

7.12 Draft Boroondara Bicycle Strategy: Community consultation

Abstract

The Boroondara Bicycle Strategy sets out the framework to improve bicycle infrastructure and increase mode share in the City of Boroondara. The current Bicycle Strategy was adopted in 2008 and is due for renewal.

The development of a new Boroondara Bicycle Strategy commenced with an initial phase of community and stakeholder engagement undertaken during the 2019/2020 financial year to identify issues and opportunities for consideration. This work to date has informed the development of the draft Strategy (**Attachment 1**).

Over the past 10 years through the implementation of the previous strategy actions, there have been significant changes in cycling infrastructure across the city, safety improvements and significant growth in cycling participation for a range of purposes. Coupled with the COVID-19 pandemic, use of bicycles (including their sales) has grown exponentially.

The draft Boroondara Bicycle Strategy has been developed to drive the improvement and support further expansion of Boroondara's bicycle network over the next 10-year period.

The draft Strategy includes a draft Implementation Plan (**Attachment 2**) outlining a range of recommended infrastructure projects and other initiatives to support safer and connected bicycle routes and increase bicycle mode share across the municipality. The draft Implementation Plan outlines all actions proposed to be undertaken over the 10-year life of the Strategy, with a specific focus on high-priority 'Stage 1' actions to be implemented in the first 2 calendar years (2022 and 2023), including high level cost estimates.

Community consultation is proposed for the draft Strategy and draft Implementation Plan. A refined draft Strategy and draft Implementation Plan will then be presented to Council for formal consideration.

Following adoption of the new Strategy, the recommended actions identified within the Implementation Plan would be investigated and implemented over the following 10 years through operational and capital works budgets, considered and approved through Council's annual budget process.

Officers would also seek to advocate for or make use of any funding opportunities arising through State or Federal Government programs, where applicable.

A new Implementation Plan would be developed every 2 years to ensure the actions in the Strategy are delivered progressively over the life of the document.

Officers' recommendation

That Council:

1. Endorse the draft Boroondara Bicycle Strategy (**Attachment 1**) and draft Implementation Plan (**Attachment 2**) for the purpose of community consultation.
2. Following the consultation phase and consideration of feedback receive a further report presenting the Bicycle Strategy and Implementation Plan at a future Services Delegated Committee meeting in 2022 seeking adoption.

Responsible director: Daniel Freer, Director Places and Spaces

1. Purpose

The purpose of this report is to seek endorsement from Council to commence consultation on the draft Boroondara Bicycle Strategy (**refer Attachment 1**) and draft Implementation Plan (**refer Attachment 2**).

2. Policy implications and relevance to community plan and council plan

This report and draft Strategy are consistent with the recently adopted Boroondara Community Plan 2021-31. Strategies within the Community Plan that directly address bicycle riding are included within Theme 5 'Moving Around' and include road safety, road congestion and sustainability measures:

- Strategy 2.3 - Parks and green spaces are accessible and appealing through maintaining, improving and increasing amenities.
- Strategy 5.3 - Shared paths and footpaths are fit-for-purpose through continued improvements to surface condition and lighting.
- Strategy 5.4 - Off-road bike paths and on-road cycling lanes are interconnected and safe through expanding access and infrastructure for cyclists.
- Strategy 5.5 - Sustainable transport use is encouraged and supported through delivery of green travel programs and advocacy to State and Federal Governments.
- Strategy 5.6 - Emerging transport options including e-mobility are planned for by exploring initiatives that increase safety and public confidence in e-mobility use and infrastructure.

Community consultation to refresh the Boroondara Community Plan was completed in 2021. The valuable feedback received from the community confirmed that there is strong interest in safer, protected and connected bicycle infrastructure across the municipality.

This report and draft strategy also align with the:

- Boroondara Climate Action Plan.
- Victorian Government's Victorian Cycling Strategy (2019-2028).
- Victorian Government's Movement and Place Framework (Department of Transport).

3. Background

Boroondara has a long history of supporting cycling as an activity for all ages and stages. The Kew Traffic School, a cycling based road safety facility, the Hawthorn Cycling Club as a competition club with over 170 members training and racing at the HA Smith Velodrome, the 'Teardop' circuit off Yarra Boulevard, schools and other groups training at the HA Smith Velodrome as well as a path network for commuters and recreational cyclists traversing both east-west and north-south across the municipality.

The current Boroondara Bicycle Strategy was adopted by Council in September 2008 as a 10-year plan, with one 10-year action plan, to drive the development, improvement, and expansion of Boroondara's bicycle network. The strategy included a wide range of recommendations including infrastructure projects and educational/promotional activities. These recommendations were investigated further and implemented progressively (where feasible) through both Council funding and external funding sources.

It has been over ten years since the development and adoption of the 2008 strategy, and in this time the population of greater Melbourne has grown significantly. Coinciding with this population growth and increased transport task, changes in travel behaviour have occurred and community demand for sustainable travel options has been increasing. In recent times, the COVID-19 pandemic has also resulted in bicycles becoming a more popular travel option for both recreation and commuting.

In late 2019, multi-disciplinary engineering consultant AECOM were awarded the contract to undertake a detailed review of bicycle riding in Boroondara and develop a new Bicycle Strategy to increase bicycle mode share over the next 10 years.

Following AECOM's appointment, the updated draft Strategy has been developed through a collaborative process, taking into consideration a significant amount of feedback from stakeholders and the broader community. Advice and feedback has also been received from the Cycling Advisory Committee with Cr Biggar and Cr Franco as 2021 Councillor appointees.

Key features of the documents include:

- Two separate documents, namely the draft Strategy which sets the framework to advance bicycle infrastructure and mode share in the City of Boroondara over the next 10 years and a draft Implementation Plan that provides details of actions to be undertaken over this period with actions grouped in two year intervals. Higher priority actions are listed above longer-term proposals.
- The draft Implementation Plan lists actions with an estimate of costs to be undertaken in the first two year period. In subsequent years, the plan will be reviewed and renewed every two years over the life of the strategy.
- Use of lower speed limits would be considered for nominated streets that provide strategic links to activity centres, shopping strips, community facilities, schools and links to both the on-road and off-road network. The implementation of lower speed limits in nominated streets would also be subject to Council approval.

- Information on costs to inform funding requirements for the implementation of actions and to guide Council's advocacy in seeking external funding through both State and Federal Government avenues.
- Information on the growing trend of use of e-bikes, Australian regulations and the responsibility for safety for all path users in the municipality under Council's Amenity Local Law.
- New path links or major upgrades to paths in reserves or parks (may involve sealed or unsealed path surfaces, or a combination of both) would involve investigation, consultation and Council approval.
- The use of sharrows on local roads would be limited to targeted, suitable routes providing access and wayfinding to local facilities, off-road path links and key destinations. Many of these routes will have complimentary traffic treatments such as traffic calming devices, different coloured surface treatments, landscaping, or lower speed limits, or a combination to promote a safer shared road environment.
- Separate path facilities for pedestrians and cyclists on high use shared paths. The preferred option involves completely separate paths with distinct alignments.
- Use of physical separation treatments (barrier or semi mountable kerbing, or flexible bollards) as part of an integrated road safety treatment at intersections to improve safety and access for cyclists. This type of treatment delivers notable safety benefits particularly at higher crash risk locations while having a low impact or no impact on kerbside parking.
- Proposals involving separation kerbing resulting in significant parking loss along sections of road (local and arterial) would involve investigation, design and consultation and would be brought before Council for formal consideration. Mountable kerb options can be explored as an alternative to barrier kerbing where access requirements dictate (including for emergency service vehicles).

4. Outline of key issues/options

In reviewing the 2008 Strategy, listening to the community and analysing demographic and Census data, the key issues that have the potential to influence the draft strategy are outlined below.

- Victoria's population growth

Census data from 2016 identifies a continued growth in the estimated resident population for Boroondara, with an 11% (17,756 people) growth since 2006.

- Car ownership growth

There is a continued growth in car ownership in Boroondara, with 54,201 households owning one or more cars in 2016 compared with 51,540 in 2011.

- Bike sales growth

In Australia and through the 2020/21 financial year, bicycle shops reported increasing sales of bicycles. This is consistent with bicycle import data from the Australian Bureau of Statistics which indicates growth in bicycle imports of over 44% when comparing 2019/20 and 2020/21. There has also been a recent surge in demand and availability of electrically assisted bikes (e-bikes) which provide an increasingly affordable option for people of all fitness levels, particularly those seeking a less demanding ride. Electric bicycles and scooters have also gained popularity through the rise of food delivery services such as Uber Eats due to their ease of use and low running costs. E-bike sales in Australia are up around 800% over the past five years.

- The existing strategy has a ten-year timeframe and action plan

The timeframe is long and is not responsive to the constantly changing conditions including a significant amount of new Government initiatives and strategies. It is an inflexible document and action plan that cannot adapt to changing policy and network conditions.

- The existing strategy does not include the Strategic Cycling Corridors (SCC)

Identification of the SCC's is part of the initiative in Plan Melbourne to 'Support Walking and Cycling in Central Melbourne'. They are corridors developed to improve bicycle riding to and around major activity centres in metropolitan Melbourne. SCC's are a subset of the Principal Bicycle Network (PBN) and are the main routes of the bicycle network.

- The existing strategy does not reflect the Safe System approach

The Safe System approach aims to minimise the risk of death or serious injury on the roads by considering the interaction between roads, vehicles, speeds, and road users. The Safe System approach also views safety as a shared responsibility i.e. cyclists need to play their part but drivers have a responsibility to protect vulnerable road users.

- Road and shared path space is a finite resource

Council continues to receive complaints regarding competing interests for the limited road space on our networks. Common complaints are about shared path conflicts between cyclists, pedestrians and dogs, the speed of cyclists on shared paths, and the lack of separated safe bicycle facilities on the road network. The rise of e-bike sales and use is fast becoming a pain point for shared path network users and managers, including Council.

The draft Strategy seeks to listen and respond to these issues and deliver a flexible, adaptive plan for cycling in Boroondara. It recommends the adoption of implementation plans revised every 2 years to ensure we deliver on the draft vision for the next 10 years. The draft vision for the Strategy is:

The 2022 Boroondara Bicycle Strategy will deliver an integrated bicycle network which is safe, connected, protected, efficient and appealing to users of all ages and abilities. The bicycle network will include off-road paths and on-road links providing access to a range of destinations and making bicycle riding a feasible and attractive option for all residents, workers and visitors.

The following four guiding principles have been developed to align with the draft vision:

1. Connected and complete bicycle network.
2. Safe bicycle riding experience.
3. Integrated supporting facilities and amenities.
4. Awareness and education.

The draft Implementation Plan consists of eight separate initiatives which correspond with one or more of the guiding principles. A number of actions are proposed for each initiative and are allocated an expected timeframe for delivery based on project-specific factors including estimated project cost and complexity. The Stage 1 Implementation Plan includes a specific focus on high-priority actions to be implemented in the first 2 calendar years (2022 and 2023), including a combination of new actions and actions carried over from the previous 2008 Strategy (i.e. projects not completed but still considered necessary and relevant).

5. Consultation/communication

The development of the new Strategy provided the opportunity to engage with the Boroondara community and relevant stakeholders to understand how their needs and aspirations have changed since the previous Strategy was adopted in 2008. It also allows Council to reflect on the transport infrastructure projects completed over the last decade and the needs of cyclists in the context of a growing population, greater density and the changing travel behaviour in light of the COVID-19 pandemic.

Community and stakeholder consultation is being undertaken in two phases:

- Phase 1 – Issues and opportunities (completed November 2019 - March 2020).
- Phase 2 – Feedback on the draft Strategy (proposed 14 December 2021 – 10 February 2022 subject to Council endorsement).

The aim of the Phase 1 engagement was to obtain input from a broad cross-section of the community and gather insights to inform the development of the draft Strategy. This phase resulted in an understanding of the main issues and opportunities for improving bicycle infrastructure and increasing participation across Boroondara. Supplementing the technical network analysis was also undertaken during the early stages of the review. Engagement findings were also used to inform the vision for the draft Strategy.

Phase 1 engagement was carried out through a number of key activities:

- Stakeholder Workshop
 - Including Bicycle User Groups, State Government representatives, officers from neighbouring Councils, other relevant industry representatives and Boroondara officers.
- Targeted Engagement
 - One-on-one interviews and small group discussions with tertiary students, parents and CALD community members.
- Online Survey
 - Open to all members of the community via Council's 'Have Your Say' web page.
- Social Pinpoint Map
 - Online platform where members of the community could drop 'pins' (geotagged locations) on a map of Boroondara and leave feedback or vote on other comments. Pins were used to denote 'safe' and 'unsafe' areas, as well as providing general ideas and suggestions across the network.
- Written Submissions
 - Written submissions of varying length were received by email, letter or social media.

Safety was overwhelmingly the single largest concern raised throughout the engagement process. Many respondents reported often feeling unsafe or stressed when riding their bicycle, identifying this as the main barrier to riding more often.

There was a clear preference for dedicated off-road trails, with major safety concerns raised regarding on-road infrastructure (or lack thereof) and having to compete for road space with motor vehicles and trams.

During the Phase 2 engagement, relevant stakeholders and the broader community will be given the opportunity to provide feedback on the draft Strategy and draft Implementation Plan.

This phase is proposed to take place from 14 December 2021 to 10 February 2022, subject to approval at this Council meeting.

6. Financial and resource implications

Following formal endorsement and adoption of the Strategy, the recommended actions identified within the Implementation Plans would be investigated and implemented over the 2-year life of each plan for the 10-year life of the strategy through operational and capital works budgets. The level of funding for the Implementation Plan would be determined through Council's annual budget process.

Officers will apply for State and Federal Government grants and other funding streams as appropriate.

7. Governance issues

Under Part 6, Division 2 of the Local Government Act 2020, no officer involved in the preparation of this report has any direct or indirect interest in the subject matter of the report.

Consistent with the Charter of Human Rights and Responsibilities Act 2006, it is considered that no human rights are impacted or infringed as a consequence of the outcomes of this report.

8. Social and environmental issues

The implementation of the recommended actions included within the draft Strategy and draft Implementation Plan over the next 10 years is expected to have a significant positive impact on community and social well-being by improving safety for bicycle riders and decreasing road congestion through increased uptake of bicycle riding as a transport mode.

Bicycles provide a sustainable transport option with a low carbon footprint and are associated with a range of well-established environmental benefits.

Manager: **Jim Hondrakis, Manager Traffic and Transport**

Report officer: Oliver Mihaila, Strategic Transport Engineer
Bhushan Jani, Coordinator Transport Management



Boroondara Bicycle Strategy

2022



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Executive summary

As the population of greater Melbourne continues to grow rapidly, sustainable solutions to the movement of people are becoming an increasingly necessary element of preserving and enhancing the quality of life in suburban areas. Bicycle riding is a low-carbon transport option compared to other travel modes, with significant untapped capacity that has the potential to materially contribute to the overarching transport task.

Purpose

The Boroondara Bicycle Strategy sets a framework to advance bicycle infrastructure and mode share in the City of Boroondara over the next 10 years. The purpose of the Strategy is to:

- Provide direction and set a vision for the aspirational bicycle network.
- Inform future investment in bicycle infrastructure across the municipality.
- Guide a staged implementation of actions to align with priorities.

The Strategy has been developed following extensive community engagement, research and analysis to ensure it is relevant, achievable and meets the needs of the community.

What the community said

Key messages received from the community include:

- Safety, including interaction with other vehicles and pedestrians, is the major concern and barrier to bicycle riding.
- The existing bicycle network is limited and not well connected. It is also poorly maintained and difficult to navigate.

- Riding on off-road and separated bike paths is preferred, mainly due to safety.
- Bicycle riders must compete for space with other modes of transport on congested roads.

Our vision

The 2022 Boroondara Bicycle Strategy will deliver an integrated bicycle network which is safe, connected, protected, efficient and appealing to users of all ages and abilities. The bicycle network will include off-road paths and on-road links providing access to a range of destinations and making bicycle riding a feasible and attractive option for all residents, workers and visitors.

Realising the vision

The Strategy is underpinned by four guiding principles:

- A complete and connected bicycle network
- A safe bicycle riding experience
- Integrated supporting facilities and amenities
- Awareness and education

The Strategy recommends a series of prioritised actions based on these guiding principles which will assist Council in achieving the vision.



Introduction

As the population of greater Melbourne continues to grow rapidly, sustainable solutions to the movement of people are becoming an increasingly necessary element of preserving and enhancing the quality of life in suburban areas. Bicycle riding is a low-carbon transport option compared to other travel modes, with significant untapped capacity that has the potential to materially contribute to the overarching transport task.

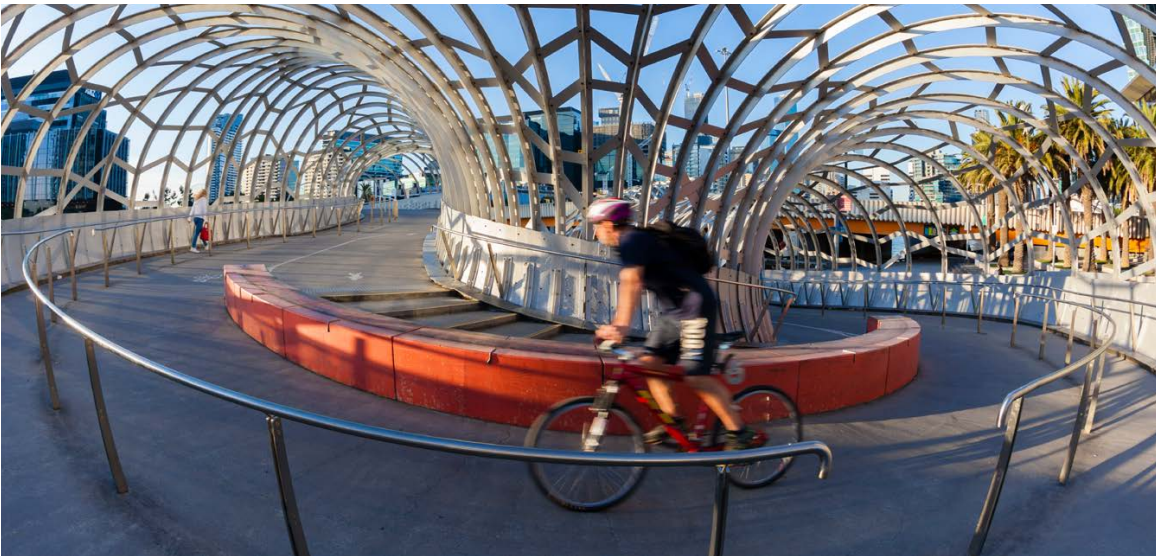
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- Provide direction and set a vision for the aspirational bicycle network.
- Inform future investment in bicycle infrastructure across the municipality.
- Guide a staged implementation of actions to align with priorities.

