

EASTERN REGIONAL TRAILS STRATEGY

SEPTEMBER 2018





EXECUTIVE SUMMARY

The Eastern Regional Trails Strategy has been prepared with the goal of providing the strategic direction required to allow local government and other land management authorities to work together towards an interconnected and well-used trail network over the coming decade.

The project study area comprises seven local government areas within Eastern Metropolitan Melbourne, being the cities of Boroondara, Knox, Manningham, Maroondah, Monash, Whitehorse and Yarra Ranges, with Sport and Recreation Victoria being a funding partner.

What are regional trails?

Regional trails are those shared trails that accommodate multiple potential user groups (particularly pedestrians and cyclists), are mostly off-road, have a relatively long and continuous length and have a regional scale, purpose and/or impact.

The regional trails of Eastern Melbourne

A total of twenty-two existing or potential trails were identified and assessed as a part of this study. A summary map of these trails is provided on the following page. It can be seen that the trail network is concentrated in the western part of the study area, which coincides with the areas of highest population density. The sparsely populated far eastern parts of the study area (east of Warburton) contain no regional trails.

The assessment of the existing trails involved 'auditing' them by riding their length. This allowed accurate mapping of them to occur, as well as allowing observations to be made about the trail use experience across the regional trail network.

The majority of the regional trails identified already exist, although more than half of these existing trails have incomplete sections.

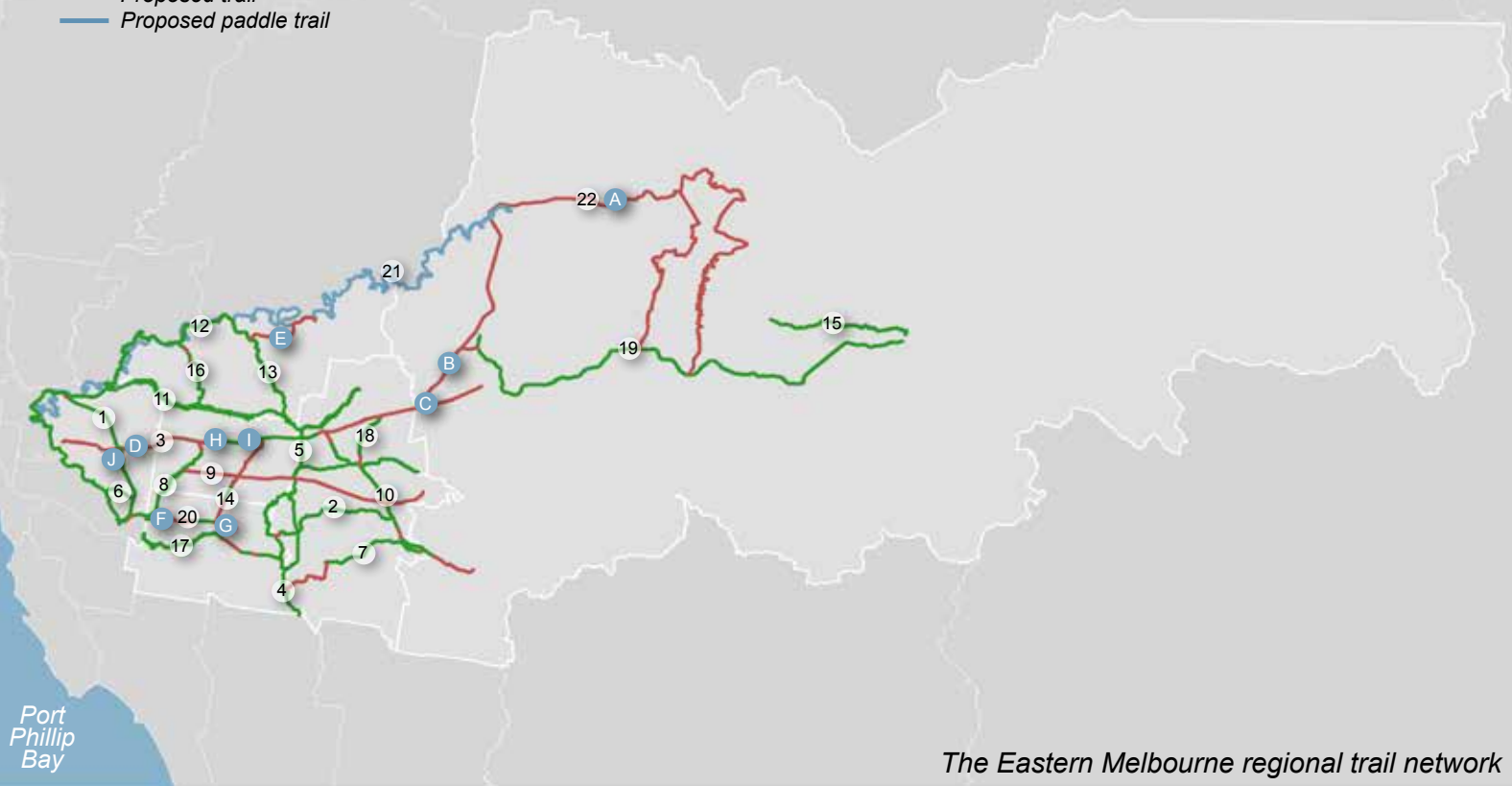
Regional trails provide a range of benefits to the community, including social, health, environmental, and economic/tourism. This study provides a summary of these benefits that can be used to support business cases for regional trail network improvements.

Trail users

This study included a community engagement process, centered around an on-line questionnaire that attracted just under 700 responses. The questionnaire provided useful insights into how and why people currently use the regional trails of Eastern Melbourne, and their priorities for network improvements. Key findings included:

- The top five regional trails most frequently used by respondents were:
 - The Main Yarra Trail
 - Gardiners Creek Trail
 - Eastlink Trail
 - Capital City Trail, and
 - Anniversary Trail.
- The top five trail improvement preferences of respondents were:
 - Improved connectivity between the trails
 - More trails
 - Improved route maps
 - Improved on-trail directional signage
 - Separated pedestrian and cycling trails in high use areas.

Existing trail
Proposed trail
Proposed paddle trail



The Eastern Melbourne regional trail network

Eastern Melbourne Regional Trails

1	Anniversary Trail (Outer Circle Trail)	
2	Blind Creek Trail	
3	Box Hill to Ringwood Rail Trail	
4	Dandenong Creek Trail	
5	Eastlink Trail	
6	Ferndale Trail	
7	Ferny Creek Trail	
8	Gardiners Creek Trail	
9	Healesville Freeway Reservation Trail	
10	Heathmont to Belgrave Trail	
11	Koonung Creek Trail	
12	Main Yarra Trail	
13	Mullum Mullum Creek Trail	
14	Nunawading to Syndal Creek Trail	
15	O'Shannassy Aqueduct Trail	
16	Ruffey Creek Trail	
17	Scotchmans Creek Trail	
18	Tarralla Creek Trail	
19	Warburton Rail Trail	
20	Waverley Rail Trail	
21	Yarra River Paddle Trail	
22	Yarra Valley Trail	

Top Ten Trail Construction Projects:

Trail name	Trail improvement project
A Yarra Valley Trail	Construct the Yarra Valley Trail
B Warburton Rail Trail	Continue the Warburton Rail Trail south from Lilydale to the Tarralla Creek Trail via the Melbourne Water Pipe Track Reserve.
C Box Hill to Ringwood Rail Trail	Extend the Box Hill to Ringwood Rail Trail east from Ringwood Station to Croydon Station and to connect to the Carrum to Warburton Trail.
D Box Hill to Ringwood Rail Trail	Extend the Box Hill to Ringwood Rail Trail west from Box Hill Station to Hawthorn Station.
E Main Yarra Trail	Extend the Yarra Trail east to connect to Warrandyte.
F Waverley Rail Trail	Close gap in the Waverley Rail Trail from Beatrice Avenue (east of Jordanville Station) to Stephenson's Road (west of Mount Waverley Station).
G Waverley Rail Trail	Complete the gap in the Waverley Rail Trail from Coleman Parade to Kingsway (Glen Waverley Station).
H Box Hill to Ringwood Rail Trail	Complete the gap in the Box Hill to Ringwood Rail Trail from Middleborough Road to Blackburn Road.
I Box Hill to Ringwood Rail Trail	Complete the gap in the Box Hill to Ringwood Rail Trail from Nunawading Station to Walkers Road.
J Anniversary Trail	Complete the gap on the Anniversary Trail between Riversdale Road (Fordham Avenue) and Prospect Hill Road

Equestrian use

While the majority of the trail users are either pedestrians or cyclists, the study also considers equestrian use of regional trails. Currently, equestrian use is limited to a small number of regional trails focused upon the more rural parts of the study area. Significantly increasing equestrian use in the western part of the study area is not feasible for a variety of reasons. Therefore, it is recommended that equestrian use of regional trails be provided for in the more rural parts of the study area and focus upon:

- off-road horse riding opportunities
- trail connections to equestrian facilities
- tourism use.

Paddle-sport use

Paddling (including canoeing and kayaking) was also included in the scope of the study to take advantage of any potential synergies between water and land-based trails. It was found that paddle-sport activity in the study area waterways was largely confined to the Yarra River. The development of a Yarra River Paddle Trail is proposed as a part of the broader suite of regional trails in Eastern Melbourne.

Key findings

This study has a broad scope, covering a wide range of topics relevant to regional trails, including trail infrastructure (including defining standards and guidelines for trail and facility construction), trail management, and trail marketing. From the investigations undertaken, a number of items emerged as being key issues impacting upon the regional trail network in Eastern Melbourne.

A strategic focus upon active transport

There has long been a tension between the recreational and the transport/commuting use of trails. This can be evident at an on-trail level (particularly in issues associated with fast-moving commuter cyclists and other trail users), but has also been evident at a strategic level. While recreational use of regional trails still plays an important role, active transport modes and the infrastructure associated with them are increasingly being seen as an important part of the solution to traffic congestion associated with population growth. The *Victorian Cycling Strategy 2018-28*, prepared by *Active Transport Victoria*, has the subtitle, 'increasing cycling for transport'. Vicroads is also playing an increasing role in active transport infrastructure, including via their Strategic Cycling Corridors.

This focus on active transport should be positive for trail funding opportunities.

However, it also creates challenges for the regional trail network, including:

- the inability of some existing trails to effectively cater to higher numbers of users due to constrained trail corridors and other obstacles.
- the need to strike a balance between increasing trail capacity and the kind of trail character that has long made trails inviting places to undertake recreation.

Challenges of managing a regional network

Regional trails cross borders and there may be multiple land owners and managers along a single trail. While local government has the broadest responsibility for regional trails, they also necessarily have a strong focus upon their local area and rate payers. Within this context, providing regional strategic management of the trail network is a significant challenge. The group of local government Officers gathered

together to provide direction to this study provide the kind of knowledge and strategic interest in the regional trail network that is required to effectively manage it. It is therefore proposed that this group be formalised into an Eastern Melbourne regional trails working group.

Trail improvements

A wide range of potential trail improvement projects were identified as a part of the study from a range of sources, including existing strategies and plans, the trail auditing undertaken as a part of this project, and stakeholder and community engagement. The potential trail improvement projects have been mapped and assessed against weighted criteria to establish a prioritised action plan.

The full action plan includes a wide variety of other trail improvement projects, including directional signage, road crossing improvements, and trail surface improvements.

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1

INTRODUCTION

The eastern part of the Melbourne metropolitan area is home to many trails that provide opportunities for a range of users including walkers, runners, cyclists, water sport users and horse riders. Some of these trails are of a regional scale and significance, providing opportunities for transport, exercise, recreation and sight-seeing to residents and visitors. Some of these regional trails cross municipal borders and have multiple land owners and managers, making coordination between municipalities and other authorities an important part of achieving an effective and integrated regional trail network.

This study has been undertaken with the goal of providing 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 is accessible for all and promotes healthy and active communities.

Cycling and walking trails first appeared in the Melway Street Directory in the 14th edition released in 1982, focusing on routes through public land along waterways connecting to a key commuter destination such as the CBD. The waterway trails have more recently been supplemented by trails along transport infrastructure corridors such as the Warburton Rail Trail and the Eastlink Trail. The trails now cover most of the more densely populated parts of the project study area, and are an important asset for the wider metropolitan area and for the state of Victoria.

It can be seen that much of the trail network in Eastern Melbourne has been developed in an opportunistic way, taking advantage of left-over land or 'piggy-backing' on other transport infrastructure. 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.



2 ABOUT THE PROJECT

2.1 Project study area

The project study area (as shown in figure 2.1) includes seven local government areas (LGAs). These are the cities of:

- Boroondara
- Knox
- Manningham
- Maroondah
- Monash
- Whitehorse
- Yarra Ranges

The land contained within the borders of these seven municipalities sits largely to the south of the Yarra River, starting with the densely developed inner-urban suburbs of Hawthorn and Kew at the western edge of the study area, and continuing eastwards through suburban Melbourne to the Yarra Valley, and then to the sparsely-populated national parks and state forests on the far east of the study area.

Much of the study area lies within the Yarra River catchment, including Gardiners Creek, Koonung Creek, Mullum Mullum Creek, Ruffey Creek, and Scotchmans Creek. Areas in the south-west of the study area are within the Dandenong Creek catchment, including Blind Creek and Ferny Creek.



FIGURE 2.1: Project study area

2.2 Project objectives

The key objectives of this study are to improve the provision, quality, knowledge, development and access to regional trails in Eastern Melbourne. Regional trails are used for an increasing diversity of activities (public, private organised and incidental). This strategy seeks to facilitate the best outcomes for this broad range of users now and into the future.

The study records the situation and makes recommendations about a certain point in time, and so will need to be periodically reviewed. It provides strategic direction for the management and planning of the regional trail network in Eastern Melbourne for the next decade (ie. from 2018 to 2028).

This document is intended to be used by those people and organisations that have responsibilities for the construction, management and promotion of regional trails within the study area. It is intended to:

- identify and define regional trails.
- encourage and provide recommendations for regional cooperation regarding the provision, management and promotion of regional trails.
- provide information regarding the use of the regional trail network.
- provide standards and guidelines for future trail development.
- identify and prioritise potential trail improvement projects.

2.3 Project approach

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

- **Trail desktop assessment**
Identifying the locations of key trails from maps and relevant Council strategies.
- **Trail audit**
Riding each of the 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.
- **Community engagement**
Including an on-line questionnaire, promoted by the LGAs as well as through a wide range of organisations with a potential interest in regional trails. The questionnaire was open for four months between December 2017 and March 2018 and received 697 responses.
- **Stakeholder engagement**
Meeting representatives from key stakeholder groups to talk about the key issues and opportunities associated with regional trail provision. This included meetings with different departments within each of the study area LGAs, meetings with key state government departments and authorities (including Melbourne Water, VicRoads, Parks Victoria, Active Transport Victoria, and Sport and Recreation Victoria) and key user group representatives (including Bicycle Network).
- **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.

2.4 Acknowledgements

This project was undertaken by a consultant team lead by Fitzgerald Frisby Landscape Architecture, with specialist inputs from;

- Insight Communications (particularly Rachel Donovan)
- Insight Leisure Planning (particularly Jayson Moran)
- Quentin Frayne, who undertook the trail auditing.

This study was undertaken with extensive and invaluable input from the Project Steering Group, led by Maroondah City Council and with Sport and Recreation Victoria as a funding partner. Project Steering Group representatives included (in alphabetical order):

- City of Boroondara
(Jonathan Florent & Nellie Montague)
- Knox City Council
(Winchelle Chuson)
- Manningham City Council
(Paul Goodison & Ben Harnwell)
- Maroondah City Council
(Michael Blowfield & Jeanette Ingram)
- City of Monash
(Chris McEwan & Rachael McNeil)
- Sport & Recreation Victoria
(Lynn O'Donnell)
- City of Whitehorse
(Leah McGuinness)
- Yarra Ranges Council
(Kylie Gramodovski, Leon Hassall, Terry Jenvey & Jayson Kelly)

This project also benefitted 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.

3

VISION & GUIDING PRINCIPLES

3.1 Project vision

The Eastern Regional 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.

3.2 Guiding principles

Complementing the project vision, this Strategy is guided by the following principles (developed with the Project Steering Group at the commencement of the project):

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 and water-craft access 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 and people with limited mobility.

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, drinking fountains and toilets.

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 to minimise negative environmental impacts from both construction and ongoing use.



4 REGIONAL TRAILS

4.1 What are trails?

The general understanding of the term 'trails' in a walking and cycling context is based around the characteristics of facilities like 'rail trails' (routes constructed along disused former railway lines) and routes along river corridors. The characteristics common to these kinds of trails include:

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

These characteristics are also evident in the definition provided in the *Victorian Trails Strategy 2014-2024*, which 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.

These definitions, with a focus upon 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. And 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 urban focus of this study and 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 riding and paddle craft users as trail user groups. While equestrian use of urban trails is not as common as other use modes, consideration of equestrian trail use is included within this study and this study also includes consideration of paddle-sports.

4.2 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.



The regional trails of Eastern Melbourne vary significantly in character. (Warburton Rail Trail, top, and the Anniversary Trail, bottom).

Beyond regional significance, the *Victorian Trails Strategy* identifies examples of state and nationally/internationally significant trails. The only trail within the study area currently identified is the Warburton Rail Trail, noted as a trail of state significance however the proposed Yarra Valley Trail is planned to be of international significance.

4.3 The benefits of regional trails

Regional trails provide a range of benefits to the community. For the purposes of this study, they have been grouped into four categories:

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

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

4.3.1 Social

Regional trails create spaces for people to exercise with others which creates community connection and health benefits. Over half of the respondents to a questionnaire undertaken as a part of this study nominated 'group/social exercise' as one of the three main reasons why they use the regional trail network.

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.

This shows the importance of these trails to provide a location for group exercise. 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.

4.3.2 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.

4.3.3 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 in roads, and the resulting reductions in air pollutants, noise pollution and congestion issues.

Trails can 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.

4.3.4 Economic and tourism

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 Eastern 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, for instance, 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 2012* 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', and 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.

Any decrease in vehicle based transport in favour of active transport on the regional trail network reduces the negative externalities associated with vehicle traffic (such as noise, air quality and greenhouse gas emissions) which ultimately have an economic impact.

The trails can also provide a focus for economic activity. This includes the kinds of tourism activities described below, but also includes non-touristic activities such as personal training and fitness.

In addition to the above items, the construction and maintenance of regional trails also provide economic benefit through the creation of local employment opportunities. Regional trails provide tourist locations in themselves and already attract large numbers of users in a number of locations in the study area. The trails, and the environments through which they pass, provide destinations without entry fees suitable for a wide range of visitors.

Being a focus for people also makes these locations a focus for business. Trails provide an activity that encourages visitors to participate, stay longer, and ultimately increase the amount they spend on items such as food and beverages.

The Warburton Rail Trail is the most tourism-focussed of the existing regional trails within the study area, and cafes have located directly on the trail targeted at trail users (the Cog Bike Cafe in Warburton, and Happy Trails Cafe in Mount Evelyn).

While the majority of businesses who benefit from regional trail users are currently focussed upon food and beverage, there is an opportunity for the regional trails to also support other trail-based businesses, including guiding services, equipment hire (bikes, canoes, etc.), and passenger transport. All of these have the potential to create local jobs and provide opportunities to package and promote regional products to establish destination experiences.

Chapter 10 addresses trail marketing and tourism in greater detail, including identifying tourism opportunities for regional trails within the study area.



5

STRATEGIC CONTEXT

5.1 Existing strategies and policy

Given the large geographical size of the study area and the diversity of uses to which regional trails contribute, there are a large number of existing strategies and policies that are relevant to this study. Relevant documents have been reviewed and their relevance to this project summarised in Appendix A.

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

- Municipal cycling and walking strategies
- Municipal open space strategies
- Municipal integrated transport strategies
- Municipal recreation and leisure strategies
- Municipal road management plan/road safety strategies
- Municipal economic development and tourism strategies
(Most of the municipalities do not currently have a whole of municipality tourism strategy in place, reflecting the urban nature of much of the study area where tourism is not a key focus).
- Miscellaneous municipal strategies
(including Health & Wellbeing Plans, Green Wedge Management Plans).
- Eastern Melbourne regional strategies
(including the *Melbourne East Regional Sport and Recreation 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 cycling, walking and tourism).

5.2 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 *Plan Melbourne 2017-2050* and the *Victorian Cycling Strategy 2018-28*).
- The identification of regional trails as key recreational facilities for the region in the *Melbourne East Regional Sport and Recreation Strategy, 2016*.
- Strong support for trail infrastructure development in local government strategies across the study area, including relating to transport, recreation, health & wellbeing and economic development.

A gravel path leads through a forest of tall trees. The path is wide and made of grey gravel, curving slightly to the left. The trees are tall and thin, with dense foliage. The ground is covered in green grass and some yellow wildflowers. The sky is overcast.

6 TRAIL USERS

6.1 Demographics

The study area for this project is very diverse, from established inner-suburban areas to rural townships, and almost everything in between. It is no surprise then, that the population of Eastern Melbourne is also very diverse. Figures 6.1 to 6.5 illustrate the key population characteristics of the study area, including land area, population numbers, population change and population density. They demonstrate that:

- the municipalities that make up the Eastern Melbourne study area have similar population sizes (all between 100,000 and 200,000 residents)
- the density of the population is heavily weighted to the south-western corner of the study area.
- The three LGAs in the south-western corner of the study area (Boroondara, Monash and Whitehorse) have both the highest populations, and highest population densities.

Although Yarra Ranges has a similar population to the other LGAs within the study area, it covers a much larger land area and thus has a significantly lower population density.

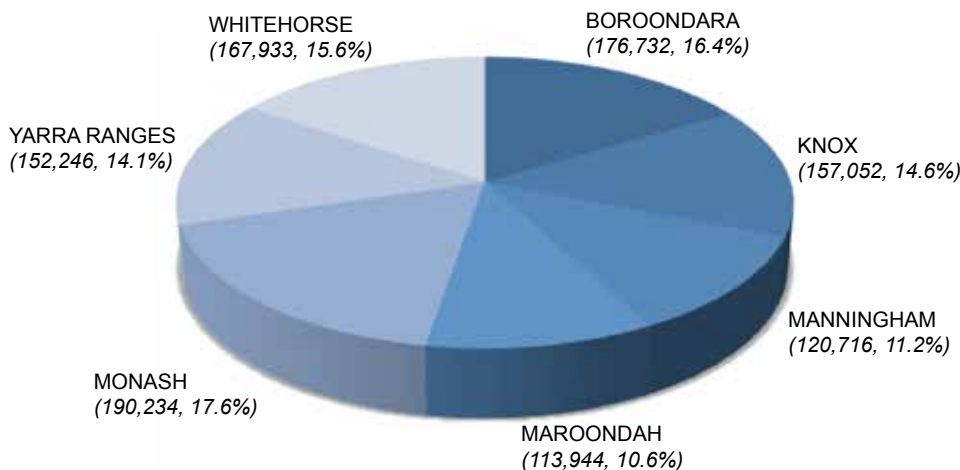


FIGURE 6.1:
Study area population by Local Government Area (2016)
(Source: Australian Bureau of Statistics, 3218.0 Regional Population Growth)

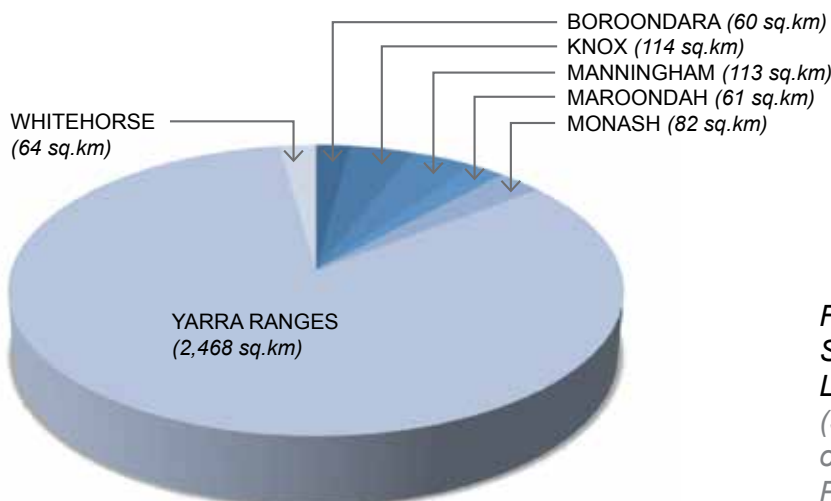


FIGURE 6.2:
Study area land area by Local Government Area
(Source: Australian Bureau of Statistics, 3218.0 Regional Population Growth)

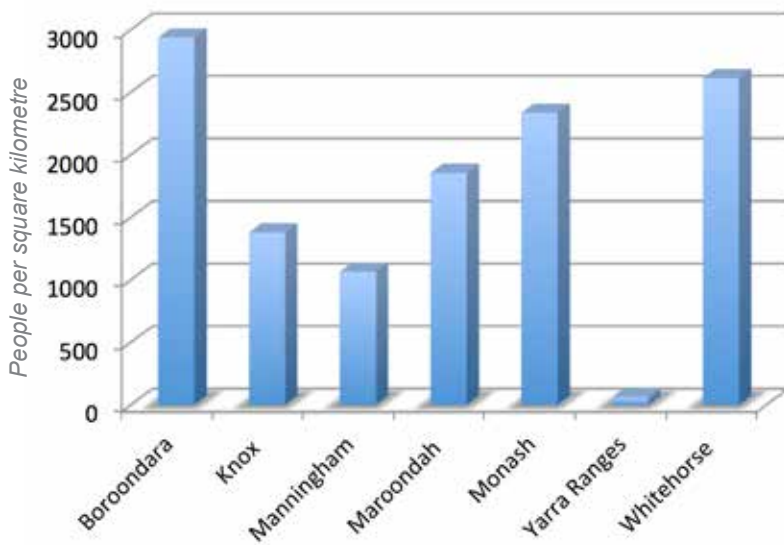


FIGURE 6.3:
Study area population density by Local Government Area (2016)
(Source: Australian Bureau of Statistics, 3218.0 Regional Population Growth)

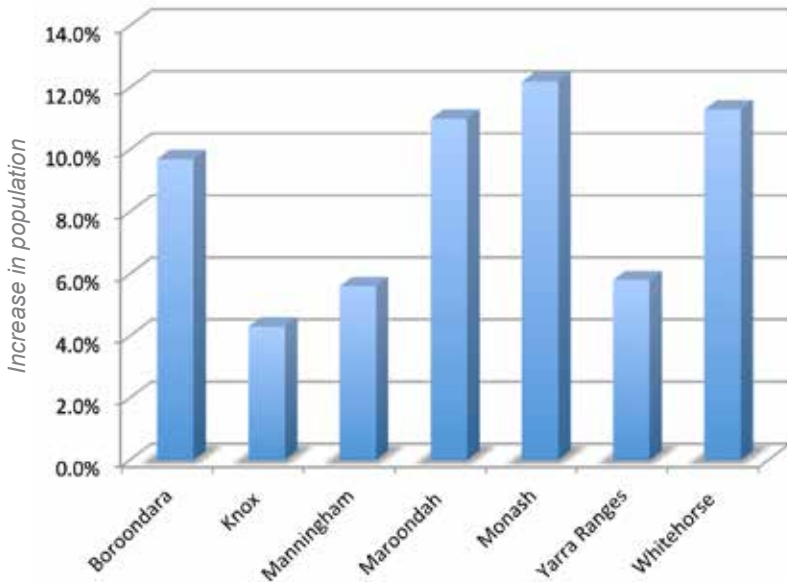
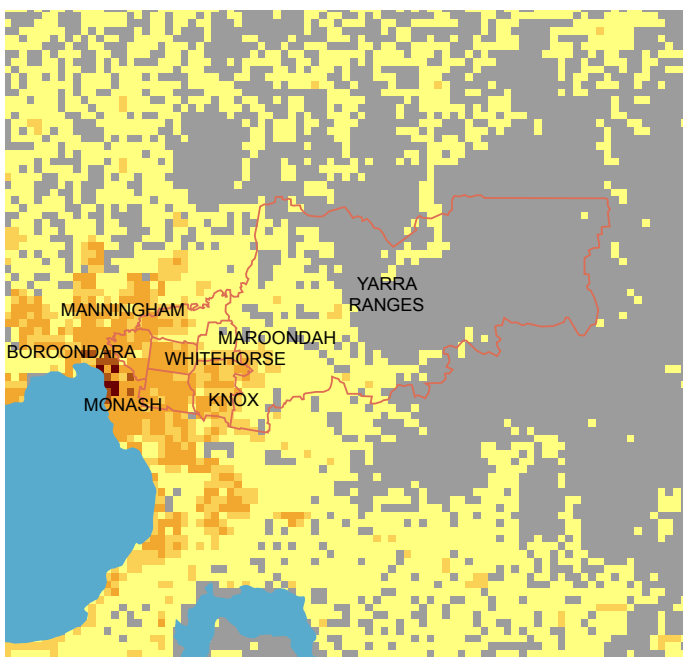


FIGURE 6.4:
Study area change in population, 2006 to 2016, by Local Government Area
(Source: Australian Bureau of Statistics, 3218.0 Regional Population Growth)



Approximate population per square kilometre

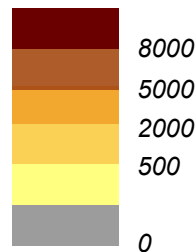


FIGURE 6.5:
Study area population density map grid (2016)
(Source: Australian Bureau of Statistics, Australian Population Grid 2016)

It can also be seen that all of the LGAs within the study area are recording population growth, and this is projected to continue over the coming decades. The study area does not include any of Melbourne's designated growth corridors, so the growth being recorded and projected is relatively modest.

Figure 6.6 shows the age distribution for each of the LGAs within the study area and a comparison to the Victorian average. The study area as a whole, and Monash, Whitehorse and Boroondara in particular have high numbers of residents in the 20-29 year age bracket. This is largely attributable to the presence of major universities within the study area (including Monash University, Deakin University and Swinburne University).

Figure 6.7 shows that the majority of the key population centres within the study area are ranked as having low levels of disadvantage, measured against the Australian Bureau of Statistics Socio-economic indexes for areas (SEIFA) measures. The areas of disadvantage identified are predominantly in areas of low population density in the eastern parts of Yarra Ranges Shire.

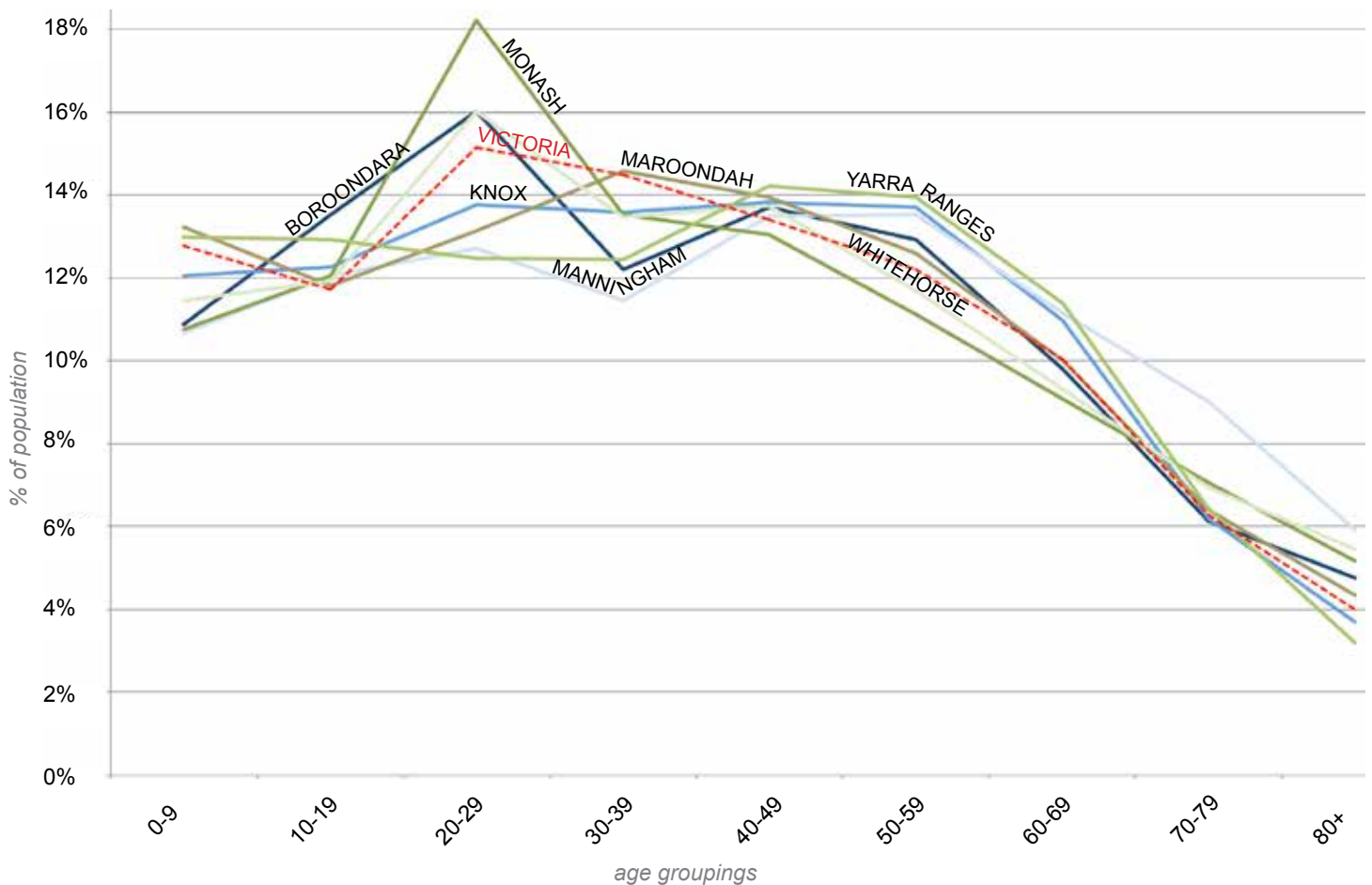


FIGURE 6.6:
Age distribution by LGA within study area, compared to the Victorian population (2016)
(Source: Australian Bureau of Statistics, Population by Age and Sex, Regions of Australia, 2016)

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

- Population growth in the study area is relatively uniform. Unlike many other outer-suburban areas of Melbourne, the Eastern Melbourne study area cannot take advantage of new trail projects being delivered as a part of growth corridor planning and broad-scale land development activities.
- Steadily 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 western part of the study area create demand for regional trails, but also make the construction of new regional trails very difficult, due to the density of development and other constraints that come with density.
- There are currently no regional trails within the far-eastern portions of the study area due to the very low population densities. These areas are unlikely to become a priority for regional trail construction, except perhaps for tourism-focused trails based around nature.
- The study area has a higher than average number of residents in the 15-24 age bracket, and there are more residents in the 20-24 age bracket than in any other (comprising 7.7% of the population). This is likely to be a long-term feature of the study area age profile due to the presence of a number of large tertiary institutions. Where possible regional trails should link to these institutions and programs be considered to encourage this demographic to use the regional trail network. (Key tertiary institutions located within the study area are shown on the regional trail maps in chapter 7).
- 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.

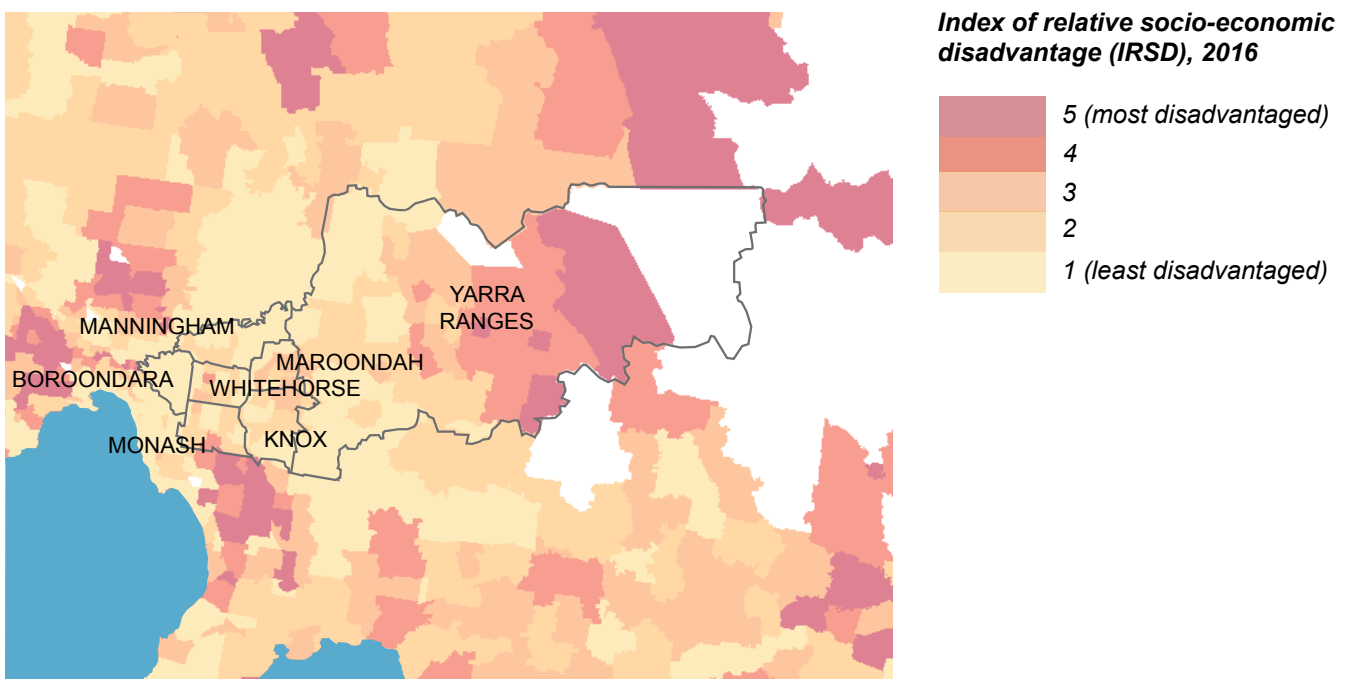


FIGURE 6.7:
Relative socio-economic disadvantage by suburb (2016)
 (Source: Australian Bureau of Statistics, *Socio-economic indexes for areas, SEIFA, 2016*)

6.2 Existing trail users

There is no comprehensive information available about regional trail network use and users in the Eastern Melbourne study area. In this section, information has been compiled from a number of sources in order to build up 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).
- the on-line questionnaire undertaken as a part of this project.

The purpose of understanding existing trail use is to determine:

- Who is already using the regional trail network, and why, so that trail planning, management and potential improvements can try to meet their needs and improve their regional trail-use experiences.
- Who isn't using the regional trail network, and the likely reasons why, with a view to considering changes targeted at making regional trail use more attractive to more people.

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?

