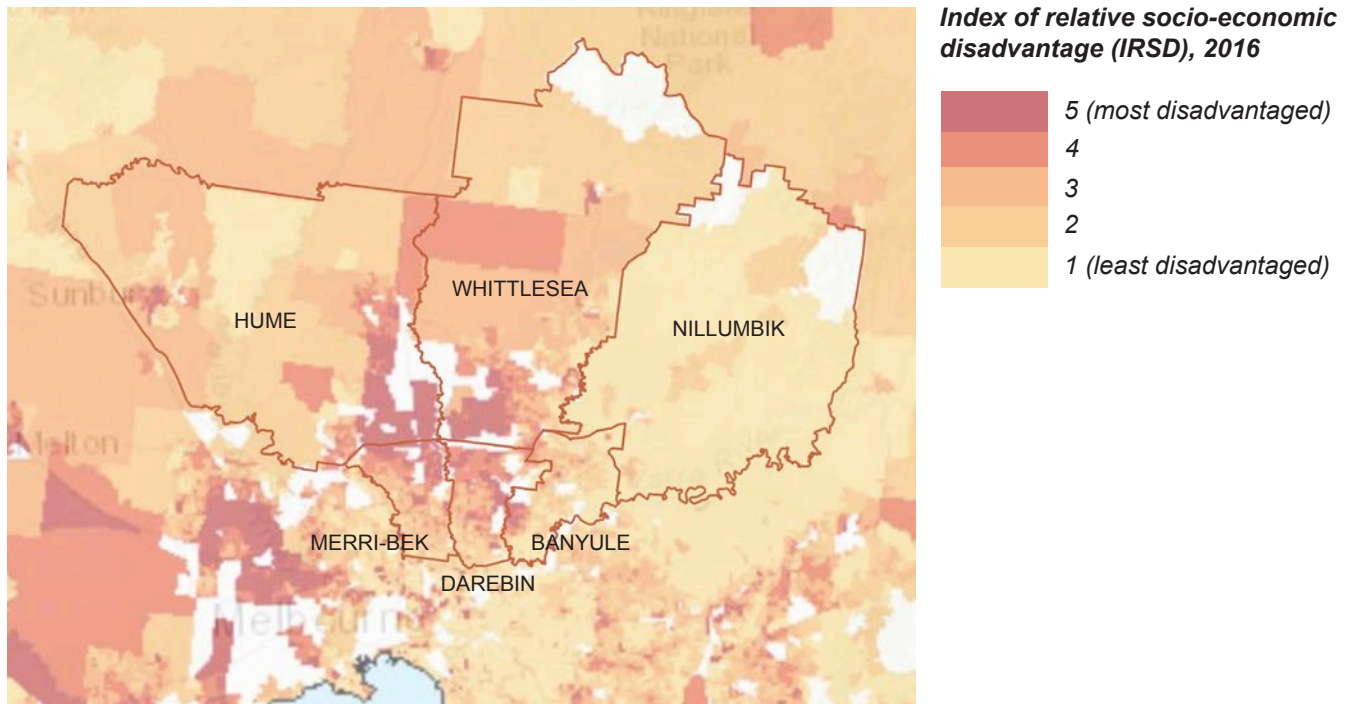


FIGURE 5.7:
Relative socio-economic disadvantage by suburb (2016)
(Source: Australian Bureau of Statistics, Socio-economic indexes for areas, SEIFA, 2016)

The implications of this demographic data on regional trail provision in the study area include:

- Population growth in the study area is inconsistent, with growth areas experiencing major growth in past decade, a trend that is likely to continue. There is potential to take advantage of new trail projects being delivered as a part of growth corridor planning and broad-scale land development activities.
- Increasing populations across the study area create a strong argument for investment in community infrastructure, including regional trails.
- The high densities of population in the southern part of the study area create demand for regional trails, but also make the construction of new regional trails very difficult (due to the constraints that come with density).
- There are currently no regional trails within the far-eastern and northern portions of the study area due to the low population densities. These areas are unlikely to become a priority for regional trail construction, with the exception of tourism-focused, nature based trails.
- Consideration should be given to prioritising regional trail improvement in areas identified as being socio-economically disadvantaged. Regional trails provide a free and accessible recreation resource, and also contribute to the feasibility and attractiveness of low-cost transport options.

5.2 EXISTING TRAIL USERS

There is no comprehensive information available about regional trail network use and users in the Northern Melbourne study area. In this section, information has been compiled from a number of sources in order to build a picture of regional trail use:

- The *Super Tuesday Commuter Bike Count* (undertaken annually by the bicycle advocacy organisation *Bicycle Network*).
- The *Super Sunday Recreational Count* (also undertaken annually by *Bicycle Network*).
- Individual count data provided by some Councils.
- The on-line questionnaire undertaken as a part of this project. Please note that this open questionnaire went out to Bicycle Network members, which may weight results towards this interest group.

The purpose of understanding existing trail use is to determine:

- Who is using the regional trail network, and why? This provides a framework for trail planning, management and focuses potential improvements to meet their needs of these users.
- Who isn't using the regional trail network, and why? This provides a framework for improvements that appeal to a broader demographic and increase usage.

Regional trail network use and users were established through three key questions:

- Quantity/location - how many people are using the regional trails, and which trails are they using?
- Mode - how are people using the trails?
- Function - why are people using the trails?

5.2.1 Quantity/location

How many people use the regional trails of Northern Melbourne, and which trails are they using?

An indication hierarchy of use is provided via the questionnaire undertaken as a part of this study in which we asked people to identify which of the regional trails in the study area they had used, and how often (see figure 5.8).

The Merri Creek Trail recorded the highest level of use with over 13% of respondents indicating that they use the Merri Creek Trail 'daily or several times a week'. This trail is located within the most densely populated areas of the northern region. Its north-south alignment and position within a creek corridor supports both commuter and recreational use. Bicycle Network Victoria's Super Tuesday count data from 2019 recorded over 300 trips per hour on the Merri Creek Trail. The impact on commuter traffic from the COVID-19 lock downs is demonstrated in the 2020 count data which recorded only 125 trips per hour.

The Darebin Creek Trail, another north-south trail with both commuter and recreational appeal, recorded the second highest level of usage with almost 10% of respondents indicating they use the trail 'daily or several times a week'. Bicycle Network Victoria's Super Tuesday count data from 2020 saw an increase of usage of up to 60% for the section of trail located within Whittlesea. Due to its relative distance from the CBD this section is more commonly used for its recreational benefits. It could be inferred that this spike in usage during the COVID-19 lock downs demonstrates an increase in residents turning to trails for exercise, socialising and relaxation.

Lack of name recognition of the Northern Trails network is demonstrated by over one third of respondents reporting that they have 'never heard of' 11 of the 19 listed trails. This indicates a need to broaden public awareness of the Northern Trails network to increase user diversity and frequency of use.

An indication of trail use frequency is provided by the on-line questionnaire. Figure 5.9 illustrates how often respondents indicated they use the regional trails. Close to three quarters of the respondents indicated they used the regional trails at least weekly ('several times a week', 36%, 'weekly' 21% and 'daily', 17%).

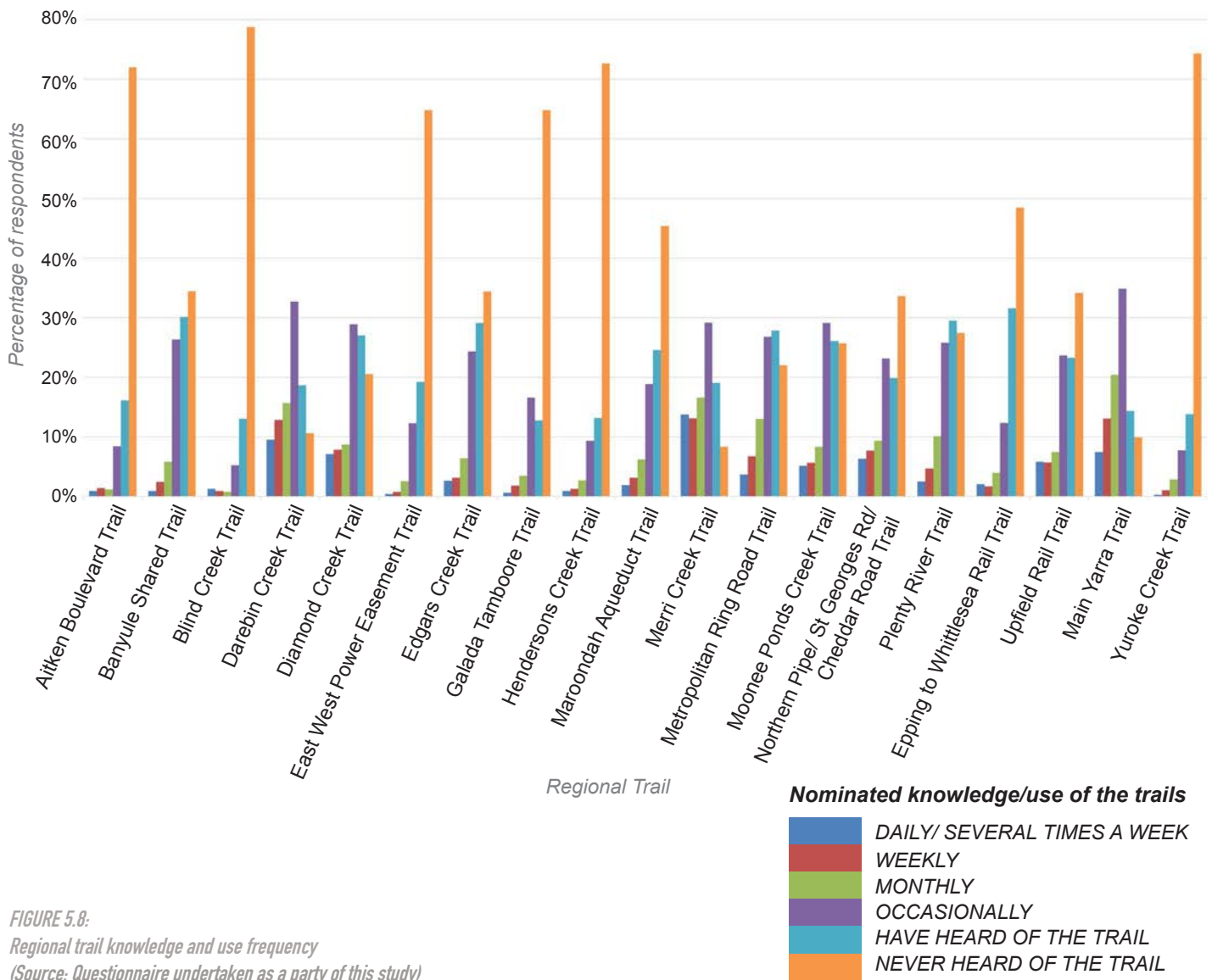


FIGURE 5.8:
Regional trail knowledge and use frequency
(Source: Questionnaire undertaken as a party of this study)

5.2.2 Mode and function

Why are people using the regional trails of Northern Melbourne?

The questionnaire undertaken as a part of this project asked people to identify how they most often used regional trails in the study area (see figure 5.10). Bike riding was the most common response, being selected by over 52% of respondents, followed by walking (23%) and walking with a dog (almost 10%). It is recognised that there is often significant cross-over in reasons for trails use. Being able to use trails for multiple purposes is one of their key benefits.

Regarding the dominant recreation and exercise categories, supporting this are the findings of the *VicHealth Indicators Survey 2015* that notes at a state-wide level, walking (51%), jogging/running (14%) and cycling (12%) are the highest participation non-organised physical activities.

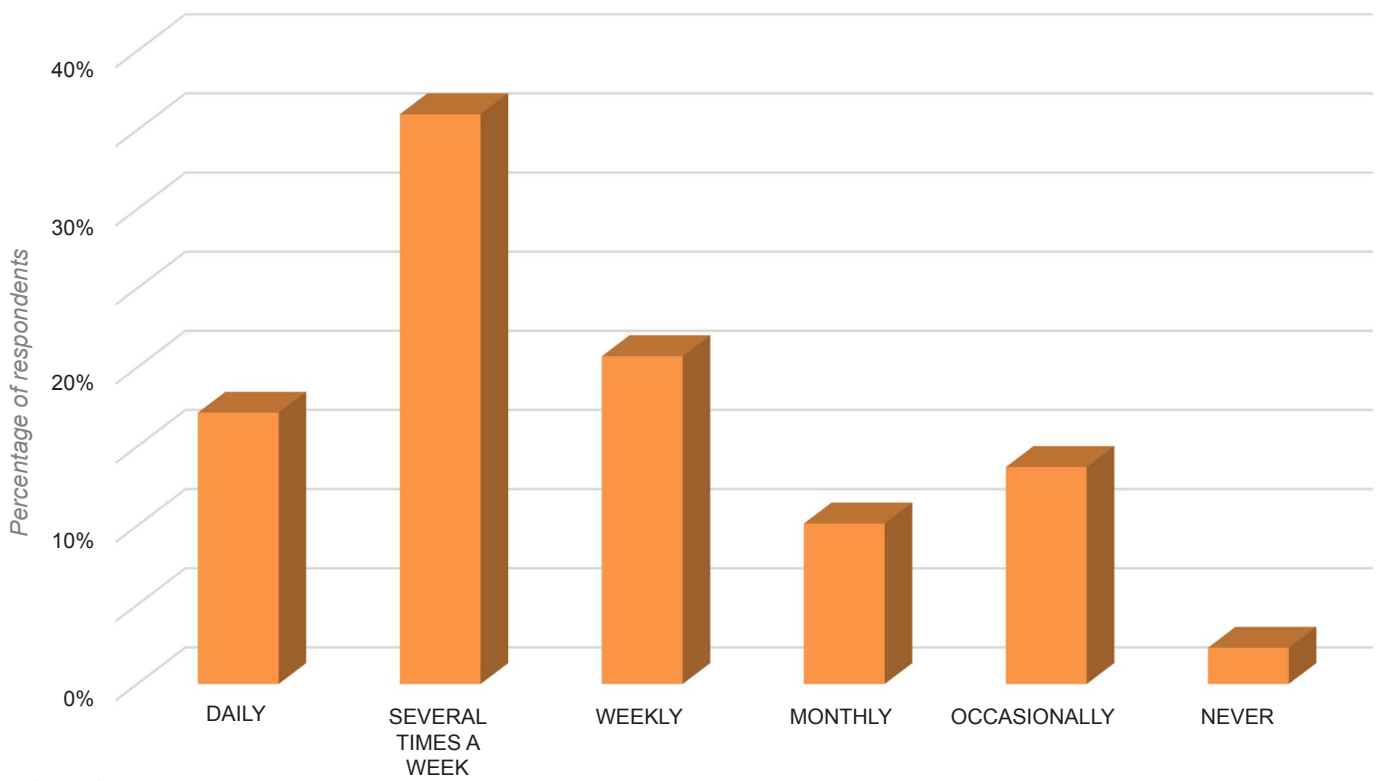


FIGURE 5.9:
Regional trail use frequency: 'How often do you currently use the regional trails in Northern Melbourne?'
(Source: Questionnaire undertaken as a party of this study)

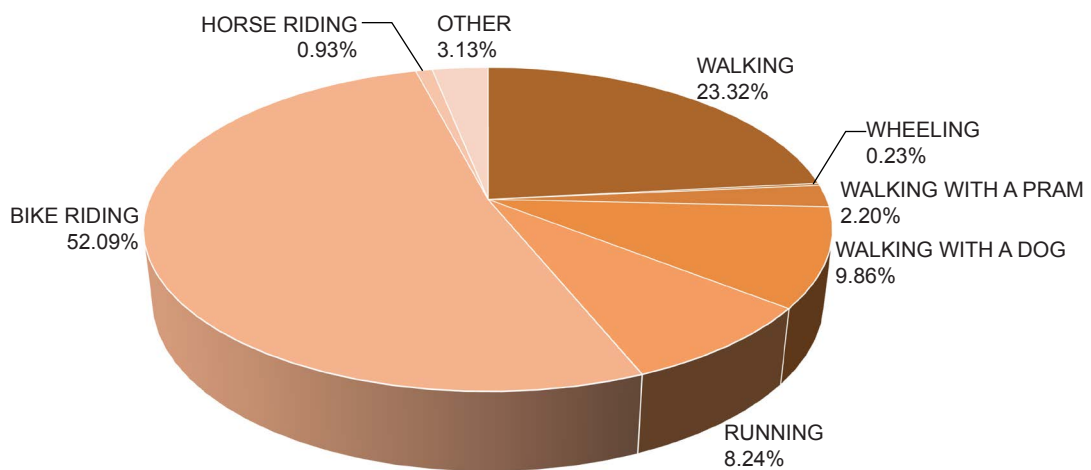


FIGURE 5.10:
Primary use mode of the regional trails: 'How do you most often use the regional trails in Northern Melbourne?'
Source: Questionnaire undertaken as a party of this study)

Cycling for transport is an important function of many regional trails in Northern Melbourne. The questionnaire was undertaken during the COVID-19 pandemic. The increase in people working from home and the reduced movement experienced under lock down conditions may mean that this use is not accurately represented in the findings (figure 5.11). At a population level the *Victorian Cycling Strategy 2018-28* reports that cycling makes up just 2% of daily trips to work in Melbourne (compared to 4% walking, 18% public transport, and 74% private vehicle).

Trails are traditionally perceived as rural or natural in setting. This perception is reflected in the alignment of many existing urban trails, which are more likely to connect to parkland and natural reserves than to centres of activity and employment. This may also impact the prevalence of cycling for transport as a reason for using regional trails. As active transport routes, regional trails have room for improvement.

The questionnaire identified that many respondents used trails with family and/or friends (refer to figure 5.12) indicating that the trails play an important role in facilitating social engagement and interaction. Anecdotal evidence suggests that COVID-19 restrictions amplified the importance of trails as a public and locally accessible facility where the community can gather and interact with family and friends.

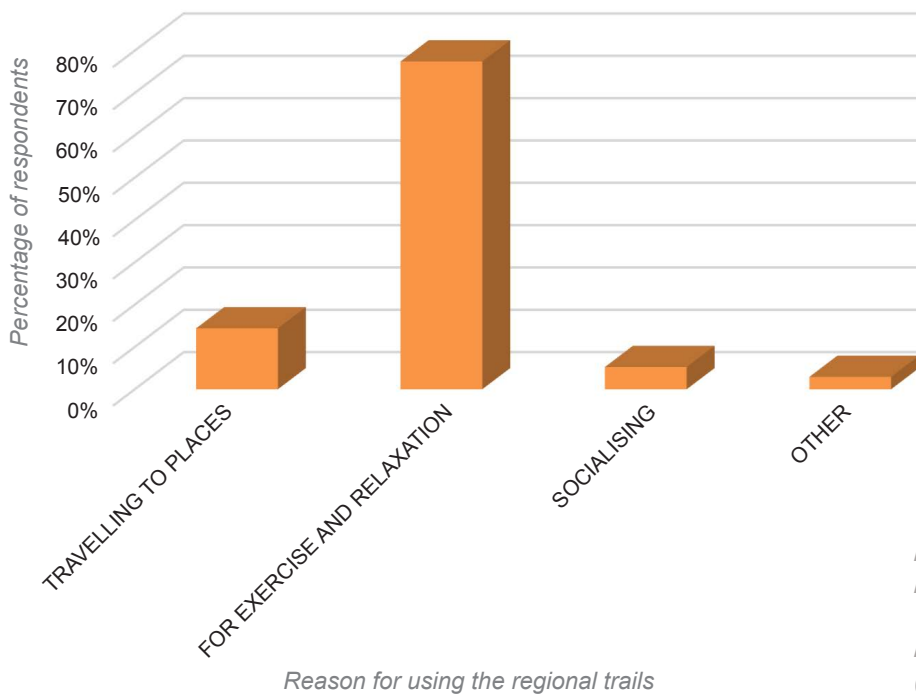


FIGURE 5.11:
Reason for trail use:
'Why do you most often use regional trails in Northern Melbourne?'
(Source: Questionnaire undertaken as a party of this study)

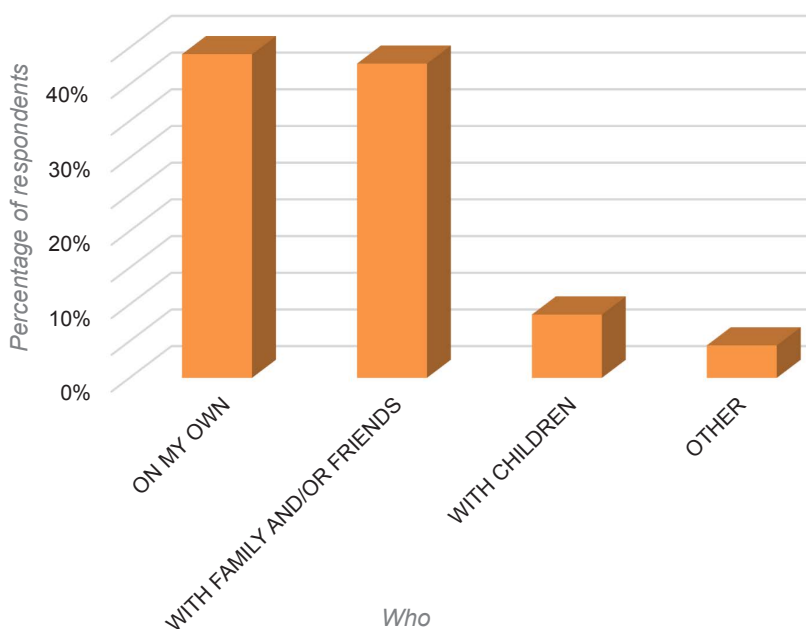


FIGURE 5.12:
Who do you use the regional trails with?
'Who do you most often use the regional trails in Northern Melbourne with?'
(Source: Questionnaire undertaken as a party of this study)

5.3 POTENTIAL TRAIL USERS

One of the key measures of success for a regional trail network is the number of users. A growing regional trail network should prioritise attracting additional users.

External factors that are likely to effect regional trail usage include:

- Population growth within the region (as identified within the demographics section earlier in this chapter), and in Melbourne as a whole.
- Usage trends relating to exercise and active transport.
- Increase in the use of electric bikes which allow broader access to trails, where route length or gradient may be prohibitive for standard cycling.
- The growth of dockless share bike schemes.

Trail improvements impact usage. A key focus of this project is to identify and examine which improvements are most valued among current and potential users. Within our on-line questionnaire the most valued preference to 'increase your usage of the trails' was 'improved connectivity between the trails,' with 77% of respondents citing it as a preference (see figure 5.13).

The popular support for improved connectivity between trails reflects the broad user benefits this would have. For recreational users, connecting trails create the potential for circuits and loops, which provide a more interesting and varied user experience, and allows users to set goals and challenges relating to circuits of a particular length. For people using regional trails for transport, inter-connecting trails open up a larger range of destinations which increases the likelihood of frequent use.

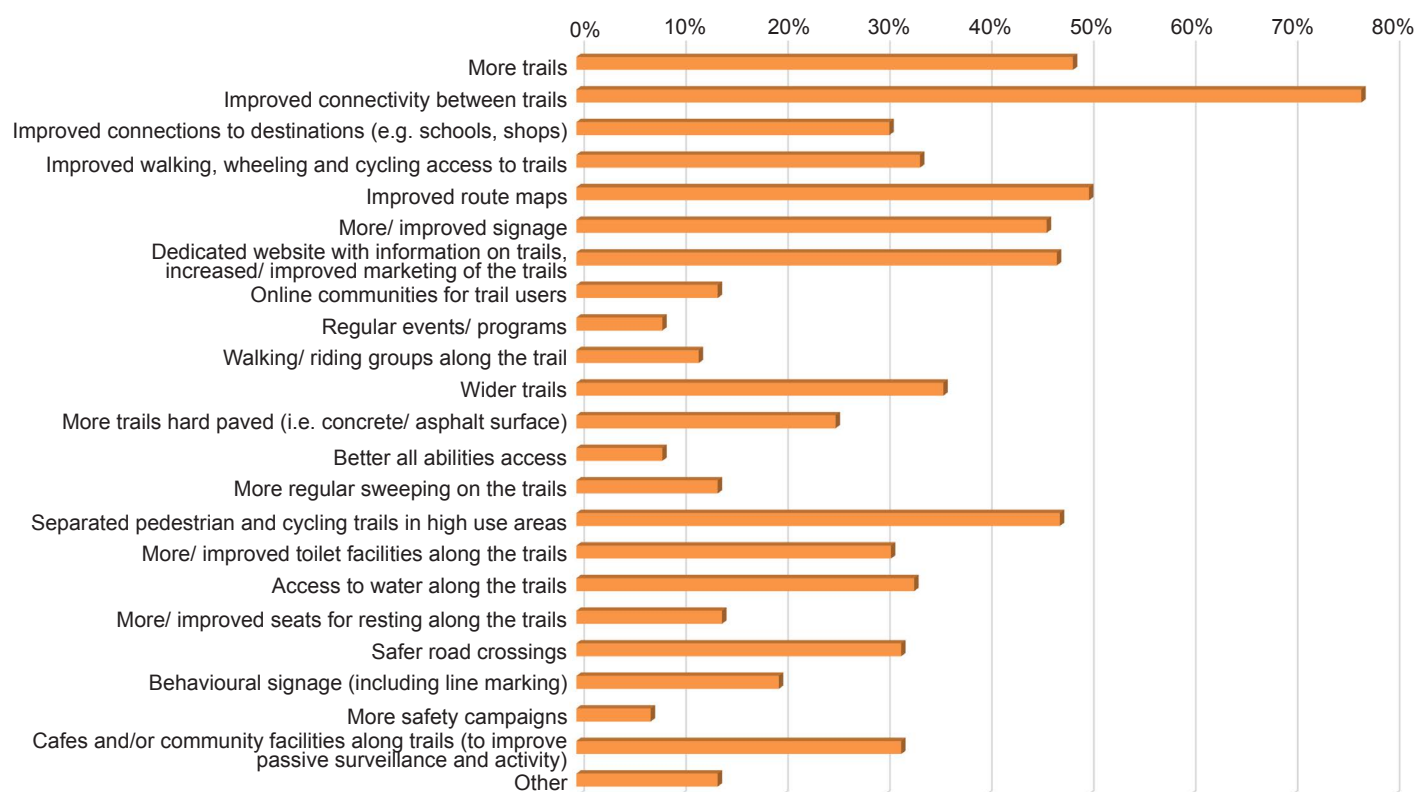


FIGURE 5.13:

Trail improvement preferences:

'Which of the following could increase your usage of the trails? (Tick all that apply)'

(Source: Questionnaire undertaken as a part of this study)

'Separated pedestrian and cycling trails in high use areas' also had popular support. This reflects the concern for conflicts that arise on shared-use trails. A key issue here is the difference in speed between cyclists and pedestrians using the trails. This is discussed in more detail in Chapter 7: Trail Infrastructure.

The responses regarding trail improvements provide useful insights into user perceptions of the existing trail network. The respondents to the questionnaire are, in general, people who already use the regional trails. How can new users be attracted to use regional trails?

The *Victorian Cycling Strategy 2018-28* identifies four groups of people relating to their propensity to cycle:

- *'Strong and fearless' cyclists will cycle regardless of road conditions and are ready to mix with traffic.*
- *'Enthused and confident' cyclists are already riding, but they could ride more and their riding experience could be better*
- *'Interested but concerned' cyclists are the largest group, and they vary in age and cycling ability. They are curious about cycling and like to ride but are afraid to do so and put off by the need to ride close to motor vehicles and pedestrians, especially on higher-speed, higher-volume roads or where conflicts are more likely.*
- *'No way, no how' people will not cycle because they can't, because the terrain is unsuitable or because they have no interest whatsoever in it.*

The 'interested but concerned' category are estimated to make up 60% of the population (compared to only 1% who are 'strong and fearless', and 7% 'enthused and confident'). The off-road condition of regional trails make them an attractive option for this safety conscious group. To increase regional trail usage within the 'interested but concerned' category, a focus should be placed on improvements that make trails more convenient, safe, and easy to navigate.

Tourism-related use has strong potential to introduce new users to regional trails. While not all regional trails are scenic or adjacent to tourist-attracting destinations, an interconnecting network means that visitors can utilise the network to access the more scenic trails and destinations.

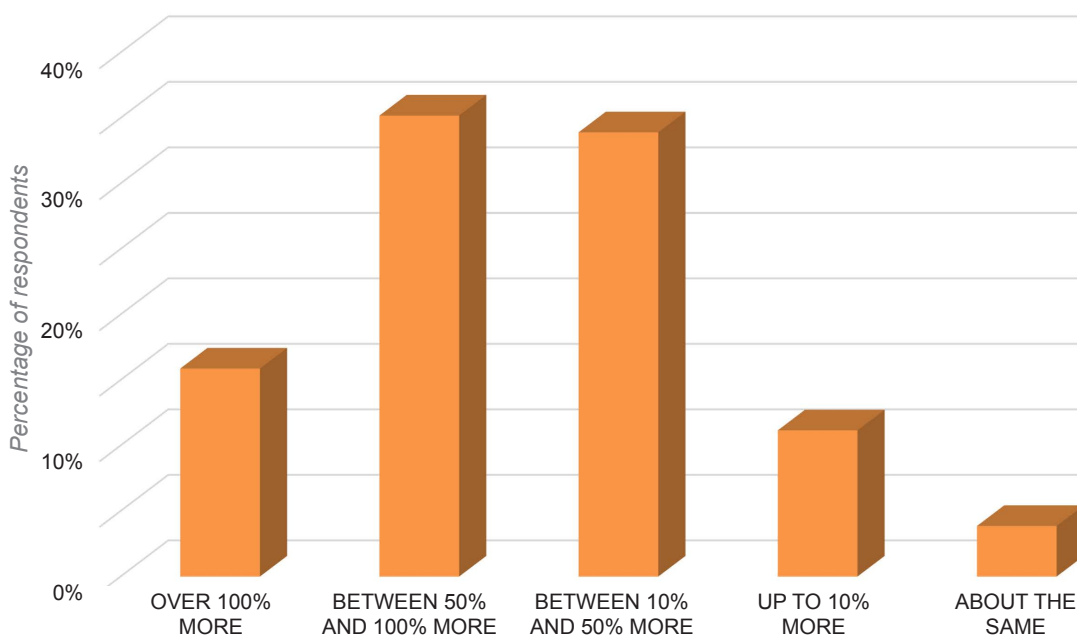


FIGURE 5.14:

Regional trail use frequency if improvements undertaken:

'If the improvements that you identified (listed above) were implemented, how much more often do you think you would use the trails?'

(Source: Questionnaire undertaken as a party of this study)

5.4 EQUESTRIAN USE

For the purposes of this study, regional trails have been defined as trails providing opportunities for multiple user types. However, there are challenges in accommodating all potential trail users, and these challenges are perhaps most pronounced with equestrian use.

Whilst horse riding on the northern regional trails is relatively limited at present, the feasibility of equestrian use of the entire trail network should be considered. Should trail users be able to ride horses from the rural fringes to the city centre on off-road trails? This level of equestrian use of regional trails in Northern Melbourne is hindered by a number of factors including:

- **Suitability of surfaces:** many urban shared trails are hard paved (for all-weather access, accessibility for people of all abilities, and the minimisation of ongoing maintenance requirements) which makes many trails unsuitable for equestrian use.
- **Width of trail corridors:** many trails within the network are highly constrained due to adjacent waterways, rail lines or sensitive environments and cannot accommodate the additional width required for a second parallel path for equestrian use.
- **External stakeholders:** many trail corridors are owned or managed by external stakeholders who may not be supportive of equestrian use on their land due to increased risk to trail users (which as land owners, they share some responsibility for), and the potential for environmental damage.
- **Low demand:** the numbers of regular horse riders are very low compared to pedestrian and cycling numbers. The 2017 Equestrian Victoria *State Facility Plan* estimates that there are 53,246 participants in equestrian sport in Victoria. This equates to less than 1% of the total population. Of these participants, many are involved in the competitive aspects of horse riding, including dressage, show jumping and eventing. These activities are undertaken at purpose-built facilities, not on trails.
- **Conflict of use:** Shared-use trails can create issues for horse riders, including the potential for horses to be troubled by other trail users and dogs. This makes shared trail use less desirable than riding on private land (such as at the many commercial equestrian facilities within the region) or on quieter bushland trails.

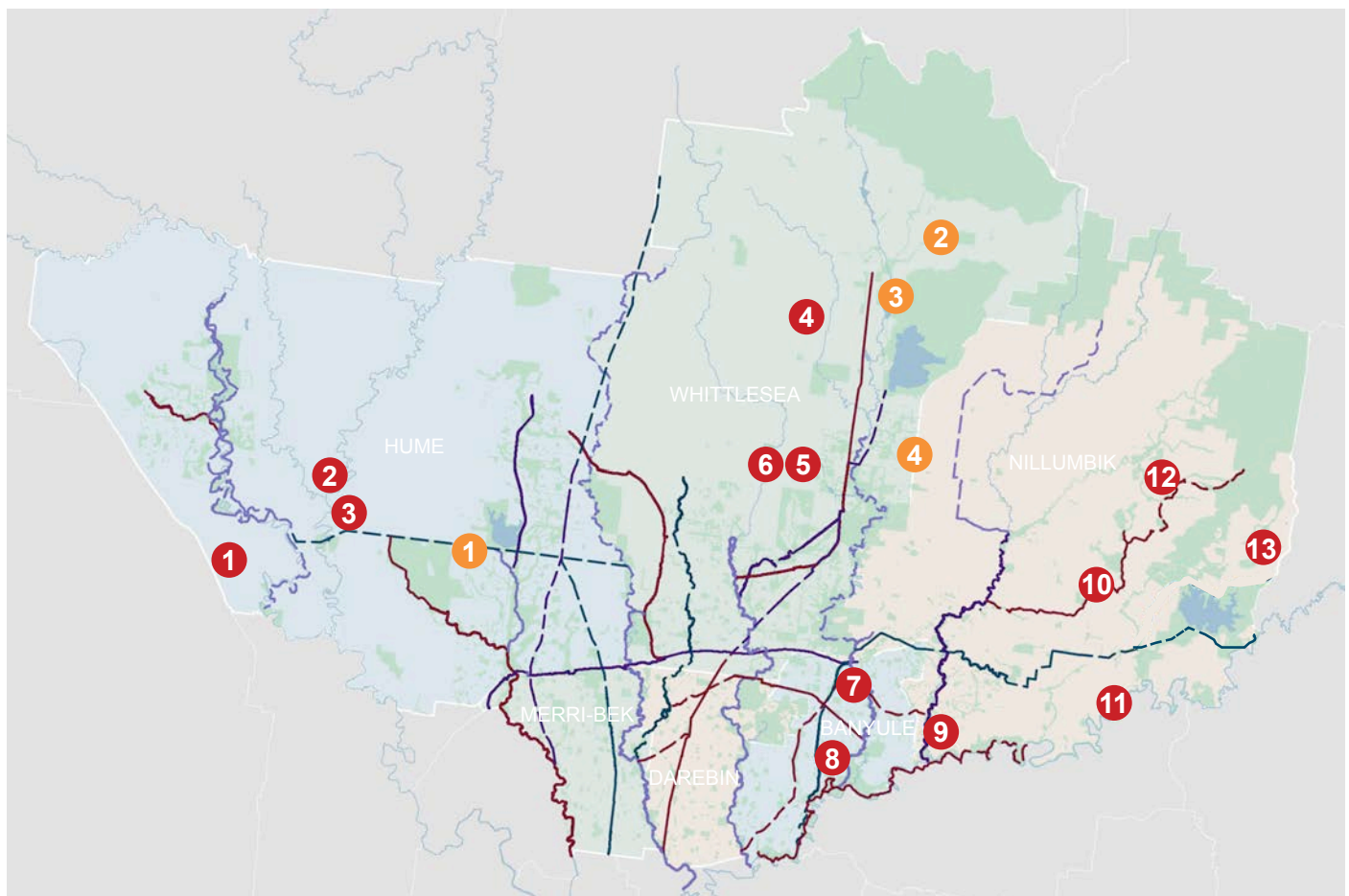
For these reasons, equestrian use of trails needs to be targeted rather than broadly applied. There are three types of equestrian use of trails that seem most likely to be attractive to riders and compatible with broader regional trail planning objectives.

- **Off-road horse riding opportunities**, particularly in rural areas. As the population of Melbourne has grown, once-rural areas have become more developed and quiet roads have been progressively upgraded to accommodate increased populations. The quiet country roads that used to be ideal for horse-riding (either on unmade roads, or on the grassy verges of made roads) are becoming busier and less suited to equestrian use. Regional trails that are more rural in nature have the potential to provide the kind of riding opportunities being lost through road upgrades.
- **Trail connections to equestrian facilities.** As noted previously, many horse riders prefer experiences other than riding on shared use trails. However, there is the potential for them to access these experiences via a shared trail network. The potential benefits to riders is that they can ride between equestrian facilities and places of agistment, rather than needing to transport riders and horses by vehicle.
- **Tourism use.** Trails with a tourism focus can benefit from accommodating equestrian use. The presence of horses on a trail can add to the rural experience being sought by other users. There is also the potential for economic benefit through commercial operators providing tourism experiences based around horse riding on the trails.