Process

- The Strategy was developed through a collaborative process.



Planning in the context of the COVID-19 pandemic

The coronavirus has significantly impacted how we move around our cities and communities. Worldwide, physical distancing measures and lockdown restrictions have been imposed to hinder the spread of the coronavirus, drastically reducing travel demands. Importantly, this reduction is not only a consequence of government-imposed restrictions, which have reduced people’s ability to travel. Individual reactions to the pandemic have also resulted in a reduced willingness to travel.

This situation has seen active transport modes, in particular bicycle riding, become a more attractive transport option. This presents challenges and opportunities in terms of facilitating these new travel patterns which reflect the latent, underlying demand for bicycle riding not previously supported by investment in infrastructure.

While the question remains as to whether this change in travel behaviour and patterns will be permanent or temporary, it is critical that the role of bicycles in addressing the transport challenges within the City of Boroondara is carefully considered through the implementation of the actions in this Bicycle Strategy.

1 Rethinking Mobility: The role of cycling in the post-pandemic recovery, Without Limits, AECOM, 2020



Vision

The 2022 Boroondara Bicycle Strategy will deliver an integrated bicycle network which is safe, connected, protected, efficient and appealing to users of all ages and abilities. The bicycle network will include off-road paths and on-road links providing access to a range of destinations and making bicycle riding a feasible and attractive option for all residents, workers and visitors.

Planning context

The Strategy is supported by various State and Local Government plans and policies.

State policy and strategic alignment

There are a number of Victorian Government plans, strategies and frameworks in place that guide transport investment by local governments. The key documents relevant to this Strategy are noted below.

Transport Integration Act 2010

The Transport Integration Act is Victoria’s principal transport statute and sets out principles to guide the planning and management of the transport system. The Act provides a mandate for government departments to share common goals of an efficient, integrated and sustainable transport network.

Victorian Cycling Strategy 2018-2028



The Victorian Cycling Strategy 2018-2028 was developed by Transport for Victoria, with a vision to increase the number, frequency and diversity of Victorians cycling for transport by investing in a safer, lower-stress, better-connected network, and by prioritising Strategic Cycling Corridors (SCCs) to help make cycling a more inclusive experience. The document sets out the high-level strategic basis for Victorian Government funding commitments in the cycling network.

The strategy addresses a focus on making cycling a more inclusive experience, which includes encouraging children to cycle to school. There is also a focus on better integration of cycling and public transport, which is a particularly important consideration in the Boroondara area given the strong public transport connectivity in the form of buses, trams and trains.

The Victorian Cycling Strategy identifies the need to work with local Councils to deliver bicycle infrastructure improvements. The 2022 Boroondara Bicycle Strategy is consistent with the goals outlined in the Victorian Cycling Strategy, acknowledging initiatives of state strategic importance (e.g. Strategic Cycling Corridors), as well as recognizing the municipal and local-level gaps in Boroondara’s bicycle network and providing an action plan to deliver improvements across the entire network.

Movement and Place Framework



The Department of Transport’s Movement and Place Framework represents a new approach to network planning, recognising that roads and streets serve not only a transport function but can also serve as destinations in their own right. As part of this, movement classifications for each mode have been defined and assigned on the network, to guide the broad aspirational movement function of a transport link in relation to its place function. Although the framework predominantly focuses on assessment of roads and streets, its cycling classifications have been developed to include both on and off-road links. For bicycle routes there are eight classifications:

Cycling classifications

- C1** Primary routes
- C2** Main routes
- C3** Municipal routes
- C4** Neighbourhood and local links
- Specialised cycling classifications**
- CD** Direct cycling routes
- CH** High traffic stress routes
- CT** Training routes
- CR** Recreational routes

Walking routes are also considered in the Movement and Place Framework with varying classifications for links of differing priority and strategic importance.

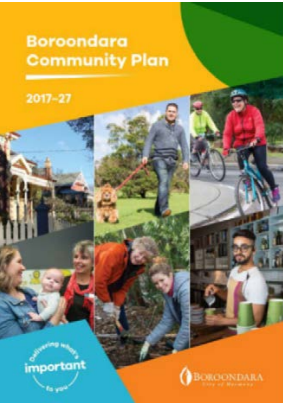
Local plans and policies

Boroondara Bicycle Strategy 2008

The 2008 Boroondara Bicycle Strategy is the preceding 10-year strategy. The overall goal was to increase the number of people using Boroondara’s bicycle network and facilities. The strategy provided a list of recommended actions to drive the development, improvement and expansion of the bicycle network, recognising the needs of different types of users and focused on three guiding principles:

- **Physical and social infrastructure** – referring to the development of a bicycle network which provides both comprehensive and high-quality physical infrastructure. This can be achieved through legible, direct and accessible paths, attention to maintenance of existing paths/facilities, and reallocation of road space.
- **Safety** – focusing on improving the safety of the network, reducing the number and severity of crashes.
- **Continued development** – entailing the consideration of the long-term implications of each recommended action.

Boroondara Community Plan 2017-27 and Council Plan 2017-21



The Boroondara Community Plan addresses a series of approaches to prioritise development of the community and infrastructure.

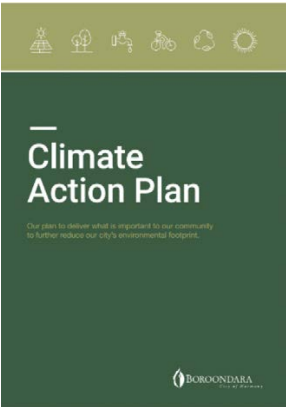
The Community Plan sets the long-term strategic direction for Boroondara and directly informs the Council Plan, the Municipal Strategic Statement, and Council strategies, plans, policies and actions. Strategies that directly address bicycle riding are

included within Theme 5 ‘Getting Around Boroondara’ and include road safety, road congestion and sustainability.

The Boroondara Council Plan addresses the short-term implications of the Boroondara Community Plan 2017-27. The Council Plan addresses the need for more bicycle infrastructure and the improvement of existing infrastructure.

Community consultation to refresh the Boroondara Community Plan has been completed in 2021. The valuable feedback received from the community confirmed that there is strong interest in more safe, protected and connected bicycle infrastructure across the municipality.

Boroondara Climate Action Plan and Implementation Plan 2021-23

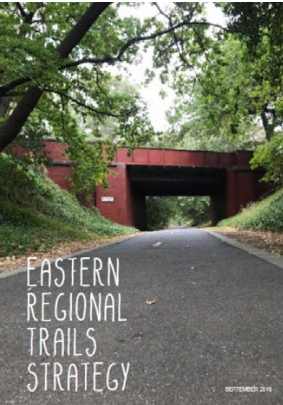


The Boroondara Climate Action Plan (CAP) provides a framework for Council to plan and deliver actions to reduce harmful emissions from Council’s operations, facilitate the reduction of community emissions by the community and preserve and protect natural assets to meet the challenges of a changing climate. This will help guide Council’s climate related actions into the next decade and deliver wide ranging social and environmental benefits for the community.

The CAP Implementation Plan 2021/22 and 2022/23 defines the highest priority actions for implementation over the first two years.

A number of actions relating to bicycles and active transport have been identified within the CAP, with the development and release of the Bicycle Strategy listed as a policy action in the implementation plan.

Eastern Regional Trails Strategy 2018



The Eastern Regional Trails Strategy was developed by seven eastern metropolitan Councils of Melbourne (Boroondara, Knox, Manningham, Maroondah, Monash, Whitehorse and Yarra Ranges) along with the Victorian Government.

The strategy documents a planning framework and 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 Boroondara 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, including a number of specific actions to complete gaps and upgrade existing sections of the off-road shared path network.

Bicycle riding in Boroondara today

An analysis of the existing bicycle network and travel patterns was undertaken to understand and identify key focus areas to guide the development of the Strategy.

The existing bicycle network in Boroondara consists of a variety of on-road bike lanes and off-road trails in the form of shared paths, as shown in Figure 1.

Existing On-Road Network

The on-road bicycle network is generally made up of 1.5-metre lanes or wide kerbside lanes, shared with or adjacent to parking and traffic along roads with a speed limit of 40 km/h or higher. Suburbs closer to the CBD, including Hawthorn and Kew, consist of a higher proportion of on-road bicycle infrastructure along main roads. Apart from localised improvements at traffic treatments, there is currently only a total of 1km of protected on-road bicycle infrastructure in the municipality, located along Yarra Boulevard in Kew.

- *Top Right: A **dedicated bicycle lane** adjacent to parallel parking. This type of infrastructure provides dedicated road space for bicycle riders, however risks of car dooring remain and there is no physical protection from motor vehicles. These lanes often also end abruptly at intersections, making them only suitable for experienced or confident riders.*
- *Second Right: A **shared bicycle lane** whereby parked vehicles occupy the lane and riders are typically forced to encroach into the traffic lane to navigate around them.*
- *Third Right A **wide kerbside lane** with intermittent dashed linemarking denoting an informal bike lane. Parallel parking is typically permitted along the kerb line, which bicycle riders would need to navigate around. This type of infrastructure provides no dedicated road space for bicycles and offers no physical protection from motor vehicles, making it unsuitable for most riders.*
- *Bottom Right: A **typical local street** with parallel parking generally allowed on both sides. Traffic volumes and speed can be managed to make this a safer environment for bicycle riders.*



Existing Off-Road Network

Off-road infrastructure consists of a network of shared paths that extends for 37 km. The main shared paths include the Anniversary Outer Circle Trail, Koonung Trail, Main Yarra Trail and the Gardiners Creek Trail which tend to run generally parallel to railway lines and other geographical features such as rivers and creeks. There are also a total of 75 km of informal gravel or unsealed paths for use by both pedestrians and cyclists.

- *Top Right: A **formal shared path** for bicycle riders and pedestrians. These paths are typically line-marked and generally provide a width of 3m, however conflicts can occur between path users particularly as the paths are heavily utilised.*
- *Bottom Right: An **informal shared path** typically found in parks and gardens and suitable for low levels of cycling and pedestrian use. These paths are often narrower and may include unsealed surfaces which can result in safety and maintenance issues after heavy rain. Surface and edge treatments can address these issues while maintaining a natural or unsealed appearance.*

The key limitation of the existing bicycle network is the lack of connectivity and safe, protected routes to cater for the travel needs of the entire municipality. While safe off-road paths exist and are highly utilised, there are very few connecting on-road links and these links generally only cater for experienced or confident riders as they typically do not offer any protection from vehicular traffic. This results in only a relatively small proportion of the overall travel demand being met by the existing fragmented network, with many residents unable to access safe bicycle facilities unless they reside in close proximity to an off-road path. Even so, the off-road path network does not reach many key destinations and activity centres, further discouraging bicycle riding as a travel option.

A significant opportunity exists to increase bicycle mode share through the creation of a safe and connected bicycle network spanning the entire municipality. This would make bicycle riding a viable travel option for more trip types, and encourage higher levels of participation particularly among women and children who are currently underrepresented in bicycle ridership across the community.



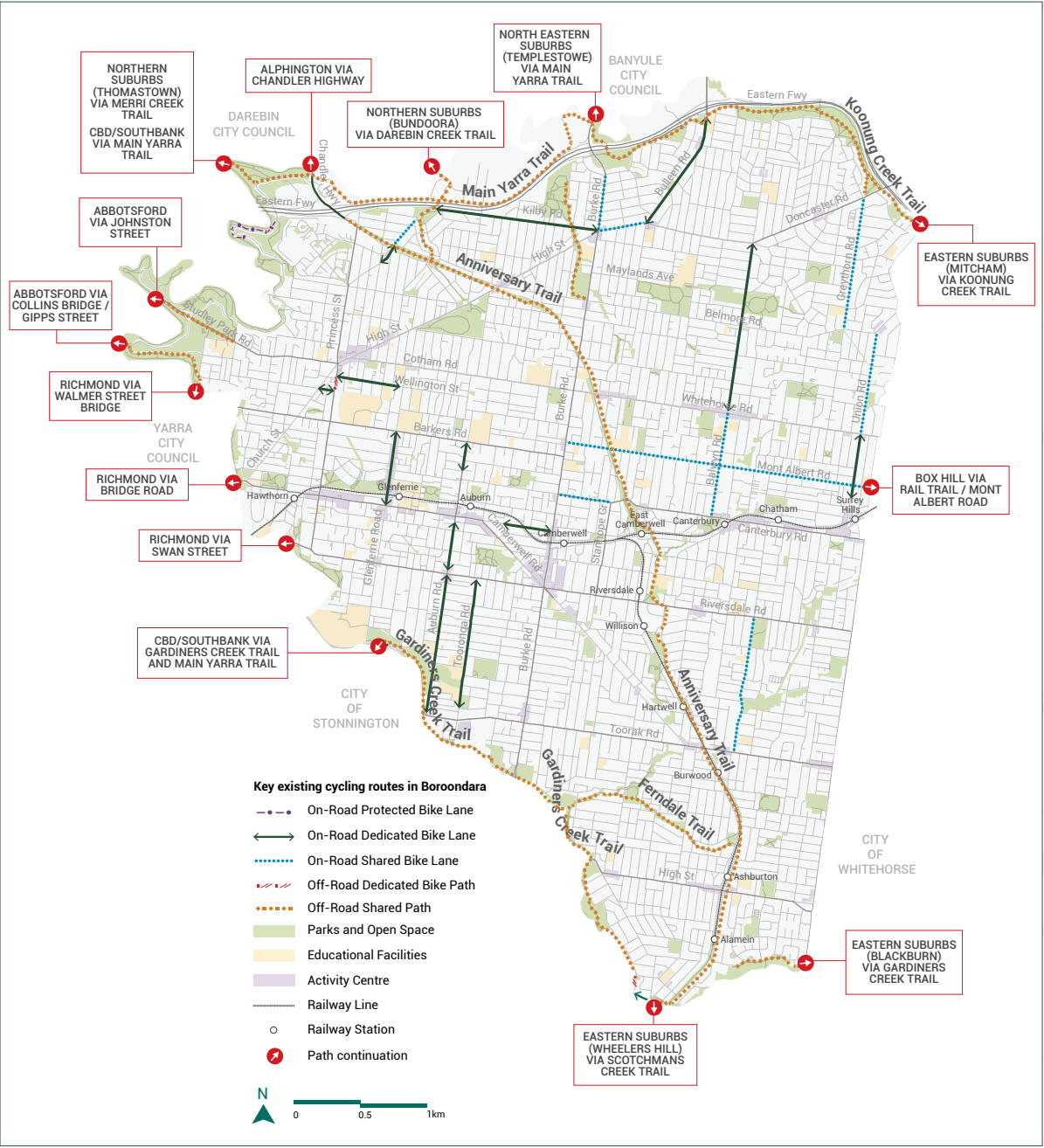


Figure 1 Existing bicycle network infrastructure

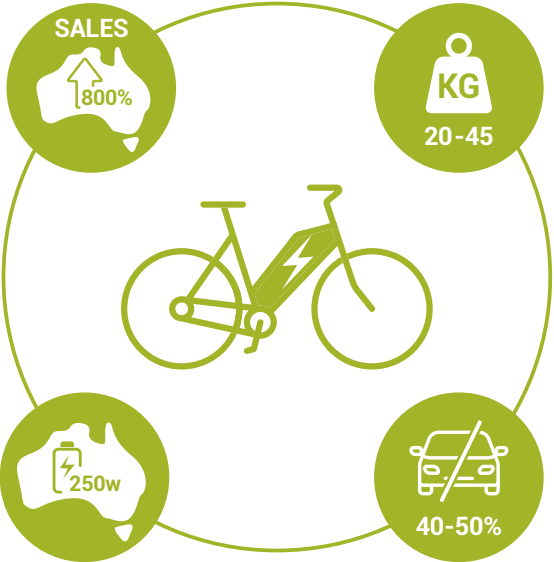
Source: <https://en-au.topographic-map.com/maps/waer/City-of-Boroondara/>

While the availability and quality of bicycle infrastructure is a key influencing factor for bicycle riding participation, the natural topography of the land can also directly influence travel patterns. Bicycle routes that are generally flat or with gentle undulations are traditionally considered better suited for high rates of bicycle riding activity, particularly among older riders and those carrying cargo. However, the recent surge

in availability of electrically assisted bikes is providing an increasingly affordable option for people of all fitness levels, particularly those seeking a less demanding ride. Electric bicycles (or e-bikes) have also gained popularity through the rise of food delivery services such as Uber Eats due to their ease of use and low running costs.

E-bike sales in Australia are up around 800% in the past five years, with around 50,000 sold during the 2019/20 financial year despite widespread shortages of stock due to the COVID-19 pandemic.

Most e-bikes weigh between 20 and 45kg, with battery ranges up to 150km on a single charge.



In Australia, regulations specify a **maximum motor power of 250 watts** and maximum assisted speed of 25 km/h.

E-bike riders are required to travel at safe speeds in accordance with Council's Amenity Local Law so as to not endanger other members of the community.

E-bikes facilitate more frequent bicycle trips and trips of greater distance compared to conventional bicycles. Studies around the world have shown that **approximately 40-50% of e-bike trips replace a journey** that otherwise would have been **undertaken by car**.