6.2.1 Quantity/location

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

In the Eastern Melbourne study area, the highest cycle commuter numbers are at the eastern end, close to central and inner Melbourne employment centres. These routes carry in excess of 600 bicycle riders per hour at peak periods. This rate of use is an average of one rider passing every six seconds.

As would be expected, peaks of usage are not as pronounced on weekends. For the 2017 *Super Sunday* count, maximum usage was around 200 users in a single hour. This rate of use is an average of one user passing every 18 seconds.

Most regional trails located in areas of lower population density and further from the inner city record much lower use than these maximums, both during commuting peak times and on weekends.

An indication of this hierarchy of use among the regional trails of Eastern Melbourne is provided via the questionnaire undertaken as a part of this project that asked people to identify which of the regional trails in the study area they had used, and how often. Figure 6.8 illustrates the percentages of respondents who recorded frequent use (a few times per month, or more) for each of the regional trails in the study area.

The Warburton Rail Trail is the exception to the generalisation that trails in areas of lower population density and further from the central city record lower levels of use.

The trail records high levels of usage, especially on the weekend. The trail has strong tourism visitation, with Yarra Ranges Shire estimating that it receives over 200,000 visitors per year. The 2015 *Super Sunday* count on the trail recorded 1543 users over the 4 hour count duration (from 9am to 1pm), or an average of one user passing every 9 seconds. The tourism focus of this trail means that trail use is concentrated on the weekends and is also seasonal, with the peak period being over the warmer months between October and March.

The Bicycle Network *Super Tuesday* counts also record the gender of riders. Their reason for recording gender is that:

a high proportion of female riders is a strong indication of the health of a city’s cycling environment. The higher the proportion, the better the cycling infrastructure. In the top international cycling cities, women tend to comprise around 50% of cycling numbers. (Bicycle Network, Super Tuesday 2017 summary)

In the 2017 *Super Tuesday* count, 22% of riders across the state were female, suggesting that there is room for cycling infrastructure improvement.

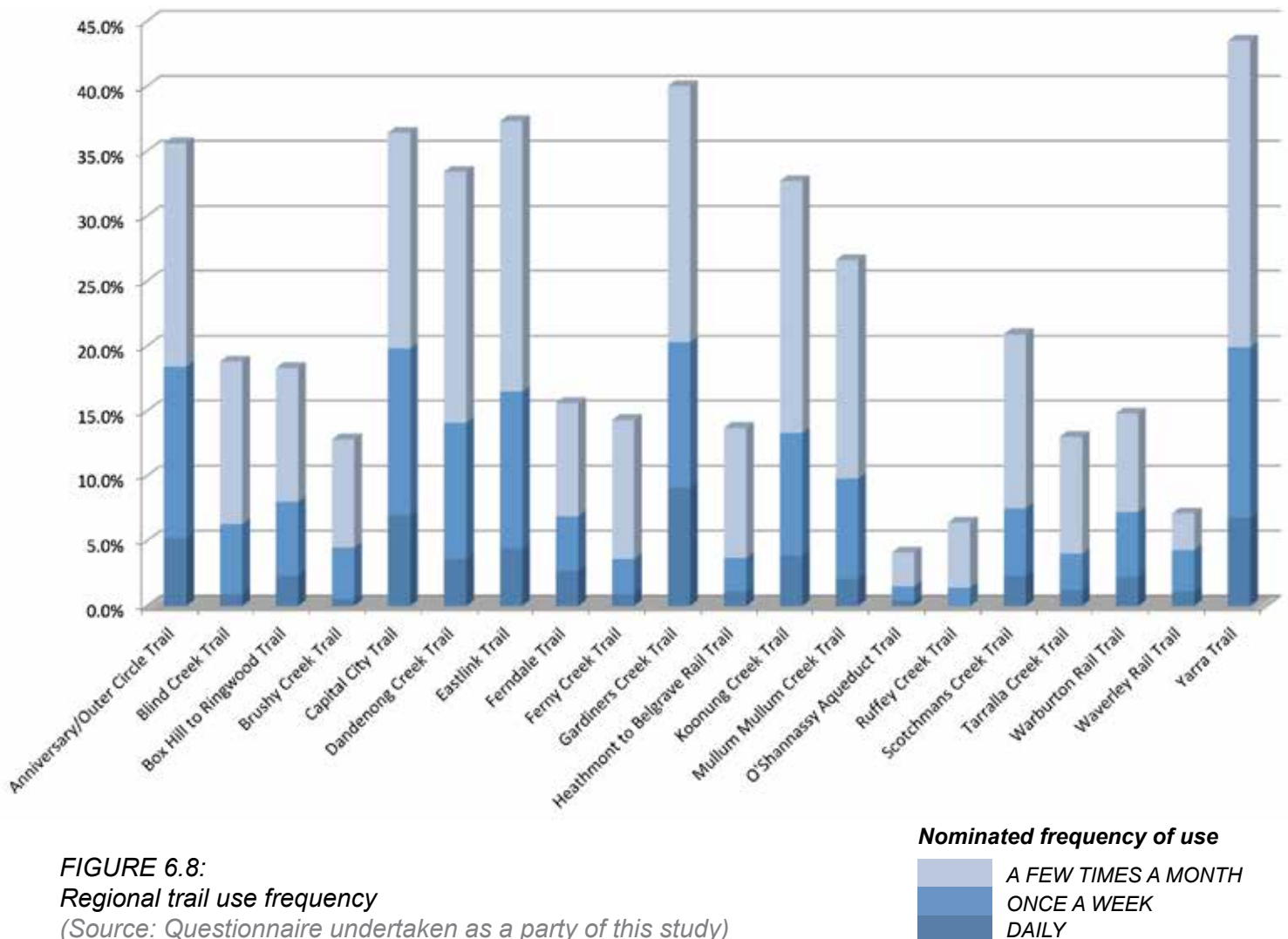


FIGURE 6.8:
Regional trail use frequency
(Source: Questionnaire undertaken as a party of this study)

6.2.2 Mode

How are people using the regional trails of Eastern Melbourne?

The *Super Sunday* data available for the study area indicates that there is significant variation in usage modes across the different trails.

In general, walkers (and the related activities of running and dog walking) make up a higher proportion of trail users in more densely developed urban areas, where destinations are more closely grouped together. Conversely, cyclists make up a higher proportion of users as the density of population decreases and the distances between potential destinations increases.

The usage mode is also highly dependent upon the nature of the trail itself. The Main Yarra Trail and Koonung Creek Trail provide long sections of trail away from the road network, with few road crossings and connections to the local footpath network. These characteristics make these trails particularly attractive to cyclists. As shown in figures 6.9 and 6.10, the Main Yarra Trail/Koonung Creek intersection in Kew East recorded 68% bicycle use. The Anniversary Trail, in contrast, runs along a former railway corridor, and is much more closely tied to other urban infrastructure, including roads, footpaths and parks. It was found to have bicycle use of around 19%.

These kinds of mode use differences are likely to occur across the Eastern Melbourne regional trail network. A question regarding use mode was included as a part of the questionnaire undertaken as a part of this project, and the findings are graphed in figure 6.11.

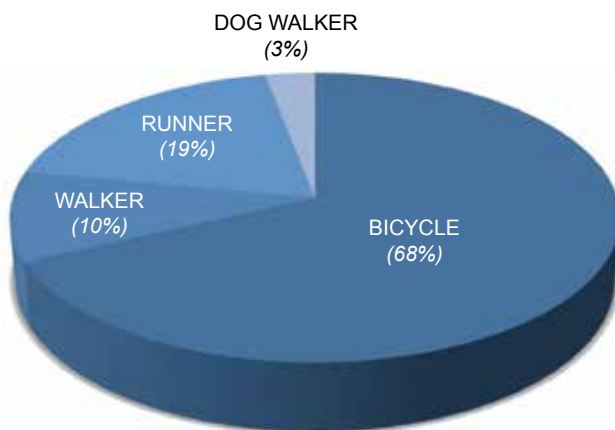


FIGURE 6.9:
Main Yarra Trail/Koonung Creek Trail
use mode

(Source: *Super Sunday Recreational Count, Bicycle Network, 2017*)

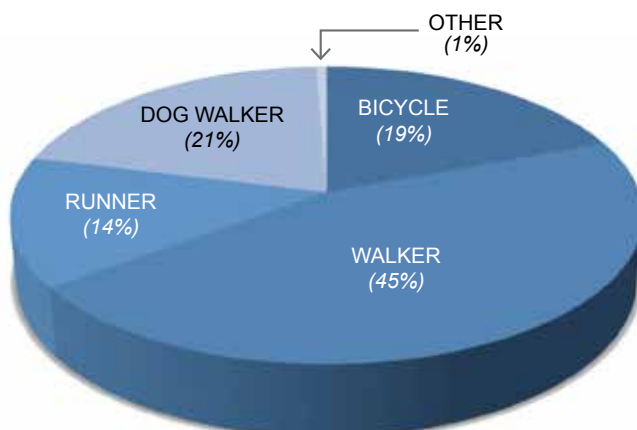


FIGURE 6.10:
Anniversary Trail (East Camberwell)
use mode

(Source: *Super Sunday Recreational Count, Bicycle Network, 2017*)

The questionnaire also included questions regarding equestrian and paddle-sport use within Eastern Melbourne. These categories are the primary use modes of a very small section of the population, as shown in the figure below. Other information collected regarding these uses included:

- 3.4% of respondents indicated that they had used regional trails in Eastern Melbourne for horse riding, with 60% of these respondents indicating that they undertook this use only a few times per year or less.
- 22.8% of respondents indicated that they had participated in canoeing or kayaking in Eastern Melbourne, with over 90% of these respondents indicating that they undertook this use a few times per year or less.

Due to the unique requirements relating to both equestrian and paddling trail use, these uses are examined in more detail under a separate headings later in this chapter.

6.2.3 Function

Why are people using the regional trails of Eastern Melbourne?

The questionnaire undertaken as a part of this project asked people to identify why they most often used regional trails in the study area (see figure 6.12). Respondents were given a range of options and asked to select up to three.

Individual exercise was the most common response, being selected by 73% of respondents, followed by group/social exercise (52%) and transport/commuting (39%). 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 individual and group/social exercise categories, supporting this are the findings of the *VicHealth Indicators Survey 2015* that notes at a state-wide level, walking (51.2%), jogging/running (14.0%) and cycling (11.8%) are the highest participation non-organised physical activities.

Cycle commuting is an important function of many regional trails in Eastern Melbourne, reflected in the questionnaire results regarding reasons for trail use, and the high numbers recorded in the *Super Tuesday* counts, previously discussed.

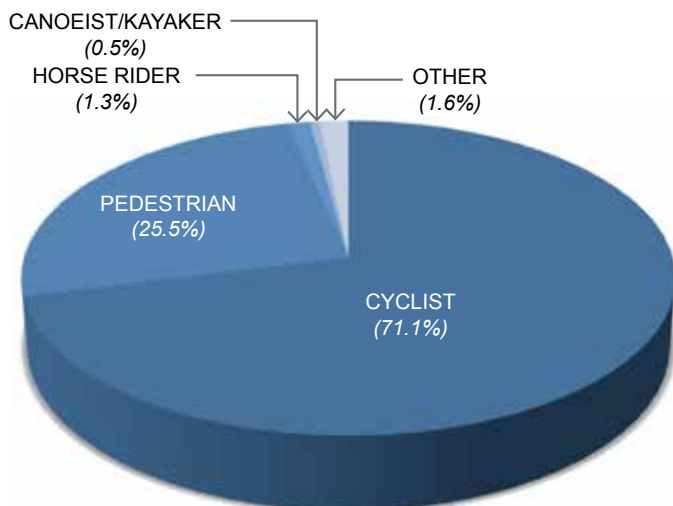


FIGURE 6.11:
 Primary use mode of regional trails in Eastern Melbourne
 (Source: Questionnaire undertaken as a part of this study)

However, 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).

As noted at the beginning of this report regarding the definition of regional trails, the traditional perception of trails has been as having a rural and natural (rather than urban) focus. Many existing trails in urban areas reflect this, and are more likely to connect to parkland and natural reserves than to centres of activity and employment. This is reflected in the low number of responses to the questionnaire categories relating to access to shops and schools as a reason for using regional trails. These figures indicate that as active transport routes, regional trails have room for improvement.

The levels of dog walking recorded in the questionnaire (16%) are supported by similar proportions of dog walking use recorded in the *Super Sunday* trail usage counts.

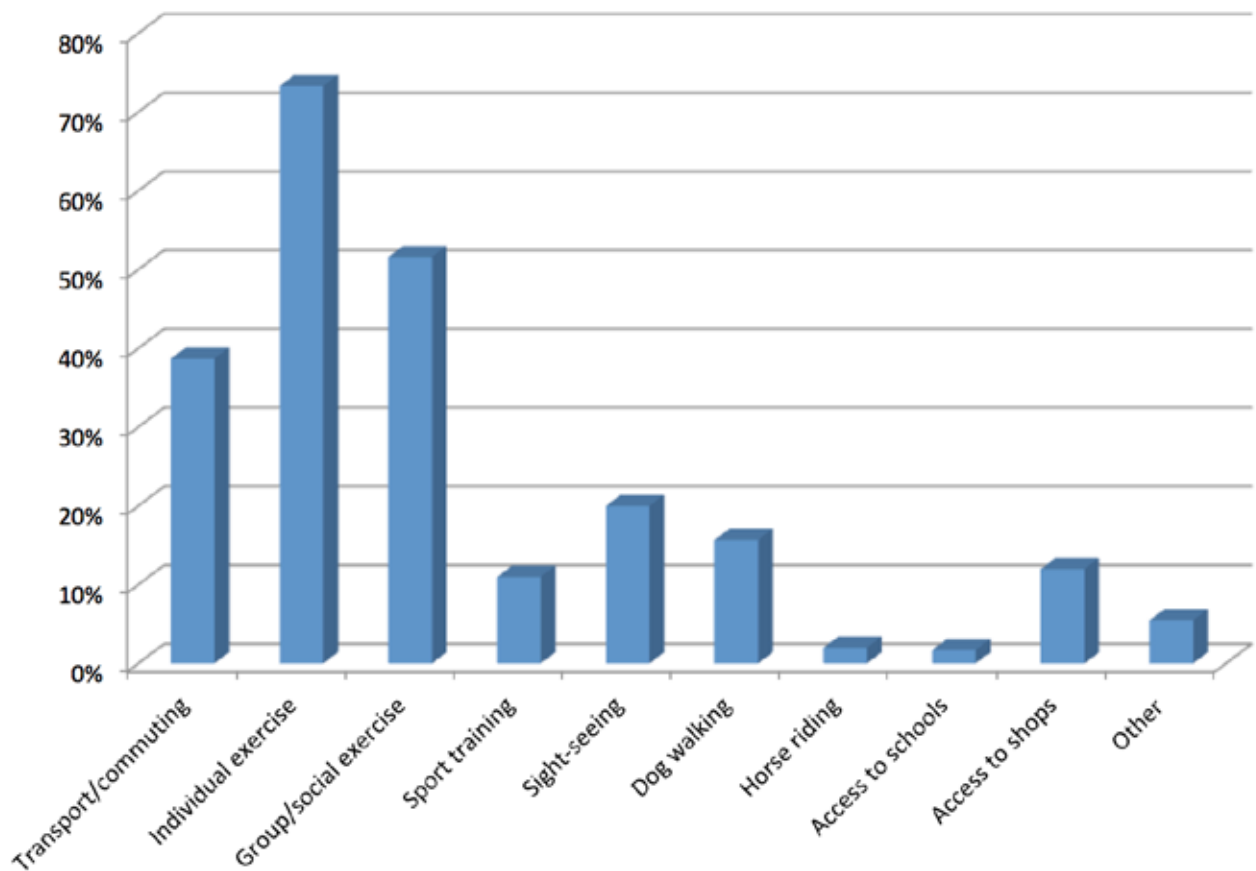


FIGURE 6.12:

Reason for trail use:

'Why do you most often use regional trails in Eastern Melbourne? (select up to 3 answers)'

(Source: Public questionnaire undertaken as a part of this study)

6.3 Potential trail users

One of the key measures of success of a regional trail network is the number of people using it. A growing regional trail network needs to attract additional users to be successful.

Factors external to the trails themselves that are likely to change 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 can allow people to use trails, where previously they may not have had the physical ability due to route length or gradient.
- Advances in technology allowing dockless share bikes that utilise web-based rental systems combined with global positioning technology tracking to allow convenient short-term bike rental.

There are also factors to do with the trails themselves that influence regional trail use, and identifying and examining these is a key focus of this project. The questionnaire undertaken as a part of this project showed that 'improved connectivity between the trails' received the highest response (78.2%) to the question of 'what would increase your usage of the trails' (see figure 6.13).

The very high support for improving connectivity between the trails reflects the benefits this improvement would have for a broad range of users. For recreational users, connecting trails allow the creation of circuits and loops, which provide a more interesting experience for users (who don't have to retrace their steps on a return journey) and allow users to set themselves goals and challenges relating to circuits of a particular length. For people using regional trails for transport and commuting, inter-connecting trails open up a larger range of destinations able to be accessed via trails.

'Separated pedestrian and cycling trails in high use areas' was the fifth most-selected trail improvement, and reflects a high level of concern about the shared-use nature of trails. The key concern arises from the potential for a difference in speed between cyclists and walkers using the trails. Chapter 8 of this report relating to trail infrastructure will discuss this issue in more detail.

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.*
- *'Enthusied 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 safety fears relating to on-road cycling among this group are likely to make cycling on regional trails an attractive option and they should be a key target for increasing regional trail usage. The improvements identified by existing trail users relating to making trails more convenient, safe, and easy to navigate would also be expected to appeal to the 'interested but concerned' cyclists.

Tourism-related use of regional trails is an area that has strong potential to increase regional trail use. The Warburton Rail Trail already attracts high numbers of visitors, demonstrating the potential of this kind of trail experience. While many regional trails may not be particularly scenic or directly connect to tourist-attracting destinations, an interconnecting network means that visitors can make their way through the network to access the more scenic trails and destinations.

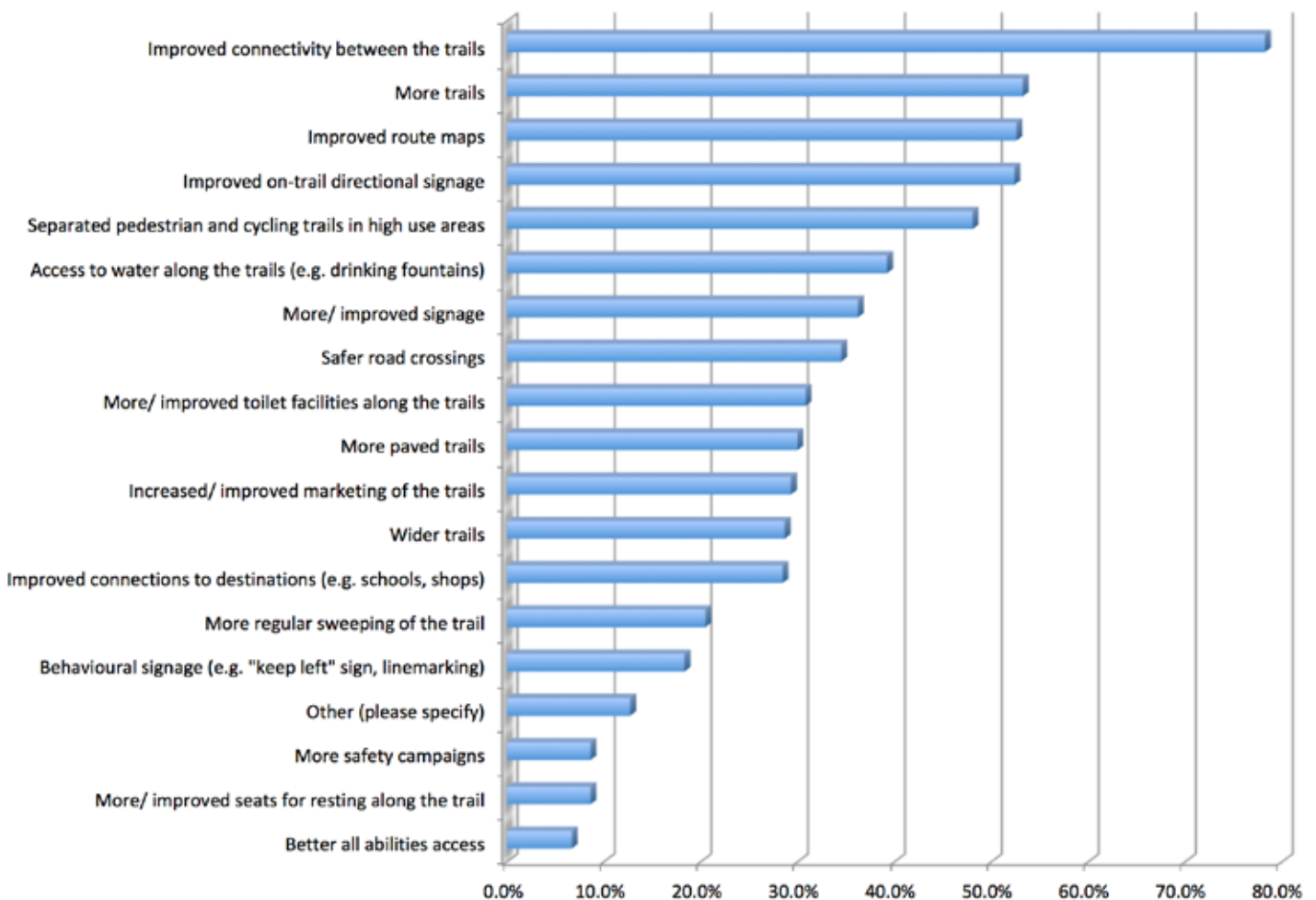


FIGURE 6.13:

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)

6.4 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.

Currently, equestrian use of regional trails is relatively limited across the study area. Questionnaire respondents reported using the following regional trails within the study area for equestrian use:

- Warburton Rail Trail
- O'Shannassy Aqueduct Trail
- Mullum Mullum Creek Trail

The Warburton Rail Trail was by far the most popular response. It can be seen that equestrian use of the regional trails seems to currently be confined to regional trails in rural settings where equestrian use has been specifically catered for. Examples of this on the Warburton Rail Trail include gravel surfacing (rather than hard paved surfaces less suited to equestrian use), mounting platforms, areas identified for horse float parking (eg Woori Yallock Station) and horse yards at Killara Station.

The questionnaire also requested that respondents record the frequency of their regional trail use for equestrian activity. The majority (60%) of people who have used the trails for equestrian activity do so 'a few times per year' or less.

As a starting point regarding equestrian use of trails, the first question to be answered is whether the goal should be to accommodate equestrian use on all regional trails. Should people be able to ride horses from the rural fringes of the city to the city centre on off-road trails, in the same way one could on a bicycle?

Any ambitions for this level of equestrian use of regional trails in Eastern Melbourne is hindered by a number of factors:

- Hard paved trail surfaces (specifically concrete or asphalt) are preferred for most urban shared trails, providing benefits to non-equestrian users including easy all-weather access, accessibility for people of all abilities, and the minimisation of ongoing maintenance requirements. Therefore, the majority of the regional shared trails in Eastern Melbourne are hard paved. These hard paved surfaces are not well suited to equestrian use.
- Trail corridor widths are often highly constrained in urban environments, meaning that there is often not scope for equestrian use of unpaved spaces (either maintained as mown grass, or through the construction of a second parallel path constructed from a softer paving material). The trail corridor width constraints are often exacerbated by steep grades (particularly along waterways) and the presence of remnant vegetation.
- Melbourne Water, on whose land many trails are constructed, is not supportive of equestrian use of the trails on their land. This is due to a range of factors, including increased risk to trail users (which as land owners, they share some responsibility for), and the potential for environmental damage. The shared pathway agreements that Melbourne Water enters into with Local Government Authorities to construct and maintain shared paths on their land does not include equestrian use.

- 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, showjumping and eventing. These activities are undertaken at purpose-built facilities, not on trails.
- Riding on shared-use trails creates issues for horse riders, including the potential for horses to be troubled by other trail users and dogs. These kinds of issues make 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.
- Horses are no longer used for transport and commuting purposes on a regular basis. Trails that focus upon connecting activity centres may be very useful for getting the community to engage in active transport, but are not the most enticing routes for horse riders.

For these reasons, equestrian use of the entire regional trail network is not feasible. If instead, equestrian use of trails is targeted, the question that needs to be answered is: what kind of equestrian activities should be targeted?

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 other 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.

Another question to be answered is: which regional trails should be targeted for equestrian use?

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 7 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 6.14 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 eastern, more rural, parts of the study area. The Warburton Rail Trail already caters for horse riders along much of its length, and equestrian use is also being factored into planning for a section of the proposed Yarra Valley Trail. The O'Shannassy Aqueduct Trail, currently unsealed and relatively undeveloped is also used for horse riding. Consideration should be given to accommodating this use in any future development of the trail.

6.5 Paddle-sport use

Paddling (including canoeing and kayaking) has been included within the scope of this study so that any potential synergies between water and land-based trails can be fully realised. Unlike the other user groups examined within this chapter, paddle sport participants are not generally sharing the land-based trails with the other user groups. They do however often intersect with land-based trails in accessing waterways, and they often share the same trail corridors given the alignment of many trails along waterways.



FIGURE 6.14:
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)

Currently, paddle-sport activity in the Eastern Melbourne study area waterways is largely confined to the Yarra River. Close to a quarter (22.9%) of the respondents to the questionnaire undertaken as a part of this project reporting having used waterways in the study area for canoeing and/or kayaking, and 97.8% of them reported having undertaken this activity on the Yarra River, compared to 7.3% for Gardiners Creek.

The Yarra River is also the focus of organised paddling activity. This includes use by youth-focussed groups (such as Scouts), as well as dedicated paddle clubs. The Canoeing Victoria *Strategic Facilities Plan 2015-2035* identifies two canoe clubs located just outside the study area (Fairfield Canoe Club and Ivanhoe Northcote Canoe Club) and two competition venues within the study area (Yarra Bend Park and Westerfolds Park). The facilities at Westerfolds Park are proposed to be significantly upgraded, with draft concept plans released prior to the completion of this report showing new built amenities, improved river access and works to mitigate conflict with riverside shared paths.

Paddle sports are also undertaken within the study area at 'flat water' venues such as Lilydale Lake. None of these venues interact with other navigable waterways or are of a scale significant enough to be considered trails, and are therefore not assessed within this study.

More than half of the existing regional trails being assessed by this study are named after waterways, however most of the waterways are not currently navigable. There is potential that the number of navigable waterways could increase over time - Melbourne Water is currently undertaking a number of 'daylighting' projects, where waterways that had the majority of their flow diverted to underground drains in the past are being converted back into 'natural' waterways.

The questionnaire undertaken as a part of this study also requested that respondents who reported having undertaken paddle-sport activity record the frequency of this activity. The vast majority (92.8%) of people reported undertaking this activity 'a few times per year' or less. Perhaps unsurprisingly, there are very few, if any, people using the waterways of Eastern Melbourne for transport or commuting.

Broader population surveys, such as the 2010 *Participation in Exercise Recreation and Sport Survey (ERASS)* estimated that 0.8% of the Victoria population participated in some form of canoeing and/or kayaking activity within the preceding year, and Maritime Safety Victoria estimate that 352,100 Victorians (or approximately 5% of the population) own at least one paddle craft (<https://transportsafety.vic.gov.au/maritime-safety/recreational-vessel-operators/paddle-craft/paddle-safe-paddle-smart>).

Interestingly, surveys of people involved in organised paddle sports show high levels of participation in recreational activities associated with terrestrial trails. The Canoeing Victoria *Strategic Facilities Plan 2015-2035* notes that Canoeing Victoria members were asked about 'the other sport or recreation activities they participate in', and the top three responses were cycling/mountain bike riding (55%), hiking/bush walking (32%) and running (32%). The plan links the popularity of these activities among members to the growth in multi-sport and adventure racing in recent years.

While improvements to paddle-sport facilities should generally benefit a broad range of paddle-sport types, the part of the paddling community that most strongly relates to the focus of this project are the users of paddle trails (also known as canoe trails).

The Canoeing Victoria *Strategic Facilities Plan 2015-2035* defines a canoe trail as;
A waterway used for paddling that starts from short distances and stretch to over 50km and are commonly used for guided tours, self directed tours, day and overnight experiences.

The Yarra River within the study area is greater than 50km long and is largely navigable. Factors preventing more widespread use of the whole length of the river as a paddle trail include:

- a lack of river access/launch points. Currently the lower stretches of the Yarra River have regular launch points. Maps of the river prepared by Whitehorse Canoe Club and available online (www.whitehorsecanooclub.com) show gaps of up to 15 kilometres between public river access points (in the stretches between Wonga Park and Yarra Glen), and many gaps of 5 kilometres or more along most of the river length. These distances mean that large sections of the river are suited only to confident and experienced paddlers.
- A wide variety of hazards and obstacles including rapids, snags and willow infestations. It is noted that snags are an important part of river ecology, and removal of all snags to aid easy and safe navigation would come at an environmental cost.
- Water quality concerns. The Yarra River flows through a developed urban catchment in the western parts of the study area, and therefore contends with water quality and litter issues, particularly after rain.

None of the factors identified above are easily resolved. Land ownership and/or topography means that long sections of the river bank will remain largely inaccessible, and changes in water quality and ecological values involve many variables and long time frames.

Actions aimed at strengthening the role of the Yarra River as a paddle trail will necessarily need to be targeted to shorter lengths where some of these limiting factors can be avoided or more easily addressed. Key factors to be considered when targeting locations for canoe trails include:

- Scenic values. People don't generally paddle as a form of day-to-day transport. They choose to paddle for recreation and/or exercise, and are more likely to use a trail if it is attractive and appealing.
- Tying in with existing facilities and points of interest. A small percentage of the population paddle, so justifying the provision of extensive facilities for paddlers in multiple locations is difficult. Paddle trails will likely need to take advantage of existing infrastructure.
- User safety. Choosing areas without significant safety risks maximises the number of people able to use the trail, including people of all ages and abilities. Maritime Safety Victoria's Paddle Safe Paddle Smart campaign notes that the fatality rate among paddlers is increasing, and that the majority of recent paddling fatalities (58%) have occurred on inland waterways.

At the time of writing, a *Yarra Strategic Plan* is being developed by Melbourne Water and state government agencies, and is expected to be completed in 2019. This document has a focus on river health, and may provide additional opportunities relating to paddle use of the Yarra River.

The Yarra River Paddle Trail has the potential to be a regional trail, and is included in the regional trails mapped and assessed in chapter 7 of this report.

While some paddling use of the Gardiners Creek was reported in the project questionnaire, the creek is not a strategic focus for paddling for a variety of reasons including:

- Lack of aesthetic appeal. Large sections of the creek are contained within a concrete channel and/or sit beside or underneath a freeway.
- Safety. The creek performs a drainage function within a densely developed urban area, meaning that it rapidly rises after rain, creating safety issues for inexperienced users.



Yarra River



7 THE REGIONAL TRAIL NETWORK

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:

- **Desktop review** - a review of available strategic documents identified the major trails within the study area.
- **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.
- **Assessment against criteria** - the major trails that were identified and audited were assessed against criteria established as a part of this project (see chapter 4). 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 development of these trails as identified in strategy documents as a part of the desktop review phase.

Of the trails identified as a part of the desktop review, 22 were assessed to be, or have the potential to be, regional trails. These trails are shown in figure 7.1, and individually mapped in this chapter, along with descriptions of the trails and the recommended trail improvement projects for each.

Of the 22 regional trails, five were either non-existent or substantially incomplete when the trail audit process was undertaken. They are:

- **Box Hill to Ringwood Rail Trail** - approximately 10km of this trail already exists, but plans for the trail extend it along the rail corridor that will more than double the length of the trail.
- **Healesville Freeway Reservation Trail** - a new trail of approximately 8.5km length proposed to be constructed on a former freeway reserve within the City of Whitehorse.
- **Nunawading to Syndal Trail** - some small sections of this trail exist, but it is proposed to extend to 9km length along a pipetrack reserve.
- **Yarra River Paddle Trail** - while the Yarra River already exists and is used for paddling, it is not currently managed or marketed as a paddle trail.
- **Yarra Valley Trail** - a proposed trail being planned within Yarra Ranges Shire linking Lilydale to Healesville and then linking back to the Warburton Rail Trail creating a loop in excess of 60km.

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.

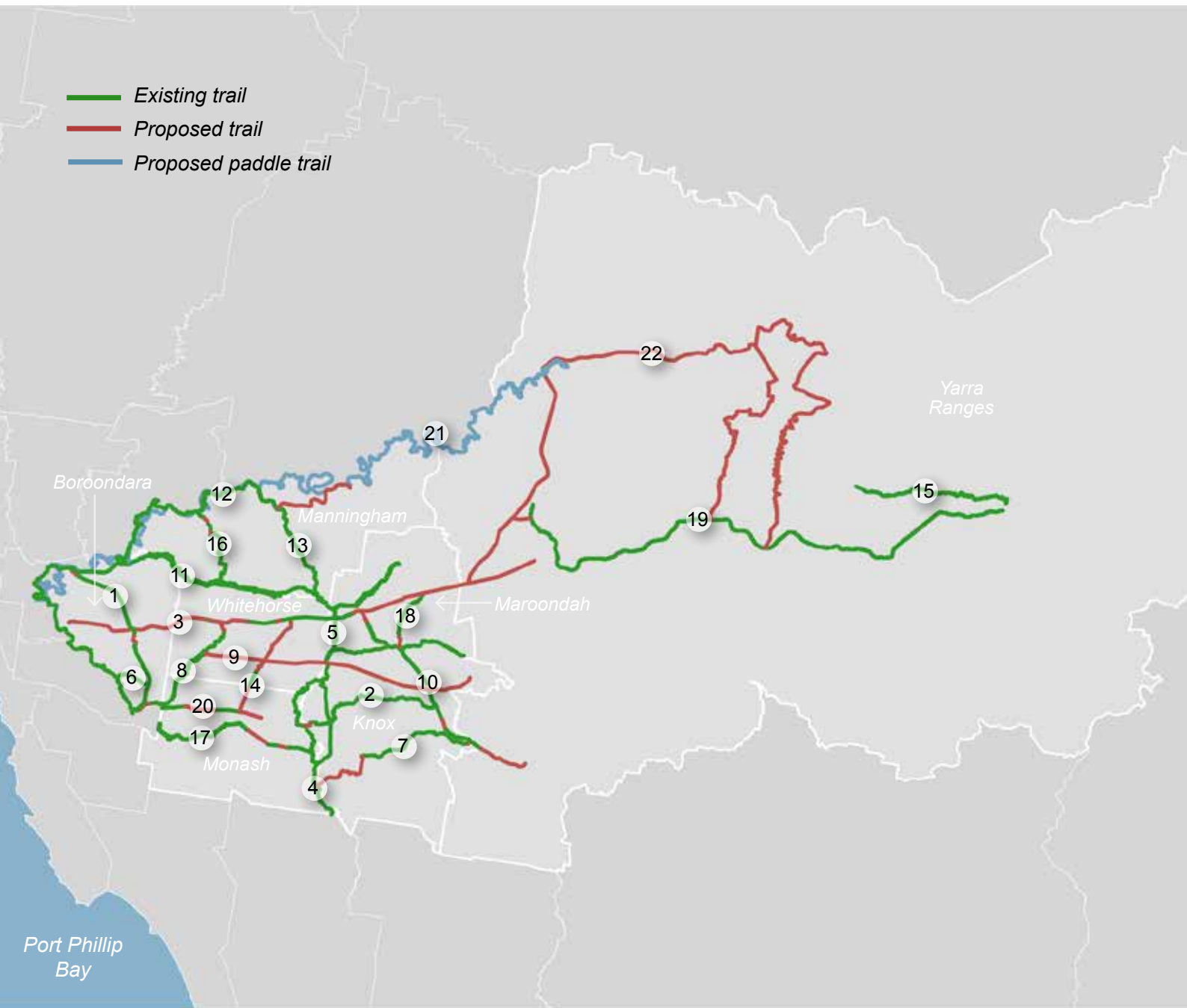
















































FIGURE 7.1:
The Eastern Melbourne regional trail network



Eastern Melbourne Regional Trails

		Approx. length (kms)		
		Existing	Proposed	
1	Anniversary Trail (Outer Circle Trail)	 	13	1
2	Blind Creek Trail	 	11	0.5
3	Box Hill to Ringwood Rail Trail	 	10	15
4	Dandenong Creek Trail	 	23	-
5	Eastlink Trail	 	17	-
6	Ferndale Trail	 	2.4	-
7	Ferry Creek Trail	 	8.6	4
8	Gardiners Creek Trail	 	16	1.5
9	Healesville Freeway Reservation Trail	 	-	17
10	Heathmont to Belgrave Trail	 	12	5.5
11	Koonung Creek Trail	 	13.5	-
12	Main Yarra Trail	 	32	4
13	Mullum Mullum Creek Trail	 	17.5	-
14	Nunawading to Syndal Trail	 	1	8
15	O'Shannassy Aqueduct Trail	  	14	-
16	Ruffey Creek Trail	 	6	0.5
17	Scotchmans Creek Trail	 	10	3
18	Tarralla Creek Trail	 	5	1
19	Warburton Rail Trail	  	40	-
20	Waverley Rail Trail	 	4.5	4.5
21	Yarra River Paddle Trail		101	-
22	Yarra Valley Trail	  	-	60

7.1 Anniversary Trail (Outer Circle Trail)

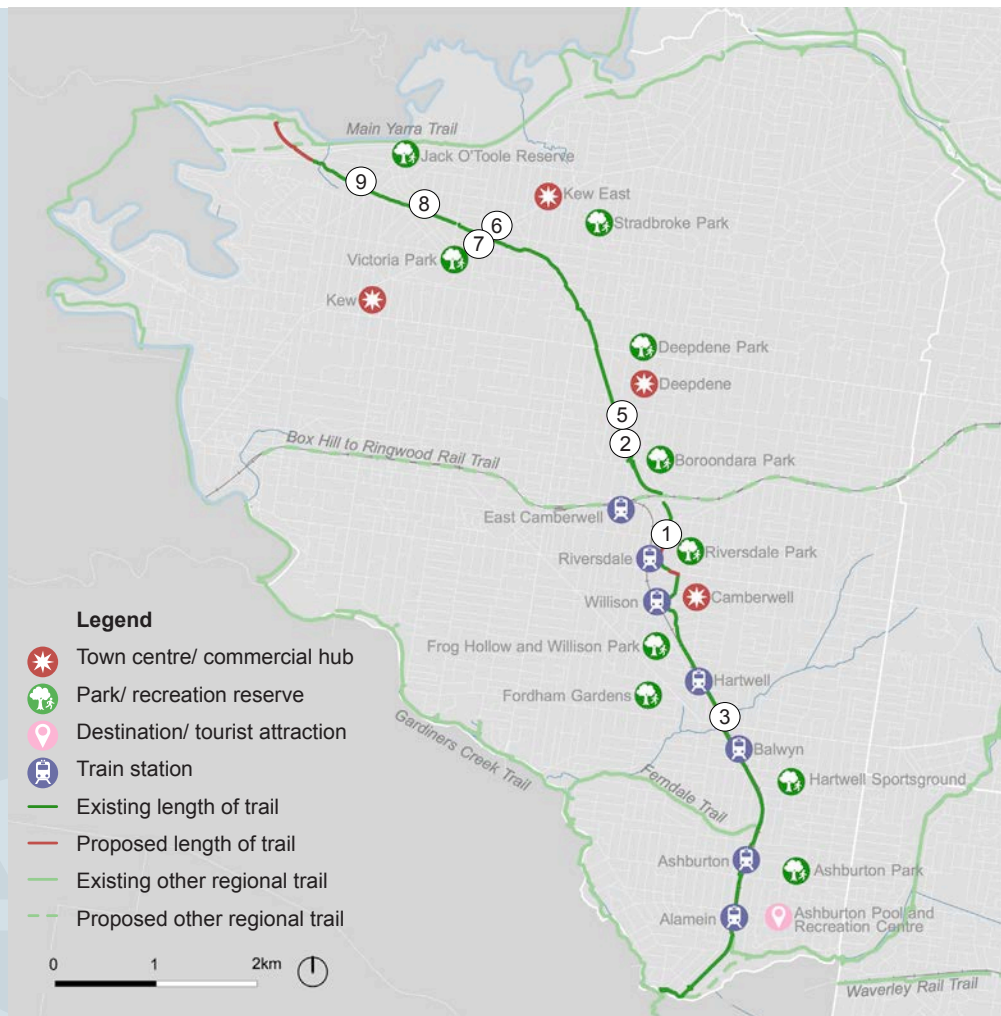
Trail information

Length:
14km

Location:
The Anniversary Trail commences in Kew at its northern end and continues south through Deepdene and Camberwell before concluding in Ashburton at the Gardiners Creek Trail.