If equestrian use is to be accommodated on the regional trails, which trails should be targeted? One method for targeting regional trails for equestrian use is to identify existing trails that are aligned closely to the areas of existing equestrian activity. The 2017 Equestrian Victoria *State Facility Plan* identifies five key venues for equestrian events within the study area (out of 55 venues identified state-wide). These, along with other equestrian facilities identified as a part of this project, are mapped in figure 5.15 with the regional trail network. It can be seen that there are many equestrian facilities that are located in close proximity to regional trails, providing the potential for a relationship between them.

Trails where equestrian use and tourism activities could be mutually beneficial are those concentrated in the northern and more rural parts of the study area. Consideration should be given to the following trails in terms of accommodating equestrian use:

- the proposed extension of the Moonee Ponds Creek Trail within Hume on Parks Victoria land
- the Main Yarra Trail within Banyule
- the proposed extension of the Maroondah Aqueduct Trail
- the Green Wedge Trail
- the Diamond Creek Trail
- the Kinglake Way Trail



● Key equestrian facilities*

1. Greenvale Equestrian Centre
2. Victorian Showjumping Stables
3. Whittlesea Agricultural Society
4. Yarrambat Horse & Pony Club

* as identified in the 2017 Equestrian Victoria *State Facility Plan*

● Other equestrian facilities with proximity to regional trails

1. Elle Equestrian Centre
2. Wildwood Equestrian Park
3. Woodlands Trail Riding
4. Ripawood Equestrian Park
5. Findon Pony Club
6. Fursan Farm
7. North Eastern Horse & Pony Club
8. Riding for the Disabled, Viewbank
9. Eltham Horse & Pony Club
10. Unicorn Valley Equestrian Centre
11. Barratta Equine Agistment
12. St Andrews Pony Club
13. Yarra Valley Trails

FIGURE 5.15:

Location of key equestrian facilities in relation to the regional trail network

(Source: key equestrian facilities are as identified in the 2017 Equestrian Victoria State Facility Plan)



6. THE TRAIL NETWORK

Edgars Creek Trail

A number of steps were undertaken to determine which of the many paths that exist in the study area should be incorporated in this study as regional trails:

- **Northern Trails Strategy (2016) review** - a review of the 2016 study identified the major trails within the study area.
- **Desktop review** - a review of available local government, regional level and State Government strategic documents
- **Trail audit** - the major trails identified were audited, including riding all of the identified trails with a GPS device to map the trail extent and characteristics.
- **Action Plan** - potential trail improvements for each of the major trails were identified through various phases of the project. Because of the strategic nature and proposed lifespan of this study, trails were assessed not just on their existing condition, but also taking into account the proposed and potential future development of the trails.

Of the trails identified as a part of the desktop review, 27 were assessed to be, or have the potential to be, regional trails. These trails are shown in figure 6.1, and individually mapped in this chapter, along with descriptions of the trails and the recommended trail improvement projects for each.

Of the 27 regional trails, eight were either non-existent or have a substantial potential for expansion. They are:

- **Jacksons Creek Trail** - The Jacksons Creek Trail is proposed to run along the length of the Jacksons Creek in Sunbury to eventually connect with the Organ Pipes National Park (outside the study area).
- **Somerton Road Trail** - this proposed trail is expected to be implemented with the Somerton Road Duplication Project and will connect the Jacksons Creek Trail in the west to the Merri Creek Trail in the east.
- **Merri Creek Trail** - Whilst a substantial length of this trail exists, mostly within Darebin, plans to extend the trail north along the creek corridor will more than double it's length.
- **Plenty River Trail** - The proposed extension of the Plenty River Trail will provide a connection from the southern end of the region to Mernda. It will also provide connections in to Nillumbik from Greensborough in the south and Mernda in the north
- **Maroondah Aqueduct Trail** - Whilst sections of this trail exists, the proposed extension east would provide a route to the Sugarloaf Reservoir.
- **Kinglake Way Trail** - This proposed trail of approximately 20km in length provides a connection from the existing Diamond Creek Trail to Kinglake National Park.
- **Craigieburn Line Shared Path** - With construction having already commenced, the completed Craigieburn Line Shared Path will run from the Moonee Ponds Creek Trail in the south to Craigieburn Station in the north, providing over 15km of new trail along the rail corridor.
- **Amaroo Pipe Track** - The Amaroo Pipe Track, once realised, will provide a direct trail from Craigieburn Station in the south through to the proposed train station in Beveridge

Any summary of regional trails will always be a snapshot in time and a work in progress. Priorities will change over time, new opportunities will arise, and the planning and management of regional trails will need to respond to these changes.

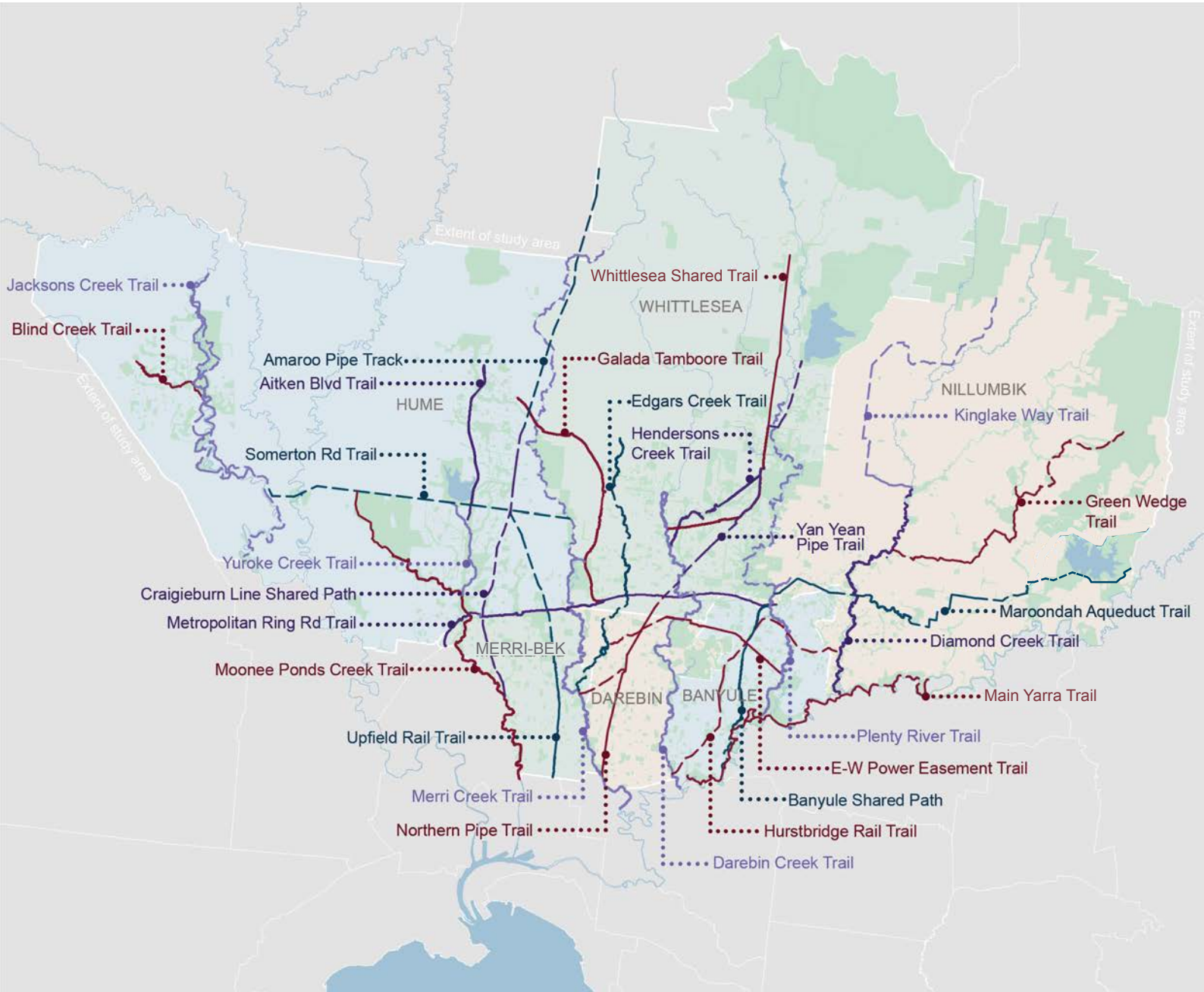


FIGURE 6.1:
The Northern Melbourne regional trail network

6.1 AITKEN BOULEVARD SHARED TRAIL

Trail information

Length: 9.6km SCC: Yes

Location:

The Aitken Boulevard Trail follows Aitken Boulevard from the Yuroke Creek Trail through Roxburgh Park and Craigieburn, to Mt Ridley Road

Local Government Area:

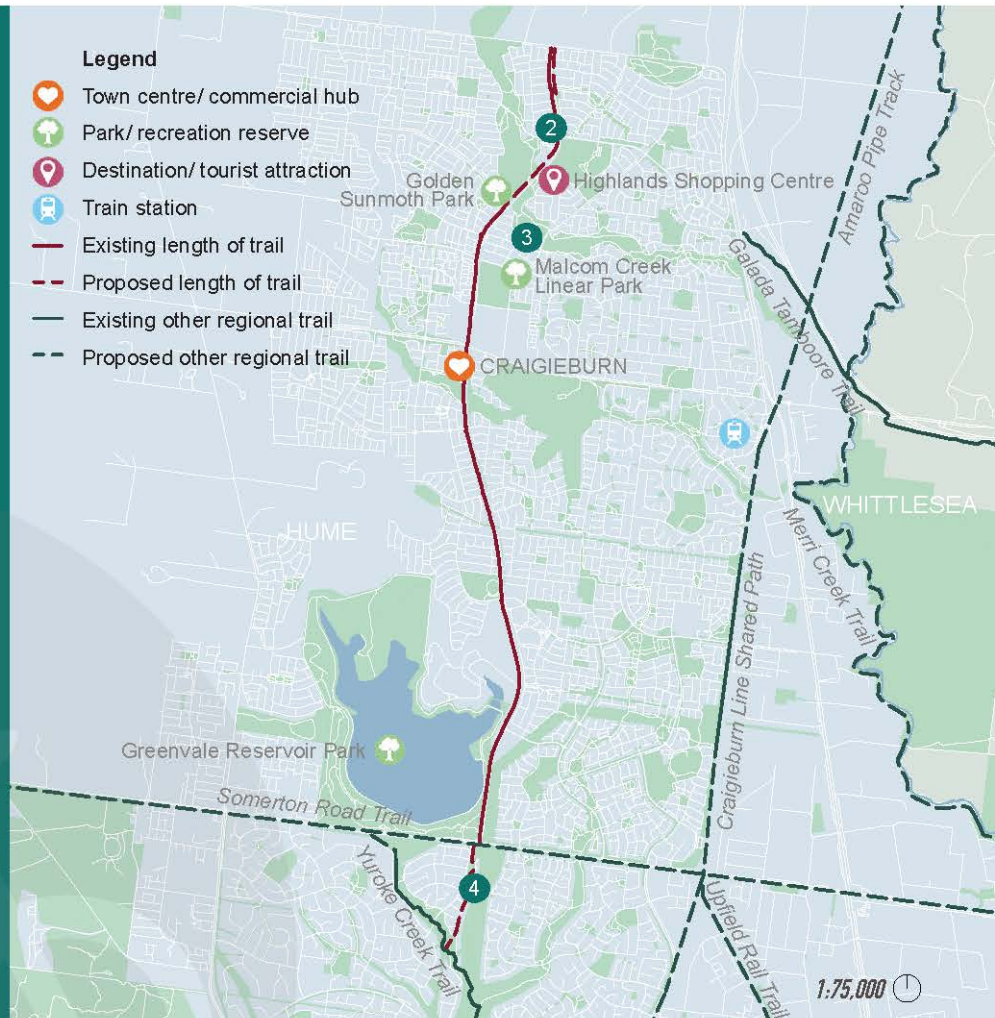
Hume

Additional Stakeholders:

-

Auditor comments:

"Basically a wide footpath with access issues at the south end and major gaps in the northern sections"



Priority Actions

- 1 Provide wayfinding signage along the length of the trail
- 2 Construct new section of trail on the eastern side of Aitken Boulevard from the Aitken Creek to Craigieburn Road
- 3 Construct new section of trail from Brookfield Boulevard to Highlands Shopping Centre
- 4 Construct new section of trail from the Yuroke Creek Trail to Somerton Road following duplication of Somerton Road and a safe crossing point being constructed

6.2 AMAROO PIPE TRACK

Trail information

Length: 14.5km SCC: Yes

Location:

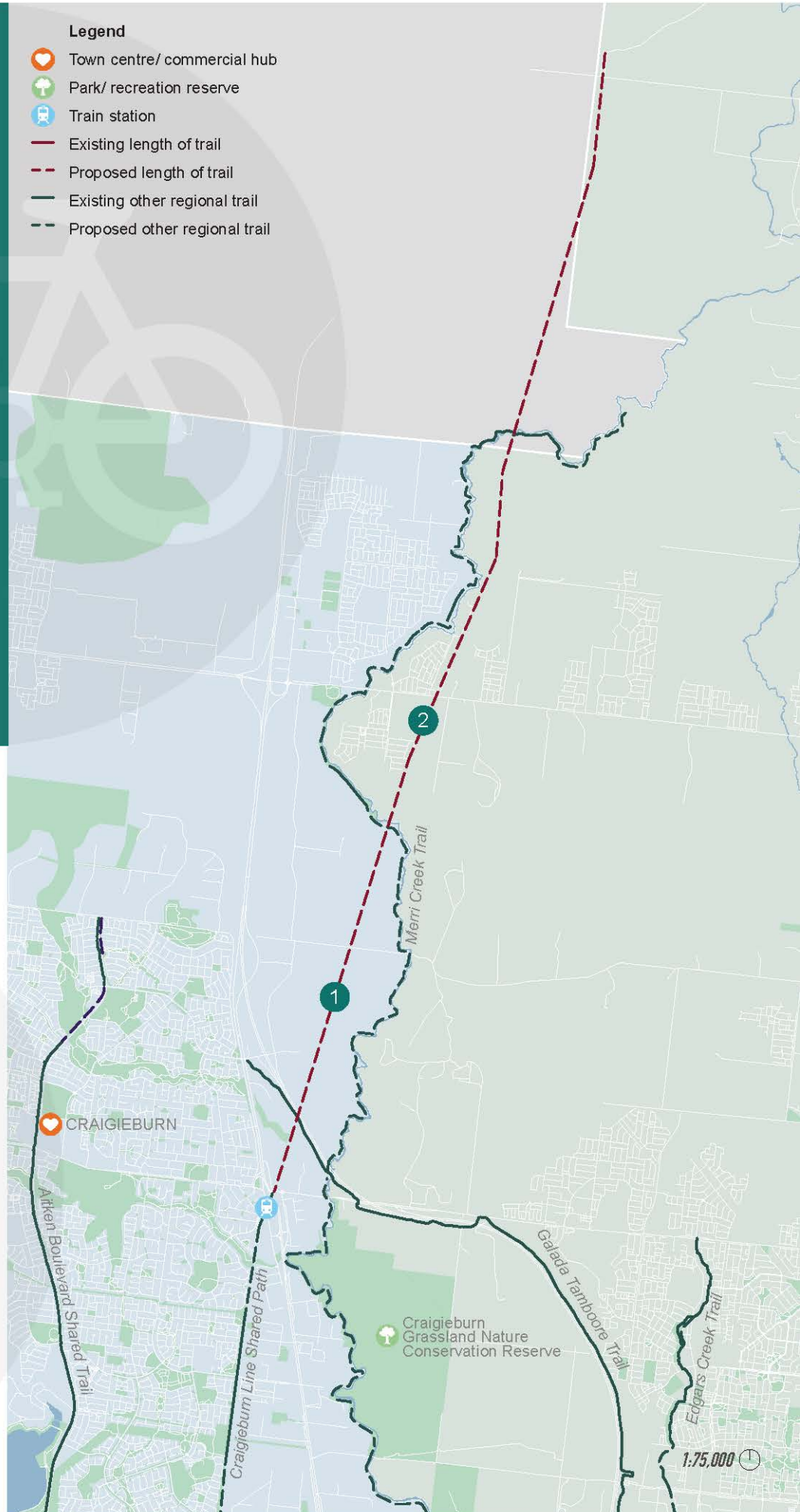
The Amaroo Pipe Track is a direct trail from Craigieburn Station in the south through to the City of Whittlesea and beyond the study area to Mitchell Shire

Local Government Area: Hume & Whittlesea

Additional Stakeholders: Mitchell Shire and Yarra Valley Water

Legend

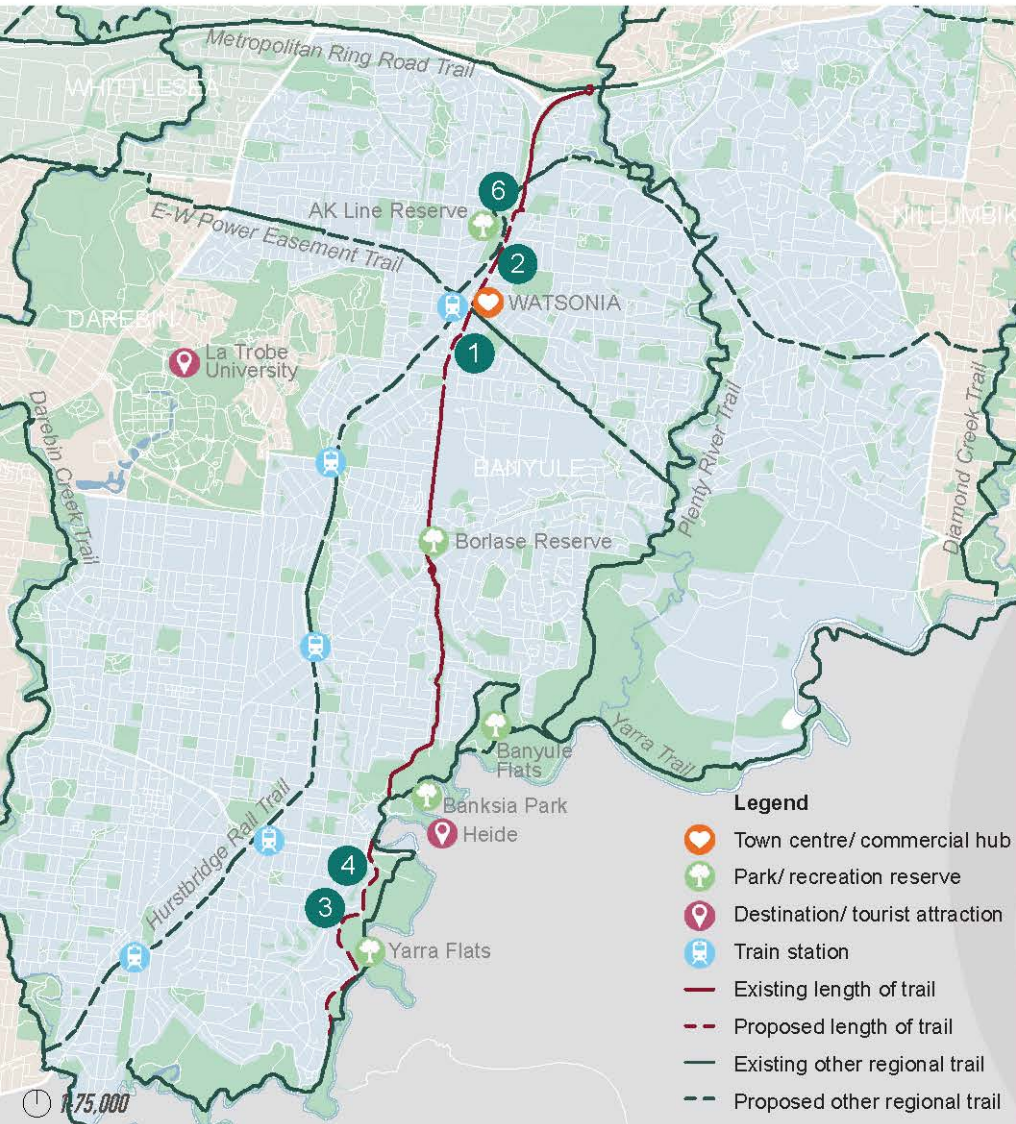
-  Town centre/ commercial hub
-  Park/ recreation reserve
-  Train station
-  Existing length of trail
-  Proposed length of trail
-  Existing other regional trail
-  Proposed other regional trail



Priority Actions

- 1 Advocate for a new trail along the sewer easement from Craigieburn Station north toward Beveridge (within Hume)
- 2 Advocate for a new trail along the sewer easement north to Beveridge (within Whittlesea)

6.3 BANYULE SHARED TRAIL



Trail information

Length: 10.6km
SCC: Yes

Location:

The Banyule Shared Path runs in a north-south direction through Watsonia and Rosanna from the Metropolitan Ring Road Trail to the Yarra Trail

Local Government Area:
Banyule

Additional Stakeholders:
Melbourne Water, Parks Victoria, VicRoads

Auditor comments:

“A potentially effective commuter trail if some major improvements are made to address the gaps in continuity”

Priority Actions

- 1 Construct new section of trail from Wattle Drive north to Watsonia Station
- 2 Construct new section of trail from Watsonia Station north to Grimshaw Street
- 3 Construct new section of the trail from Banksia Street south to the Yarra Trail just north of McArthur Road
- 4 Realign trail at playground on River Gum Walk to reduce incline
- 5 Provide wayfinding signage along the length of the trail
- 6 Provide a grade separated north-south walking and cycling link across Grimshaw Street at the Greensborough Bypass

6.4 BLIND CREEK TRAIL

Trail information

Length: 7km
 SCC: No

Location:

The Blind Creek Trail follows the creek through parkland across Sunbury and will connect with the future Jacksons Creek biik wurrdha Regional Parklands in the east (in accordance with the *Jacksons Creek biik wurrdha Regional Parklands Plan*)

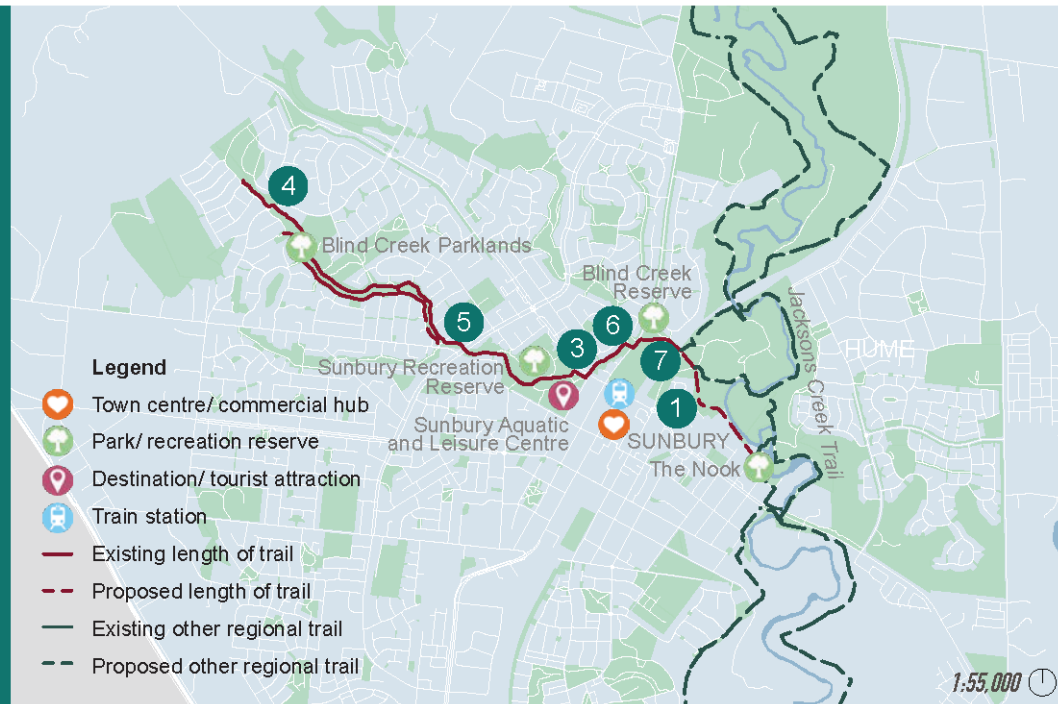
Local Government Area:
 Hume

Additional Stakeholders:

Major Road Projects Victoria, Melbourne Water, private landowners, Salesian College Sunbury, VicRoads

Auditor comments:

"Pleasant trail of good quality marred by lack of signage and general waymarking."



Priority Actions

- 1 Advocate and plan for a new section of trail from the rail line in Sunbury east to Jacksons Creek and The Nook/Bicentennial Park
- 2 Provide wayfinding signage along the length of the trail
- 3 Investigate the feasibility of realigning the underpass at Riddell Road to cater to all users (cyclists) and improve access and safety
- 4 Investigate a pedestrian priority crossing with wayfinding signage at Phillip Drive
- 5 Investigate a pedestrian priority crossing at Elizabeth Drive
- 6 Investigate a pedestrian priority crossing with wayfinding signage at Racecourse Road
- 7 In partnership with Salesian College construct trail on southwest side of the Dam to connect with Ardcloney Drive.

6.5 CRAIGIEBURN LINE SHARED PATH

Trail information

Length: 15.65km
 SCC: Yes

Location:

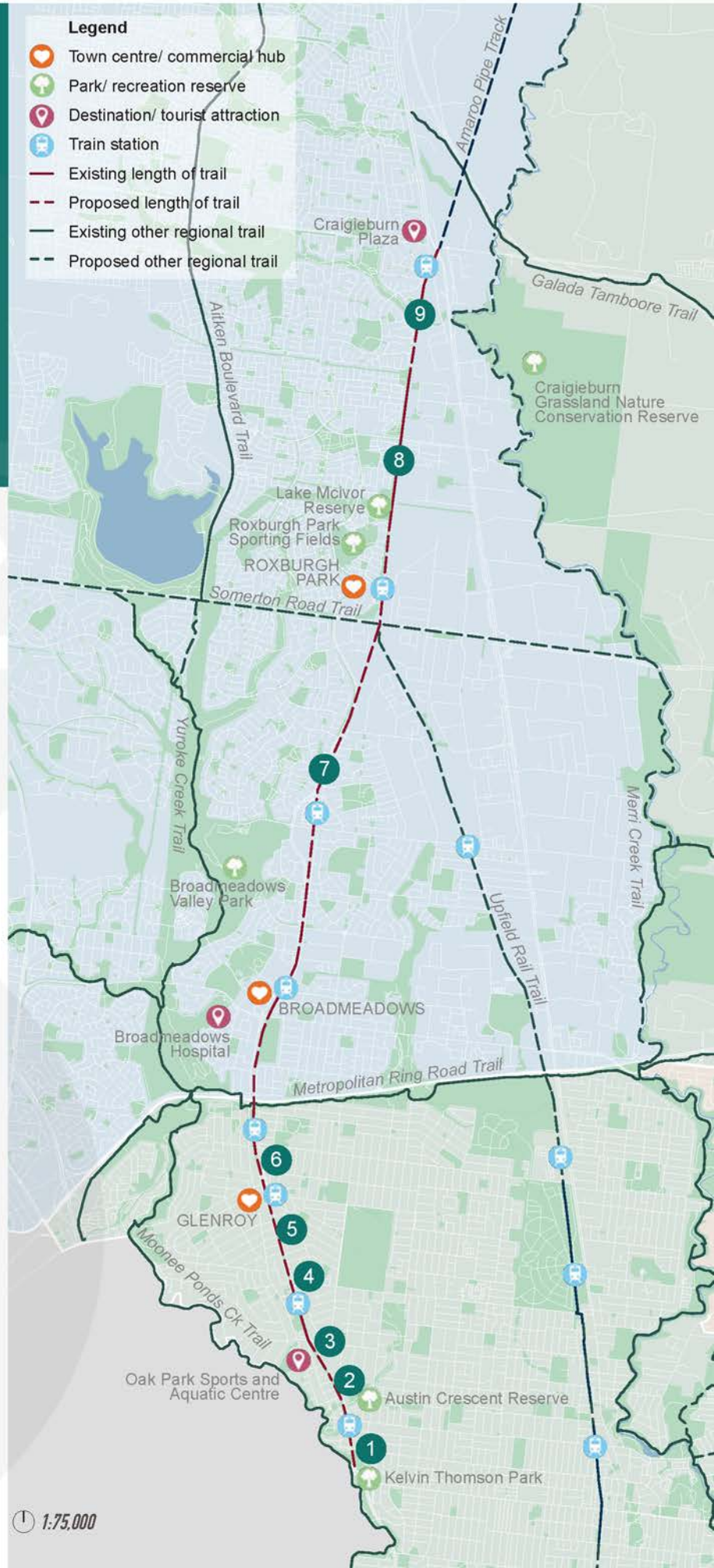
The Craigieburn Line Shared Path runs along the rail corridor from the Moonee Ponds Creek in the South through to Craigieburn Station

Local Government Area:
 Hume & Merri-bek

Additional Stakeholders:
 VicTrack

Priority Actions

- 1 Construct new section of trail from the Moonee Ponds Creek Trail to Gaffney Street
- 2 Construct a new section of trail, on the western side of the train line, from Gaffney Street to Bothwell Street including fencing and lighting
- 3 Construct a new section of trail, on the western side of the train line, from Bothwell Street to Devon Road including retaining, fencing and lighting
- 4 Construct a new section of trail, on the western side of the train line, from Cartwright Street to Glenroy Road including fencing and lighting
- 5 Construct a new section of trail from Glenroy Road to Glenroy Station
- 6 Construct a new section of trail, on the eastern side of the train line, from Glenroy Station to Jacana Station including fencing and lighting
- 7 Advocate for a feasibility study for a new continuous shared path from Jacana Station to McConnell Crescent (north of Roxburgh Park Station)
- 8 Widen the existing section of trail from McConnell Crescent to Zambezi Court Reserve
- 9 Advocate for a feasibility study for a new continuous shared path from Zambezi Court Reserve to Craigieburn Station



6.6 DAREBIN CREEK TRAIL

Trail information

Length:
30km (extends beyond study area)

SCC:
No

Location:
This trail runs along the Darebin Creek Trail from Ivanhoe in the south to Epping in the north.

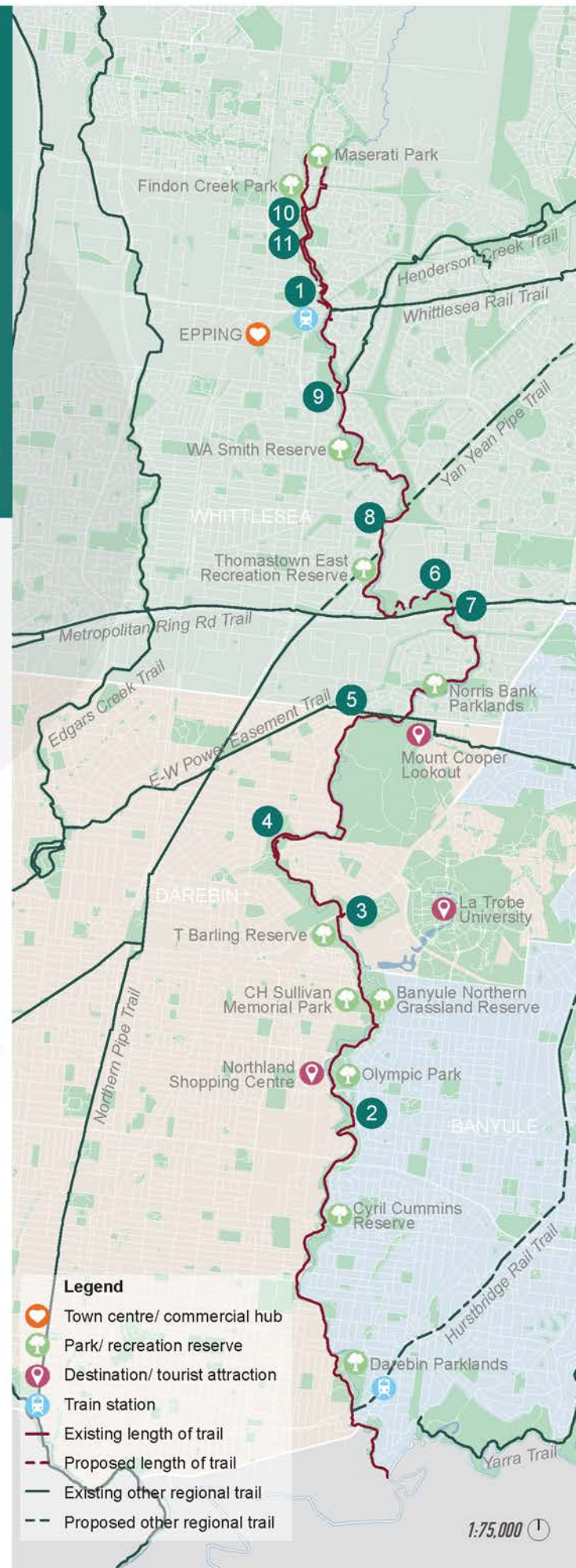
Local Government Area:
Banyule, Darebin, Whittlesea

Additional Stakeholders:
La Trobe University, Major Road Projects Victoria, Melbourne Water, VicRoads

Auditor comments:
"A generally first class trail that utilises the creek's green margins to excellent effect, with only a few minor sections that require upgrading/attention"

Priority Actions

- 1 Construct new section of trail on the western side of the creek from the train underpass east of Epping Station to Greenbrook Drive
- 2 Upgrade section of trail between Gona Street and Southern Road
- 3 Investigate the feasibility of an underpass or bridge crossing Plenty Road intersection to avoid section of trail on Plenty Road footpath
- 4 Construct a new section of trail on the eastern side of the Darebin Creek from Dunne Street to Chenies Street including an underpass at Dunne Street and Chenies Street
- 5 Investigate the feasibility of an underpass or signalised pedestrian crossing at Settlement Road to improve trail continuity
- 6 Construct a new section of trail that follows the creek from the Metropolitan Ring Road through the Darebin Creek Linear Reserve to connect to the new section of trail
- 7 Elevate the section of the Darebin Creek Trail where it passes beneath the Western Ring Road to avoid flooding
- 8 Investigate the feasibility of an underpass and bridge crossing at McKimmies Road to avoid section of trail on McKimmies Road bridge
- 9 Investigate the feasibility of an underpass and bridge crossing at Childs Road to avoid section of trail on Childs Road bridge
- 10 Investigate the feasibility of an underpass and bridge crossing at Findon Road to avoid section of trail on Findon Road
- 11 Provide a pedestrian priority crossing at McDonalds Road roundabout



6.7 DIAMOND CREEK TRAIL

Trail information

Length: 20.2km
 SCC: Yes

Location:

Following the creek corridor, the trail begins at the Yarra Trail in Lower Eltham and continues north to Hurstbridge

Local Government Area:
 Nillumbik

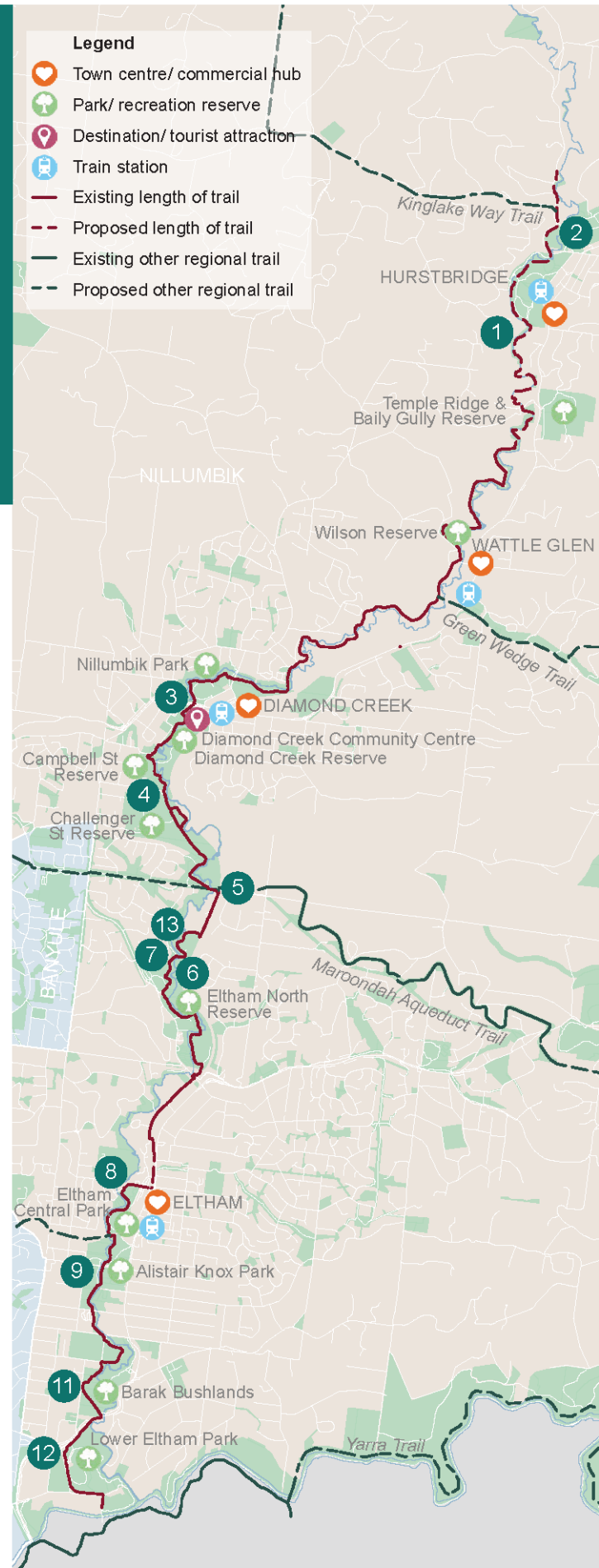
Additional Stakeholders:
 Melbourne Water, VicRoads

Auditor comments:

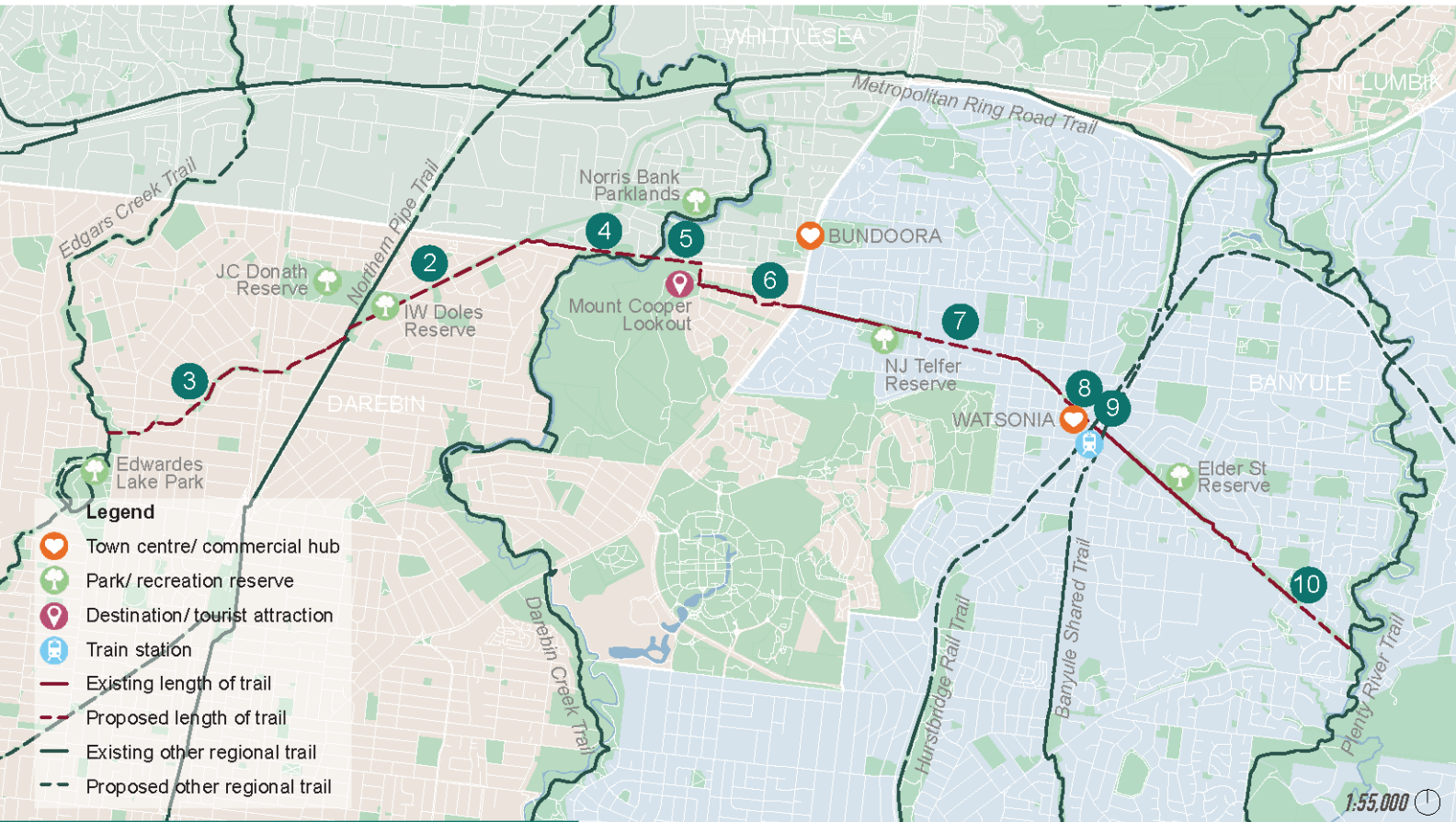
"A reasonably complete trail through some quite scenic areas, with a superb new extension to Wattle Glen but marred badly by a gaping hole in Eltham."