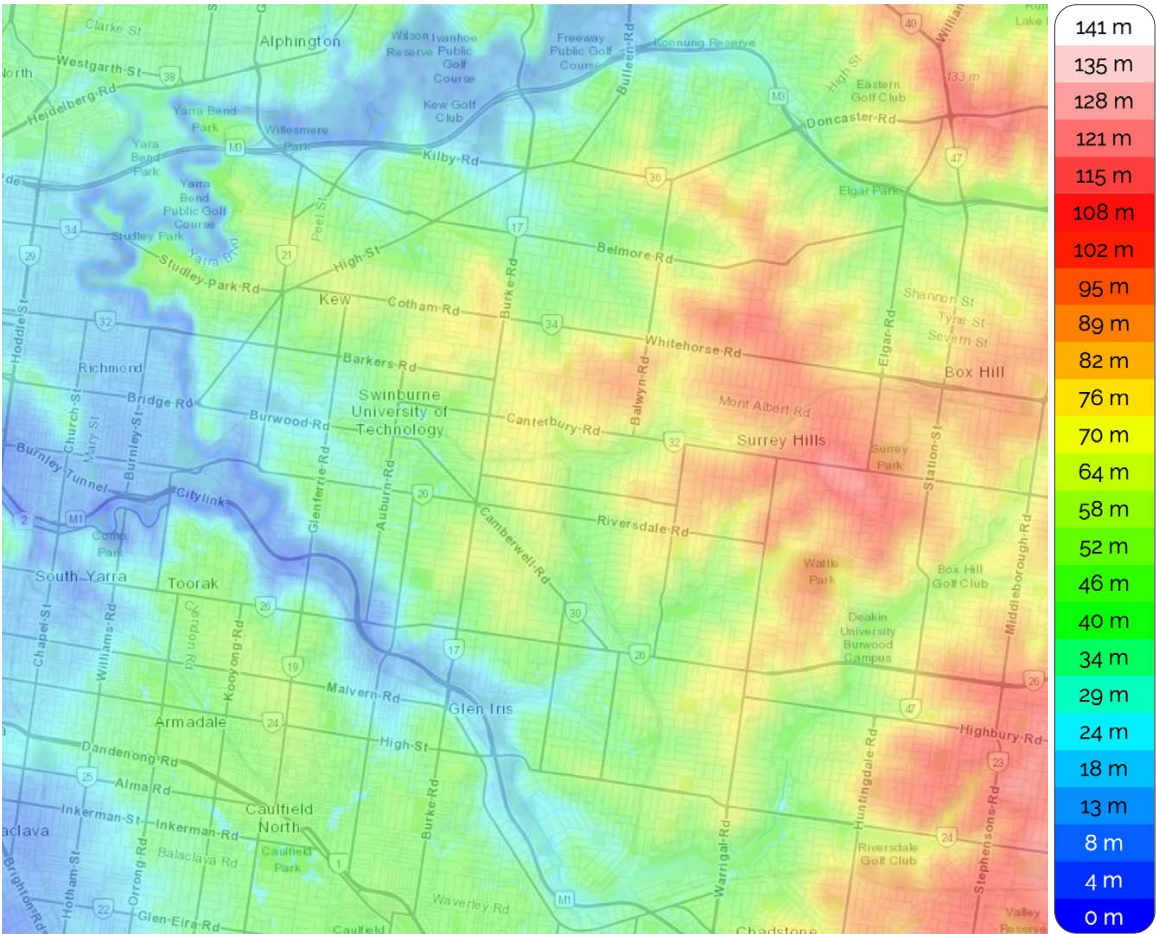


Figure 2 Elevation Map for the City of Boroondara

A map showing land elevation across Boroondara is provided at Figure 2. Changes in colour indicate areas where travel routes are likely to feature steeper inclines. The topography across Boroondara is gently undulating in most areas with eastern suburbs such as Canterbury, Mont Albert and Surrey Hills situated at a higher natural level compared to surrounding areas to the north and south.

Source:<https://en-au.topographic-map.com/maps/waer/City-of-Boroondara/>

Demand

Bicycle count surveys² indicate that Gardiners Creek Trail, crossing the City in the south, is the most popular bicycle route in the City, with the top three counts recorded along this trail. The highest count was recorded near the Monash Freeway underpass in Hawthorn, with 798 bicycle riders counted within a 2-hour morning peak period in 2021. Main Yarra Trail is the second most popular route, with 419 bicycle riders recorded near Walmer Street in Kew.

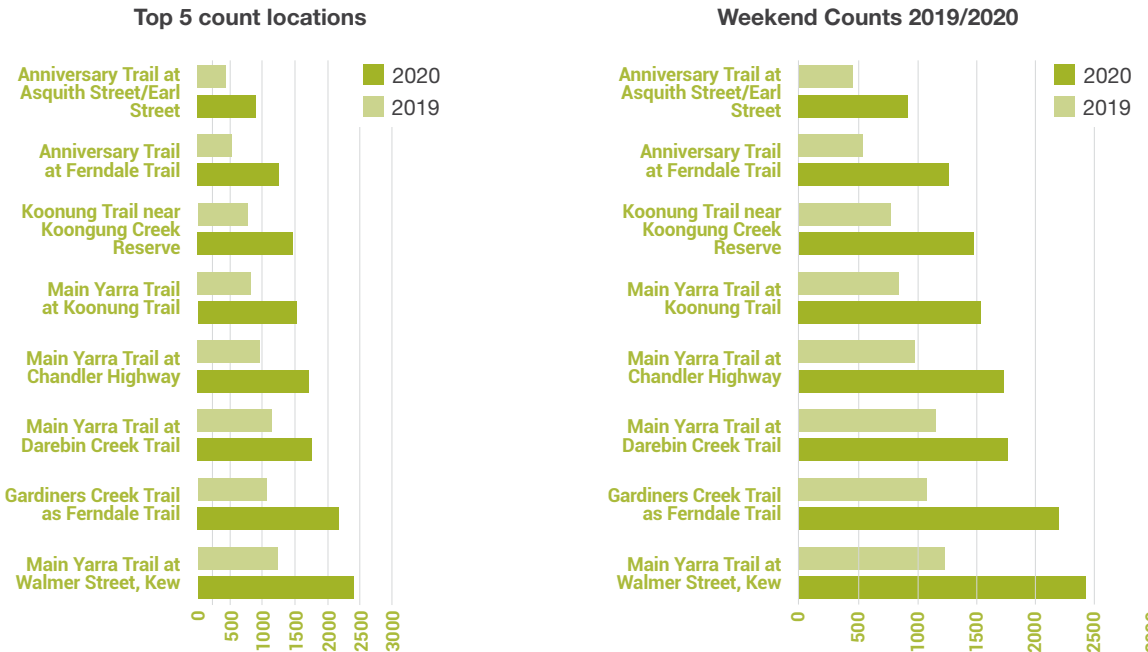
It is noted that there was a drop in weekday bicycle user volumes in the City of approximately 20 percent from 2020 to 2021 across the same sites surveyed in both years. As the counts were recorded on a Tuesday, this is likely attributed to the lower number of people commuting to work since the start of the COVID-19 pandemic and a general shift towards working from home.

Off-road routes are significantly more utilised than on-road routes, with the higher counts generally coinciding with the various trails around the City. In 2021, the average count recorded along off-road routes was 271 bicycle riders, while the average count recorded along on-road routes was 63 bicycle riders. The highest on-road count was recorded at Burwood Road near Church Street with 233 bicycle riders

counted, which represents only about 30 percent of the highest off-road count (798 bicycle riders along Gardiners Creek Trail).

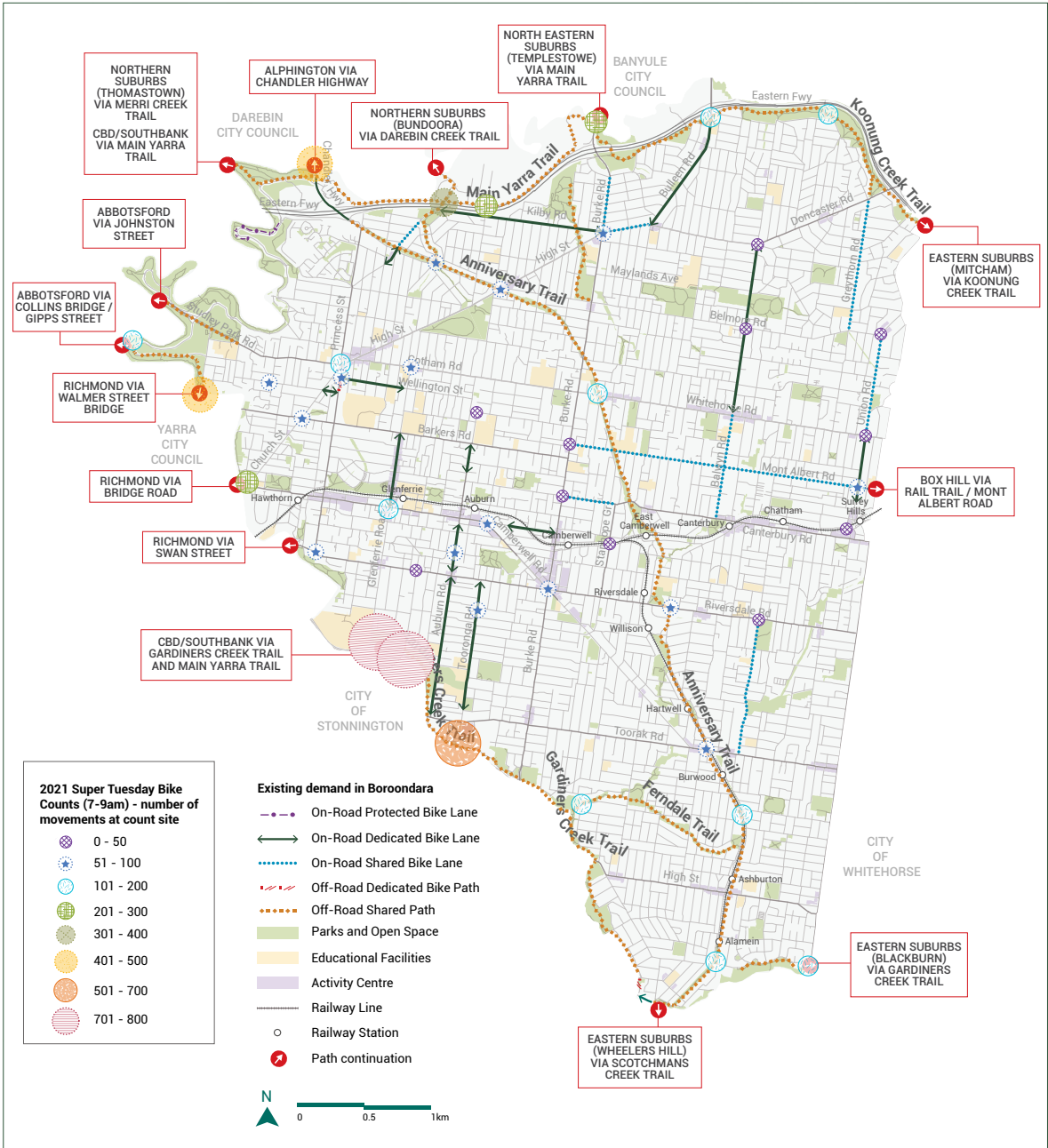
Utilisation of off-road paths is higher as these facilities are well-recognised by the community as safe routes where there is a very low risk of injury due to the lack of interaction with motor vehicles. Lower numbers of bicycle riders cycling on the road does not necessarily mean there is a low demand for these routes; rather, this is a consequence of the unprotected facilities and poor perceptions of safety whereby bicycle riders are forced to compete for road space with much larger, faster and heavier vehicles. As such the existing on-road network effectively only caters for confident or advanced-level cyclists, which are a very small minority of the overall potential demographic of bicycle users.

Separate counts³ were undertaken on a Sunday in November 2020 which found that weekend off-road path usage was up 89% compared to 2019 counts. This significant increase in recreational travel is again likely due to the impact of the pandemic as well as increased rates of dog ownership following changes to Victoria's tenancy laws.



2 Based on the Super Tuesday Counts, an annual bicycle count survey coordinated by Bicycle Network. Surveys were undertaken within a 2-hour AM period (7-9am) at over 40 sites in the City of Boroondara. In 2021, the survey was undertaken on Tuesday 2 March 2021 and in 2020 on Tuesday 3 March 2020 (with 3 sites surveyed on Thursday 19 March 2020). All survey days occurred outside of Melbourne's lockdowns.

3 Based on the Super Sunday Counts, an annual bicycle count survey coordinated by Bicycle Network. Surveys were undertaken within a 4-hour period (9am-1pm) at 11 sites in the City of Boroondara. In 2020, the survey was undertaken on Sunday 8 November and in 2019 on Sunday 10 November. All survey days occurred outside of Melbourne's lockdowns.

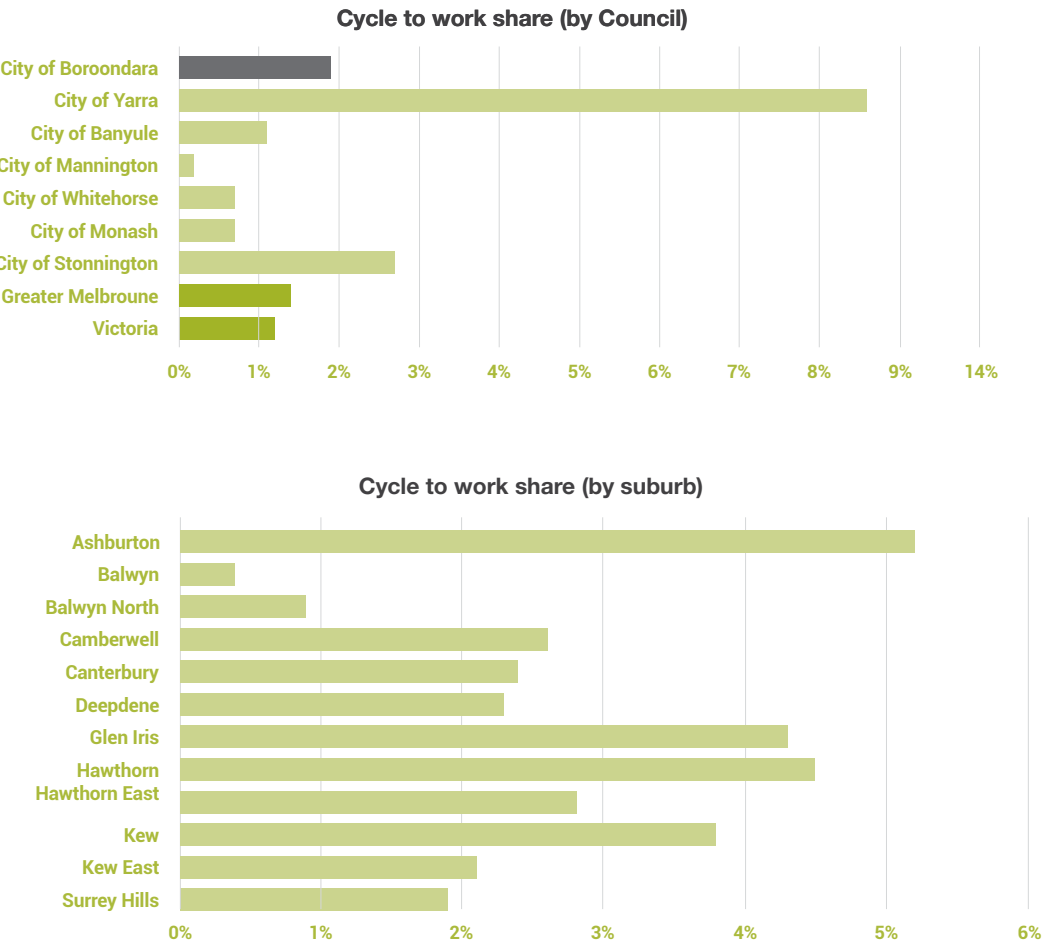


Bicycle riding participation

Bicycle count surveys⁴ indicate that women represented 16 percent of bike riders across the City in 2021, which is lower than the average female ridership across Victoria of 27 percent and the Australia-wide average of 25 percent.

The cycle to work mode share⁵ for the City is 1.9 percent, which is higher than most of the adjacent municipalities as well as the Greater Melbourne average of 1.4 percent. The City

of Yarra is a clear leader in regards to the cycle to work mode share at 8.6 percent. Whilst this level of mode share can be attributed to a range of factors, it demonstrates what can be achieved within a Victorian context, particularly in the inner metropolitan Melbourne area. Within the City's boundaries, the suburb of Ashburton has the highest cycle mode share at 5.2 percent, with the lowest in Balwyn at 0.4 percent.



4 Based on Super Tuesday counts coordinated by Bicycle Network

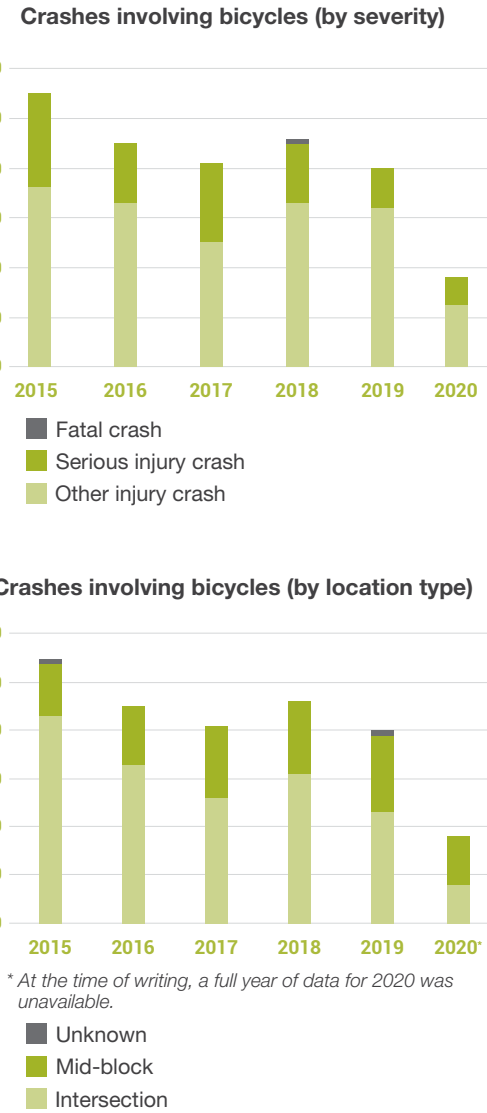
5 2016 Method of Travel to Work (ABS Census – i.d profile)

Safety

In recent years, there has been a general downward trend in the number of reported crashes involving bicycles. From 2015 to 2019, there were a total of 227 casualty crashes involving bicycles reported to the police throughout Boroondara, including one fatality in 2018. The number of crashes declined by approximately 27% over the 5-year period, from 55 in 2015 to 40 in 2019. Further analysis of the data shows that around two-thirds of crashes occur at intersections.