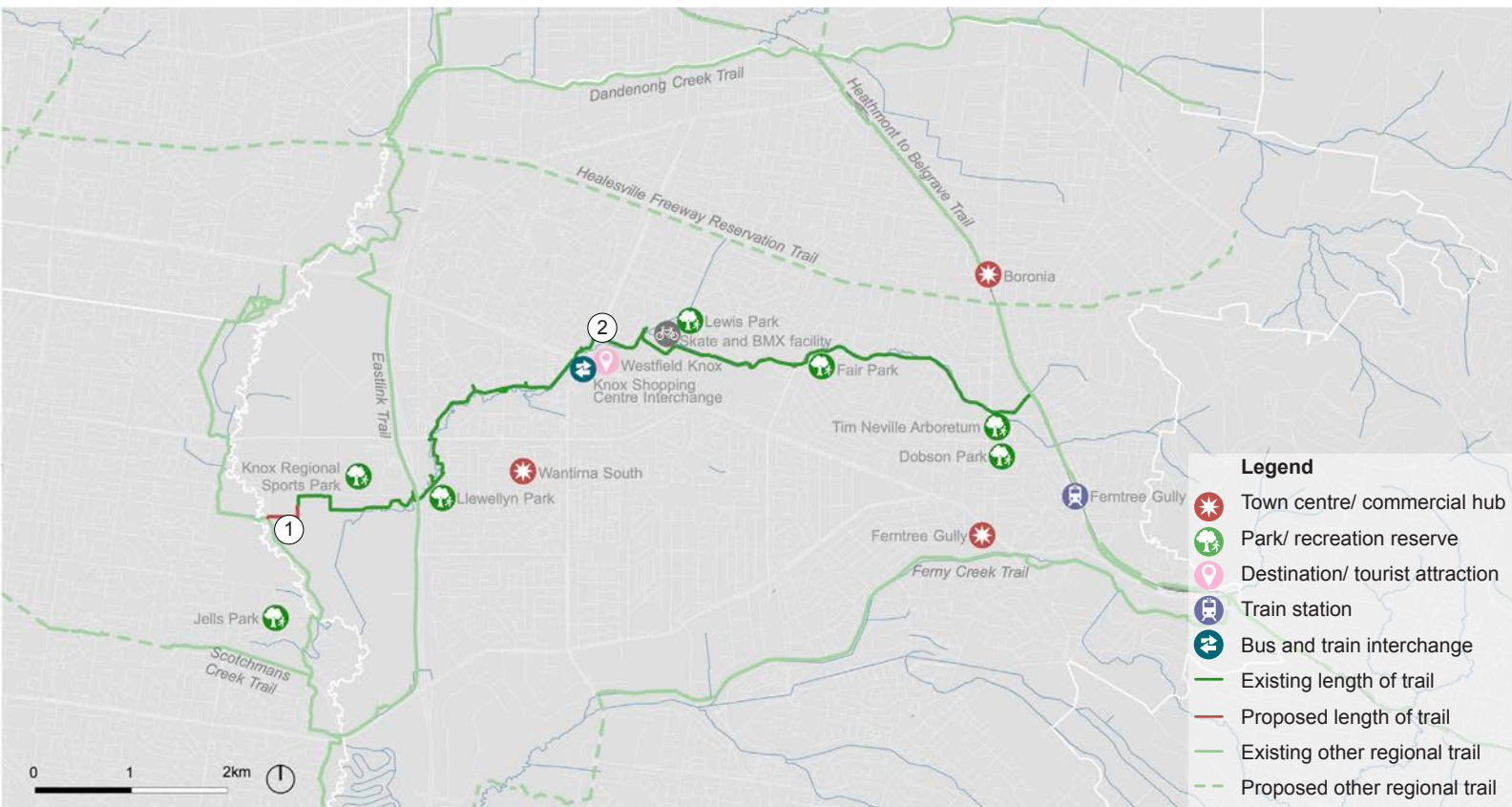
Local Government Area:
City of Boroondara

Auditor comments:
As it stands, more like a series of scenic sections broken up by road crossings, perhaps best suited as a recreation facility for local residents or short ride day visitors, with potential for considerable improvement with extra infrastructure.



Action Items

- Complete the gap on the Anniversary Trail between Riversdale Road (Fordham Avenue) and Prospect Hill Road
- Construct a new shared path ramp to connect Anniversary Trail with Mont Albert Road
- Construct a new shared path bridge over Toorak Road on the Anniversary Trail
- Improve wayfinding signage on the Anniversary Trail particularly at crossings, connections to other trails and links to surrounding destinations
- Investigate lighting improvements on the Anniversary Trail from Whitehorse Road to Canterbury Road
- Undertake feasibility study of separating trail from road crossing to improve safety and continuity on the Anniversary Trail at Harp Junction.
- Relocate existing pedestrian signals to be in line with the shared path to provide a safe, clear and priority crossing on the Anniversary Trail at High Street
- Remodel existing roundabout at Asquith Street/ Belford Road roundabout on the Anniversary Trail and install pedestrian and cyclist crossing facilities
- Investigate lighting improvements on the Anniversary Trail from Rybume Avenue and Laurel Street rail link (Alamein Station)
- Provide off-road connection between Yarra Trail and Anniversary Trail at northern end of Anniversary Trail
- Identify any areas of the Anniversary Trail that carry high pedestrian and cyclist volumes and investigate the feasibility of mode separating where possible.



7.2 Blind Creek Trail

Trail information

Length:
11.5km

Location:

The Blind Creek Trail begins at the western end of the Knox City Council area at the Dandenong Creek and continues east through Wantirna South where it connects to the Heathmont to Belgrave Trail.

Local Government Area:

City of Knox

Auditor comments:

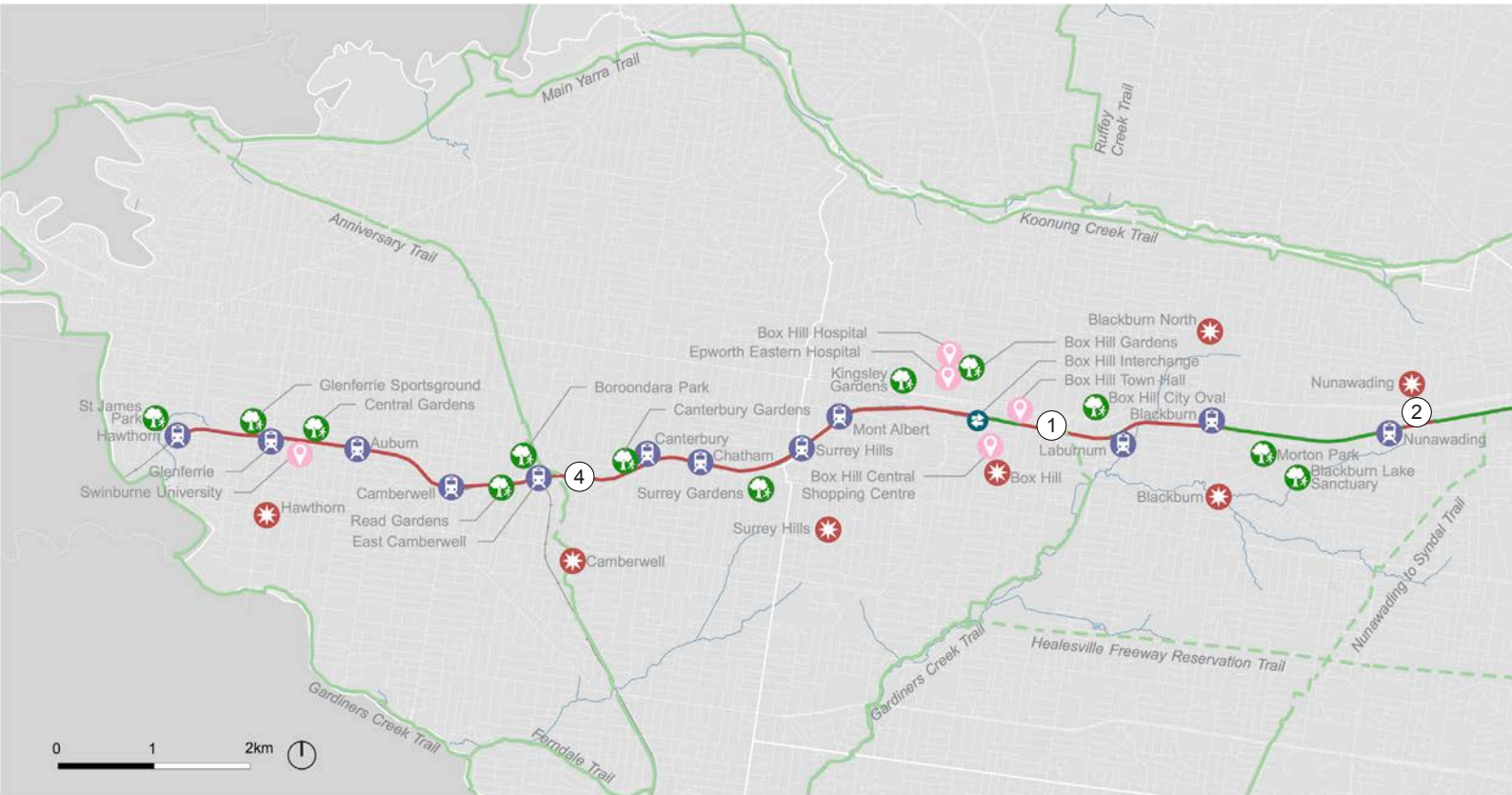
A potentially very pleasant off-road trail through green semi-urban terrain, hampered for the non-local by some glaring gaps.

Action Items

- 1 Provide an off-road path between the Blind Creek Trail, at its western end, and the Dandenong Creek Trail by providing a connection from Nortons Lane through to Shepherd Road.
- 2 Improve legibility and continuity of Blind Creek Trail at Westfield Knox by providing linemarking and signage to clearly highlight continuation of main trail
- 3 Improve wayfinding signage on the Blind Creek Trail particularly at crossings, connections to other trails and links to surrounding destinations.



7.3 Box Hill to Ringwood Rail Trail



7.3 The Box Hill to Ringwood Rail Trail

Trail information

Length:

Currently 10km, approximately 25km when fully constructed

Location:

The Box Hill to Ringwood Rail Trail currently from Box Hill to Ringwood along the rail corridor. There is potential to extend the trail east to Hawthorn and west to Croydon.

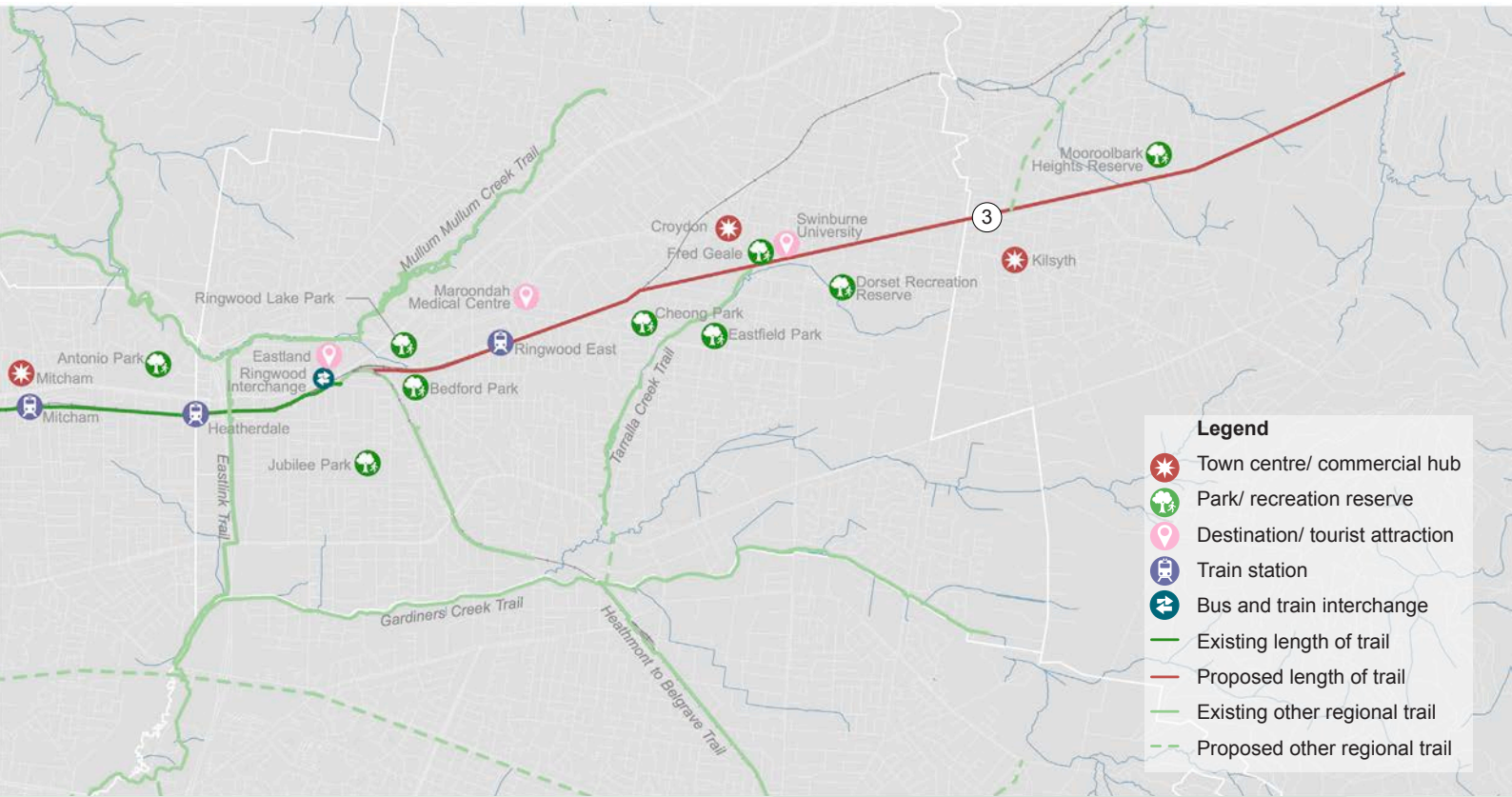
Local Government Area:

City of Boroondara, City of Whitehorse, City of Maroondah

Action Items

- ① Complete the gap in the Box Hill to Ringwood Rail Trail from Middleborough Road to Blackburn Road
- ② Complete the gap in the Box Hill to Ringwood Rail Trail from Nunawading Station to Walkers Road
- ③ Extend the Box Hill to Ringwood Rail Trail east from Ringwood Station along the O'Shannassy Viaduct to connect with local trails and the Warburton Rail Trail
- ④ Extend the Box Hill to Ringwood Rail Trail west from Box Hill Station to Hawthorn Station



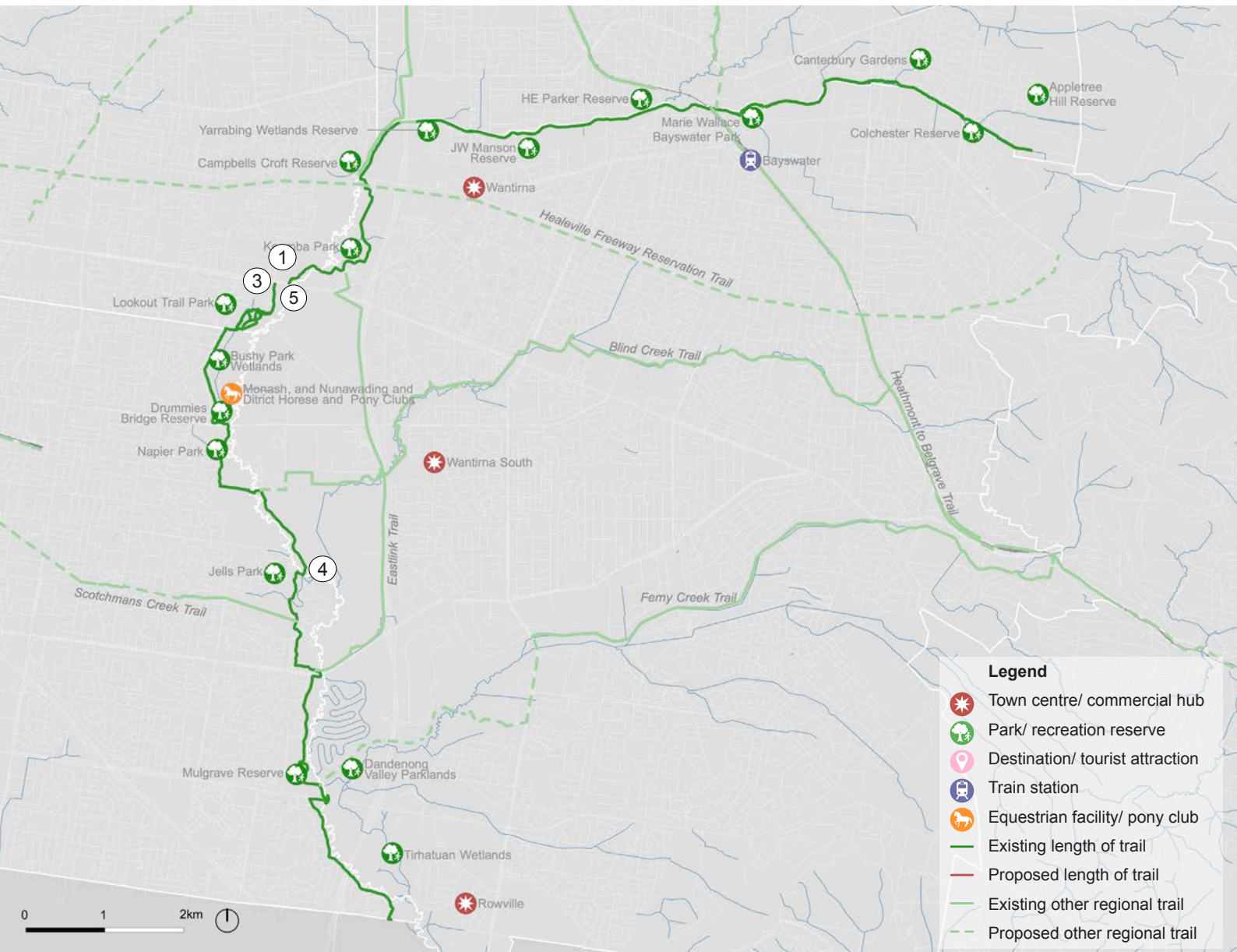


Legend

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



7.4 Dandenong Creek Trail



Trail information

Length:
23km (within study area)



Location:
Starting in Kilsyth South, the Dandenong Creek Trail heads west through Bayswater and Wantima before continuing south through Wheelers Hill to Rowville.

Local Government Area:
City of Knox, City of Maroondah, City of Monash and City of Whitehorse

Auditor comments:
A generally well constructed trail with very little road interaction, covering a wide variety of terrain (bushland, parkland, semi-urban) and offering very good accessibility options.

Action items

- 1 Improve crossing on the Dandenong Creek Trail at Burwood Highway by adding signage and improving legibility.
- 2 Improve wayfinding signage on the Dandenong Creek Trail particularly at crossings, connections to other trails and links to surrounding destinations
- 3 Upgrade section of the Dandenong Creek Trail at the Whitehorse Recycling and Waste Centre to improve safety by reducing grades and upgrading surface
- 4 Upgrade the Dandenong Creek Trail at Jells Park by providing an improved surface, linemarking and signage to legibility and continuity of the main trail
- 5 Construct a shared use path adjacent to the southern side of Burwood Hwy to connect the Dandenong Creek trail at Morack Road to the EastLink trail at the overpass bridge

7.5 Eastlink Trail

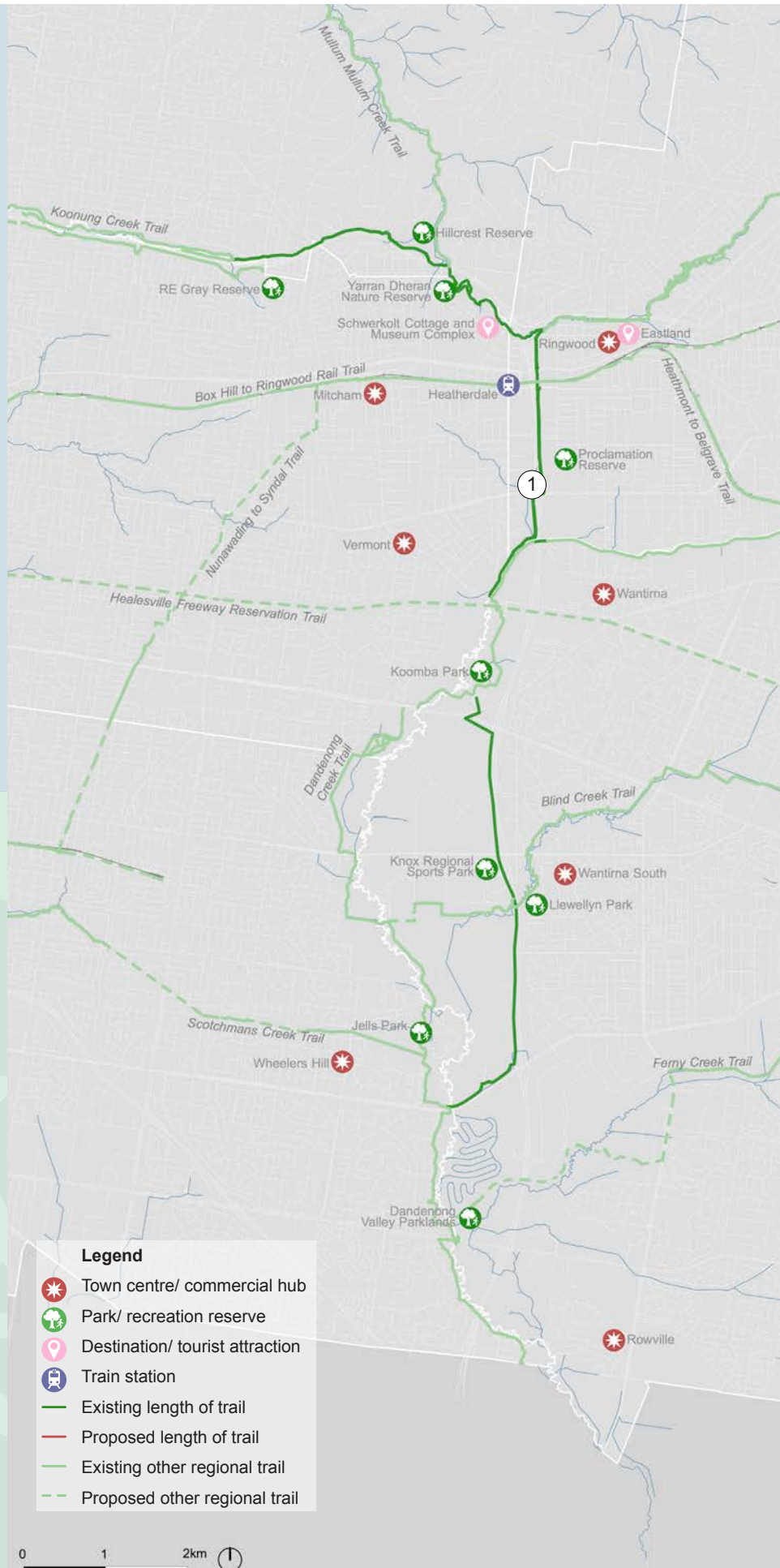
Trail information

Length:
17km (within study area)

Location:
The Eastlink Trail follows along side the Eastlink from Donvale, at the end of the Koonung Creek Trail, to Wantirna and Wantirna South before joining up with the Dandenong Creek Trail in Wheelers Hill.

Local Government Area:
City of Knox, City of Manningham, City of Maroondah, City of Whitehorse

Auditor comments:
A very high quality, well signposted trail that offers easy access to a number of other trails/routes with very little road interaction.



7.6 Ferndale Trail

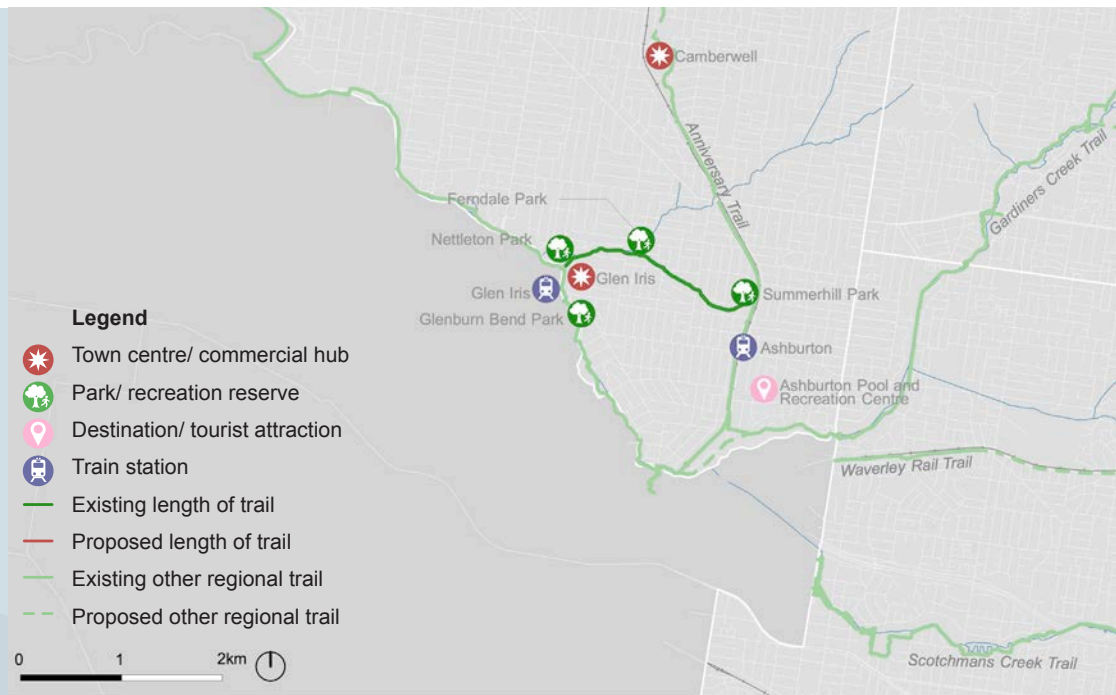
Trail information

Length:
2.4km

Location:
The Ferndale Trail begins in Glen Iris at the Gardiners Creek Trail at its western end. The trail then continues east towards the Anniversary Trail and the Alamein train line.

Local Government Area:
City of Boroondara

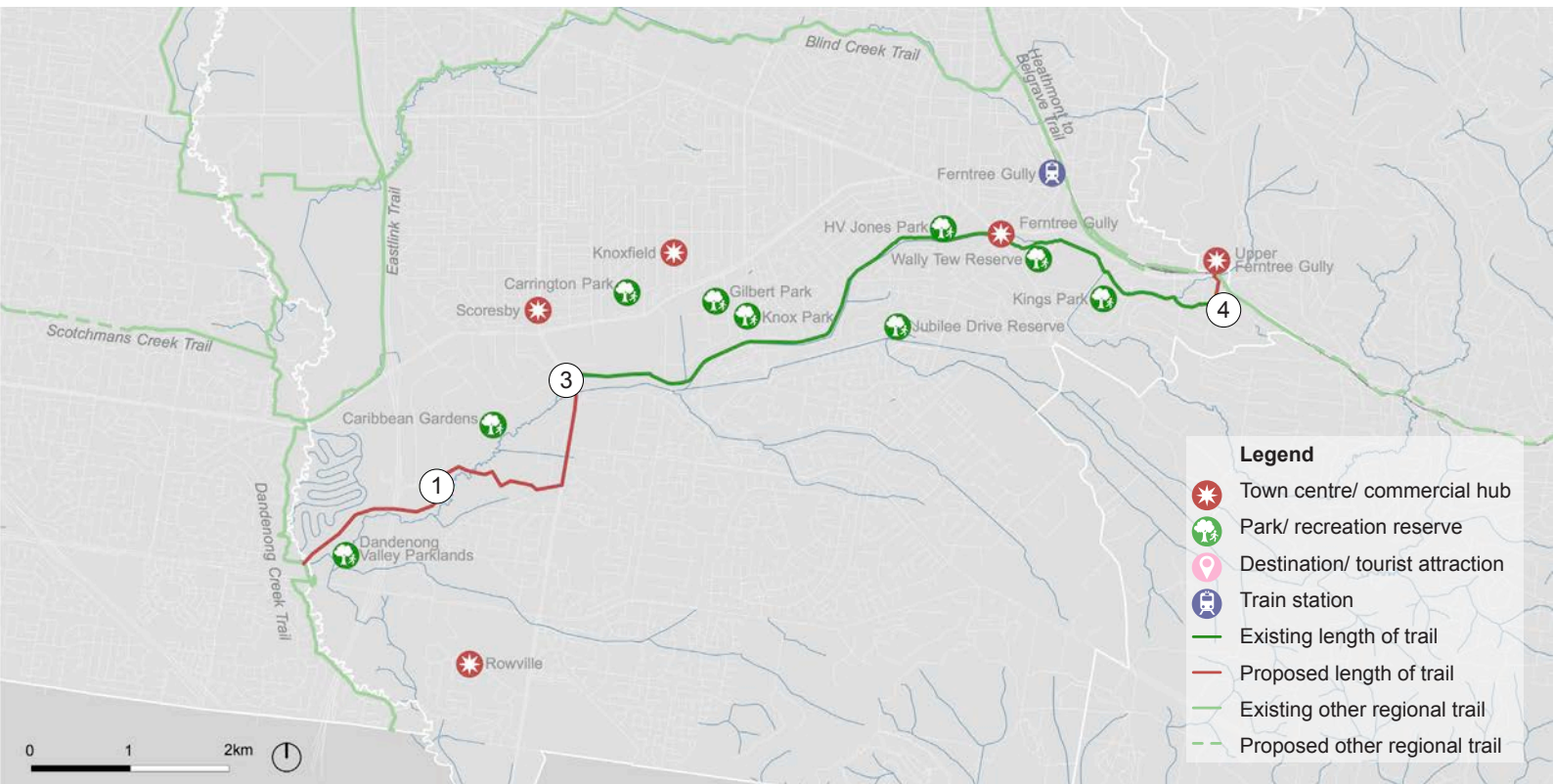
Auditor comments:
An excellent, quite scenic link between the Gardiners Creek Trail and Anniversary Trail on good gravel following a natural green belt.



Action items

- 1 Improve wayfinding signage on the Ferndale Creek Trail particularly at crossings, connections to other trails and links to surrounding destinations
- 2 Upgrade Ferndale Creek Trail to a surfaced off-road trail





7.7 Fenny Creek Trail

Trail information

Length:
12.5km

Location:

The Fenny Creek Trail currently begins at the Dandenong Valley Highway in Scoresby, with a proposed connection east to the Eastlink Trail, and continues east to Upper Ferntree Gully.

Local Government Area:

City of Knox

Auditor comments:

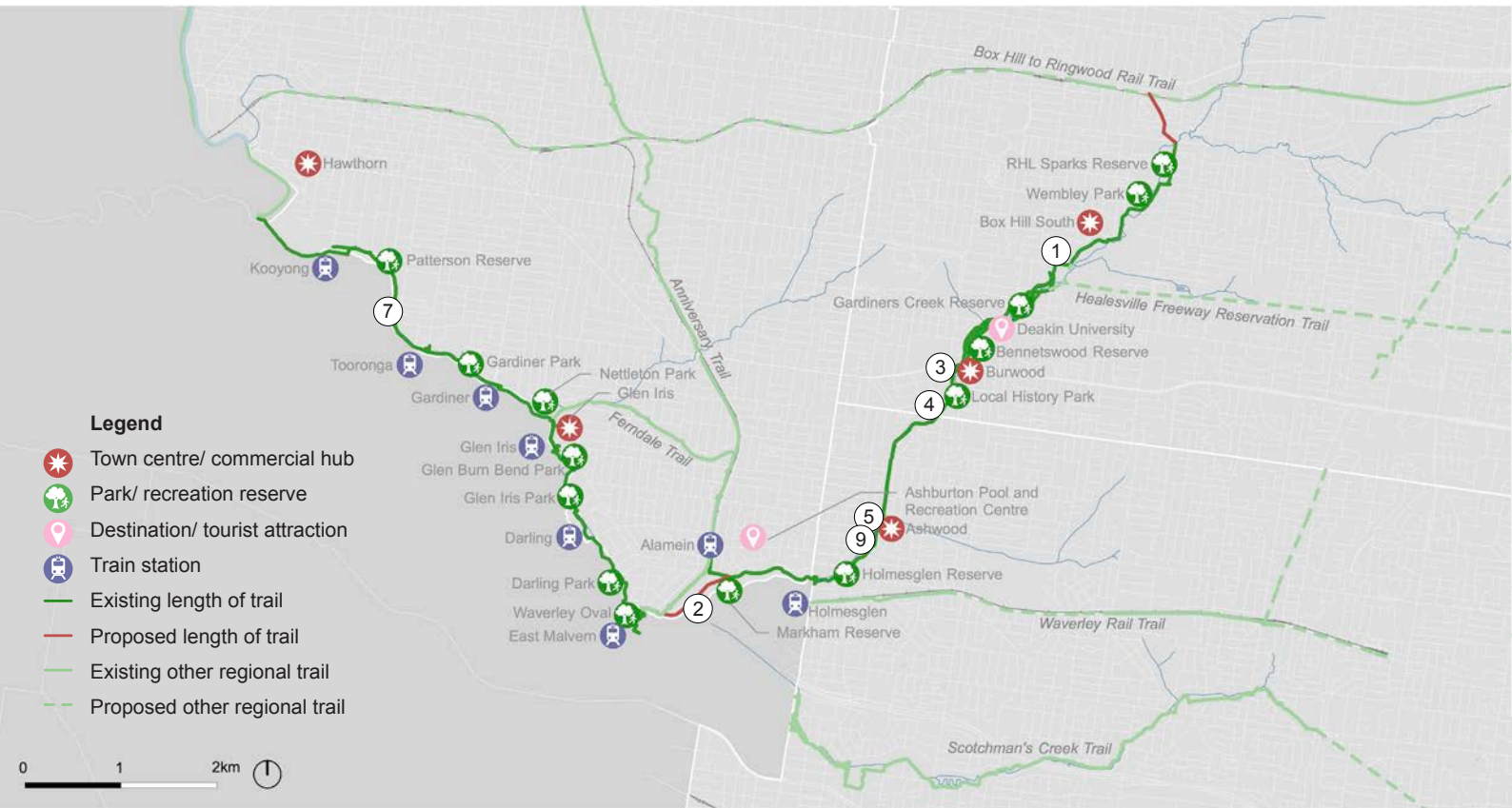
An example of an excellent shared off-road trail with first class continuity (with underpasses), surface and all-round usability. This is how it should be done!