Priority Actions

- 1 Construct new section of trail from Wilson Road to Graysharps Road, Hurstbridge.
- 2 Construct new section of trail from Graysharps Road to Fergusons Paddock
- 3 Construct an underpass at Main Hurstbridge Road, Diamond Creek to avoid busy traffic crossing
- 4 Widen trail surface from Allendale Road north to Main Hurstbridge Road
- 5 Install a signalised/ pedestrian priority crossing at Allendale Road
- 6 Maintain/ upgrade sections of bitumen trail surface through Eltham North Reserve, Research Gully, Eltham North Playground, and Edendale Community Farm
- 7 Realign the section of trail at the Wattletree Road and Gastons Road underpass to create a gentler grade and wider trail surface
- 8 Construct new section of trail with wayfinding signage along Main Road and Diamond Street, Eltham to fill the gap in the trail and direct users to the continuation of the trail
- 9 Upgrade surface of existing trail between Susan Street Oval and Ely St, with wayfinding or linemarking to create a consistent and legible trail
- 10 Provide wayfinding signage along the length of the trail
- 11 Maintain/ upgrade sections of bitumen trail surface through Eltham Bushland Reserve alongside Main Road
- 12 Realign/ enhance the section of trail through the Eltham Lower Park.
- 13 Realign the sharp bend in the trail between Laurel Hill Drive and Allendale Road



6.8 EAST WEST POWER EASEMENT TRAIL



Trail information

Length: 11.6km
SCC: No

Location:

This trail runs from the Edgars Creek Trail in the west to the Plenty River Trail in the east, following an existing power easement through Reservoir, Bundoora and Watsonia.

Local Government Area:

Banyule, Darebin, Whittlesea

Additional Stakeholders:

AusNet, Melbourne Water, Private landowners, VicRoads

Auditor comments:

"A somewhat odd amalgamation of sections, ranging in quality from poor to excellent, and several glaring gaps that seem to make an effective and enjoyable trail an impossibility."

Priority Actions

- 1 Provide wayfinding signage along the length of the trail
- 2 Construct a section of trail from the Northern Pipe/ St Georges Rd/ Cheddar Road Trail north west along the vacant pipe reserve
- 3 Construct a section of trail from the Northern Pipe/ St Georges Rd/ Cheddar Road Trail south east along the vacant pipe reserve to Edwardes Lake Park
- 4 Construct a section of trail along Holt Parade to connect to the Darebin Creek Trail (at Valley Road)
- 5 Investigate the feasibility of a new section of trail, including a new bridge crossing, from the Darebin Creek Trail, at Holt Parade, around Mount Cooper to connect to the existing section of trail at Snake Gully Drive
- 6 Construct a section of trail from Reedy Rise to Plenty Road including a new pedestrian priority crossing at Plenty Road
- 7 Investigate options for providing a new section of trail from Dilkara Avenue to Gleeson Drive
- 8 Construct a section of trail from the existing trail on Morwell Avenue to Watsonia Station
- 9 Upgrade existing footbridge over the rail line at Watsonia Station including an underpass/ overpass at Greensborough Road to avoid footpath and multiple road crossings
- 10 Construct a new section of trail along Wendover Place and Yallambie Road, along the easement to the Plenty River Trail

6.9 EDGARS CREEK TRAIL

Trail information

Length: 20.9km
 SCC: No

Location:

Beginning in Coburg at the Merri Creek Trail, this trail follows the creek north through Thomastown and Epping.

Local Government Area:

Darebin, Merri-bek, Whittlesea

Additional Stakeholders:

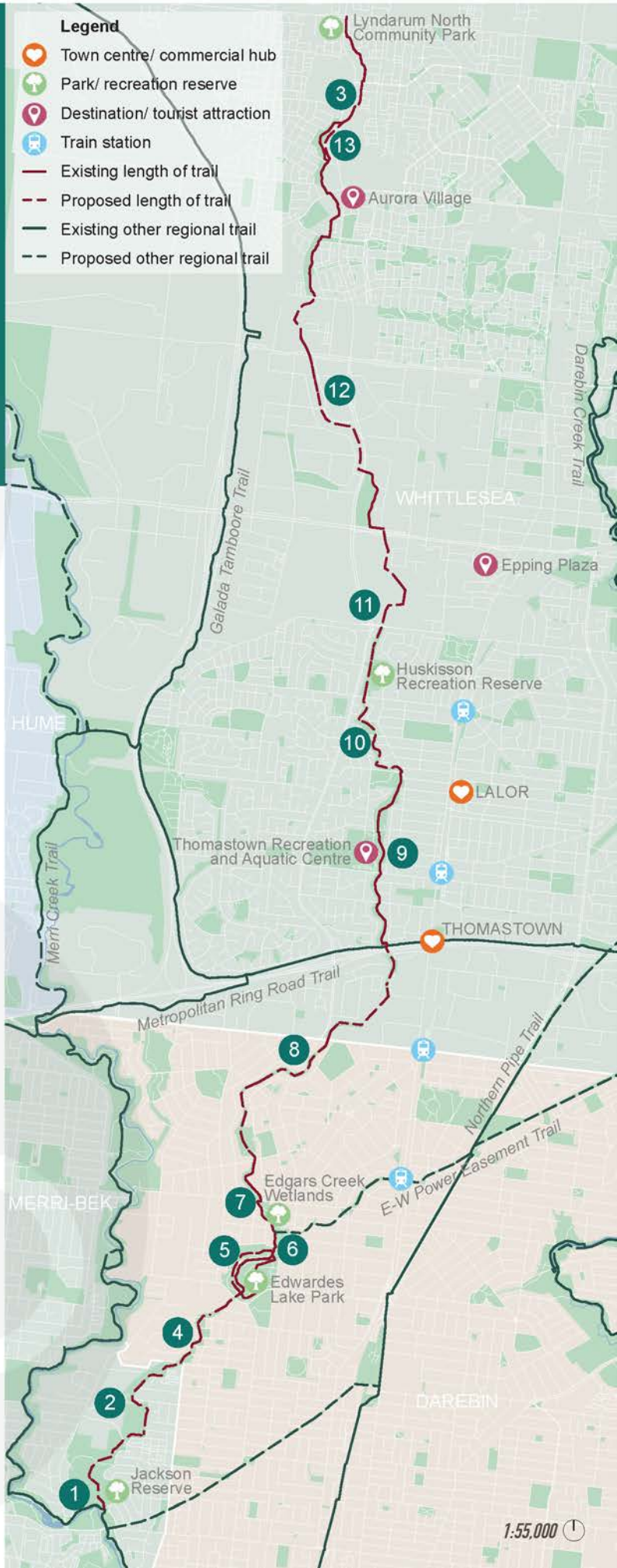
Melbourne Water, VicRoads

Auditor comments:

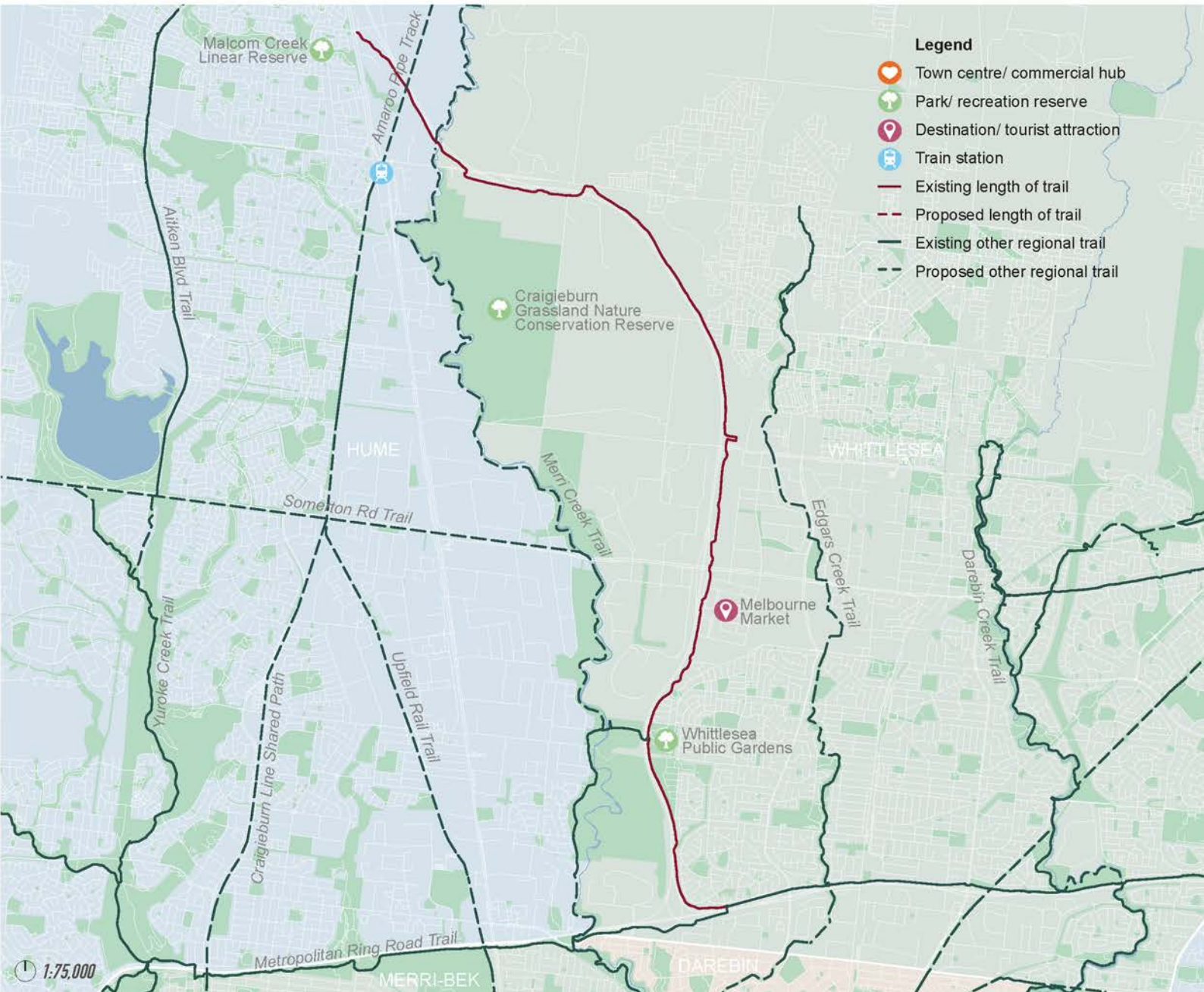
"A potentially useful and rewarding trail along Edgars Creek that is at this time, a long way short of that."

Priority Actions

- 1 Construct new section of trail from the Merri Creek Trail to Ronald Street on the west bank
- 2 Construct new section of trail from Ronald Street to Carrington Road. Consider keeping the trail away from the creek and along development frontages
- 3 Construct new section of trail from Strahalbyn Chase to Contempo Boulevard
- 4 Investigate a new section of trail along the creek from Carrington Road to Edwardes Lake. Explore the feasibility of a trail between Kia Ora Road and Henty Street on the east bank.
- 5 Construct a separate cycling only trail through Edwardes Lake Park
- 6 Construct a dedicated shared trail from the public toilets in Edwardes Lake Park, around the car park and over Leamington Street
- 7 Investigate the feasibility of an underpass and bridge crossing at Broadhurst Avenue
- 8 Construct a section of trail along the creek from Glasgow Avenue to the Metropolitan Ring Road
- 9 Upgrade surface of trail between Main Street and Melaleuca Drive
- 10 Construct section of trail between German Lane and Kingsway Drive, Lalor
- 11 Construct section of trail along the street from Deveny Road to Cooper Street, Epping
- 12 Construct a section of trail along the creek from Jersey Drive to Rockfield Street
- 13 Construct section of trail along the creek from Sheba Way to Snowy Place
- 14 Provide wayfinding signage along the length of the trail



6.10 GALADA TAMBOORE TRAIL



Trail information

Length: 15.5km
 SCC: No

Location:

Running along the Hume Freeway/ Craigieburn Bypass, this trail begins at the Metropolitan Ring Road Trail in the south and continues north to Craigieburn.

Local Government Area:

Hume, Whittlesea

Additional Stakeholders:

Merri Creek Management Committee, VicRoads

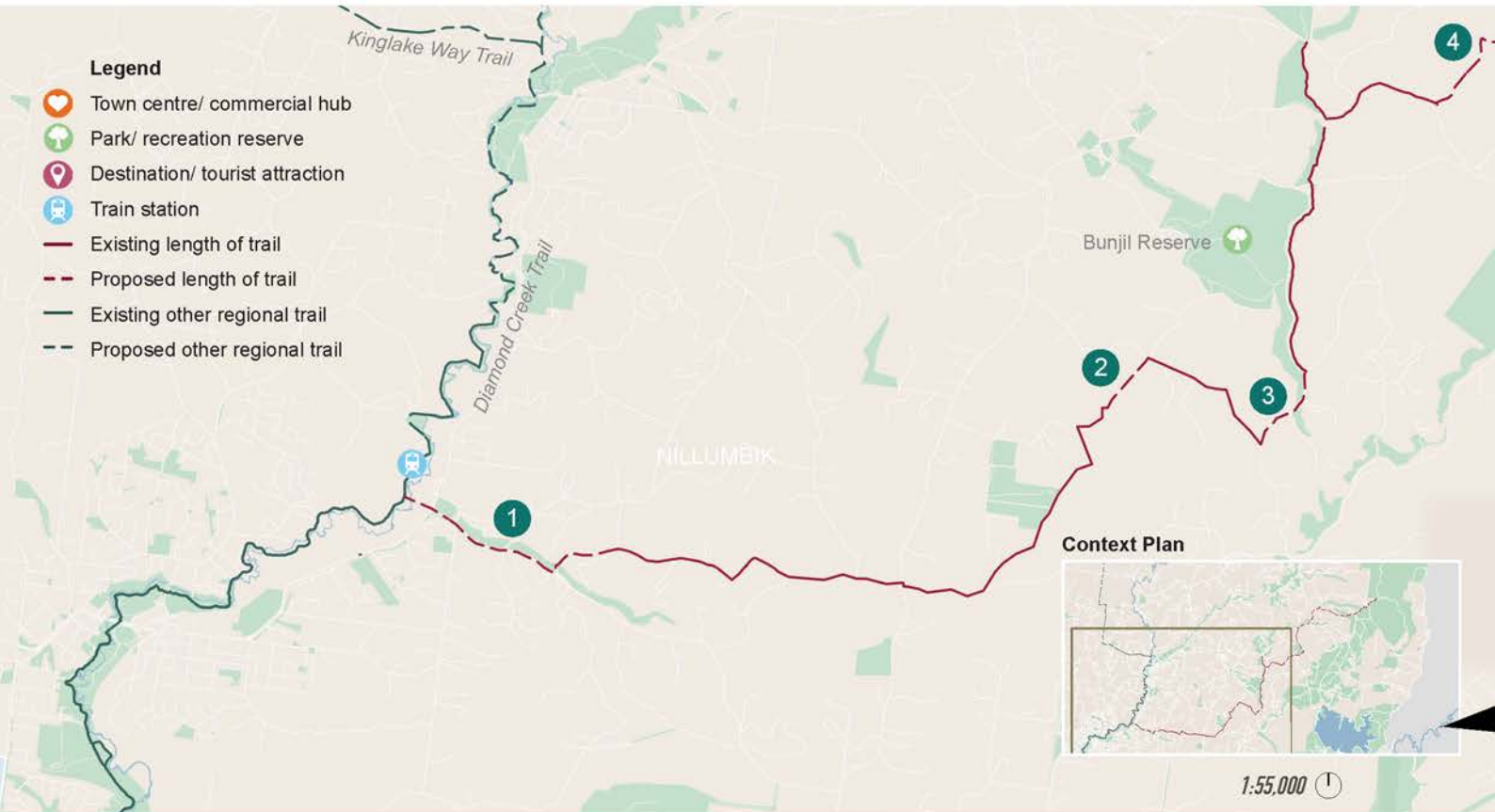
Auditor comments:

"An effective path that offers reasonable off-road bicycle exercise options or, for the hearty long-range cycle commuter, a direct route from Melbourne's northern urban reaches to the city-access trails."

Priority Actions

- 1 Provide wayfinding signage along the length of the trail
- 2 Reinstate centre linemarking along the trail

6.11 GREEN WEDGE TRAIL



Trail information

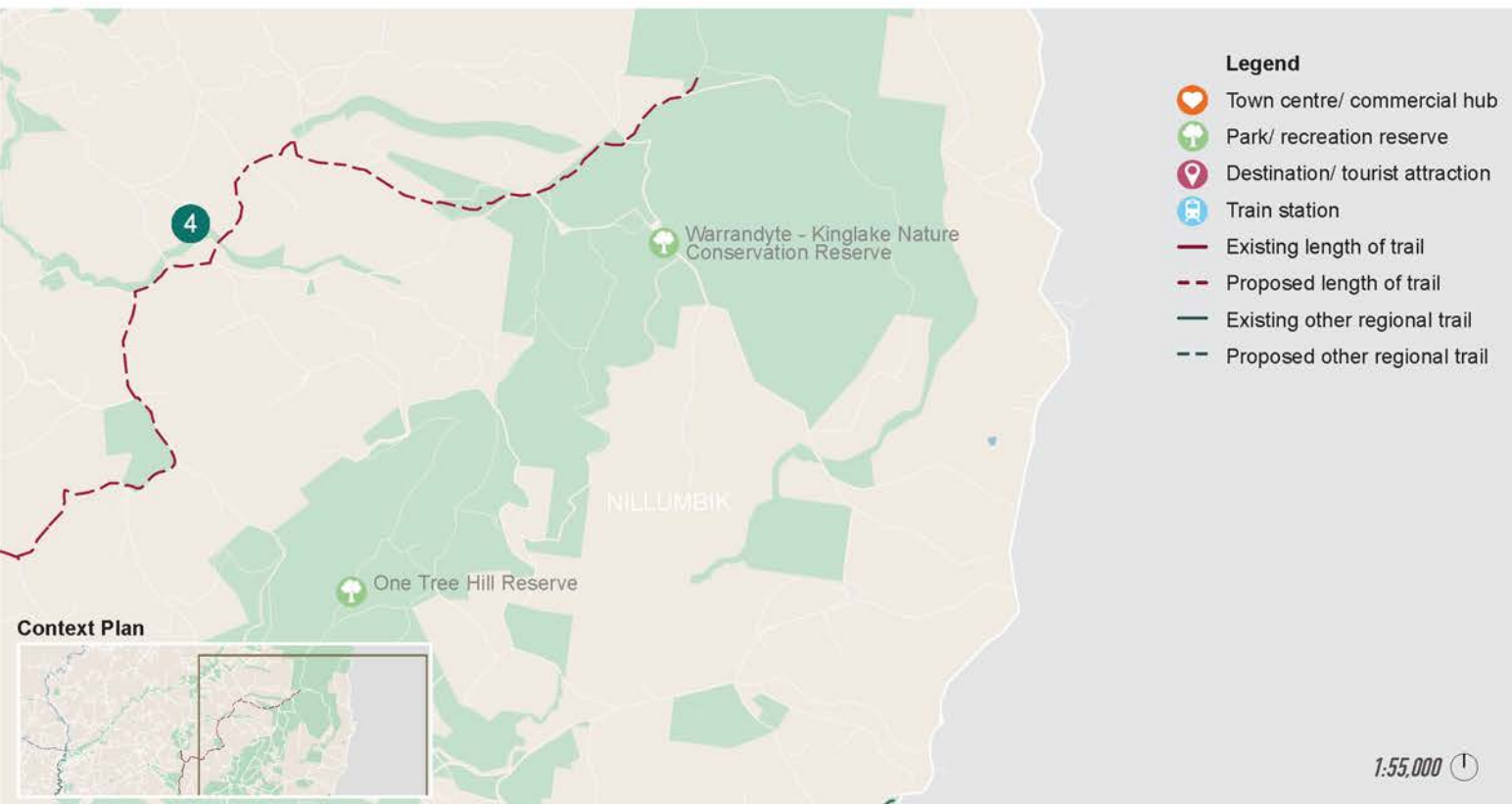
Length: 21.5km **SCC:** No

Location:
 Located entirely within Nillumbik, this trail begins at the Diamond Creek Trail in Wattle Glen to Kinglake National Park

Local Government Area:
 Nillumbik

Additional Stakeholders:
 Parks Victoria

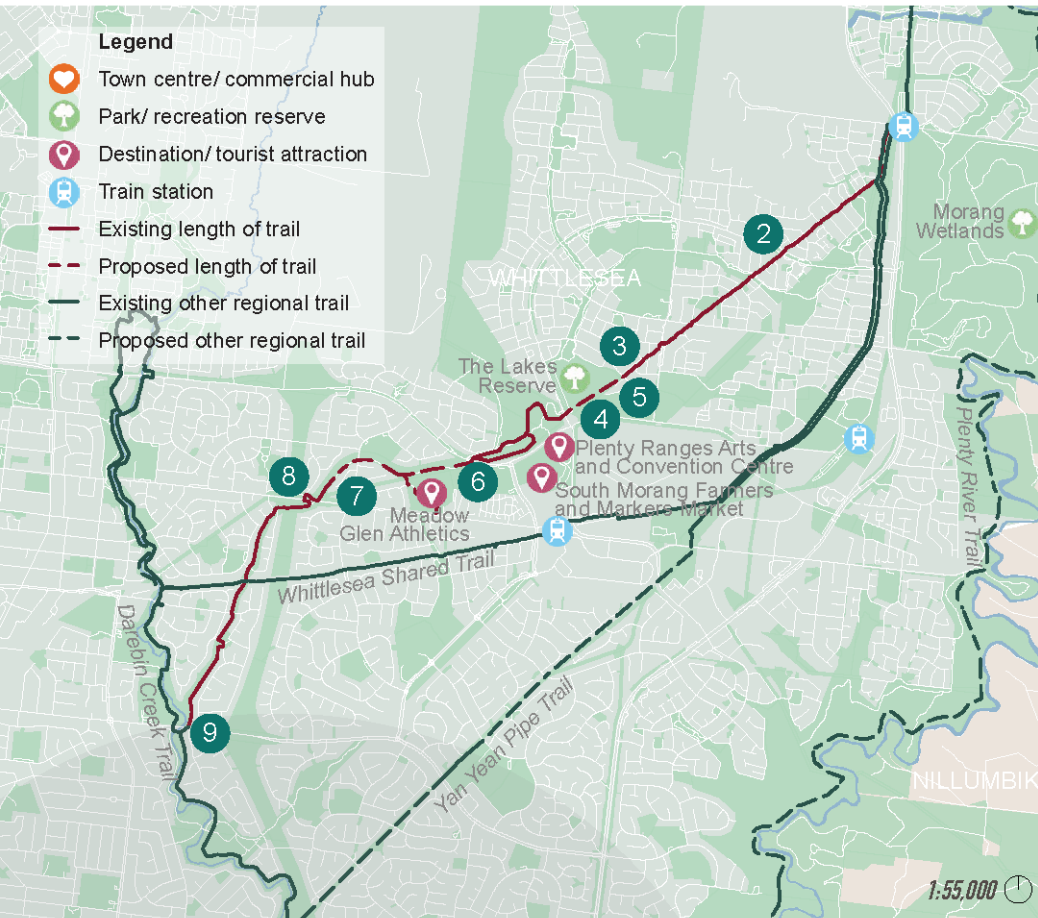




Priority Actions

- 1 Construct a new section of trail east from the Diamond Creek Trail at Wattle Glen Station along Watery Gully Creek to existing trail on Watery Gully Road
- 2 Construct a new section of trail from Couties Road to Alma Road
- 3 Construct a new section of trail along Long Gully Road from Alma Road to Turnung Road
- 4 Construct an extension of the trail from the intersection of Clintons Road and Spanish Gully Road to the Marshalls Road car park within the Kinglake National Park
- 5 Upgrade existing sections of the trail surface to match width and material treatment of new sections
- 6 Provide wayfinding signage along the length of the trail

6.12 HENDERSONS CREEK TRAIL



Trail information

Length: 8.6km
SCC: No

Location:

Following the Henderson Road Drain and The Henderson Creek, this trail begins at the Darebin Creek Trail in Lalor and heads in a north-east direction to Yan Yean Trail in South Morang.

Local Government Area:

Whittlesea

Additional Stakeholders:

Major Road Projects Victoria, Melbourne Water, VicRoads

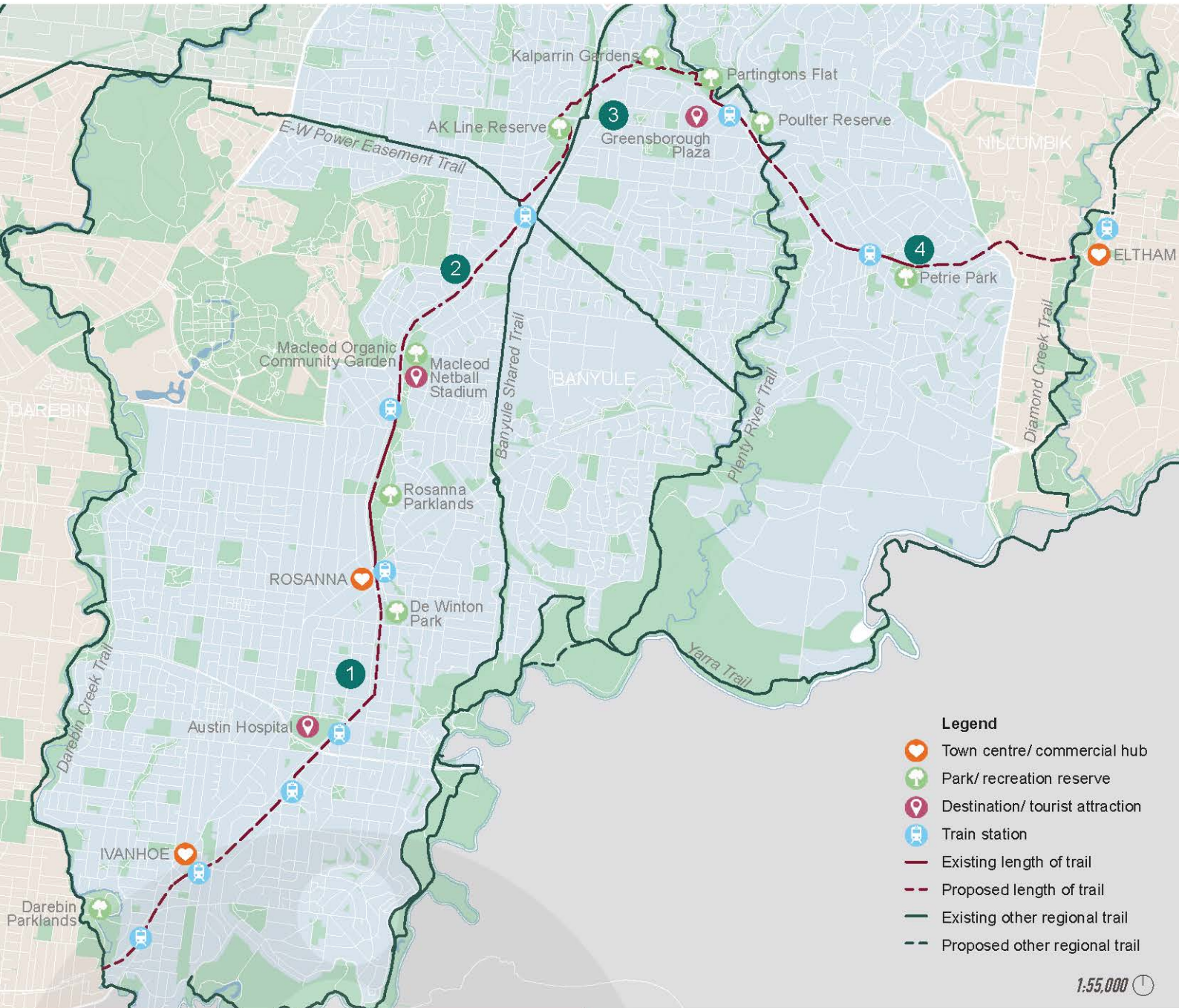
Auditor comments:

"A trail of two parts where the southern half makes sense and is easy to follow, and the northern half, where virtually nothing makes sense."

Priority Actions

- 1 Provide wayfinding signage along the length of the trail
- 2 Provide a signalised/ pedestrian priority crossing over The Lakes Boulevard and Glenorchy Way
- 3 Upgrade trail surface from Gordons Road to Darius Terrace
- 4 Construct a section of trail from Darius Terrace to The Lakes Boulevard (at Findon Road) including a bridge crossing to connect to existing trail
- 5 Provide a signalised/ pedestrian priority crossing over The Great Eastern Way
- 6 Provide a signalised/ pedestrian priority crossing at Findon Road
- 7 Upgrade trail surface from Findon Road to McDonalds Road
- 8 Provide a signalised/ pedestrian priority crossing at McDonalds Road
- 9 Provide a signalised/ pedestrian priority crossing or Underpass at Childs Road to connect to the Darebin Creek Trail

6.13 HURSTBRIDGE RAIL TRAIL



Legend

- Town centre/ commercial hub
- Park/ recreation reserve
- Destination/ tourist attraction
- Train station
- Existing length of trail
- Proposed length of trail
- Existing other regional trail
- Proposed other regional trail

1:55,000

Trail information

Length: 16.1km
SCC: Yes

Location:
 This trail begins at the Darebin Creek Trail in Ivanhoe follows the Hurstbridge rail line to the Diamond Creek Trail in Eltham.