All crashes were recorded on state-managed or Council-managed roads; Reports of injury crashes are rarely received on off-road paths, however there are a number of common risk factors that can affect safety including path width, lighting, surface quality, linemarking and signage. The interaction between pedestrians, dogs and cyclists on busy shared paths can also lead to near-misses and poor perceptions of safety. Off-road paths running through or near dog-off leash parks can also result in potential safety issues with dogs moving in an unpredictable manner near path users.

In 2020, there were 18 crashes involving bicycles recorded between January and November⁶, which is significantly lower than previous years. This can largely be attributed to the effects of the COVID-19 pandemic including social distancing restrictions which led to lower numbers of both commuter cyclists and motorists across the road network for most of the year.



6 Crash statistics for January 2015 to December 2019 from VicRoads CrashStats database. A full year of data for 2020 is not available at this time, with the latest crash reported in the database dated 4 November 2020. At the time of download, this database was last updated 23 July 2021



Community inputs

Consultation was undertaken with the community and key stakeholders to ensure the Strategy serves the needs of the community.

Process

Feedback from the community, key local organisations and professional stakeholders was obtained through multiple methods to inform the Strategy.



What we heard

Some key feedback from the consultation process (via the online survey and social pinpoint) are highlighted in Figure 3.

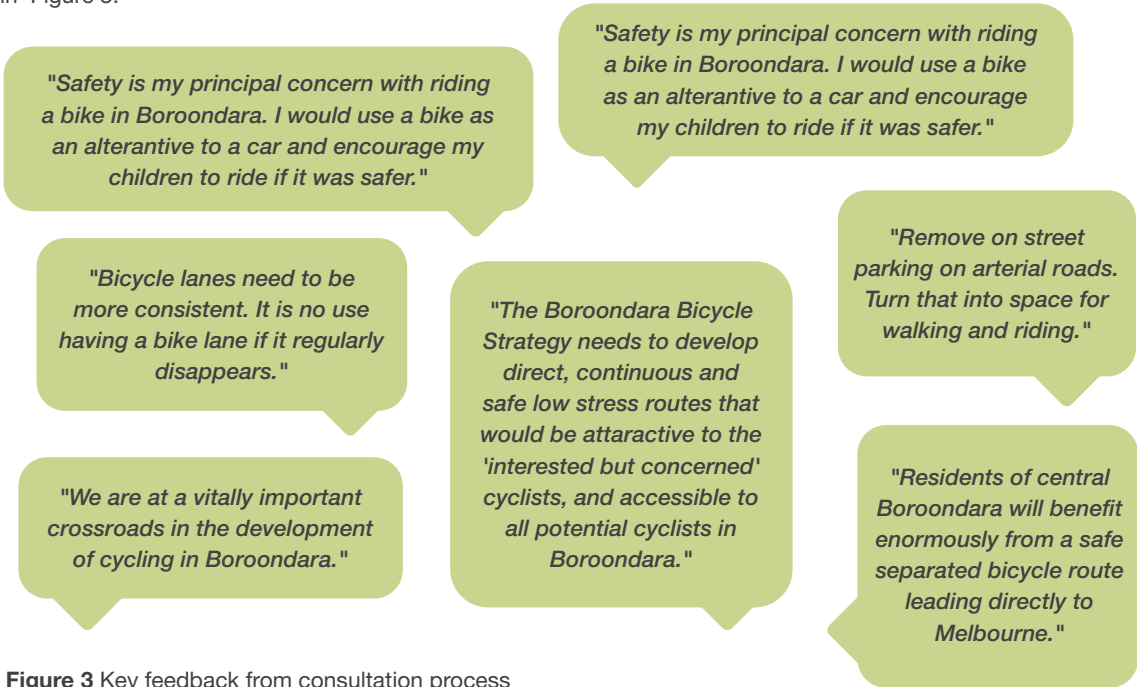


Figure 3 Key feedback from consultation process

Outcomes



Safety

Safety is the major concern. The community reported often feeling unsafe or stressed, particularly when riding on-road and having to compete with cars and trams. Safety was identified as the main barrier to riding more often.



Bicycle network

Stakeholders and the community share the view that the bicycle network does not allow for safe and efficient riding within and through Boroondara. It is considered by many as poorly maintained and difficult to navigate.



Pedestrian safety

Interaction between bicycle riders and pedestrians and the safety of pedestrians is a key concern. The risks posed by shared paths for people riding and walking was consistently raised.



Strategy integration

Stakeholders and bicycle user groups are keen to ensure the strategy is integrated with other transport plans, including those from surrounding local government areas, and state-wide bicycle plans and networks.



Connectivity

The lack of connectivity of the bicycle network is a major issue. This includes the connectivity of bike paths with Strategic Cycling Corridors and public transport. Hawthorn, Kew and Camberwell had the greatest number of areas identified as unsafe, mostly located around on-road bike paths and gaps in off-road trails.



Bike paths

The community overwhelmingly identified feeling safer on off-road or separated bike paths.



Congestion

Congestion and competition between cars, trams, buses and bikes for limited road space was highlighted as an area of significant concern. Together these create an aggressive and dangerous environment for bicycle riders, with parked vehicles in bike lanes being a major issue.



Infrequent bicycle riders

While infrequent bicycle riders made up a relatively small proportion of respondents, their priorities and concerns largely align with more confident riders. As expected, they are less likely to cycle on the road or in proximity to traffic.

Guiding principles

The Strategy is underpinned by four guiding principles, developed to align with the vision and in response to community feedback.

Connected and complete bicycle network

Safe bicycle riding experience

Integrated supporting facilities and amenities

Awareness and education

Connected and complete cycling network

Key to increasing bicycle riding participation and mode share is by enabling the community to see it as a feasible and attractive transport option that meets their transport needs. One component to achieving this is through a connected and complete bicycle network, which includes the following key elements and characteristics:

- Links to key destinations** – The network provides convenient access to destinations, including activity centres, train stations, commercial areas, and health and education precincts. Connections to these destinations enable people toride a bicycle to meet their everyday tasks, e.g. commuting for work or education, attending appointments, shopping and running errands.
- Integrated with the broader transport network** – The network enables bicycle riding to play its role as part of the wider transport network and as part of a longer trip. While a 6-12km cycle from the municipality to the Melbourne CBD may not be feasible for all, a short bicycle trip connecting with railway stations and other public transport modes could be an attractive option, provided the bicycle network is well integrated with the broader transport network.
- Reaches all parts of the City** – The network is broad-reaching and extends to all parts of the City.

- Integrated with surrounding municipalities** – The Boroondara network links with the bicycle network in neighbouring municipalities to provide continuous bicycle routes that are safe and protected.
- Direct with minimal detours** – The network allows competitive bicycle journey times compared to alternative transport options. Bicycle routes take advantage of safe alignment options and seek to minimize steep grades wherever possible.

An aspirational connected and complete bicycle network has been developed for the City. The network consists of three types of corridors:

- Strategic Cycling Corridors (SCCs)** – State-significant corridors which focus on bicycle riding for transport and act as the main arterials of the bicycle network, joining up important destinations of State significance
- Municipal cycling corridors** – Corridors providing connections to key destinations within the City
- Neighbourhood cycling corridors** – Additional local connections to support a complete network that extends to all parts of the City

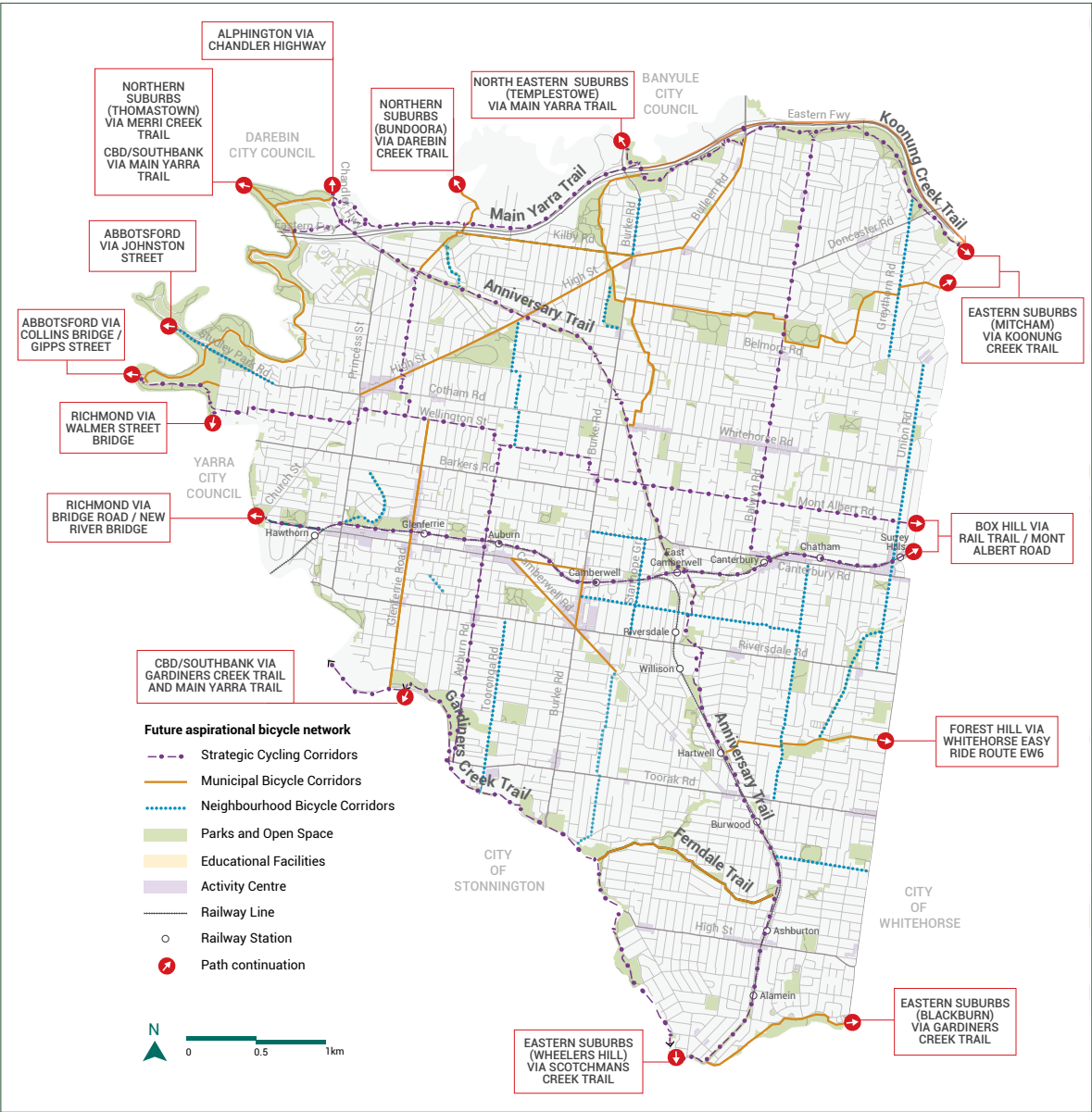


Figure 4 Future aspirational bicycle network

7 Analysis undertaken by the Department of Transport (*Strategic Cycling Corridor Network Overview*, Department of Transport, December 2020) shows that the average weekday trip length by bicycle was found to be 3.9km for trips originating from inner Melbourne and 6.2km for trips originating from middle Melbourne.

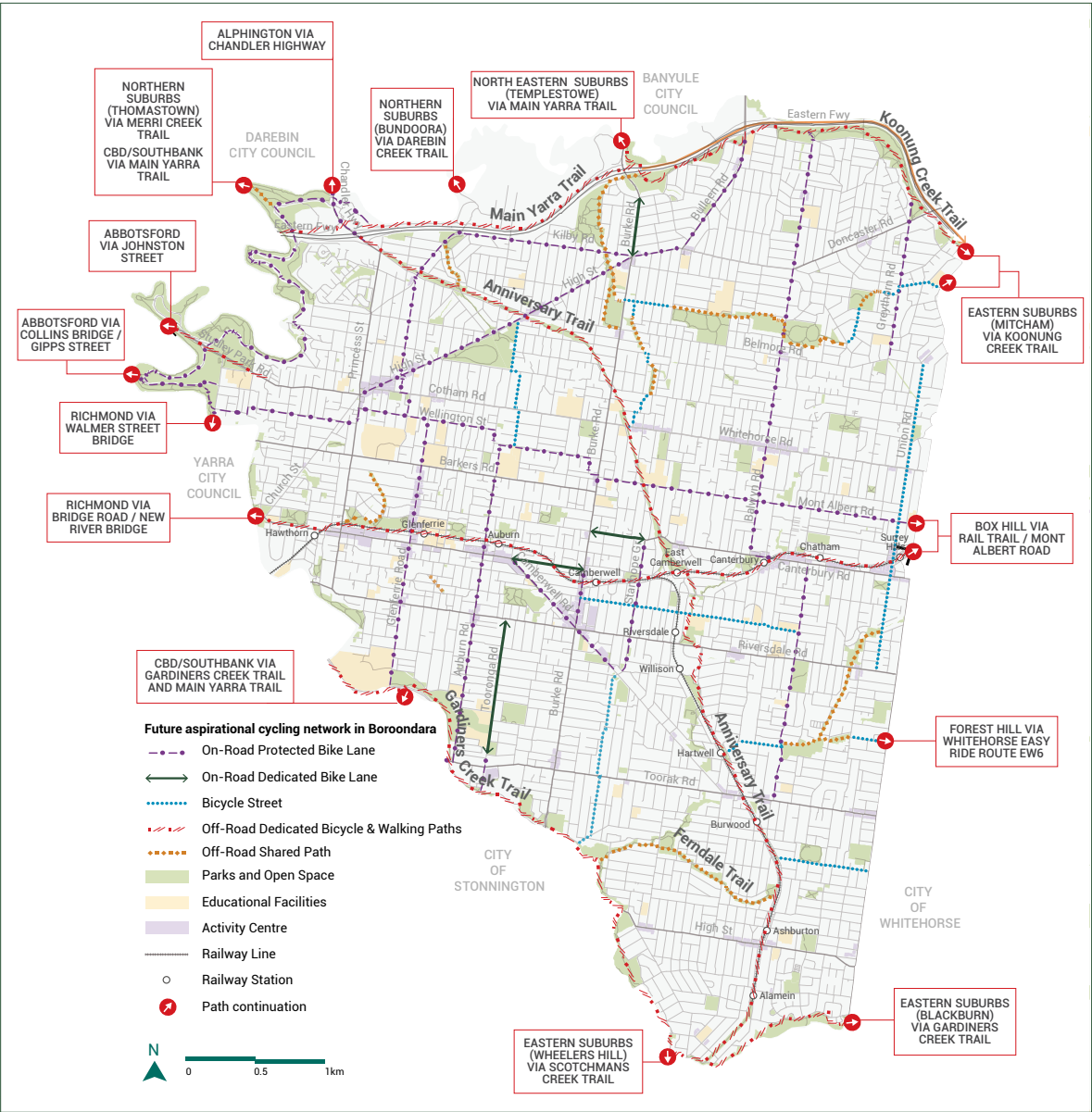


Figure 5 Future aspirational bicycle infrastructure

Safe bicycle riding experience

A key component to increasing bicycle riding participation and mode share is through development of a bicycle network that provides a safe riding environment. This makes the activity more accessible to the broader population, noting that high female ridership is often considered a good indicator of a safe riding environment. A safe environment can be achieved through various types of infrastructure selected to suit the road environment or off-road paths.

A recent survey of residents living in the City of Boroondara found that 78 percent of respondents were interested in riding more, but concerned about the potential safety risks. Whilst generally willing to ride on off-road paths, busy traffic corridors without barrier separated facilities deter them from riding more often. These riders generally remain within safe environments such as low volume residential streets and recreational paths. For this category of riders, the perceived safety of the riding environment is as important as the actual safety and design of infrastructure. The provision of off-road paths or protected on-road infrastructure is noted as having the biggest potential to substantially increase bicycle riding participation across the municipality.