Action items

- 1 Extend the Fenny Creek Trail west to connect with the Eastlink Trail/ Dandenong Creek Trail
- 2 Improve wayfinding signage on the Fenny Creek Trail particularly at crossings, connections to other trails and links to surrounding destinations
- 3 Improve the crossing at Stud Road, on the Fenny Creek Trail to include bike lanterns to provide a safe, clear and priority crossing point
- 4 Construct an off-road shared path on the Fenny Creek Trail along Talaskia Road to connect to the Heathmont to Belgrave Rail Trail

7.8 Gardiners Creek Trail



Trail information

Length:
17km

Location:

The Gardiners Creek Trail begins in Kew where it links to the Main Yarra Trail before following the Gardiners Creek and the Glen Waverley Train line south east to Malvern East, then continuing north east through Box Hill and Blackburn where it will eventually connects with the Box Hill to Ringwood Rail Trail

Local Government Area:

City of Boroondara, City of Monash and City of Whitehorse

Auditor comments:

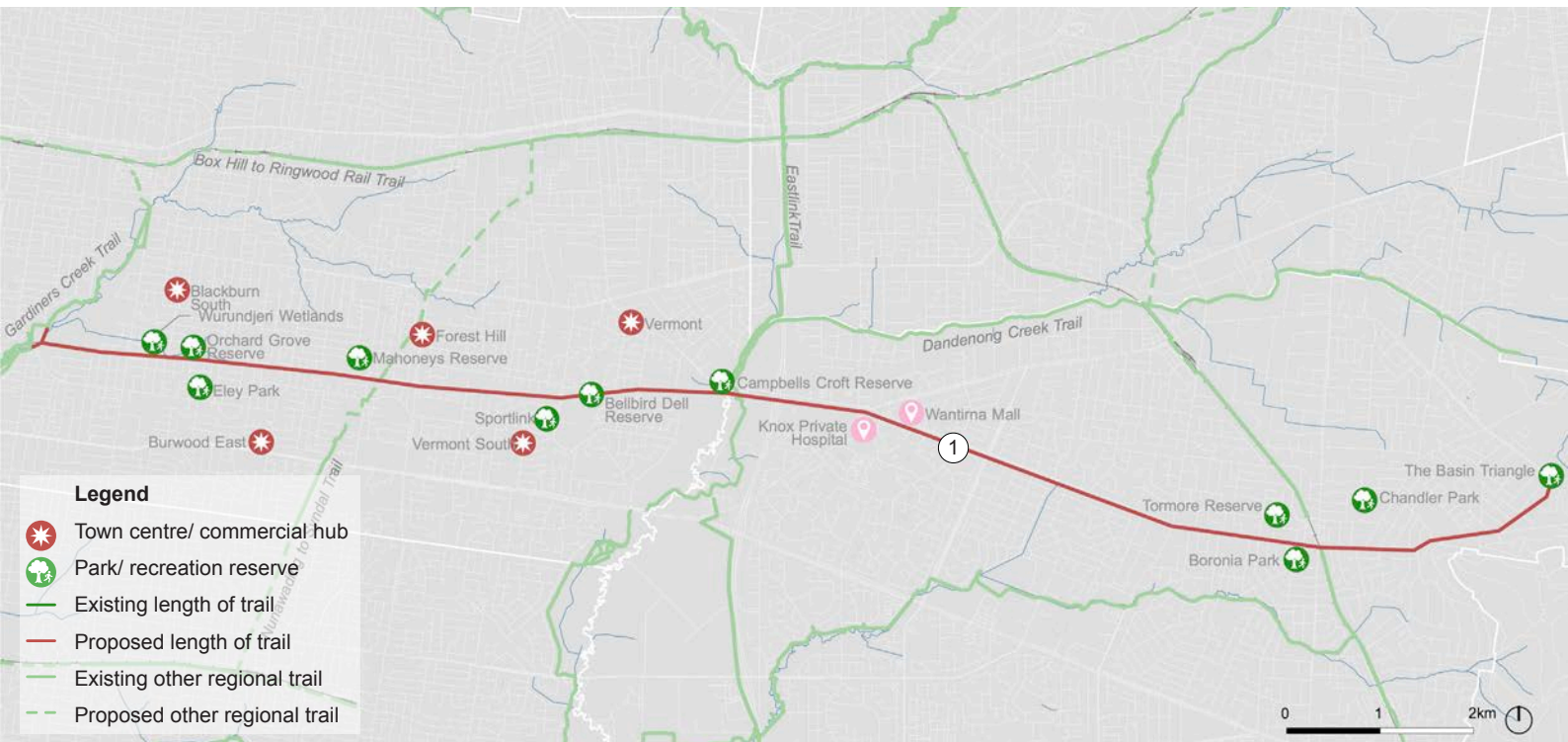
An excellent trail west of Warrigal Road offering good access to Scotchmans Creek Trail and Anniversary Trail, but losing its way a little the further north it heads.

Action Items

- ① Complete the gap in the Gardiner's Creek Trail from Sycamore Street, across Station Street in Box Hill.
- ② Investigate the feasibility of continuing the Gardiners Creek Trail through the Malvern Valley Public Golf Course to Warrigal Road to eliminate detour via the Anniversary Trail .
- ③ Construct an improved crossing (potential underpass) at Burwood Highway on the Gardiner's Creek Trail to provide a safe a legible continuation of the trail.
- ④ Construct an improved crossing (potential underpass) at Highbury Road on the Gardiner's Creek Trail to provide a safe and legible continuation of the trail.
- ⑤ Improve the crossing at High Street Road, Ashwood, on the Gardiners Creek Trail to provide a safe, clear and priority crossing point.
- ⑥ Improve wayfinding signage on the Gardiners Creek Trail particularly at crossings, connections to other trails and links to surrounding destinations.
- ⑦ Raise and reconstruct the existing shared path underpass on the Gardiner's Creek Trail at Toorak Road with a new self-draining structure to improve safety.
- ⑧ Undertake repairs to the surface of the Gardiners Creek Trail where required.
- ⑨ Widen the Gardiners Creek Trail to 3.5-4m from Highbury Road to Warrigal Road (City of Monash).
- ⑩ Identify any areas of the Gardiners Creek Trail that carry high pedestrian and cyclist volumes and investigate the feasibility of mode separating where possible.



7.9 Healesville Freeway Reservation Trail



Trail information

Length:

Approximately 8.5km (depending on final alignment)

Location:

The proposed Healesville Freeway Reservation Trail will begin at the Eastlink Trail and travel west along the former alignment reserved for the Healesville Freeway to Springvale Road, Forest Hill. There is the potential to link this trail to the Gardiners Creek Trail via on and off road paths through Blackburn South and Box Hill South.

Local Government Area:

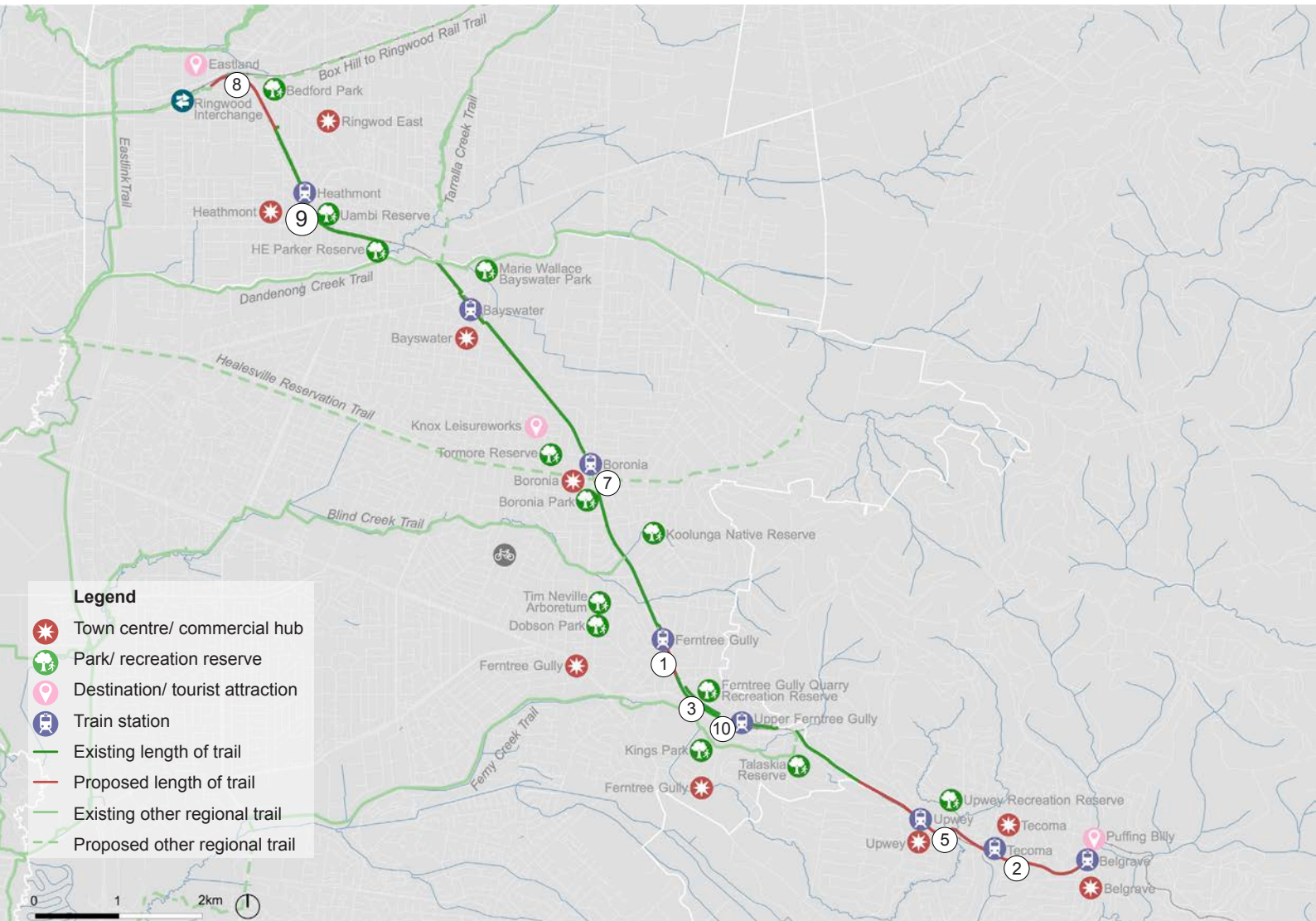
City of Whitehorse



Action Items

- 1 Construct a shared use path along the former Healesville Freeway Reservation from Forest Hill to The Basin Triangle. Connect the trail to the Gardiner's Creek Trail, Nunawading to Syndal Trail, Eastlink Trail and The Heathmont to Belgrave Rail Trail

7.10 Heathmont to Belgrave Trail



Trail information

Length:
17.5km

Location:
The Heathmont to Belgrave Trail is proposed to begin at Ringwood Station and follow the Belgrave train line south east to Belgrave.

Local Government Area:
City of Knox, City of Maroondah and the Shire of Yarra Ranges

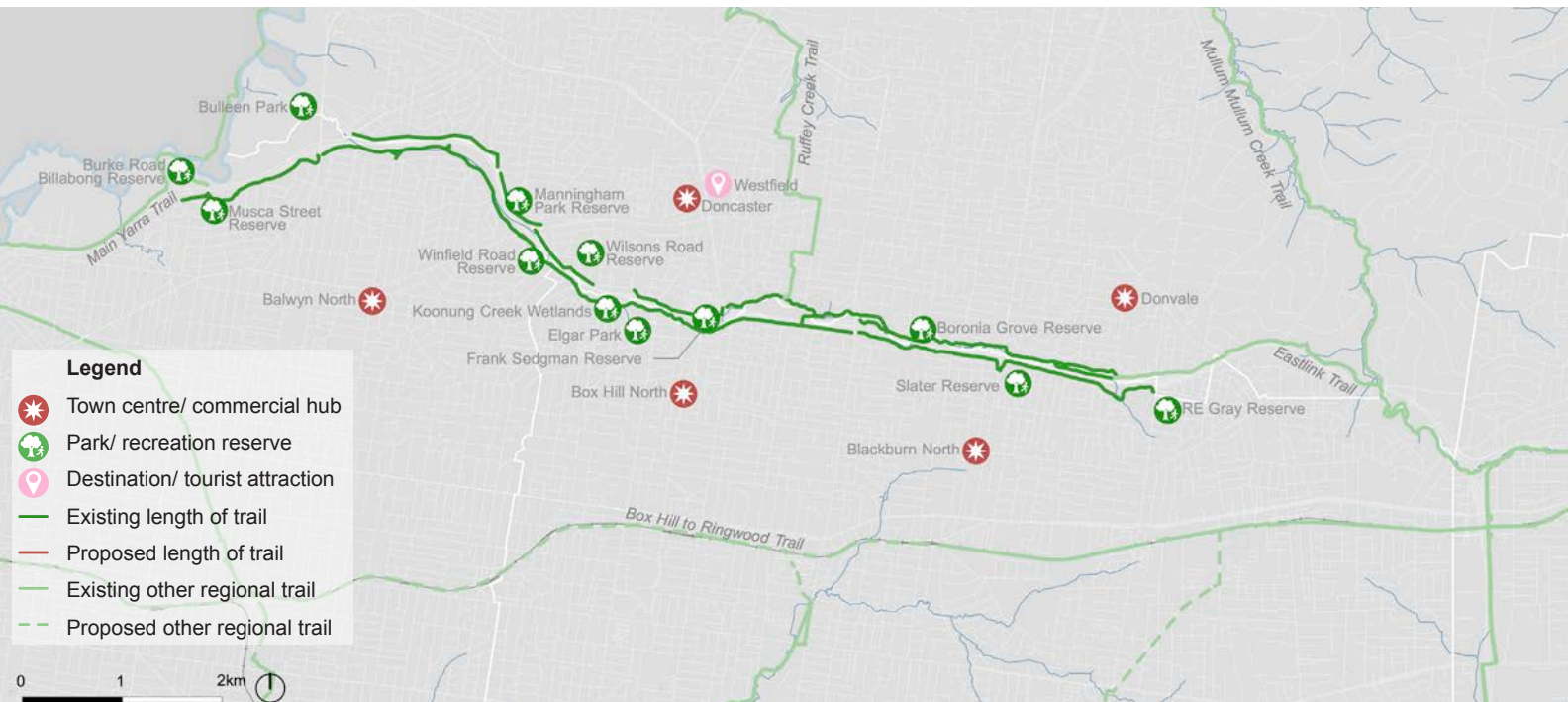
Auditor comments:
This trail does not currently live up to its potential and requires investment to improve signage and remove road crossings, obstacles and steep grades.

Action Items

- 1 Complete the gap in the Heathmont to Belgrave Rail Trail at Ferntree Gully Station
- 2 Complete the gap in the Heathmont to Belgrave Rail Trail from Upwey Station to Belgrave Station
- 3 Improve the legibility of the Heathmont to Belgrave Rail Trail along Burwood Highway
- 4 Improve wayfinding signage on the Heathmont to Belgrave Rail Trail particularly at crossings, connections to other trails and links to surrounding destinations
- 5 Reduce the gradient of the Heathmont to Belgrave Rail Trail at and around Upwey Station to improve access
- 6 Renew and replace substandard sections of the Heathmont to Belgrave Rail Trail including widening sections and removing obstacles where required to improve safety
- 7 Upgrade section of the Heathmont to Belgrave Rail Trail at Boronia station so that cyclists are not required to dismount
- 8 Complete the gap between the Heathmont to Belgrave Rail Trail and the Box Hill to Ringwood so they connect at Ringwood Station
- 9 Provide a safe, clear and signed priority crossing on the Heathmont to Belgrave Rail Trail at Canterbury Road. Consider feasibility of separating trail from road crossings to improve safety and continuity
- 10 Complete the gap at Upper Ferntree Gully Station by providing an off road shared path over Railway Avenue (following the completion of the rail overpass)



7.11 Koonung Creek Trail



Trail information

Length:
13.5km

Location:

The Koonung Creek Trail commences at the Main Yarra Trail at its western end and continues east along the Eastern Freeway in Doncaster before connecting to the Eastlink Trail.

Construction of the North East Link (NEL) is likely to affect Koonung Creek Trail however the extent of the impact is unclear as current design concepts (which can be viewed on the NEL website) are indicative only and subject to change. The North East Link Authority (NELA) has stated that all walking and cycling paths affected by the NEL will be realigned and upgraded. This should be taken into consideration before undertaking any works on the Koonung Creek Trail. Similarly, if upgrade works are to take place as a result of the North East Link the action items listed in the strategy should be considered for implementation by the NELA.

Local Government Area:

City of Boroondara, City of Manningham, City of Whitehorse.

Auditor comments:

A top quality trail in every respect offering potential links to several other routes.



Note: The alignment of the trail north of the Eastern Freeway, west of Tram Road is approximate only

Action Items

- ① Undertake repairs to the surface of the Koonung Creek Trail where required
- ② Identify any areas of the Koonung Creek Trail that carry high pedestrian and cyclist volumes and investigate the feasibility of mode separating where possible

7.12 Main Yarra Trail

Trail information

Length:

Currently 36km

Location:

The Main Yarra Trail begins in Abbotsford and travels in and out of the study area north east along the Yarra River through Fairfield, Rosanna, Templestowe and Eltham with a proposed future extension to Warrandyte.

Local Government Area:

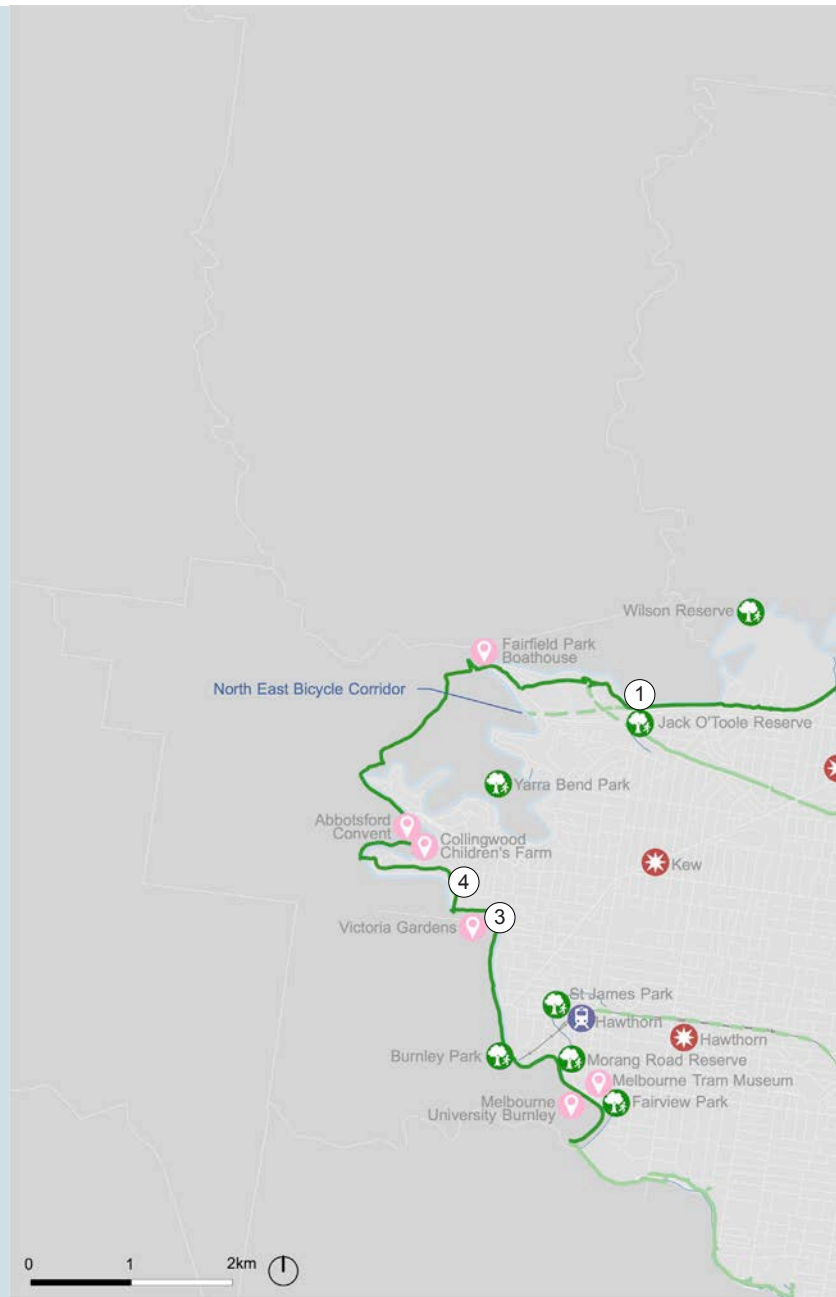
City of Boroondara, City of Manningham

Additional Information

Note that the proposed North East Bicycle Corridor (NEBC) will also form a connection from the Main Yarra Trail at the Chandler Highway/ Anniversary Trail through to the Merri Creek Trail (beyond the study area). Additional projects such as shared trail upgrades and the Belford Road underpass (action item 1), which complement the NEBC may be undertaken by the North East Link Authority.

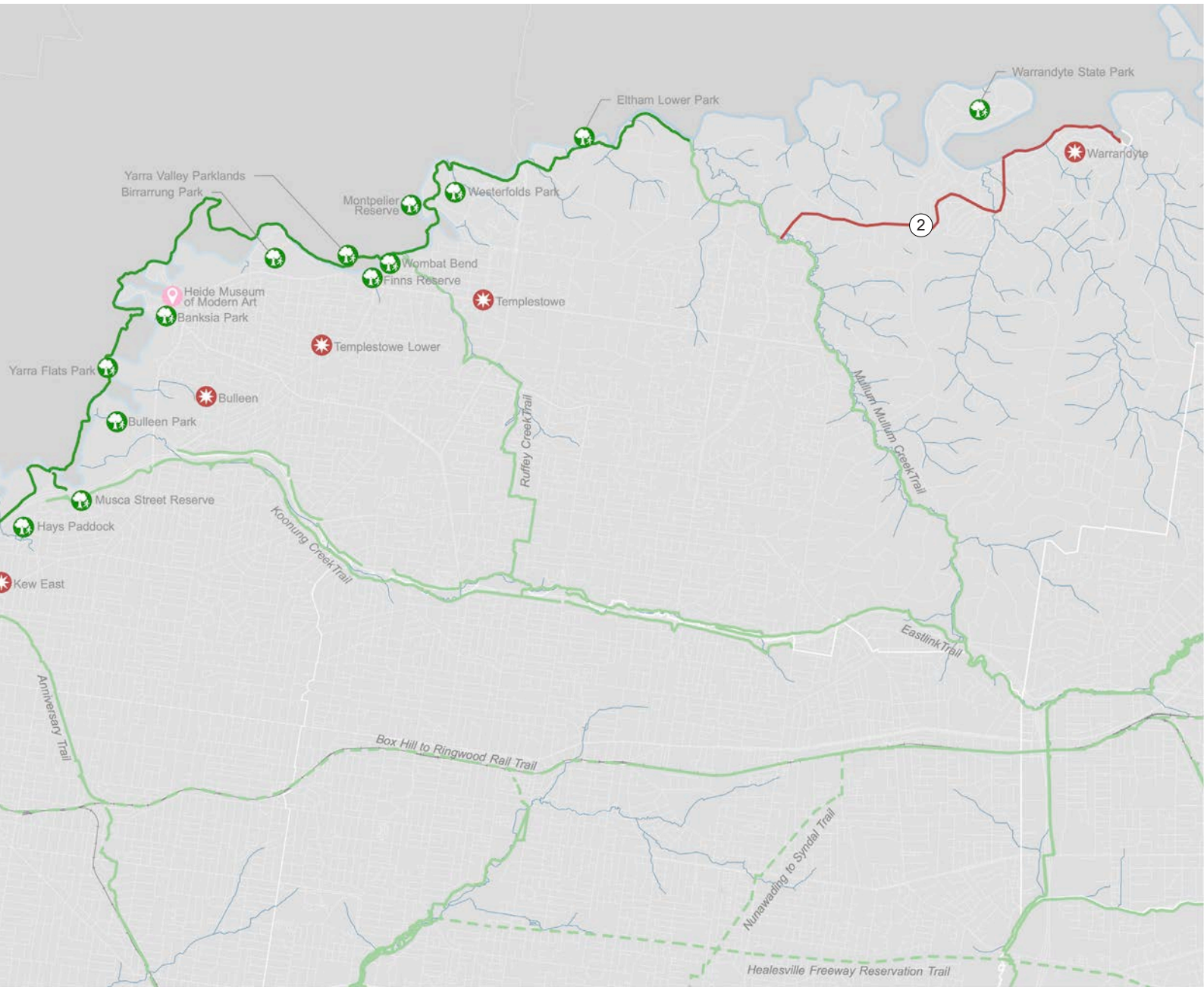
Auditor comments:

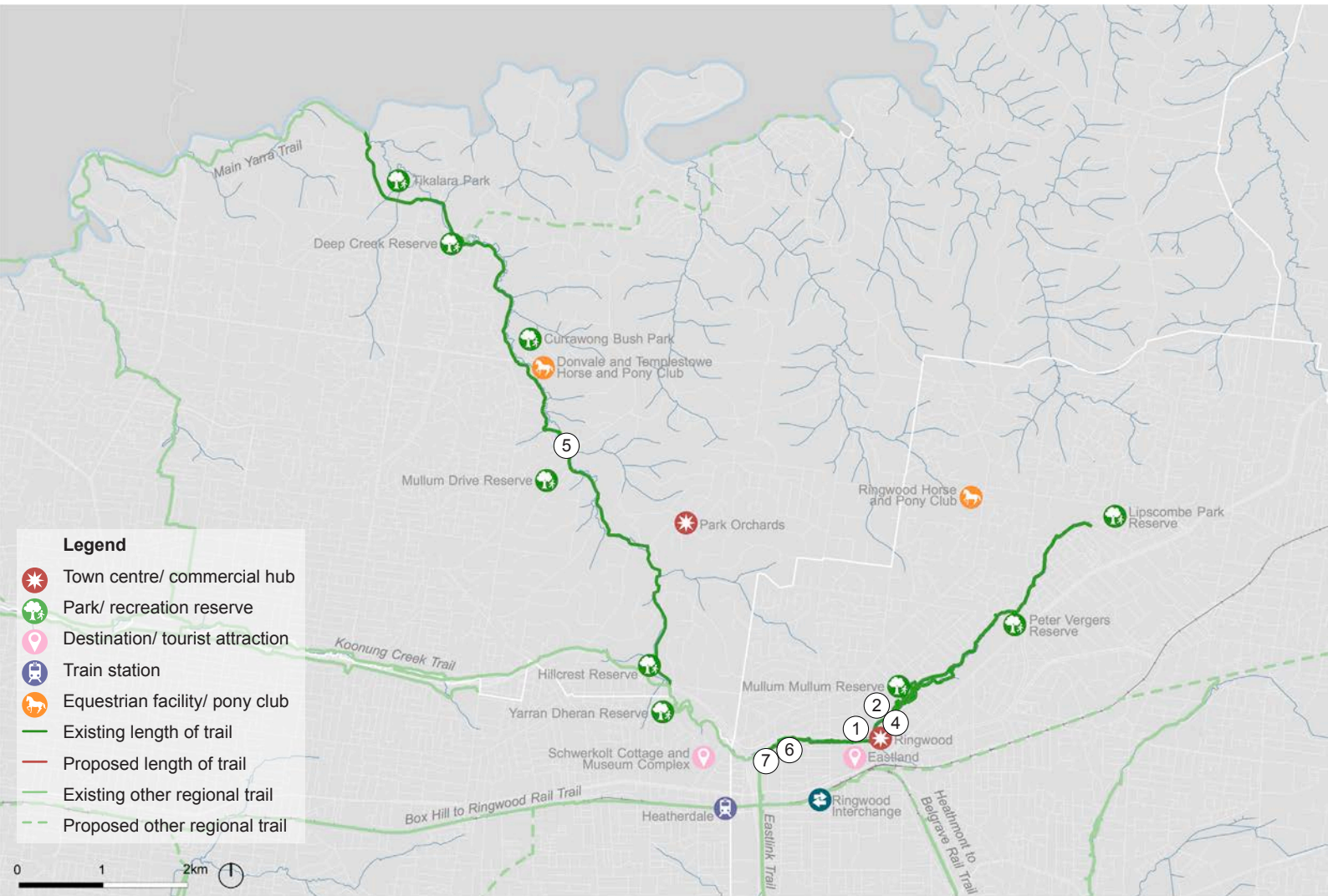
A very useful trail between inner suburbs and the other regional trails such as the Koonung Creek Trail and Darebin Creek Trail.



Action Items

- ① Construct a DDA compliant shared path and underpass on the Main Yarra Trail at Belford Road.
- ② Extend the Main Yarra Trail east by creating a shared trail along Heidelberg-Warrandyte Road to connect to Warrandyte.
- ③ Reconstruct the shared path Walmer Street Bridge connection on the Main Yarra Trail.
- ④ Upgrade the surface on the Main Yarra Trail south of Studley Park Golf Course and west of Walmer Street that is subject to flooding and drains poorly.
- ⑤ Identify any areas of the Main Yarra Trail that carry high pedestrian and cyclist volumes, and investigate the feasibility of mode separating where possible.





7.14 Mullum Mullum Creek Trail

Trail information

Length:
17.5km



Location:

The Mullum Mullum Creek Trail begins at the Main Yarra Trail in Templestowe and continues south along the Mullum Mullum Creek Linear Park to Ringwood, connecting with the Eastlink Trail before heading north to Croydon.

Local Government Area:

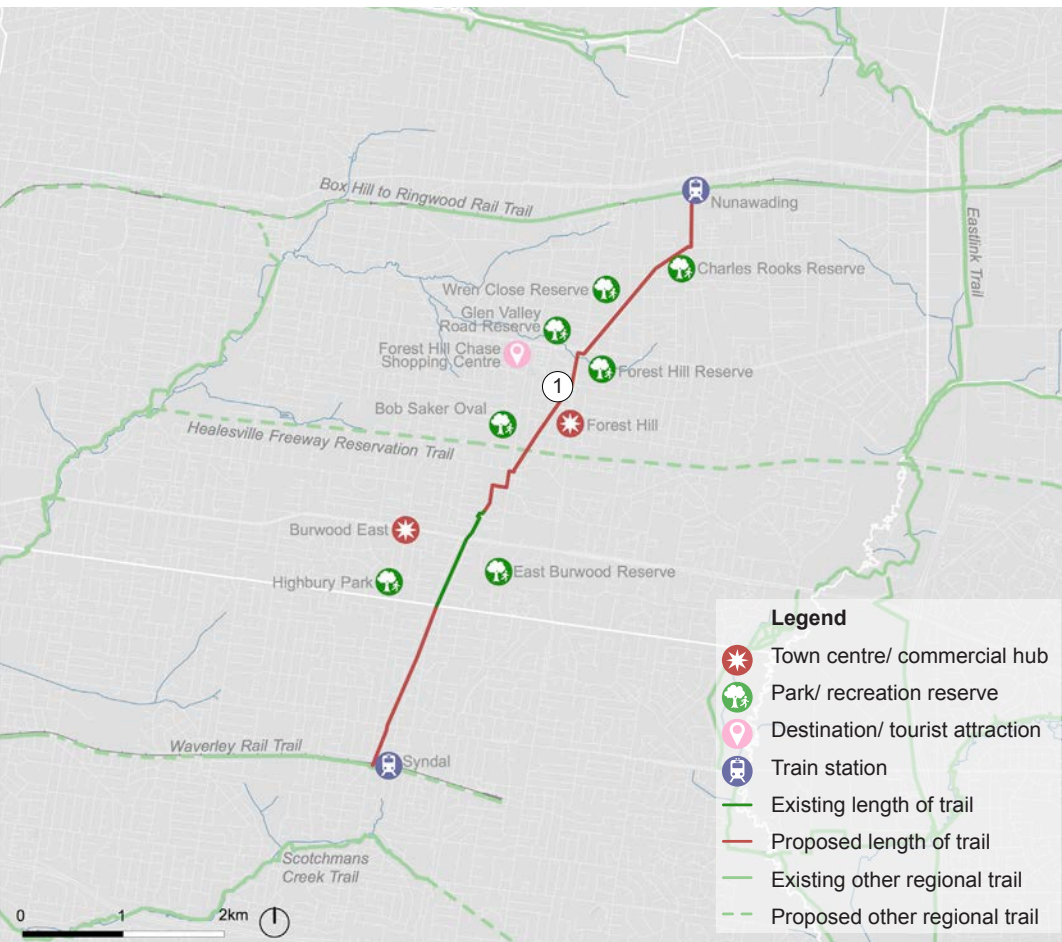
City of Manningham, City of Maroondah, City of Whitehorse

Auditor comments:

A trail with enormous potential if/when the proposed section is completed, which would then offer a very scenic connection from Croydon right through to the Main Yarra Trail.

Action Items

- Construct an underpass at Warrandyte Road/ Ringwood Bypass on the Mullum Mullum Creek Trail
- Improve the crossing at Oban Road/Marilyn Crescent on the Mullum Mullum Creek Trail to provide a safe, clear, simple and priority crossing point
- Improve wayfinding signage on the Mullum Mullum Creek Trail particularly at crossings, connections to other trails and links to surrounding destinations
- Provide a safe, clear and priority crossing on the Mullum Mullum Creek Trail at Oliver Street
- Provide a safe, clear and signalised crossing on the Mullum Mullum Creek Trail at Heidelberg-Warrandyte Road
- Upgrade the southside surface of the Mullum Mullum Creek Trail from Warrandyte Road to Oban Road to accommodate user in all weather
- Complete off road section of Mullum Mullum Trail end of Sherbrook Ave to allow for trail continuity and to allow existing Park Run course to continue along the trail.



7.13 Nunawading to Syndal Trail

Trail information

Length:
9km

Location:

The proposed Nunawading to Syndal Trail commences at Nunawading Station on the Box Hill to Ringwood Rail Trail and travels south west through Forest Hill and Burwood East connecting existing sections of trail before continuing to Syndal Station connecting with the Waverley Rail Trail.

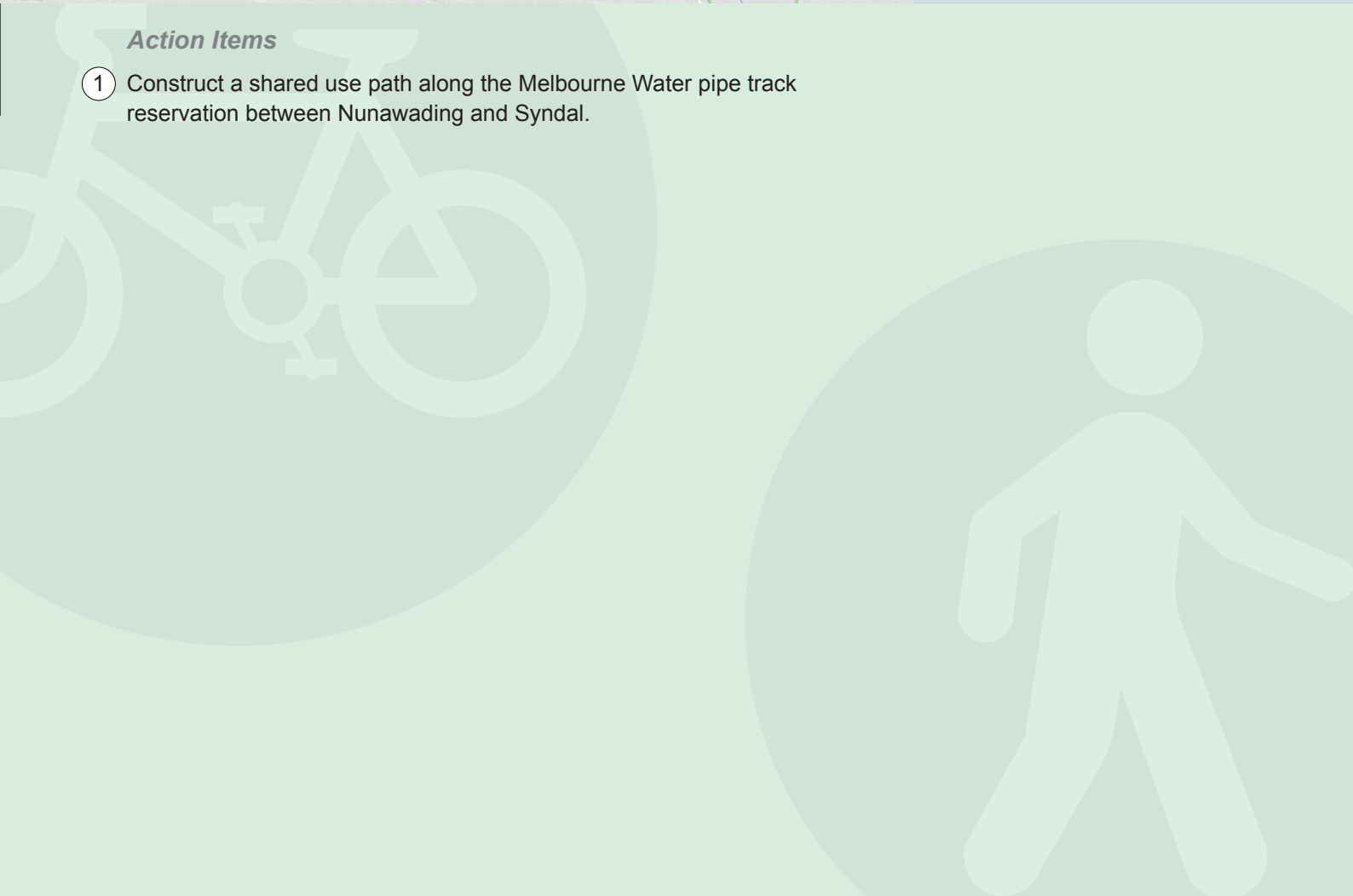
Local Government Area:

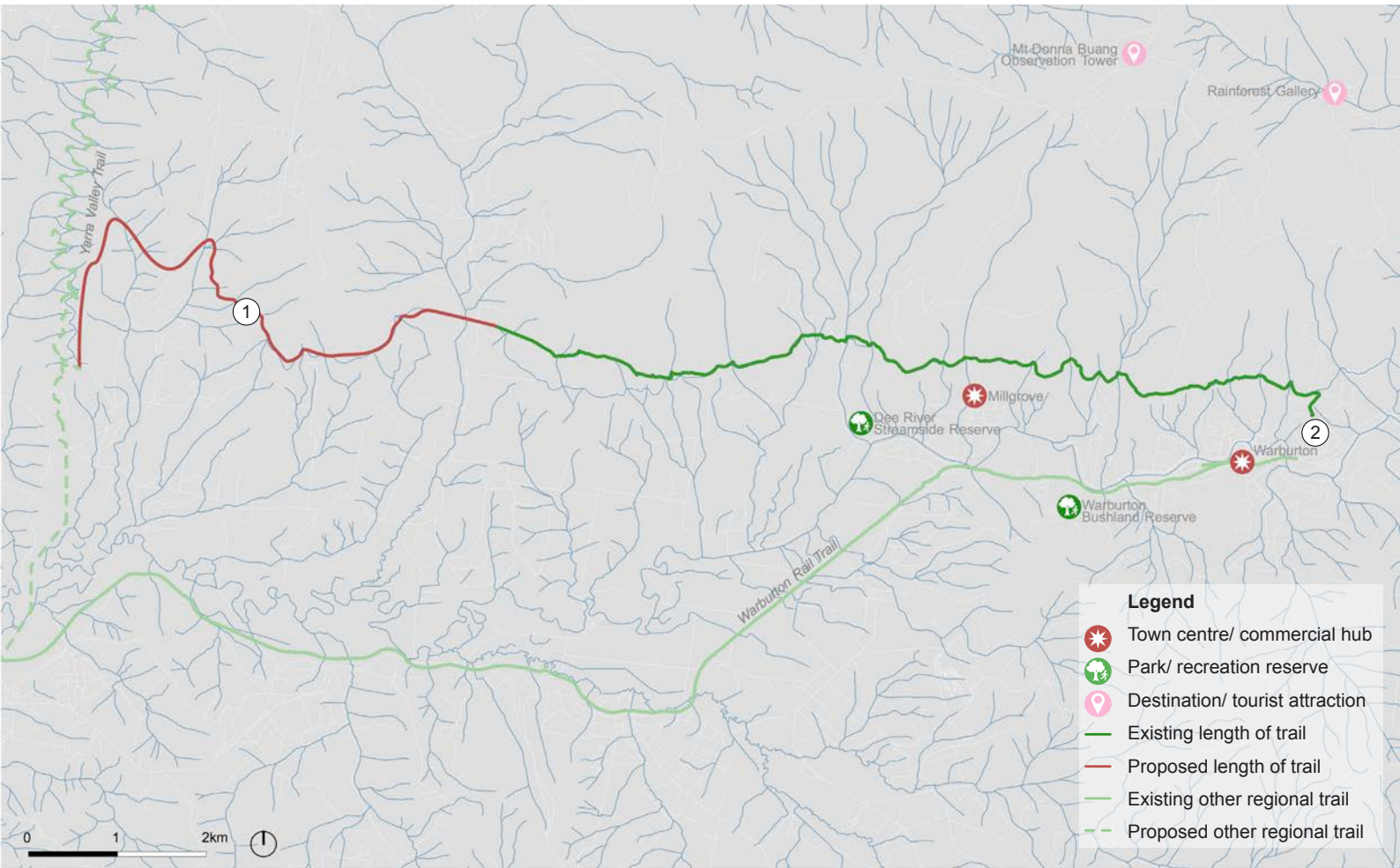
City of Whitehorse, City of Monash



Action Items

- 1 Construct a shared use path along the Melbourne Water pipe track reservation between Nunawading and Syndal.