Local Government Area:
 Banyule and Nillumbik

Additional Stakeholders:
 Metro Trains, VicTrack

Auditor comments:
 -

Priority Actions

- 1 Construct a new section of trail along the Hurstbridge rail line from the Darebin Creek Trail north to Macleod Station
- 2 Construct a new section of trail along the Hurstbridge rail line from Macleod Station to Elder Street
- 3 Construct a new section of trail along the Hurstbridge rail line from Elder Street to the Plenty River Trail
- 4 Construct a new section of trail along the Hurstbridge rail line from the Plenty River Trail to the Diamond Creek Trail

6.14 JACKSONS CREEK TRAIL

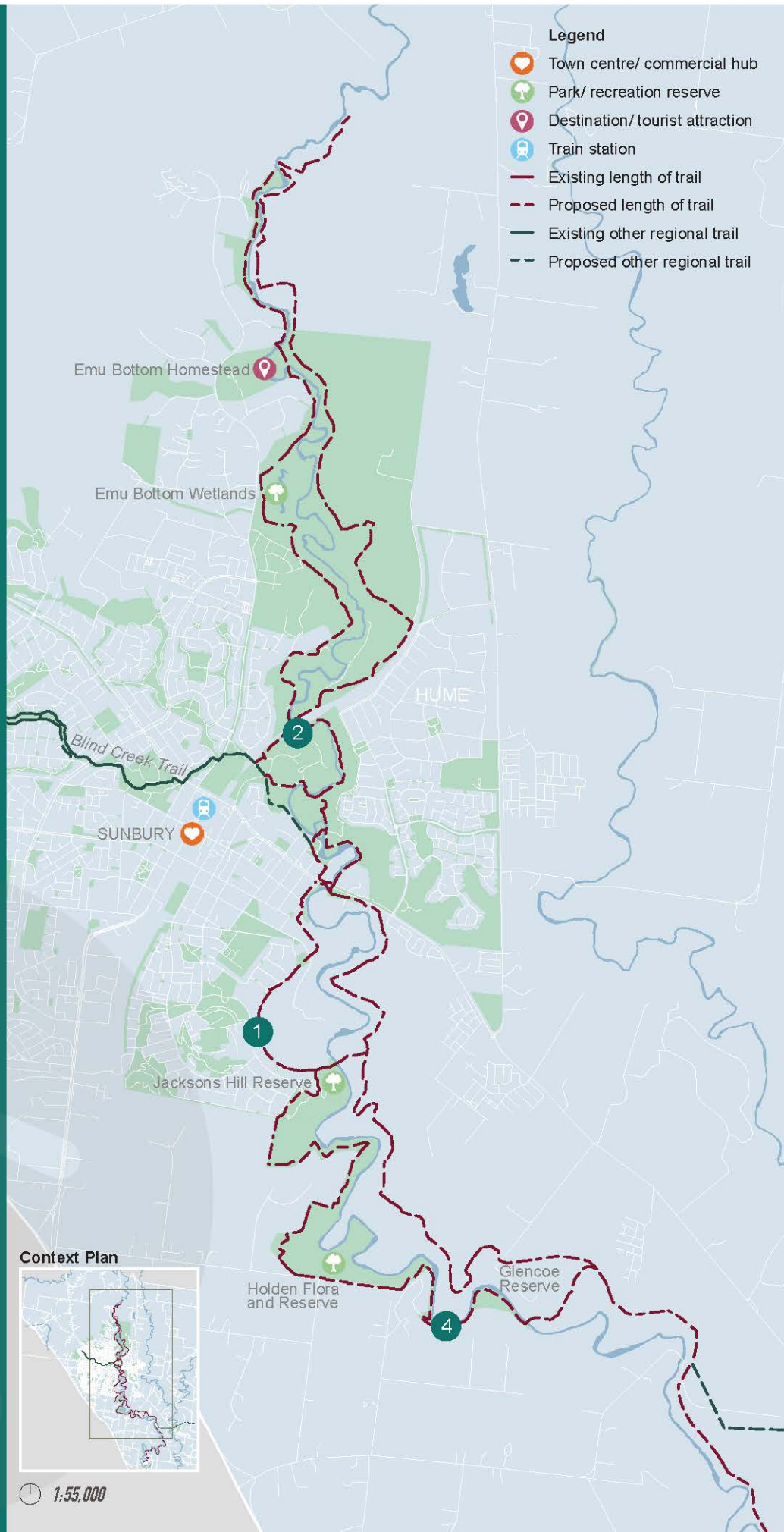
Trail information

Length: 50.3km (potential to extend beyond study area)
SCC: No

Location:
 This proposed trail runs through the Jacksons Creek corridor in Sunbury and continues south to the border of Hume and the Organ Pipes National Park

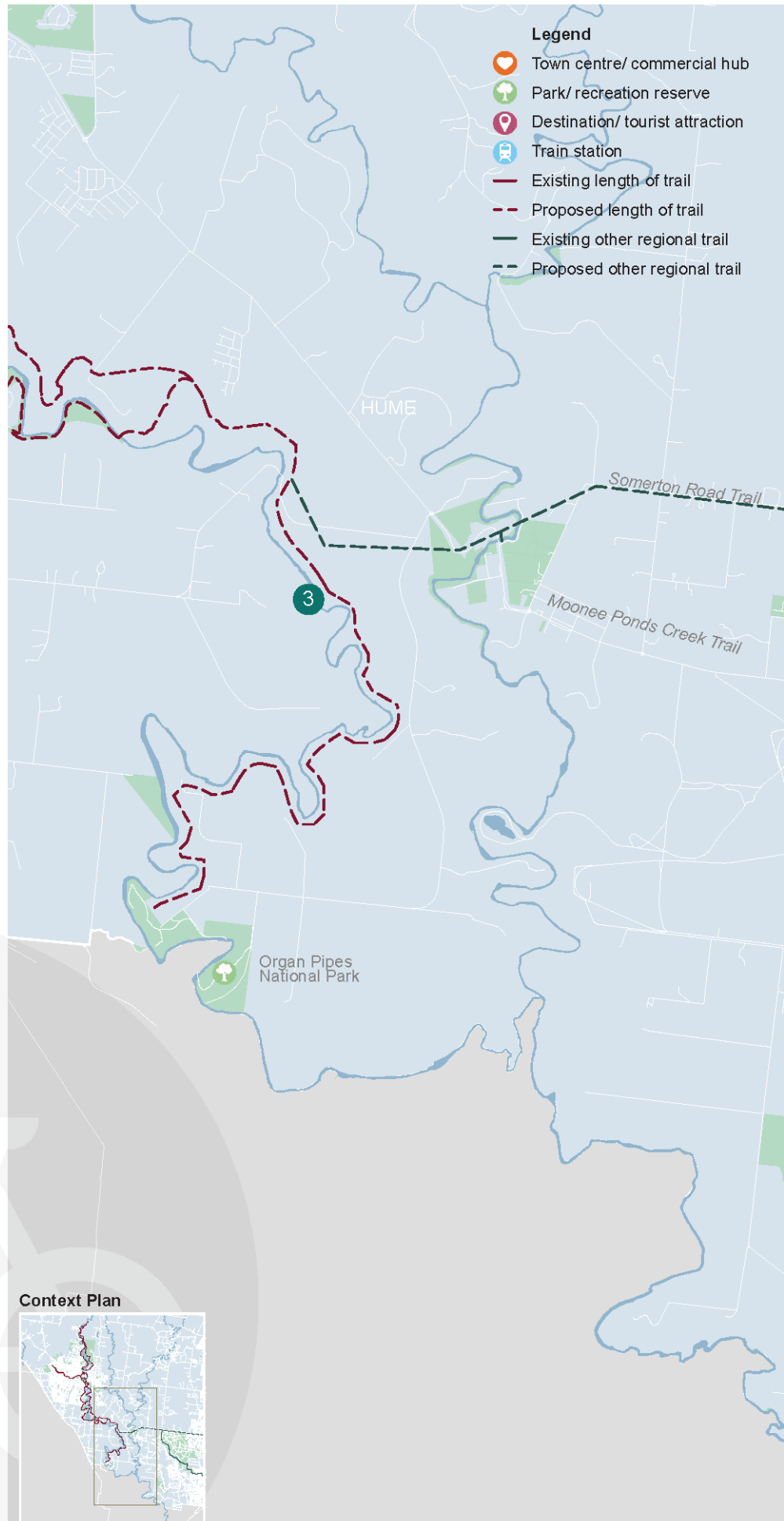
Local Government Area:
 Hume

Additional Stakeholders:
 DELWP, Greater Western Water, Melbourne Water, Parks Victoria, Wurundjeri Land Council

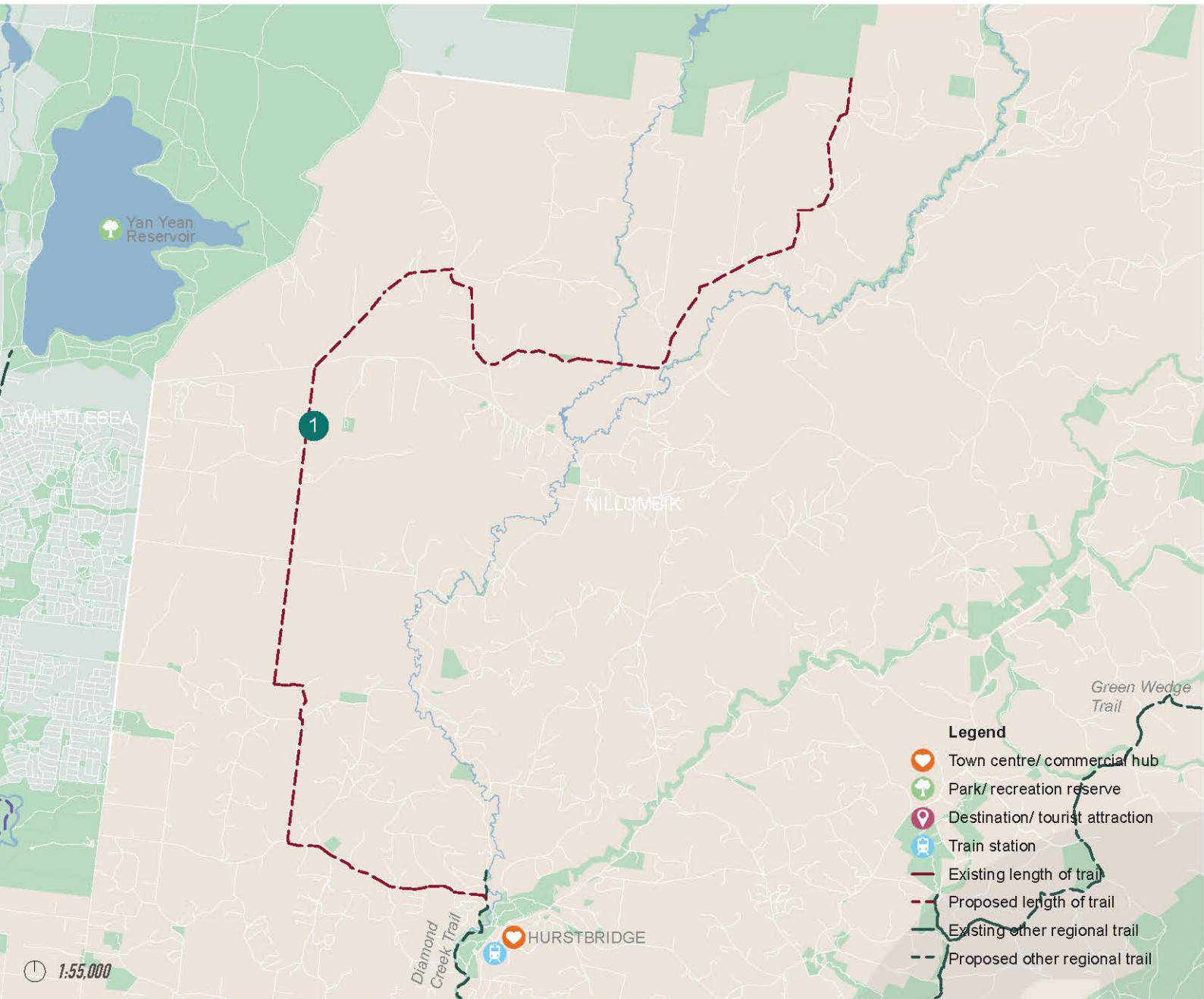


Priority Actions

- 1 Construct new section of trail from Harker Street to Hammersmith Court
- 2 Plan and investigate the staged construction of trails on both sides of the Jacksons Creek with project partners and other landholders in line with the priorities of the Jacksons Creek biik wurrdha Regional Parklands Plan
- 3 Investigate opportunities to construct a new section of trail from Bulla-Diggers Rest Road to Organ Pipes National Park in partnership with Parks Victoria and Brimbank City Council
- 4 Construct a new section of trail from Duncans Lane to Glencoe Reserve along the south side of the creek



6.15 KINGLAKE WAY TRAIL



Trail information

Length: 20.8km **SCC:** No

Location:
 Located entirely within Nillumbik, this trail begins at the Diamond Creek Trail in Hurstbridge and heads north to Arthurs Creek

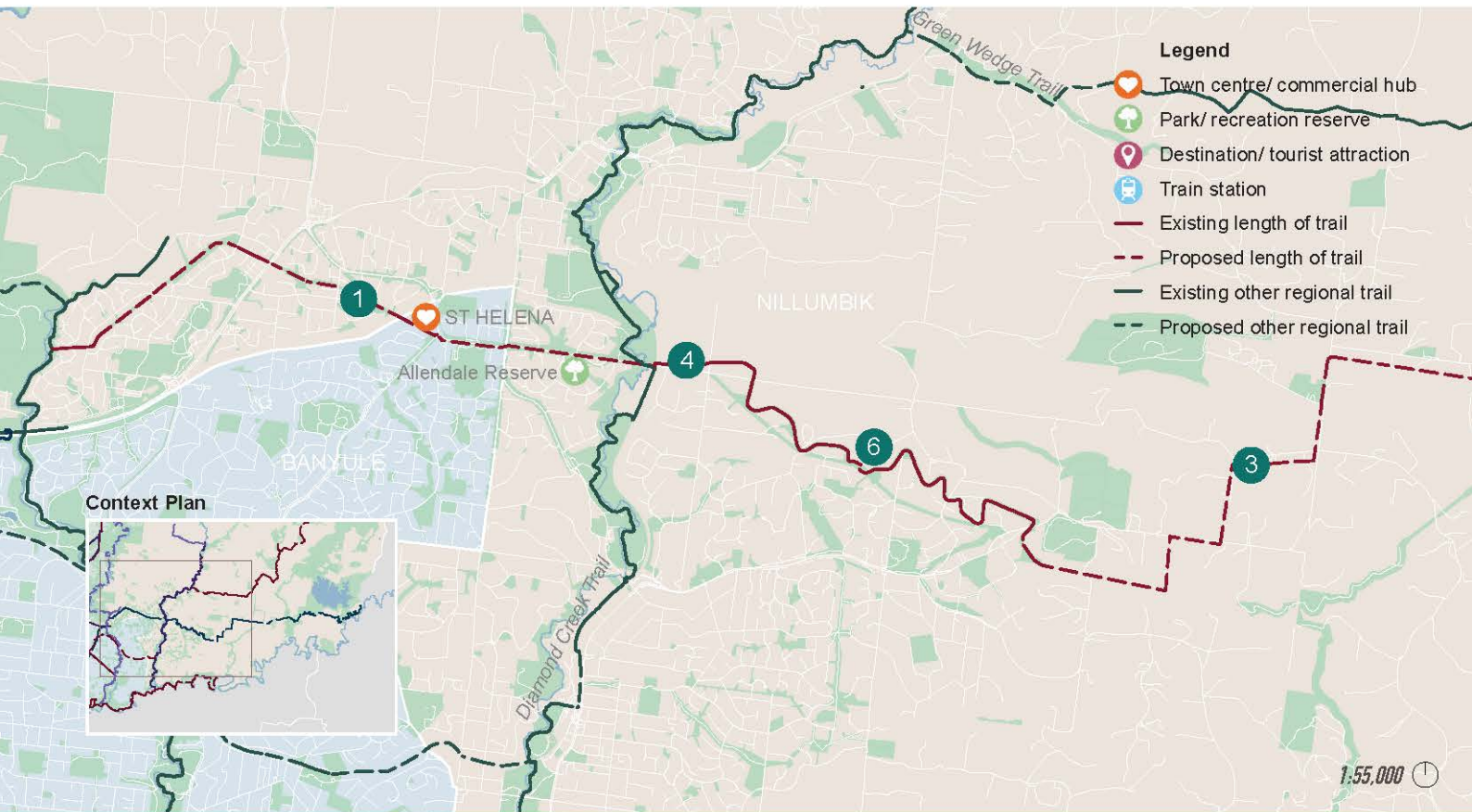
Local Government Area:
 Nillumbik

Additional Stakeholders:
 ParksVic

Priority Actions

- 1 Establish a new trail from Hurstbridge to Arthurs Creek

6.16 MAROONDAH AQUEDUCT TRAIL



Trail information

Length: 24.1km SCC: No

Location:

This trail runs in an east west direction from the Diamond Creek Trail in Greensborough in the west to the Sugarloaf Reservoir in the east.

Local Government Area:

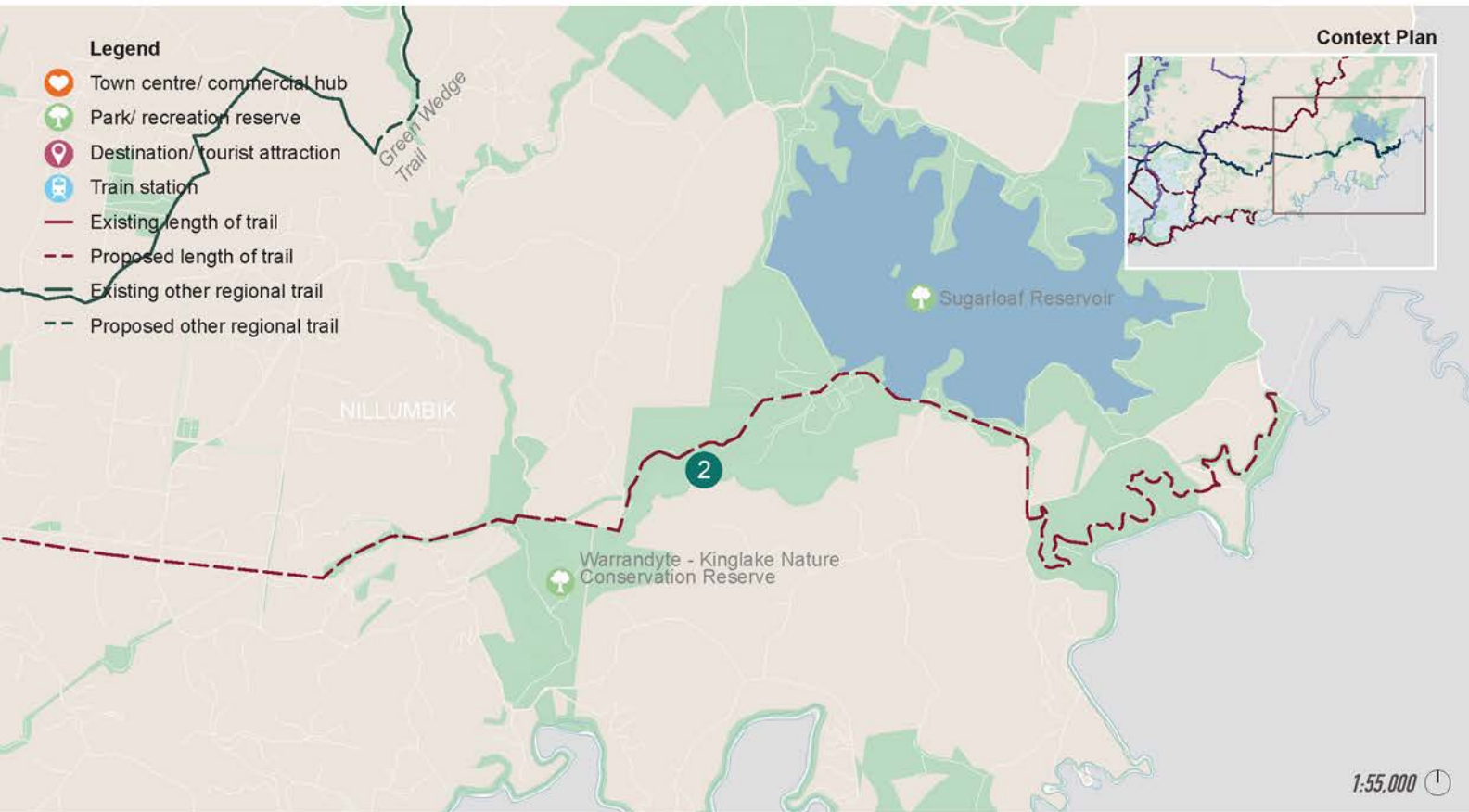
Banyule, Nillumbik

Additional Stakeholders:

Melbourne Water, Parks Victoria, VicRoads

Auditor comments:

"A very pleasant trail that has mostly a neutral gradient, marred only by very steep access at the west end and a busy main road at the east end."



Priority Actions

- 1 Construct new section of trail connecting the Plenty River Trail near Lear Court, east along the aqueduct across Diamond Creek Road to the Diamond Creek Trail at Allendale Road.
- 2 Construct new section of trail from Main Road Diamond Creek, along Eltham-Yarra Glen Road, Creek Road, Eltham Road, and Carters Lane while ensuring minimal impact to the Warrandyte - Kinglake Nature Conservation Reserve
- 3 Construct new section of trail from Warrandyte Kinglake Road, north along Westering, Ridge and Muir Roads to Skyline Road
- 4 Extend the trail west from Godber Road to connect to the Diamond Creek Trail
- 5 Provide wayfinding signage along the length of the trail
- 6 Realign section of trail either side of Afton Street to reduce grade

6.17 MERRI CREEK TRAIL

Trail information

Length: 35.1km (extends beyond study area)
 SCC: No

Location:

The Merri Creek Trail follows the creek corridor from Northcote in the south through Coburg, Thomastown, Craigieburn and onto Donnybrook in the north (in accordance with the future *Merri Creek Regional Parklands Plan*).

Local Government Area:

Darebin, Hume, Merri-bek, Whittlesea

Additional Stakeholders:

City of Yarra, Mitchell Shire, Developers, Melbourne Water, Parks Victoria, VicRoads, DELWP, MCMC

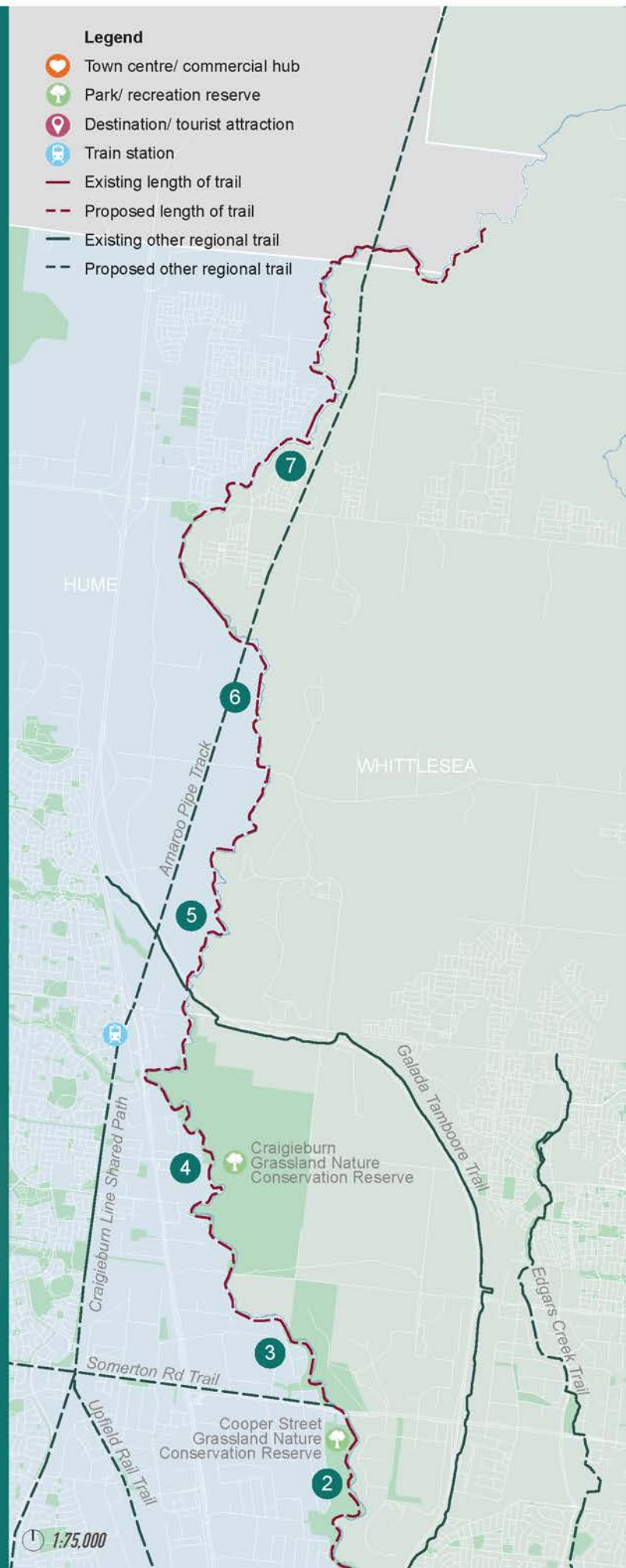
Auditor comments:

“An excellent off-road trail that serves both local and commuter cycle traffic and walkers, with fundamental continuity issues.”

Notes:

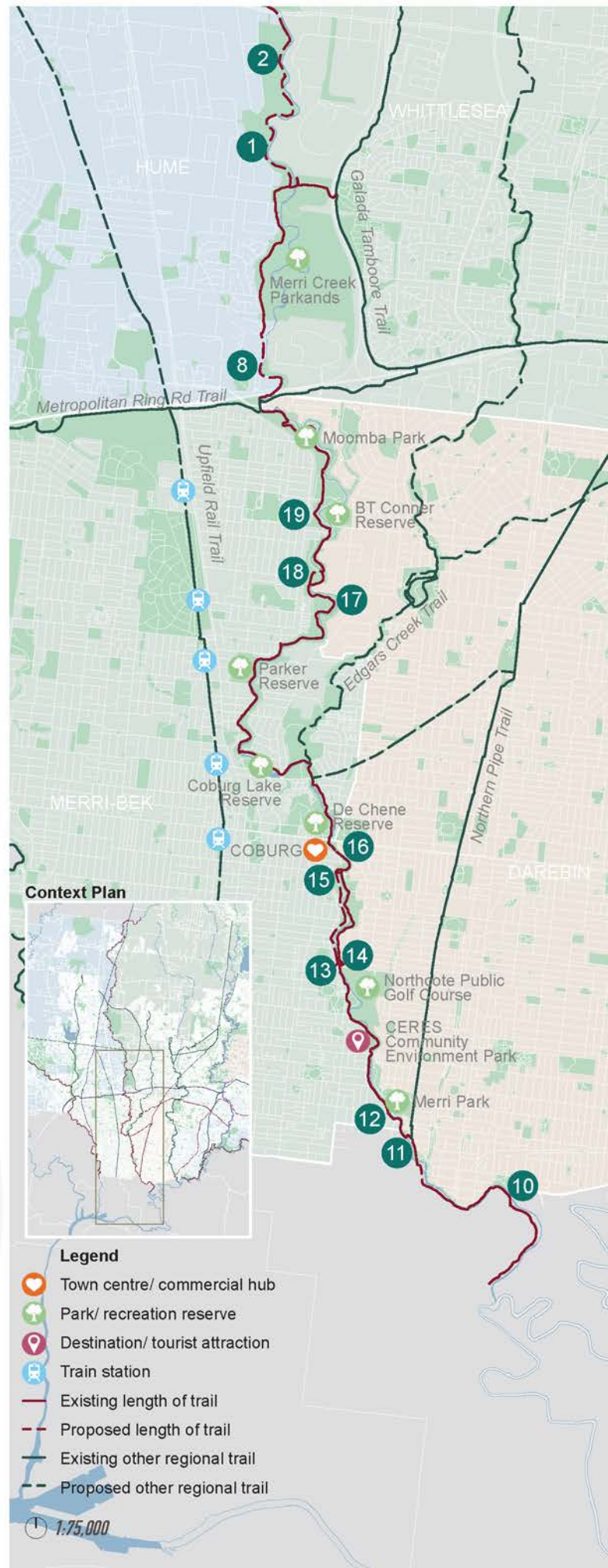
Whilst sitting outside the study area in the City of Yarra, it should be noted that an additional section of trail is required at Rushall Station to improve the continuity in this area.

Context Plan

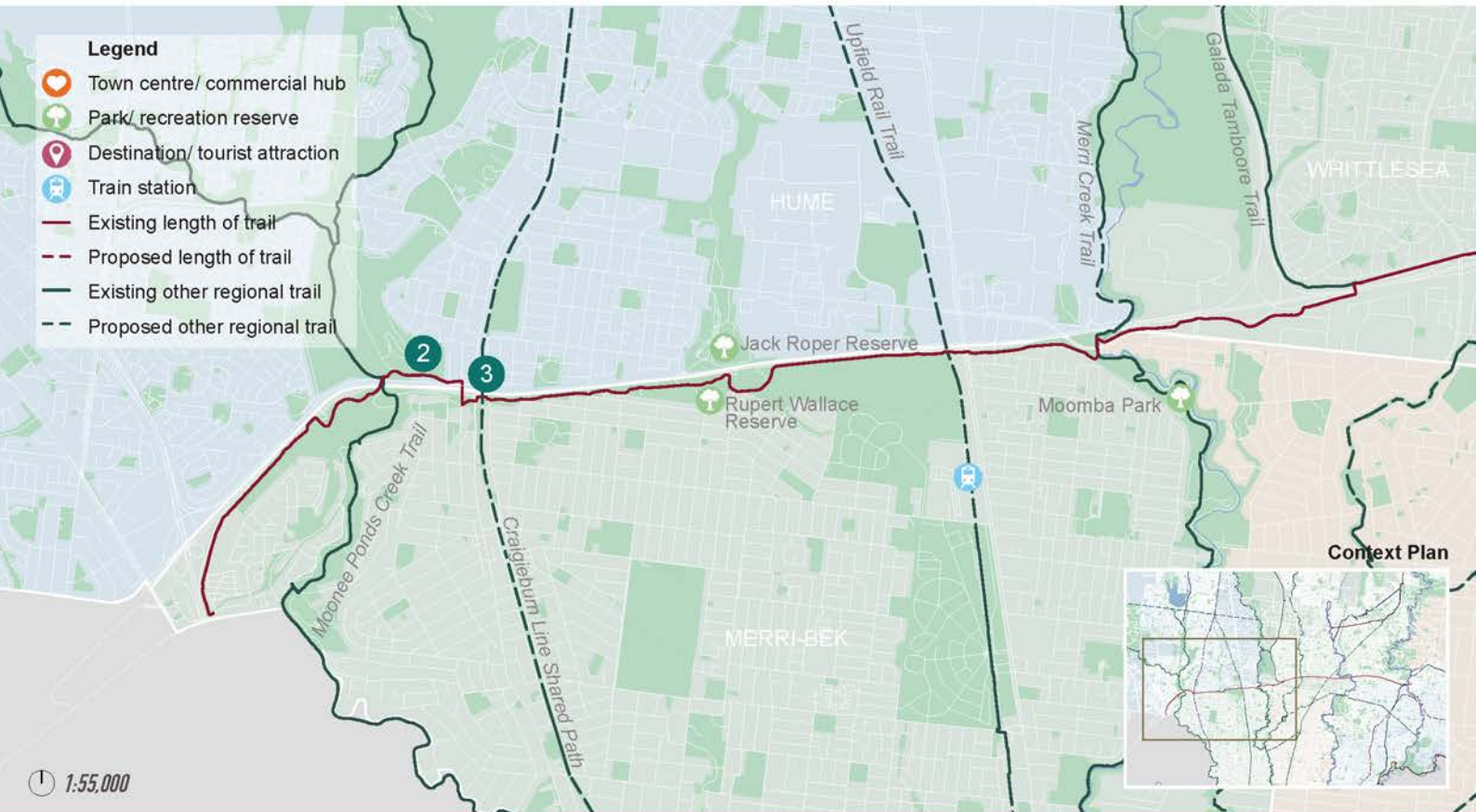


Priority Actions

- 1 Extend the Merri Creek Trail from the south end of Merri Concourse to Premier Drive
- 2 Partner with Parks Victoria and DELWP to extend the Merri Creek Trail from Merri Concourse (north) to Cooper Street
- 3 Advocate for and investigate the staged extension of the Merri Creek Trail from Coopers Street Somerton/Epping north to OHerns Road as part of the Upper Merri Creek Regional Parkland Plan
- 4 Advocate for and investigate the staged extension of the Merri Creek Trail from Oherns Road to Craigieburn Road as part of the Upper Merri Creek Regional Parkland Plan
- 5 Advocate for and investigate the extension of the Merri Creek Trail from Craigieburn Road to Summerhill Road as part of the Upper Merri Creek Regional Parkland Plan
- 6 Extend the Merri Creek Trail from Summerhill Road to Donnybrook Road
- 7 Extend the Merri Creek Trail from Donnybrook Road to the Northern End of Moxham Drive
- 8 Complete missing section of trail from the Metropolitan Ring Rd to existing section of trail south of Horne Street
- 9 Provide and upgrade line-marking to ensure continuous white lines indicating trail flow/ direction in high traffic areas
- 10 Realign section of trail south of Heidelberg Road to reduce steep grade
- 11 Provide a bridge crossing over the creek near the St Georges Road Bridge
- 12 Relocate and widen trail from Merri Creek Primary School to Sumner Park outside of the flood zone
- 13 Realign and widen trail north and south of Moreland Road
- 14 Modify existing bridge alongside Moreland Road vehicular bridge to better serve pedestrians and cyclists
- 15 Replace the Harding Street Bridge to cater for shared use
- 16 Widen and reduce the steepness of the boardwalk section of trail from Edna Grove to Bell Street and create a new connection at Bell Street
- 17 Widen and realign path outside of flood zone between Basil Nursing Home and Parker Reserve
- 18 Construct a new section of trail from Vervale Avenue to the bridge crossing to the north to provide an alternative route with a gentler grade
- 19 Provide wayfinding signage for Fawkner section of the Merri Creek (as per Moreland's Merri Creek Action Plan)
- 20 Provide wayfinding signage along the length of the trail



6.18 METROPOLITAN RING ROAD TRAIL



Trail information

Length: 11.3km (extends beyond study area)
SCC: No

Location:

Following the Metropolitan Ring Road, this trail connects a number of regional trails as it runs east-west from Greensborough to Gowanbrae within the Northern Region. Beyond the study area, the trail extends further west to Altona North.

Local Government Area:

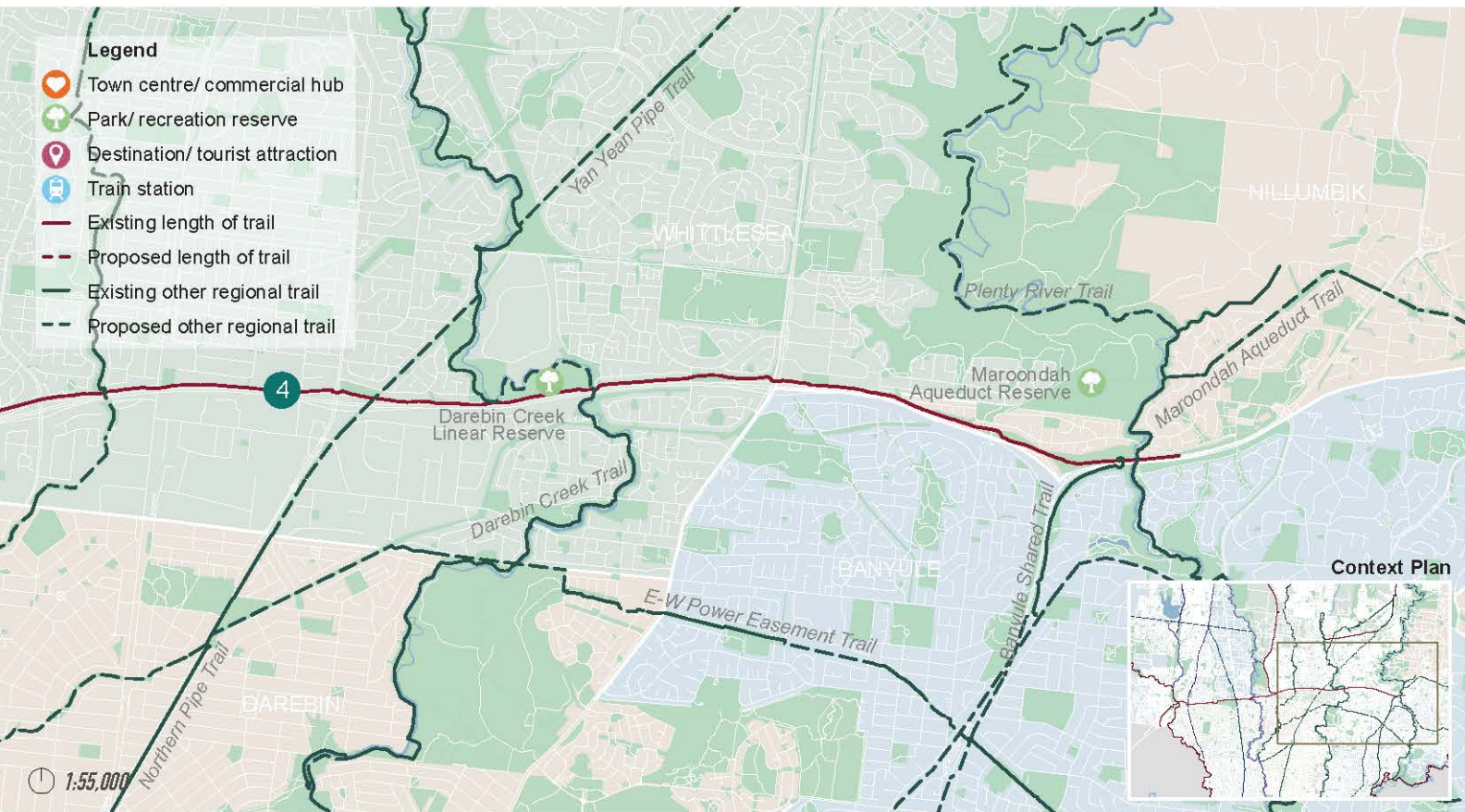
Banyule, Hume, Merri-bek, Nillumbik, Whittlesea

Additional Stakeholders:

Major Road Projects Victoria, Melbourne Water, Metro Trains, VicRoads, VicTrack

Auditor comments:

"A highly effective transportation/ commuting route with excellent capacity for direct passage east-west, where few or no alternatives are available"



Priority Actions

- 1 Provide wayfinding signage along the length of the trail
- 2 Investigate the feasibility of realigning the section of trail east of the section of trail east of the Moonee Ponds Creek towards Jacana to reduce the incline
- 3 Advocate for an upgrade to the existing overpass at Jacana Station with wayfinding signage to improve connectivity and continuity
- 4 Upgrade section of trail between High Street and Dalton Road



6.19 MOONEE PONDS CREEK TRAIL

Trail information

Length: 29.8km (extends beyond study area)
SCC: Yes

Location:

The Moonee Ponds Creek Trail follows the creek corridor from Woodlands Historic Park in Greenvale, in the north, to Brunswick West in the south. The trail extends beyond the study area in the south to Docklands.