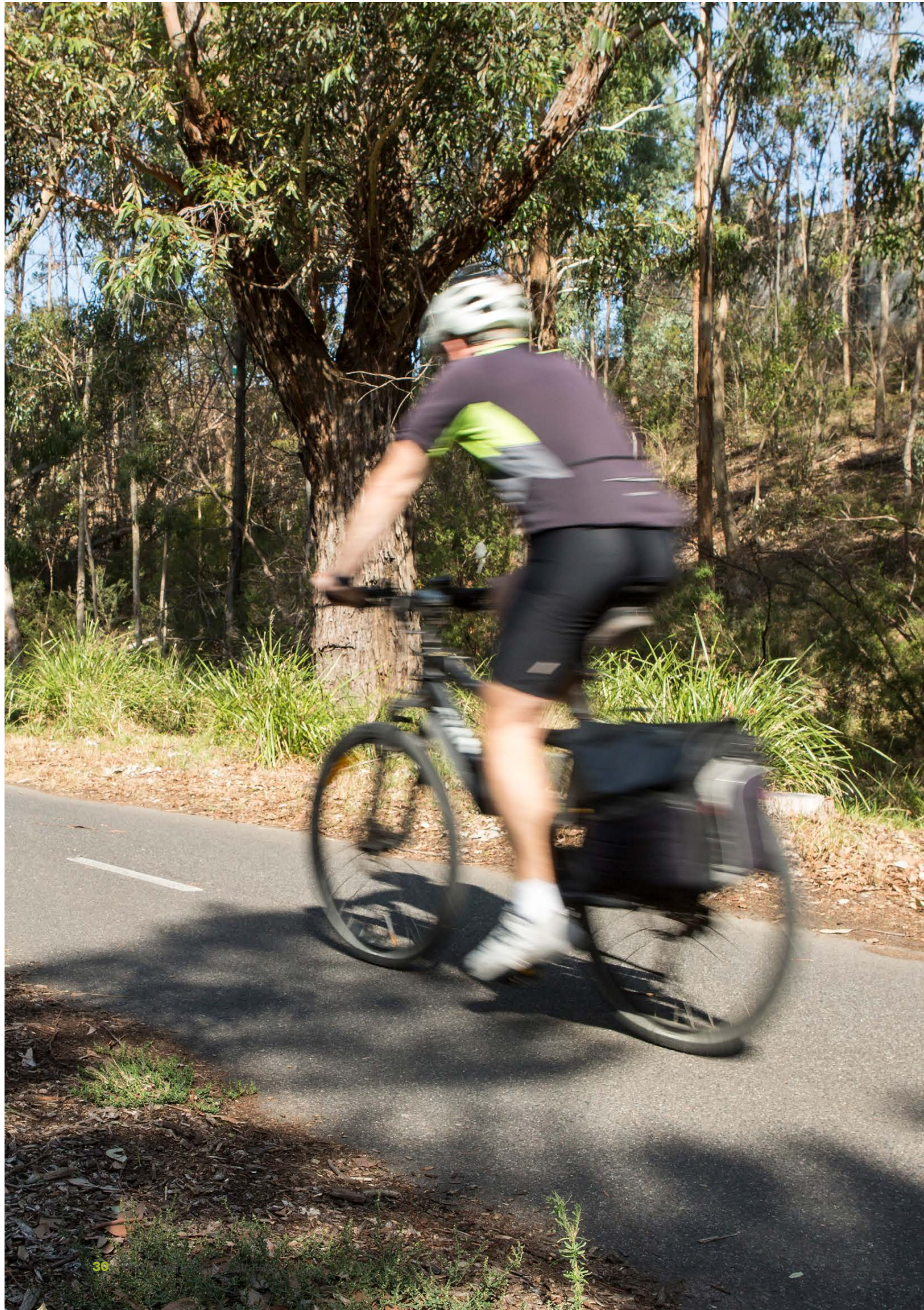
Integrated supporting facilities and amenities

Bike parking, bike repair stations, water fountains, seats and end-of-trip facilities are important complementary infrastructure, along with route information and wayfinding which help to direct people to the most suitable facilities. When integrated with the bicycle network at key destinations and at strategic locations along key routes, these facilities and amenities help to support and attract people to use the network.

Awareness and education

In addition to the physical infrastructure, non-infrastructure actions can be effective to encourage a change in travel choice, particularly among the ‘interested but concerned’ group. Initiatives and programs can be targeted to different groups and tailored to particular needs or concerns of groups or individuals, providing encouragement and support for the travel behaviour change.

8 Provision of protected cycling infrastructure has the potential to substantially increase cycling participation, VicHealth and Monash University survey, 2020



Action plan

The Strategy recommends a series of initiatives and actions to support improvements to physical infrastructure and provide a connected, safe network for the City of Boroondara.

The action plan to deliver the Strategy is outlined and illustrated in the following pages. The actions include a combination of new actions and previously recommended actions carried over from the 2008 strategy. While many projects from the 2008 strategy have been delivered, those which had not been completed have been reviewed in the current context and where they are still considered relevant, have been included in this strategy to be undertaken as a high priority.

The actions will be investigated and implemented in 2-year stages with the highest priority actions and those carried over from the previous Bicycle Strategy in Stage 1. An Implementation Plan will be developed for each stage (i.e. every 2 years) to ensure we progressively deliver on the Strategy's vision over the next 10 years:

- Stage 1: 2022-2023
- Stage 2: 2024-2025
- Stage 3: 2026-2027
- Stage 4: 2028-2029
- Stage 5: 2030-2031

The Implementation Plan contains additional detail for each of the initiatives and actions, including high level cost estimates, delivery mechanisms and identification of key stakeholders for each project.

The delivery of all actions will be subject to relevant stakeholder approvals as well as community engagement to ensure a quality outcome considering the needs of the immediate and wider community is delivered. Any actions involving major changes (e.g. new path links or significant upgrades to existing paths in parks and reserves, protected bike lanes resulting in significant parking loss, or the implementation of numerous treatments including lower speed limits to create 'bicycle streets' on local roads) would also be presented to Council for consideration.

Initiative 1

Advocate to and work with the State Government (Department of Transport) to develop the Strategic Cycling Corridor network within Boroondara.

Strategic Cycling Corridors (SCC) represent the main routes of the Principal Bicycle Network (PBN) and are the most important routes for bike riding for transport, linking up important destinations of metropolitan or state significance such as the CBD, national employment and innovation clusters and major activity centres. SCCs are intended to be developed as routes that are safe and appealing for riders of all ages and abilities.

SCCs have complex governance arrangements, with planning, implementation and maintenance responsibilities separated across landowners, asset owners and asset managers. A collaborative approach with the Department of Transport and other key stakeholders is therefore required to develop the SCCs within Boroondara and achieve good outcomes for off-road sections of the SCC network, separate paths for pedestrians and bicycle riders is the preferred option to minimise potential conflict and enhance safety. A number of design options exist for providing separate path facilities. The preferred option would involve completely separate paths with distinct alignments. Dependant on site conditions, physical delineation between path users can also be provided – e.g. pedestrian and bicycle paths separated by a vegetation strip, or paths provided at different levels with kerb separation. Separate bicycle and pedestrian paths designated through only linemarking and/or different pavement materials would be the least preferred option and pursued only where site constraints prevent alternative design options. Site-specific investigations and community consultation will be required to arrive at the most suitable design for each section.

- **Connected and complete bicycle network**
- **Safe bicycle riding experience**
- **Integrated supporting facilities and amenities**
- **Awareness and education**

Initiative 1 Actions:

- 1.1** Work with the State Government to deliver the Box Hill to Hawthorn SCC along the Belgrave/Lilydale rail corridor.
- 1.2** Work with the State Government to deliver the Kew to Highett SCC via the Anniversary Outer Circle Trail.
- 1.3** Work with the State Government to deliver the Dandenong to Cremorne SCC via the Gardiners Creek Trail.
- 1.4** Work with the State Government and neighbouring Councils to deliver the Ringwood to Collingwood SCC along the Main Yarra Trail and Koonung Creek Trail as part of the North East Link Project.
- 1.5** Work with the State Government to deliver the Surrey Hills to Richmond SCC via Mont Albert Road.
- 1.6** Work with the State Government to deliver the Kew to Hawthorn East SCC via Auburn Road.
- 1.7** Work with the State Government to deliver the Canterbury to Balwyn North SCC via Balwyn Road.
- 1.8** Work with the State Government to deliver the Kew Junction to Anniversary Outer Circle Trail SCC.

Further detail is provided in the Bicycle Strategy Implementation Plan.

Initiative 2

Create a high-quality off-road shared path network by upgrading existing paths in line with current standards and providing new links.

Boroondara's 75 kilometres of informal off road paths and 37 kilometres of formal shared paths are the most popular bicycle routes in the City, used by both recreational and commuter cyclists.

Most bicycle riders feel safer and prefer using off-road paths; however pedestrian safety is a key concern on shared paths, with many existing routes containing narrow pinch-points with a risk of conflict between people walking and riding. High-quality shared paths are an important component of a connected and safe network providing a riding experience that is appealing for all ages and abilities.

On high volume routes, separated paths for pedestrians and bicycle riders should be provided. Opportunities should be investigated into progressively separating all off-road paths into the future to accommodate growing demand.

Other shared path upgrades to be investigated and considered include:

- Widening shared paths to a minimum width of 3 metres (where path separation is not feasible or identified as a longer-term objective)
- Lighting, where appropriate
- Surface treatments
- Drainage improvements
- Kerb ramps
- Installation of user amenities such as water fountains and seating.

- **Connected and complete bicycle network**
- **Safe bicycle riding experience**
- **Integrated supporting facilities and amenities**
- **Awareness and education**

Initiative 2 Actions:

- 2.1** Provide new off-road path links to expand the network and improve local access to safe bicycle routes.
- 2.2** Upgrade the existing formal and informal off-road path network with suitable treatments including separate paths for pedestrians and bicycle riders, the use of a range of materials for sealed or unsealed paths, lighting and signage.
- 2.3** Install supporting infrastructure to improve path accessibility and monitor usage patterns.
- 2.4** Promote a safe shared environment for all path users and progressively deliver safety upgrades to maintain high quality facilities.
- 2.5** Provide safer road crossings including path priority where suitable.

Further detail is provided in the Bicycle Strategy Implementation Plan.

Potential Infrastructure Upgrades

Informal Shared Paths

Existing informal sealed paths carrying lower volumes of pedestrians and bicycle riders can be upgraded through measures such as path widening, lighting and linemarking. Unsealed paths susceptible to safety and drainage issues can also be improved through concrete edging and various surface treatments which retain a natural appearance while improving grip levels and preventing water damage.



Narrow unsealed path susceptible to safety and drainage issues



Minimum 3m wide path with unsealed surface and concrete edging to prevent path washout

Formal Shared Paths

Existing formal shared paths which carry high volumes of pedestrians and bicycle riders can be upgraded through measures such as path separation, widening and lighting.



Formal shared path with potential for conflict between bicycle riders and pedestrians



Separate paths for bicycle riders and pedestrians on busy routes

Initiative 3

Improve bicycle safety along main roads and intersections through the implementation of on-road cycle infrastructure treatments which respond to the existing road corridor environment.

Main roads are higher-volume traffic routes that provide direct connections between key destinations and municipal links. There are three categories as defined below:

- State-managed roads, typically arterial multi-lane and with 60 km/h speed limits.
- Council-managed major roads, typically single lane with 50 or 60 km/h speed limits.
- Council-managed collector roads, typically single lane with 50 km/h speed limits.

Safety for those riding on these types of roads can be greatly improved through the provision of upgraded infrastructure, both on-road and at intersections. The level of infrastructure to be provided depends on the road environment. As risk factors increase including vehicle speeds, provision of car parking and number of traffic lanes, the level of infrastructure required to address these issues generally increases. In addition, gaps at intersections and crossings create unsafe and indirect bicycle routes and do not support a safe riding experience. Currently 57 percent of the incidents involving bicycle riders in the City of Boroondara occur at intersections.

On-road treatments vary in terms of the level of safety and protection provided for bicycle riders, from line marking to physical kerb protection. Investigations will be required on a site by site basis to determine the best on-road bicycle infrastructure treatment, including at intersections. However, physical separation between motor vehicles and bicycle riders should be explored as a priority for all main roads given the higher traffic volumes and vehicle speeds. Barrier kerbing offers the highest level of protection for bicycle riders as it physically prevents motor vehicles from encroaching into the bike lane. However this type of treatment effectively narrows the remaining road width and may restrict access in some situations. Mountable kerb options can be explored as an alternative where access requirements dictate (including for emergency service vehicles).

- **Connected and complete bicycle network**
- **Safe bicycle riding experience**
- **Integrated supporting facilities and amenities**
- **Awareness and education**

Suitable treatments may include:

- Barrier separation kerbing (preferred)
- Mountable separation kerbing eg. low profile yellow coloured rubber kerbing
- Vibra-line
- Painted bike lanes
- Green pavement
- Signage
- Linemarking

Approval from the Department of Transport will also be required for any actions affecting state-managed roads.

Initiative 3 Actions:

- 3.1** Develop concepts and advocate to the State Government for bicycle safety improvements on Department of Transport managed roads across the municipality.
- 3.2** Develop concepts and advocate to the State Government for on-road bicycle lanes (including physical separation where feasible) and safer intersection treatments for bicycle riders along select Department of Transport managed roads. Consider strategic removal or banning of car parking along the corridor to improve safety, particularly at crests and/or during peak travel times.
- 3.3** Provide bicycle safety improvements on Council managed major and collector roads across the municipality.
- 3.4** Upgrade existing on road bicycle lanes (including physical separation where feasible) and provide safer intersection treatments for bicycle riders along the following Council-managed major and collector roads. Consider strategic removal or banning of car parking along the corridor to improve safety, particularly at crests and/or during peak travel times.

Further detail is provided in the Bicycle Strategy Implementation Plan.

Potential Infrastructure Upgrades

Protected Bicycle Lanes

Physical protection for bicycle riders is the preferred option for main roads, which typically carry high traffic volumes and have speed limits of 50 km/h or above - as these factors result in higher exposure risk and travel speed differential between bicycles and motor vehicles. Options exist to retain parking during off-peak travel periods, while providing additional road space for bicycle riders during peak travel times.



Fully protected bicycle lanes



Parking banned during peak travel periods to provide wide bicycle lanes

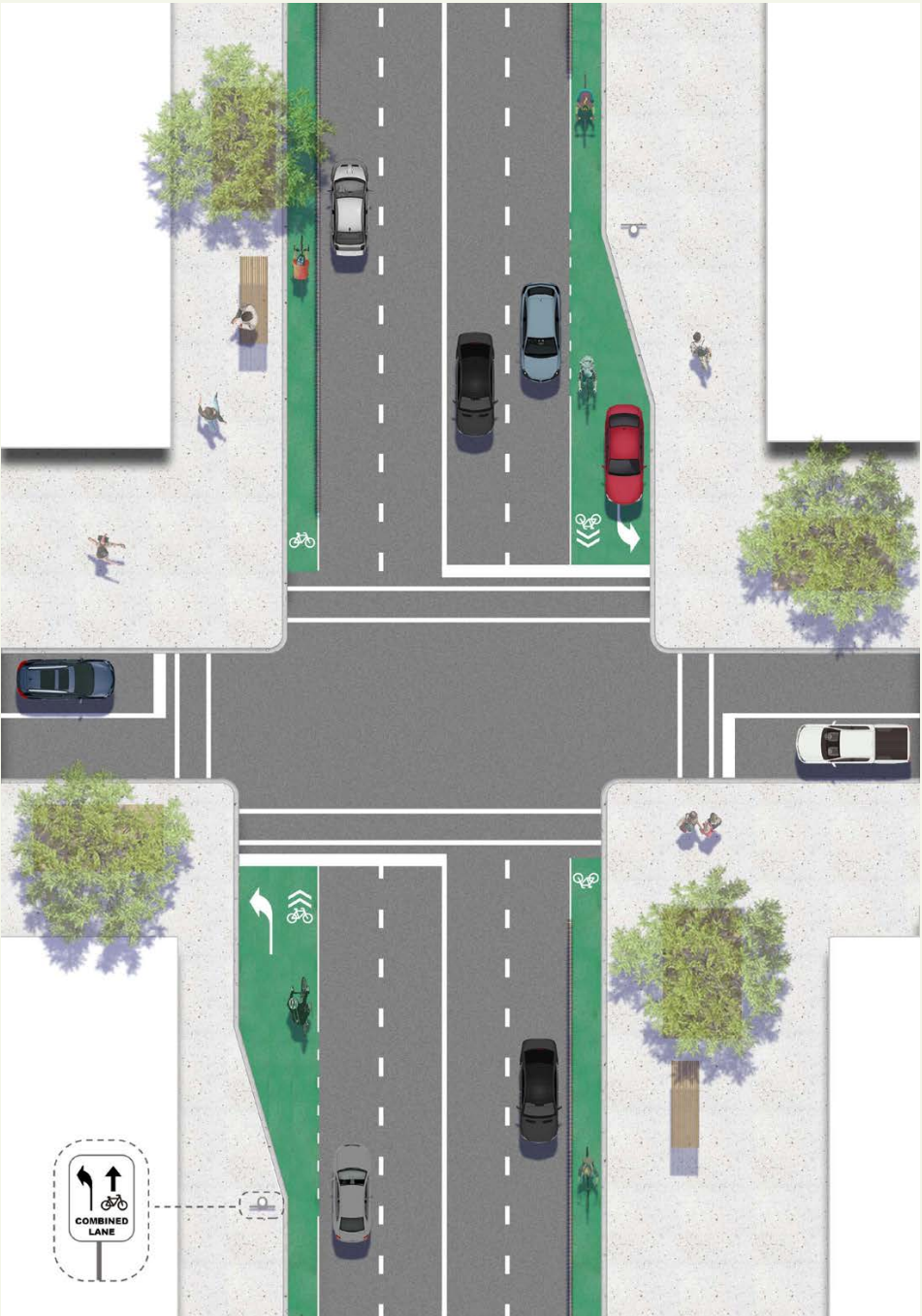


Parking retained during off-peak travel periods¹

Safer Intersections

Safety at signalized intersections can be greatly improved by providing clearly marked bicycle lanes adjoining both the approach and departure sides. This can be supplemented with physical protection where site constraints allow.

For unsignalized intersections, safety can be improved through traffic treatments which provide priority for bicycle riders, control vehicle speeds or improve driver visibility and awareness. Examples include use of physical separation treatments (kerbing or flexible bollards) on approach and departure sides including isolated removal of car parking to provide improved delineation and dedicated road space for bicycle riders.