7.15 O'Shannassy Aqueduct Trail

Trail information

Length:
14km



Location:

The O'Shannassy Aqueduct Trail begins to the east of the Warburton town centre in the Yarra Ranges National Park and travels west along the historic O'Shannassy Aqueduct to finish in the Don Valley at Don Road.

Local Government Area:
Shire of Yarra Ranges

Auditor comments:

A very scenic but low-key trail. Like the now disused aqueduct channel it follows, the trail is a consistent grade and is mostly unbroken, with few road crossings. Being located on the side of a hill means that access routes to the trail can be steep, making links with the Warburton Rail Trail challenging for cyclists.

Action Items

- ① Explore the potential to extend the O'Shannassy Aqueduct Trail along the aqueduct to connect to the proposed Yarra Valley Trail
- ② Investigate providing connections from the Warburton Rail Trail and township to the O'Shannassy Aqueduct Trail. This may include signage, improved accessibility, a trail head and car parking

7.16 Ruffey Creek Trail

Trail information

Length:

6.5km

Location:

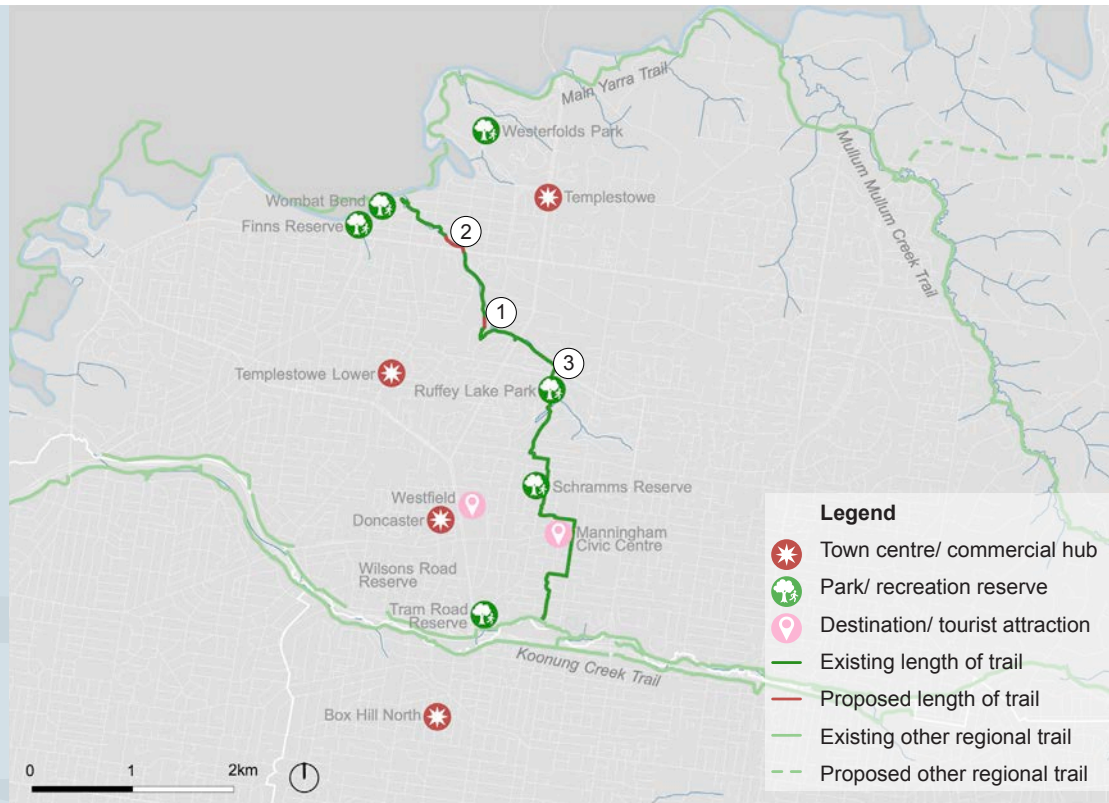
The Ruffey Creek Trail begins in Templestowe where it connects with the Main Yarra Trail before continuing south along the Ruffey Creek to Doncaster and connecting with the Koonung Creek Trail.

Local Government Area:

City of Manningham

Auditor comments:

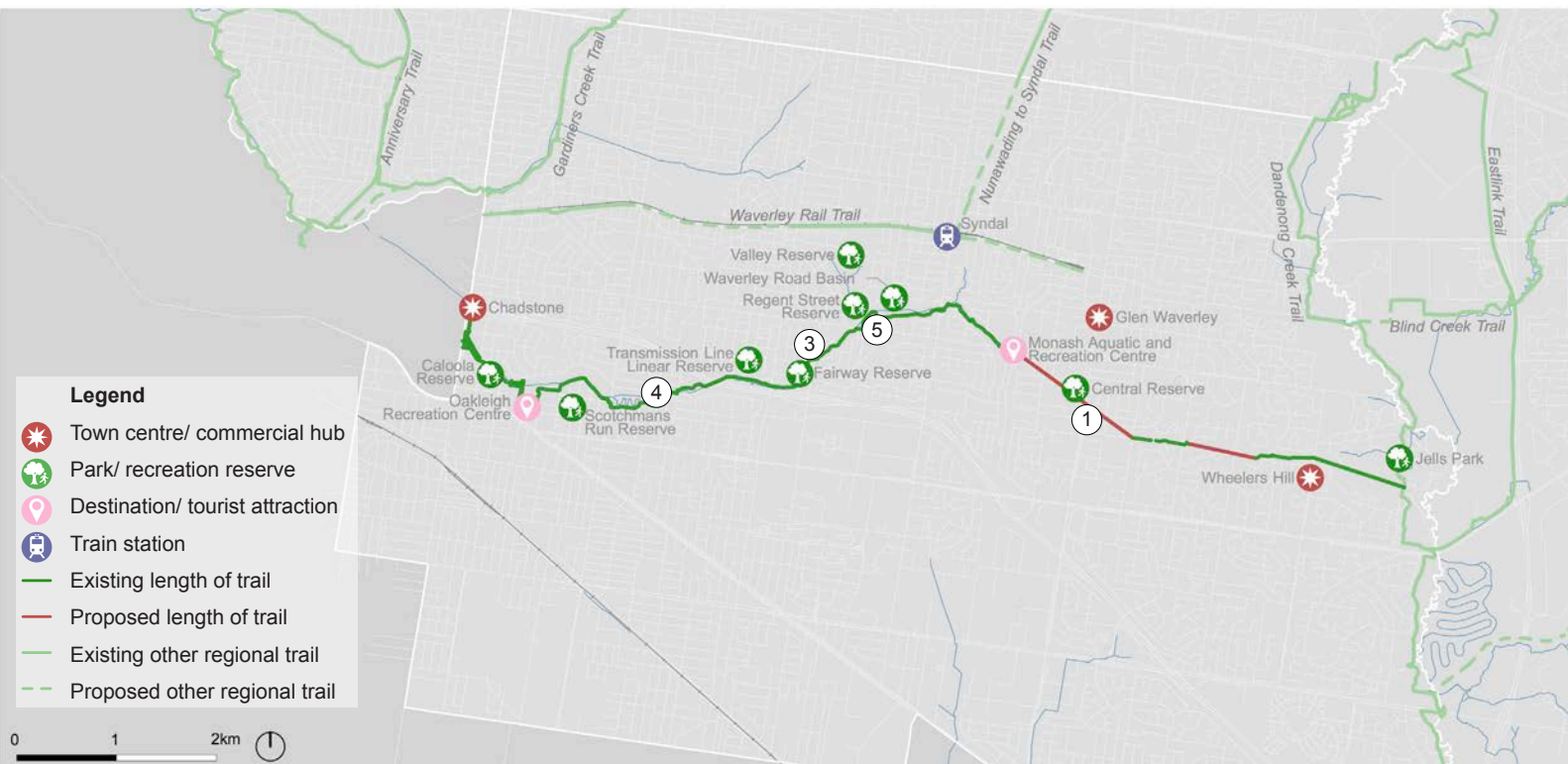
A potentially pleasant short trail with a useful link to Main Yarra Trail, hampered badly by poor signage and on-road sections



Action Items

- ① Complete the gap in the Ruffey Creek Trail from Nambour Road to Montpellier Crescent Reserve
- ② Construct off-road shared path between Foote Street and Parker Street to eliminate on-road section of the Ruffey Creek Trail
- ③ Improve safety at the underpass at King Street on the Ruffey Creek Trail by widening the path and installing lighting
- ④ Improve wayfinding signage on the Ruffey Creek Trail particularly at crossings, through Ruffey Lake Park, connections to other trails and links to surrounding destinations





7.17 Scotchmans Creek Trail

Trail information

Length:
13km

Location:

The Scotchmans Creek Trail commences at the Dandenong Creek Trail in Jells Park, Wheelers Hill, and is proposed to continue west to connect with the existing trail alignment which follows the Scotchmans Creek to Chadstone. The Trail continues beyond the study area in Glen Eira City Council and finishes by connecting to the Gardiners Creek and Anniversary Trail.

Local Government Area:
City of Monash

Auditor comments:

A highly useful commuting route from the south eastern suburbs into the inner suburbs and ultimately the CBD (via the Gardiners Creek Trail) that could benefit greatly from further development.

Action Items

- ① Extend the Scotchmans Creek Trail off-road from Monash Aquatic Recreation Centre to Sunnybrook Drive
- ② Improve wayfinding signage on the Scotchman’s Creek Trail particularly at crossings, connections to other trails and links to surrounding destinations
- ③ Provide a safe, signed and signalised priority crossing on the Scotchmans Creek Trail at Forster Road
- ④ Undertake renewal works on the Scotchmans Creek Trail from Stanley Avenue to Huntingdale Road
- ⑤ Upgrade the Scotchmans Creek Trail on both sides of the creek from Monash Freeway to MARC



7.18 Tarralla Creek Trail

Trail information

Length:
6km

Location:

The Tarralla Creek Trail begins in Croydon where it is proposed to connect with the future extension of the Box Hill to Ringwood Rail Trail. The Trail travels south through to Bayswater North where it is proposed to connect to the Dandenong Creek Trail and the Heathmont to Belgrave Trail, forming part of the greater Carrum to Warburton Trail.

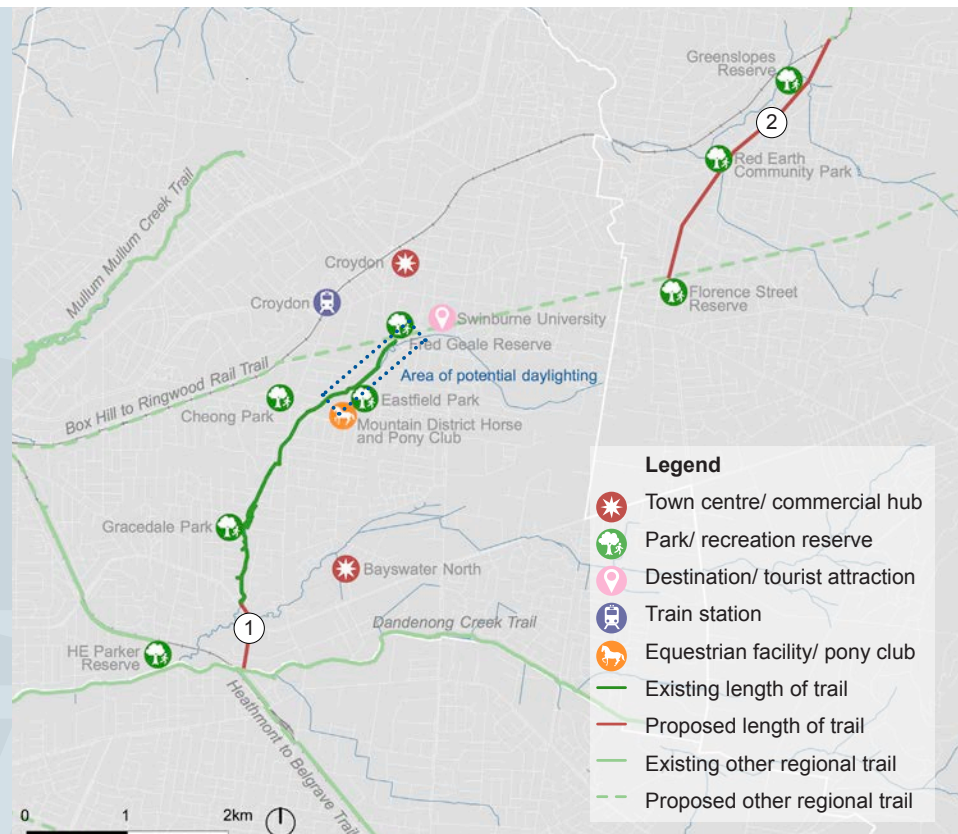
Melbourne Water are planning to 'reimagine' the Tarralla Creek Trail from Dorset Road to Eastfield Road (highlighted on the adjacent map). This project is likely to involve daylighting the creek and improvements to the trail infrastructure and associated amenities including bridge connection, surface realignment, and better connections to surrounding shops and destinations. Recommendations highlighted in this strategy should be taken into consideration during the designing and implementation of these works

Local Government Area:

City of Maroondah

Auditor comments:

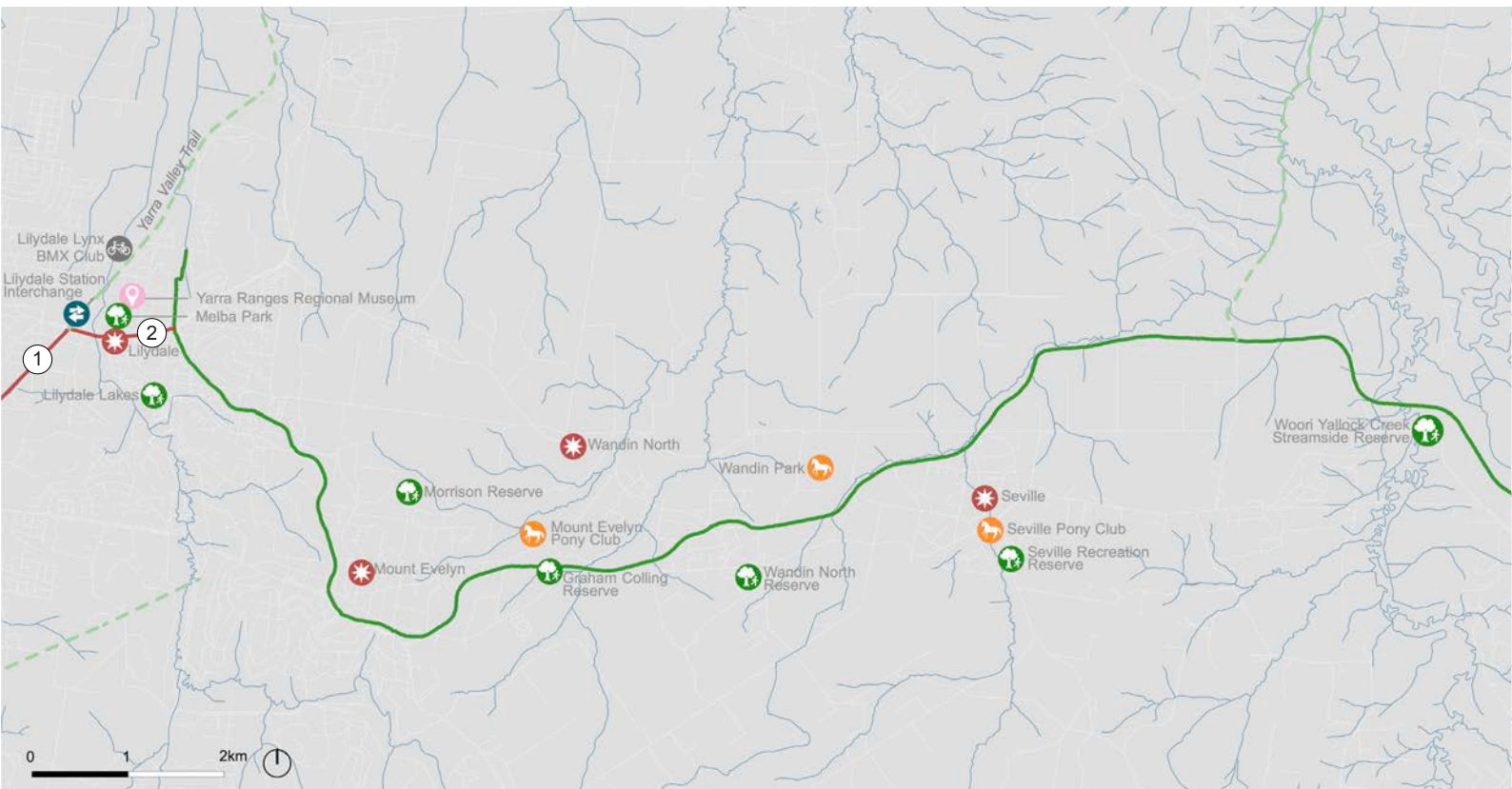
A very pleasant, easily navigated trail with excellent potential for greater use if continuity was improved and an off-road link to Dandenong Creek Trail was added.



Action Items

- 1 Extend the Tarralla Creek Trail south, providing an off-road connection with the Dandenong Creek Trail.
- 2 Extend the Tarralla Creek Trail north along the Melbourne Water Pipe Track Reserve and Healesville Freeway Reservation to provide a connection between the Box Hill to Ringwood Rail Trail and the Warburton Rail Trail. This connection forms part of the Carrum to Warburton Trail.





7.19 Warburton Rail Trail

Trail information

Length:
40km

Location:
The Warburton Rail Trail begins in Lilydale at the railway station and continues east along a disused rail trail through Mount Evelyn, Wandin, Seville, Woori Yallock and Yarra Junction before concluding in Warburton.

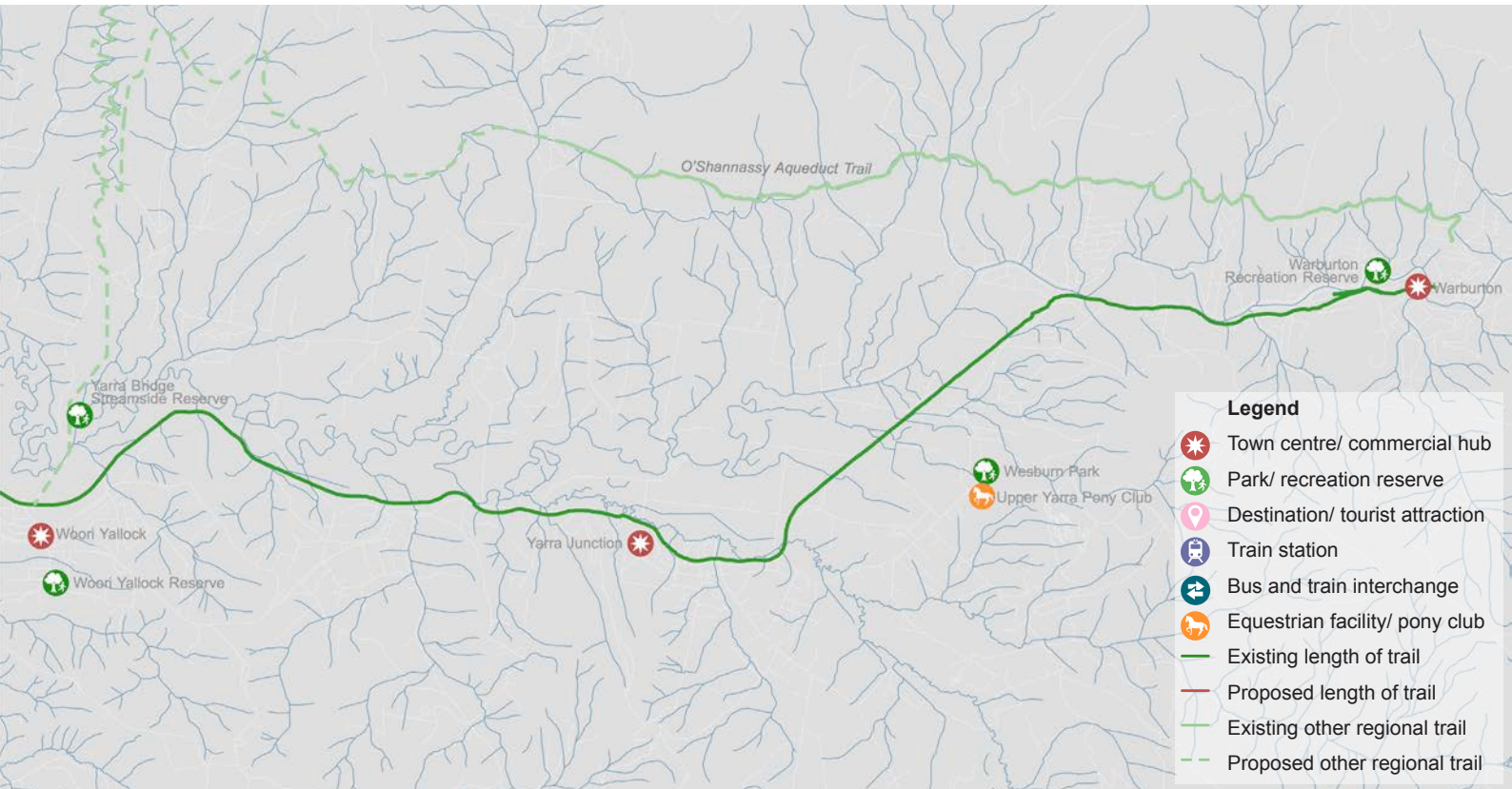
Local Government Area:
Shire of Yarra Ranges

Auditor comments:
A world-class off-road cycle route offering excellent accessibility at each end and along the route, taking users through some superb scenery, both rural and bushland.



Action Items

- ① Continue the Warburton Rail Trail south from Lilydale to the Tarralla Creek Trail via the Melbourne Water Pipe Track Reserve
- ② Improve section of the Trail from Lilydale Station to beginning of old rail line by improving shared trail currently on footpath and reducing steep gradient



7.20 Waverley Rail Trail

Trail information

Length:

7km

Location:

The Waverley Rail Trail is proposed to begin in Glen Waverley at the railway station and continue west along the train line to an existing section of trail in Mount Waverley. The trail is then proposed to continue onto Jordanville Station to connect to an existing part of the trail before concluding at Holmesglen Station.

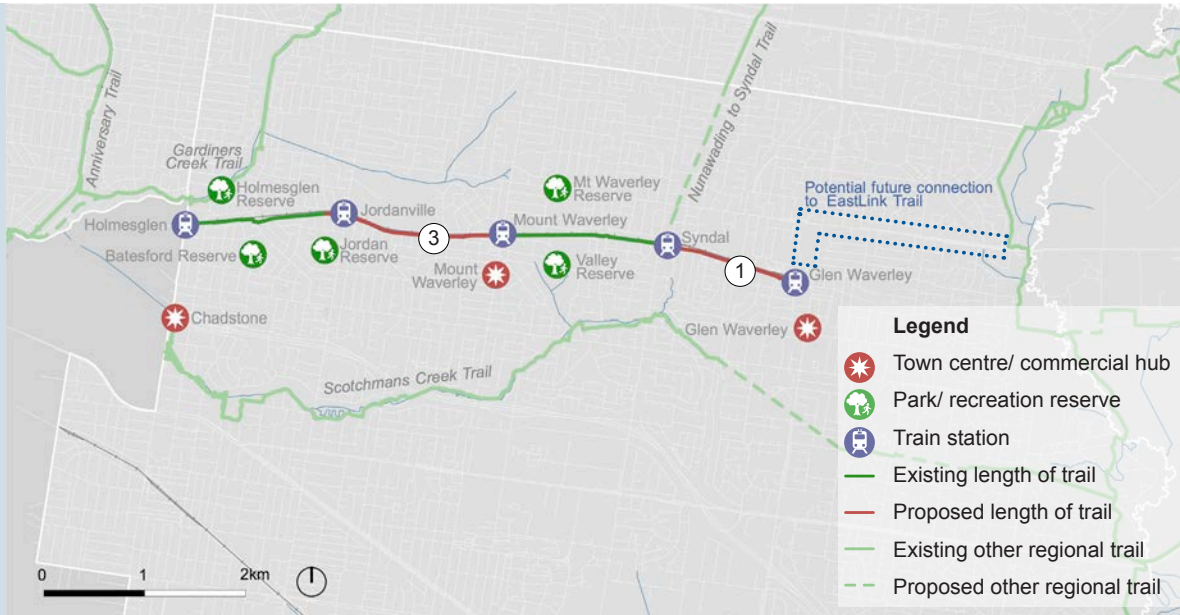
There is an opportunity to continue the Waverley Rail Trail east to connect to Eastlink Trail (and the Blind Creek Trail) in the future.

Local Government Area:

City of Monash

Auditor comments:

A trail that could offer useful links to other places and destinations when developed to include an accessible trail head at the west end and additional trail length.



Action Items

- ① Complete the gap in the Waverley Rail Trail from Coleman Parade to Kingsway (Glen Waverley Station)
- ② Improve wayfinding signage, including trail heads, on the Waverley Rail Trail particularly at connection to the Gardiners Creek Trail, crossings, connections to other trails and links to surrounding destinations
- ③ Close gap in the Waverley Rail Trail from Beatrice Avenue (east of Jordanville Station) to Stephenson's Road (west of Mount Waverley Station)



Waverley Rail Trail



7.21 Yarra River Paddle Trail

Trail information

Length:
101km



Location:

The Yarra River Paddle Trail begins in Abbotsford and follows the Yarra River along the boundary of the study area through Fairfield, Templestowe, Warrandyte before coming to an end in Yarra Glen.

Local Government Area:

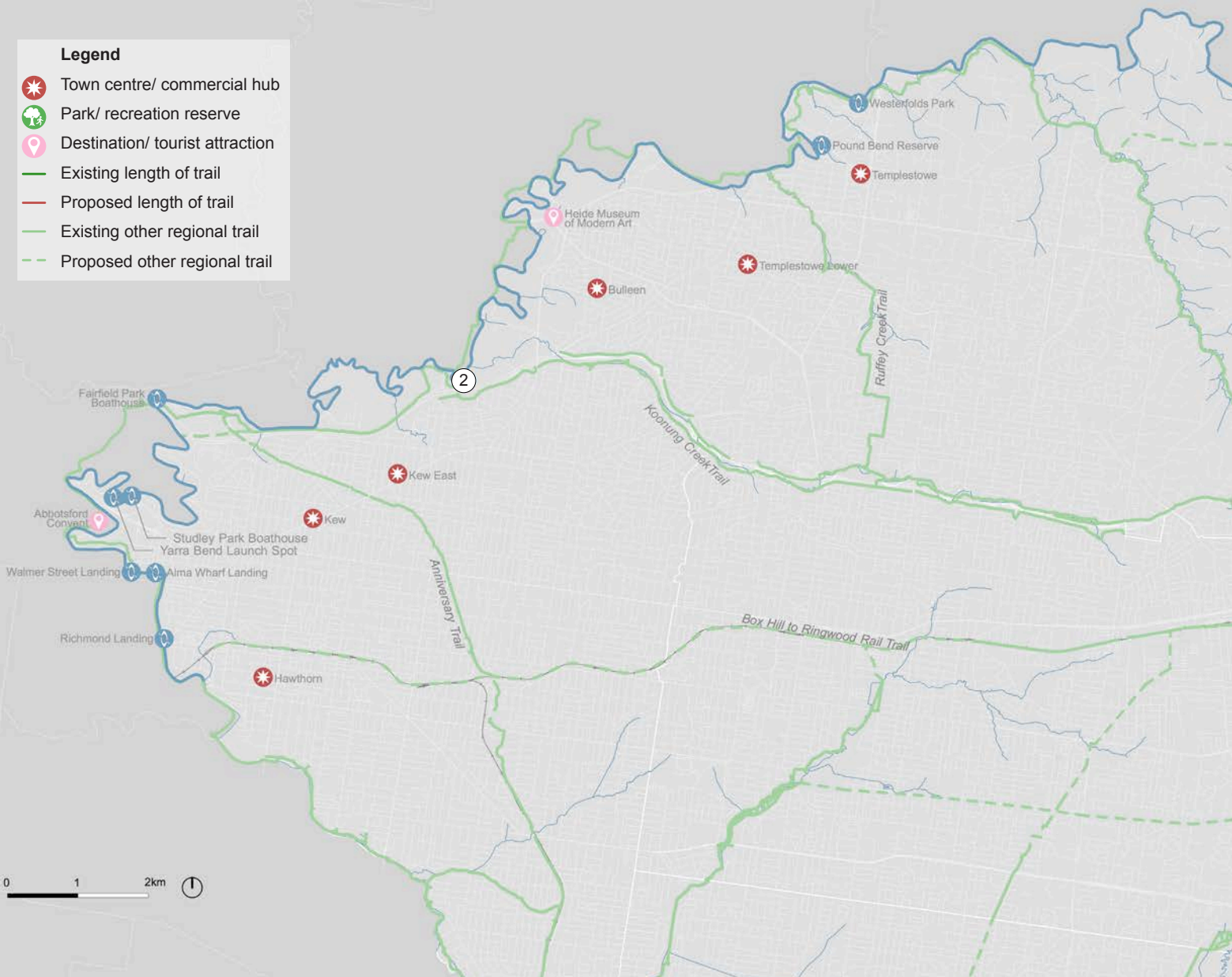
City of Boroondara, City of Manningham, Shire of Yarra Ranges

Action items

- ① Provide a kayak/canoe launching point to the Yarra River on the Yarra Valley Trail in Yarra Glen
- ② Provide access to the Yarra River and a kayak/canoe launching point where the Koonung Creek Trail meets the Main Yarra Trail

Legend

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



7.22 Yarra Valley Trail

Trail information

Length:

50 km (depending on final alignment)

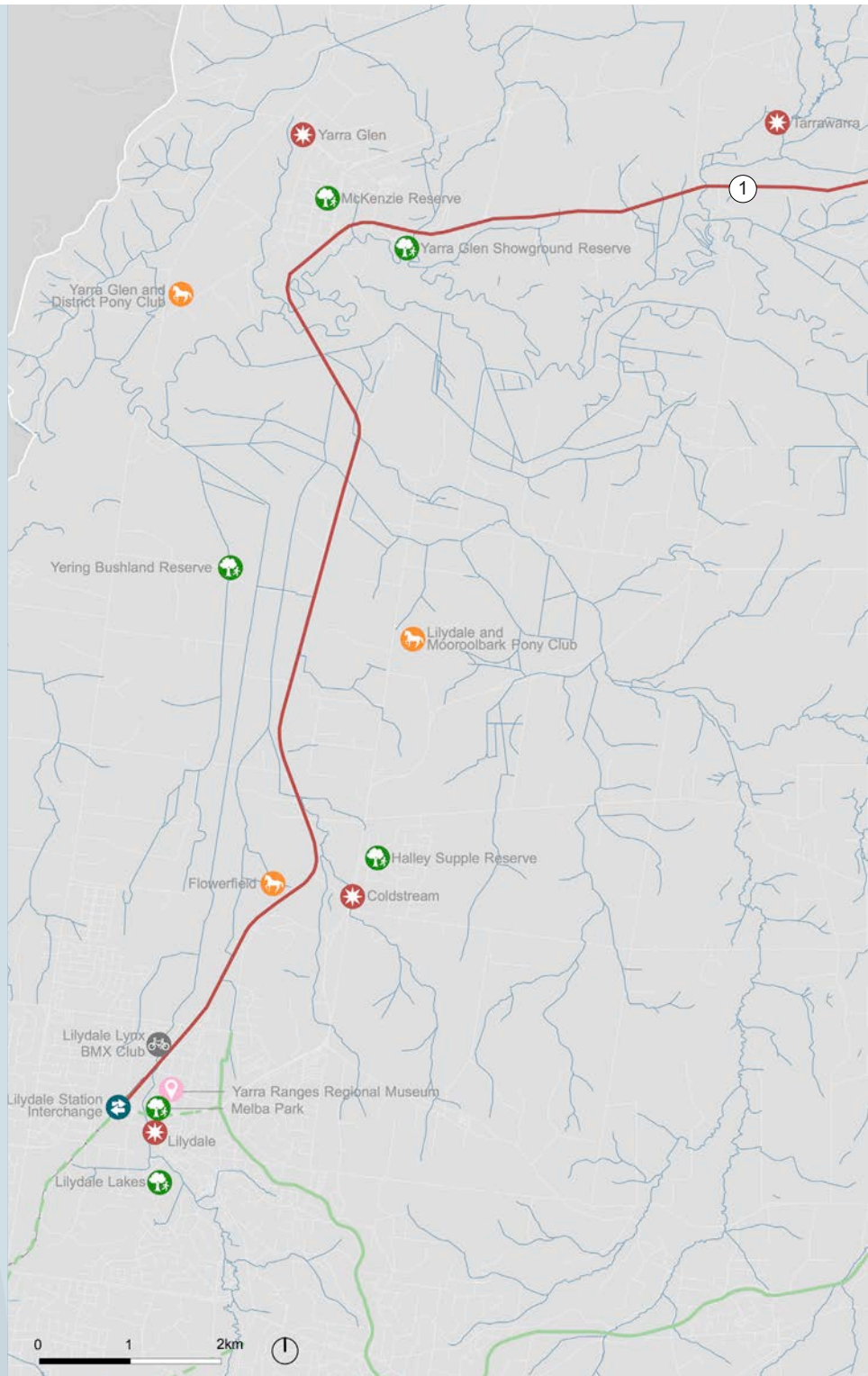
Location:

The Yarra Valley Trail is proposed to begin in Lilydale and head north to Yarra Glen along the former rail track. The trail is then proposed to continue east to Healesville then south to Woori Yallock where it will connect with the Warburton Rail Trail.

Trail alignment is indicative only and is subject to further investigations.

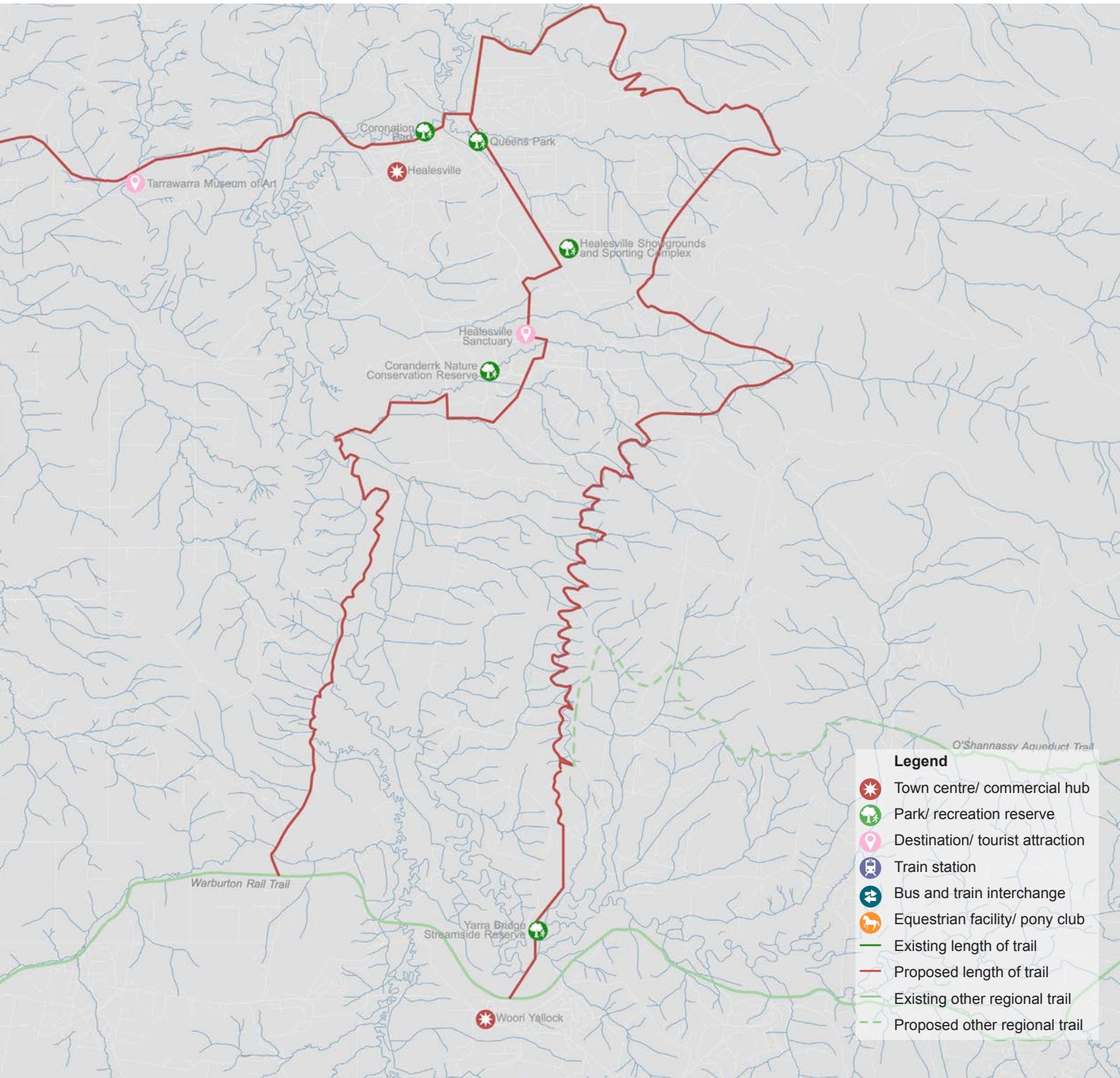
Local Government Area:

Shire of Yarra Ranges



Action items

- ① Construct the Yarra Valley Trail in three stages in accordance with current planning direction.



8

TRAIL INFRASTRUCTURE



8.1 Existing infrastructure

There are a wide variety of elements that make up a regional trail network. 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. All of these elements play a role in the way a trail is used and influence the trail-use experience.

8.1.1 Trail surfaces

Materials

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

<i>Material</i>	<i>Positive attributes</i>	<i>Negative attributes</i>
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.
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.



FIGURE 8.1:
Regional trail construction material examples.
Top: Concrete trail construction (Heathmont Belgrave Trail)
Middle: Asphalt surface with concrete strip edging (Anniversary Trail)
Bottom: Gravel (Warburton Rail Trail)

The three options noted (examples pictured in figure 8.1) are ordered from most to least expensive. 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.