Local Government Area:

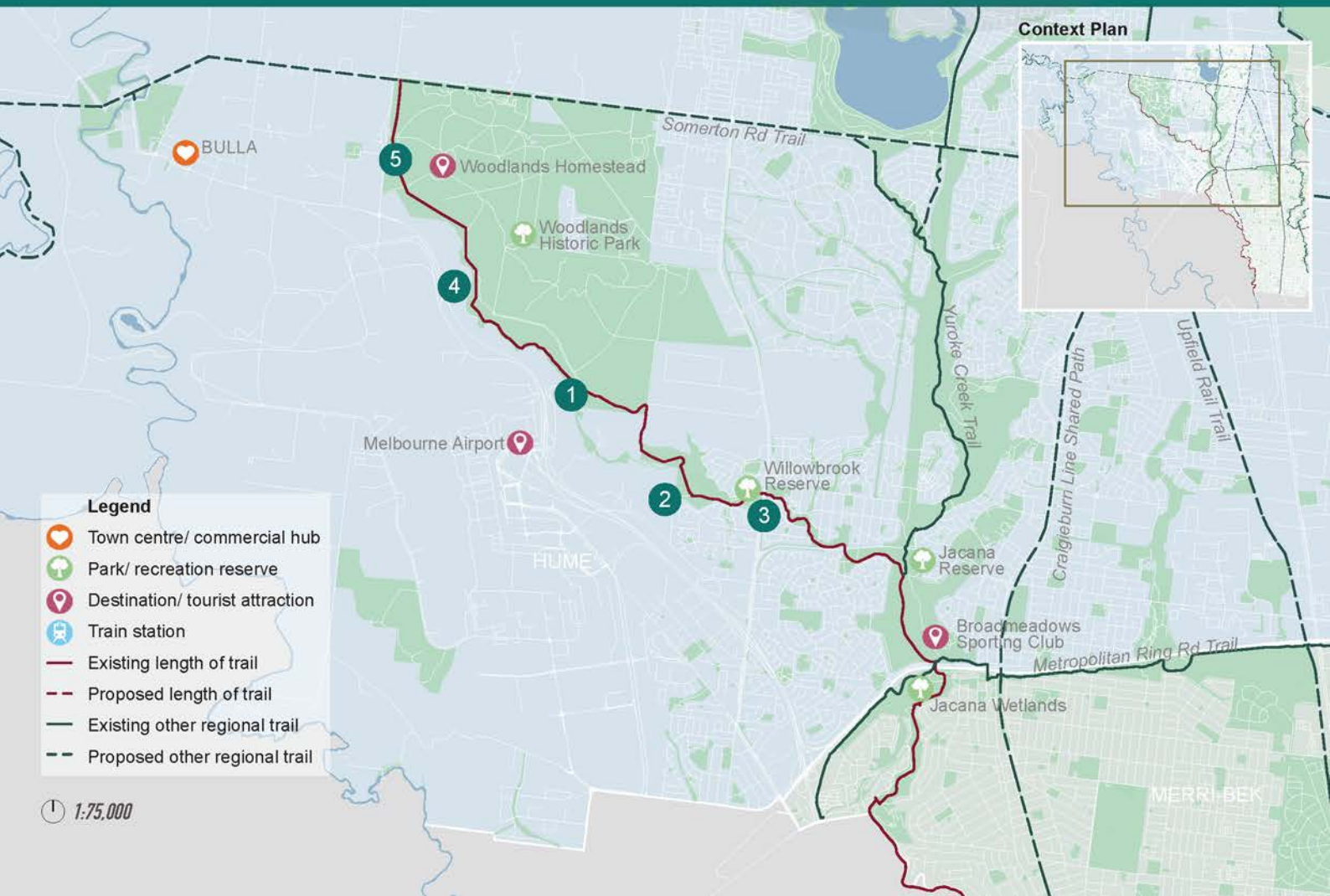
Hume, Merri-bek

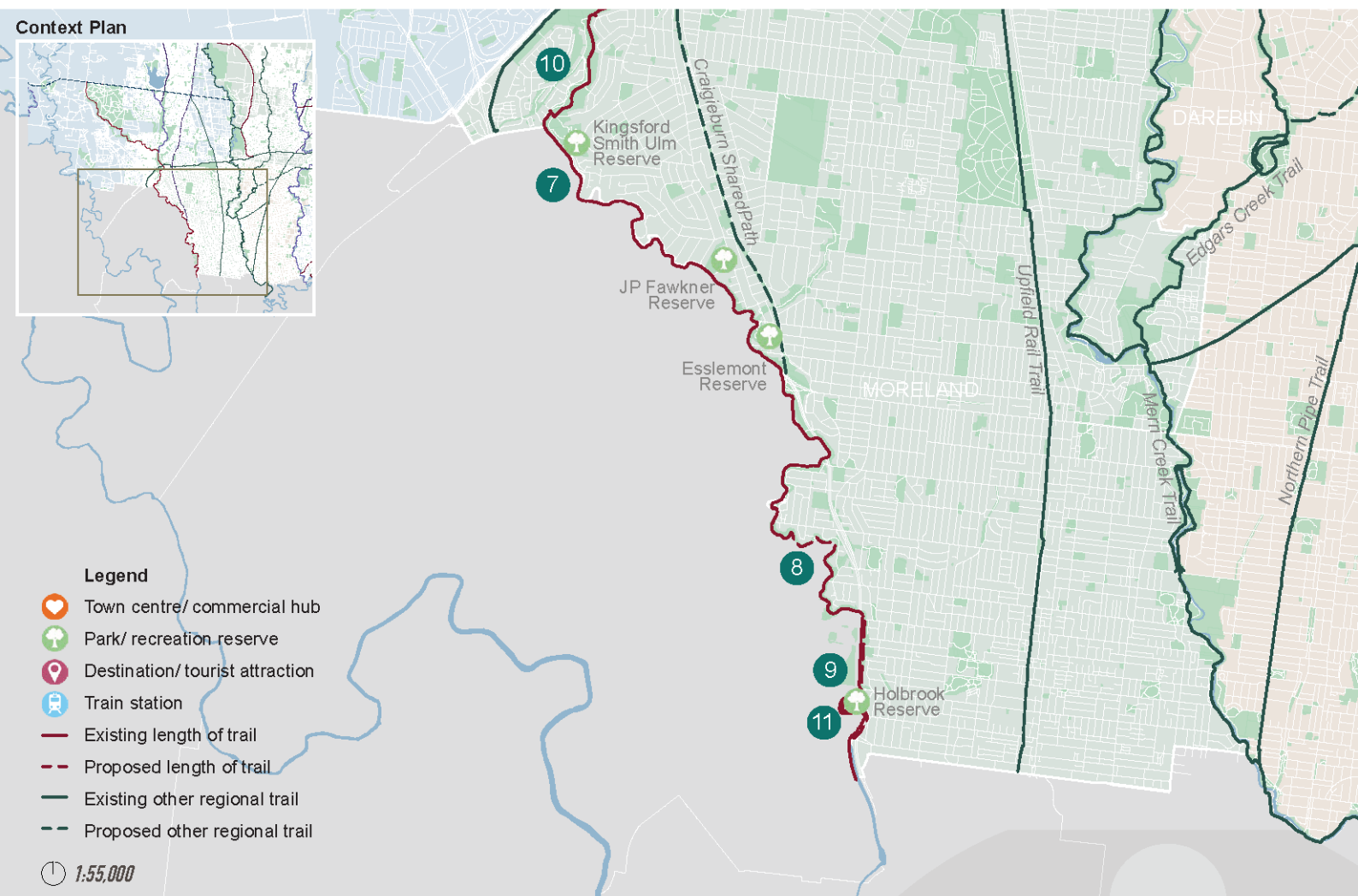
Additional Stakeholders:

Crown Land, Melbourne Airport, Melbourne Water, Parks Victoria, Private landowners, The City of Moonee Valley, VicRoads

Auditor comments:

“A super-highway from the NE fringes of the CBD offering excellent commuter and intra urban off-road cycling options and potentially a wonderful mode of accessing Woodlands Historic Park.”





Priority Actions

- 1 Create a trail head at northern end of the trail at Marker Road ensuring alignment is outside federal airport boundary to avoid land access issues
- 2 Upgrade surface and width of trail from Marker Road to and around Willowbrook Reserve to regional trail standard
- 3 Upgrade surface and width of trail from Willowbrook Reserve to Westmeadows Reserve to regional trail standard
- 4 Construct a new section of trail from Marker Road to Living Legends/ Woodlands Historic Park
- 5 Upgrade existing trail from Living Legends/ Woodlands Historic connecting to Somerton Road Woodlands entrance
- 6 Provide wayfinding signage along the length of the trail include at crossing points, connections to other trails and where appropriate to direct users to optimal trail route where alternatives occur
- 7 Upgrade surface of trail from the rail line south to the Essendon Baseball Club
- 8 Construct section of new trail between Primrose Street and Vanberg Road (within Moonee Valley)
- 9 Upgrade trail surface from Boeing Reserve, Strathmore, to Brunswick Road to improve safety and cross grade
- 10 Resurface trail connection from Gladstone Park down the hill to main trail
- 11 Construct a new section of trail from Union Street to the Hope Street pedestrian bridge. Consider a new bridge using former off ramp to Denzil Don Reserve to Victoria St as an alternative if required

6.20 NORTHERN PIPE/ ST GEORGES RD/ CHEDDAR RD TRAIL

Trail information

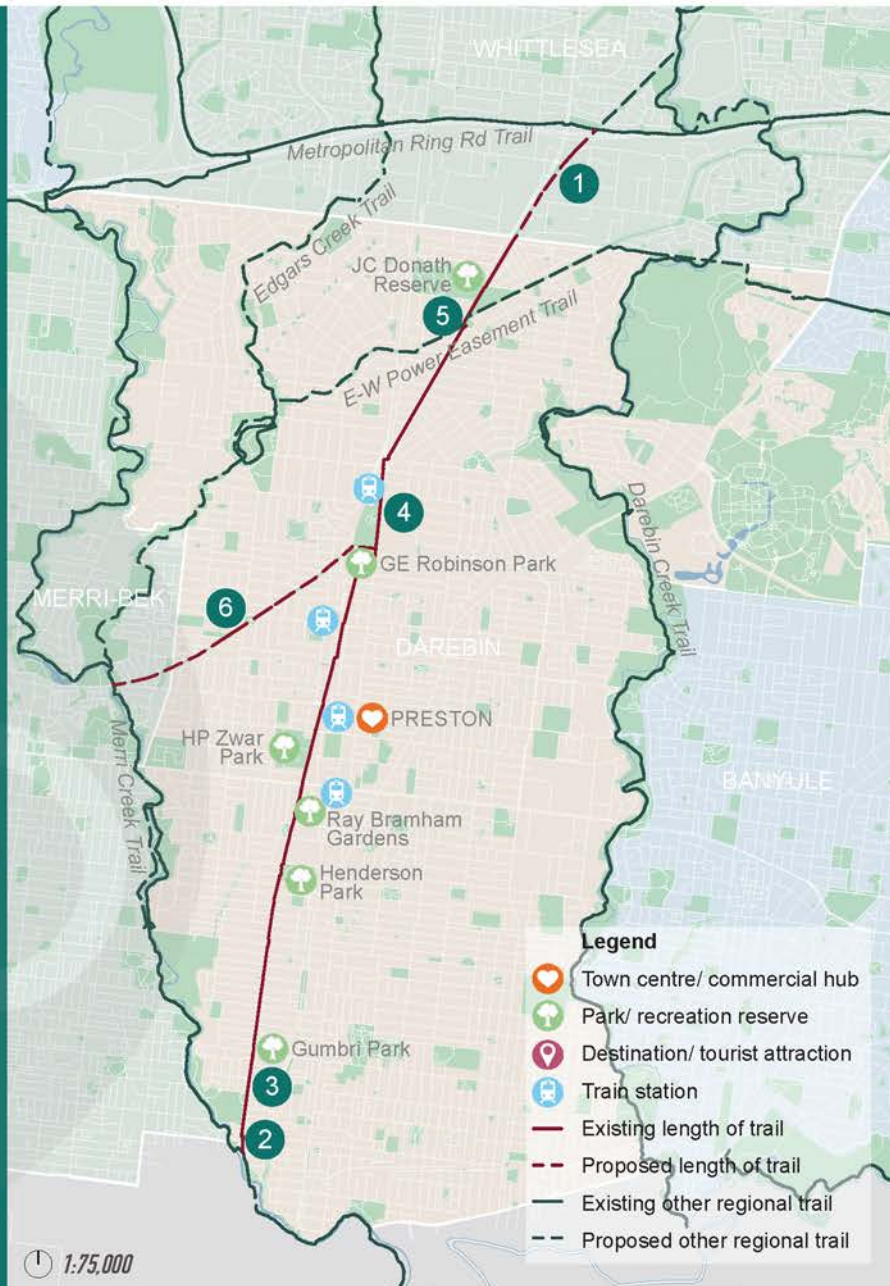
Length: 14.1km
SCC: Partial (south of Reservoir Station)

Location:
 This trail runs relatively north-south through Darebin from Northcote to Thomastown. An additional section of trail is proposed along a series of linear reserves in Preston to connect the trail to Coburg and the Merri Creek and Edgars Creek Trails.

Local Government Area:
 Darebin, Merri-bek and Whittlesea

Additional Stakeholders:
 Melbourne Water, Metro Trains, VicRoads, VicTrack

Auditor comments:
 "A highly effective commuting corridor with inherent issues where cyclists interact with traffic, and access impediments mar an otherwise excellent urban thoroughfare."



Priority Actions

- 1 Extend the Northern Pipe/ St Georges Rd/ Cheddar Road Trail north to the Metropolitan Ring Road
- 2 Improve access at the St Georges Rd/Merri Parade/ Charles St intersection to connect the Merri Creek Trail to the Northern Pipe Trail and create a direct access point to and from the trail with pedestrian and cyclist priority
- 3 Widen and resurface the section of trail between Clarke Street and Arthurton Road to align with newly constructed sections of trail
- 4 Advocate for trail alignment alongside the train line from Garden Street to Cheddar Road to replace section of trail on the footpath
- 5 Widen trail surface in the Cheddar Road central median from High Street to Hickford Street
- 6 Investigate a new section of trail from High Street (near the Melbourne Water Reservoirs) along the vacant pipe reserve to the Merri Creek Trail at Murray Road. Existing road crossings to be considered

6.21 PLENTY RIVER TRAIL

Trail information

Length: 43.5km
 SCC: No

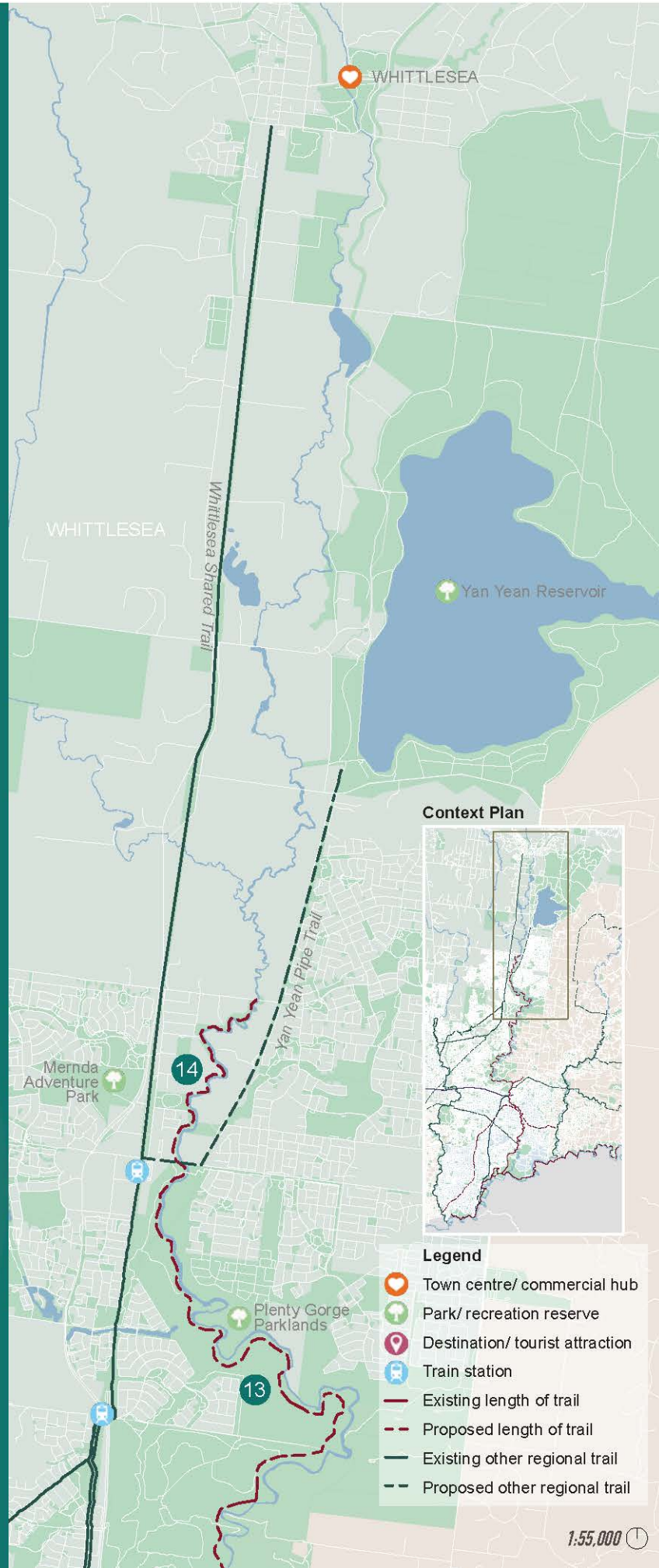
Location:
 Following the creek corridor, the Plenty River Trails begins at the Yarra Trail in Viewbank and continues north to Greensborough. The trail is then proposed to extend further to the Township of Whittlesea.

Note: Indicative trail alignment only. Refer to Parks Victoria’s Plenty Gorge River Trail design

Local Government Area:
 Banyule, Nillumbik, Whittlesea

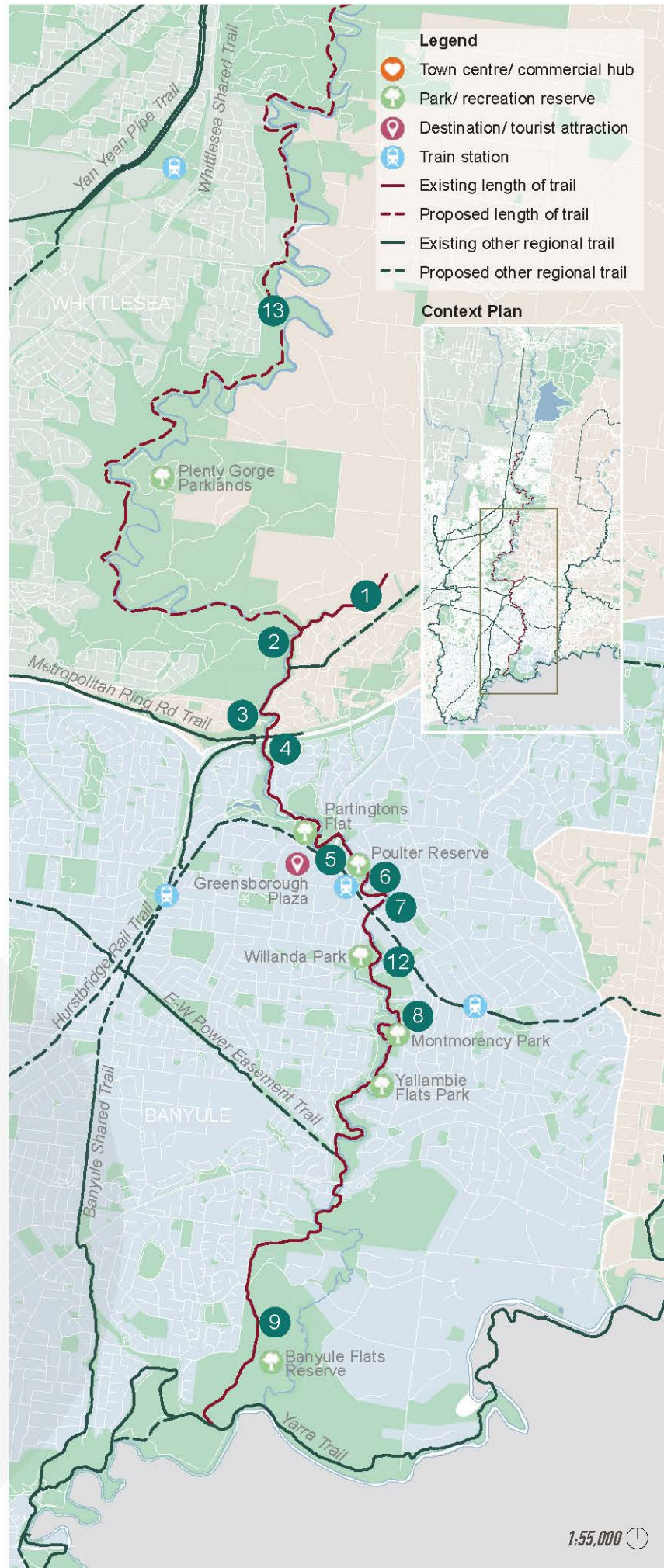
Additional Stakeholders:
 Melbourne Water, Parks Victoria, VicRoads

Auditor comments:
 “A mostly very scenic trail through urban bushland with quite good flow and continuity, marred mainly by far too much variability in surface quality and width; lacks consistency”

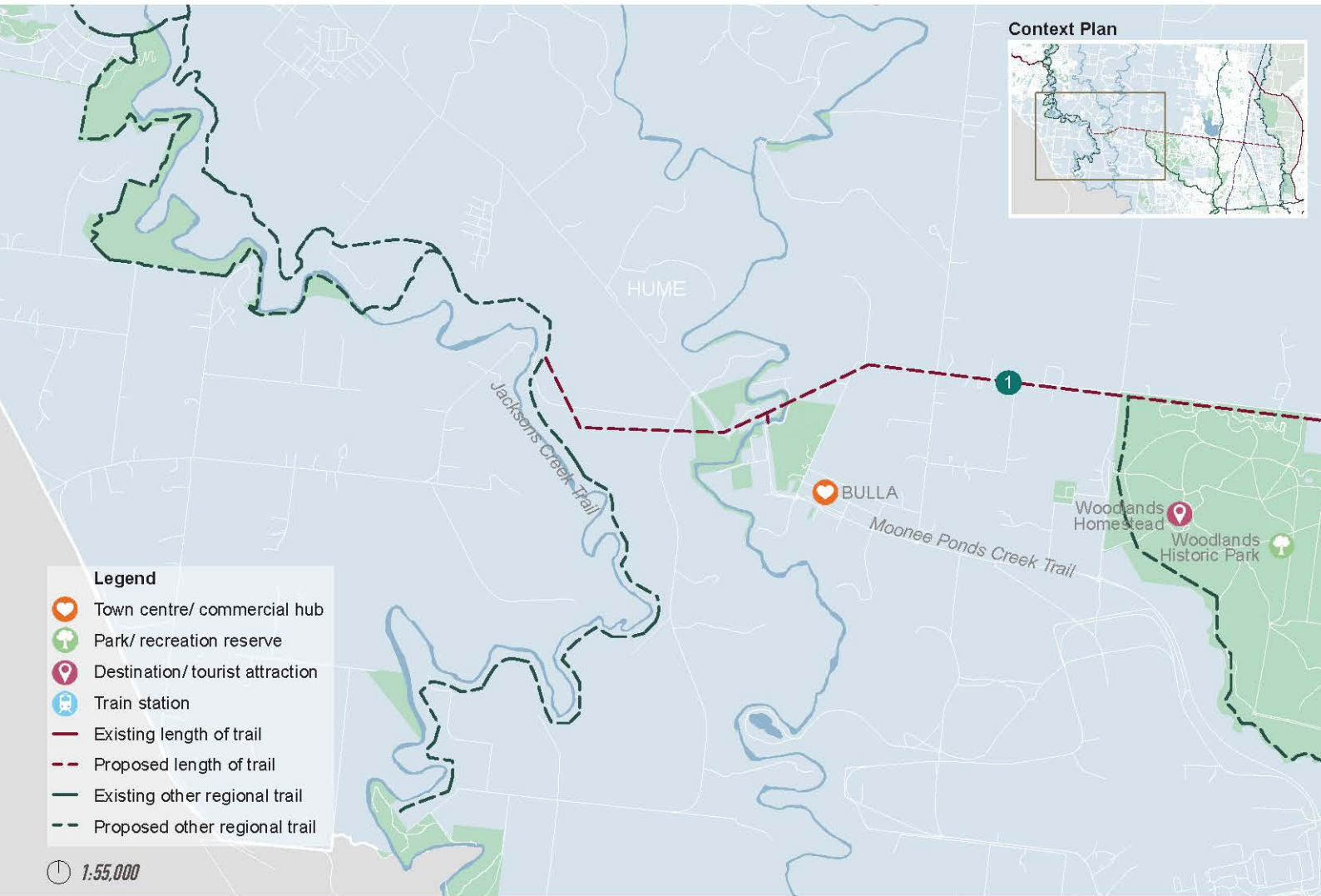


Priority Actions

- 1 Extend trail east to Mclaughlans Lane
- 2 Upgrade and widen section of trail from Punkerri Circuit to Booyan Crescent
- 3 Realign section of trail to reduce grade and provide an underpass at Booyan Crescent
- 4 Widen section of trail under the Greensborough Bypass
- 5 Upgrade and widen section of trail at Main Street
- 6 Improve wayfinding signage at Poulter Reserve to direct users to the wider trail network west of the reserve
- 7 Construct a new section of trail at Bicton Street
- 8 Upgrade and widen section of trail with wayfinding signage at Montmorency Park
- 9 Upgrade surface and realign trail to reduce grade south of Old Lower Plenty Road and through Banyule Flats
- 10 Improve wayfinding signage along the length of the trail
- 11 Upgrade pedestrian bridges on the Plenty River Trail where required and improve sight lines where appropriate
- 12 Investigate the feasibility of realigning the Plenty River Trail to the eastern bank of the Plenty River between George Court and Para Road in order to avoid the steep grade on the west bank
- 13 Construct a new section of trail along the creek through The Plenty Gorge Parklands to Bridge Inn Road. Support the proposal for a bridge connection from South Morang to Hawkestone picnic area to Yarrambat Park
- 14 Extend the trail from Bridge Inn Road north to Hazel Glen Drive



6.22 SOMERTON ROAD TRAIL



Trail information

Length: 17.8km **SCC:** Yes

Location:

This potential future trail is proposed to run along Somerton Road in Greenvale connecting the Jacksons Creek Trail in the west and the Merri Creek Trail in the east.

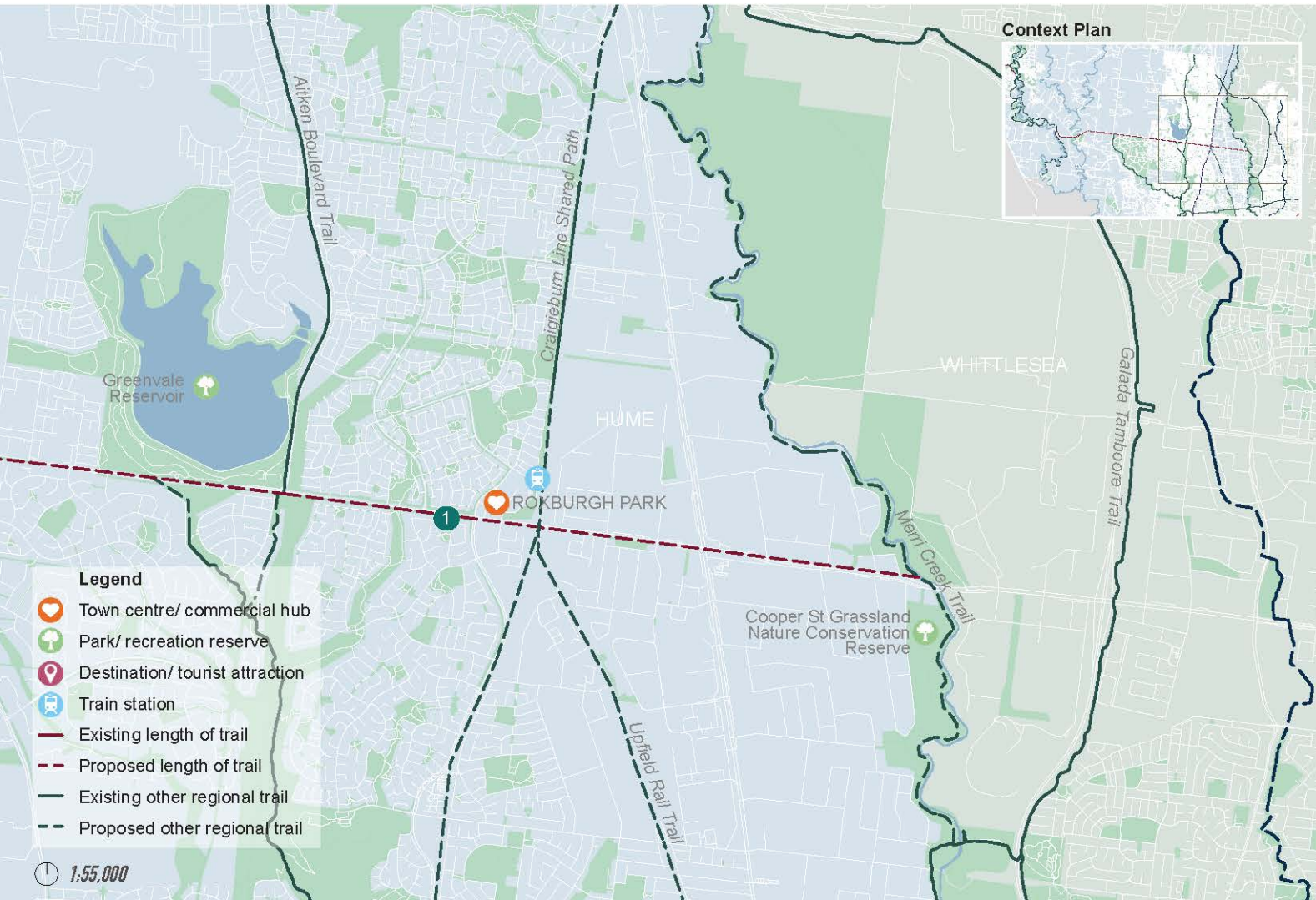
Local Government Area:

Hume

Additional Stakeholders:

Major Road Projects Victoria, Parks Victoria





Priority Actions

- 1 Advocate for the construction of a new trail along Somerton Road from Jacksons Creek to the Merri Creek Trail



6.23 UPFIELD RAIL TRAIL

Trail information

Length: 11.6 (extends beyond study area)
SCC: Yes

Location:
 This trail follows the Upfield rail line from Brunswick to Fawkner with a proposed extension to Roxburgh Park.

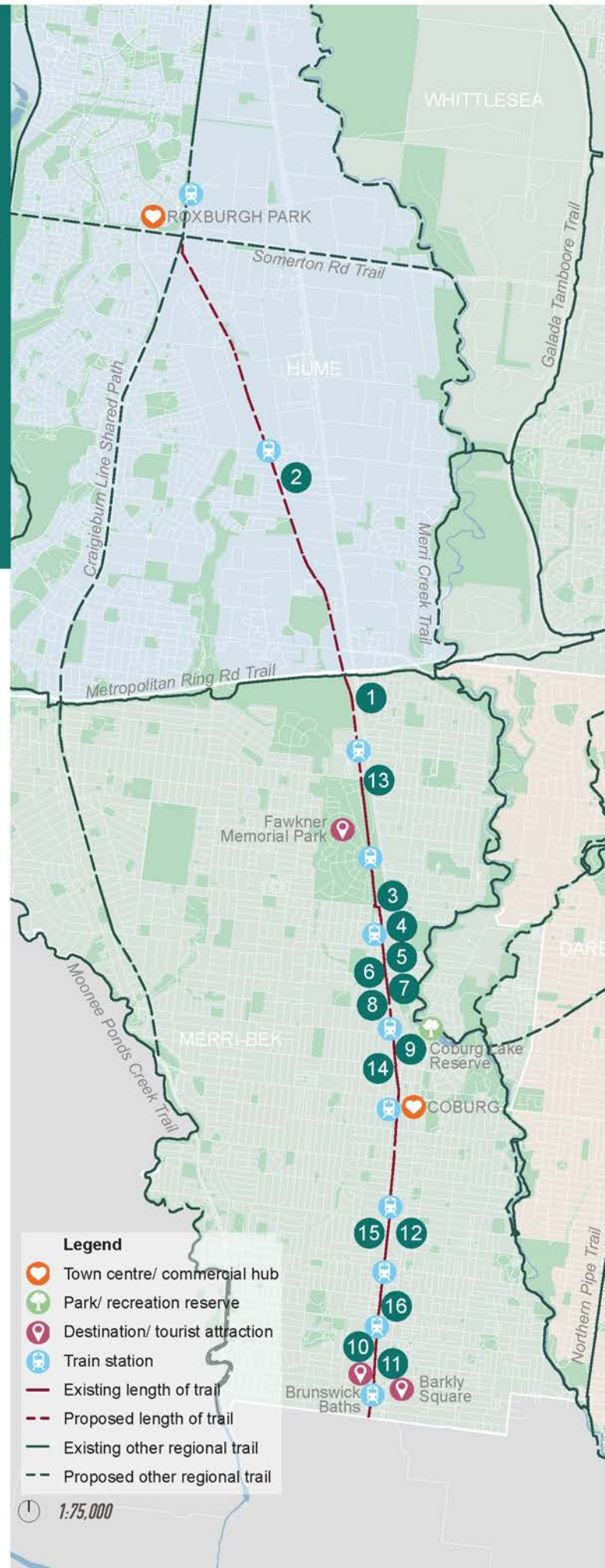
Local Government Area:
 Merri-bek and Hume

Additional Stakeholders:
 Department of Transport, Metro Trains, VicRoads, VicTrack

Auditor comments:
 “A potential cycling ‘super highway’ with enormous scope as the major north-south corridor through the densely populated suburbs from the inner north.”

Priority Actions

- 1 Construct new section of trail from Box Forest Road north to Metropolitan Ring Road
- 2 Advocate to Dept. of Transport to construct a new section of trail from the Metropolitan Ring Road to Somerton Road
- 3 Create a signalised pedestrian crossing over Boundary Rd
- 4 Construct an off-road shared path along Bain Avenue
- 5 Widen section of trail between Plaisted St and Shorts Rd
- 6 Construct an off-road shared path along Ararat Avenue
- 7 Provide a signalised/ pedestrian priority crossing over Bakers Rd
- 8 Construct an off-road shared path along Renown St
- 9 Construct an off-road shared path along Batman Avenue
- 10 Upgrade and widen trail from Victoria St to Jewell Station
- 11 Provide a signalised/ pedestrian priority crossing over Albert St
- 12 Consider long term feasibility of separated cycle path between Park St and Tinning St
- 13 Create a signalised pedestrian crossing over Box Forest Rd
- 14 Create a signalised pedestrian crossing over O’Hea St
- 15 Create a signalised pedestrian crossing over Albion St
- 16 Create a signalised pedestrian crossing over Victoria St



6.24 WHITTLESEA SHARED TRAIL

Trail information

Length: 13.5km SCC: Yes

Location:

This trail follows the rail line from Epping Station in the south west to Mernda station. The trail is then proposed to continue along the rail easement to Whittlesea.

Local Government Area:

Whittlesea

Additional Stakeholders:

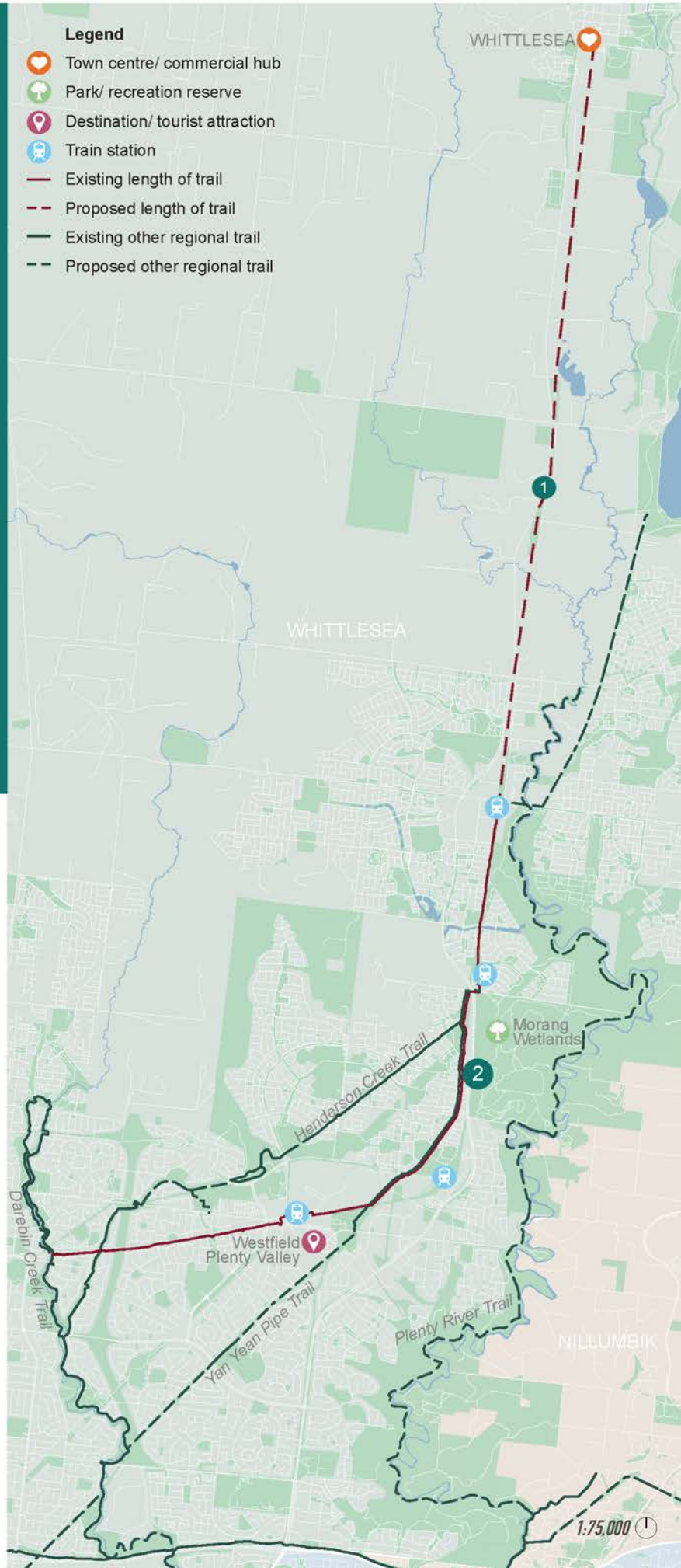
Metro Trains, VicRoads, VicTrack

Auditor comments:

“A fundamentally excellent trail that would only benefit further with a bit more thought regarding flow and continuity at a couple of points.”