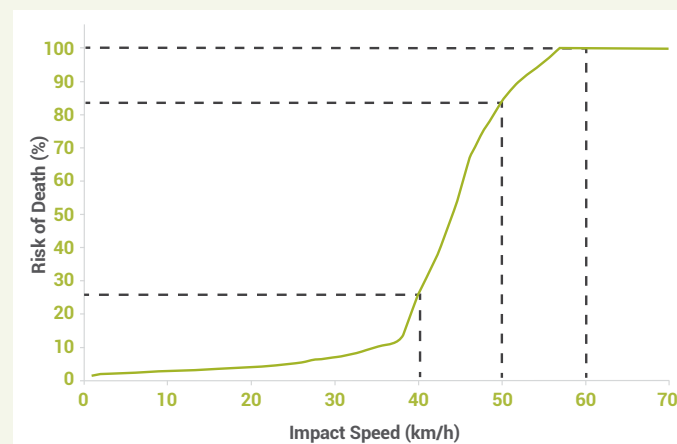
Initiative 4

Create a supporting network of safe bicycle streets which encourages bicycle access and supports local trips by bicycle.

Many residential streets with low traffic volumes offer the basic components of a safe bicycle riding environment. These streets can be enhanced with design measures to create bicycle boulevards, including reducing posted speed limits to 30 or 40 km/h, traffic calming, raised intersections and coloured road markings including advisory bike lanes. Safe bicycle streets can be used to link other safe facilities such as off-road paths, to create a safe bicycle network.

Speed management in shared environments such as local streets is important due to the exponential relationship between vehicle travel speeds and the risk of a fatality or serious injury for vulnerable road users, including bicycle riders. For example, research indicates that risk of a pedestrian fatality increases rapidly from around 10% at vehicle impact speeds of 35 km/h, to almost 100% at speeds above 55 km/h. Speed limit reductions along local roads are proposed for nominated streets that provide strategic links to key destinations such as activity centres, shopping strips, community facilities, schools, as well as links to the on-road or off-road bicycle network. The implementation of lower speed limits in nominated streets would also be subject to Council approval.

Risk of pedestrian death as a function of vehicle impact speed



Source: Curtin Monash Accident Research Centre
<https://www.nrspp.org.au/resources/fact-sheet-6-improving-pedestrian-safety/>

- **Connected and complete bicycle network**
- **Safe bicycle riding experience**
- **Integrated supporting facilities and amenities**
- **Awareness and education**

Lower impact treatments such as shared lane markings, or 'sharrows' can also provide a range of benefits for bicycle riding on local roads when installed appropriately. These benefits are complimentary to other treatments and this type of treatment can be effective in reinforcing the presence and legitimacy of bicycle traffic, influencing the positioning of bicycle traffic at key conflict points including adjacent to parked cars, and providing directional and wayfinding guidance. This type of treatment would be installed at targeted, suitable routes where it would be expected to provide notable benefits including for access and wayfinding to local facilities, off-road path links and key destinations.

Investigations will be required to determine the degree of treatment required, including any major road crossing intersection treatments, as well as the suitability of the route including current general traffic volumes. A targeted approach will be undertaken with treatments to be introduced along specific roads which contribute to the broader bicycle network.

Initiative 4 Actions:

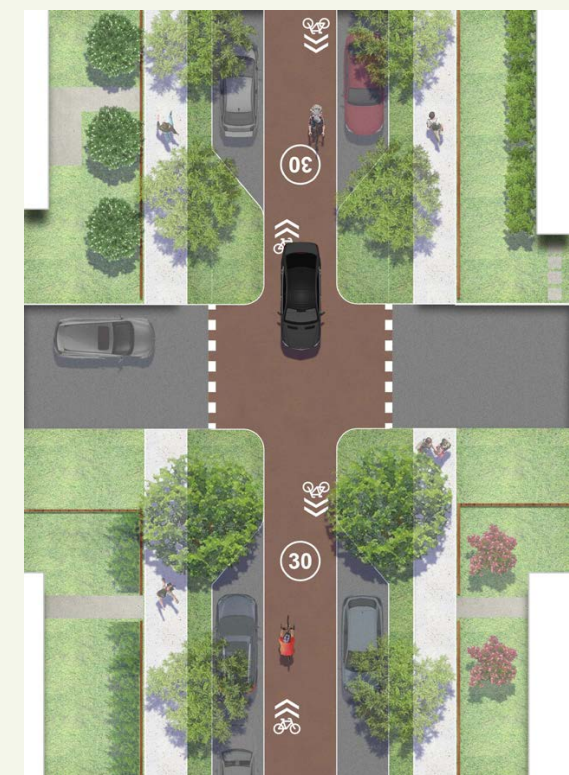
- 4.1** Establish principles and develop concept designs for local road treatments to improve bicycle safety in different road environments.
- 4.2** Implement suitable treatments to create safe bicycle streets along select local roads which contribute to the broader bicycle network. Advocate to the Department of Transport for speed limit reductions to 30 or 40 km/h along these streets.
- 4.3** Install sharrows (shared lane markings) along targeted informal bicycle routes identified in Boroondara's TravelSmart map that provide access and wayfinding to off-road path links, local facilities and key destinations.

Further detail is provided in the Bicycle Strategy Implementation Plan.

Initiative 4: Potential Infrastructure Upgrades

Safe Bicycle Streets

Safety for bicycle riders on local streets can be enhanced through treatments that promote slower motor vehicle speeds and improve driver visibility and awareness of bicycle activity.



Initiative 5

Improve management of paths used by both pedestrians and bicycle riders in formal gardens across the municipality

There are several formal gardens in the City that have paths which are used by both bicycle riders and people walking, including vulnerable path users such the elderly or young children. These paths are sometimes used by bicycle riders travelling at speed, creating high-risk conflict areas. It is noted that many of these gardens are located near SCCs and that completion of SCCs may help reduce the risk of high speed cyclists using the paths; however further measures should be considered to reduce the risk.



- **Connected and complete bicycle network**
- **Safe bicycle riding experience**
- **Integrated supporting facilities and amenities**
- **Awareness and education**

Initiative 5 Actions:

- 5.1** Develop a community education campaign around the use of paths within formal gardens, including promoting a low-speed shared space with pedestrian priority.
- 5.2** Provide protected on-road bicycle route options in the vicinity of formal gardens to offer convenient and safe alternative routes to bicycle riders.

Further detail is provided in the Bicycle Strategy Implementation Plan.

Initiative 6

Provide improved quality and quantity of bike parking and end-of-trip facilities.

High quality, abundant, secure and well-located bike parking and end-of-trip facilities play a significant role in contributing to the overall attractiveness of bicycle riding. Facilities generally include bike parking as a minimum can extend to bike repair stations, water fountains, and showers and lockers, with the types of facilities to be provided varying depending on the location and users. Various types of bike parking should also be considered to accommodate non-standard bikes (e.g. cargo bikes and electric bikes).

Integrating facilities with the public transport network supports longer commuting trips and commuters tend to favour sheltered and secure bike parking. However, Surrey Hills Station is currently the only train station within the City that provides a Parkiteer cage.

For destinations such as workplaces or educational institutions, it would be beneficial to provide facilities for staff or students within a ‘bike hub’, with separate facilities provided for visitors. Consideration should also be made to provide e-bike charging facilities at some locations.

In addition to facility provision in public areas, the Boroondara Planning Scheme includes a strategy to support developments to provide high quality bicycle parking and end-of-trip facilities. Bike parking and supporting facilities are to be positioned at suitable locations following site-specific investigations, and in accordance with relevant standards and guidelines.

- **Connected and complete bicycle network**
- **Safe bicycle riding experience**
- **Integrated supporting facilities and amenities**
- **Awareness and education**



Initiative 6 Actions:

- 6.1** Undertake a review of existing bike repair stations and water fountains and provide additional facilities at strategic areas across the municipality.
- 6.2** Advocate for improved quality and quantity of bike parking at all train stations, including potential removal of a few car parking bays to provide a Parkiteer cage at Hawthorn, Camberwell, East Camberwell, Canterbury, Riversdale, Burwood and Ashburton Stations. Provide or advocate for additional Parkiteer cages at other strategic locations including transport hubs.
- 6.3** Undertake a review of existing bike parking facilities and implement an action plan to deliver high quality bike parking at key locations.

Further detail is provided in the Bicycle Strategy Implementation Plan.

Initiative 7

Provide high quality wayfinding.

Effective wayfinding can enhance the safety, amenity and efficiency of the entire transport network. It can take many forms, such as maps, signage, pavement markings or stickers and when used and placed appropriately, can be effective in increasing awareness and legibility of the bicycle network.

Along bicycle routes, clear and consistent wayfinding, with information on direction, distance and travel times to key destinations help to assist users with identifying routes. For the ‘interested but concerned’ group and other target groups, wayfinding can also help to overcome any perceptions of long distances and provide confidence in their journey. Wayfinding can also be used to complement behaviour change programs.

Wayfinding forms also an important part of integrating bicycles with the public transport network and helps to promote multi-modal trips. It can help to improve the legibility of the bicycle network and also help to increase the awareness of nearby destinations such as local shops or cafés which are easy to access by bicycle.

- **Connected and complete bicycle network**
- **Safe bicycle riding experience**
- **Integrated supporting facilities and amenities**
- **Awareness and education**

Initiative 7 Actions:

7.1 Develop and implement a new wayfinding strategy that reviews existing on and off-road wayfinding signs and delivers an easy to navigate bicycle and walking network. Include supporting information to allow path users to select appropriate routes for their needs, including distance and travel times to key destinations, directions to local amenities and facilities, and information on path congestion and potential conflict points such as road crossings.

Further detail is provided in the Bicycle Strategy Implementation Plan.

Initiative 8

Continue to run and support promotional and educational programs aimed at encouraging people to ride bicycles through raising awareness of the benefits and developing safe riding skills.

Promotional activities or events, and educational programs can help support an increased bicycle mode share, helping to promote the benefits, dispel misconceptions and create a cultural shift around bicycle riding. These can help to educate and increase awareness, providing the information, resources and community support required to encourage people to ride bicycles, and can target those who do not consider riding to be a practical transport mode.

The City, in collaboration with other organisations, currently runs various promotion and educational workshops and programs. It is proposed to continue these initiatives and broaden the target audience of the programs, in particular targeting under-represented groups in the bicycle riding population including women, students (secondary and tertiary), the culturally and linguistically diverse (CALD) population and parents of school-aged children.

In addition to promotional programs, education programs help to identify safe bicycle routes that cater for all users, encourage safe riding behaviour and educate on bicycle skills to build confidence levels. This could focus particularly on how to navigate areas of potential user conflict, such as passing pedestrians on shared use paths, riding on-road in shared street environments or transitioning between different types of facilities.

The timing of the implementation of programs is also key to their effectiveness and programs should ideally build upon the change in travel behaviour that has been observed during the COVID-19 pandemic.

- **Connected and complete bicycle network**
- **Safe bicycle riding experience**
- **Integrated supporting facilities and amenities**
- **Awareness and education**

Initiative 8 Actions:

- 8.1** Update the current Boroondara TravelSmart map and distribute to raise awareness of safe, attractive bike routes and to help riders to plan journeys by bike.
- 8.2** Continue to run bicycle promotional and behaviour change programs for children including travel plans for primary and high schools and Safe Routes to School initiatives.
- 8.3** Work in partnership with tertiary institutes to develop a promotional and behaviour change program targeting students and staff.
- 8.4** Work in partnership with local organisations to develop travel plans and Ride to Work Day initiatives.
- 8.5** Continue to run safe bicycle riding educational training and skills programs or workshops.
- 8.6** Continue to support and promote sustainable transport initiatives with Council staff.

Further detail is provided in the Bicycle Strategy Implementation Plan'

For more information on the Boroondara Bicycle Strategy:

 www.boroondara.vic.gov.au/bicycle-strategy

 boroondara@boroondara.vic.gov.au

 9278 4444





Boroondara Bicycle Strategy

Implementation Plan
STAGE 1: 2022 and 2023

Introduction

This Stage 1 Implementation Plan outlines the *Boroondara Bicycle Strategy* actions to be pursued over the next 10 years, with a focus on high priority actions allocated for the first two calendar years (2022 and 2023).

The *2022 Boroondara Bicycle Strategy* recommends a series of initiatives and actions to be pursued over a 10-year timeframe to support bicycle infrastructure improvements and create a safe, connected network for active transport. The actions will be investigated and implemented in 2-year stages with the highest priority actions and those carried over from the previous Bicycle Strategy in Stage 1.

This Implementation Plan will be reviewed at the end of the 2-year period, along with a new plan to be developed for Stage 2 (2024 and 2025) to ensure Council is able to progressively deliver on the Strategy's vision over the next 10 years. Implementation Plans for following stages will be developed subsequently every 2 years.

This Implementation Plan does not duplicate background information found in the Bicycle Strategy, but presents tangible actions that will be pursued by Council in partnership with key stakeholders over the next two years. The delivery of all actions will be subject to relevant stakeholder approvals as well as community engagement to ensure a quality outcome considering the needs of the immediate and wider community is delivered.

Impacts to Council's annual budgets over the 2-year life of this Implementation Plan have been identified through high level cost estimates for each action. These figures are approximate and intended to provide only a rough estimate; further project-specific work will be required to refine cost estimates and funding requirements for each action. Where possible, Council will seek to make use of external funding sources including Federal and State Government programs.

A total of approximately \$4.9 million is expected to be required to deliver the Stage 1 Implementation Plan throughout 2022 and 2023.

Delivery and Funding

The delivery of all actions will be subject to relevant stakeholder approvals as well as community engagement to ensure a quality outcome considering the needs of the immediate and wider community is delivered. Key external stakeholders have been identified for each action.

Funding will also be required through Council's annual budget or external sources including Federal or State Government programs. There are three separate mechanisms for delivery of infrastructure actions, based on the overall complexity and level of stakeholder involvement required:

1. Deliver

For actions that involve roads, reserves or parks under Council's control, these will be considered for funding consideration as part of Council's annual budget process. External funding opportunities would also be pursued for these projects wherever possible. Approvals from external stakeholders may also be required particularly for any actions that include major traffic control devices or land that is not under Council ownership.

2. Investigate

Several actions may involve complex treatments or constrained environments where further feasibility work is required to determine the most suitable design outcome. Some of these actions may also be subject to extensive stakeholder consultation and approvals. For these actions, Council will undertake feasibility investigation work and consultation to assess various options and arrive at a preferred solution before considering the proposal for funding (or advocating to the State Government for proposals meeting the criteria outlined in the following paragraph).

3. Advocate

For actions that involve roads or intersections under the control of the Department of Transport and for actions which have state level strategic importance such as Strategic Cycling Corridors, Council will typically undertake feasibility investigations and develop proposals or concept designs, which will be referred to the State Government with Council advocating for approval and funding consideration. Council has a good track record of working with the State Government to deliver these types of projects, however there is a risk that the State Government may not support a particular proposal or make funding available in light of competing priorities. In these circumstances, delivery of the proposed action may not be possible in the proposed timeframe, and alternative options may need to be explored. Wherever possible, Council will also seek to advocate for funding through Federal budgets, including the Black Spot Program which provides funding for road safety upgrades around Australia.

Initiative 1

Advocate to and work with the State Government (Department of Transport) to develop the Strategic Cycling Corridor network within Boroondara.

1.1 Work with the State Government to deliver the Box Hill to Hawthorn SCC along the Belgrave/Lilydale rail corridor.

#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Advocate for the corridor to be in the form of a new, separated, off-road path along the rail corridor.	Stage 1: 2022-2023 (Ongoing)	Existing staff and resources	Advocate	DoT, VicTrack, Metro Trains, LXRP
B	Advocate for a separated, off-road path as part of the removal of the Union Road Level Crossing, including connections east and west of Union Road (Surrey Hills).	Stage 1: 2022-2023	Existing staff and resources	Advocate	DoT
C	Deliver treatments to create safe bicycle streets on local road sections (opportunities include Auburn Parade in Hawthorn East, Kingston Road and Shierlaw Avenue in Surrey Hills).	Stage 1: 2022-2023	\$350,000 (For 1.4km length at \$250k per km)	Deliver	VicTrack, Metro Trains
D	Advocate for a new bicycle and pedestrian bridge over the Yarra River north of Burwood Road / Bridge Road (Hawthorn).	Stage 2/3	TBD	Advocate	DoT, City of Yarra, Melbourne Water

1.2 Work with the State Government to deliver the Kew to Highett SCC via the Anniversary Outer Circle Trail.

#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Advocate for separate paths for pedestrians and bicycle riders along the corridor.	Stage 1: 2022-2023 (Ongoing)	Existing staff and resources	Advocate	DoT, VicTrack, Metro Trains
B	Deliver a ramp link between the Anniversary Trail and Mont Albert Road (Canterbury).	Stage 1: 2022-2023	\$15,000 (technical feasibility update only, external funding opportunities for delivery)	Deliver	DoT
C	Realign the Anniversary Trail at Ashburton Station to improve safety and access.	Stage 1: 2022-2023	\$200,000	Deliver	VicTrack, Metro Trains
D	Advocate for relocation of the existing pedestrian signals at High Street (Ashburton) to provide a new pedestrian and bicycle crossing in line with the trail alignment.	Stage 1: 2022-2023	Existing staff and resources	Advocate	DoT

#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
E	Advocate for a bridge for the Anniversary Trail over Toorak Road (Camberwell) to improve safety and access for pedestrians and bicycle riders.	Stage 1: 2022-2023	Existing staff and resources	Advocate	DoT
F	Advocate to the State Government for Anniversary Outer Circle Trail crossing improvements at the roundabout of Belford Road / Valerie Street / Asquith Street / Allen Grove (Kew East).	Stage 1: 2022-2023	Existing staff and resources	Advocate	DoT
G	Provide safer road crossings along the Anniversary Trail including intersections with Willsmere Road (Kew), Abercrombie Street (Deepdene), Warburton Road (Canterbury), Matlock Street, Prospect Hill Road, and Culliton Road (Camberwell)	Stage 2/3	TBD	Deliver	DoT
H	Deliver priority sections for path upgrades along the corridor between Canterbury Road (Canterbury) and Burwood Station.	Stage 2/3	TBD	Deliver	DoT, VicTrack, Metro Trains
I	Investigate the feasibility of a new off-road path bridge over the Eastern Freeway at Chandler Highway (Kew).	Stage 4/5	TBD	Investigate	DoT
J	Investigate options to improve the Anniversary Trail crossing at High Street (Kew) near Harp Road and Valerie Street including assessing the feasibility of a path underpass.	Stage 4/5	TBD	Investigate	DoT, Yarra Trams
K	Upgrade the Main Yarra Trail connection at the rear of the Guide Dogs Centre to the Chandler Highway Bridge underpass.	Stage 4/5	TBD	Deliver	DoT