In the community questionnaire undertaken as a part of the project, comments made regarding trail surfaces concentrated on the condition of the surface (mostly concerning either tree root damage or hazards created by materials washing onto the trail) rather than the surface type.

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

- there has been a preference for asphalt trails with concrete strip edging at the western edge of the study area over a relatively long period, creating a level of consistency. Boroondara Council Officers indicated this surface has been preferred in their municipality because the concrete edging creates a durable and robust trail, and the asphalt provides the smoothest surface for cyclists.
- Gravel trails are preferred for trails within a rural environment. There are a number of factors that combine to make this a logical decision, including; long trail distances combined with a relatively low density of rate payers (which make gravel the economical choice), equestrian use, and the softer visual character deemed to be more suited to non-urban environments.

There are no significant issues identified with any individual trail surface material within the study area, and decisions regarding trail surfacing seem to have been made logically on a trail by trail basis. Where deterioration of trails surfaces are being observed, this generally relates to trails sustaining root damage due to proximity to vegetation and/or age. Some tree root damage is inevitable along some trails due to the undesirability of removing the cause of the problem (often mature or remnant trees), and narrow or otherwise constrained trail corridors making avoidance of problem areas very difficult. All path surfaces will deteriorate over long periods of time and need replacement or renovation.

Where compacted gravel surfaces are used on the existing regional trail network, they seem to have been well installed and maintained. In general, future use of gravel regional trail surfacing should take cues from the existing use of this material:

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

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, 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). Austroads 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.

The latest Austroads document also provides guidance relating to designing path widths based upon known peak hour cyclist and pedestrian volumes. The document includes a chart showing different volume scenarios linked to different path width recommendations. Two charts are provided, allowing for 50/50 and 75/25 directional splits. The 50/50 split has been used in the assessment below as a default due to the wide range of regional trails being considered here.

The Bicycle Network *Super Sunday Recreation Count* records both pedestrian and cycle use of the trails, allowing the Austroads charts to be used as intended (ie. creating a combined cycling/pedestrian use numbers scenario). However, the Bicycle Network *Super Tuesday Bicycle Commuter Count* proves that peak bicycle usage of many trails occurs on weekdays. The peak bicycle figures are therefore also assessed independently in the analysis below (by assuming zero pedestrian use during peak cycling use).

Regarding pedestrian volumes, the Austroads chart recommends:

- a 2.5m wide shared path for peak pedestrian volumes between 0-50 per hour
- a 3.0m wide shared path for peak pedestrian volumes between 50-100 per hour
- separated dedicated pedestrian paths for peak pedestrian volumes of over 100 per hour

The 2016 Bicycle Network *Super Sunday Recreation Count* recorded weekend pedestrian volumes of over 100 pedestrians in a single hour (including runners and dog walkers) at a number of locations on the Gardiners Creek Trail, the Anniversary Trail, and the Koonung Creek Trail. Therefore, even without bicycle use these pedestrian levels justify consideration of path separation for parts of these trails based upon the Austroads recommendations.

At the count sites that recorded these high pedestrian levels, bicycle use at the same time was only around 50 cycles per hour, therefore having a very small impact upon the sliding scale used by the Austroads chart.

Regarding cycling volumes, the Austroads chart recommends:

- a 2.5m wide shared path for peak cycling volumes between 0-550 per hour
- a 3.0m wide shared path for peak cycling volumes between 550-1000 per hour
- separated dedicated cycling paths for peak volumes of over 1000 cyclists per hour

The Bicycle Network *Super Tuesday Bicycle Commuter Count* provides data regarding peak cycle usage (counted on only one day per year). Of the count sites located on regional trails, the majority record hourly cycle volumes well below 550 per hour. The exception is the Gardiners Creek Trail, where three count sites along the trail record more than 750 cyclists per hour.

While trail use may increase over time, the current trail use figures available do not currently justify path separation based upon peak cycle usage.

It is clear from this analysis that it is the pedestrian usage numbers that are likely to be the key driver regarding arguments for trail separation on the regional trails of Eastern Melbourne.

The sharing of trail surfaces is a contentious issue for many trail users. In the questionnaire undertaken as a part of this project, many pedestrians reported feeling unsafe sharing trails with fast-moving bicycles. (It is noted that other use conflicts were also reported, including bicycles feeling unsafe sharing trails with dogs not under effective control, and horse riders feeling unsafe sharing trails with fast-moving cyclists and dogs not under effective control).

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 feature of the regional trail network in Eastern Melbourne, they are used on other busy trails around Melbourne, such as sections of the Bay Trail (refer figure 8.2).



FIGURE 8.2:
An example of a separated regional trail (Bay Trail, Brighton)

The idea of separated paths also has higher-level support. In *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 recommendation 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.

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 of a list of 19 potential trail improvements could 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 (48.0%) of the respondents, the fifth most popular response. By comparison, the item 'wider trails' was selected by 28.7% of the respondents.

Factors working against heavily-used regional trails in Eastern 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. This visual impact can be a sensitive issue, as one of the respondents to the questionnaire undertaken as a part of the project noted; *'Do not widen the trails, people want to feel they are away from the suburbs. The trails are fine as they are'*.
- **Construction cost** - Providing separate trails for cycling and pedestrian use doubles the cost of providing the facility.

Based upon the Austroads recommendations examined, it is recommended that the busiest sections of the Gardiners Creek Trail, the Anniversary Trail, and the Koonung Creek Trail be assessed for trail separation potential. This recommendation has been included on the trail plans in Chapter 7 of this report.

8.1.2 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 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.

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 Eastern Melbourne.

It is recommended that a standard suite of directional signs be developed for regional trails in Eastern 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 shared 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 recommendations of this document have been implemented on some trails within the study area, as pictured in figure 8.3.

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.

The example shown in figure 8.3 includes some additional route numbering information added below the main signs. A metropolitan or state-wide route numbering system has also been discussed as a part of this signage system, but the benefit of route numbering can only be realised by consistent application across the entire network. While this is possible for roads where there is a single organisation managing the network, the task is much more difficult for paths and trails.

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.

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 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 required 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.

8.1.2 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.



FIGURE 8.3:
An example of the proposed standard sign type for regional trails in Eastern Melbourne.

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 Eastern Melbourne. Recommendations regarding their provision are summarised in figure 8.4.

- **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 habitat, 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** - Most users of trails produce little rubbish during their trail use. Due to the length of the trail network, users do not expect bins to be located in all locations and are therefore usually prepared to carry the rubbish they produce. 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 (eg. parks, railway stations, civic buildings). Where rubbish bins are provided, they require regular emptying to avoid issues associated with overflow and spillage. Therefore, 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.

- **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 LGA, 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).
- **Interpretation** - Interpretation signs are those that contain information about points of interest (such as links to historic people, places or events, or natural features) and can contribute to the trail use experience. Interpretive elements need careful consideration of the target audience and the broader story being communicated via the trail. The use of sculptural elements and public art can assist with wayfinding.
- **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)	Ocasional (500-1000m spacing)	At key activity nodes	Where required for safety reasons
Behavioural signs		○	○	
Bicycle parking		○	●	
Directional signs	●			
Drinking fountains		○	●	
Emergency markers (in accordance with ESTA requirements)		●		
End of trip facilities (eg showers)			○	
Interpretive signs		○	○	
Lights		○	○	●
Outdoor fitness equipment		○	○	
Public toilets			●	
Rubbish bins			●	
Seats		●	●	
Shelter			●	
Vegetation (including shade trees)	○			

FIGURE 8.4:
Regional trail infrastructure provision recommendations

- mandatory
- recommended
- to be considered

8.1.3 Trail-side vegetation

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

- **Function** - including the provision of shade from trees.
- **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 most regional trails. 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.
- **Maintenance burden** - the length of trails means that any maintenance-intensive activities required along trail edges can involve significant resources and cost.

8.1.4 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 linemarking 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.

8.2 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 Eastern Melbourne. The standards (items that must be addressed) are shown in figure 8.5, while the guidelines (items that should be considered) in figure 8.6. 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.

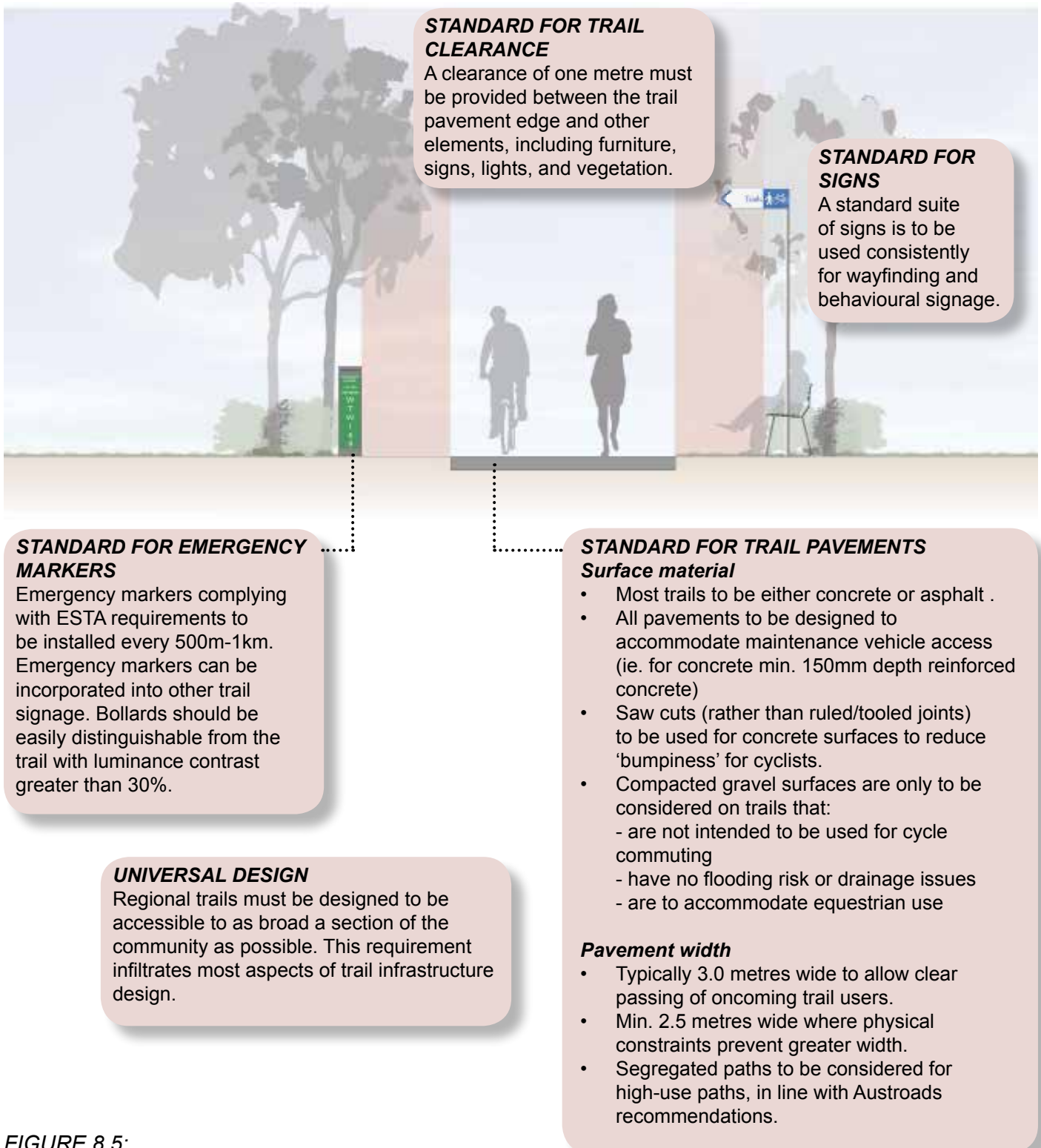


FIGURE 8.5:
Regional trail infrastructure standards for Eastern Melbourne.

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.

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 (usually at least 3 metres 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 near trails to maintain safe view lines.

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).

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 8.6:

Regional trail infrastructure guidelines for Eastern Melbourne.

9

TRAIL MANAGEMENT



*Heathmont to
Belgrave Rail Trail*

9.1 Existing management structure

The management of the regional trail network includes a wide variety of activities, relationships and agreements that go toward trail planning, construction, funding, maintenance and promotion. The management structures of trails are often complex, and responsibilities for trails are held by 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.

9.1.1 Local Government Authorities

Local Government Authorities (LGAs) 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. In many cases, these activities are undertaken with input from one or both of the other two types of organisations noted here, being State Government Departments and Service Authorities/Statutory Corporations. Both of these two other types of organisations are given their powers by State Government legislation, which LGAs have little influence upon and are required to operate in accordance with.

LGAs are the organisation type who have the highest and broadest levels of responsibility for regional trail management, from strategic planning through to maintenance.

LGAs have been the key group involved in the development of this report. Each of the seven LGAs within the study area are represented on the Project Steering Committee for this project and have been heavily involved in shaping this report.

9.1.2 State Government Departments

Sport & Recreation Victoria (SRV)

SRV is a unit within the state government Department of Health and Human Services (DHHS). SRV's role is '*supporting Victoria's sport and recreation sector and inspiring Victorians to get active*' (sport.vic.gov.au/about-us/what-we-do). This role makes trail development very relevant to SRV, demonstrated by their funding assistance for this project and their representation on the Project Steering Committee.

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.

Active Transport Victoria (ATV)

ATV was formed in 2016 as a focal point for state government pedestrian and cycling-related strategies and projects. It is a unit within *Transport for Victoria*, itself part of the *Department of Economic Development, Jobs, Transport and Resources* (DEDJTR). ATV was responsible for the preparation of the *Victorian Cycling Strategy 2018-28*, which has the subtitle '*increasing cycling for transport*'.

The development of this unit and the subtitle to the state cycling strategy noted above is indicative of a changing mood toward cycling at the state government level. Traditionally cycling has been seen as a form of recreation and a realistic transport option for only a small percentage of society. The new strategy sees cycling as a way to reduce pressures on the transport network caused by a growing population. This view of cycling elevates the role of trails infrastructure as an important part of Melbourne's transport network.

Department of Economic Development, Jobs, Transport and Resources (DEDJTR)
DEDJTR is the state government department responsible for two key areas relevant to regional trails provision: transport and tourism. The transport responsibilities of DEDJTR include oversight of the operations of VicRoads (described in greater detail below).

Tourism Victoria is a State Government statutory authority reporting to Minister for Tourism and Major Events who sits within DEDJTR. Tourism 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)*

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.

Victorian Planning Authority (VPA)

The VPA is a State Government authority with responsibilities including providing strategic planning and coordinated infrastructure for the future growth and transformation of Victoria's cities and regions.

Unlike other segments of metropolitan Melbourne, the Eastern Melbourne study area does not contain any designated growth corridors, meaning that currently the VPA does not have any significant involvement in the planning or provision of regional trails in the study area.

9.1.3 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 does construct and maintain on-road cycling facilities as a part of their road construction and maintenance responsibilities. They also construct and manage off-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 Principle Bicycle Network (PBN), Strategic Cycling Corridors (SCC), Bicycle Priority Routes (BPR) and the Metropolitan Trail Network (MTN).

The PBN was originally established in 1994 as a bicycle infrastructure planning tool. In 2009 and 2010 VicRoads lead a major review of the Principal Bicycle Network (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 discreet links rather than as an integrated network. BPRs are required to meet the following criteria;

- the greatest potential for separation from motorised modes of transport making it more attractive to less experienced bike riders
 - be sufficiently direct
 - focussed 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, and 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, barbeques, garden beds, etc.) that have a community function and 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).

Shared pathway agreements have at times been a point of friction between Melbourne Water and LGAs, involving disagreements about liability, asset ownership, and trail construction standards.

Parks Victoria

Parks Victoria is a statutory authority, created by the *Parks Victoria Act 1998*, responsible for managing land including parkland within the Eastern Melbourne study area. The regional trails that fall within this Parks Victoria-managed parkland (including trails through Jells Park and Westerfolds Park) are also owned and managed by Parks Victoria.

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. Shared trails are also required to interact with railway lines at crossing points, where issues associated with retrofitting crossings can be difficult and expensive to resolve.

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 (ie. the rail operators). The importance of a safe and operational rail network means that VicTrack and the rail operators can be relatively risk-averse in their decision-making.

9.2 Management roles

Of the different organisations identified with an interest or responsibility relating to regional trails, it is only LGAs and Parks Victoria who have roles and responsibilities across the whole spectrum of 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 are based upon the current situation, but these do not reflect the structure under which many existing trails were built, and changes will continue in this structure in the future.

With increased public demand and expectations and pressure from lobby groups regarding trail provision, 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 not been particularly supportive of use of their land for other purposes due to risk and complexity. It is almost always easier to restrict public access than to deal with the complexities 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 wellbeing benefits.

9.3 Alternative trail management options

A part of the development of tourism-focussed trails within Yarra Ranges (including trails covered within this study as well as specialist mountain bike facilities) has included the investigation of governance models. Three broad governance categories were investigated:

- Public delivery and public operation
- Public delivery and community operation
- Public delivery and private operation

The preferred model is within the second category, and involves the establishment of an Incorporated Association to manage the trails. This model allows for the Incorporated Association to be entrepreneurial in the management and operation of the trails. This model, and the others investigated, can provide potential benefits to a tourism-focussed trail network, but these benefits do not easily translate to the majority of the regional trails within Eastern Melbourne.

9.4 Trail management opportunities

To assess alternative trail management options, we should first identify the issues that such alternatives would seek to address. The key issues identified with the existing management structure are:

- 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 (eg. freeway construction). 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 informal network of Council Officers with an interest in the regional trails of Eastern Melbourne be formalised into a Eastern Melbourne regional trails working group. The Eastern Melbourne LGAs already have a history of working together on various issues, and

this has recently been formalised through the Eastern Regional Group of Councils (known as ERG), which includes all of the LGAs within the study area except Boroondara. Working together collectively is seen as a way to respond to challenges posed to individual LGAs, such as the recent rate capping legislation, by pooling resources and advocacy/promotion efforts between LGAs.

The ERG follows the precedents set by other regional organisations collectively supported by LGAs in the regional, including:

- Eastern Transport Coalition (ETC). ETC is made up of seven LGAs (including all of the Eastern Regional Trails Strategy study area LGAs except Boroondara, plus the City of Greater Dandenong), and advocates 'for sustainable and integrated transport services that reduce car dependency' (www.etc.org.au).
- Eastern Affordable Housing Alliance (EAHA)
- Eastern Alliance for Greenhouse Action (EAGA). EAGA comprises eight Eastern Melbourne LGAs, including all of the study area LGAs except Manningham, plus the Cities of Glen Eira and Stonnington. EAGA was formed in 2008 and aims to deliver programs that 'reduce greenhouse gas emissions throughout the region' and 'provide support for regional adaptation to climate change impacts' (www.eaga.com.au).
- A Regional Sport and Recreation Group, comprising Council Officer representatives from each of the Eastern Region councils.

Each of these groups is jointly funded by the member LGAs, with each LGA contributions for membership ranging from \$7,000 to \$30,000 per annum for the groups discussed above. Learnings from the operation of these organisations should be used to help determine the most useful and effective form of a regional trails regional group.

10 TRAIL MARKETING

10.1 Introduction

Drawing the trail network to the attention of people has the potential to play a very important role in increasing use of the trails. Many regional trails are located in places where many people do not see them on a day to day basis. Many of the trails would be very easy to overlook if you did not already know of their existence and were not actively looking for them.

As the geographic region for the project is so extensive, 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 we mean 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 or recreation/fitness).
- **Visitors/tourists** - refer to people who have travelled from where they reside (which could be within the study area) with purposes 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.

10.2 Existing trail users

While there is little quantitative research data available, the findings of stakeholder consultation undertaken for the project indicate that existing trail users include:

Residents:

- Families and friends groups
- Independent users, including cyclists, walkers, dog walkers, joggers, canoeists, horse-riders
- Organised recreational/sporting groups
- Bicycle user groups
- Organised social clubs, eg. Scouts, Rotary, mothers' groups
- Organised nature enthusiast groups
- Commuters
- Workers in the municipality
- School groups
- Historical societies
- Participants of trail-based events

Visitors

(primarily from other parts of the project region and Melbourne):

- Organised recreational/sports groups
- Organised nature enthusiast groups
- Leisure day trips – couples, family and friends groups
- Fitness day trips – with a trail as a destination for fitness.
- Event participants

10.3 Current communications and marketing activities

Communications activities to encourage trail usage and provide information about trail facilities, etiquette of usage, etc. are variable across the municipalities in the project region. Most of the focus of messaging has targeted residents to date, with the exception of tourism marketing via Yarra Ranges Regional Tourism. Many of the LGAs are in the process of increasing the promotion of trails to visitor markets.

Current communications activities include:

- Providing information directly to cycling and walking groups
- Cycling and walking maps online, including Maroondah's interactive digital map (however, no cycling/walking apps are available)
- Hard copy cycling and walking brochures/maps (variable quality amongst the councils)
- Council websites
- Council bulletins (hard copy)
- Local newspapers (some councils)
- Social media, eg. Facebook, Twitter (some councils) – this also involves responding directly to public inquiries about facilities, new works underway, etc.
- Third party websites, eg. Bicycle Network Victoria, Visit Victoria
- Cycling education workshops
- Wide range of events focussed on the trails, eg. Women's Ride, Ride to School Day
- Participation in Destination Melbourne's *Discover Your Own Backyard* campaign designed to encourage Melbournians to get out and about in the city and to take visiting friends and relatives with them (some councils).

10.3.1 Strengths and challenges of existing programs

Direct liaison with cycling user groups and other organised recreational groups has proved very effective in communicating messages that influence behaviour on the trails, updates users about trail facilities and conditions, and other topics. As these groups are already motivated trail users, communications tend to focus on functional elements of the trail rather than encourage higher levels of usage.

Maps and brochures (hardcopy and online) are very popular amongst residents and visitors (when they can be located). There is still a need for hard copy materials to both promote and inform trail usage as they provide an immediately visible communication about the existence of a trail in a large number of locations, as well as meet the needs of a variety of trail users, some of whom are not digitally-savvy.

Online trail information is variable in quality across the region, with opportunities existing to enhance the quality, accuracy/currency, depth of information, visibility and navigability of online information. It can be cumbersome for visitors to access trail information through council websites, especially if they are not Melbourne-based visitors with any familiarity with council jurisdictions.

Social media will be an increasingly important channel to communicate information about trails and attract potential visitors as participation in social media evolves. However, communication will need to be established with a wider number of potential visitors through an active, strongly curated presence on a variety of platforms.

The best methods may not be through council social media accounts as they are (understandably) full of information not related to trails.

The identification of consistent and updated messaging about regional trails that cross council boundaries will also be valuable to maximise the value of communications and promotions by multiple agencies and to avoid confusion amongst trail users.

Events will also continue to be an effective way to introduce new users to the trails amongst target resident and visitor markets. While some events are clearly local community-focused, the growing interest in physically challenging rides, walks and runs, and the desire for new trail experiences, has created an opportunity for events to draw people from across Melbourne and Victoria (and, at times, interstate). Interest in these types of events is only expected to increase over the next decade.

10.4 The tourism opportunity

10.4.1 Growth in tourism visitation

The current and forecast growth in Melbourne's population suggests that trail usage will increase substantially over coming decades. The growth in tourism visitation also provides an opportunity to attract more visitors to experience the trails, with potential economic benefits to complementary services based on the trails, such as bike hire and bike tours, or adjacent to the trails, such as hospitality and accommodation.

Melbourne is growing, from approximately 5 million currently to a forecast 8 million by 2051. There are 1 to 2 million people in the east/southeast within 30-40 minutes of the Yarra Ranges.

There has been tourism visitor growth in Melbourne. Tourism Research Australia, *National and Domestic Visitor Surveys*, year ending June 2012-2017 show:

- Domestic overnight – 5% growth p.a. over last 5 years (to nearly 9 million)
- International overnight – 10% growth p.a. over last 5 years (to 2.6 million)

With the Yarra Valley and Dandenong Ranges being the number one tourism destination in Victoria, encouraging visitors to experience the area's trails is likely to generate longer length of stay and yield to local communities. Regarding tourism visitor growth in Yarra Valley & Dandenong Ranges (also from Tourism Research Australia, *National and Domestic Visitor Surveys*, year ending June 2012-2017):

- Domestic overnight – 9% growth p.a. over last 5 years (to nearly 1 million)
- International overnight – 12% growth p.a. over last 5 years (to 47,000)
- Bushwalking and rainforest walks are the 4th most popular activity undertaken by domestic overnight visitors (23%) to the Yarra Valley and Dandenong Ranges.
- For domestic day trip visitors, bushwalking and rainforest walks are also the 4th most popular activity (16%)
- Cycling is recorded as the 19th most popular activity, undertaken by 1.5% of domestic daytrip visitors.

10.4.2 Growth in Visitor Demand for Trails

According to a recent report published by Tourism Research Australia, *Growing Cycling Tourism in Victoria* (December 2015):

In Australia and across the world, domestic and international holiday-makers are becoming increasingly focused on travel experiences that involve adventure and maintaining a healthy lifestyle. This attitudinal and behavioural shift has resulted in growth in cycling tourism.

While there is little recent research in Victoria about tourism trends in trail usage and forecast demand, a few relevant indicators include:

- Parks Victoria's 2013 visitor survey – short walks (up to one hour) are the most popular activity in National and State Parks (38% of visits), followed by sight-seeing (14%), and long walk/day walk/bushwalk/hiking (11%).
- Nature-based tourism experiences are becoming increasingly popular amongst domestic and international travellers.
- Trail-based events, such as adventure races and mountain bike competitions are becoming increasingly popular, which is evidenced by the growth in the number of events and strong levels of patronage.

10.4.3 Current Approach to Trails Marketing in Victoria

In addition to the local level communications and marketing already discussed, there are a number of other potential marketing avenues reaching a broader audience:

- **State tourism marketing** - The State Government is currently focused on the construction and promotion of Victoria's four great walks, including the Grampians Peaks Trail and Great Ocean Walk, amongst others. North-east Victoria is recognised as a clear state leader in terms of cycle tourism, however, it is also acknowledged that there is strong product in other regions to attract the cycle tourist.
- **Melbourne tourism marketing** - Most of the promotion of Melbourne's trails to date focuses on trail experiences in the CBD area.
- **Yarra Ranges regional marketing** - The Yarra Valley and Dandenong Ranges is the most recognised tourist destination in the project region. Yarra Ranges Regional Tourism (YRRT) places a secondary, yet significant, focus on experiences in nature, including cycling. *Inspired By Nature* is a key market segment for YRRT, with outdoor activities a primary motivator for this market.

Visitor interest in trail-based experiences is growing in the region with an appetite for safer off-road routes such as rail trails. Over the last two years, four new businesses have started up to service the cycle tourism market, including bike hire, tours, a bike retail outlet and a café. Various wineries and businesses also now cater for bike parking. The number of event organisers choosing to host a trail-based event in the region is also increasing.

According to YRRT, if more marketing resources were available, further investment in trail-based marketing would be undertaken, featuring on-road and off-road trails for all forms of cycling and walking. A new *Top Walks and Rides* brochure is soon to be released. YRRT is also increasing trail-focused digital content on their consumer website; an e-book of the top walks will soon be available for download; and a regional map will be distributed widely pointing back to online content. YRRT would like to see the development of a regional brand for walking and cycling trails, as well as the cataloguing and building of a digital library on each trail through photos, Strava data, descriptions, difficulty ratings, etc.

Yarra Ranges Council is currently undertaking planning for an expanded tourism-focussed trail network and significant mountain bike facilities at Warburton. These projects have included economic impact studies that project visitor numbers in the hundreds of thousands per annum for each project.

There are also other tourism developments proposed in the Yarra Ranges which will support use of some of the existing trails. This includes Edgewater Spa Development Warburton, near the Lilydale-Warburton Rail Trail, which has approval for a 180-room hotel and Wild Cattle Creek, which is adjacent to the Lilydale-Warburton Rail Trail, and has approval for around 80 rooms.

10.5 Developing trails for tourism

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

- **Scenic trails** – which are a destination in themselves and are enjoyed for their scenic features.
- **Touring trails** – which provide connectivity to a range of facilities and services near the trails. The trail's major function is as a commuter route, even though it may also have some scenic value.
- **Experience trails** – which are themed to provide an experience along the trail that is distinctively 'local' reflecting elements of local cultural and natural heritage, eg. a sculpture/arts trail or an Aboriginal cultural trail. A trail may also focus on linking the user to a range of complementary experiences located close to the trail to create a themed trail, eg. a local produce trail. Themed itineraries could be developed and marketed involving local business outlets such as food producers, retailers, hospitality and other service providers.

Following are just a few of the existing trails that could be further developed and/or promoted to boost tourism visitation:

- **Warburton Rail Trail** – this trail, which would qualify as a 'scenic trail' is currently promoted through marketing activities conducted by Yarra Ranges Regional Tourism. It is a popular destination for Melbournians conducting day-trips on weekends. However, there is capacity to increase mid-week visitation and encourage overnight stays potentially by promoting the trail directly to relevant markets, such as fitness-focused retirees, and as part of packages with accommodation and other services. While the printed brochure is excellent, the most detailed information available online is a pdf of the brochure which, when on the trail, is not as user-friendly as an app or a mobile device-adapted web page/mini-site. Additional resources would be required for both initiatives. The proposed Yarra Valley Trail is intended to join with this trail to create an extended loop, opening up the opportunity for longer trips and multi-day experiences.
- **Main Yarra Trail** – whilst this is a 'scenic trail', there is an opportunity to further develop it as an 'experience trail' through promoting connections to the experiences along the Yarra Trail, such as the Heidi Museum of Modern Art and the Heidelberg School Artists Trail (some of which already overlaps onto the Yarra Trail). There may be additional opportunities to connect with locally displayed artworks and learn about the area's artistic history. It is noted that much of the Main Yarra Trail is located outside the study area, so would require coordination with other LGAs.
- **Mullum Mullum Creek Trail** – when it is completed, this trail will be a 'scenic trail' with appeal to some visitor markets. It has a series of children-friendly spaces along the route and sections of it could potentially be 'packaged' as family-oriented 'nature experience trails'. There may be experiences that could be undertaken in 20 minutes, an hour, or four hours depending on the age and interests of the children. These could be promoted as a series of 'family' trails.

10.6 Marketing goals and potential target markets

10.6.1 Marketing goals

Marketing Goals for Regional Trails include:

- To increase the number of residents who use the trails to improve their health and wellbeing, 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 tourist usage of the trails during off-peak periods of day/week/year.
- 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.

10.6.2 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:

- People from lower socio-economic groups
- People experiencing social isolation (eg. because of changed life circumstances, such as being new residents of the area, or having become primary care-giver)
- People who don't engage in other sport or exercise activities.

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 (VFR) of those living in these areas.

These markets cost less to attract in terms of using promotional resources; demand is still growing as trail-based activities become increasingly popular; and Melbourne's population is also growing, naturally generating new trail visitors. VFR markets can be reached through targeting Melbourne residents and encouraging them to take their visitors to the region's trails.

In terms of motivations to use the trails, target markets should include:

- Organised recreational sports groups/clubs related to cycling, walking, running, canoeing, and horse riding
- Organised nature enthusiast groups, including environmental management groups, bird watchers, artists, etc.
- Individuals, couples, family and friends groups on leisure day trips, including for fitness purposes who are using a trail as a destination, or as part of an experience on the way to a destination.
- Couples, family and friends groups on an overnight stay for leisure.
- Individuals and groups on an overnight stay for business (eg. conference market in the Yarra Valley)
- Trail event participants and spectators

10.7 Opportunities to improve trail marketing & communications

The marketing objectives for regional trails in Eastern 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, eg. 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, eg. substantial nutritious food, bike storage, nearby accommodation, etc.
- Develop an Eastern Trails (ET) logo to feature on each trail's signage and promotional materials to indicate participation in a co-ordinated suite of regional trails. While each trail should be developed to have its own points of difference and brand, the ET logo would communicate a regional brand indicating that it was part of a professionally developed and managed suite of trails. An agreement should be reached with land and waterways managers to determine how the ET logo and those of various agencies should feature on trail signage and promotions.

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 (eg. 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. Investigate funds available to implement the Destination Management Plan for eastern Melbourne, and funds from the State Government and other partners, eg. Sport and Recreation Victoria, VicHealth.



11 ACTION PLAN

11.1 Introduction

Two kinds of action items associated with improving the regional trail network in Eastern 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. (This project has used relative prioritisation of projects, rather than stipulating timeframes for implementation. Providing timeframes for implementation provides a number of benefits, including providing reference points to measure trail improvement progress over time, and providing certainty to trail users regarding expectations of trail improvements. Unfortunately, this approach has not been able to be achieved due to a lack of a regular and reliable source of funding for regional trail construction and improvements).

11.2 Region-wide action items

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

Trail infrastructure

- Develop and implement a standard suite of directional signs for regional trails in Eastern Melbourne.
- Implement the Trail infrastructure standards and guidelines as identified in this document (refer to Chapter 8).

Trail management

- Formation of a Eastern Melbourne Regional Trails Working Group, in order to:
 - 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

- Develop the regional trails product offering and branding:
 - develop a series of themed trail-based itineraries tailored to different users
 - encouraging businesses to develop trail-themed packages
 - devise a suite of regularly-refreshed messages about each trail that can be consistently communicated.
 - develop an Eastern Regional Trails logo for use on the trails
- Provide additional information about trails:
 - increase the level of information about regional trails on visitor-focussed websites
 - investigate the potential for a regional trails website or app (potentially maintained by an external contractor)
 - develop a social media strategy to build awareness about the region's regional trails.
 - develop a regional trails events calendar.

11.3 Trail-specific action items

11.3.1 The Criteria

The criteria developed to assess potential trail improvement projects were established in collaboration with the Project Steering Group and were designed to assess the proposed 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 seven criteria and the relative weighting used are as follows:

1. Contribution to an integrated and connected network (20%)

Including linking to other regional and local trails, not having 'missing links', and linking to and from key destinations such as parks, playgrounds, recreation centres, commercial centres, civic services, transport hubs and tourism destinations.

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. This criteria has been weighted higher than most based upon the findings of the public questionnaire, and input from the Project Steering Group.

2. Encouraging use by spatial location (12%)

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 (12%)

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 wellbeing (12%)

Including trails maximising opportunities for the use of the trails for active transport, recreation and social interaction. This includes improvements that actively encourage new users to the trails.

Rationale: Trail improvement works that help to encourage health and wellbeing provide positive contributions the 'social' aspect of a triple bottom line assessment.

5. Contribution to uniqueness and the quality of the natural environment (12%)

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 (20%)

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. This criteria has been weighted higher than most based upon the findings of the public questionnaire, and input from the Project Steering Group.

7. Strategic fit (12%)

Level of support from existing adopted strategies and 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'.

11.3.2 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 include:

- **Location** - relevant LGA/s involved in the project.
- **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+
- **Project type** - identifies key project groupings, such as 'new trail construction'.

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, LGAs are able to identify a project for implementation or funding applications based on specific requirements regarding the filter categories.

11.4 Schedule of trail-specific improvement projects

The following schedules itemise all of the trail improvement projects identified by this study, and details the results of the assessment against the criteria discussed above.

The projects can be cross-referenced to the trail maps in section 7, using the trail name and identification number in the first column.