Priority Actions

- 1 Construct a new trail along the train line from Mernda Station to Laurel Street, Whittlesea. Ensure there is provision for horse riders on parts of the trail
- 2 Provide a pedestrian priority crossing on the Pipe Track at the Lakes Boulevard
- 3 Provide wayfinding signage along the length of the trail



6.25 YAN YEAN PIPE TRACK

Trail information

Length: 13.5km SCC: No

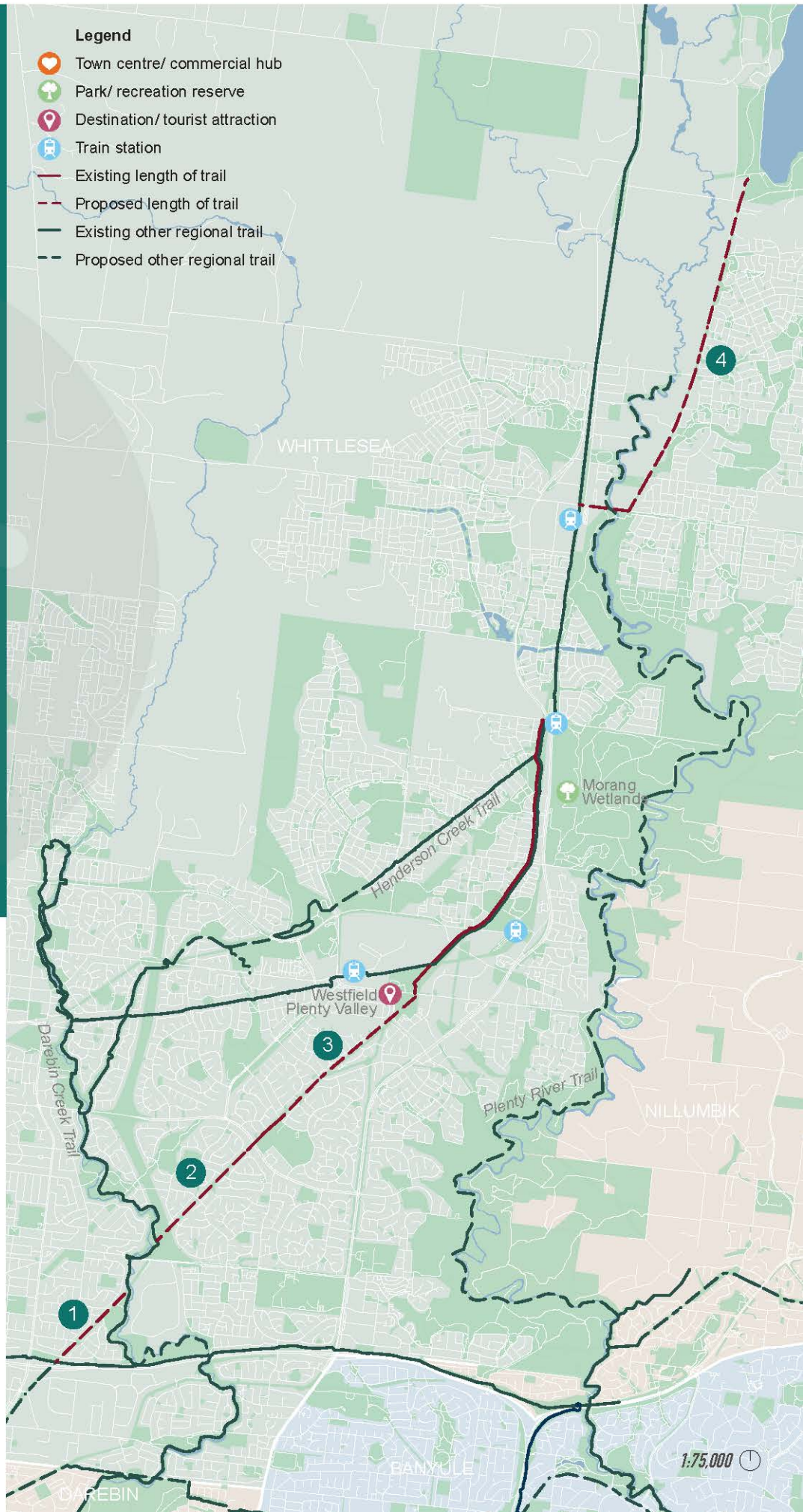
Location:

The Yan Yean Trail begins at the Metropolitan Ring Road Trail in the south and continues in a north-east direction where it meets the Whittlesea Rail Trail. The Trail then continues from Mernda Station to the Yan Yean Reservoir.

Local Government Area: Whittlesea

Additional Stakeholders: -

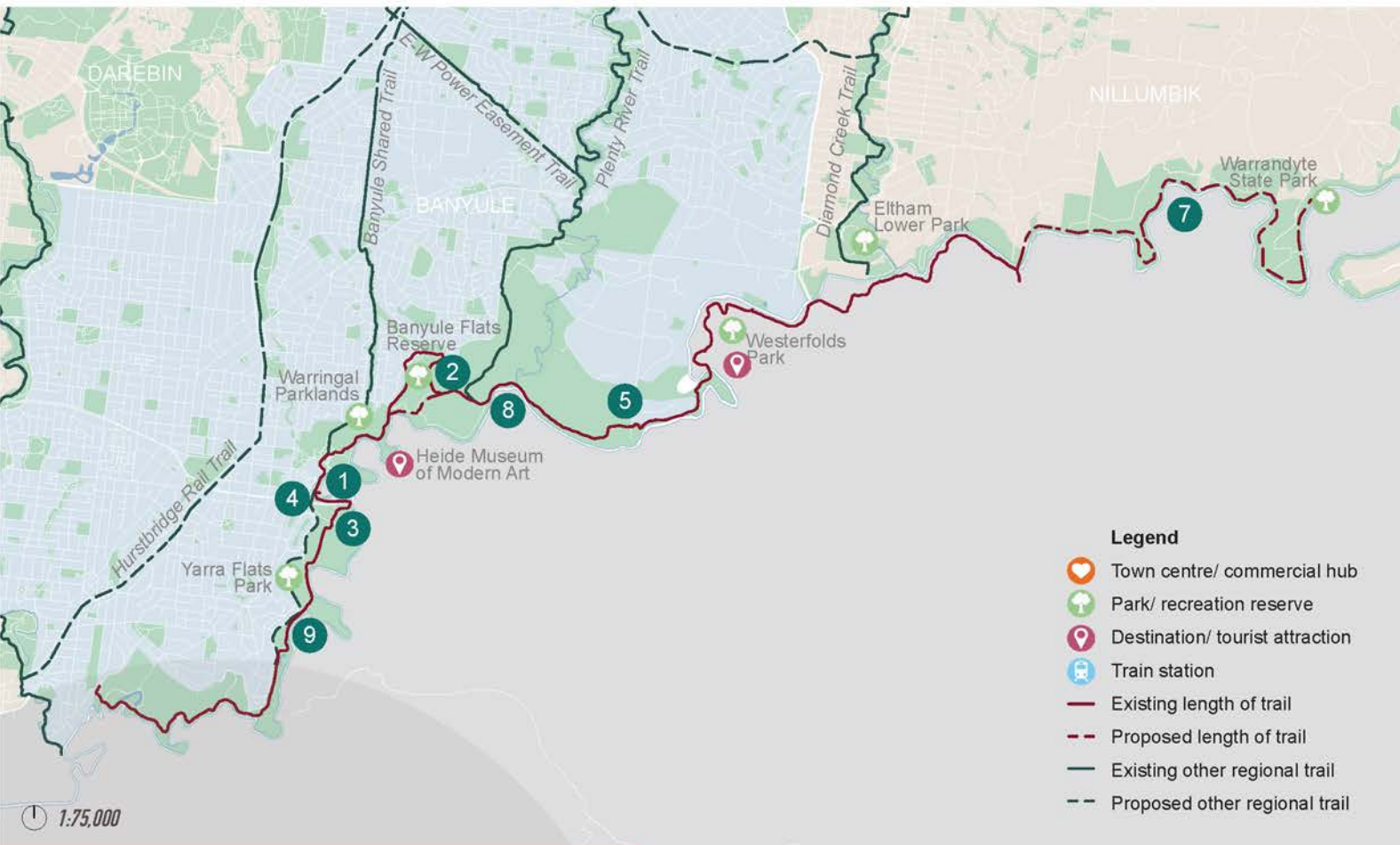
Auditor comments: -



Priority Actions

- 1 Construct a new section of trail from The Metropolitan Ring Road Trail and the Northern Pipe/ Cheddar Road Trail to the Darebin Creek Trail
- 2 Construct a new section of trail from the Darebin Creek Trail to Childs Road
- 3 Construct a new section of trail from Childs Road to McDonalds Road and the Plenty Valley Activity Centre
- 4 Construct a new section of trail from Bridge Inn Road to the Yan Yean Reservoir and creating a connection to the Plenty River Trail

6.26 MAIN YARRA TRAIL



Trail information

Length: 26.5km (extends beyond study area)
SCC: Partial

Location:

Following the Yarra River, the Yarra Trail within the northern region begins in Alphington in the west and is proposed to continue to Warrandyte in the east.

Local Government Area:

Banyule, Nillumbik

Additional Stakeholders:

City of Boroondara, City of Manningham, Melbourne Water, Parks Victoria

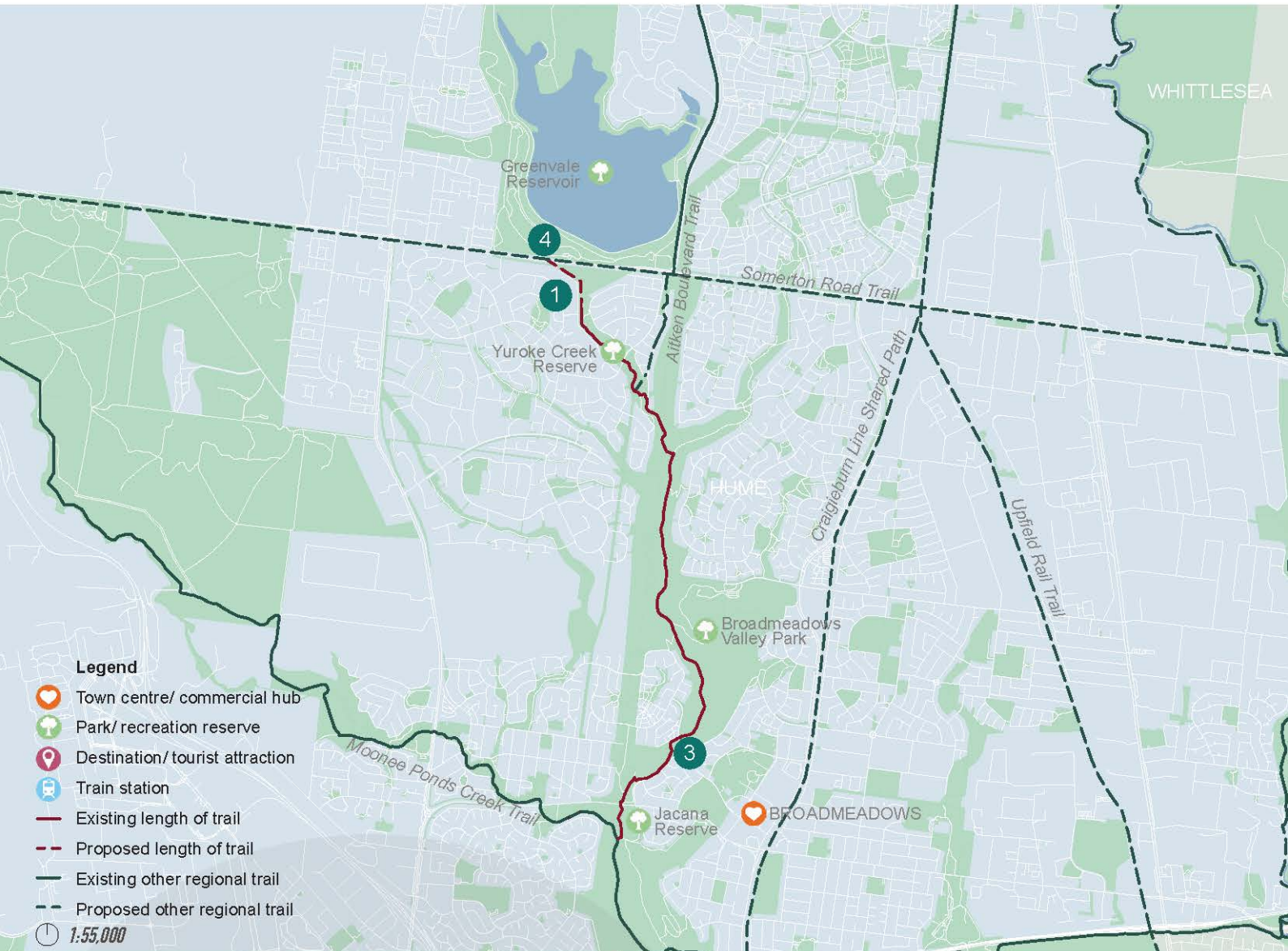
Auditor comments:

"A long, flowing trail through some beautiful riverland countryside, with a combination of surfaces and levels of quality (concrete, gravel, bitumen) that would benefit greatly from an extension to Warrandyte and beyond."

Priority Actions

- 1 Construct a bridge crossing over the Yarra River to Banksia Park at the eastern end of Yarra Street, Heidelberg
- 2 Undertake improvements to the Main Yarra Trail at Banyule Flats
- 3 Realign the section of trail at the Banksia Street underpass to create a gentler grade and wider trail surface
- 4 Upgrade surface and width of existing trail from Banksia Street to Yarra Street
- 5 Upgrade surface and width of existing trail from junction with Plenty River Trail to Fitzsimons Lane Reserve
- 6 Provide wayfinding signage along the length of the trail
- 7 Construct shared use trail from the Mullum Mullum Creek Trail to the Warrandyte State Park
- 8 Construct a bridge crossing over the Yarra River to Birrarung Park
- 9 Construct a bridge crossing over the Yarra River to Bulleen Park

6.27 YUROKE CREEK TRAIL



Trail information

Length:
6.5km

SCC:
Partial

Location:

The Yuroke Creek Trail runs along the creek corridor from Broadmeadows to Greenvale through the Broadmeadows Valley Park

Local Government Area:
Hume

Additional Stakeholders:

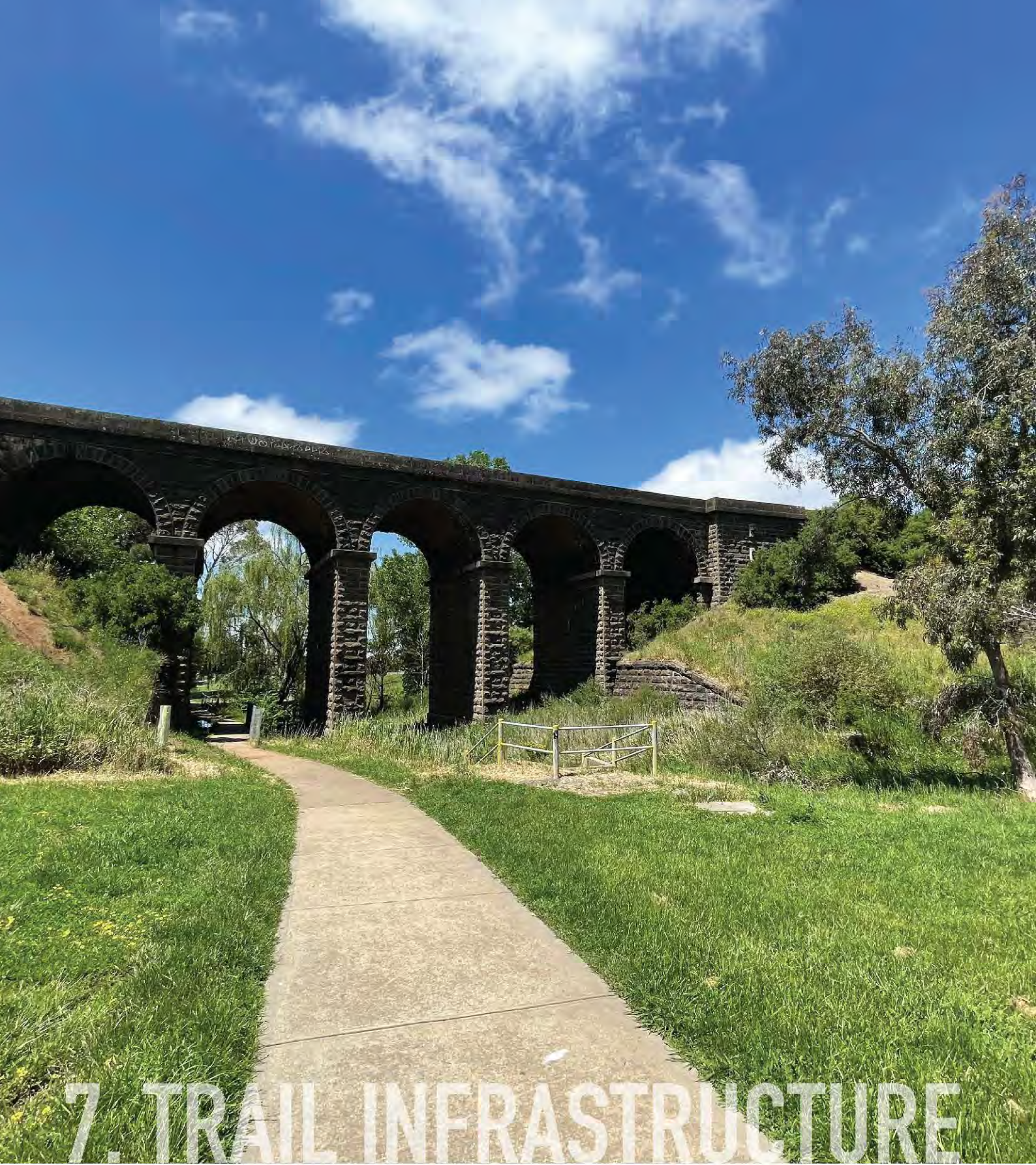
Major Road Projects Victoria, Melbourne Water, Parks Victoria, VicRoads

Auditor comments:

"A pleasant and meandering trail of adequate width quality, with good access at the southern end from Moonee Ponds Creek Trail, that could be improved with signage and a safe northern access point."

Priority Actions

- 1 Partner with Melbourne Water and MRPV to plan and construct new section of trail along the Melbourne Water Pipe Track from Greenvale Reservoir Park south to the existing section of the Yuroke Creek Trail, including a safe crossing option for Somerton Road
- 2 Provide wayfinding signage along the length of the trail
- 3 Investigate the provision of a pedestrian priority crossing at Dimboola Road, remove bicycle chicanes from either side and improve the path intersection treatment
- 4 Provide a pedestrian priority crossing at Somerton Road to connect trail to Greenvale Reservoir
- 5 Undertake a staged upgrade of the trail to a regional standard width with linemarking



7. TRAIL INFRASTRUCTURE

Blind Creek Trail

There are a wide variety of elements that make up a regional trail network. Firstly there is the trail surface itself, which can vary in width and construction material. Trails often also have a range of supporting infrastructure, including signs (both directional signs to tell people where the trails lead, as well as hazard and use-related signs), lights, seats, shelter, and drinking fountains. There are also functional benefits provided by non-built elements, such as trees providing shade and planted areas acting as buffers between different uses (e.g. creating a soft barrier between a trail and a play space). All of these elements play a role in the way a trail is used and influence the trail-use experience. The type and quality of facilities also have broader impacts upon the way trails present themselves and are perceived, impacting upon the character of a place and sense of community.

The different trail infrastructure components are addressed separately in this section. The key recommendations are then summarised at the end in two diagrams covering trail infrastructure standards and guidelines. The recommendations within this chapter generally outline the ideal outcomes. There are various factors involved in trail and infrastructure implementation that will require case by case consideration and the potential need for compromise.

7.1. TRAIL SURFACES

7.1.1 Materials

Regional trails within Northern Melbourne are made up of three main construction materials. The relative benefits and issues with each are summarised below.

Material	Positive attributes	Negative attributes
Concrete	<ul style="list-style-type: none"> Durable - very little maintenance required once installed. 	<ul style="list-style-type: none"> Inflexible - if tree roots or subsurface conditions cause movement, this will result in cracking and abrupt level changes creating significant hazards. Regular jointing required, which can create a bumpy ride for cyclists if tooled joints are used (alternative joints are now commonly used). Runners often avoid using concrete surfaces because the inflexible surface can be harsh on joints. More expensive than the other two options identified here.
Bitumen/ asphalt	<ul style="list-style-type: none"> More flexible than concrete, meaning that they do not need regular joints, and any lifting of pavement tends to occur gradually, initially creating rises and falls within a surface rather than abrupt cracks and edges. 	<ul style="list-style-type: none"> Because of the flexibility of the material, it needs to be edged to prevent edges deteriorating. Timber edging is commonly used but deteriorates over time. Problematic when installed on highly reactive subgrades such as clay. Shrink-swell behaviour of reactive subgrades can cause cracking to pavement.
Gravel	<ul style="list-style-type: none"> Provides a more natural trail character than hard paved options. Preferred surface for equestrian use. The least expensive of the three options identified here. Reduced speed of cyclists minimising trail conflict between cyclists and other users. 	<ul style="list-style-type: none"> Variable quality, dependent upon the material used, the quality of the installation and drainage conditions. Susceptible to water damage (erosion from water flowing, and softening from pooling water). Edge maintenance can be an issue if a hard edge is not provided. Gravel surfaces are not particularly well-suited to narrow-tyred 'road' cycles. Not suitable for users with mobility aids or physical ailments due to uneven surface. More regular and intensive maintenance required.



FIGURE 7.1:
Regional trail construction material examples.
Top: Concrete trail construction (Merri Creek Trail)
Middle: Asphalt surface (Diamond Creek Trail)
Bottom: Gravel (Edgars Creek Trail)

The three options noted (examples pictured in figure 7.1) are ordered from most to least expensive. However it should be noted that the difference in upfront costs are relatively minor compared to the ongoing maintenance costs, i.e. decisions to use gravel surfaces based primarily upon installation costs should be very mindful of the ongoing maintenance costs. Other specialist surfaces (such as boardwalks) are used sparingly to address specific circumstances due to the high costs of construction, long-term maintenance costs and safety concerns.

There is a mix of trail surface materials used for the regional trail network within the study area, but there are some patterns that able to be observed:

- Concrete appears to be the dominant surface material across the network, particularly within the more urban and populated areas.
- Gravel surfaces appear to be preferred for trails within a rural environment or a more natural setting (i.e. sections of the Edgars Creek Trail).

Where compacted gravel surfaces are the preferred trail material, the following guidelines should be considered:

- gravel surfacing should not be used if the trail has a focus upon commuter use
- gravel surfacing should not be used if there is potential for flooding
- gravel surfacing should be used where a trail targets equestrian use
- gravel surfacing should be considered if the trail is in a rural setting.

7.1.2 Conditions

In the community questionnaire undertaken as a part of the project, only 5% of respondents identified trail condition as a reason preventing them for using the trail network. However a significant number of respondents identified the following as changes to the network that would increase their usage of the trails:

- Wider trails - 36% of respondents
- More trails hard paved (i.e. concrete or asphalt surface) - 25.43%
- Better all abilities access - 8.43%
- More regular sweeping of the trail - 13.86%

This indicates that while trail condition does not stop people from using the trails, usage rates would likely increase if the condition of the trail network was improved.

7.1.3 Trail width & trail separation

Regional trails within the study area vary in width, with the majority being between 1.5m and 2.5m wide. In general the narrower paths are older or exist within constrained corridors (i.e. creek or rail corridors), while recently-installed paths are 2.5m wide or more.

One standard available regarding trail width is that provided by Austroads (the peak organisation of Australasian road transport and traffic agencies). Austroad publish the *Guide to Road Design Part 6A: Paths for Walking and Cycling (Second edition, June 2017)*, which lists suggested shared path widths for 'regional' and 'recreational' shared paths. For regional shared paths the suggested desirable minimum width is 3.0m, with an acceptable range from 2.5 to 4.0m. For recreational shared paths the suggested desirable minimum width is 3.5m, with an acceptable range from 3.0 to 4.0m. Building upon the Austroad guide is the *Traffic Engineering Manual Vol 3 Part 218 VicRoads Design Guidance for strategically important cycling corridors, 2016*. As the name suggests, this document focuses upon Strategic Cycling Corridors (SCCs) that are intended to improve cycling to and around major activity centres in metropolitan Melbourne, and to provide routes catering for high volumes of cyclists.

It is noted that the 2016 version of this strategy identified an aspiration for paths to be at the upper end of these width ranges (i.e. minimum 3m wide, and 4m wide where possible). Wide paths do provide benefits to users on busy trails, helping to minimise conflict between trail users, and is a worthy aspiration where space allows and usage expectations are high. However, space is very regularly an issue when retrofitting trails to developed urban areas and wider trails significantly exacerbate the issue.

The latest Austroads document also provides guidance relating to designing path widths based upon known peak hour cyclist and pedestrian volumes. Where known usage volumes are available (i.e. from Council installed counters or Bicycle Network Victoria's Super Saturday and Super Tuesday count data), the following recommendations for regional trails from Austroads should be applied:

Recommended trail type	Pedestrian volumes	Cyclist volumes
Minimum 2.5m wide shared path	0-50 per hour	0-550 per hour
Minimum 3.0m wide shared path	50-100 per hour	550-1000 per hour
Separated dedicated paths for pedestrians and cyclists <i>(note: if separated paths are not feasible, a wider shared path of 3.5-4.5m should be considered instead)</i>	Over 100 per hour	Over 1000 per hour

The Austroads *Guide to Road Design Part 6A: Paths for Walking and Cycling (Second edition, June 2017)* notes that:

a separated path is a path divided into separate sections, one of which is designed for the exclusive use of cyclists and the other for the exclusive use of pedestrians. A separated path may be appropriate where there are safety or conflict issues such as where there are a high number of pedestrians and/or cyclists, or the desired level of service on a shared path is not being met.

While this kind of separated path is not a regular feature of the regional trail network in Northern Melbourne, the recently installed section of the Upfield Rail Trail between Moreland and Coburg Station is a good example to follow if being considered in other areas within the region (refer figure 7.2).

The idea of separated paths also has higher-level support. *Victoria's 30-year Infrastructure Strategy (2016)*, prepared by Infrastructure Victoria, makes recommendations relating to walking and cycling infrastructure to 'increase walking and cycling for transport' and 'encourage people living along congested corridors and in higher density areas to shift to active travel to reduce the demand on other transport modes'. It specifically notes trail separation as a key part of this, under both recommendations 4.1 and 10.3:

improving standards for existing walking and cycling networks, in particular the separation of walking and cycling paths and also from other road users.

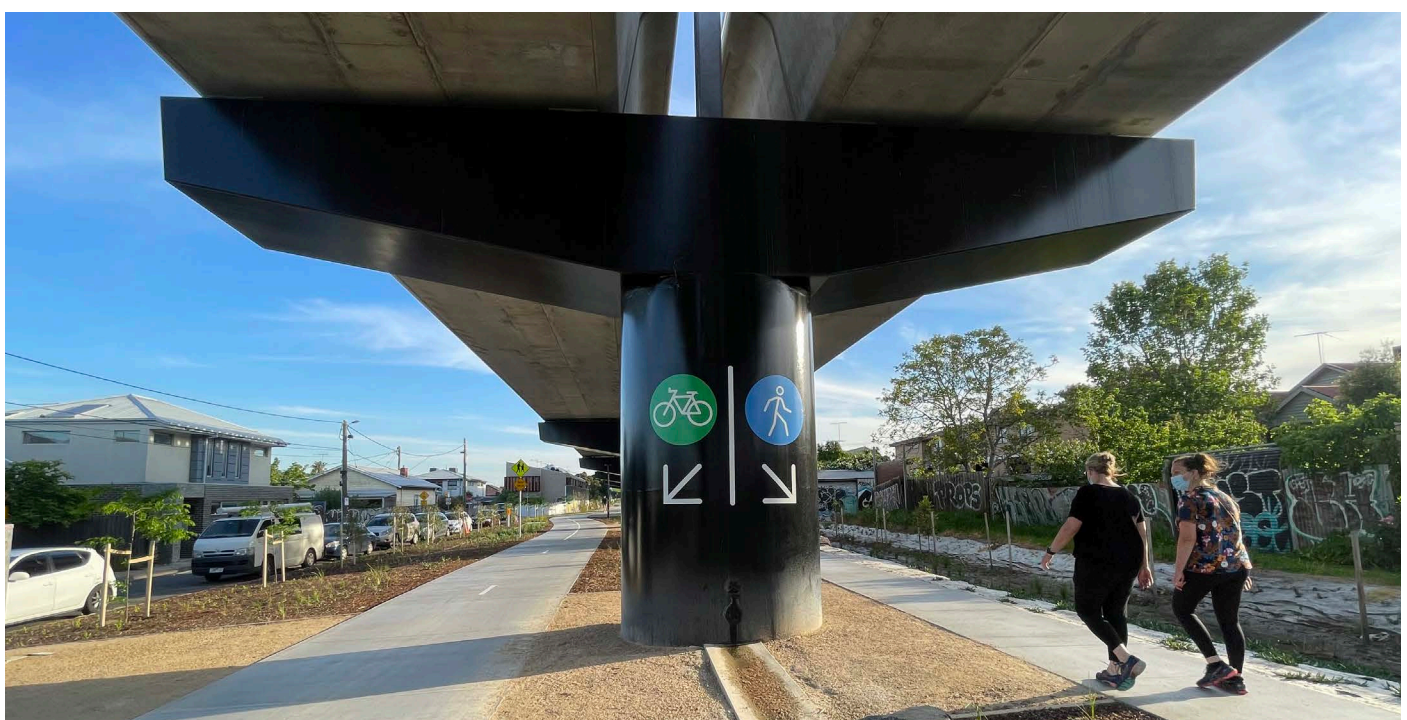


FIGURE 7.2:
An example of a separated regional trail recently installed along the Upfield Rail Trail, Coburg

The idea of separated paths is also popular among trail users. In the questionnaire undertaken as a part of this project, respondents were asked which potential trail improvements, from a list of 23, would increase their usage of the trails (with multiple selections allowed). The item 'separated pedestrian and cycling trails in high use areas' was selected by just under half (47.43%) of the respondents, the fourth most popular response. By comparison, the item 'wider trails' was selected by 36% of the respondents. The popularity of the idea of separated paths arises from the conflicts between users, including pedestrians feeling unsafe sharing trails due to fast-moving bicycles and many cyclists feeling unsafe sharing trails with dogs that are off-lead and not under effective control.

Factors working against heavily-used regional trails in Northern Melbourne being separated include:

- **Space** - Many existing trails are located within relatively tight corridors, often also constrained by existing vegetation or infrastructure. Finding the space to build separated paths will not be possible in many locations. This is particularly true when talking about longer lengths of trail, rather than just individual sections. Separation of trails may not be particularly effective if separation is achieved for only short sections due to 'bottle-necks', therefore requiring regular merging.
- **Character** - Separated paths are the freeways of trail infrastructure, and inevitably have a larger footprint and more visual impact than shared paths.
- **Construction cost** - Providing separate trails for cycling and pedestrian use doubles the cost of providing the facility.

7.2 TRAIL SIGNAGE

Signs play a significant role in the experience of trails, whether they be behavioural, wayfinding or interpretive signs.

- Behavioural signs along trails are used to direct user behaviour in order to reduce user conflicts and to ensure comfort for users. Key examples include:
 - notification that paths are shared, which may include directions regarding shared trail etiquette (such as warning other users prior to passing, keeping left, and keeping dogs on leads).
 - directions for cyclists to slow down due to trail conditions ahead.
 - notification of potential hazards, including flood information, dog off-lead areas and playgrounds.
- Wayfinding (or directional) signs assist users in finding their way around the trail network and to reach destinations. This includes destinations along the trail, surrounding destinations, and connections to other paths and trails.
- Interpretive signs typically provide information and stories about the nature, culture and/or history of a place. This type of sign is not integral to the functioning of a trail network, and so is not a focus of this project. This kind of sign can provide interest and improve the user experience of a trail.

7.2.1 Sign types and styles

As is inevitable for a trail network developed by different parties over a long period of time, there is a wide variety of existing sign types and styles existing on the regional trails of Northern Melbourne.

It is recommended that a standard suite of directional signs be developed for regional trails in Northern Melbourne, and that these be used on all new regional trail construction projects and gradually replace signs on existing trails. The benefits of a standard suite are:

- Consistent quality. A standard suite of signs sets a minimum quality, both aesthetically and in the way information is being communicated.
- Ease of maintenance. A standard suite of signs streamlines repair and maintenance of signs.
- Marketing. A standard signage suite contributes to visual branding of the trails.

It is recommended that the standard suite of signs link with proposals for standard regional trail signs elsewhere across Melbourne and Victoria. The recommended sign type is based upon the outcomes of a workshop titled *Bicycle Wayfinding: The case for a metropolitan approach* held by Knox City Council in 2012, and the report *Finding Melbourne: Standardising Melbourne/Victorian Bicycle Wayfinding Systems* (2012) by Chris Hui and Winchelle Chuson. The aim of this workshop and resultant report is to have a standard suite of wayfinding signage across the shared trails within the Melbourne Metropolitan areas and across the state.

Key features of this signage suite include:

- **Legibility** - The signs are simple and legible.
- **Robustness** - The signs are robust, do not attract vandalism or graffiti, and are easily cleaned or replaced in the event of damage.
- **Simple and affordable** - Having many simple signs is more beneficial to users than fewer ornate ones.
- **Information hierarchy** - A hierarchy of information is established, with priority given to destinations, but also including distances and the route name, where applicable.

Figure 7.3 shows an example of the proposed signage suite recommended in *Finding Melbourne: Standardising Melbourne/Victorian Bicycle Wayfinding Systems* (2012). This suite is also a recommendation of the *Western Regional Trails Strategic Plan* (2017) and *Eastern Metropolitan Trails Strategy* (2018). Implementation of this suite across the study area will allow for a consistent approach to wayfinding across the eastern, western and northern regions of Metropolitan Melbourne.

Some customisation of this standard sign type may be appropriate to allow the branding of key regional trails with a strong tourism focus, but the key features of the standard sign suite should be retained.

As an alternative, a distinctive signage suite may be developed on a trail-by-trail basis. Whilst this would mean that each trail within the Northern Trails network would be different (and therefore potentially negate the benefits of a standardised signage suite as discussed above), it would allow for individual branding of each of the trails and a consistent suite along the length of the trail. Implementation of this type of suite may involve coordination and involvement from neighbouring Councils outside the northern region. The signage suite recently implemented along the Merri Creek Trail, as shown in figure 7.4, is a good example of a distinctive suite implemented along the length of the trail across multiple municipalities. The recently installed signage on the Darebin Creek Trail is another example of a successful cross-municipality signage suite.

7.2.2 Emergency markers

Emergency markers are signs that allow locations to be pinpointed for emergency services. They are of greatest use in locations, such as many of the trails, where other navigational aides such as street intersections and house numbers are not available. Emergency markers in Victoria are managed by the Emergency Services Telecommunications Authority (ESTA). They produce the *Emergency Marker Signage Guidelines* document that identifies the sign types required and location guidelines.

Emergency markers are recommended along regional trails every 500 to 1000 metres, as well as at trail heads, junctions, significant features, activity nodes, and where the level of risk is increased.