1.3 Work with the State Government to deliver the Dandenong to Cremorne SCC via the Gardiners Creek Trail.

#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Advocate for separate paths for pedestrians and bicycle riders along the corridor, including duplication/widening of the Gardiners Creek Trail gantry under the Monash Freeway (Hawthorn).	Stage 1: 2022-2023 (Ongoing)	Existing staff and resources (Within City of Stonnington)	Advocate	DoT, City of Stonnington, Melbourne Water
B	Widen the Gardiners Creek Trail adjacent to the Hawthorn Velodrome in Patterson Reserve (Hawthorn) to improve access and safety.	Stage 2/3	TBD	Deliver	Melbourne Water
C	Address flooding and grade issues at the Gardiners Creek Trail underpass at Toorak Road (Glen Iris).	Stage 2/3	TBD	Deliver	DoT, Melbourne Water
D	Work with the City of Stonnington to improve the general alignment of the Gardiners Creek Trail and address issues at creek bridges and conflict points.	Stage 4/5	TBD	Deliver	City of

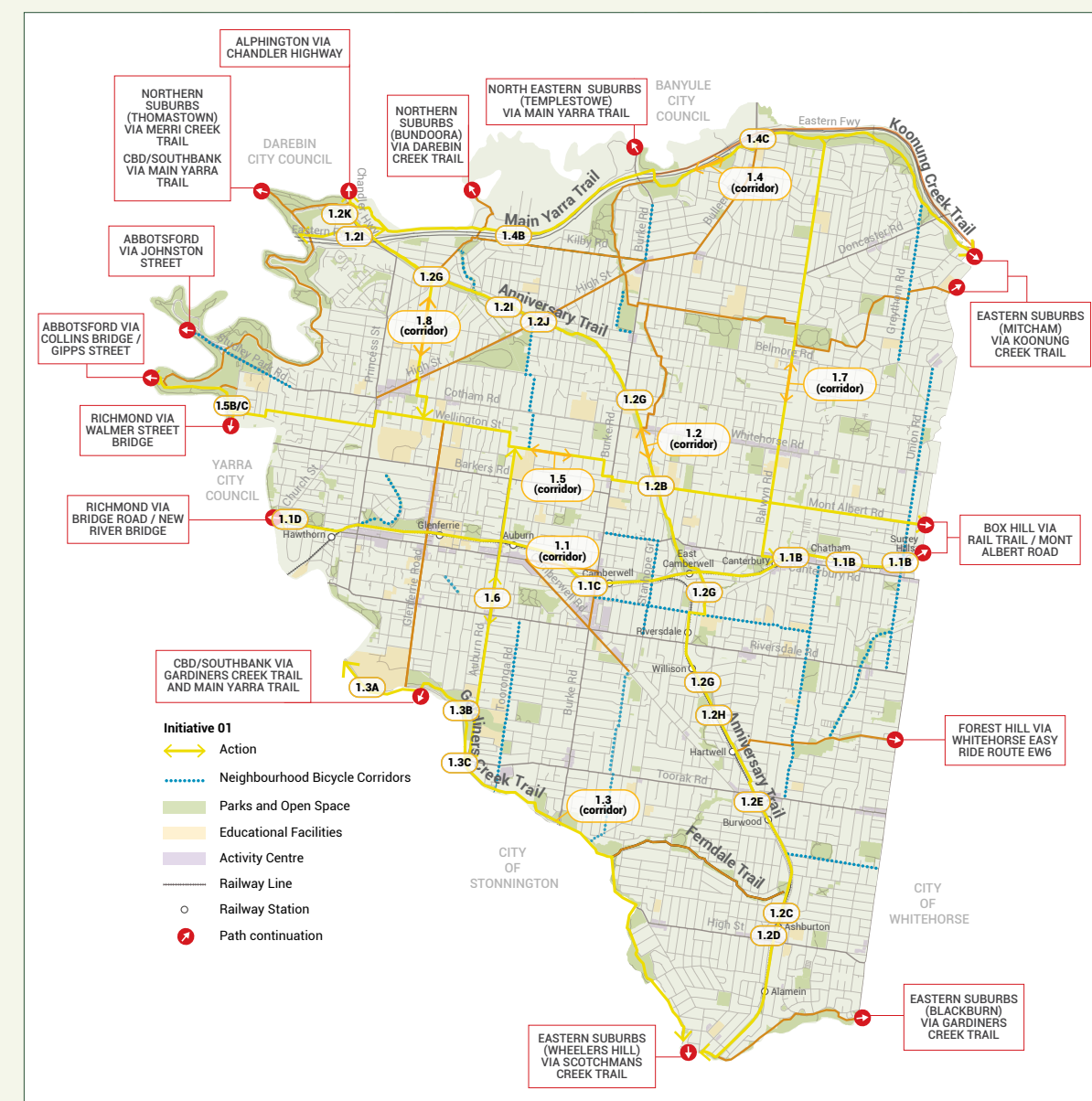
1.4	Work with the State Government and neighbouring Councils to deliver the Ringwood to Collingwood SCC along the Main Yarra Trail and Koonung Creek Trail as part of the North East Link Project.				
#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Advocate for a direct off-road path alignment along the northern side of the Eastern Freeway west of Burke Road, including separate paths for pedestrians and bicycle riders.	Stage 1: 2022-2023 (Ongoing)	Existing staff and resources	Advocate	DoT, Cities of
B	Advocate for an underpass and at-grade access paths to/from Belford Road.	Stage 2/3	TBD	Advocate	DoT
C	Advocate for improved north-south walking and bicycle connections across the Eastern Freeway at Bulleen Road (Balwyn North) as part of the North East Link Project.	Stage 2/3	TBD	Advocate	DoT, City of Manningham, NELP

1.5	Work with the State Government to deliver the Surrey Hills to Richmond SCC via Mont Albert Road.				
#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Advocate for protected on-road bicycle facilities along the corridor. Consider strategic removal or banning of car parking along the corridor to improve safety, particularly at crests and/or during peak times.	Stage 1: 2022-2023 (Ongoing)	Existing staff and resources	Advocate	DoT, Melb Water, Heritage Vic, City of Yarra
B	Replace the existing northern land bridge of the Walmer Street Bridge (Kew).	Stage 1: 2022-2023	\$2,400,000	Deliver	DoT, Melbourne Water, Heritage Victoria, City of Yarra
C	Advocate for a new additional bridge adjacent to the existing Walmer Street Bridge (Kew) to provide separate paths for cyclists and pedestrians.	Stage 1: 2022-2023	Existing staff and resources	Advocate	DoT, Melbourne Water, Heritage Victoria, City of Yarra

1.6	Work with the State Government to deliver the Kew to Hawthorn East SCC via Auburn Road.				
#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Advocate for protected on-road bicycle facilities along the corridor. Consider strategic removal or banning of car parking along the corridor to improve safety, particularly at crests and/or during peak times.	Stage 2/3	TBD	Advocate	DoT

1.7	Work with the State Government to deliver the Canterbury to Balwyn North SCC via Balwyn Road.				
#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Advocate for protected on-road bicycle facilities along the corridor. Consider strategic removal or banning of car parking along the corridor to improve safety, particularly at crests and/or during peak times.	Stage 4/5	TBD	Advocate	DoT

1.8	Work with the State Government to deliver the Kew Junction to Anniversary Outer Circle Trail SCC.				
#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Investigate a potential route along Pakington Street / Union Street including protected on-road bicycle facilities. Consider strategic removal or banning of car parking along the corridor to improve safety, particularly at crests and/or during peak times.	Stage 4/5	TBD	Advocate	DoT



Initiative 1 Action Plan Map

Initiative 2

Create a high-quality off-road shared path network by upgrading existing paths in line with current standards and providing new links.

2.1 Provide new off-road path links to expand the network and improve local access to safe bicycle routes.					
#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Construct a new "Glass Creek Trail" route, connecting several existing paths through Balwyn and Kew East, including within tradbroke Park and Hays Paddock, to create a safe and direct link between the Outer Circle Trail and Koonung Trail. Include suitable treatments along local road sections of the route.	Stage 1: 2022-2023 (Ongoing)	\$725,000	Deliver	DoT
B	Construct a new "Jacka Trail" off-road shared path between Myrtle Park and Gordon Barnard Reserve (Balwyn North), passing along the northern boundary of Hislop Reserve and alongside the North Balwyn Tennis Club car park. Include opportunities to extend the trail to the north east via local road links to connect to the Koonung Trail, and also to the west to connect to Stradbroke Park and the future Glass Creek Trail.	Stage 1: 2022-2023	\$450,000	Deliver	DoT
C	Provide a new off-road path link between Gardiners Creek Trail and schools on Burgess Street (Hawthorn East) - Auburn High School and Auburn South Primary School.	Stage 2/3	TBD	Deliver	DoT
D	Construct a shared path bridge over Back Creek including a link to Somerset Road (Glen Iris) to improve access between Ferndale Trail and Hartwell Shopping Centre and connect to the Anniversary Outer Circle Trail.	Stage 2/3	TBD	Deliver	Melbourne Water
E	Investigate the feasibility of a new shared path along the Melbourne Water easement between Back Creek Reserve and Frog Hollow Reserve ("Frog Hollow to Ferndale Trail"), including crossings at Toorak Road and Camberwell Road	Stage 4/5	TBD	Investigate	Melbourne

#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
F	Investigate the provision of a new off-road shared path link between Linda Crescent and Chrystobel Crescent (Hawthorn). If not feasible, consider on-road options via Hilda Crescent or Ruby Street.	Stage 4/5	TBD	Investigate	–
G	Upgrade existing off-road paths and construct new links and crossings to provide a complete off-road route between Lynden Park (Camberwell) and South Surrey Park (Surrey Hills).	Stage 4/5	TBD	Deliver	DoT

2.2 Upgrade the existing formal and informal off-road path network with suitable treatments including separate paths for pedestrians and bicycle riders, the use of a range of materials for sealed or unsealed paths, lighting and signage.					
#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Upgrade the existing off-road path through Scullin Park (Hawthorn) between Swinburne Avenue and The Boulevard.	Stage 1: 2022-2023	\$100,000	Deliver	–
B	Work with the City of Stonnington to improve the alignment and connectivity of the Gardiners Creek Trail section between Warrigal Road and Solway Street (Ashburton).	Stage 1: 2022-2023	-Existing staff and resources	Deliver	City of Stonnington, Melbourne Water
C	Upgrade sections of unsealed gravel paths that are prone to washouts and high levels of maintenance to an improved path surface including consideration of asphalt with concrete edging, concrete, exposed aggregate concrete surface, permeable paving, cement stabilised gravel or other surfaces.	Stage 1: 2022-2023	\$300,000 - \$700,000 (per km based on the treatment option)	Deliver	–
D	Progressively install energy efficient lighting along suitable sections of the shared path network and informal path network to encourage use and improve the level of safety and security.	Stage 1: 2022-2023 (ongoing)	\$400,000	Deliver	–

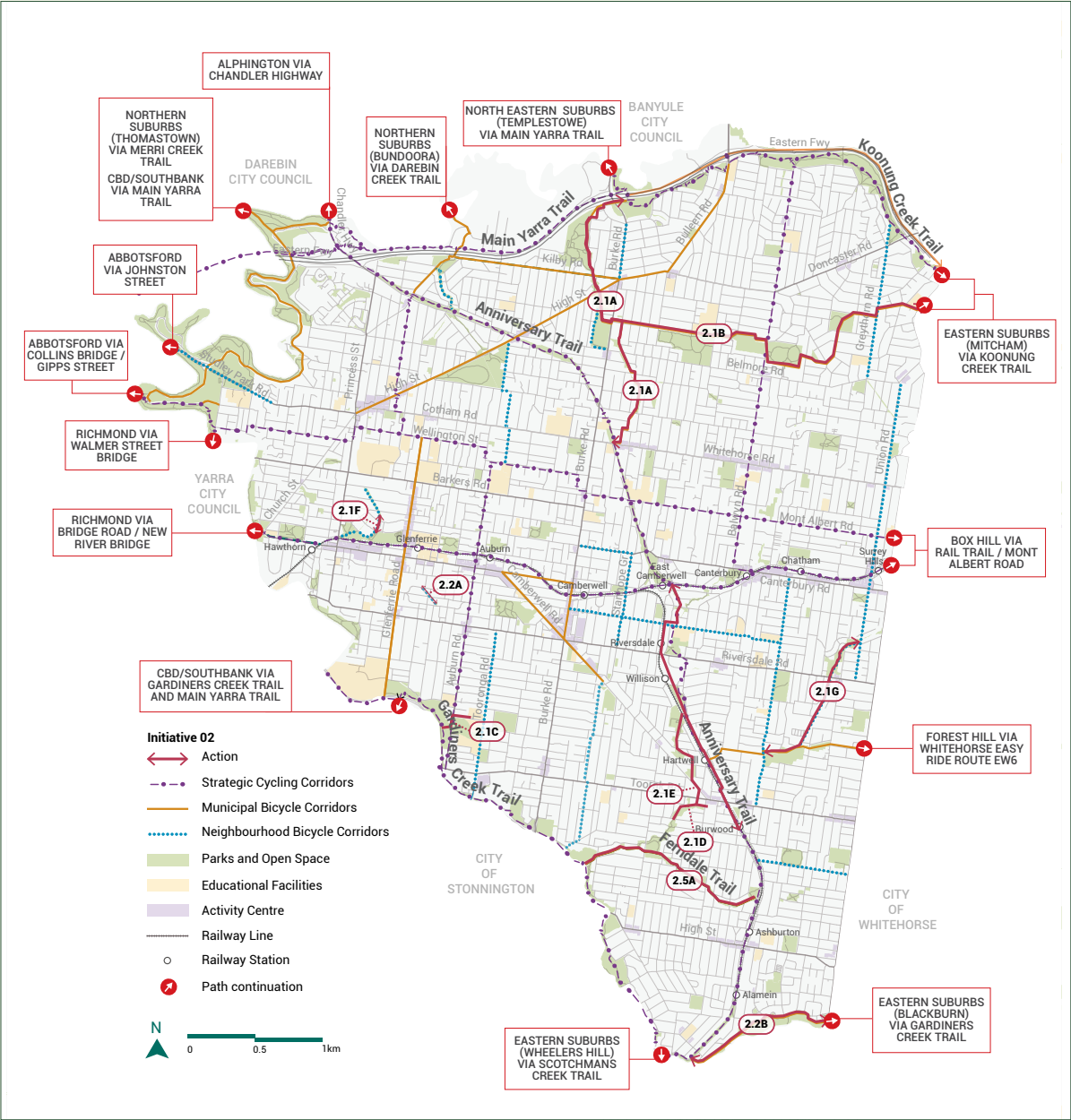
2.3 Install supporting infrastructure to improve path accessibility and monitor usage patterns.					
#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Review and develop a program to install kerb ramps to improve access to and from the shared path and informal path networks.	Stage 1: 2022-2023	\$50,000	Deliver	-
B	Install permanent bicycle counters around the Boroondara off-road path network to gather usage data and monitor trends.	Stage 1: 2022-2023	\$30,000	Deliver	-

2.4 Promote a safe shared environment for all path users and progressively deliver safety upgrades to maintain high quality facilities.

#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Arrange safety audits for the shared path network and progressively implement recommendations in line with funding allocations.	Stage 1: 2022-2023 (ongoing)	\$20,000	Deliver	-
B	Develop a community education campaign promoting safe travel speeds along off-road paths (including consideration of e-bikes).	Stage 1: 2022-2023	\$15,000	Deliver	-

2.5 Provide safer road crossings including path priority where suitable.

#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Provide safer road crossings along the Ferndale Trail including intersections with	Stage 2/3	\$20,000	Deliver	-
B	Deliver reduced wait times and increased priority for path users at signalised road crossings along all off-road paths.	Stage 2/3	TBD	Deliver	DoT



Initiative 2 Action Plan Map

Initiative 3

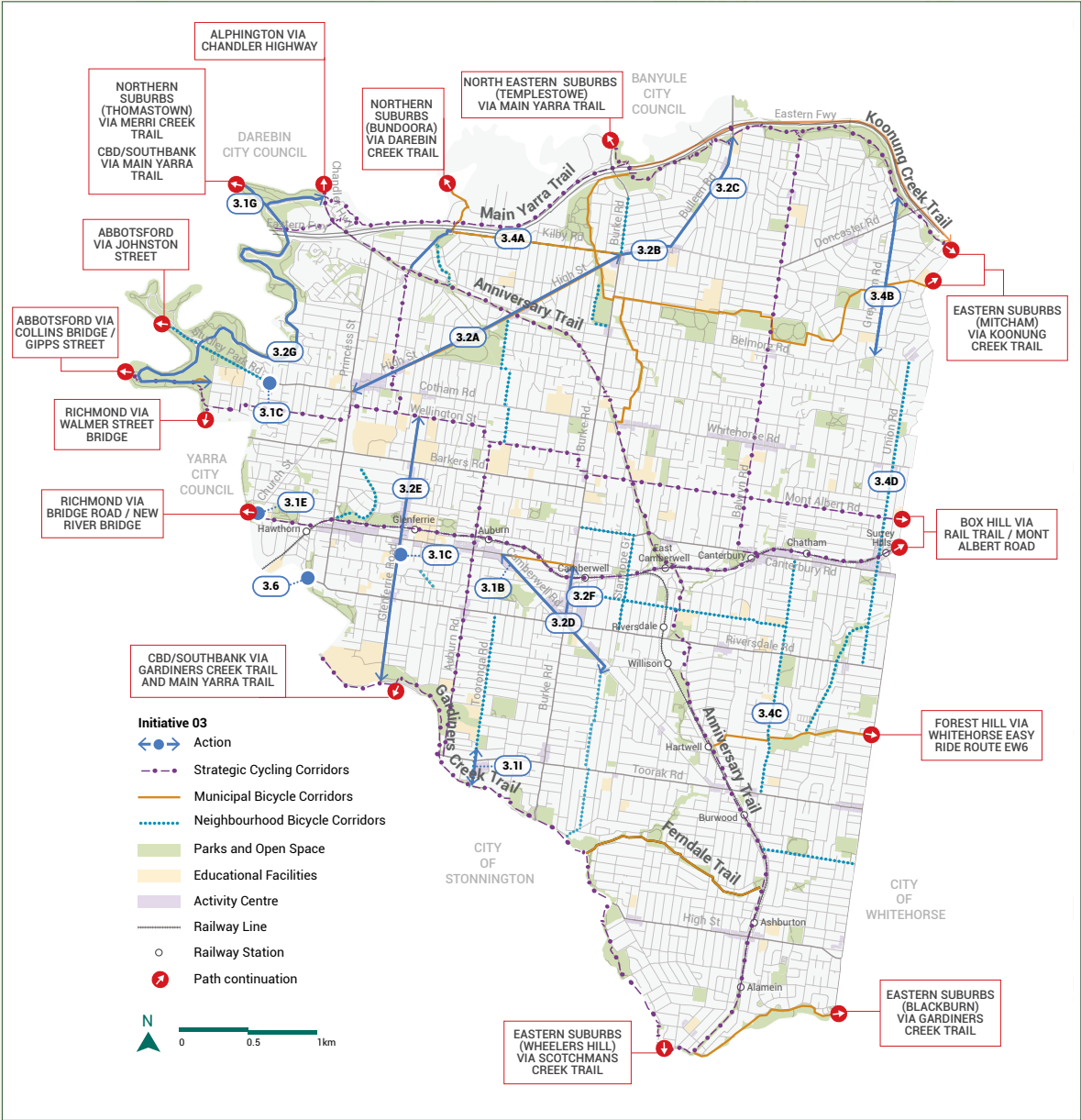
Improve bicycle safety along main roads and intersections through the implementation of on-road cycle infrastructure treatments which respond to the existing road corridor environment.