TRAIL IMPROVEMENT PROJECTS															
PROJECT BASE INFORMATION					FILTERS										
ID	Assessed score	Project Description	Significant prerequisites and considerations	Project identification	Location: Trail Name	LGA	Additional stakeholder (Land owner/ manager)	Indicative cost S-\$0-50,000 M-\$50,000-250,000 L-\$250,000-1M XL-\$1M+	Paddle-sport focus?	Equestrian focus?	New trail construction?	Existing trail upgrade/ widening?	Crossing ramp/ bridge works?	Signage/ way-finding?	Lighting?
New trail construction															
AnniversaryTrail_01	59.2	Complete the gap on the Anniversary Trail between Riversdale Road (Fordham Avenue) and Prospect Hill Road		Trail audit, Boroondara Bicycle Strategy (2008), Trail improvement projects (sent to FFLA from BCC), Community Consultation, Bicycle Network	Anniversary Trail	Boroondara	VicTrack	M			Y				
AnniversaryTrail_10	52.8	Provide off-road connection between Yarra Trail and Anniversary Trail at northern end of Anniversary Trail	Upgrade works to Chandler Highway. There are existing issues with the location of signal poles along the shared footpath - VicRoads will be relocating some of these as part of the Chandler Hwy works. An off-road connection may require existing bridge to be widened or a separate bridge to be built.	Trail audit, Boroondara Bicycle Strategy (2008)	Anniversary Trail and Yarra Trail	Boroondara	VicRoads	L-XL			Y				
BHRRT_01	60	Complete the gap in the Box Hill to Ringwood Rail Trail from Middleborough Road to Blackburn Road		Trail audit, Whitehorse Cycling Strategy (2016), Cycling into the Future: Victoria's Cycling Strategy (2013-23)	Box Hill to Ringwood Rail Trail	Whitehorse	VicTrack, VicRoads	L			Y				
BHRRT_02	60	Complete the gap in the Box Hill to Ringwood Rail Trail from Nunawading Station to Walkers Road		Trail audit, Whitehorse Cycling Strategy (2016), Cycling into the Future: Victoria's Cycling Strategy (2013-23), Community Consultation	Box Hill to Ringwood Rail Trail	Whitehorse	VicTrack, VicRoads	L			Y				
BHRRT_03	68	Extend the Box Hill to Ringwood Rail Trail east from Ringwood Station along the O'Shannassy Viaduct to connect with local trails and the Warburton Rail Trail	Project timing be dependant on planned pipe upgrades in the aquaduct and along the rail corridor.	Maroondah Integrated Transport Strategy, Maroondah Bicycle Strategy (2004), Trail improvement projects (sent to FFLA from Maroondah CC)	Box Hill to Ringwood Rail Trail	Maroondah	VicTrack, VicRoads, Melbourne Water	XL			Y	Y	Y	Y	
BHRRT_04	68	Extend the Box Hill to Ringwood Rail Trail west from Box Hill Station to Hawthorn Station	There are existing constraints along sections of the Box Hill to Hawthorn corridor. The proposed trail will need to meet the minimum clearance requirement from the railway track.	Whitehorse Integrated Transport Strategy (2011), Community Consultation	Box Hill to Ringwood Rail Trail	Boroondara, Whitehorse	VicTrack, VicRoads	XL			Y				
BlindCreekTrail_01	44.8	Provide an off-road path between the Blind Creek Trail, at its western end, and the Dandenong Creek Trail by providing a connection from Nortons Lane through to Shepherds Road.		Trail audit	Blind Creek Trail	Knox and Monash		M			Y				
DandenongCreekTrail_05	52.8	Construct a shared use path adjacent to the southern side of Burwood Hwy to connect the Dandenong Creek trail at Morack Road to the Eastlink trail at the overpass bridge.		Current advocacy campaign by Whitehorse Council, Knox Council and the Eastern Transport Coalition	Dandenong Creek Trail	Knox and Whitehorse	VicRoads	L			Y				
FerryCreekTrail_01	44	Extend the Ferry Creek Trail west to connect with the Eastlink Trail/ Dandenong Creek Trail		Trail audit	Ferry Creek Trail	Knox		XL			Y				
FerryCreekTrail_04	44	Construct an off-road shared path on the Ferry Creek Trail along Tassie Road to connect to the Heathmont to Belgrave Rail Trail		Knox Comments 5/7	Ferry Creek Trail	Knox		M			Y				
GardinersCreekTrail_01	46.4	Complete the gap in the Gardiner's Creek Trail from Sycamore Street, across Station Street in Box Hill		Trail audit, Whitehorse Open Space Strategy (2007), VicRoads Strategic Cycling Corridor improvements	Gardiner's Creek Trail	Whitehorse		M			Y				
GardinersCreekTrail_02	37.6	Investigate the feasibility of continuing the Gardiners Creek Trail through the Malvern Valley Public Golf Course to Warrigal Road to eliminate detour via the Anniversary Trail	Stonnington Council has opposed this route in the past	Trail audit, Bicycle Network	Gardiner's Creek Trail	Boroondara	Stonnington City Council	L			Y				
HBRT_01	44	Complete the gap in the Heathmont to Belgrave Rail Trail at Fernree Gully Station		Trail audit, Bicycle Network	Heathmont to Belgrave Rail Trail	Knox		M			Y				
HBRT_02	46.4	Complete the gap in the Heathmont to Belgrave Rail Trail from Upwey Station to Belgrave Station		Trail audit	Heathmont to Belgrave Rail Trail	Yarra Ranges		L-XL			Y				
HBRT_08	56.8	Complete the gap between the Heathmont to Belgrave Rail Trail and the Box Hill to Ringwood so they connect at Ringwood Station	Access is dependant on agreement for connection on VicTrack land or created by Bedford Road LX removal	Trail audit	Heathmont to Belgrave Rail Trail and Box Hill to Ringwood Rail Trail	Maroondah	VicTrack, VicRoads	L			Y	Y	Y		
HBRT_10	54.4	Complete the gap at Upper Fernree Gully Station by providing an off road shared path over Railway Avenue (following the completion of the rail overpass)		Knox comments 09/16	Heathmont to Belgrave Rail Trail	Knox	VicTrack	M			Y				

HealesvilleFwyResTrail_01	56: Construct a shared use path along the former Healesville Freeway Reservation from Forest Hill to The Basin Triangle. Connect the trail to the Gardiner's Creek Trail, Nunawading to Syndal Trail, Eastlink Trail and The Heathmont to Belgrave Rail Trail.		Melbourne East Regional Sport and Recreation Strategy (2016), Whitehorse Cycling Strategy (2016)	Healesville Freeway Reservation Trail	Whitehorse	VicRoads, Parks Victoria	XL		Y				
MainYarraTrail_02	64.9: Extend the Main Yarra Trail east by creating a shared trail along Heidelberg-Warrandyte Road to connect to Warrandyte.		Manningham Green Wedge Action Plan, Manningham Open Space Strategy (2014), Manningham Recreation Strategy (2010-25), Walk Manningham Plan (2011-20)	Yarra Trail	Manningham	Millicent Shire	L		Y				
NunawadingSyndalPipeTrail_01	56: Construct a shared use path along the Melbourne Water pipe track reservation between Mitcham and Syndal.		Whitehorse Cycling Strategy (2016), Monash Open Space Strategy (2017 - DRAFT)	Mitcham to Syndal Pipe Trail	Whitehorse and Monash	Melbourne Water, VicRoads	XL						
OShannassyAqueductTrail_01	51.2: Explore the potential to extend the O'Shannassy Aqueduct Trail along the aqueduct to connect to the proposed Yarra Valley Trail.		Trail audit	O'Shannassy Aqueduct Trail	Yarra Ranges		XL		Y				
OShannassyAqueductTrail_02	60: Investigate providing connections from the Warburton Rail Trail and township to the O'Shannassy Aqueduct Trail. This may include signage, improved accessibility, a trail head and car parking.		Trail audit	O'Shannassy Aqueduct Trail	Yarra Ranges		L		Y				
RuffeyCreekTrail_01	48: Complete the gap in the Ruffey Creek Trail from Nambour Road to Montpellier Crescent Reserve.		Trail audit	Ruffey Creek Trail	Manningham		M		Y				
RuffeyCreekTrail_02	55.2: Construct off-road shared path between Foote Street and Parker Street to eliminate on-road section of the Ruffey Creek Trail.		Manningham Open Space Strategy (2014)	Ruffey Creek Trail	Manningham		M		Y				
ScotchmansCreekTrail_01	52.8: Extend the Scotchmans Creek Trail off-road from MARC to Sunnybrook Drive.		Monash Open Space Strategy (Draft 2017), Trail improvement projects (sent to FFLA from Monash CC), Community Consultation	Scotchmans Creek Trail	Monash		XL		Y				
TarrallaCreekTrail_01	56.8: Extend the Tarralla Creek Trail south, providing an off-road connection with the Dandenong Creek Trail.		Trail audit, Maroondah Bicycle Strategy (2004), Linking People and Spaces (2002), Community Consultation	Tarralla Creek Trail	Maroondah		L		Y				
TarrallaCreekTrail_02	55.2: Extend the Tarralla Creek Trail north along the Melbourne Water Pipe Track Reserve and Healesville Freeway Reservation to provide a connection between the Box Hill to Ringwood Rail Trail and the Warburton Rail Trail. This connection forms part of the Carum to Warburton Trail.		Maroondah comments 09/18	Tarralla Creek Trail	Maroondah		L		Y				
WarburtonRailTrail_01	73.5: Continue the Warburton Rail Trail south from Lilydale to the Tarralla Creek Trail via the Melbourne Water Pipe Track Reserve.		Melbourne East Regional Sport and Recreation Strategy (2016)	Warburton Rail Trail	Maroondah, Yarra Ranges		XL		Y				
WaverleyRailTrail_01	61.6: Complete the gap in the Waverley Rail Trail from Coleman Parade to Kingsway (Glen Waverley Station).		Trail improvement projects (sent to FFLA from Monash CC)	Waverley Rail Trail	Monash	VicTrack	L		Y				
WaverleyRailTrail_03	62.4: Close gap in the Waverley Rail Trail from Beatrice Avenue (east of Jordanville Station) to Stephenson's Road (west of Mount Waverley Station).		Trail audit, Monash Walking and Cycling Strategy, Melbourne East Regional Sport and Recreation Strategy (2016), Trail improvement projects (sent to FFLA from Monash CC)	Waverley Rail Trail	Monash	VicTrack	L			Y			
YarraValleyTrail_01	76: Construct the Yarra Valley Trail.		Health and Wellbeing in the Yarra Ranges (2017-21), Linking People and Spaces (2002), Community consultation	Yarra Valley Trail	Yarra Ranges		XL		Y				
Paddlesport projects													
YarraRiverPaddleTrail_01	62.4: Provide a kayak/canoe launching point to the Yarra River on the Yarra Valley Trail in Yarra Glen.	Construction of the Yarra Valley Trail	Community consultation	Yarra Valley Trail	Yarra Ranges		M	Y					
YarraRiverPaddleTrail_02	52.9: Provide access to the Yarra River and a kayak/canoe launching point where the Koonung Creek Trail meets the Main Yarra Trail.	Need to identify appropriate location(s) if any	Community consultation	Koonung Creek Trail	Boroondara, Manningham	Melbourne Water	M	Y					
Signage													
AnniversaryTrail_04	48: Improve wayfinding signage on the Anniversary Trail particularly at crossings, connections to other trails and links to surrounding destinations.		Trail audit, Boroondara Bicycle Strategy (2008)	Anniversary Trail	Boroondara		S						Y
BlindCreekTrail_02	39.2: Improve wayfinding signage on the Blind Creek Trail particularly at crossings, connections to other trails and links to surrounding destinations.		Trail audit	Blind Creek Trail	Knox		S						Y
BlindCreekTrail_03	41.6: Improve legibility and continuity of Blind Creek Trail at Westfield Knox by providing linemarking and signage to clearly highlight continuation of main trail.		Trail audit	Blind Creek Trail	Knox		S						Y
DandenongCreekTrail_02	52.8: Improve wayfinding signage on the Dandenong Creek Trail particularly at crossings, connections to other trails and links to surrounding destinations.		Trail audit, community consultation	Dandenong Creek Trail	Knox, Maroondah, Monash and Whitehorse	Melbourne Water	S						Y
FerndaleCreekTrail_01	48: Improve wayfinding signage on the Ferndale Creek Trail particularly at crossings, connections to other trails and links to surrounding destinations.		Trail audit	Ferndale Creek Trail	Boroondara		S						Y
FerryCreekTrail_02	41.6: Improve wayfinding signage on the Ferry Creek Trail particularly at crossings, connections to other trails and links to surrounding destinations.		Trail audit	Ferry Creek Trail	Knox		S						Y

GardinersCreekTrail_06	48: Improve wayfinding signage on the Gardiners Creek Trail particularly at crossings, connections to other trails and links to surrounding destinations		Trail audit	Gardiner's Creek Trail	Boroondara, Monash, Whitehorse				S					Y	
HBRT_03	43.2: Improve the legibility of the Heathmont to Belgrave Rail Trail along Burnwood Highway		Trail audit	Heathmont to Belgrave Rail Trail	Knox				S					Y	
HBRT_04	56.8: Improve wayfinding signage on the Heathmont to Belgrave Rail Trail particularly at crossings, connections to other trails and links to surrounding destinations		Trail audit	Heathmont to Belgrave Rail Trail	Maroondah and Knox				S					Y	
MullumMullumCreekTrail_04	59.2: Improve wayfinding signage on the Mullum Mullum Creek Trail particularly at crossings, connections to other trails and links to surrounding destinations	Part of the scope of the Mordialloc to Chirnside Park SCC.	Trail audit	Mullum Mullum Creek Trail	Maroondah and Manningham	VicRoads, Melbourne Water			S					Y	
RuffeyCreekTrail_04	59.2: Improve wayfinding signage on the Ruffey Creek Trail particularly at crossings, through Ruffey Lake Park, connections to other trails and links to surrounding destinations		Trail audit; Manningham Open Space Strategy (2014)	Ruffey Creek Trail	Manningham				S					Y	
ScotchmansCreekTrail_02	61.6: Improve wayfinding signage on the Scotchman's Creek Trail particularly at crossings, connections to other trails and links to surrounding destinations		Monash Open Space Strategy (Draft 2017)	Scotchmans Creek Trail	Monash				S					Y	
WaverleyRailTrail_02	52.8: Improve wayfinding signage, including trail heads, on the Waverley Rail Trail particularly at connection to the Gardiners Creek Trail, crossings, connections to other trails and links to surrounding destinations		Trail audit	Waverley Rail Trail	Monash	VicTrack			S					Y	
Improvements to existing trail surfaces and facilities															
Anniversary Trail_02	37.6: Construct a new shared path ramp to connect Anniversary Trail with Mont Albert Road		Trail improvement projects (sent to FFLA from BCC)	Anniversary Trail	Boroondara				M					Y	
Anniversary Trail_05	39.2: Investigate lighting improvements on the Anniversary Trail from Whitehorse Road to Canterbury Road		Community consultation	Anniversary Trail	Boroondara				L						Y
Anniversary Trail_09	41.6: Investigate lighting improvements on the Anniversary Trail from Ryburne Avenue and Laurel Street rail link (Alagna Station)		Boroondara comments	Anniversary Trail	Boroondara				L						Y
Anniversary Trail_11	44.8: Assess sections of trail to be assessed for potential to separate pedestrian and cycle traffic, based upon peak pedestrian numbers recorded at 'Super Sunday' counts being high enough to justify trail separation based upon recommendations from Austroads Guide to Road Design Part 6A: Paths for Walking and Cycling (Second edition, June 2017)		Review of current Austroads Guidelines	Anniversary Trail	Boroondara				XL					Y	
DandenongCreekTrail_03	37.6: Upgrade section of the Dandenong Creek Trail at the Whitehorse Recycling and Waste Centre to improve safety by reducing grades and upgrading surface		Community consultation	Dandenong Creek Trail	Whitehorse				L					Y	
DandenongCreekTrail_04	48: Upgrade the Dandenong Creek Trail at Jells Park by providing an improved surface, linemarking and signage to facilitate and continuity of the main trail		Trail audit, community consultation	Dandenong Creek Trail	Monash				L					Y	Y
FerndaleCreekTrail_02	42.4: Upgrade Ferndale Creek Trail to a surfaced off-road trail	Extensive community consultation may be required for this project as previous concerns from the community has been raised regarding this project	Review of current Austroads Guidelines (2008)	Ferndale Creek Trail	Boroondara				L					Y	Y
GardinersCreekTrail_07	42.4: Raise and reconstruct the existing shared path underpass on the Gardiner's Creek Trail at Toorak Road with a new self-draining structure to improve safety		Trail improvement projects (sent to FFLA from BCC)	Gardiner's Creek Trail	Boroondara	VicRoads			L					Y	
GardinersCreekTrail_08	37.6: Undertake repairs to the surface of the Gardiners Creek Trail where required		Community consultation	Gardiner's Creek Trail	Boroondara, Monash, Whitehorse				L					Y	
GardinersCreekTrail_09	35.2: Widen the Gardiners Creek Trail to 3.5-4m where possible from Highbury Road to Warrigal Road (City of Monash).	To be undertaken as part of Council's Traffic and Transport Department audit.	Trail improvement projects (sent to FFLA from Monash CC)	Gardiner's Creek Trail	Monash				L					Y	
GardinersCreekTrail_10	42.4: Identify any areas of the Gardiners Creek Trail that carry high pedestrian and cyclist volumes and investigate the feasibility of mode separating where possible.	There is minimal width available and it is unlikely that there will be space for separate ped/bike paths.	Review of current Austroads Guidelines	Gardiner's Creek Trail	Boroondara, Monash, Whitehorse	Melbourne Water			XL					Y	
HBRT_05	40.8: Reduce the gradient of the Heathmont to Belgrave Rail Trail at and around Upwey Station to improve access		Trail audit	Heathmont to Belgrave Rail Trail	Yarra Ranges				M-L					Y	
HBRT_06	52.8: Renew and replace substandard sections of the Heathmont to Belgrave Rail Trail including widening sections and removing obstacles where required to improve safety		Trail audit, Trail improvement projects (sent to FFLA from Maroondah CC), Community consultation	Heathmont to Belgrave Rail Trail	Maroondah				L					Y	
HBRT_07	40.8: Upgrade section of the Heathmont to Belgrave Rail Trail at the Boronia station so that cyclists are not required to dismount.		Trail audit	Heathmont to Belgrave Rail Trail	Knox				M					Y	
KoonungCreekTrail_01	44: Undertake repairs to the surface of the Koonung Creek Trail where required	May be addressed as part of North East Link project	Community consultation, Bicycle Network	Koonung Creek Trail	Boroondara, Whitehorse, Manningham	North East Link Authority			L					Y	
KoonungCreekTrail_02	44: Identify any areas of the Koonung Creek Trail that carry high pedestrian and cyclist volumes and investigate the feasibility of mode separating where possible.		Review of current Austroads Guidelines	Koonung Creek Trail	Boroondara, Whitehorse, Manningham	Melbourne Water			XL					Y	
MainYarraTrail_01	41.6: Construct a DDA compliant shared path and underpass on the Main Yarra Trail at Belford Road	May be addressed as part of North East Link project	Trail improvement projects (sent to FFLA from BCC)	Yarra Trail	Boroondara				L					Y	Y

MainYarraTrail_03	51.2; Reconstruct the shared path Walmer Street Bridge connection on the Main Yarra Trail		Trail improvement projects (sent to FFLA from BCC)	Yarra Trail	Boroondara		L					Y					
MainYarraTrail_04	48.8; Upgrade the surface on the Main Yarra Trail south of Studley Park Golf Course and west of Walmer Street that is subject to flooding and drains poorly		Community consultation	Yarra Trail	Boroondara		L					Y					
MainYarraTrail_05	51.2; Identify any areas of the Main Yarra Trail that carry high pedestrian and cyclist volumes, and investigate the feasibility of mode separating where possible.		Boroondara comments 21/06/18	Yarra Trail	Boroondara	Melbourne Water	M-L					Y					
MullumMullumCreekTrail_07	42.4; Upgrade the southside surface of the Mullum Mullum Creek Trail from Warrandyte Road to Oban Road to accommodate user in all weather	Part of the scope of the Mordialloc to Chrisnide Park SCC.	Community consultation	Mullum Mullum Creek Trail	Maroondah	VicRoads, Melbourne Water	L					Y					
MullumMullumCreekTrail_08	40; Complete off road section of Mullum Mullum Trail end of Sherbrook Ave to allow for trail continuity and to allow existing Park Run course to continue along the trail.		Maroondah Sport & Recreation Team (comments summary 07/06/2018)	Mullum Mullum Creek Trail	Maroondah		M					Y					
RuffeyCreekTrail_03	41.6; Improve safety at the underpass at King Street on the Ruffey Creek Trail by widening the path and installing bollards		Trail audit, Manningham Open Space Strategy (2014)	Ruffey Creek Trail	Manningham		M-L					Y					Y
ScotchmansCreekTrail_04	46.4; Undertake renewal works on the Scotchmans Creek Trail from Stanley Avenue to Huntingdale Road		Monash Open Space Strategy (Draft 2017), Trail improvement projects (sent to FFLA from Monash CC)	Scotchmans Creek Trail	Monash	Melbourne Water	M					Y					
ScotchmansCreekTrail_05	46.4; Upgrade the Scotchmans Creek Trail on both sides of the creek from Monash Freeway to MARC		Trail audit, Monash Walking and Cycling Strategy, Monash Open Space Strategy (Draft 2017), Trail improvement projects (sent to FFLA from Monash CC), Community consultation	Scotchmans Creek Trail	Monash		L					Y					
WarburtonRailTrail_02	46.4; Improve section of the Trail from Lilydale Station to beginning of old rail line by improving shared trail currently on footpath and reducing steep gradient	Proposed works around trail continuing south to Carrum	Trail audit, Bicycle Network	Warburton Rail Trail	Yarra Ranges		M-L					Y					
Crossing and Intersections																	
AnniversaryTrail_03	52.8; Construct a shared path overpass over Toorak Road on the Anniversary Trail		Boroondara Bicycle Strategy (2008), Trail improvement projects (sent to FFLA from BCC)	Anniversary Trail	Boroondara	VicRoads	XL										Y
AnniversaryTrail_06	45.6; Undertake feasibility study of separating trail from road crossing to improve safety and continuity on the Anniversary Trail at Harp Junction.	Further investigation to be completed to determine whether this proposal is feasible.	Trail audit, Boroondara Bicycle Strategy (2008)	Anniversary Trail	Boroondara	VicRoads	L										Y
AnniversaryTrail_07	46.4; Relocate existing pedestrian signals to be in line with the shared path to provide a safe, clear and priority crossing on the Anniversary Trail at High Street.		Trail audit, Boroondara Bicycle Strategy (2008), Trail improvement projects (sent to FFLA from BCC)	Anniversary Trail	Boroondara	VicRoads	L										Y
AnniversaryTrail_08	41.6; Remodel existing roundabout at Asquith Street/ Belford Road roundabout on the Anniversary Trail and install pedestrian and cyclist crossing facilities.		Trail audit, Trail improvement projects (sent to FFLA from BCC)	Anniversary Trail	Boroondara		L										Y
DandenongCreekTrail_01	43.2; Improve crossing on the Dandenong Creek Trail at Burwood Highway by adding signage and improving legibility.		Trail audit	Dandenong Creek Trail	Knox	VicRoads, Parks Victoria	M										Y
EastlinkTrail_01	32.8; Improve crossing of Canturbury Road on the Eastlink Trail to allow for improved continuity		Trail audit	Eastlink Trail	Maroondah	Eastlink, VicRoads	M										Y
FerryCreekTrail_03	45.6; Improve the crossing at Stud Road, on the Ferry Creek Trail to include bike lanterns to provide a safe, clear and priority crossing point		Knox Comments 5/7	Ferry Creek Trail	Knox	VicRoads	L										Y
GardinersCreekTrail_03	40.9; Construct an improved crossing at Burwood Highway on the Gardiner's Creek Trail to provide a safe a legible continuation of the trail		Trail audit, Community consultation	Gardiner's Creek Trail	Whitehorse	VicRoads	L-XL										Y
GardinersCreekTrail_04	40.8; Construct an improved crossing at Highbury Road on the Gardiner's Creek Trail to provide a safe and legible continuation of the trail		Trail audit, Community consultation	Gardiner's Creek Trail	Monash, Whitehorse	VicRoads	L-XL										Y
GardinersCreekTrail_05	40.9; Improve the crossing at High Street Road, Ashwood, on the Gardiners Creek Trail to provide a safe, clear and priority crossing point		Trail audit	Gardiner's Creek Trail	Monash	VicRoads	M										Y
HBRT_09	48; Provide a safe, clear and signed priority crossing on the Heathmont to Belgrave Rail Trail at Canterbury Road. Consider feasibility of separating trail from road crossings to improve safety and continuity		Maroondah comments 13/06/18	Heathmont to Belgrave Rail Trail	Maroondah	VicRoads	L										Yes
MullumMullumCreekTrail_02	53.6; Construct an underpass at Warrandyte Road/ Ringwood Bypass on the Mullum Mullum Creek Trail	Mordialloc to Chrisnide Park SCC.	Trail audit, Trail improvement projects (sent to FFLA from Maroondah CC)	Mullum Mullum Creek Trail	Maroondah	VicRoads	XL										Y
MullumMullumCreekTrail_03	51.2; Improve the crossing at Oban Road/Marilyn Crescent on the Mullum Mullum Creek Trail to provide a safe, clear, simple and priority crossing point	Part of the scope of the Mordialloc to Chrisnide Park SCC.	Trail audit	Mullum Mullum Creek Trail	Maroondah	VicRoads	M										Y
MullumMullumCreekTrail_05	41.6; Provide a safe, clear and priority crossing on the Mullum Mullum Creek Trail at Oliver Street	Part of the scope of the Mordialloc to Chrisnide Park SCC.	Community consultation	Mullum Mullum Creek Trail	Maroondah	VicRoads	M										Y
MullumMullumCreekTrail_06	44; Provide a safe, clear and signalised crossing on the Mullum Mullum Creek Trail at Heidelberg-Warrandyte Road		Trail audit, Manningham Bicycle Strategy (2013)	Mullum Mullum Creek Trail	Manningham		L										Y
ScotchmansCreekTrail_03	39.2; Provide a safe, signed and signalised priority crossing on the Scotchmans Creek Trail at Forster Road		Trail audit	Scotchmans Creek Trail	Monash	VicRoads	L										Y
TOTALS											2	0	29	25	19	16	3



APPENDICES

**APPENDIX A -
EXISTING STRATEGY
AND POLICY REVIEW**

Main Yarra Trail

MUNICIPAL CYCLING & WALKING STRATEGIES			
Document	Date	Summary	Relevance
<i>Boroondara Bicycle Strategy: 10 Year Bicycle Strategy</i>	2008	<p>The overarching goal of the Strategy is to increase the number of cyclists using Boroondara's bicycle network and facilities. This aim is broken down into three areas:</p> <ul style="list-style-type: none"> • Infrastructure - including the quality of the path and route, wayfinding and signage, facilities en route and parking; • Safety - improving the safety of the cycling network including reducing the number and severity of crashes and attracting additional patronage; and • Development - considers the long term requirements of the cycling network. 	<p>The Bicycle Strategy is relevant to the Eastern Trails study as it outlines the needs, facilities and recommendations required to improve the bicycle network in the municipality. The strategy prioritises off-road trails and recommends the following specific actions:</p> <ul style="list-style-type: none"> • Completing gaps in the Gardiners Creek Trail; • Linking the Darebin Creek Trail and the Main Yarra Trail; • Completing gaps in the Anniversary Trail • Alternative arrangement to Chandler Steps where the Chandler Highway meets Yarra Bend Park and the Main Yarra Trail. • An East-West route to fill a gap in the network between the Main Yarra Trail and the Anniversary/Outer Circle Trail. <p>The document also recommends providing supporting infrastructure such as end of trip facilities, lighting and consistent wayfinding and signage conventions.</p>
<i>Knox Bicycle Plan Review Cycling in Knox: The Future</i>	2008	<p>This bicycle strategy aims to increase the use of bicycles in a safe, convenient and sustainable manner for residents and visitors through well planning bicycle networks and programs. The strategy aims to:</p> <ul style="list-style-type: none"> • Reduce the reliance on and use of cars; • Provide well designed shared paths and on-road lanes that link communities to public transport, activity centres, recreation areas and regional destinations; • Plan to further reduce casualty crashes through well designed infrastructure and increased driver awareness; • Increase the use of bicycles for trips to work to and schools; and • Promote and support the use of bicycles as a healthy, environmentally friendly, safe and cost effective means of transport. 	<p>The recommendations in the Knox Bicycle Review align with the Eastern Trails study as highlighted in the guiding principles for off-road paths:</p> <ul style="list-style-type: none"> • Improve access to cycle facilities that link communities, public transport and activity centres; • Where possible, provide as a minimum, 2.5m wide paths; • Provide destination, warning and regulatory signs to existing and proposed paths. • Reduce hazards along paths
<i>Knox Principal Pedestrian Network</i>	2017	<p>The main aim of the Knox Principal Pedestrian Network report is to encourage greater levels of walking as a form of transport to build a healthier, more inclusive and safer city. In order for this to occur, Knox aims to create walking links that are safe, convenient and attractive, and that guidance for walkers is clear. Objectives of this report include:</p> <ul style="list-style-type: none"> • Promoting forms of transport with the lowest impact on the environment, health and wellbeing; • Reducing the need for private motor vehicle transport; and • Facilitating better access to, and greater mobility within local communities. 	<p>This document outlines a series a missing links within the pedestrian network and priorities these recommendations for implementation. The report identifies a number of the missing links which occur within and to and from shared off-road trails including Ferny Creek Trail, Dandenong Creek Trail, Blind Creek Trail and Eastlink Trails which should be considered in the Eastern Trails Strategy.</p>

Document	Date	Summary	Relevance
<i>Ready, Set, Pedal: Manningham Bicycle Strategy</i>	2013	<p>This Strategy aims to meet the cycling needs of the community into the future, to ensure that cycling is a safe, attractive and viable mode of transport by providing a bicycle network that encourages a greater mode shift to cycling. The objectives outlined in the report include:</p> <ul style="list-style-type: none"> • Improve cycling infrastructure, to connect to key destinations and generators; • Improve end of trip facilities at key destinations and improve bicycle facilities on key routes; and • Undertake educational and promotional activities to increase the community's awareness of cycling as a viable form of transport. 	<p>Manningham City Council's strategy is relevant to this study due to its focus on providing safe connections to key destinations with cycling facilities en route in order to encourage an increase in bicycle use. The action plans developed as part of the strategy specify a range of actions in relation to infrastructure improvements and bicycle facilities should be considered within this study.</p>
<i>Walk Manningham Plan 2011-2020</i>	2011	<p>The purpose of the Walk Manningham Plan is to encourage more people to walk to more destinations more often. The plan outlines the following objectives:</p> <ul style="list-style-type: none"> • Create pedestrian friendly activity centres; • Provide safe pedestrian links to green open spaces; • Connect with public transport; and • Improve walkability of neighbourhoods. 	<p>This document outlines actions relating to the improvement of connectivity and safety that should be considered in the Eastern Trails study, such as:</p> <ul style="list-style-type: none"> • Providing trail etiquette signage; • Continue to develop the municipality's off-road trail network; • Supporting other stakeholders in the upgrade of existing trails; and • Maintain and monitor usage of the trails.
<i>Maroondah Bicycle Strategy</i>	2004	<p>The Maroondah Bicycle Strategy aims to provide strategic support to the promotion and encouragement of cycling in Maroondah by:</p> <ul style="list-style-type: none"> • Providing a high quality bicycle path network, through high standard, safe and convenient paths, associated trail facilities, routes and destinations; • Creating a bicycle friendly culture; • Promoting the use of bicycles for leisure and transport and educate the community with regards to rules and appropriate conduct; and • Effectively implement and review the Strategy. 	<p>This strategy outlines a series of actions to improve the Maroondah bicycle network that should be considered in the Eastern Trails study. These include:</p> <ul style="list-style-type: none"> • Widening narrow sections of path; • Improve and/or rebuild any of the bicycle paths that are deemed unsatisfactory; • Reduce the gradient on all sections of path that are too steep (this includes sections of the Dandenong Creek path); • Link key gaps in the bicycle path network; • Provide off-road cycling routes, which together provide linkage to key destination points within and beyond the municipality; • Improve trail safety through the removal of barriers on the trail and the provision of lights, standard intersection treatments, linemarking and signage, and increased awareness; and • Provide facilities on the bicycle path network such as drinking fountains and wayfinding.

Document	Date	Summary	Relevance
<i>Monash Walking and Cycling Strategy</i>		<p>The vision for the Monash Walking and Cycling Strategy is for Monash to be a city where:</p> <ul style="list-style-type: none"> • People embrace walking and cycling as part of their lifestyle and enjoy walking and cycling because it provides the opportunity to connect with nature, friends and family; and • Pathways and amenities inspire people of all ages to exercise, have fun, be together, or just 'be'; take people on a journey to where they want and need to go; and connect people and neighbourhoods. 	<p>Recommendations in the report that are relevant to the Eastern Trails report focus on actions that:</p> <ul style="list-style-type: none"> • Renew and improve paths; • Address gaps in the network; • Ensure paths are designed with best practice guidelines; • Enhance trail facilities including seating, toilets, car parks; • Optimise pathway construction; • Encourage increased walking and cycling to school and urban precincts; • Enhance connectivity between different transport modes. <p>Specific actions include:</p> <ul style="list-style-type: none"> • Enhancing the Scotchman's Creek Trail; • Prepare a pathway signage provision framework, including linemarking; and • Construct trail between Holmesglen, Jordanville Stations and Alivie Road.
<i>Whitehorse Cycling Strategy</i>	2016	<p>The City of Whitehorse's vision for the cycling strategy is to increase cycling through a connected network of attractive, safe and inviting low stress streets and paths that are accessible to all and respects the needs of all users. To achieve this vision, the overall objectives include:</p> <ul style="list-style-type: none"> • Increase participation in cycling; • Improve levels of health; • Create an environment where people can cycle safely and conveniently; • Encourage a culture where cycling is accepted and respected as a key mode of transportation and recreation; • Achieve greater compliance from motorists, cyclists and pedestrians of traffic laws and the rights of all users; • Achieve a greater diversity of cyclists; • Maintain and promote existing cycling facilities; and • Advocate for improved cycle facilities, and increased recognition of cyclists in planning transport and land use. 	<p>This document outlines a list of major cycle infrastructure improvements provides that are proposed within Whitehorse which should be considered in the Eastern Trails Strategy. This projects include</p> <ul style="list-style-type: none"> • The Pipe Track from East Burwood to Mitcham; • The Box Hill to Ringwood Shared Trail; and • A trail along the Former Healesville Freeway Reservation. <p>The strategy also recommends the following actions:</p> <ul style="list-style-type: none"> • Identify gaps in the provision of bicycling facilities and consider funding to install additional facilities; • Ensure that new path infrastructure considers the needs of all users. Consider lighting, visibility, rest facilities, signage, accessibility for users of all abilities and convenience. • Work with the stakeholders to ensure relevant network improvements provide connectivity, accessibility and safety throughout the eastern region. Prioritise relevant actions from the Melbourne East Regional Sport and Recreation Strategy.

Note: The Yarra Ranges Hike and Bike Strategy (2005) is currently under review.

MUNICIPAL OPEN SPACE STRATEGIES			
Document	Date	Summary	Relevance
<i>Boroondara Open Space Strategy</i>	2013	<p>The Boroondara Open Space Strategy outlines the following aims and objectives in order to provide open space network that:</p> <ul style="list-style-type: none"> • Is accessible to the community including people of all ages, abilities, health, gender and cultural background; • Facilities and is flexible to adapt to changing environmental, recreational and social needs and expectations; • Provides recreational, habitat corridors and sustainable commuter transport corridors and links; • Reflects and celebrates indigenous and non-indigenous cultural heritage and contemporary values; • Provides a diversity of places for the community to visit and habitats for native flora and fauna; • Encourages the community to be outside, play sport, exercise and/or keep fit to improve their health and wellbeing; and • Provides opportunities for the community to meet, socialise and participate in a variety of activities. 	<p>The Boroondara Open Space Strategy is relevant to the Eastern Trails report as it supports:</p> <ul style="list-style-type: none"> • The development of shared trails in order for residents and visitors to access open space; and • The provision of shared trails within open space to provide additional unstructured recreational opportunities.
<i>Knox Open Space Plan 2012-2022</i>	2012	<p>The vision for the Knox Open Space Plan is for the municipality's open space to be sustainable, attractive and green, to provide for a diversity of leisure activities and enable people to enjoy nature, engage with others, learn and play. The open space network will be well-connected and accessible.</p> <p>The plan outlines a number of strategic directions including:</p> <ul style="list-style-type: none"> • Create healthy creek corridors that people love; • Activate community hubs; • Empower the community to be stewards of open spaces; and • Engender a network of sustainable open spaces. 	<p>This plan is relevant to the Eastern Trails study as it identifies shared trails as a type of open space that is vital for the community, linking people to places and creating opportunities for recreation. The strategy also states the importance the creek corridors within the municipality as they provide the space for shared trails creating open space links and connections between the municipal and local open spaces.</p>

Document	Date	Summary	Relevance
<i>Manningham Open Space Strategy</i>	2014	<p>The Manningham Open Space Strategy sets priorities and guidelines for the protection, development and use of public open space in the municipality to achieve its vision of an accessible and well connected open space network. Objectives of the strategy include:</p> <ul style="list-style-type: none"> • Improve links within the open space network to provide access to destinations; • Define open space provision standards to plan for the future population; • Expand and improve open space in line with population increase; • Protect/ enhance the natural landscape within our open spaces; • Support the establishment of a range of recreation activities in the most suitable locations; • Ensure planning for future built infrastructure considers the values of the open space network; • Celebrate open spaces and encourage community life through tourism/cultural, arts and recreation activities; and • Promote open spaces and the health benefits of outdoor recreation. 	<p>This document is relevant to the Eastern Trails study as it focuses on pedestrian and cycle connections to open space. The strategy identifies key links that are high priorities to improve connections into and through the open space network which should be considered in this study. These include:</p> <ul style="list-style-type: none"> • Ruffey Creek Trail - complete construction of trail (may include land acquisition); • Mullum Mullum Trail - complete construction; • Green Gully Trail - Undertake construction of trail and feasibility studies where required; and • Main Yarra Trail - Undertake construction of trail and feasibility studies where required. <p>The Open Space Strategy also recommends providing clear directional signage.</p>
<i>Maroondah Open Space Strategy</i>	2016	<p>This strategy provides a basis for the allocation of resources to open space projects and guides Council's provision and enhancement of open space over the next 10 years through. Key objectives include:</p> <ul style="list-style-type: none"> • Responding to the aspirations of the community for open space development; • Delivering diversity in recreational and sporting activities; • Establishing an integrated network of trails that provide connectivity for travel purposes as well as for recreational use; and • Identifying opportunities for land acquisitions to improve the accessibility, connectivity, natural environment and functionality open spaces. 	<p>The Maroondah Open Space Strategy identifies the municipality's shared trail network is a significant asset that provides commuter linkages as well as encouraging unstructured recreation such as walking and cycling.</p> <p>The Council also outlines objectives that should be considered in the Eastern Trails study:</p> <ul style="list-style-type: none"> • Enhance their shared path network through connections with the wider Metropolitan Melbourne trail network; • Provides paths that are well designed and suitable for the location, use and environment; and • Promote a trail network that a ranges of uses and users.

Document	Date	Summary	Relevance
Monash Open Space Strategy DRAFT	2017	<p>The Monash Open Space Strategy outlines the following key issues in supplying open space in the municipality:</p> <ul style="list-style-type: none"> • The need for more convenient and functional open space to address gaps and serve the growing population; • Open space to suit increasing density; • Diversifying spaces so more people can enjoy the benefits; • Off-road trail circuits to move through open space and connect with nature; • Managing spaces for sustainable sport; • Encouraging more people to use and therefore benefit from open space; • Involving community and encouraging more use of open space; and • Funding the provision and development of open space. 	<p>This strategy outlines recommendations regarding shared trails to be considered:</p> <ul style="list-style-type: none"> • Adopting a design standard for regional trails which include a 3m minimum treadway with right of way (10m minimum corridors are preferred), sealed surfaces, trail heads at nodes, interpretive signage, toilets, drinking water, seating and shelter; • Address as a priority gaps in regional trails; • Flagship trails should be provided along rail easements and waterways and through regional parkland (keeping away from sensitive riparian and conservation areas); • Extend, develop and market flagship trails such as Scotchmans Creek, Gardeners Creek and Dandenong Creek Trails; and • Seek to develop a rail along the entire length of the Glen Waverley train line.
Whitehorse Open Space Strategy	2007	<p>The Whitehorse Open Space Strategy sets out a cohesive direction for the future provision, planning, design and management of publicly owned land that is set aside for leisure, recreation and nature conservation. Key outcomes and recommendations include:</p> <ul style="list-style-type: none"> • Improve the links between open space; • Improve maintenance and access to and use of existing open space; • Build on the diversity of open space; • Provide adequate open space to meet existing and future population needs; • Improve habitat corridor links; and • Reduce conflicts between different users. 	<p>Recommendations included in the strategy that are relevant for the East Trails study include:</p> <ul style="list-style-type: none"> • Investigate a shared trail along the Healesville Freeway Reserve; • Provide a shared trail connection between the Gardiners Creek Trail and Koonung Creek via Bushy Creek Trail; • Investigate implementation of a trail along the Pipe Track Reserve; and • Guidelines for best practice design of shared trails including DDA compliant gradients, clear sightlines, minimum 2.5m wide, surface to be appropriate for location and usage, behavioural signage.
Yarra Ranges Recreation and Open Space Strategy: Strategic Framework 2013-2023	2013	<p>The objectives outlined in this strategy in order to achieve the vision of a healthy and active Yarra Ranges Community and Environment include:</p> <ul style="list-style-type: none"> • Develop a network of open spaces that provide a diverse range of social, environmental and economic benefits; and • Recommend precinct-specific actions for improving open space. 	<p>Recommendations included in the strategy that are relevant for the East Trails study include:</p> <ul style="list-style-type: none"> • Supporting the development of shared trails throughout the municipality; • Ensure all path entry are accessible; • Provide directional, interpretative and information signs and rest stops; • 2.5m wide sealed trails (preferred); and • Provide activity hubs with toilets, car and bike parking and seating at nodes.