FIGURE 7.3:
An example of the proposed standard sign type for regional trails in Eastern Melbourne.



FIGURE 7.4:
An example of the existing signage suite along the Merri Creek Trail by Aspect Studios.
Source: www.aspect-studios.com/project/merri-creek-trail

7.3 TRAIL FACILITIES

Trail facilities such as seating, drinking fountains, toilets and lighting can play an important part in the regional trail usage experience. Where trails intersect with parks, activity centres and civic facilities, these functions can be provided separate from the trail. Toilets, shelters and barbecues, for instance, are better addressed as a part of a municipal open space strategy, keeping trail users in mind.

Commercial precincts and town centres can provide good opportunities for rest stops, food and drink, and toilet facilities. Indeed these locations, along with transport hubs such as train stations, are in many cases the destinations of trails users. In such cases, the 'trail head' infrastructure is being provided by these facilities.

Where facilities are provided on trails, they need to be designed to avoid interfering with the safe use of the trail by all users. For instance, seats should not be placed too close to the trail surface.

The following are types of trail infrastructure, with recommendations regarding their use associated with regional trails in Northern Melbourne. Recommendations regarding their provision are summarised in figure 7.5.

- **Seats** - Seats should be provided in locations where people may want to sit. This may apply to locations with attractive views or outlooks. It may also apply to locations where people may want to rest or wait for others, such as at destinations, trail heads, or in the vicinity of other facilities such as toilets. In general, seats with backs and arm rests provide more comfortable seating for people wishing to sit for a period of time, while benches are more suitable for short term seating.
- **Lights** - The majority of regional trail usage occurs during daylight hours. Lighting is therefore generally not considered as a standard requirement for regional trails, except in situations such as tunnels or underpasses where low levels of light are experienced during daylight hours. There are a number of potential disadvantages of providing lighting to trails, including disturbance of wildlife, the potential attraction of undesirable and antisocial night time activity, and the cost of operation. The kind of users who most benefit from lighting are people using sections of regional trails in a relatively local way over the winter months, such as recreational walkers, dog walkers, and commuters. Where there is evidence of strong potential benefits for these groups without the potential disadvantages noted above, lighting should be considered.
- **Drinking fountains** - Drinking fountains provide opportunities for trail users to rehydrate while using the trail. They are particularly popular with people undertaking exercise on trails during warmer weather. Walkers and joggers are more likely to use them than cyclists, who have more opportunity to carry their own water bottles. Drinking fountains are most efficiently provided associated with parks, where water connections are likely to already exist. Dog drinking bowls can also be associated with drinking fountains.
- **Rubbish bins** - Rubbish bins should be provided only at key activity nodes, destinations and in key dog off-lead/dog walking areas. In many cases these nodes and destinations will already have bins (e.g.. parks, railway stations, civic buildings). Bins should only be considered where there is easy access for rubbish trucks and the capacity to service them. Parks Victoria has a carry-in carry-out rubbish policy throughout its estate.
- **Bicycle parking** - Regional trails attract a lot of cycling users, so there is a strong demand for bicycle parking at key destinations and stopping points along the way. In most cases simple 'hoop' style parking is appropriate, but for destinations such as railway stations where people are likely to be regular users requiring secure longer-term parking, cage style parking should also be considered. E-bike charging stations should be considered at transport node connections or on higher use commuter trails.
- **Bicycle pump and repair stations** - Further to bicycle parking, maintenance stations allow cycling users to perform on-the-go repairs to allow safe and convenient travel along the trails. These should be considered for key activity nodes such as trail heads and transport hubs.

- **Shelter** - The length of the trail network means that the provision of shelter needs to be focussed upon points where it is most needed. These points logically include trail heads, key destinations and stopping points. Where shelters are provided, other facilities are also likely to be appropriate, including seating, drinking fountains and bins. Shelter types can vary depending upon the preferences of the relevant Council, but should provide both sun and rain protection. Shelters directed primarily at trail users do not need to be large (compared to those targeted at picnics and others gathering in larger numbers).
- **Other 'end of trip' facilities** - end of trip facilities such as showers and change rooms may be desirable for some regional trail users, especially commuters and tourists. Due to the construction cost and maintenance requirements associated with end-of-trip facilities, having them fulfil the needs of multiple user groups may assist in making them viable. Examples of where a shared approach may work include at beaches (where showers are commonly provided) and at civic buildings (where staff may also use these facilities).

Infrastructure element	Infrastructure provision			
	Regular (<500m spacing)	Occasional (500-1000m spacing)	At key activity nodes	Where required for safety reasons
Behavioural signs		○	○	
Bicycle parking		○	●	
Bicycle pump & repair stations			○	
Directional signs	●			
Drinking fountains		○	●	
Emergency markers (in accordance with ESTA requirements)		●		
End of trip facilities (e.g. showers)			○	
Interpretive signs		○	○	
Lights		○	○	●
Outdoor fitness equipment			○	
Public toilets			●	
Rubbish bins			●	
Seats		●	●	
Shelter			●	
Vegetation (including shade trees)	●			

- *mandatory*
- *recommended*
- *to be considered*

FIGURE 7.5:
Regional trail infrastructure provision recommendations

7.4 TRAIL-SIDE VEGETATION

Trail-side vegetation can provide a range of benefits, including:

- **Function** - including the provision of shade from trees, and the use of vegetation in creating a barrier/buffer between different uses. Shade is particularly important along active transport routes for the comfort of users.
- **Character** - vegetation can contribute strongly to the appeal of trail settings, by creating visual interest, contributing to a sense of respite from the urban environment, and by screening undesirable views.
- **Environmental** - linear trail corridors are in many cases ideal habitat corridors, and the management of trail-side vegetation can play an important role in their effectiveness.

For these reasons, vegetation should be incorporated into regional trails where possible. The incorporation of vegetation needs to be mindful of potential issues, including:

- **Existing vegetation impacts** - installing new trails may result in the need to remove existing vegetation, or create conditions that are detrimental to the health of existing vegetation.
- **View lines** - thick vegetation should be offset from trails to allow trail users to see other trail users and to minimise the presence of hiding places.
- **Collision risk** - there should be a buffer between the trail and tree trunks to prevent injury from people colliding with them.
- **Trip risk** - vegetation should be designed and managed in a way that minimises the risk of plants growing onto the trail surface to avoid potential trip hazards.
- **Maintenance burden** - the length of trails means that any maintenance-intensive activities required along trail edges can involve significant resources and cost.

The approach to trail-side vegetation needs to strike a balance on a case-by-case basis regarding the benefits and potential issues noted above. In some cases this may require compromises to the trail infrastructure.

7.5 INTERSECTION TREATMENTS

Especially in built-up urban environments, trail intersections with roads and other paths and trails can be numerous. There are a wide variety of intersection treatments to select from based upon the intersection type. The options range from line marking for trail intersections with paths, through to signalised intersections for busy roads. The options are detailed in the Austroads *Guide to Road Design Part 6A: Paths for Walking and Cycling*, and the recommendations of this document should be applied for all trail intersection treatments.

7.6 TRAIL INFRASTRUCTURE STANDARDS AND GUIDELINES

Standards and guidelines are provided here to guide the development of new regional trails, and regeneration/replacement works on existing regional trails within Northern Melbourne. The standards (items that must be addressed) are shown in figure 7.6, while the guidelines (items that should be considered) in figure 7.7. These standards and guidelines are intended to supplement the Austroads *Guide to Road Design Part 6A: Paths for Walking and Cycling*, which provides the over-arching standards for path and trail construction. Trail infrastructure standards and guidelines should be assessed to align with the existing guidelines and policies of relevant stakeholders.

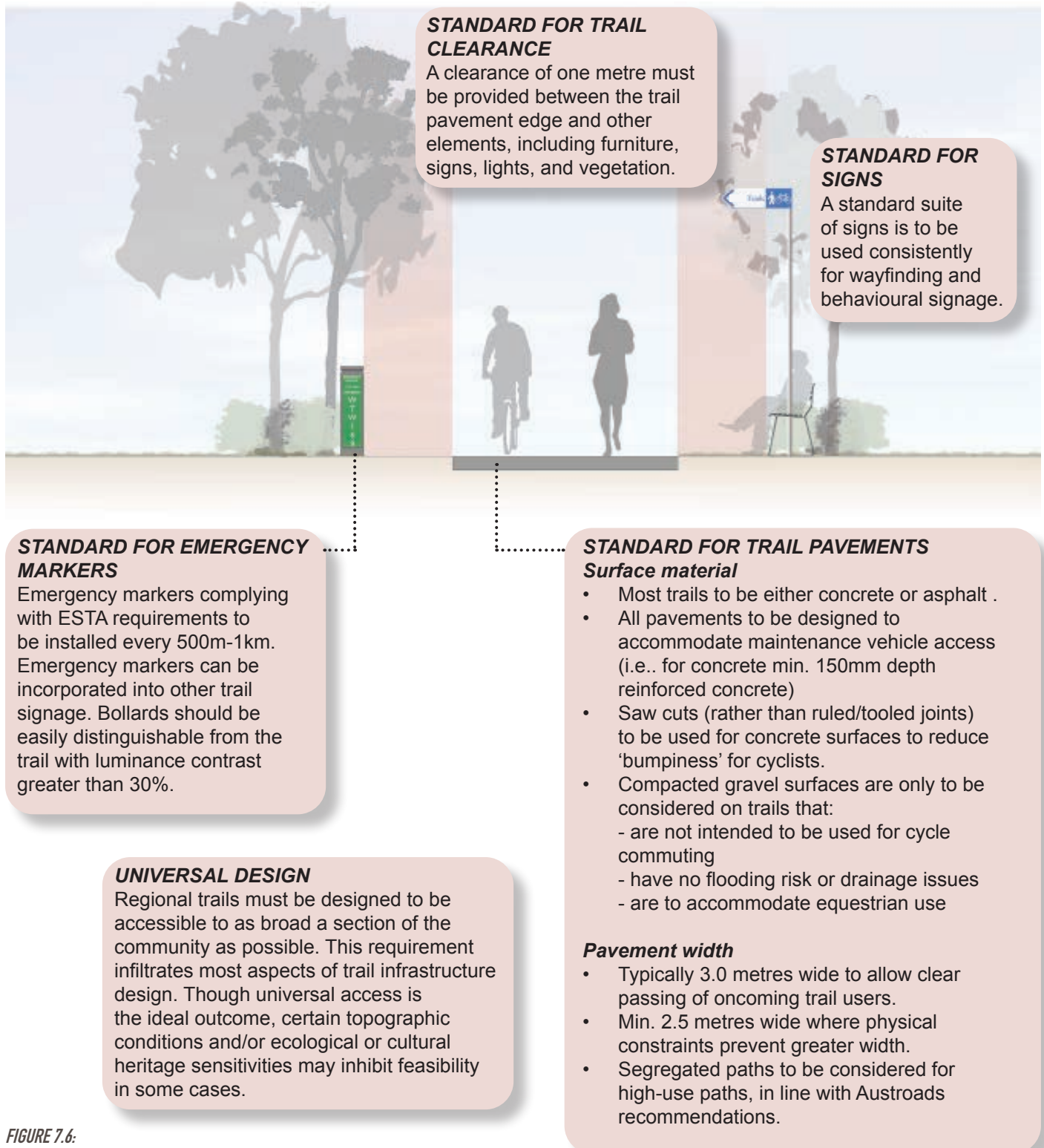


FIGURE 7.6:
Regional trail infrastructure standards for Northern Melbourne.

LIGHTING GUIDELINES

Lighting should be considered in areas where there is a clear benefit such as in dark underpasses, and for providing a safe route in high use areas for commuters and recreational users. These benefits should be weighed against potential disturbance to habitat values along the trails.

VEGETATION GUIDELINES

Trees should be planted near trails to provide shade and amenity benefits, but far enough away to avoid interfering with the trail function (min. 1 metre from the trail edge and to ensure good sight lines). Appropriate shrubs and vegetation should be selected to avoid growth onto the trail surface. Vegetation should be kept under 1m high to maintain safe view lines and 1m from trail edge.

SEPARATED PATHS

Segregated walking/cycling surfaces should be considered for high-use trails in line with Austroads guidelines.

BICYCLE PARKING GUIDELINES

Bike parking should be provided at all key destinations and stopping points (and should be installed at least 1 metre from the path edge onto concrete or asphalt). Consider e-bike charging stations, particularly on commuter trails or at transport node connections.

FURNITURE GUIDELINES

- **Seats** with arm rests and backs should be provided on all trails, approximately every 500 metres, focused upon areas where people will want to sit (view points, trail heads, intersections, facilities and activity nodes).
- **Rubbish bins** should be provided only at key activity nodes, destinations and key dog off-lead/dog walking areas.
- **Drinking fountains** should be provided at key activity nodes, destinations and key dog off-lead/dog walking areas where these are existing water connections.
- **Shelters** should be provided at key activity nodes and destinations, providing shade and rain shelter for small groups.

PUBLIC TOILET GUIDELINES

Access to toilet facilities is important for busy trails. These facilities are most efficiently and effectively provided through adjoining reserves, activity centres and civic facilities.

FIGURE 7.7:

Regional trail infrastructure guidelines for Northern Melbourne



8. TRAIL MANAGEMENT

Yarra River Trail

8.1 EXISTING MANAGEMENT STRUCTURE

The management of the regional trail network comprises a wide variety of activities, relationships and agreements that support trail planning, construction, funding, maintenance and promotion. The management structures of trails are often complex and responsibilities for trails are spread across many different organisations.

The three key types of organisations who have responsibilities and involvement in the management of regional trails are Local Government Authorities, State Government Departments, and Service Authorities/ Statutory Corporations. The involvement of these groups is summarised below.

8.1.1 Local Government Authorities

Local Government Authorities (LGAs, also referred to in this document as Councils) provide a wide range of services and facilities for their local community in accordance with the Local Government Act. This includes the planning, delivery, maintenance and promotion of regional trails within the local government area. The LGAs administer the State's responsibilities for the local government sector through collaboration and seeking input from State Government Departments and/or Service Authorities/Statutory Corporations. Though LGAs have little influence upon State legislation they are required to operate in accordance with it.

LGAs have been the key group involved in the development of this strategy. Each of the six LGAs within the study area are represented on the Project Working Group and have been heavily involved in shaping this report.

8.1.2 State Government Departments

Department of Environment, Land, Water and Planning (DELWP)

DELWP has a broad range of responsibilities relating to the management of Victorian land and natural resources, protection of the environment, responding to fire, flood and biosecurity emergencies, and primary industries. The relationship of these responsibilities and regional trail provision relates most strongly to the waterways along which many of the regional trails are located. DELWP oversees the water corporations constituted under the *Water Act 1989* that manage Victoria's state-owned water resources. This includes Melbourne Water Corporation whose responsibilities include the management of rivers, creeks and major drainage systems.

Department of Transport (DoT)

The Department of Transport is responsible for the planning, building and operation of integrated, sustainable and safe transport systems with Victoria. The DoT is currently investing in new cycling and pedestrian connections across metropolitan and regional Victoria to help relieve congestion and to provide an alternative to public transport. In the 2019/20 budget, the Victorian Government committed \$15.3M towards Active Transport Victoria (see below) however, following recent lock downs relating to COVID-19, this investment has been more than doubled to improve existing and deliver new cycling routes and shared user paths in Metropolitan Melbourne.

Active Transport Victoria (ATV)

ATV is a unit within the Department of Transport and was formed in 2016 as a focal point for State Government pedestrian and cycling-related strategies and projects. ATV was responsible for the preparation of the *Victorian Cycling Strategy 2018-28*, which has the subtitle '*increasing cycling for transport*'.

Department of Jobs, Precincts and Regions (DJPR)

The DJPR is responsible for the economic recovery and growth of Victoria by creating more jobs for more people, building thriving places and regions, and supporting inclusive communities. In more recent times, the department has been focussed on the impacts of the COVID-19 pandemic and how it will help communities and businesses adapt, build resilience and recover from a strategic point of view. One of the key initiatives implemented by the DJPR is the Growing Suburbs Fund.

The *Growing Suburbs Fund* is a \$375M investment over 7 years to assist local government in the task of delivering new local infrastructure. It is expected that a number of trail related projects will be delivered over the coming years due to this funding opportunity.

The DJPR also provides a series of programs and grants to support Victoria's sporting sector and visitor economy including Visit Victoria and Sport and Recreation Victoria

Visit Victoria is a statutory authority reporting to Minister for Tourism, Sport and Major Events who sits within DJPR. Visit Victoria works to develop and realise the local and global market potential for Victoria's tourism industry. It's strategy work relating to regional trails has included the preparation of a number of documents referred to in this report, being:

- Victoria's Trails Strategy (2014)
- Victoria's 2020 Tourism Strategy (2013)
- Victorian Visitor Economy Strategy (2016)

Sport and Recreation Victoria (SRV)

The role of the SRV is to support Victoria's sport and recreation sector and inspire Victorians to get active. SRV work collaboratively with local government to improve the health and well-being of all Victorians, build strong and more connected communities, deliver economic growth and jobs, and enhance liveability. These goals are closely aligned with this strategy. The work of SRV has a focus upon research, planning and design facilitation relating to sport and recreation facilities, rather than directly constructing or managing facilities.

Victorian Planning Authority (VPA)

The VPA is responsible for providing strategic planning and coordinated infrastructure for the future growth and transformation of Victoria's cities and regions.

Given that the study area includes designated growth corridors, the VPA will have had significant involvement in the planning or provision of regional trails in the study area through Precinct Structure Plans and may continue to do so. This document can be used a guide when working with the VPA to deliver trails within growth corridors.

8.1.3 Service Authorities/Statutory Corporations

VicRoads

VicRoads is the Victorian road and traffic authority. It is a statutory corporation which is responsible for a range of road and transport-related research, strategy, policy and licensing, as well the construction, management and maintenance of assets. While the majority of the activities undertaken by the authority relate to roads for motorised vehicles, VicRoads also has responsibilities relating to pedestrians and cyclists.

VicRoads constructs and maintain on-road cycling facilities as a part of their road construction and maintenance responsibilities. They also construct and manage off-road trails located within road reserves, such as within freeway corridors. Regional trails also frequently intersect with roads, and so the management of these roads (through VicRoads or local government Road Management Plans) can be critical to trail function.

As a part of their activities relating to pedestrian and cycling transport, VicRoads is the body responsible for planning for appropriate infrastructure using a number of planning tools. These include the Principal Bicycle Network (PBN), Strategic Cycling Corridors (SCC), Bicycle Priority Routes (BPR) and the Metropolitan Trail Network (MTN).

The Principal Bicycle Network (PBN) was originally established in 1994 as a bicycle infrastructure planning tool. In 2009 and 2010 VicRoads lead a major review of the PBN, working closely with LGAs and other organisations. The PBN includes both on and off road routes for cyclists, and as a planning tool, also includes both existing and proposed routes.

The 2009-2010 review of the PBN also established Bicycle Priority Routes (BPRs), which create a higher order subset of the PBN. BPRs are identified as ‘providing priority access for cyclists into key destinations’, and so are intended to act as discrete links rather than as an integrated network. To meet the criteria to be defined as a BPR the route needs to have:

- a high potential for separation from motorised modes of transport making routes more attractive to less experienced bike riders
- a sufficiently direct route
- a focus on varying catchments relative to the size of the activity areas.

(source: *Principal Bicycle Network Fact Sheet, VicRoads, August 2012*)

With a focus on separation from motorised traffic, it is not surprising that there is a degree of overlap between BPRs and regional trails.

Strategic Cycling Corridors (SCCs) are also a higher-order subset of the PBN, developed to improve cycling to and around major activity centres in metropolitan Melbourne. These are intended to provide routes catering for high volumes of cyclists.

The Metropolitan Trail Network (MTN) focuses on recreational bicycle and walking routes in metropolitan Melbourne. The MTN was originally developed by Parks Victoria in their *Strategy for Melbourne’s Open Space Network: Linking People and Spaces* report 2002, but planning responsibility for the MTN now lies with VicRoads. The MTN is made up primarily of off-road shared trails, often running beside rivers and creeks, but there are some short on-road sections that link off-road sections of trail.

Melbourne Water

Melbourne Water is a statutory corporation operating in accordance with the *Water Act 1989 (Vic)* to manage Victoria’s water resources (including Melbourne’s water supply and sewerage systems, waterways, drainage, stormwater and recycled water). The relationship that Melbourne Water has with regional trails relates to the ownership and/or management of large areas of land relating to their operations, which also form ideal locations for shared paths.

While Melbourne Water may own the land, their core business and legislative charter does not extend to path construction and maintenance. Instead, Melbourne Water enters into user agreements with LGAs to construct and maintain assets on their land. Typically, Melbourne Water and the local Council have joint maintenance responsibilities, with open space features (bench seats, playgrounds, barbecues, garden beds, etc.) that have a community function being maintained by Council, and elements that are part of the functioning Melbourne Water asset (waterbodies, hydraulic structures, aquatic and edge planting) are Melbourne Water’s to maintain. User agreements also address issues such as risk and liability.

Melbourne Water seeks to facilitate the best use of Melbourne Water land and is generally supportive of the development of trails on Melbourne Water-owned land. They have also undertaken work relating to the construction and management of trail assets, such as their *Shared Pathways Guidelines* (Melbourne Water, 2009).

Parks Victoria

Parks Victoria is a statutory authority that operates under the Parks Victoria Act 2018, and is responsible for providing services to the state and its agencies for the management of parks, reserves and other land under the control of the state, including waterways land (within the meaning of the Water Industry Act 1994), for the purposes of conservation, recreation, leisure, tourism or water transport. It is as the manager of land through which trails pass that Parks Victoria is most engaged with regional trails. The minister responsible for administering the Parks Victoria Act is the Minister for Energy, Environment and Climate Change.

VicTrack

VicTrack is a state-owned business created to deliver transport infrastructure for Victoria, operating under the *Transport Integration Act 2010*. VicTrack is the custodial owner of Victoria’s railway land and infrastructure.

Railway land is often seen as a desirable location for shared trails, due to the general directness of the route, the relatively flat grades, the opportunities for mixing transport modes. While 'rail trails' often refer to trails built on disused rail lines, there are also regional trails associated with operational rail lines, located within the land buffer either side of the tracks.

VicTrack has a number of personnel dedicated to Third Party Access and Licensing issues within their Property Group, who facilitate usage such as shared trails on VicTrack land. This facilitation usually requires VicTrack to negotiate with the core users of their infrastructure (e.g.. the rail operators).

In addition to these key organisations, management committees and local community groups such as Friends groups often assist with ongoing trial works and maintenance requirements.

8.2 MANAGEMENT ROLES

Of the organisations identified in Section 8.1, only the LGAs and Parks Victoria have roles and responsibilities that span trail planning, construction, management and maintenance.

Land ownership along regional trails is often fragmented. In many cases local government has maintenance responsibility for a trail, but does not own the land upon which it is built. There are many examples of regional trails being built on land owned by authorities such as Melbourne Water and VicTrack (who each own extensive tracts of land but have no trail construction charter). These partnerships, though sometimes complex, are central to the provision of many trails that would otherwise not exist.

The management bodies and scenarios presented here reflect the current situation. Many existing trails were built under different organisational configurations and changes in these structures will inevitably continue into the future.

With increased public demand, and pressure from lobby groups regarding trail provision, the authorities and organisations involved have begun to change. Traditionally, authorities such as Melbourne Water, VicTrack and their predecessors have been conservative organisations that have fulfilled their obligations relating to drainage, railway provision and the like, but have, in general, not supported the use of their land for other purposes. The straightforward approach of restricting public access was preferred over the layered complexities and risk factors associated with allowing it. However this attitude has changed considerably in recent years. Both authorities now have staff responsible for facilitating the use of their land for trails and other purposes and are being more proactive in working through the issues and required agreements associated with this. This has required (and will continue to require) negotiation and compromise, but significant progress is being made to the benefit of trail provision.

There have also been recent changes in the way the state government deals with trail planning and provision. This change reflects a broad shift in thinking regarding trails. Where once they were seen as being primarily for recreation purposes and connecting people to nature, they are now increasingly being seen as also providing an important contribution to an integrated transport network, as well as community health and well-being benefits.

8.3 TRAIL MANAGEMENT OPPORTUNITIES

In reviewing the existing trail management structures, the following key issues have been identified:

- local government has the broadest responsibility for regional trails, but necessarily also has a local focus centred around their rate payers.
- there is a general lack of knowledge about the overall trail network, with information held at a local level being variable in detail and quality.
- there is a general lack of knowledge about trail users, and no existing government body with an interest or responsibility in collecting evidence and data to inform strategic decisions. Where members of the community have feedback on trails, it is directed at LGAs and is therefore usually restricted to local issues.
- regional trails are regularly delivered as a secondary benefit to large infrastructure projects (e.g. freeway construction, level crossing removals and rail duplication). Large scale trail network improvement projects are therefore being implemented in locations convenient to the primary project, but not necessarily the best location for a trail.

Most of the issues identified above stem from the discrepancy between a management structure that is focussed upon the local, and a trail network that is regional. To address this issue, there is an opportunity for input from a group with a regional focus. This regional study is an example of the broader overview able to be taken from this management viewpoint.

The kind of outcomes that could result from a regional group that are difficult to achieve at an LGA level include:

- Lobbying for increased recognition and funding of the regional trail network (potentially including a metropolitan trail strategy to coordinate the regional strategies and the creation of regular state funding grants for trail projects).
- Collation of detailed mapping and data on the regional trail network via Geographic Information Systems (GIS), and shared data arrangements between Councils and other authorities (such as Melbourne Water and Vicroads).
- The negotiation of formal boundary agreements in relation to the management of boundary interfaces.
- Collection of data relating to trail use to help inform regional trail planning and management decisions.
- The development of the trail network in a way that is strategic and regionally-focussed.
- The development of regional marketing and communications approaches for trails, potentially including regional maps of the network.
- The establishment of events at a regional scale that take advantage of the broad trail network.
- The sharing of information and experience between LGAs, for the betterment of the regional trail network.
- The development of consistent infrastructure, including a standard directional signage suite.

To achieve these benefits, it is recommended that the existing Northern Melbourne regional trails working group be retained. The Northern Melbourne LGAs already have a history of working together on various issues including the previous trail strategy and successful funding applications. Working together collectively is seen as a way to respond to challenges posed to individual LGAs, by pooling resources and advocacy/promotion efforts between LGAs for a regional benefit.



9. TRAIL MARKETING

Yuroke Creek Trail

9.1 INTRODUCTION

Drawing the trail network to the attention of people has the potential to play an important role in increasing use of the trails. Many regional trails are located in places where many members of the community may not see them on a day to day basis (e.g.. alongside waterways).

In general, the marketing of the trails has two potential audiences: residents and visitors. However, the large size of the study area means that residents within the study area are also potential visitors within the region. As the motivations and needs of people who use trails as residents or as visitors can be quite different, it is valuable when considering trail marketing to clarify what is meant when referring to 'a resident' and 'a visitor'.

- **Residents** - refer to those who live within the study area using the trails in a way tied to their day to day life (primarily transport/commuting and recreation/exercise).
- **Visitors/tourists** - refer to people who have travelled from where they reside (which could be within the study area) for the purpose of travel including holiday, visiting friends and relatives, and business. Trail usage tends to be motivated by leisure, health and fitness. Within this grouping there are two key subgroups: overnight visitors and day trippers.

For an urban trail network the majority of users would normally be residents and the planning of the network is largely based around their transport and recreation needs. However, trails often provide leisure opportunities in scenic environments that can make them attractive destinations for visitors. The study area also includes a range of visitor destinations where access via trails could be a part of the visitor experience.

This section explores existing and potential marketing of the regional trails within the study area to both resident and visitor audiences.

9.2 CURRENT MARKETING ACTIVITIES

All of the municipalities across the study area provide communications and resources to encourage trail usage and provide information about trail facilities and etiquette of usage. The following table lists examples found on local government web pages within the study area (arranged alphabetically by local government area):

Local government authority	Trail marketing product	Description
Banyule City Council	'Banyule Travelsmart Map' (January 2019)	Downloadable map with some trail information, but also strongly focussed upon public transport.
Darebin City Council	'Darebin Travelsmart Map' (June 2018)	Downloadable map with some trail information, but also strongly focussed upon public transport.
	'Darebin Loves Bikes' community mailing list	Able to be subscribed to via the Darebin Council web page, informing subscribers of 'the City of Darebin's bike events, workshops and fun activities'.
Hume City Council	'Travel Smart Maps'	Covering walking, cycling, public transport routes, places of interest and information on clubs and user groups for Craigieburn/Broadmeadows/Greenvale, and Sunbury/Bulla. Downloadable PDFs from the council web page.

Merri-bek City Council	Cycle Moreland 'pocket map' (December 2013)	Downloadable map focussed upon cycling routes.
Nillumbik City Council	'Exploring Nillumbik Map' (June 2012)	Downloadable map including places of interest and walking/cycling trails/routes.
Whittlesea City Council	'Explore Whittlesea' web page (www.explorewhittlesea.com.au)	Includes an online interactive map identifying key attractions, but the map does not locate trails. The site highlights two trails (The Metropolitan Ring Road Trail and Darebin Creek Trail) under a 'Sports & Recreation' heading.
Multiple	'The Merri Creek Trail Shared Pathway' map	Prepared collaboratively by multiple organisations, including Darebin, Merri-bek & Yarra City Councils. Accessed via the Merri-bek City Council web page.
Multiple	'Darebin Creek Trail Map' (www.northerntrails.melbourne/DarebinCreek/map.html)	Interactive web-based map. (prepared collaboratively by multiple organisations, Banyule, Darebin, Whittlesea City Councils). Accessible via the Darebin Council web page.

The last two examples in the table above have a more regional approach, covering an area across multiple local government area boundaries. The remainder have a local focus.

At a broader scale, trail marketing does occur at a state level, but is concentrated on key branded nature-based walks (e.g.. Great South West Walk) and North-East Victoria as a cycle tourism destination (incorporating the Murray to Mountains Rail Trail). Tourism promotions relating to Melbourne have typically had a strong focus upon central Melbourne.

9.3 MARKETING TYPES

The following table summarises the kinds of existing and potential marketing types most applicable to regional trails in Northern Melbourne.

Communication method	Pros	Cons
Hard copy maps/brochures	<ul style="list-style-type: none"> • Maps allow route planning and encourage exploration • Meets the needs of a wide variety of users, including those who are not digitally-savvy. • Ideal marketing 'give aways' at events. 	<ul style="list-style-type: none"> • Hard copies not always easy for users to access. • Distribution of hard copies to appropriate locations creates ongoing logistical issues. • Hard copy maps can become out of date very quickly, requiring regular reprints and re-distribution.
Downloadable maps/brochures	<ul style="list-style-type: none"> • Maps allow route planning and encourage exploration • Accessible to most people any time • Can be readily accessed and printed by users who prefer hard copy maps 	<ul style="list-style-type: none"> • Can become out of date very quickly if not updated.
Interactive online maps/brochures	<ul style="list-style-type: none"> • Maps allow route planning and encourage exploration • Accessible to most people any time • Potential for information to be updated in real time 	<ul style="list-style-type: none"> • An expectation by users that maps are always up to date, which is beyond the current capability of most Councils. This typically means a reliance upon third parties to provide mapping, which can limit the opportunity for controlling what is shown and how it is presented.
Social media	<ul style="list-style-type: none"> • Local government authorities have social media teams who are skilled at communicating via this media. • Opportunities to answer queries and interact in person. • Potential for information to be updated in real time. 	<ul style="list-style-type: none"> • The broad scope of Council activities means that trail-related information will always be a very small proportion of communications. • A need to monitor activity and manage negative aspects of open public participation.
Email mailing lists	<ul style="list-style-type: none"> • Provides an opportunity to communicate directly with interested people. 	<ul style="list-style-type: none"> • Communications targeted to already engaged parties, rather than reaching new users.
Events	<ul style="list-style-type: none"> • Create a focal point for communications • Can encourage people to overcome participation hurdles in order to participate, which can lead to ongoing use. 	<ul style="list-style-type: none"> • Usually require a lot of organisation and resources to be well attended and effective.
On-trail signs/advertising	<ul style="list-style-type: none"> • A very targeted method of communication, talking directly to trail users. 	<ul style="list-style-type: none"> • Communications targeted to already engaged parties, rather than reaching new users.
Commercial advertising	<ul style="list-style-type: none"> • Potential to reach large new audiences. 	<ul style="list-style-type: none"> • Requires a well thought-out strategy to ensure it is targeted and effective. • Cost

9.4 TOURISM POTENTIAL

Trails that appeal to visitors can be broadly categorised into three types:

- **Scenic trails** – these are a destination in themselves and are enjoyed for their scenic features for example the Plenty River Trail.
- **Touring trails** – these provide connectivity to a range of facilities and services near the trails. The trail's major function is as a transport route, even though it may also have some scenic value, i.e. the Merri Creek Trail.
- **Experience trails** – these are themed to provide an experience along the trail, usually taking advantage of distinctive local features and themes. This kind of trail may also focus on linking the user to a range of complementary experiences located close to the trail e.g.. a local produce trail.

The definitions above are perhaps most closely associated with rural trails and trails through natural areas. The study area certainly has attractive rural and natural areas that have potential in relation to trails. The study area also has some very urban landscapes that may be equally valuable from a tourism perspective. The recent tourism focus on things like street art in central Melbourne laneways provides an example.

The challenge in developing a trail for tourism is differentiating it from the many kilometres of other trails that exist around the state that are also competing for users. Some potential points of differentiation include:

- **Proximity** - While trails in regional Victoria are very popular (i.e. Murray to Mountains or the Lilydale-Warburton Rail Trail), most users need to travel to access them. This often includes the need to transport bicycles, which can be logistically difficult. Trails with a similar rural character can be accessed by bicycle or public transport in Northern Melbourne by many Melbourne residents.
- **Urban character** - The urban areas of Northern Melbourne include a high density of cultural and commercial activities, including things like art galleries, cafes and breweries that are highly compatible with an urban trail experience.

9.5 GOALS AND POTENTIAL TARGET MARKETS

9.5.1 Marketing goals

Marketing Goals for Regional Trails include:

- To increase the number of residents who use the trails to improve their health and well-being, with a particular focus on resident groups who undertake the least physical activity, or for whom trail usage would address a particular social disadvantage.
- To increase trail usage by residents to commute to work, school and other leisure facilities.
- To increase visitor usage of the trails
- To increase length of stay and expenditure in the region by visitors and local residents associated with trail experiences.
- To create new and improved trail experiences that are enjoyed by residents and visitors.

9.5.2 Potential Target Markets

Residents

The target markets for trail development, communication and promotions continue to be all current resident markets, with a particular emphasis on those who will gain most from the mobility, health and social and benefits offered by trails.

Visitors

In terms of visitor origin, target markets for the trails should include those who are:

- Living in other parts of the project region,
- Living in greater Melbourne, and
- Visiting Friends and Relatives of those living in these areas.

These markets most closely align with current marketing activities, and are the most cost-effective use of promotional resources. The Visiting Friends and Relatives market can be reached through targeting Melbourne residents and encouraging them to take their visitors to the region's trails. This creates a visitor market benefit from resident-focussed marketing activities.

9.6 MARKETING OPPORTUNITIES

The marketing objectives for regional trails in Northern Melbourne are:

- To increase motivation to visit the trails
- To raise the profile of the trails
- To provide appropriate information about trail usage and associated services/ destinations so people can use the trails easily, safely and enjoyably.

Actions include:

Develop the regional trails product offering and branding

- Develop a series of themed trail-based itineraries across the region that are tailored to a variety of different trail users and their interests, e.g. trail experiences for families that can be undertaken over a weekend featuring low-risk, low impact activities, and the time it takes to do them; identify complementary leisure activities, hospitality and facilities, such as bike hire, etc.
- Encourage tourism operators in the relevant parts of the region to develop trail-themed packages which provide services that meet the needs of trail users, e.g. substantial nutritious food, bike storage, nearby accommodation, etc.

Provide additional information about trails

- Devise a suite of messages about each trail that is regularly refreshed, which is consistently communicated by all stakeholders, including regional tourism organisations.
- Increase the level of information about regional trails on visitor-focused websites, such as Visit Victoria's consumer website (visitvictoria.com.au), and websites appealing to trail users (e.g.. trail cycling, walking or running sites).
- Investigate the potential to develop a regional trails app or website which would be kept up-to-date with the latest trails information. The app or website could be maintained by an external contractor.
- Develop a social media strategy to build awareness about the region's trails.
- Develop an Events Calendar for the trails which can be promoted by all relevant stakeholders.

Trail management & funding

- Develop a formal collaborative structure between the region's councils to guide the development and promotion of regional trails. The collaboration should be adequately funded to outsource key marketing activities, with participating councils guiding the decision making.
- Secure additional funds to undertake more promotion of regional trails to visitor and resident markets, and to support a collaborative structure involving the region's councils for trail marketing and development purposes.



10. IMPLEMENTATION

Darebin Creek Trail

10.1 INTRODUCTION

Two kinds of action items associated with improving the regional trail network in Northern Melbourne have been identified:

- **Region-wide items** - these items are recommendations regarding the broader management and operation of the trail network. These are summarised below.
- **Trail-specific items** - these trail improvement projects have been assessed against criteria to determine their relative prioritisation.