3.1 Develop concepts and advocate to the State Government for bicycle safety improvements on Department of Transport managed roads across the municipality.					
#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Advocate and work with the State Government to develop a suitable framework and concept designs to improve safety and access for bicycle riders along Department of Transport managed roads. Consider options for roads with and without clearways, and during peak and off-peak periods. Develop standard intersection treatments with appropriate measures (separation, linemarking etc.) to improve safety.	Stage 1: 2022-2023	\$30,000	Investigate	DoT
B	Advocate to the State Government to reduce the speed limit to 40km/h along Camberwell Road between Burwood Road and Harold Street (Camberwell).	Stage 1: 2022-2023	\$10,000	Advocate	DoT
C	Develop concepts and advocate for safety upgrades at bicycle crash Black Spot locations on State Government managed roads including the intersections of Glenferrie Road / Manningtree Road (Hawthorn) and Studley Park Road / Carson Street (Kew).	Stage 1: 2022-2023	\$20,000	Advocate	DoT, Yarra
D	Advocate to the State Government for increased frequency of maintenance improvements on Department of Transport managed arterial roads, including road surface repairs and line marking renewal.	Stage 1: 2022-2023	Existing staff and resources	Advocate	DoT
E	Develop options and advocate to the State Government for improved bicycle facilities across the Hawthorn Bridge (Bridge Road) over the Yarra River.	Stage 2/3	TBD	Advocate	DoT, Melbourne Water, Yarra Trams
F	Develop options and advocate to the State Government for improved bicycle facilities across the Wallen Road bridge over the Yarra River (Hawthorn).	Stage 2/3	TBD	Advocate	DoT, Melbourne Water, Yarra Trams
G	Develop options and advocate to the State Government for improvements to the Main Yarra Trail between Yarra Boulevard and the Fairfield Pipe Bridge (Kew), including safety and amenity upgrades to the bridge structure.	Stage 2/3	TBD	Advocate	Parks Vic

3.2 Develop concepts and advocate to the State Government for on-road bicycle lanes (including physical separation where feasible) and safer intersection treatments for bicycle riders along the following Department of Transport managed roads. Consider strategic removal or banning of car parking along the corridor to improve safety, particularly at crests and/or during peak travel times.					
#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	High Street (Kew) between Kew Junction and Doncaster Road.	Stage 2/3	TBD	Advocate	DoT, Yarra
B	Doncaster Road (Balwyn North) between Burke Road and Bulleen Road.	Stage 4/5	TBD	Advocate	DoT, Yarra
C	Bulleen Road (Balwyn North) between Doncaster Road and the Eastern Freeway.	Stage 4/5	TBD	Advocate	DoT
D	Camberwell Road between Burwood Road and Seymour Grove (Camberwell) including a connection to Rowell Avenue.	Stage 4/5	TBD	Advocate	DoT, Yarra
E	Glenferrie Road between the Gardiners Creek Trail (Hawthorn) and Wellington Street (Kew). Upgrade existing bike lanes in the Glenferrie shopping precinct to include physical separation.	Stage 4/5	TBD	Advocate	DoT, Yarra
F	Burke Road (Camberwell) between Burwood Road and Riversdale Road.	Stage 4/5	TBD	Advocate	DoT, Yarra
G	Yarra Boulevard (Kew) between Chandler Highway and Walmer Street.	Stage 4/5	TBD	Advocate	DoT
H	Stanhope Grove and Trafalgar Road (Camberwell) between Canterbury Road and Camberwell Road	Stage 4/5	TBD	Advocate	DoT
I	Tooronga Road (Hawthorn/Glen Iris) between Cato Street and the bridge over the Monash Freeway	Stage 4/5	TBD	Advocate	DoT

3.3 Provide bicycle safety improvements on Council managed major and collector roads across the municipality.					
#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Install painted anti-dooring bike lane treatment (as currently installed along the Glenferrie Road shopping precinct) on Council managed roads where there is a high risk of car dooring. Advocate for this treatment on Department of Transport managed roads where suitable.	Stage 1: 2022-2023	\$500,000 (1km road length, both sides of road at \$250/ metre)	Deliver	DoT
B	Deliver reduced wait times at signalised crossings on Council managed roads to increase priority for walking and bicycle riders. Advocate for similar improvements at signalised crossings on Department of Transport managed arterial roads.	Stage 1: 2022-2023	\$10,000	Deliver	DoT
C	Identify and upgrade bicycle safety infrastructure on suitable Council major and collector roads including consideration of signage, linemarking, green pavement, separation kerbing, and vibra-line.	Stage 2/3	TBD	Deliver	DoT

3.4 Upgrade existing on road bicycle lanes (including physical separation where feasible) and provide safer intersection treatments for bicycle riders along the following Council-managed major and collector roads. Consider strategic removal or banning of car parking along the corridor to improve safety, particularly at crests and/or during peak travel times.					
#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Kilby Road (Kew East) and Willsmere Road (Kew) between Burke Road and Earl Street.	Stage 1: 2022-2023	\$1,430,000 (2.6km length at \$550k per Km)	Deliver	DoT
B	Greythorn Road (Balwyn North) between Doncaster Road and Belmore Road.	Stage 2/3	TBD	Deliver	DoT
C	Highfield Road (Canterbury / Camberwell) between Canterbury Road and Toorak Road.	Stage 2/3	TBD	Deliver	DoT
D	Union Road (Surrey Hills / Balwyn) between Belmore Road and Riversdale Road.	Stage 4/5	TBD	Deliver	DoT



Initiative 3 Action Plan Map

Initiative 4

Create a supporting network of safe bicycle streets which encourages bicycle access and supports local trips by bicycle.

4.1 Establish principles and develop concept designs for local road treatments to improve bicycle safety in different road environments.

#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Establish principles and develop concept designs for local road treatments to improve bicycle safety in different road environments. Consider a range of treatments including reduced speed limits to 30 or 40km/h, traffic calming, raised intersections, localised parking bans, sharrows (shared lane markings) and coloured road markings including advisory bike lanes. Develop standard intersection treatments with appropriate measures to improve safety, including treatments for roundabouts and traffic islands.	Stage 1: 2022-2023	\$30,000	Investigate	DoT

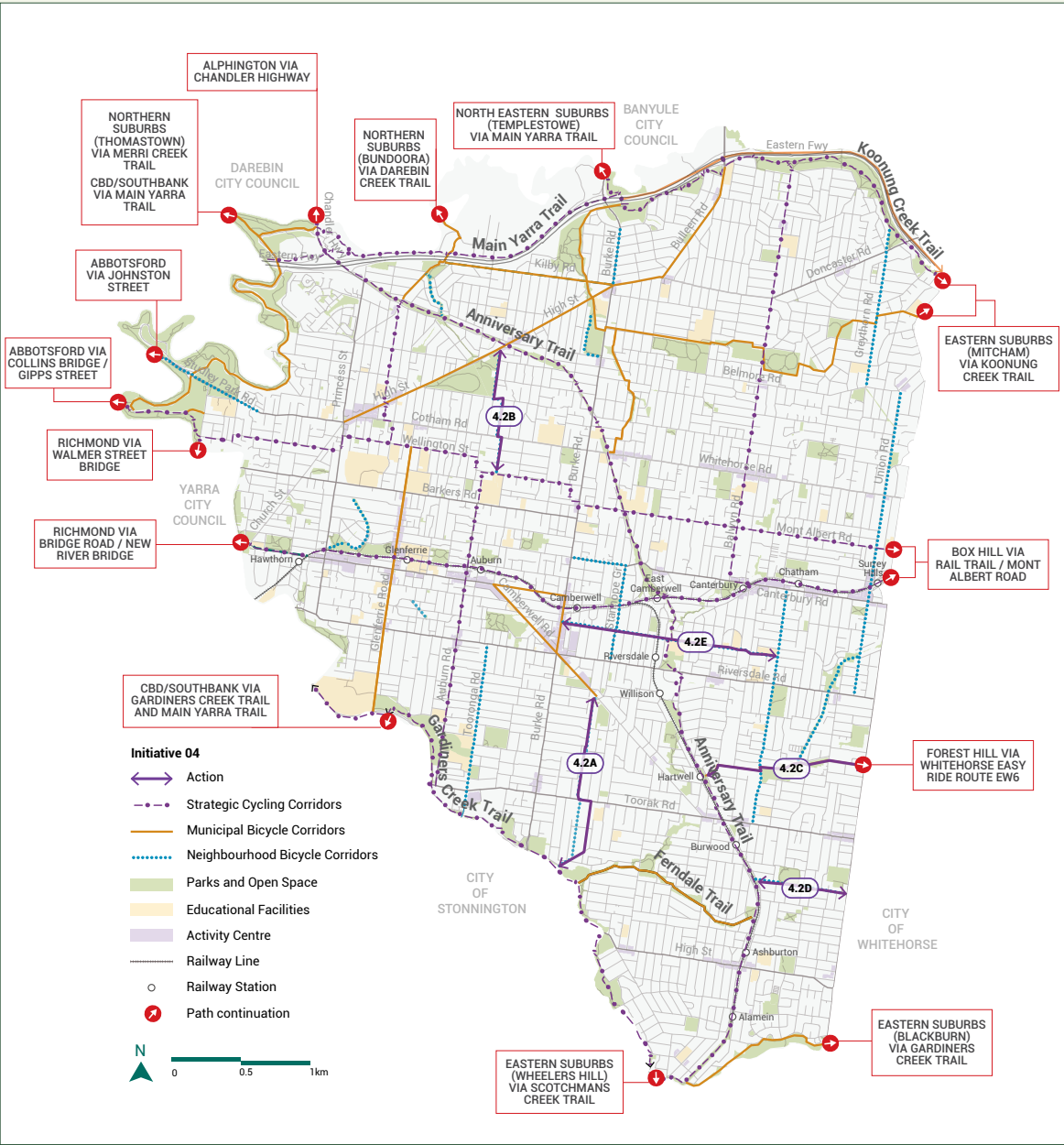
4.2 Implement suitable treatments to create safe bicycle streets along targeted local roads which contribute to the broader bicycle network. Advocate to the Department of Transport for speed limit reductions to 30 or 40 km/h along these roads.

#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Provide a bicycle route between Seymour Grove and the Gardiners Creek Trail, including bicycle streets along suitable local roads - consider route options along Rowell Avenue (Camberwell), and Martin Road or Staughton Road (Glen Iris).	Stage 2/3	TBD	Deliver	-
B	Provide a bicycle route between Victoria Park and the Strategic Cycling Corridor at Sackville Street, including bicycle streets along suitable local roads - consider route options along Adeney Avenue, Thomas Street and Florence Avenue (Kew). Include widening of the existing off-road path in Victoria Park to a minimum of 3m.	Stage 4/5	TBD	Deliver	DoT
C	Provide a bicycle route between Wattle Park Primary School and the Anniversary Trail near Hartwell Station, including bicycle streets along Thomas Street, Nevis Street and Glyndon Road (Camberwell) and upgrading the existing off-road path in Through Road Reserve. This route would also connect to the City of Whitehorse Easy Ride routes via Banksia Street.	Stage 4/5	TBD	Deliver	VicTrack, Metro Trains

#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
D	Provide bicycle safety upgrades along Bath Road (Glen Iris) including advocating to the Department of Transport for a 30 or 40 km/h speed limit.	Stage 4/5	TBD	Deliver	DoT
E	Provide bicycle safety upgrades along Prospect Hill Road (Canterbury) between Burke Road and Highfield Road, including advocating to the Department of Transport for a 30 or 40 km/h speed limit.	Stage 4/5	TBD	Deliver	DoT

4.3 Install sharrows (shared lane markings) along targeted informal bicycle routes identified in Boroondara's TravelSmart map that provide access and wayfinding to off-road path links, local facilities and key destinations.

#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
A	Install sharrows (shared lane markings) along select informal bicycle routes identified in Boroondara's TravelSmart maps to improve safety, driver awareness and wayfinding for these routes. This treatment would be limited to targeted, suitable routes where sharrows would be expected to provide notable benefits including for access and wayfinding to local facilities, off-road path links and key destinations. Many of these routes will have complimentary traffic treatments such as traffic calming devices, different coloured surface treatments, landscaping, or lower speed limits to promote a safer shared road environment.	Stage 1: 2022-2023	\$25,000	Deliver	-



Initiative 4 Action Plan Map

Initiative 5

Improve management of paths used by both pedestrians and bicycle riders in formal gardens across the municipality.

#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
5.1	Develop a community education campaign around the use of paths within formal gardens, including promoting a low-speed shared space with pedestrian priority.	Stage 1: 2022-2023	\$15,000	Deliver	-
5.2	Provide protected on-road bicycle route options in the vicinity of formal gardens to offer convenient and safe alternative routes to bicycle riders.	Stage 4/5	TBD	Deliver / Advocate	DoT, Yarra Trams

Initiative 6

Improve management of paths used by both pedestrians and bicycle riders in formal gardens across the municipality.

#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
6.1	Undertake a review of existing bike repair stations and water fountains and provide additional facilities at strategic areas across the municipality.	Stage 1: 2022-2023	\$40,000	Deliver	-
6.2	Advocate for improved quality and quantity of bike parking at all train stations, including potential removal of a few car parking bays to provide a Parkiteer cage at Hawthorn, Camberwell, East Camberwell, Canterbury, Riversdale, Burwood and Ashburton Stations. Provide or advocate for additional Parkiteer cages at other strategic locations including transport hubs.	Stage 2/3	TBD	Advocate	DoT, Metro Trains, VicTrack
6.3	<div>Undertake a review of existing bike parking facilities and implement an action plan to deliver high quality bike parking at key locations including:</div> <ul style="list-style-type: none">• Within activity centres and shopping centres (including potential conversion of some vehicle parking bays into bicycle parking - i.e. providing a bicycle corral).• Near major tram stops and some train stations, to complement stations with Parkiteer cages or to support stations without Parkiteer cages.• Along the network, including recreational routes and other major routes.• Within secondary and tertiary institutions.• Within community facilities such as libraries.	Stage 2/3	TBD	Deliver	DoT, Yarra Trams, VicTrack, Metro Trains

Initiative 7

Provide improved quality and quantity of bike parking and end-of-trip facilities.

#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
7.1	Develop and implement a new wayfinding strategy that reviews existing on and off-road wayfinding signs and delivers an easy to navigate bicycle and walking network. Include supporting information to allow path users to select appropriate routes for their needs, including distance and travel times to key destinations, directions to local amenities and facilities, and information on path congestion and potential conflict points such as road crossings.	Stage 1: 2022-2023	\$135,000	Deliver	DoT, neighbouring Councils

Initiative 8

Continue to run and support promotional and educational programs aimed at encouraging people to ride bicycles through raising awareness of the benefits and developing safe riding skills.

#	Action	Timeframe	Cost to Council	Delivery Mechanism	Key Stakeholders
8.1	Update the current Boroondara TravelSmart map and distribute to raise awareness of safe, attractive bike routes and to help riders to plan journeys by bike.	Stage 1: 2022-2023	\$15,000	Deliver	-
8.2	Continue to run bicycle promotional and behaviour change programs for children including travel plans for primary and high schools and Safe Routes to School initiatives.	Ongoing	Existing staff and resources	Deliver	-
8.3	Work in partnership with tertiary institutes to develop a promotional and behaviour change program targeting students and staff.	Ongoing	Existing staff and resources	Deliver	-
8.4	Work in partnership with local organisations to develop travel plans and Ride to Work Day initiatives.	Ongoing	Existing staff and resources	Deliver	-
8.5	Continue to run safe bicycle riding educational training and skills programs or workshops.	Ongoing	Existing staff and resources	Deliver	-
8.6	Continue to support and promote sustainable transport initiatives with Council staff.	Ongoing	Existing staff and resources	Deliver	-

For more information on the Boroondara Bicycle Strategy:

 www.boroondara.vic.gov.au/bicycle-strategy

 boroondara@boroondara.vic.gov.au

 9278 4444