MUNICIPAL INTEGRATED TRANSPORT STRATEGIES			
Document	Date	Summary	Relevance
<i>Boroondara Integrated Transport Strategy</i>	2006	<p>This strategy aims to provide improved travel and access within, to and from Boroondara including improved public transport, walking and cycling provision and management of private car travel by achieving the following objectives:</p> <ul style="list-style-type: none"> • To facilitate improvements to and better integration of all forms of public transport; • To improve provision for cycling and walking; • To create more pedestrian friendly street environments and high quality urban centres which are less car dominated; • To introduce measures to better manage traffic, public transport, cycling and walking on roads and urban centres; and • To promote safe and secure alternative forms of travel to the car and to increase the attractiveness of these. 	<p>This strategy recognises the increasingly vital role walking and cycling play in Boroondara and recommends the following actions in response:</p> <ul style="list-style-type: none"> • Consider developments to the trail network in surrounding municipalities to ensure that a continuous network is developed; • Promote and encourage cycling and walking; • Improve regional trails including connections to surrounding municipalities; • Continue to investigate and develop additional on and off road bicycle routes; • Develop a TravelSMART map focusing on cycling and walking routes; and • Prioritise collectively the outstanding treatments from audits of the shared path network including: widening paths to a minimum of 2.5m, lighting, linemarking, removal of barriers, installation of signage.
<i>Knox Integrated Transport Plan: A Transport Vision for Knox 2015-2025</i>	2015	<p>The Knox Integrated Transport Plan outlines the following objectives that aim for a transport work that :</p> <ul style="list-style-type: none"> • Is accessible to all people who wish to use it; • Enables efficient access for people and goods; • Protects the natural environment by reducing transport related emissions and adapts to climate change challenges; • Maximises access to homes, employment, services and recreation and reduces the need for private motor vehicle travel; • Optimises the efficiency and reliability of all modes of transport; and • Is safe and promotes forms of transport that support health and wellbeing. 	<p>Action items from this strategy that are relevant to the Eastern Trails study include:</p> <ul style="list-style-type: none"> • Develop of bicycle and pedestrian wayfinding design guidelines through coordination with neighbouring municipalities and major stakeholders; • Continue to extend the footpath and shared path networks; • Promote community awareness of sustainable transport options; • Provide pedestrian and cycle infrastructure as part of road projects where practical; • Advocate for wayfinding across the shared path network; and • Provide infrastructure to give public transport, cyclists and pedestrians priority where appropriate.
<i>Making Manningham Mobile</i>	2010	<p>The basis for the Manningham Integrated Transport Strategy is to identify actions to improve the quality and accessibility of public transport, walking and cycling facilities and services, and to encourage their use. This is to be achieved through objectives relating to:</p> <ul style="list-style-type: none"> • Safety, inclusion and diversity; • Planning, economic development and the environment (including global warming); • Service delivery, assets and infrastructure; and • Governance, advocacy and engagement. 	<p>Specific actions items that are relevant to the Eastern Trails Strategy include:</p> <ul style="list-style-type: none"> • Include walking and cycling improvements with all Arterial Road upgrades where road width allows; • Complete the bicycle network including off-road shared paths through parks and reserves as key routes; and • Encourage walking and cycling to key destinations.

Document	Date	Summary	Relevance
<i>Monash Integrated Transport Strategy</i>	2017	The Monash Integrated Transport Strategy provides a clear framework for the future planning and development of the municipality's transport system. The Strategy aims to have a highly accessible and sustainable transport network that supports the safety, health and prosperity of all members of the community by 2037.	Relevant actions items from the strategy include: <ul style="list-style-type: none"> • Continue to implement a comprehensive, consistent wayfinding strategy, based on best practice, to assist all users in a collaborative manner with adjoining LGAs; • Developing an audit program for trails with regard to width, vegetation, smoothness, corners, gradient, lighting and signage. Address issues arising from audit; and • Review the existing bicycle infrastructure network, for gaps and safety issues, in line with best practice standards and connections to key destinations.
<i>Whitehorse Integrated Transport Strategy</i>	2011	The goals of the Whitehorse Integrated Transport Strategy are to: <ul style="list-style-type: none"> • Improve the links between transport modes for the efficient and convenient movement of people and goods; • Increase the use of sustainable transport modes such as walking and cycling; • Increase the safety of residents and commuters who travel within and through the municipality; and • Promote economic development and social connectedness within our community. 	Specific actions items relevant to the Eastern Trails study include: <ul style="list-style-type: none"> • Implement and advocate for improved pedestrian facilities; • Advocate for funding for the construction of an off-road shared path along the former Healesville Freeway reservation, east of Springvale Road; and • Advocate for the progressive construction of an off-road shared path along the Pipe Track from Mitcham to Glen Waverley.
Note: Maroondah and Yarra Ranges Council's do not currently have Integrated Transport Strategies.			
MUNICIPAL RECREATION AND LEISURE STRATEGIES			
<i>Boroondara Sport and Recreation Strategy</i>	2016	The purpose of the City of Boroondara's Sport and Recreation Strategy is to provide a roadmap for further development of sport and recreation across the municipality to enable all people to be more active more often. The vision for the strategy is for all people in Boroondara, regardless of their circumstances, to have the opportunity and encouragement to actively participate in sport and/ or recreation activities and as a result, will enjoy a healthier and higher quality of life.	This strategy recognises the importance of open space in the provision of unstructured recreation. It states that cycling and walking are two of the main recreational and sporting pursuits within the municipality however lack of safety was seen as a barrier to participation. The strategy then highlights lack of safety as a key theme and the need to improve safety along shared paths (such as the provision of lighting) to improve uptake in these activities by a range of ages, genders, backgrounds and abilities. The strategy also outlines the current provision of facilities for BMX and skating would not be adequate in the future.

Document	Date	Summary	Relevance
<i>An Active Future: Knox Leisure Plan 2014-19</i>	2014	<p>The following principles have been used to guide the development of this plan and will guide outcomes for the planning and management of leisure services and facilities:</p> <ul style="list-style-type: none"> • Support a wide range of leisure and sport activities and groups with an increased focus on ‘active lifestyle’ opportunities; • Provide a range of different leisure and sport options to cater for different demands in conjunction with other organisations and agencies; • Minimise barriers that prevent people from being active; • Integrate urban and natural environments to achieve desired active lifestyle outcomes; and • Provide sustainable, well maintained facilities for the whole community. 	<p>This document focuses on planning and developing leisure and sporting facilities including outdoor facilities (such as trails) in order to achieve the aim of encouraging the municipality to be more active. It highlights the important role a connected trail network plays in linking people to and between urban and natural environments. It also recognises the role Council should play in providing safe, attractive, well connected trails and associated facilities to attract a range of users to the municipality’s leisure infrastructure such as trails.</p>
<i>Active for Life: Recreating Manningham Recreation Strategy 2010-2025</i>	2011	<p>This strategy identifies four key objectives:</p> <ul style="list-style-type: none"> • To increase participation in recreation for all; • To ensure the community has a diverse range of recreational choices; • To provide great places for people to recreate in; and • To inspire people to recreate. 	<p>This plan supports the Eastern Trails Strategy as it recommends identifying upgrades to trails (including horse trails) and linkages, which the Eastern Trails Strategy aims to do. It also recognises the role trails play in promoting healthy physical activity.</p>
<i>Physical Activity Strategy 2015-2020: Getting Maroondah Moving - More Often</i>	2015	<p>The aim of this strategy is to address the determinants of physical inactivity, improving health outcomes for Maroondah residents and empowering them to be physically active every day. In order to achieve this, the strategy outlines the following objectives:</p> <ul style="list-style-type: none"> • Identify current levels of physical activity and key factors that affect these levels; • Identify key determinants of physical inactivity to identify priorities for action; • Ensure design, planning, programming, and the allocation of resources for community assets and open space maximises opportunities for participation; • Identify specific interventions that aim to increase activity across marginalised or low participatory groups; and • Provide recommendations for resource allocation to support physical activity. 	<p>In relation to shared trails, the Maroondah Physical Activity Strategy recommends the following action be taken:</p> <ul style="list-style-type: none"> • Develop monitoring and maintenance program for walking and shared trails to the Australian Standard (including formalising trails to meet minimum surface standard and width). • Monitoring and removal of vegetation for improved visibility, reduce trip hazards and debris.

Document	Date	Summary	Relevance
<i>Monash City Council Physical Activity Plan 2010-2015</i>	2010	<p>The key objectives of this plan are:</p> <ul style="list-style-type: none"> • Understand the physical activity needs and gaps of the community, particularly the disadvantaged; • Review physical activity programs in regards to relevance, affordability, accessibility, development contributions and facility provision; • Develop strategies and actions that respond to physical activity needs; and • Identify partnership opportunities with key stakeholders. 	<p>The following recommendations should be considered in this study:</p> <ul style="list-style-type: none"> • Forming of partnerships with community organisations such as walking and cycling groups to increase opportunities for residents in Monash to become active; • Provide additional resources for the development and maintenance of infrastructure at open space to enhance passive recreation opportunities; and • Enhance active transport opportunities and linkages.
<i>City of Whitehorse Recreation Strategy 2015-2024</i>	2015	<p>The vision for this Recreation Strategy is:</p> <ul style="list-style-type: none"> • A community where people want to be more physically active and find ways to incorporate it into their daily routines; • Places where people can go to play, to have fun, to compete, to learn, or to just 'be'; • People and organisations that celebrate and support respect, perseverance, sharing and success; • Activities and environments that encourage connection with people, nature and the local community; • Opportunities for people to support each other in their health, fitness or wellbeing aspirations; • Clubs and organisations that attract individuals and families because they are well organised, friendly, encouraging and prosperous; and • Opportunities to participate in recreation regardless of ability or age. 	<p>This document highlights the importance of trails in residents' and visitors' recreational activities and recognises the role trails play in increasing levels of physical activity. Some of the actions in the strategy that should be considered in the East Trails study include:</p> <ul style="list-style-type: none"> • Plan well connected and accessible trails and paths; • Identify gaps in the path network and prioritise addressing them; • Create safe crossings, connections and linkages of pathways that encourage and support people to walk, cycle, skate as an alternative mode of transport; • Provide directional signage; and • Apply universal design principles to the planning of all trails.
<i>Yarra Ranges Council Skate and BMX Plan 2016-2026 (Draft)</i>	2016	<p>The vision for this plan is to provide quality skate and BMX facilities across the municipality to enable social interaction, a place for connecting, improved mental & physical health and a positive recreation activity for the community, in particular for children and young people.</p>	<p>The Yarra Ranges Skate and BMX Plan is relevant to the East Trails strategy as it discusses the need cater for skaters, BMX riders and scooters users within the municipality. Shared trails can provide the facilities suitable for these uses as well as safe routes and access to skate and BMX facilities, open space and other youth focussed spaces and places.</p>
<p>Note: Yarra Ranges Recreation Strategy is integrated into the Recreation and Open Space Strategy. Refer to review of Open Space Strategies for summary.</p>			

MUNICIPAL ROAD SAFETY STRATEGIES			
Document	Date	Summary	Relevance
<i>Boroondara Road Management Plan</i>	2017	The purpose of this Road Management Plan is to outline the management system to be implemented by Council regarding in inspections, maintenance and repairs to public roads within the municipality based on policy and operational objectives, and with regard to available resources. The plan also sets standards with which Council will discharge its duties in the performance of its road management functions.	This Road Management Plan also covers pedestrian and cycling paths that are located within Road Reserves. The Plan sets inspection timeframes and requirements as well as maintenance standards which should be considered in the Eastern Trails Study.
<i>Knox City Council Road Management Plan</i>	2015	This plan defines the municipality's road and path infrastructure, sets out areas of road network responsibility and defines management and maintenance practices for Knox City. It also discusses potential barriers in delivering minimum standards and requirements such as budget, the environmental context, service delivery priorities and the political climate.	The Knox Road Management Plan includes a hierarchy for managing shared paths and footpaths within road reserves. This hierarchy aims to identify high use area that have different management and maintenance requirements. It also set minimum standards for the design, construction and maintenance of different types of paths that Council aim to achieve.
<i>Manningham Road Safety Strategy</i>	2010	Manningham's vision in regards to road safety is to work toward achieving safer roads, roadsides, shared paths, raise road safety awareness and encourage better driver behaviour. In order to achieve this vision Council aims to: <ul style="list-style-type: none"> • Raise awareness through information dissemination around requirements and behavioural patterns; and • Improve, develop and maintain physical infrastructure. 	This strategy also addresses alternative transport methods to cars in order to improve safety which includes shared paths. As part of this objective Council recommends: <ul style="list-style-type: none"> • Developing shared path protocols to improve safety for cyclists and pedestrians; • Develop and distribute a Travelsmart Maps for Manningham showing bus routes and shared paths to increase utilization of sustainable transport modes; • Development of protocols and installation of suitable signage for the safe joint use of shared bicycle/pedestrian paths; and • Conduct safety audits of shared paths and program any improvement works.
<i>Maroondah City Council Road Management Plan</i>	2017	This plan outlines Council's commitment to providing a safe local road and pathway network and sets standards regarding maintenance and management systems. The purpose of this road management plan is: <ul style="list-style-type: none"> • Establish a management system for the road management functions of a road authority which is based on policy and operational objectives and available resources; and • Set the relevant standard in relation to the discharge of duties in the performance of those road management functions. 	The Maroondah City Council Road Management Plan set outlines inspection methodologies, intervention levels and inspection frequencies for both roads and pathways within the municipality that should be considered within the Eastern Trails Study.

Document	Date	Summary	Relevance
City of Monash Road Management Plan	2017	This Road Management Plan documents the principles, methods and systems Monash City Council uses to management the road system. The purpose of the plan is to: <ul style="list-style-type: none"> • Establish a management system for road management; • Base the road management system on policy and operational objectives; and • Sets relevant standards for carrying out management and maintenance functions. 	In relation to shared paths, this plan outlines: <ul style="list-style-type: none"> • Standards regarding the construction, upgrading and rehabilitation of paths; • Standards of maintenance including frequency of inspections, repairs to defects, and maintenance of paths; • Standards of maintenance to associated path infrastructure such as lights, linemarking and signage; and • Maintenance standards for landowners regarding the obstruction of footpaths.
Whitehorse Road Management Plan	2015	The purpose of this Plan are: <ul style="list-style-type: none"> • To establish a management system for the road management functions of the Council which is based on policy and operational objectives and available resources; • To specify the relevant standards or policies in relation to the discharge of duties in the performance of those road management functions; and • To detail the management systems that the Council proposes to implement in the discharge of its duty to inspect, maintain and repair public roads for which the Council is responsible. 	The Whitehorse Road Management Plan outlines a shared path hierarchy which sets expectation and parameters regarding design, construction and maintenance regimes. It established targets that are achievable, equitable and community focused which should be considered in the Eastern Trails Study.

Note: Yarra Ranges Council do not currently have a Road Management Plan (or equivalent).

MUNICIPAL ECONOMIC DEVELOPMENT AND TOURISM STRATEGIES

Document	Date	Summary	Relevance
Boroondara Economic Development and Tourism Strategy 2016-2021	2016	The Boroondara Economic Development and Tourism Strategy aims to enhance the vibrancy and sustainability of the local economy and its influence on the liveability of Boroondara as a whole by addressing the following themes: Best-In-Class Neighbourhood Shopping Centres; Boroondara as a Tourism Destination; Boroondara - Ready for Business; Helping Business Establish and Grow; and Civic Leadership and Partnerships.	This Strategy is relevant to the Eastern Trails study as it outlines Boroondaras objectives to attract investment to the municipality and to establish Boroondara as a recreation and tourism destination to facilitate growth in visitation and spending, objectives align with this study. The Strategy also highlights access to the Yarra River and Gardiners Creek as a highly regarding tourism asset and offering within the municipality, features that are strongly associated with shared trails.
Knox Economic Development Strategy 2008-2018	2008	This strategy outlines the following objectives in order to achieve the city's vision of being a great place to live, work and do business, a place of skilled people and a place bustling with dynamic enterprise: <ul style="list-style-type: none"> • Development of Knox Central Principal Activity Centre; • Development of the Scoresby/Rowville Employment Precinct; • Fully Developed and highly functional Major, Neighbourhood and Local Activity Centres; and • Availability of World-Competitive Infrastructure in Transport, Telecommunications and Supporting Services. 	The principle goal of the Knox Economic Development Strategy is to improve liveability and wellbeing in the City which aligns with the Eastern Trails principles. Of specific relevance to the Eastern Trails Strategy is the following recommendation highlighted in the Knox Economic Development Strategy; complete the off-road bicycle network - involving ongoing internal and external liaising with stakeholders.

Document	Date	Summary	Relevance
<i>Manningham Economic Development Strategy 2011-2030</i>	2011	The Manningham Economic Development Strategy aims to leverage local competitive advantages and address key challenges facing the city's capacity to retain, develop and attract economic opportunities. It focuses on actions that create long term community health by positioning the municipality as a great place to learn, live, play and work. The Strategy also recognises the City's unique balance of city and country style tourism offerings, allowing visitors to enjoy a range of cultural and natural experiences.	This Strategy outlines the importance of well connected and improved sustainable transport in the City's ongoing economic prosperity and the issues around a transport system that relies on vehicular transport. It also recommends supporting initiatives that encourage walking and enhance tourism opportunities throughout the city.
<i>City of Monash 2013-2017 Economic Development Strategy and Action Plan</i>	2013	This strategy and action plan is designed to facilitate business growth, further development and investment within the City. Business support, economic precincts, infrastructure development and sustainability, and attraction and investment strategies are the key areas of focuses in this strategy.	The City of Monash' Economic Development Strategy and Action Plan recognises the importance of good transport infrastructure and continuous improvement and investment in walking and cycling networks as essential in encouraging economic development.
<i>Whitehorse Economic Development Strategy 2014-2019: Gateway to the East</i>	2014	The Whitehorse Economic Development Strategy outlines the following vision: Whitehorse as a gateway to Melbourne's east; self sufficient and well connected to the regional economy. A place of opportunity and innovation, with a skilled workforce and a diversity of employment opportunities, excellent economic prospects and a relaxed, enjoyable lifestyle. Efficient infrastructure and well planned built form to facilitate metropolitan equivalent employment rates and a relaxed, enjoyable lifestyle. To achieve this vision, the strategy outlines the following objectives: <ul style="list-style-type: none"> • Helping business grow and prosper; • Responsible leadership and advocacy; • Promoting sustainable development; and • Facilitating connections. 	This strategy outlines the following objectives which the Eastern Trails study may support: <ul style="list-style-type: none"> • Support activity centres to grow and thrive through careful land use and infrastructure planning; • Ensure shopping and activity centres are attractive for businesses to locate and operate in; • Identify appropriate land use and infrastructure requirements in activity centres to support variety of retail options; • Encourage the inclusion of ecologically sustainable development principles; • Encourage sustainable land use practices; and • Construct high amenity, sustainable environments.
<i>Yarra Ranges Council 2012-2022 Economic Development Strategy</i>	2012	The Strategy outlines Council's commitment to improving the health and wellbeing of individuals and local communities in Yarra Ranges by supporting and promoting a range of sustainable economic development initiatives such as: <ul style="list-style-type: none"> • Mentoring on getting started and growing a business; • Targeted development of land aimed at ensuring business growth; • Attracting new investment, development and business opportunities to the region; and • Enhancement of the region's civic space through a comprehensive capital works program. 	The priorities for action outlined in this strategy have the potential to align with the objectives of the Eastern Trails Strategy, such as: <ul style="list-style-type: none"> • Increased visitor numbers within the Shire; • Improved tourism experiences; • Grow nature based tourism opportunities; • Sustainable development of tourism balanced with environmental, cultural and heritage values and community lifestyle; • Attract investment in sustainable tourism development and encourage appropriate growth of the existing industry; and • Providing infrastructure and facilities that meet the needs and expectations of visitors and local communities.

Note: Maroondah does not have an economic development or a tourism strategy in place at the time of writing. Knox, Manningham, Monash, Whitehorse and Yarra Ranges Councils do not currently have a whole municipality tourism strategy (or equivalent) in place.

MISCELLANEOUS STRATEGIES, REPORTS & PLANS			
Document	Date	Summary	Relevance
<i>Knox City Council Footpath and Shared Asset Management Plan</i>	2016	<p>The purpose of this plan is to:</p> <ul style="list-style-type: none"> • Document the level of service Council aims to provide to the community in relation to the pathway network; • Outline service delivery requirements for the path network; • Provide a central framework for management and decision making relating to Council's pathway assets; • Communicate and justify sustainable funding requirements for pathway assets; and • Meet the National Asset Management Assessment Framework expectations, as monitored by the Municipal Association of Victoria (MAV) 	<p>This plan is relevant to the Eastern Trails Study as it outlines the Council's responsibilities in regards to delivering a pathway network including maintenance responsibilities, inspection frequencies, design and construction methodologies, management responsibilities (including working with other stakeholders/ landowners), path renewal, methodologies for prioritizing upgrade works and consultation regarding levels of service. These responsibilities should be considered in the Eastern Trails report.</p>
<i>Healthy Habitats: Bushland Management Strategy for Council Managed Land</i> (Manningham City Council)	2012	<p>The purpose of this strategy is to formalise a strategic approach for the planning and delivery of bushland management on Council managed land through objectives such as:</p> <ul style="list-style-type: none"> • Continuing to audit areas of managed remnant indigenous vegetation (bushland) on Council land; • Document a set of principles for managing that bushland; • Integrate bushland management planning into Council's Open Space reserve management plans and planning process; • Establish priorities for undertaking bushland management; • Establish objectives for conserving remnant bushland; and • Identify opportunities for interpretation and education. 	<p>The following recommendations from the strategy, should be considered in the Eastern Trails Study:</p> <ul style="list-style-type: none"> • Within bushland in Manningham, horse-riding is generally not permitted except within or adjacent to the Mullum Mullum Creek Linear Park; • Dogs should remain on a leash on trails; • The impact of horse riding needs to be monitored to manage and mitigate any impacts. Actions may include construction of proper trails, fencing off areas of remnant vegetation, signage and developing a 'Code of Conduct for Horse Riding'.
<i>Manningham Green Wedge Action Plan 2020</i>	2011	<p>Manningham's Green Wedge provides habitat for rare flora and fauna, conserving biodiversity and creates a desirable destination for visitors, tourists and recreational users. One of the main objectives of the report is to ensure sustainable built form and infrastructure including:</p> <ul style="list-style-type: none"> • Design, develop and manage Green Wedge infrastructure in ways that maintain biodiversity and are consistent with regional ecological models; • Ensure that the built form is designed and developed for the long term, with an understanding of the natural landscape, plant and animal communities, is resource efficient and is climate wise; • Facilitate a range of efficient, accessible and affordable transport options that readily connect neighbourhoods, work places, community facilities, services and enable people to participate in community life; and • Create places that are safe, respect cultural identity and are inclusive and functional for all members of the community. 	<p>This document proposes to further develop and expand the trail network to connect with the Manningham Green Wedge through the implementation of the following actions that are relevant to the Eastern Trails study:</p> <ul style="list-style-type: none"> • Investigation of the feasibility to develop a 'Greenway Linear Park' (for additional recreation and access opportunities) along the Melbourne Water Pipe Track from Doncaster to Wonga Park in consultation with the adjoining landholders; • Extend the Main Yarra Trail from Petty's Orchard to Warrandyte and then onto Watson's Creek • Advocate for the creation of a walking/bike trail from Mullum Mullum Creek through to Warrandyte; and • Implement proposed horse trail network outlined in the Manningham Horse Riding Strategy 2002.

Document	Date	Summary	Relevance
Yarra Ranges Council Green Wedge Management Plan	2010	The purpose of the Green Wedge Management Plan is to establish a vision for the Yarra Ranges portion of the Yarra Valley and Yarra and Dandenong Ranges green wedge and to identify a set of policies, programs and actions that support the ongoing sustainable management of the Yarra Ranges green wedge. The vision prioritising primary values that make the green wedge attractive for activities such as tourism, recreation, and rural living and to enhance these primary values.	An objective of the plan, relevant to the Eastern Trails project, is to ensure tourism, recreation and leisure activities complement the primary values of the green wedge and promotes further development of the tourism industry in a form that maintains and enhances a healthy environment and nurtures the municipality's rich cultural heritage. This includes promoting nature based leisure opportunities such as the use of the trails by a range of users.
Maroondah Health and Wellbeing Plan	2017-2021	The vision for this plan is for Maroondah to be a vibrant & diverse city with a healthy and active community, living in green & leafy neighbourhoods which are connected to thriving and accessible activity centres contributing to a prosperous economy within a safe, inclusive and sustainable environment. This vision is centred about 5 key outcomes: healthy and well, safe and secure, capacity to participate, connected to culture and community, and liveable.	Whilst there are no specification actions or recommendations relating to trails, this document seeks to improve and increase the health, wellbeing, participation and liveability within the municipality, objectives closely aligned with that of the Eastern Trail Study.
Health and Wellbeing in the Yarra Ranges	2017-2021	The priority areas outlined in this document are: <ul style="list-style-type: none"> • Connected and healthy communities; • Resilient and liveable communities; and • Equitable and inclusive communities. 	In relation to the to the Eastern Trails Strategy this document outlines the following recommendations: <ul style="list-style-type: none"> • Increase access to water on major shared trails; • Advocate for, plan and construct new iconic walking trails including the Dandenong Ranges Ridge Walk, Yarra Valley Trail, Yarra Glen River Walk.
Mullum Mullum Creek Linear Park (Currawong Stretch) Management Plan (Manningham City Council)	2011	The purpose of the Management Plan is to provide a guide for the future use, development, landscaping, management and maintenance of the Mullum Mullum Creek Linear Park within the Currawong Stretch. The vision for the plan is to sustain, protect and enhance the natural environment of the Mullum Mullum Creek Linear Park (Currawong Stretch) as an important feature of Council's open space network and to provide opportunities for visitor enjoyment and appreciation of the park, whilst protecting the cultural, heritage and environmental values of the area. The plan also contains recommendations for capital works as well as long term aims and objectives for this stretch of the linear park.	The following recommendations have been outlined in the document that should be considered in the Eastern Trails study: <ul style="list-style-type: none"> • Conduct a horse riding feasibility study that addresses environmental and management considerations; • Construct a path along the connector trail (which is between 28 – 30 Larnoo Drive to the main trail); • Construct a link from the Trail (western bank) to the new bridge crossing on the Mullum Mullum Creek; • Construct a path from Larnoo Dr Reserve to the trail; • Widen the path from Deep Creek Dr to the trail; • Realign sections of the trail to address set back issues between path and creek (install rock beaching where required); • Monitor drainage and surface and upgrade when required; • Construct a bridge over the creek north of Reynolds Rd to connect into the Currawong Bush Park • Review and upgrade placement and design of signage the horse riding trail to ensure that the trail is clearly marked; • Provide warning signage and other appropriate measures to alert users in times of flood; and • Replace timber bridges adjacent to the Mullum Mullum wetlands to address safety and maintenance issues.

Document	Date	Summary	Relevance
<p>Yarra River Action Plan: Wilip-gin Birrarung murron (Victorian State Government)</p>	2017	<p>The Yarra River Action Plan guided by five objectives:</p> <ul style="list-style-type: none"> • A healthy yarra - keeping the river alive, protecting and improving its health and riparian ecology, increase resilience in the face of climate change and population growth, and protecting the health of Port Phillip Bay; • The Great Yarra Parklands - see the parklands as one integrated natural asset; improve access to and movement along and on the river; increase opportunities for enjoyment by all; create more destinations; and improve visitor experiences. • A culturally diverse riverscape - recognise, protect and promote cultural and heritage values; and quality public places for recreation, celebration and coming together. • Securing the Yarra footprint - protect river landscapes from inappropriate development; connect communities and places along the river with trails and cycling corridors; and recognise the importance of the river economic prosperity and vitality of Melbourne and the Yarra Valley. • Modern Governance - provide leadership and a long-term commitment to delivering the vision and its goals; partner with the Traditional Owners in management of natural resources; align the activities and decisions of responsible agencies and councils; and prioritise collaborative community processes. 	<p>This Action plan outlines the following priorities that are relevant to the Eastern Trails study;</p> <ul style="list-style-type: none"> • Access to and movement along the Yarra river; • Improve visitor experience; • Increase opportunities for all ages and abilities; and • Connecting people and places along the river with trails and cycling corridors. <p>Specific actions relating to the Main Yarra Trail include:</p> <ul style="list-style-type: none"> • The importance of continuity along the Main Yarra Trail; • Opportunities to provide safe access to a wide range of users including all abilities; and • Provision of connections where there are gaps in the trail and/or trail quality.
<p>Melbourne East Regional Sport and Recreation Strategy (Regional Development Australia: Melbourne East with the Eastern Metropolitan Councils)</p>	2016	<p>This Strategy has been developed assist and guide the Eastern Metropolitan Councils and stakeholders in the planning and delivery of regional level sport and recreation facilities and shared recreation trails. It investigates the issues and opportunities impacting the planning and provision of regional level facilities. The Strategy also identifies the current gaps in provision and provides a framework with strategic directions to assist in gaining funding and prioritising regional projects. Key objectives of the strategy include:</p> <ul style="list-style-type: none"> • Identifying the principles that will guide future planning and development of regional level sport and recreation facilities; • Developing a sustainable governance model to drive regional project delivery, improve stakeholder collaboration and create a structure for assessment and decision making; • Identify and map current and proposed regional level sport and recreation facilities and shared trails across the region; • Identify gaps in existing regional facility provision and recommend future development priorities that meet current and future demand; and • Develop a regional project assessment criteria to support future project selection and prioritisation. 	<p>The Melbourne East Regional Sport and Recreation Strategy is relevant to the Eastern Trails report as it identifies shared trails as key recreational facilities. The document highlights high priority gaps in the trail network that should be addressed in order to establish a comprehensive network that provides increased recreation opportunities:</p> <ul style="list-style-type: none"> • Eastlink to Gardiners Creek Trail connection; • Development of the Glen Waverley Rail Trail; • Connecting Forster/ Gardiner road off-road path to the Scotchman's Creek Trail; • Connecting Syndal Trail Station to Heatherdale Train Station (Pipe Track); and • Link between Carrum to Warburton Trail. <p>The strategy outlines the definition of a regional shared trail as having the following qualities:</p> <ul style="list-style-type: none"> • Integrated and connected across municipal boundaries; • Provide infrastructure and amenities to support walking and cycling; • Provide safe off road alternatives; and • Support both recreation and commuter use.

Document	Date	Summary	Relevance
<p>Melbourne East 2020 Regional Plan (Regional Development Australia: Melbourne East with the Eastern Metropolitan Councils)</p>		<p>The Melbourne East Regional Plan 2020 outlines a framework for the region to achieve economic growth and aims to provide an environment for local and global businesses and investors. The document highlights six regional priorities to drive long term economic growth including investment attraction, precinct activation and connectivity.</p>	<p>This document is relevant to the Eastern Trails Strategy as it aims ensure that Eastern Melbourne is a place to live and work by, amongst other objectives, aims to improve liveability and amenity of the region, which the Eastern Trails also aims to achieve.</p>
<p>Cycling into the Future (Department of Transport, Planning and Local Infrastructure)</p>	<p>2013-2023</p>	<p>This report aims to increase trips take by bike and to encourage more people to consider cycling. The directions to achieve this include:</p> <ul style="list-style-type: none"> • Provide evidence to the State Government to make more informed decisions around cycling; • Provide effective governance to improve the co-ordination, planning and delivery of projects; • Reduce safety risks and user conflicts; • Encourage cycling by helping riders to feel more confident about cycling ; • Support opportunities to grow and diversify Victoria’s economy through cycling; and • Provide urban cycling networks to improve connectivity and better target investment in trail networks and associated infrastructure. 	<p>The report is relevant to the Eastern Trails study as it provides a framework for increasing instances of cycling for a range of benefits, such as health, tourism and economy, which aligns with this project objectives. Other relevant objectives are:</p> <ul style="list-style-type: none"> • Reduce user conflicts; • Increase investment in regional trails; and • Increase visitor numbers on regional trails. <p>Implementation of this strategy is currently underway with \$30 million being committed each financial year by the State Government to improve cycling paths, construct new trails and provide end of trip facilities. The department is also investing in safety, education and awareness campaigns to increase the number of cyclists (both locals and tourists) as well as improving conditions for existing cyclists.</p>
<p>Victorian Cycling Action Plan - Victoria's Cycling Strategy (Department of Transport, Planning and Local Infrastructure)</p>	<p>2013-2023</p>	<p>This plan identifies the actions the Victorian Government will take to support the objectives outlined in Cycling into the Future 2013–23 (see above). These actions include:</p> <ul style="list-style-type: none"> • Gathering and sharing information to make informed decisions about investment priorities to support cycling; • Enhance and improve processes to deliver future cycling infrastructure projects and initiatives; • Reduce cycling conflicts and risks, review safety legislation and deliver public awareness campaigns to increase cycling safety; • Increase confidence of cyclists by providing information and programs about where and how to cycle; • Seek opportunities for growth of Victoria's economy through cycling; and • Develop investment plans, integrate cycling networks and develop criteria for prioritising future investment in cycling infrastructure. 	<p>The objectives of this action plan align with the Eastern Trails strategy in that it aims to:</p> <ul style="list-style-type: none"> • Reduce cycling conflicts and risk and enhance safety; and • Support economic opportunities brought about through increase cycling and cycling infrastructure. <p>The financial commitment by the department to achieve the objectives outlined in the Action Plan and improve cycling conditions within the state provides an opportunity to obtain funding in order to improve the eastern shared trails network.</p>

Document	Date	Summary	Relevance
<p>National Cycling Strategy (National Bicycle Council)</p>	<p>2011-2016</p>	<p>The vision for this strategy is to realise a change in attitude towards cycling to increase the number of people who cycle (double the number of people cycling in the 6 year period of this report). In order to achieve this, the following objectives have been outlined:</p> <ul style="list-style-type: none"> • To promote cycling as a viable, safe and enjoyable mode of transport and recreation; • To create a network of safe and accessible cycling routes with end of trip facilities; • To address cycling needs in all relevant planning, land use and transport initiatives; • To enable people to cycle safely; • To monitor and evaluate cycling programs to develop national decision-making processes for investment in cycling; and • Develop consistent technical guidance to be used and shared as a best practice resource across the nation. 	<p>The West Trails project can be positioned within the National Cycling Strategy as it aims to achieve increased instances of cycling. The most relevant actions recommended in order to achieve this is for all jurisdictions to continue to invest in developing on-road and off-road cycling networks to key destinations in both urban and rural areas that are consistent with national design standards. The West Trails project is a part of this investment to develop the western metropolitan area's regional trails.</p> <p>As this strategy sets out to double participation in cycling by Australians between 2011 and 2016. The Australian Bicycle Council has commissioned a biennial survey to provide estimates of cycling participation (measured in the past week, month and year) across Australia and for each state and territory. To date, the 2011 and 2013 surveys have been carried out. Key findings suggest that while bicycle ownership has remained consistent between 2011 and 2013, there has been a small but statistically significant decrease in cycling participation across Australia (37.4% of people rode in the last year according to the 2013 survey compared with 39.6% in 2011). This decrease is reflected across Victoria also with 38% of people having ridden in the past year in 2013 compared with 41.6% in 2011).</p>
<p>Victoria's Trails Strategy (Tourism Victoria)</p>	<p>2014-2024</p>	<p>The vision for this strategy is to position Victoria as a leading trail-based destination that provides a range of trail experiences while strengthening the State's economy and improving the health, wellbeing and lifestyle of the community. The key initiatives outlined in the strategy are:</p> <ul style="list-style-type: none"> • improve the quality of trail experiences • increase awareness and visitation • support complementary tourism and retail businesses • understand trail-users, the market and the target demographic 	<p>This document does not highlight any of the western metropolitan trails as being of significance however there are similarities between the strategies in terms of their aims. The actions below are relevant to the West Trails study as they aim to raise the profile of the trails by:</p> <ul style="list-style-type: none"> • increasing attraction of cycling trails by marketing the trails in conjunction with other commercial opportunities that the area has to offer • building recognition of Victoria as a premier cycling destination to increase visitation

Document	Date	Summary	Relevance
<p>Victoria's 2020 Tourism Strategy (Tourism Victoria)</p>	<p>2013</p>	<p>The aim of this strategy is to provide a framework for tourism to contribute to the state economically and socially. In order to achieve this, the strategy prioritises marketing, a digital presence, offering events and access to the state. The strategy outlines the following objectives:</p> <ul style="list-style-type: none"> • Victoria to be a leading tourism destination in the Asia Pacific region • tourism to be a leading contributor to the Victorian economy • Victoria to provide a range of experiences and an environment that supports the aspirations and culture of strong growth economies such as China, India and Indonesia. 	<p>This strategy prioritises supporting investment in projects that will increase tourism making it relevant to the West Trail project. The strategy compliments the Victorian Trails Strategy in facilitating and supporting the development, marketing and management of nature based tourism such as Victoria's off-road, shared use trails to attract visitors.</p>
<p>Guidelines for developing Principal Pedestrian Networks (Department of Economic Development, Jobs, Transport and Resources)</p>	<p>2015</p>	<p>This document aims to identify routes within the built environment that are likely and have the potential to carry more pedestrians walking to key destinations and improve the quality of these routes to encourage more walking. These guidelines present a step by step process for LGAs to following which include delineating the PPN, validating it and then implementing it.</p>	<p>The PPN guidelines provide local governments with a framework to develop principle pedestrian networks within their municipalities by defining the required catchment area, current and future land use, prioritising pedestrian links and the quality of the pedestrian environment. This framework and methodology could be considered in the Eastern Trails Study in regards to identifying regional trails.</p>
<p>Boroondara Community Plan</p>	<p>2017-2027</p>	<p>The Boroondara Community Plan was developed to provide a vision that reflects the community's values, aspirations and priorities. The vision outlined in the report for the future of Boroondara is for "a vibrant and inclusive city, meeting the needs and aspirations of its community. In order to achieve this, the Plan outlines 4 strategic objectives:</p> <ul style="list-style-type: none"> • Community services and facilities are high quality, inclusive and meet a variety of needs now and into the future; • Inviting and well-utilised community parks and green spaces; • Our natural environment is healthy and sustainable for future generations; and • Protect the heritage and respect the character of the City to maintain amenity and liveability whilst recognising the need for appropriate, well-designed development for future generations. 	<p>As Boroondara City Council's key strategic document this document outlines a number of values that will be taken into consideration within this study, including:</p> <ul style="list-style-type: none"> • Promote and increase active and environmentally sustainable travel options, including cycling and walking and access to public transport • Lead through advocacy and action to mitigate against and adapt to impacts of climate change to minimise adverse impacts on community health and wellbeing and the environment • Deliver, facilitate and advocate for services and programs that promote health, wellbeing, safety and a sense of community • Create and maintain public areas, facilities, amenities, footpaths and spaces that are inviting, clean and appropriately lit to increase social connection and improve perceptions of safety