10.2 REGION-WIDE ACTION ITEMS

The key region-wide action items are summarised below (based upon recommendations made throughout this document).

Category	Recommended actions
Trail infrastructure	<ul style="list-style-type: none"> • Develop and implement a standard suite of directional signs for regional trails in Northern Melbourne. • Implement the Trail infrastructure standards and guidelines as identified in this document (refer to Chapter 7).
Trail management	<ul style="list-style-type: none"> • Ensure the Northern Regional Trails working group continue to meet regularly, in order to: <ul style="list-style-type: none"> - Lobby for trail funding. - Undertake strategic planning of the regional trail network, informed by data collected and shared about the network and users. - Promote the regional trail network.
Trail marketing	<ul style="list-style-type: none"> • Develop the regional trails product offering and branding <ul style="list-style-type: none"> - Develop a series of themed trail-based itineraries across the region that are tailored to a variety of different trail users and their interests - Encourage tourism operators in the relevant parts of the region to develop trail-themed packages which provide services that meet the needs of trail users • Provide additional information about trails <ul style="list-style-type: none"> - Devise a suite of messages about each trail that is regularly refreshed, which is consistently communicated by all stakeholders, including regional tourism organisations. - Increase the level of information about regional trails on visitor-focused websites and websites appealing to trail users. - Investigate the potential to develop a regional trails app or website which would be kept up-to-date with the latest trails information. - Develop a social media strategy to build awareness about the region's trails. - Develop an Events Calendar for the trails which can be promoted by all relevant stakeholders. • Trail management & funding <ul style="list-style-type: none"> - Develop a formal collaborative structure between the region's councils to guide the development and promotion of regional trails. - Secure additional funds to undertake more promotion of regional trails to visitor and resident markets, and to support a collaborative structure involving the region's councils for trail marketing and development purposes.

10.3 TRAIL-SPECIFIC ACTION ITEMS

A number of trail-specific action items were identified through various phases of the project such as the desktop assessment, strategic document review, trail audit, and the community and stakeholder engagement. These action items, which range from signage projects which can potentially be undertaken by a single Council, to extensive lengths of new trail requiring coordination between Councils and other land owners/ managers, aim to provide a comprehensive and connected trail network.

This list of trail improvement projects are itemised into a schedule which can be found in Appendix B and/ or cross referenced to the trail maps in chapter 6.

Following the identification of the trail improvement projects, each action item was assessed using a multi-criteria analysis in order to identify priority projects that provide the most benefit to the region and most closely align with the objectives of this study. In order to undertake this process, a series of criteria was developed.

10.3.1 The Criteria

Following analysis of the multi-criteria analysis used in the 2016 Northern Trails Strategy, a new set of criteria is proposed based on the strategy's vision and the criteria from the previous strategy. This qualitative and quantitative criteria has been developed in collaboration with the Project Steering Group to assess potential trail improvement projects against the key objectives of the study.

It should be noted that the assessment method used has provided a useful prioritisation tool but it is not scientific. While the method used does rank projects in order, the accuracy of the method means that it is best used to provide only broad groupings regarding relative priorities.

The eight criteria and the relative weighting used are as follows:

1. **Contribution to an integrated and connected network** (26%)
Including linking to other regional and local trails, not having 'missing links', and linking to key destinations such as regional parks and conservation areas, tourism destinations, regional leisure centres, tertiary institutions, activity centres and business parks, and recreational water bodies.
Rationale: Trail improvement works that create an integrated and connected, network will be more useful and convenient for users, increasing the use of the trail.
2. **Encouraging use by spatial location** (18%)
Including the proximity of trails to population centres and transport hubs.
Rationale: Trail improvement works located close to dense population centres are more likely to attract higher numbers of users.
3. **Potential economic benefits** (5%)
Including commercial opportunities for local communities as well as cost savings associated with reduced ongoing operational costs such as maintenance.
Rationale: Trail improvement works that provide economic benefits potentially contribute to capital being available for additional trail improvement works. Works that can demonstrate a strong economic 'business case' also have a better chance of being implemented.
4. **Contribution to community health and well-being** (5%)
Including trails maximising opportunities for the use of the trails for active transport, recreation and social interaction. This includes improvements that positively contribute to a trails recreation values and actions that actively encourage new users to the trails.
Rationale: Trail improvement works that help to encourage health and well-being provide positive contributions the 'social' aspect of a triple bottom line assessment.

5. Contribution to uniqueness and the quality of the natural environment (18%)

Including trails that provide access to natural environments, features and other 'selling points' that make them more attractive to users, including tourists. Provision of trails should also minimise negative impacts on the natural environment.

Rationale: Trail improvement works that help to increase the attractiveness or positive uniqueness of a trail will make people more likely to use the trail, and also opens up potential economic benefits. This criteria will often relate to the enhancement of environmental values, providing positive contributions the 'environmental' aspect of a triple bottom line assessment.

6. Encouraging diversity of use through facility quality and maximising usability (5%)

Including improving accessibility, safety, legibility, facility diversity and the broader user experience of trails.

Rationale: Maximising the safety of trails is a non-negotiable principle of trail provision. People are also more likely to use trails if they appeal to a diverse range of users, are accessible, safe, legible and provide a positive user experience.

7. Strategic alignment (18%)

Level of support from and alignment with adopted strategies and plans and external stakeholder plans.

Rationale: Trail improvement works that fit with broader strategies, policies and plans help to ensure that works to improve the network are all 'pulling in the same direction'.

8. Ease of implementation (5%)

Including projects that are considered to be 'easy wins', are supported by all stakeholders, are easy to construct, are 'shovel ready' or are considered 'feasible', or are relatively low cost.

Rationale: Trails improvements works that are easy to implement are more likely to be implemented in a timely and efficient manner.

10.3.2 Priority trail improvement projects

The following schedules itemise the priority trail improvement projects identified by the multi-criteria analysis where each project was assessed against the criteria discussed above. These projects can be cross-referenced to the trail maps in chapter 6, using the trail name and identification number. It is important to note that the trail improvement projects that have been identified outline the priorities for the Northern Region and the whole regional trail network, as opposed to individual Councils.

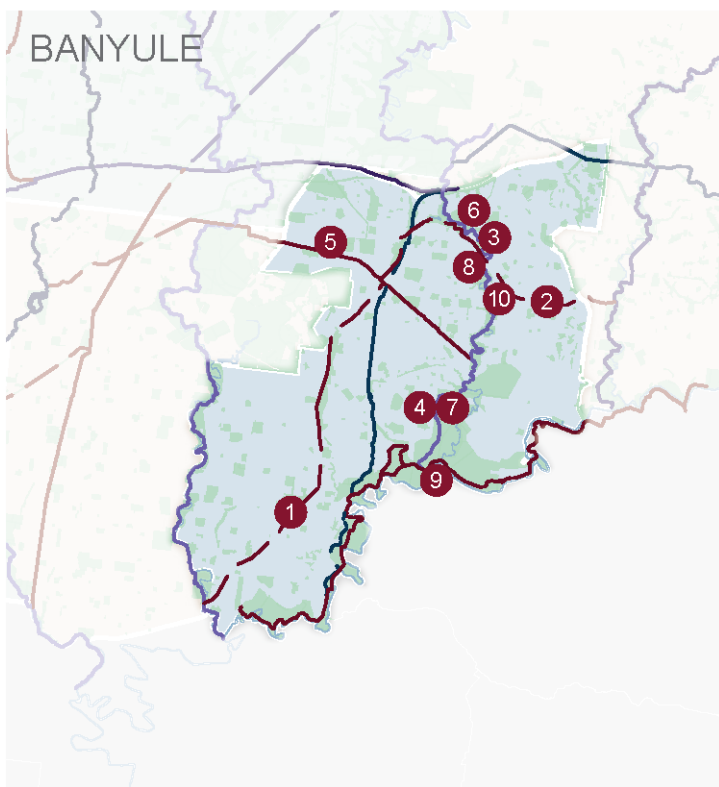
Of the 190 trail improvement projects identified, 25 have already been funded or will be funded through interrelated projects and developments. These projects have been committed to and as such have not been included in the lists below.

The overall top ten priority trail improvement projects for the Northern Region are:

No.	Trail action item	Project description
1	Maroondah Aqueduct_01	Construct new section of trail connecting the Plenty River Trail near Lear Court, east along the aqueduct across Diamond Creek Road to the Diamond Creek Trail at Allendale Road.
2	MerriCreekTrail_08	Complete missing section of trail from the Metropolitan Ring Road to existing section of trail south of Horne Street
3	Maroondah Aqueduct_02	Construct new section of trail from Main Road Diamond Creek, along Eltham-Yarra Glen Road, Creek Road, Eltham Road and Carters Lane while ensuring minimal impact to the Warrandyte - Kinglake Nature Conservation Reserve
4	EdgarsCreekTrail_01	Construct new section of trail from the Merri Creek Trail to Ronald Street on the west bank
5	MerriCreekTrail_02	Partner with Parks Victoria and DELWP to extend the Merri Creek Trail from Merri Concourse (north) to Cooper Street
6	UpfieldRail_02	Advocate to Department of Transport to construct a new section of trail from the Metropolitan Ring Road to Somerton Road
7	WhittleseaShared_01	Construct a new trail along the train line from Mernda Station to Laurel Street, Whittlesea. Ensure there is provision for horse riders on parts of the trail
8	MerriCreekTrail_03	Advocate for and investigate the staged extension of the Merri Creek Trail from Cooper Street Somerton/Epping north to OHerns Road as a part of the Upper Merri Creek Regional Parkland Plan.
9	MerriCreekTrail_04	Advocate for and investigate the staged extension of the Merri Creek Trail from OHerns Road to Craigieburn Road as a part of the Upper Merri Creek Regional Parkland Plan.
10	KinglakeWay_01	Establish a new trail from Hurstbridge to Arthurs Creek.

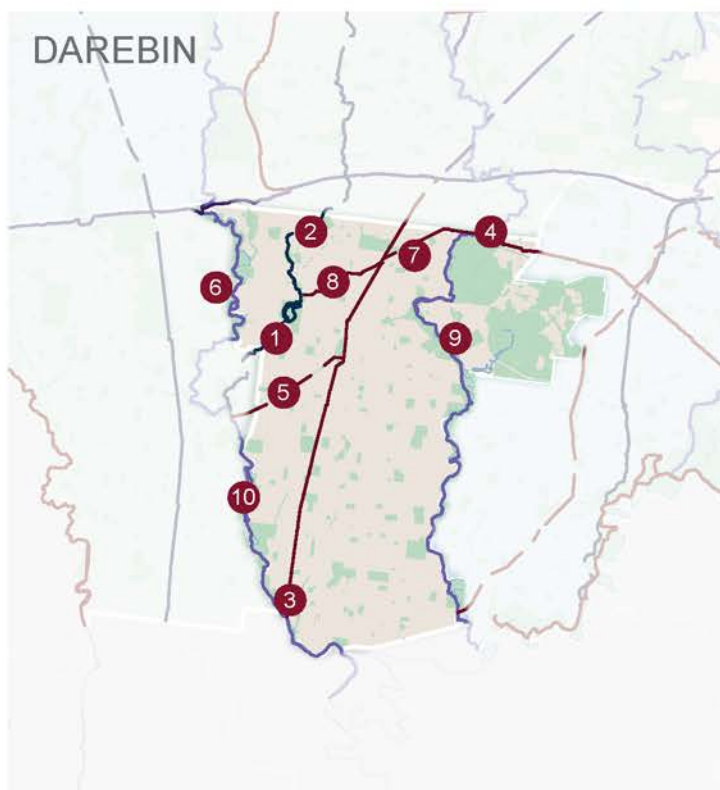
The top ten priority trail improvement projects within the municipality of Banyule are:

No.	Trail action item	Project description
1	Hurstbridge RailTrail_01	Construct a new section of trail along the Hurstbridge rail line from the Darebin Creek Trail north to Macleod Station
2	Hurstbridge RailTrail_04	Construct a new section of trail along the Hurstbridge rail line from the Plenty River Trail to the Diamond Creek Trail
3	PlentyRiver_07	Construct a new section of trail at Bicton Street
4	PlentyRiver_11	Upgrade pedestrian bridges on the Plenty River Trail where required and improve sight lines where appropriate
5	EastWestPower_07	Investigate options for providing a new section of trail from Dilkara Avenue to Gleeson Drive
6	PlentyRiver_06	Improve wayfinding signage at Poulter Reserve to direct users to the wider trail network west of the reserve
7	PlentyRiver_10	Improve wayfinding signage along the length of the trail
8	PlentyRiver_12	Investigate the feasibility of realigning the Plenty River Trail to the eastern bank of the Plenty River between George Court and Para Road in order to avoid the steep grade on the west bank
9	YarraTrail_08	Construct a bridge crossing over the Yarra River to Birrarrung Park
10	PlentyRiver_08	Upgrade and widen section of trail with wayfinding signage at Montmorency Park



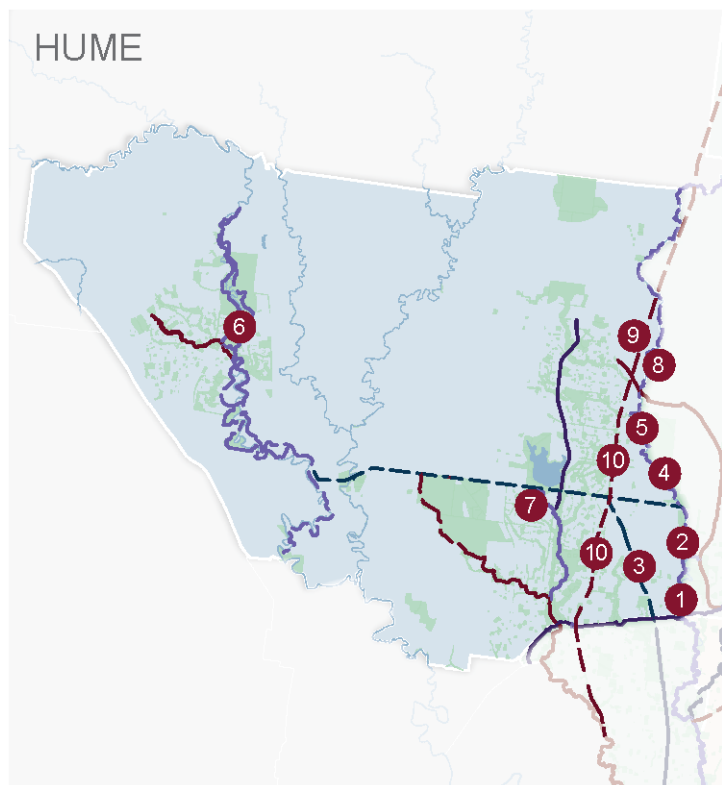
The top ten priority trail improvement projects within the municipality of Darebin are:

No.	Trail action item	Project description
1	EdgarsCreekTrail_04	Investigate a new section of trail along the creek from Carrington Road to Edwardes Lake. Explore the feasibility of a trail between Kia Ora Road and Henty Street on the east bank.
2	EdgarsCreekTrail_08	Construct a section of trail along the creek from Glasgow Avenue to the Metropolitan Ring Road
3	NorthernPipeTrail_02	Improve access at the St Georges Rd/Merri Parade/ Charles St intersection to connect the Merri Creek Trail to the Northern Pipe Trail and create a direct access point to and from the trail with pedestrian and cyclist priority
4	EastWestPower_05	Investigate the feasibility of a new section of trail, including a new bridge crossing, from the Darebin Creek Trail, at Holt Parade, around Mount Cooper to connect to the existing section of trail at Snake Gully Drive
5	NorthernPipeTrail_06	Investigate a new section of trail from High Street (near the Melbourne Water Reservoirs) along the vacant pipe reserve to the Merri Creek Trail at Murray Road. Existing road crossings to be considered.
6	MerriCreekTrail_20	Provide wayfinding signage along the length of the trail
7	EastWestPower_02	Construct a section of trail from the Northern Pipe/ St Georges Rd/ Cheddar Road Trail north east along the vacant pipe reserve
8	EastWestPower_03	Construct a section of trail from the Northern Pipe/ St Georges Rd/ Cheddar Road Trail south east along the vacant pipe reserve to Edwardes Lake Park
9	DarebinCreek_03	Investigate the feasibility of an underpass or bridge crossing Plenty Road intersection to avoid section of trail on Plenty Road footpath
10	MerriCreekTrail_15	Replace the Harding Street Bridge to cater for shared use



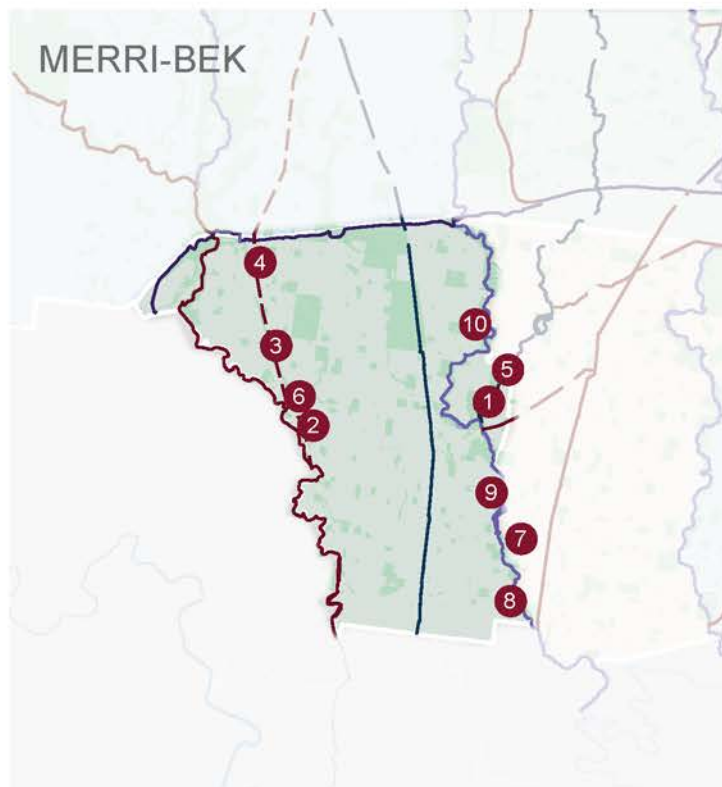
The top ten priority trail improvement projects within the municipality of Hume are:

No.	Trail action item	Project description
1	MerriCreekTrail_08	Complete missing section of trail from the Metropolitan Ring Road to existing section of trail south of Horne Street
2	MerriCreekTrail_02	Partner with Parks Victoria and DELWP to extend the Merri Creek Trail from Merri Concourse (north) to Cooper Street
3	UpfieldRail_02	Advocate to Department of Transport to construct a new section of trail from the Metropolitan Ring Road to Somerton Road
4	MerriCreekTrail_03	Advocate for and investigate the staged extension of the Merri Creek Trail from Coopers Street Somerton/Epping north to and along Oherns Road both east and west as part of the Upper Merri Creek Regional Parkland Plan
5	MerriCreekTrail_04	Advocate for and investigate the staged extension of the Merri Creek Trail from Oherns Road to Craigieburn Road as part of the Upper Merri Creek Regional Parkland Plan
6	JacksonsCreek_02	Plan and investigate the staged construction of trails on both sides of the Jacksons Creek with project partners and other landholders in line with the priorities of the Jacksons Creek biik wurrdha Regional Parklands Plan
7	YurokeCreek_01	Partner with Melbourne Water and MRPV to plan and construct new section of trail along the Melbourne Water Pipe Track from Greenvale Reservoir Park south to the existing section of the Yuroke Creek Trail, including a safe crossing option for Somerton Road
8	MerriCreekTrail_05	Advocate for and investigate the extension of the Merri Creek Trail from Craigieburn Road to Summerhill Road as part of the Upper Merri Creek Regional Parkland Plan
9	AmarooPipeTrack_01	Investigate options for a new trail along the sewer easement from Craigieburn Station heading north (Hume)
10	Craigieburn SharedPath_07	Advocate for a feasibility study for a new continuous shared path from Jacana Station to McConnell Crescent (north of Roxburgh Park Station)
	Craigieburn SharedPath_09	Further investigate opportunities for a new continuous shared path from Zambezi Court Reserve to Craigieburn Station



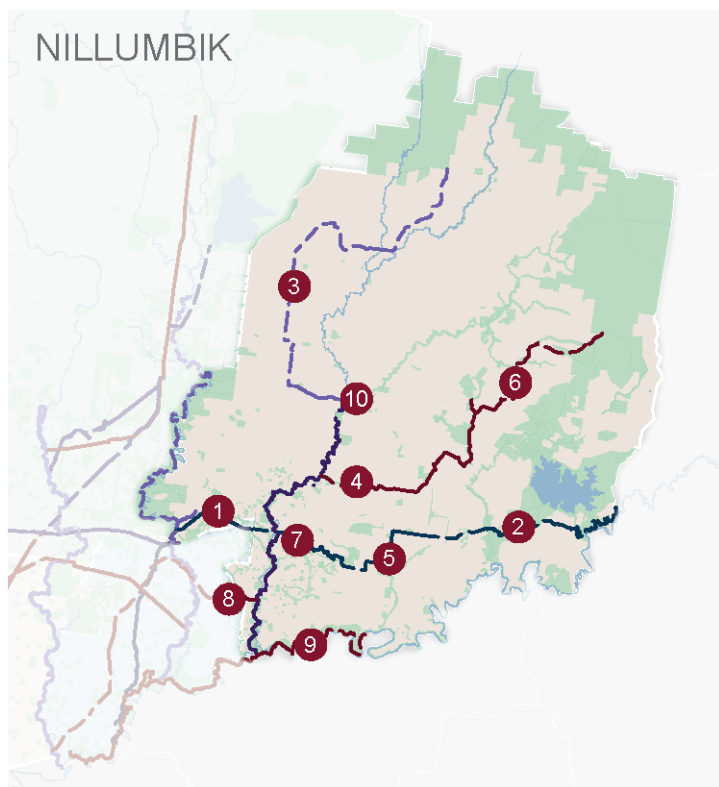
The top ten priority trail improvement projects within the municipality of Merri-bek are:

No.	Trail action item	Project description
1	EdgarsCreekTrail_01	Construct new section of trail from the Merri Creek Trail to Ronald Street on the west bank
2	Craigieburn SharedPath_01	Construct new section of trail from the Moonee Ponds Creek Trail to Gaffney Street
3	Craigieburn SharedPath_04	Construct a new section of trail, on the western side of the train line, from Cartwright Street to Glenroy Road including fencing and lighting
4	Craigieburn SharedPath_06	Construct a new section of trail, on the eastern side of the train line, from Glenroy Station to Jacana Station including fencing and lighting
5	EdgarsCreekTrail_02	Construct new section of trail from Ronald Street to Carrington Road. Consider keeping the trail away from the creek and along development frontages
6	Craigieburn SharedPath_03	Construct a new section of trail, on the western side of the train line, from Bothwell Street to Devon Road including retaining, fencing and lighting
7	MerriCreekTrail_20	Provide wayfinding signage along the length of the trail
8	MerriCreekTrail_12	Relocate and widen trail from Merri Creek Primary School to Sumner Park outside of the flood zone
9	MerriCreekTrail_15	Replace the Harding Street Bridge to cater for shared use
10	MerriCreekTrail_18	Construct a new section of trail from Vervale Avenue to the bridge crossing to the north to provide an alternative route with a gentler grade.



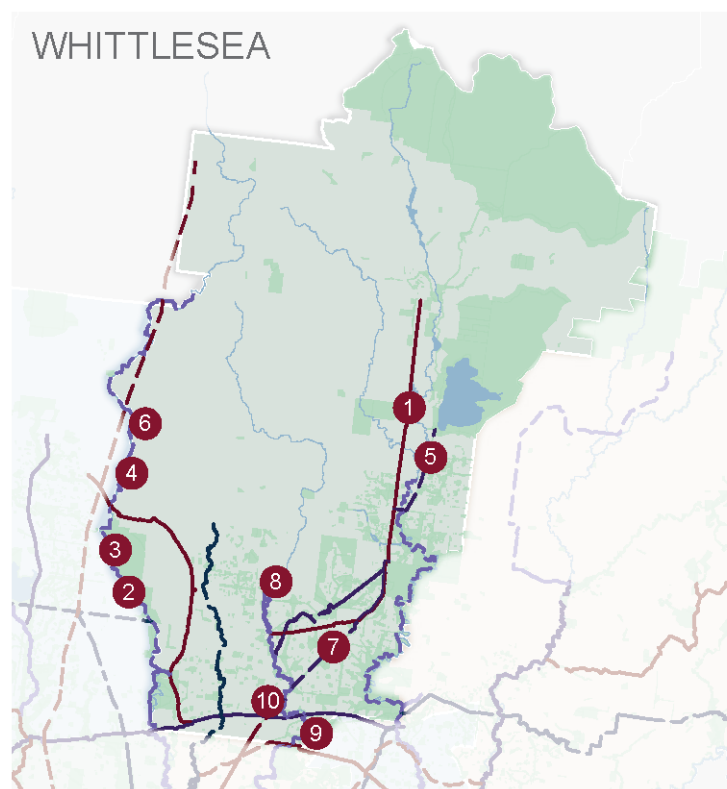
The top ten priority trail improvement projects within the municipality of Nillumbik are:

No.	Trail action item	Project description
1	Maroondah Aqueduct_01	Construct new section of trail connecting the Plenty River Trail near Lear Court, east along the aqueduct across Diamond Creek Road to the Diamond Creek Trail at Allendale Road.
2	Maroondah Aqueduct_02	Construct new section of trail from Main Road Diamond Creek, along Eltham-Yarra Glen Road, Creek Road, Eltham Road, Carters Lane and along Fryers Gully Drain while ensuring minimal impact to the Warrandyte - Kinglake Nature Conservation Reserve
3	KinglakeWay_01	Establish a new trail from Hurstbridge to Arthurs Creek
4	GreenWedge_01	Construct a new section of trail east from the Diamond Creek Trail at Wattle Glen Station along Watery Gully Creek to existing trail on Watery Gully Road
5	Maroondah Aqueduct_03	Construct new section of trail from Warrandyte Kinglake Road, north along Westering, Ridge and Muir Roads to Skyline Road
6	GreenWedge_04	Construct an extension of the trail from the intersection of Clintons Road and Spanish Gully Road to the Marshalls Road car park within the Kinglake National Park
7	Maroondah Aqueduct_04	Extend the trail west from Godber Road to connect to the Diamond Creek Trail
8	Hurstbridge RailTrail_04	Construct a new section of trail along the Hurstbridge rail line from the Plenty River Trail to the Diamond Creek Trail
9	YarraTrail_07	Construct shared use trail from the Mullum Mullum Creek Trail to the Warrandyte State Park.
10	DiamondCreek_02	Construct new section of trail from Graysharps Road to Fergusons Paddock



The top ten priority trail improvement projects within the municipality of Whittlesea are:

No.	Trail action item	Project description
1	WhittleseaShared_01	Construct a new trail along the train line from Mernda Station to Laurel Street, Whittlesea. Ensure there is provision for horse riders on parts of the trail
2	MerriCreekTrail_03	Advocate for and investigate the staged extension of the Merri Creek Trail from Coopers Street Somerton/Epping north to and along Oherns Road both east and west as part of the Upper Merri Creek Regional Parkland Plan
3	MerriCreekTrail_04	Advocate for and investigate the staged extension of the Merri Creek Trail from Oherns Road to Craigieburn Road as part of the Upper Merri Creek Regional Parkland Plan
4	MerriCreekTrail_05	Advocate for and investigate the extension of the Merri Creek Trail from Craigieburn Road to Summerhill Road as part of the Upper Merri Creek Regional Parkland Plan
5	YanYeanPipeTrack_04	Construct a new section of trail from Bridge Inn Road to the Yan Yean Reservoir and creating a connection to the Plenty River Trail
6	MerriCreekTrail_06	Extend the Merri Creek Trail from Summerhill Road to Donnybrook Road
7	YanYeanPipeTrack_03	Construct a new section of trail from Childs Road to McDonalds Road and the Plenty Valley Activity Centre
8	DarebinCreek_01	Construct a new section of trail on the western side of creek from the train underpass east of Epping Station to Greenbrook Drive
9	EastWestPower_04	Construct a section of trail along Holt Parade to connect to the Darebin Creek Trail (at Valley Road)
10	YanYeanPipeTrack_01	Construct a new section of trail from The Metropolitan Ring Road Trail and the Northern Pipe/Cheddar Road Trail to the Darebin Creek Trail



10.3.3 Project filters

Due to the wide variety in project types, and to allow project types to be easily sorted for comparison, a series of 'filters' were also developed in collaboration with the Project Working Group. These filters, which can be found in Appendix B include:

- **Location** - relevant Council/s involved in the project.
- **Significant prerequisites and considerations** - including any additional information that may be relevant to the delivery of the action item such as development or major infrastructure that could be leveraged off, significant constraints such as topographical, ecological or cultural considerations, or other strategic work that may be underway.
- **Stakeholders** - identifies other relevant stakeholders and land owners (e.g. Melbourne Water, VicRoads and VicTrack).
- **Project cost** - broken down into broad groupings:
 - Small (S) - \$0-50,000
 - Medium (M) - \$50,000-250,000
 - Large (L) - \$250,000-1M
 - Extra Large (XL) - \$1M+

The intention behind these filters is to provide relevant information regarding each of the potential trail improvement projects, but also to enable the sorting of the projects by these categories. Using these filters Councils are able to identify a project based on specific requirements regarding the filter categories.

The top ten projects identified during the multi-criteria analysis process outline the priority projects for the Northern Region however there may be instances where a grant or funding opportunity arises that is suited to a trail improvement project that is not highly ranked according to the multi-criteria analysis. In these instances, projects can be sorted using the filters to identify suitable projects for implementation or funding applications. For example, a grant may become available for a project that is low cost and located in a growth area. Whilst none of the top ten priority projects fit the specifications for this grant, *WhittleseaRail_03 (Provide wayfinding signage along the length of the trail)* satisfies all the requirements.

10.4 COST BENEFIT ANALYSIS

A cost benefit analysis (CBA) was undertaken by SGS Economics and Planning in order to assess the merit of the proposed trail improvements and to inform due diligence and investment decision making processes by the Northern Regional Councils. SGS modelled the social, economic and environmental costs and benefits of delivering the trail improvements. It shows the project is expected to generate a net present value of around \$114 million and a benefit cost ratio of 1.6. This indicates that benefits directly attributable to the project will be around 1.6 times that of the investment over the appraisal period.

The CBA considers the project case; 10-year staged expansion of the Northern Regional Trails Network, against a counterfactual base case, whereby no additional capital works are undertaken. Only the incremental change between the project case and base case scenario was modelled as a benefit/cost. That is, the change that is directly generated by project case. The assessment has modelled a 30-year benefit period, and standard economic outputs were calculated using a seven per cent discount rate.

Three benefits have been monetised within the CBA. These are:

- Health benefits of increased walking and cycling
- Transport network benefits due to a shift in mode share from private vehicle to active transport modes
- Leisure and recreation benefits associated with increased use of the trail network.

Realisation of these benefits is underpinned by an increase in trail demand associated with the project; in particular, an increase in the distance and time that people walk and/or cycle. Demand forecasts undertaken as part of the analysis indicate that use of the Northern Regional Trail Network will increase by around 33 per cent once the entire planned network is delivered. Around two thirds of this uplift would be associated with existing users using the trail more frequently, and one third of the uplift is associated with new users.

Benefit component	Undiscounted values (\$m)	Present value (7%) discount rate (\$m)	% Of total benefits (present value) (\$m)
Present value of health benefit	\$541.7	\$180.2	62%
Present value of transport network benefits	\$34.9	\$11.6	4%
Present value of leisure and recreation benefits	\$296.5	\$98.6	34%
Total	\$873.2	\$290.5	100%

FIGURE 10.1:
Present benefit values

Under a seven per cent discount rate, the project results in a net present value (NPV) of around \$114 million and a benefit cost ratio (BCR) of 1.6. This means that for each \$1 invested, a welfare gain of \$1.6 is realised.

Costs exceed benefits until FY2037, at which point costs increase marginally as per OPEX assumptions, while benefits increase rapidly as users enjoy and gain value from an improved and expanded network., (refer to Figure 10.2).

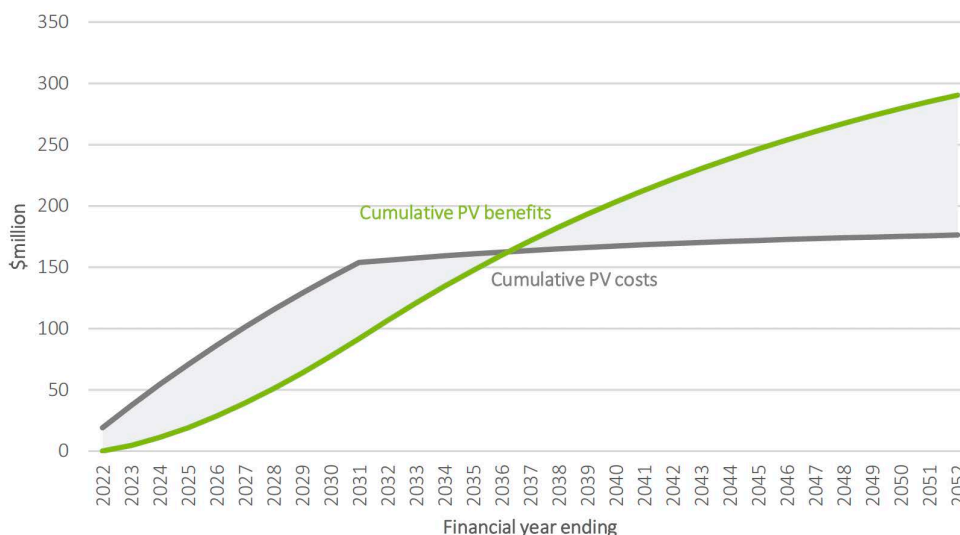


FIGURE 10.2:
Cumulative Net Present Value.
Source: SGS Economics and Planning, 2021

The analysis undertaken by SGS indicates that the Northern Regional Trails network project is economically warranted with consideration of monetised benefits. The case is strengthened when non-monetised benefits are considered. In particular, the upgrade and expansion of the Northern Regional Trails network has potential to lead to increased economic value added derived from additional tourism expenditure, stimulate local businesses, and enhance community cohesion and education opportunities.

For the full Cost Benefit Analysis Report, refer to Appendix C.

10.5 FUNDING THE TRAILS

The 2016 Northern Regional Trails Strategy successfully leveraged approximately \$11 million of State Government funding in the last 3 years to deliver key priorities identified in the strategy. Budget allocations for Councils were also given a framework for the planning and delivery of priority trail projects within individual municipalities.

Since the endorsement of the previous plan, the physical landscape of the region has undergone significant change through the delivery of new and future major infrastructure projects. A global pandemic has also impacted the community's reliance on public recreation facilities and the frequency of which the trails are used. During lockdowns in 2020 and 2021, regional trails across metropolitan Melbourne reported significant increases in use. As a result, the State Government (who has been the main funding body for the Northern Trails in recent years) has introduced some initiatives that will assist in funding and delivering the open space and trails across the metropolitan regions including the Northern Trails network:

The Growing Suburbs Fund:

The Growing Suburbs fund is a \$375M investment by the State Government over 7 years to assist local government in the task of delivering new local infrastructure including trails. It's anticipated that this funding scheme will drive trail development of the coming years.

Suburban Parks Program:

The Victorian Government is investing \$154 million to deliver 6,500 hectares of new and upgraded parks and trail as part of the Suburban Parks Program. This initiative has already assisted in securing funding via DELWP and will continue to assist in the funding and delivery of the following trails:

- Jacksons Creek Trail as part of the Jacksons Creek Parkland Plan
- Plenty River Trail, the program has committed to delivery the missing link between University Hill in Bundoora and Doreen to the north.
- Merri Creek Trail as part of the Upper Merri Creek Parkland Plan.
- Diamond Creek Trail

In addition to these initiatives, Victoria is undergoing significant changes due to major transport infrastructure changes such as:

- The level crossing removal project, such as those currently underway along the Upfield rail line;
- Major road widening and duplication projects including the potential future Somerton Road duplication;
- Rail line duplication such as the Hurstbridge rail line duplication; and
- New road construction, such as the North East Link.

The development of these large State Government funded projects provide the opportunity for trails to 'piggy-back' on new transport infrastructure by taking advantage of left-over land or ensuring the provision and financing of regional trails, in accordance with this study, are delivered alongside these projects. The large scale and budget of these projects also presents the opportunity to deliver larger, more strategic aspects of the trail network that cannot feasibly be delivered by regular grant cycles and capital works programs.

Growth areas and Precinct Structure Plans (PSPs):

A Precinct Structure Plan is a Master Plan for new communities within growth areas which guide development, land use and infrastructure of the area over time. Shared trails and regional trails are included within the PSPs which allow Councils to lobby developers for the development of trails within their land. This study along with the PSPs provide the Northern Regional Trails working group with information to ensure the trails are strategically aligned, funded and delivered in accordance with the region's plans.



APPENDICES

B TRAIL IMPROVEMENT PROJECTS

C COST BENEFIT ANALYSIS